



# LiDAR Report: CA\_UpperSouthAmerican\_2019\_B19

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LiDAR Collection, Processing, and QA/QC

140G0219F0344: CA\_SouthAmerican\_2019\_B19

QL1 LiDAR

Prepared For:

US Geological Survey

1400 Independence Road

Rolla, MO 65401

Phone: (573) 308-3759

Prepared By:

Digital Aerial Solutions, LLC

4027 Crescent Park Drive

Riverview, FL

33578

Phone: (813) 628-0788

Contract: G17P00044 Contractor: Digital Aerial Solutions Task

Order:1402219F0344CA\_UpperSouthAmerican\_2019\_B19

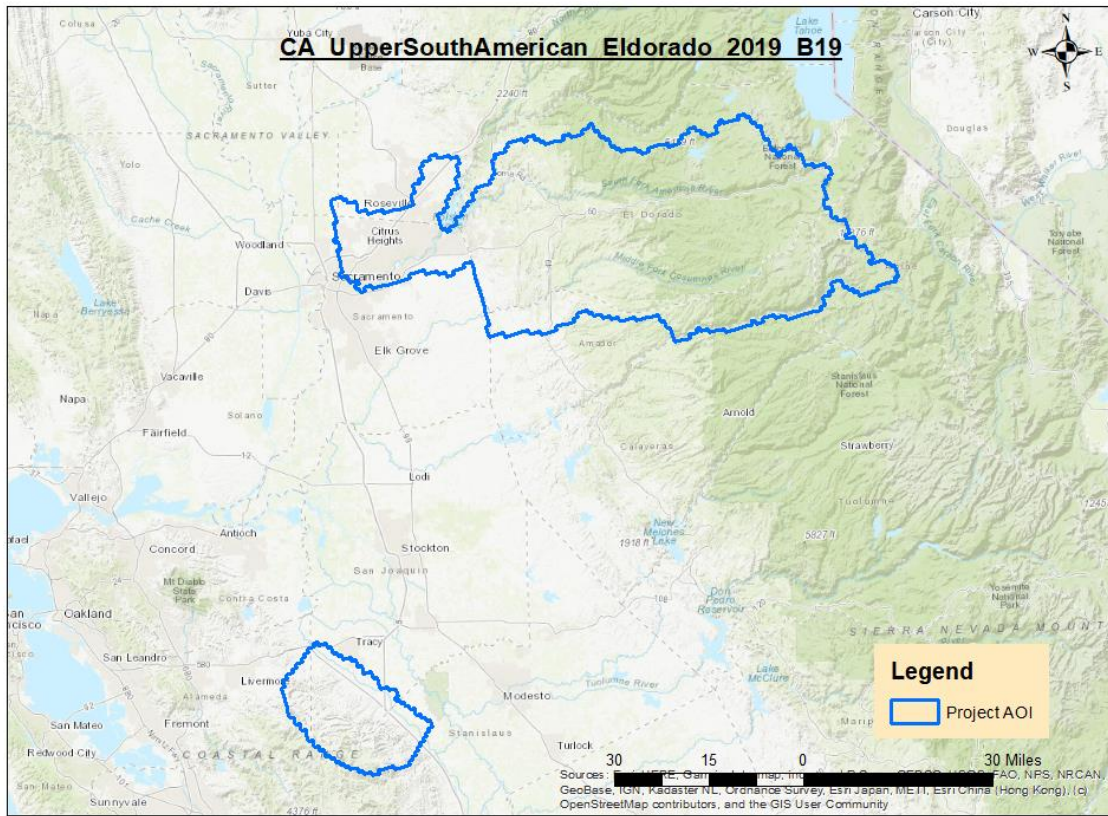


Image 1: CA\_UpperSouthAmerican\_2019\_B19 AOI



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## 1 Introduction and Specifications

Digital Aerial Solutions, LLC (Das) was tasked to collect and process a Light Detection and Ranging (LiDAR) derived elevated dataset for the 140G0219F0344:CA\_UpperSouthAmerican\_2019\_B19. The area encompasses approximately 2,275 square miles. Aerial LiDAR data was collected utilizing a Leica Terrain Mapper. The Terrain Mapper is a discrete return topographic LiDAR mapping system manufactured by Leica Geosystems. LiDAR data collected for 140G0219F0344:CA\_UpperSouthAmerican\_2019\_B19 LiDAR survey has an Aggregated Nominal Pulse (ANPS) spacing of 0.35 meters (QL1) and includes up to 2 discrete return per pulse, along with intensity values of each return.

LIDAR datasets were post process to generate elevation point cloud swaths for each flight lines. Deliverables include tiled point cloud classified by land cover type, breaklines to support hydro-flattening of digital elevations models (DEM), intensity tiles, and bare-earth DEM titles. The point cloud deliverables are store in the LAS Version 1.4, point data record format 6. The tiling scheme for the tiled deliverables is a 2,500 x 25000 feet grid. Tile naming convection is based on the easting and northing locations of the lower left corner for each tile (w0002n0612). All deliverables were generated in conformance with the U.S Geological Survey National Geospatial Program Guidelines and Base Specifications, Version 2.1.

## 2 Spatial Reference System

The spatial reference of the data is as follows:

### **Horizontal Spatial Reference**

- Coordinates: NAD\_1983\_StatePlane\_California\_II\_FIPS\_0402\_Feet, US Survey Feet (to 2 decimal places)
- Datum: North American Datum 1983 (2011), US Survey Feet (to 2 decimal places)

### **Vertical Spatial Reference**

All datasets are available with orthometric elevation; point cloud datasets are also available with ellipsoid heights.

- Datum: North American Vertical Datum of 1988 (GEOID12B)

## 3 LiDAR Acquisition

### 3.1 Survey Area

The 140G0219F0344:CA\_UpperSouthAmerican\_Eldorado 2019\_B19 QL1 LiDAR survey covers approximately 2,275 square miles located in Alameda, Alpine, Amador, Calaveras, El Dorado, Placer, Sacramento, San Joaquin, Santa Clara, Stanislaus, & Sutter counties in California. The project consisted of consisted of 399 flight lines totaling 8,871.32 nautical miles.

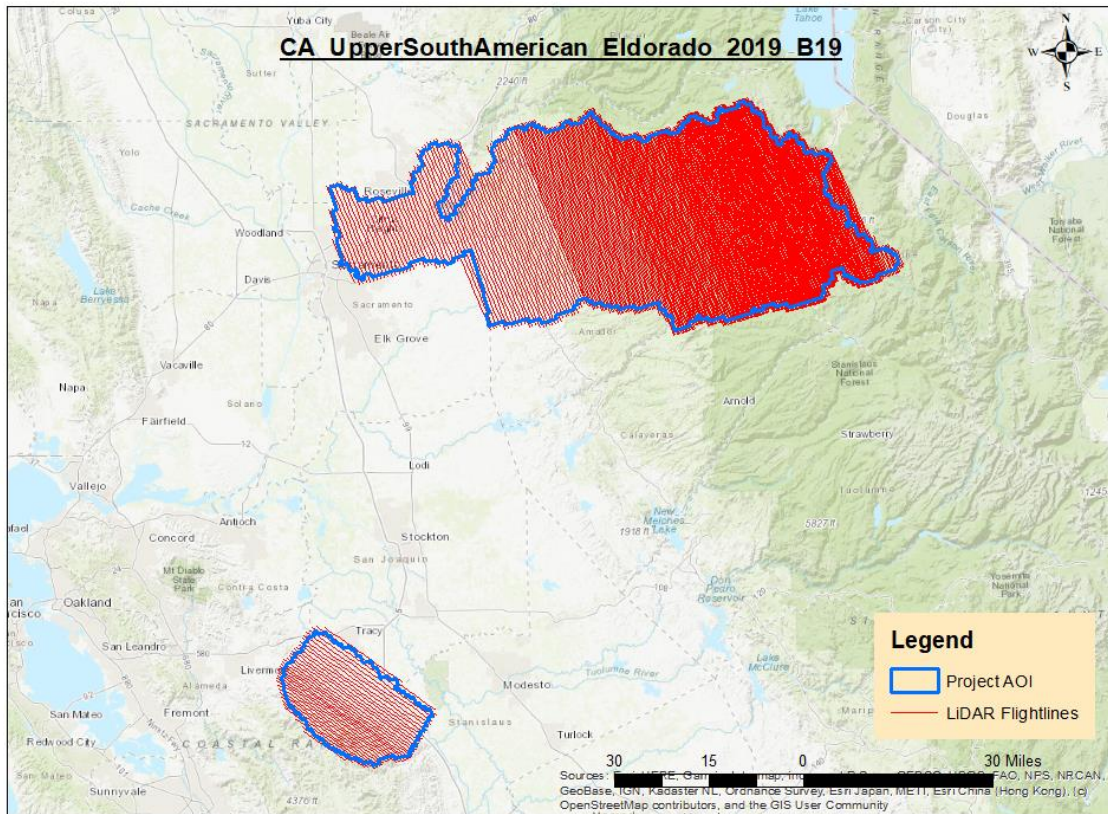


Image 2: CA\_UpperSouthAmerican\_2019\_B19 Flightlines



## 3.2 Acquisition Parameters

Acquisition parameters include the sensor configuration and the flight plan characteristics, and are selected based on a number of project specific criteria. Criteria reviewed include the required accuracies for the final dataset, the land cover types within the project survey area, and the required nominal pulse spacing. Aggregate Nominal Pulse Density (ANPD) for QL1 AOI is no less than 8ppm. The project parameters are summarized below.

Parameter (QL1)	Terrain Mapper
Flying Height Above Ground Level:	6,234 feet
Nominal Sidelap:	30-55%
Nominal Speed Over Ground:	170 Knots
Field of View:	40°
Laser Rate:	1,540 Hz
Scan Rate:	150.0 kHz
Maximum Across Track Spacing:	0.43 meters
Maximum Along Track Spacing:	0.58 meters
Average point Spacing:	0.35 meters

**Table 1: Flight Parameters**



### 3.3 Acquisition Mission

The acquisition mission for 140G0219F0344:CA\_UpperSouthAmerican\_Eldorado\_2019\_B19 QL1 LiDAR survey was coordinated for optimal collection conditions and was completed in 22 lifts from October 21<sup>st</sup> - Nov 2<sup>nd</sup> 2019 and March 5<sup>th</sup>, 2020. The GPS Session forms and NGS monument information can be found in Appendix B.

### 3.4 Airborne GPS/IMU

Airborne global positioning system (GPS) and inertial measurement unit (IMU) data was collected on the aircraft during the acquisition mission, providing sensor position and orientation information for geo-referencing the LiDAR data. Airborne GPS observations were collected at a frequency of 0.5Hz, and IMU observations are collected at a frequency of 200Hz.

Aircraft	Sensor	GPS Lever Arm (m)	IMU Lever Arm (m)
C441-N207SS	TM_9054	X: -0.054, Y: -0.199, Z: -1.131	X: -0.174, Y: -.0178, Z: 1.256

**Table 2: Aircraft and Lever Arms**

GPS data was collected with ground base stations during the acquisition missions, providing corrections to support differential post-processing of the airborne GPS. Base stations were setup at the following Airports Carson City Airport (KCXP), Placerville Airport (PVF), Columbia Airport (O22) and Tracy Municipal Airport (KTCY). Ground GPS observations were collected at a frequency of 0.5Hz.



Name	Latitude	Longitude	Ellipsoid (m)
Carson City Airport-KCXP	38° 43' 22.18039"	-120° 45' 27.65076"	759.534
Placerville Airport- JS4761	38°11' 43.20745"	-119° 44' 43.14835"	1409.451
Columbia Airport-O22	38° 01' 46.96619"	-120° 24' 50.22158"	606.958
Tracy Municipal Airport – KTCY	37° 41' 13.82924"	-121°26' 08.99208"	23.398
Tracy Municipal Airport-KTCY02	37° 41' 13.38061"	-121° 26' 08.94994"	23.517

**Table 3: Base Stations Locations**

## 4 LiDAR Processing

### 4.1 Acquisition Post Processing

Inertial Explorer 8.90 software was used to compute inertial solution file (\*.sol) for each mission using ground GPS base station (KCXP, O22, KTCY01, KTCY02, JS4761) and Grafnet position coordinate in table above. The resulting solution was checked to ensure a minimum accuracy of +/- 0.10m, combined separation, for horizontal and vertical positions. Inertial Explorer methodology integrates Inertial Navigation Solution by processing the GPS data and Inertial Measurement Unit (IMU). The software applies the reference lever arms for the GPS and IMU during the process to determine the trajectory (position and orientation) of the LiDAR sensor during the acquisition mission. Inertial Explorer generated graphical results were reviewed to ensure that the IMU data was healthy.





Raw LiDAR sensor ranging data and the final solution sensor trajectory (\*.sol), from Inertial Explorer, were processed in Leica's HxMap software to produce LiDAR point cloud swath for each flight line in LAS version 1.4 file format. Quality control of the swath point cloud was performed to validate proper functioning of the sensor system, full coverage of the project area and point density of the LiDAR data. Swath point clouds were assigned unique file source identification. The data was found to be complete and consistent with the sensor calibration parameters.

## 4.2 Geometric Calibration

LiDAR data calibration was done using Leica HxMap v2.6.0 software. HxMap is the common workflow platform for Leica airborne sensors. The processing workflow involves; Ingest, Block Creation, LiDAR Matching, Quality Assurance (QA) and Product Generation. LiDAR is processed in HxMap by generating point clouds from raw sensor data during the Ingest step. Noise filtering, sensor installation calibration and atmospheric condition parameters are also applied during the ingest process. Once all data is processed through ingest, they are assembled into a block for LiDAR Matching. The LiDAR Matching step resolves LiDAR registration errors which remain in the point clouds after sensor and installation calibration parameters are applied in the ingest step. QA tool is run on the Block after LiDAR Matching to verify quality of results. QA results are reviewed to ensure that, 95% of patches < 5cm for Vertical Scan Direction and Vertical Line Separation. Ground control points are also included to assess absolute accuracy for the point cloud data. LiDAR products are finally generated in the Product Generation step as LAS swaths (LAS 1.4). Vertical (Z) shift (calculated from QA step) is also applied during the product generation. The exported LAS 1.4 swath data from HxMap is imported into GeoCue Group's product workflow management software, GeoCue v2017. The full point cloud is tiled into a manageable size for processing in TerraScan.

For 140G0219F0344:CA\_UpperSouthAmerican\_Eldorado\_2019\_B19 QL1 LiDAR project, the control lines listed below were used in data adjustment.



Point ID	EASTING	NORTHING	ORTHO
1_GS0001	6793114.78	2059695.761	374.764
1_GS0010	7106652.001	2063614.828	6706.553
1_GS0017	7024625.907	2075545.617	4973.298
1_GS0026	7007761.672	2046107.946	3326.169
1_GS0035	6966807.569	2042560.692	3963.258
1_GS0040	6922796.372	2054856.158	2545.076
1_GS0049	6861486.727	2064387.58	691.219
1_GS0054	6876663.181	2056773.21	749.935
1_GS0064	7037594.566	2017163.299	6175.319
1_GS0069	7071578.922	1995727.514	7359.954
1_GS0074	7111615.926	2023610.334	7687.935
1_GS0083	7054102.746	1970004.851	6513.184
1_GS0087	70011727.128	1958321.364	4988.5
1_GS0093	6891649.116	1973215.168	841.823
1_GS0108	6925914.414	1966783.683	2134.213
1_GS0117	6936714.846	1999839.419	2037.443
1_GS0122	6982539.302	1997546.376	3933.615
1_GS0134	6733244.338	1993294.107	61.615
1_GS0140	6782069.104	2004449.656	230.042
1_GS0145	6819237.93	205963.752	509.462
1_GS0152	6865132.993	2004181.902	1528.385
1_GS0161	6901392.431	2029059.333	1824.852
1_GS0162	6901554.723	2029059.732	1822.049
2_GS0002	6695692.467	1659864.494	289.816
2_GS0011	6687659.24	163043.807	731.604
2_GS0020	6747157.909	1616880.939	337.272
2_GS0023	6742175.196	1621338.368	397.719
2_GS0031	6773424.826	1594969.63	272.16



The final geometrically calibrated swath point clouds were compared to the bare-earth profile survey data. The data fit the profile surveys within the vertical accuracy tolerance specified for the project. Full documentation of the vertical accuracy checks may be found in section 5.1.

## 4.3 Point Cloud Classification

Georeferenced information was applied to the swath point cloud LAS files. Geometrically calibrated swath point clouds were cut into USNG index, 2,500 feet x 2,500 feet LAS 1.4 format tiles for point cloud classification and derived in LAS 1.4 format for product creation.

Tiled point cloud data was processed in Terrasolid's TerraScan software to assign initial classification values. The TerraScan software provides a number of routines to algorithmically detect and assign points to their appropriate class. Points left unclassified by the algorithmic routine remain as Class 1– Processed, but unclassified. Automated classification routines assigned points to one of the following classes:

**Class 1 – Processed, but unclassified**

**Class 2 – Bare-earth ground**

**Class 7 – Low Noise (low, manually identified, if necessary)**

**Class 9 – Water**

**Class 17 – Bridge Decks**

**Class 18 – High Noise (high, manually identified, if necessary)**

**Class 20 – Ignored Ground (Breakline Proximity)**

**Class 21- Snow (If present and identifiable)**

**Class 22- Temporal exclusion (typically non-favored data in intertidal zones)**



Automated classification results were reviewed for each tiled point cloud, and manual edits made where necessary to correct for misclassified points. Points remaining in Class 1 after the automated classification routines were run were left in Class 1. Points falling outside of a 100-meter buffer of the project AOI polygon were excluded from the tiled point clouds.

## 4.4 Breakline Collection

Manual breakline collection was performed to support the hydro-flattening requirements of the project's DEM deliverables. Breaklines were collected directly from the classified point clouds and from triangulated irregular network (TIN) surface models built from the classified point clouds, in Terrasolid's TerraScan and Terramodeler software. Breakline features were collected as design file elements in Bentley's Microstation software. Breaklines were converted to ESRI 3D shapefile format for the breakline deliverable.

The data collected for the 140G0219F0344:CA\_UpperSouthAmerican\_Eldorado\_2019\_B19 survey maintained significant point density in the water, marsh, and swamp, limiting the usefulness of point density as guiding factor in breakline placement. Points classified as Class 2 – Bare-earth ground, falling within a tenth of a meter buffer of the collected breaklines, were reassigned to Class 20 – Ignored Ground. These points are excluded from the surface model during DEM generation to preserve the hydro-flattening characteristics of the breaklines.

## 4.5 DEM Generation

The final classified point clouds and collected breaklines were reviewed for conformance to the task order (scope of work). Within the LP360 software, points in Class 2 – Bare- earth ground and breaklines were combined to generate TIN elevation models for each tile, from which the bare-earth DEM tiles were interpolated and exported as both GeoTIFF and ERDAS.img 32-bit floating point raster format ".img & .tiff" format.



## 5 Quality Control

### 5.1 Point Clouds

Accuracy and completeness of the LiDAR point clouds directly impacts the quality of all other derived LiDAR derived products. Ensuring a quality LiDAR dataset begins with proper mission planning and execution. Ground GPS base stations are located such that GPS baselines between the ground and airborne receivers do not exceed 30km. For the 140G0219F0344:CA\_UpperSouthAmerican\_Eldorado\_2019\_B19 project, two base stations were used to meet this requirement, one at the field operations airport and one within the project area. Static alignment is performed both before take-off and after landing to allow for GPS integer ambiguity resolution. Sensor operators carefully monitor the LiDAR unit and its various subsystems during the acquisition mission to ensure proper function. Airborne GPS positional dilution of precision (PDOP) estimates are monitored to ensure they remain less than 3. The optical system is monitored to ensure there are no ranging errors encountered during the flight lines.

During acquisition post-processing estimates of the trajectory data accuracy are reviewed to ensure they will support the required accuracies of the point cloud data. The trajectory accuracy is a function of the differentially corrected GPS data and the IMU data.

Geometric calibration quality control validates that the positional accuracy requirements of the project are met, and includes relative accuracy assessments for intra-swath (within) and inter-swath (between) accuracy, along with absolute accuracy assessments against project ground control.

Image 3 below, shows the swath to swath calibration assessment depicted by an intensity ortho created by using all returns, and colored by elevation difference between the swaths. The source deltas are an image type used for visualizing the elevation mismatch between overlapping swaths of LAS data. The granularity is controlled by the interval's selection. The interval size specifies the Z threshold at which the color bands apply. The interval used to create the difference elevation image is 8cm. Colors shown as green indicates swath separation 0-8cm, yellow indicates separation 8-16cm, red indicates separation >16cm. All red areas depicted in the image have been reviewed and represent locations of high vegetation.

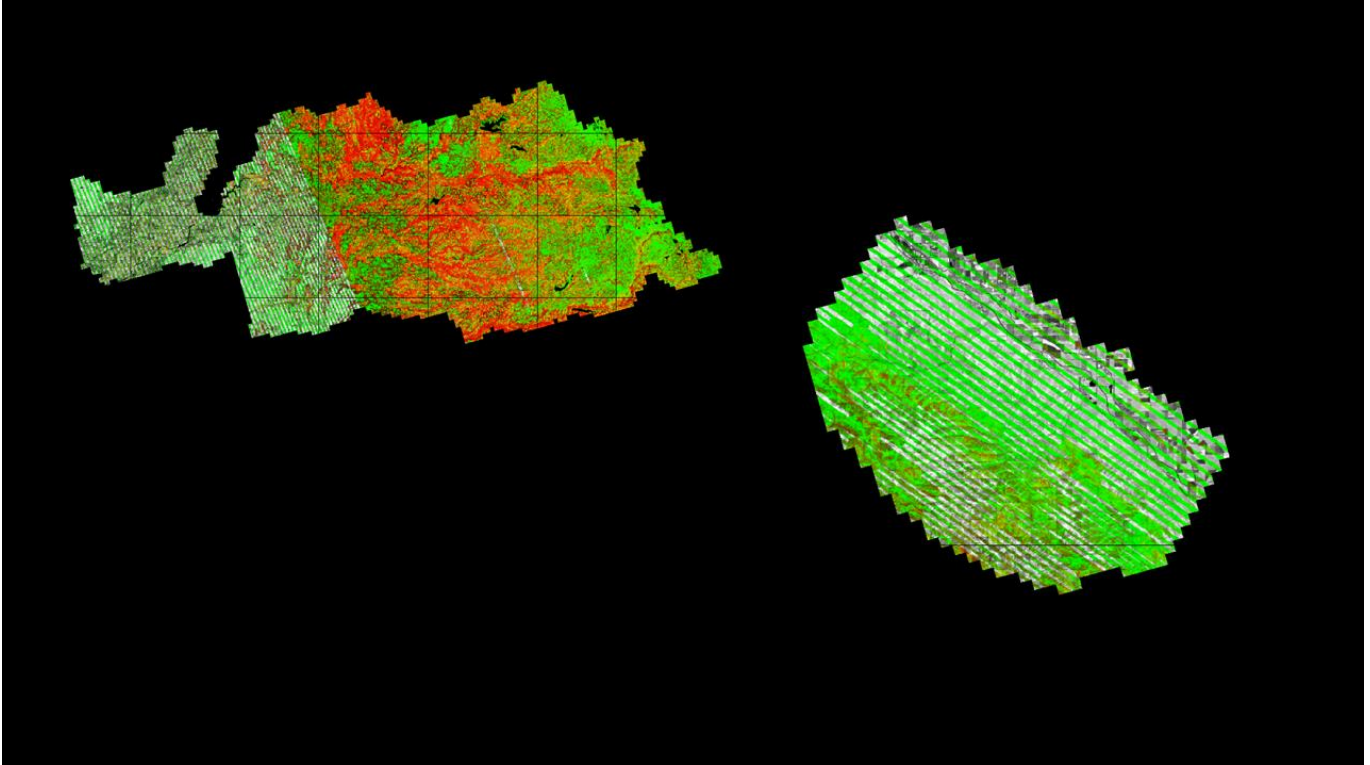


Image 3: Swath Separation CA\_UpperSouthAmerican\_2019\_B19



This data set was produced to meet ASPRS “Positional Accuracy Standards for Digital Geospatial Data” (2014) for a 30.01 (cm) RMSE<sub>x</sub> / RMSE<sub>y</sub> Horizontal Accuracy Class which equates to Positional Horizontal Accuracy =+/- 59.0cm at a 95% confidence level.

Absolute vertical accuracy assessments for the point cloud data are made against ground check point data. For the 140G0219F0344:CA\_UpperSouthAmerican\_Eldorado\_2019\_B19 project, ground check point data consisted of the ground GPS base station and real-time kinematic (RTK) GPS techniques.

Check point locations were collected at .5 second intervals during the RTK survey. Points collected during the static pre-initialization and post-initialization was removed from the assessment so as not to bias the assessment.

Local TIN models of the elevation points are built around each ground check points. The tin model elevation is sampled at the horizontal position of the ground check point. The TIN model elevation and ground check point survey elevation values were used to calculate the Non-vegetated Vertical Accuracy (NVA) of the swath point clouds. Table 7 below shows the tested accuracy values for TIN and DEM data at 95% confidence level. The full calculations for all check points can be found in Appendix C.

Tested Accuracy	RMSE <sub>z</sub>	NVA	VVA
Classified LiDAR	0.055	94	69
Digital Elevation Model	0.092	94	69

**Table 7: Tested RMSE<sub>z</sub> of NVA, NVA and VVA of LiDAR Point Cloud and Digital Elevation Model**



Total #	# NVA	# VVA
163	94	69

*Table 8: Number of Survey Points used to calculate accuracy of data.*

The tiled point cloud products were reviewed for full coverage of the AOI and proper classification. As part of the QC process, TINs are built in the Terramodeler software for each tile using the ground class and the hydro-flattening breaklines. The TINs are reviewed for non-ground features, and edited where necessary to remove any remaining non-ground features. Points were also reviewed for absolute elevation, and points falling below the selected orthometric elevation for water were removed from the ground class.

## 5.2 Breaklines

The final breaklines in ESRI 3D shapefile format were reviewed for topological consistency and correct elevation. Breaklines features are continuous and do not have overlaps or dangles

## 5.3 Digital Elevation Models

Digital elevation models (DEMs) were reviewed for conformance with the SOW and the Base Mapping Specification version 2.1 guidelines. DEM files were loaded in the Global Mapper software and inspected visually for edge matching between tiles, void areas within the project AOI, and proper coding of the NODATA values. DEM file naming was verified for consistency with the USNG index.





## Appendix A. Flight Logs



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO			Lift	Temp °C Before	Temp °C After	Pressure (kPa)			Sensor Operator	
					1	1	10	101.63			Cynthia Williams	
Date/Julian:	10.24.19		Disk Drive			Sensor						Pilot
Hobbs End	6888.3		TM MM30 (101, 102)			TM_90524						Wes Ashmore
Hobbs ST	6883.3		TARGET MSL	Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:	
Flight Time	5		4,300		160	KOPL01					C441-N207SS	KCXP ( CARSON CITY, NV)
∠	Flight Line	Mission Line	UTC time:		GPS Altitude: ASL:	Direction	Speed: kts:	Available MM Space	S/Vs:	Position Acc.		Comments and Conditions:
			Begin:	End:						AVG PDOP	AVG HDOP	
	64	64	16:29	16:30	13798	325°	167	7153	19	0.6	0.7	
	65	65	16:35	16:37	13812	325°	164	7148	18	1.1	0.7	
	66	66	16:42	16:43	13063	324°	168	7143	18	1.2	0.7	
	67	67	16:49	16:52	13536	324°	163	7138	17	1.2	0.7	
	68	68	16:56	17:00	13374	324°	160	7138	15	1.3	0.8	
	69	69	17:04	17:06	13487	324°	165	7127	15	1.2	0.8	
	70	70	17:11	17:14	13491	324°	165	7119	13	1.5	0.9	
	71	71	17:19	17:21	13549	326°	168	7110	13	1.7	0.9	
	72	72	17:27	17:31	13540	326°	162	7105	14	1.6	0.9	
	73	73	17:34	17:35	13542	326°	160	7095	15	1.3	0.8	
	74	74	17:44	17:46	13598	325°	162	7090	15	1.3	0.5	
	75	75	17:52	17:55	13610	324°	161	7082	15	1.3	0.8	
	76	76	18:01	18:09	13569	330°	162	7072	16	1.2	0.7	
	77	77	18:12	18:19	12506	326°	168	7062	18	1.0	0.6	
	78	78	18:29	18:36	12519	326°	168	7031	14	1.3	0.8	
	79	79	18:46	18:55	12521	329°	161	7004	16	1.2	0.7	
	80	80	18:57	19:05	12559	146°	167	6974	16	1.2	0.7	GIMBAL PAV DATA MISSING
	81	81	19:09	19:17	12513	327°	162	6945	15	1.4	0.7	GIMBAL PAV DATA MISSING
	82	82	19:21	19:28	12514	144°	167	6914	15	1.4	0.7	
	83	83	19:33	19:41	12546	326°	161	6885	15	1.4	0.8	
	84	84	19:44	19:52	12528	143°	166	6852	16	1.6	0.8	
	85	85	19:56	20:04	12603	326°	167	6821	16	1.6	0.8	
	86	86	20:07	20:15	12601	146°	163	6792	19	1.7	0.7	
	87	87	20:18	20:26	12601	146°	158	6754	20	1.1	0.6	
	88	88	20:31	20:39	12696	147°	162	6734	22	1.1	0.6	



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO_170KTS		Lift	Temp °C Before		Temp °C After		Pressure (kPa)		Sensor Operator		
				2	21		17		102.68		Stephen Overcast		
Date/Julian:		10.21.2019		Disk Drive			Sensor			Pilot			
Hobbs End		6891.9		TM MM30 (103, 104)			TM_90524			Mike Wasielewski			
Hobbs ST		6888.3		TARGET	MSL	Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:
Flight Time		3.6		13,048		170	KXCP				1.500	C441-N207SS	
∠	Flight Line	Mission Line	UTC time:		Direction	GPS Altitude	Speed	Available	S/Vs	Position Acc.		Comments and Conditions:	
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP		
	89	89	22:05	22:12	12966	144°	168	6702	21	1.3	0.7	Parachute//Gimble Data Warning	
	90	90	2:17	22:25	12946	326°	160	6674	24	1.2	0.6		
	91	91	22:45	22:53	12859	144°	165	6626	24	1.1	0.6	Parachute//Gimble Data Warning	
	92	92	22:58	23:06	12846	325°	166	6597	24	1.1	0.6		
	93	93	23:10	23:17	12817	144°	165	6564	21	1.3	0.7	Parachute	
	94	94	23:55	23:31	12826	324°	166	6534	22	1.3	0.6		
	95	95	23:34	23:42	12736	145°	169	6501	23	1.2	0.6	Parachute//Gimbal Data Warning	
	96	96	23:47	23:55	12740	326°	167	6468	22	1.2	0.6	Parachute	
	97	97	23:59	:7	12744	144°	167	6433	23	1.1	0.6	Parachute	
	98	98	:12	:20	12620	324°	168	6400	22	1.2	0.6		
	99	99	:25	:33	12614	145°	166	6369	23	1.1	0.6	Parachute//Gimbal Data Warning	
	100	100	:38	:47	12531	324°	166	6334	23	1.1	0.6		
	101	101	:51	1:00	12467	145°	162	6302	22	1.1	0.7	Parachute	
	102	102	1:05	1:14	12462	325°	161	6269	21	1.1	0.7	Parachute	



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO		Lift	Temp °C Before	Temp °C After	Pressure (kPa)		Sensor Operator			
				3	6	21	102.74		Cynthia Williams			
Date/Julian:		10.22.219	Disk Drive			Sensor			Pilot			
Hobbs End		6896.6	TM MM30 (101, 102)			TM_90524			Wes Ashmore			
Hobbs ST		6891.9	TARGET MSL	Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:	
Flight Time		4.7	12,000	170	KCXP			JS4761		C441-N207SS	KCXP ( CARSON CITY, NV)	
∟	Flight Line	Mission Line	UTC time:		GPS Altitude: ASL:	Direction	Speed: kts:	Available MM Space	S/Vs:	Position Acc.		Comments and Conditions:
			Begin:	End:						AVG PDOP	AVG HDOP	
	103	103	16:20	16:30	12340	325°	162	7150	21	1.2	0.7	
	104	104	16:38	16:43	12353	145°	165	7116	21	1.1	0.7	
	210	210	16:58	17:10	9604	325°	163	7082	19	1.5	0.8	
	211	211	17:15	17:25	9611	144°	165	7031	18	1.5	0.7	
	212	212	17:28	17:39	9612	326°	163	6990	18	1.4	0.7	
	213	213	17:44	17:25	9572	142°	163	6944	19	1.2	0.7	
	214	214	17:59	18:10	9519	324°	165	6898	20	1.1	0.7	
	215	215	18:14	18:25	9517	145°	161	6851	19	1.0	0.6	
	216	216	18:29	18:40	9472	325°	161	6802	18	1.2	0.8	
	217	217	18:45	18:55	9478	144°	160	65755	18	1.2	0.7	
	218	218	18:59	19:11	9463	326°	166	6706	17	1.3	0.8	
	219	219	19:15	19:26	9456	143°	163	6659	18	1.4	0.8	
	220	220	19:30	19:41	9356	324°	167	6611	18	1.7	0.8	
	221	221	19:45	19:57	9432	145°	161	6566	18	1.5	0.8	
	222	222	20:00	20:11	9315	325°	166	6517	20	1.2	0.7	
	223	223	20:15	20:25	9324	144°	163	6470	20	1.0	0.6	



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO_170KTS			Lift	Temp °C Before		Temp °C After		Pressure (kPa)		Sensor Operator	
					4	22		18		102.71		Stephen Overcast	
Date/Julian:	10.22.2019		Disk Drive			Sensor						Pilot	
Hobbs End	6901.1		TM MM30 (103, 104)			TM_90524						Mike Wasielewski	
Hobbs ST	6896.7		TARGET MSL		Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:	
Flight Time	4.4		12,096		170	KXCP				1.500	C441-N207SS	KXCP( Carson City ,NV)	
∠	Flight Line	Mission Line	UTC time:		Direction	GPS Altitude	Speed	Available	S/Vs	Position Acc.		Comments and Conditions:	
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP		
	105	105	21:36	21:44	12079	144°	169	6232	21	1.2	0.7		
	106	106	21:49	21:58	12044	323°	165	6168	19	1.2	0.7		
	107	107	22:02	22:10	12034	145°	160	6166	19	1.2	0.7		
	108	108	22:15	22:23	11875	325°	159	6133	21	1.1	0.6		
	109	109	22:27	22:36	11896	144°	158	6098	22	1.2	0.6		
	110	110	22:40	22:48	11873	325°	161	6065	23	1.1	0.6		
	111	111	22:53	23:01	11842	144°	160	6030	23	1.1	0.6		
	112	112	23:06	23:14	11849	324°	161	5999	21	1.2	0.6		
	113	113	23:18	23:26	11798	145°	161	5966	20	1.3	0.7		
	114	114	23:31	23:39	11783	325°	165	5935	22	1.2	0.7		
	115	115	23:44	23:52	11765	145°	162	5904	22	1.1	0.7		
	116	116	23:57	:4	11673	324°	160	5871	22	1.1	0.7		
	117	117	:9	:16	11700	145°	161	5841	21	1.2	0.7		
	118	118	:21	:29	11681	323°	159	5808	21	1.1	0.7		
	119	119	:33	:41	11662	146°	165	5779	20	1.2	0.8		
	120	120	:46	:54	11580	325°	162	5749	19	1.2	0.8		
	121	121	:59	1:07	11578	146°	160	5716	19	1.2	0.7		
	122	122	1:12	1:20	11584	326°	155	5683	18	1.2	0.7		
	123	123	1:24	1:34	11578	143°	164	5650	15	1.5	0.8		



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO			Lift	Temp °C Before	Temp °C After	Pressure (kPa)			Sensor Operator	
					5	4	24	102.64			Cynthia Williams	
Date/Julian:		10.23.19	Disk Drive			Sensor						Pilot
Hobbs End		6905.2	TM MM30 (101, 102)			TM_90524						Wes Ashmore
Hobbs ST		6901.1	TARGET MSL	Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:	
Flight Time		4.1	12,000	170	KCXP			JS4761		C441-N207SS	KCXP ( CARSON CITY, NV)	
∠	Flight Line	Mission Line	UTC time:		GPS Altitude: ASL:	Direction	Speed: kts:	Available	S/Vs:	Position Acc.		Comments and Conditions:
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP	
	124	124	15:41	15:52	1153.6	325°	163	6424	20	1.4	0.6	
	125	125	15:56	16:07	11546	144°	162	6384	20	1.3	0.6	
	126	126	16:10	16:20	11549	325°	163	6347	19	1.2	0.6	
	127	127	16:27	16:33	11543	143°	166	6309	18	1.2	0.7	
	128	128	16:37	16:48	11543	324°	158	6270	18	1.7	0.9	
	129	129	16:52	17:03	11462	141°	164	6230	17	1.6	0.9	
	130	130	17:06	17:17	11455	323°	163	6190	17	1.5	0.9	
	131	131	17:20	17:31	11475	145°	166	6149	17	1.4	0.8	
	132	132	17:35	17:44	11386	324°	160	6106	18	1.3	0.7	
	133	133	17:50	18:01	11352	147°	169	6064	18	1.2	0.7	MOUNT ROLL LIMIT
	183	183	18:05	18:16	10014	324°	165	6023	19	1.2	0.7	
	184	184	18:20	18:32	10033	144°	165	5979	18	1.2	0.7	
	224	224	18:36	18:46	94036	325°	160	5934	19	1.3	0.7	
	225	225	18:50	19:01	9377	145°	160	5886	20	1.2	0.7	
	226	226	19:05	19:16	9313	325°	165	5838	19	1.3	0.7	



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO_170KTS			Lift	Temp °C Before		Temp °C After		Pressure (kPa)		Sensor Operator	
					6	19		16		102.61		Stephen Overcast	
Date/Julian:		10.23.2019		Disk Drive			Sensor					Pilot	
Hobbs End		6910.2		TM MM30 (103, 104)			TM_90524					Mike Wasielewski	
Hobbs ST		6905.2		TARGET MSL		Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:
Flight Time		5		11,223		170	KXCP				1.500	C441-N207SS	KXCP( Carson City ,NV)
∠	Flight Line	Mission Line	UTC time:		Direction	GPS Altitude	Speed	Available	S/Vs	Position Acc.		Comments and Conditions:	
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP		
	273	273	20:38	20:50	7983	145°	158	5610	25	1.0	0.6		
	274	274	20:54	21:07	8007	326°	155	5552	25	1.0	0.6		
	275	275	21:11	21:24	7969	145°	161	5489	22	1.3	0.6		
	276	276	21:29	21:41	7928	324°	165	5424	23	1.2	0.6		
	277	277	21:46	21:59	7969	146°	160	5370	20	1.4	0.7		
	278	278	22:03	22:16	7932	322°	157	5305	24	1.1	0.7		
	279	279	22:21	22:33	7970	144°	160	5243	23	1.2	0.7		
	280	280	22:38	22:50	7935	325°	164	5182	26	1.1	0.6		
	281	281	22:55	23:08	7967	145°	165	5121	24	1.2	0.7		
	282	282	23:12	23:25	7968	325°	163	5059	22	1.4	0.8		
	283	283	23:30	23:43	7967	143°	160	5000	23	1.1	0.7		
	284	284	23:47	23:59	7647	324°	158	4940	25	1.1	0.6		
	285	285	:4	:16	7676	144°	152	4878	21	1.3	0.7		
	286	286	:21	:32	7952	324°	154	4825	21	1.1	0.6		
	287	287	:37	:49	7958	146°	161	4772	21	1.1	0.6		



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO			Lift	Temp °C Before	Temp °C After	Pressure (kPa)	Sensor Operator			
					7	1	10	101.63	Cynthia Williams			
Date/Julian:		10.24.19	Disk Drive			Sensor					Pilot	
Hobbs End		6915	TM MM30 (101, 102)			TM_90524					Wes Ashmore	
Hobbs ST		6910.3	TARGET MSL		Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:
Flight Time		4.7	12,000		170	KCXP			JS4761		C441-N207SS	KCXP ( CARSON CITY, NV)
∠	Flight Line	Mission Line	UTC time:		GPS Altitude: ASL:	Direction	Speed: kts:	Available MM Space	S/Vs:	Position Acc.		Comments and Conditions:
			Begin:	End:						AVG PDOP	AVG HDOP	
	134	134	1:48	15:00	11224	33°	164	5770	23	1.2	0.6	
	135	135	15:03	15:15	11219	141°	166	5747	25	1.2	0.6	
	136	136	15:19	15:31	11211	324°	162	5704	21	1.3	0.7	
	137	137	15:34	15:46	11240	145°	163	5611	21	1.2	0.7	
	138	138	15:50	16:01	11176	324°	161	5618	21	1.1	0.7	
	139	139	16:05	16:17	11109	143°	161	5575	22	1.2	0.7	
	140	140	16:21	16:32	10968	327°	160	5528	22	1.1	0.7	
	141	141	16:31	16:49	10987	148°	170	5484	21	1.2	0.7	
	142	142	16:52	17:03	10960	324°	163	5437	19	1.4	0.7	ROLL MOUNT OUT OF LIMIT
	143	143	17:07	17:20	10977	144°	169	5390	17	1.5	0.7	
	144	144	17:23	17:35	10995	326°	160	53452	16	1.5	0.7	
	145	145	17:39	17:51	10984	147°	160	5296	17	1.2	0.7	
	146	146	17:54	18:06	10822	323°	168	5249	17	1.0	0.6	
	147	147	18:11	18:23	10890	142°	162	5203	19	1.0	0.6	
	145	148	18:27	18:39	10903	324°	164	5156	18	1.2	0.7	
	149	149	18:43	18:59	10842	142°	164	5090	18	1.2	0.7	
	150	150	18:58	19:10	10838	322°	166	5061	17	1.3	0.8	ROLL MOUNT OUT OF LIMIT





# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO_170KTS			Lift	Temp °C Before	Temp °C After	Pressure (kPa)		Sensor Operator			
					8	16	21	102.98		Stephen Overcast			
Date/Julian:		10.24.2019		Disk Drive			Sensor			Pilot			
Hobbs End		6920.7		TM MM30 (103, 104)			TM_90524			Mike Wasielewski			
Hobbs ST		6915		TARGET MSL	Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:	
Flight Time		5.7		11,223		170	KXCP		JS4761		1.500	C441-N207SS	KXCP( Carson City ,NV)
∠	Flight Line	Mission Line	UTC time:		Direction	GPS Altitude	Speed	Available	S/Vs	Position Acc.		Comments and Conditions:	
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP		
	151	151	20:24	20:35	10773	145°	154	4718	25	1.0	0.6		
	152	152	20:40	20:51	10751	3225°	161	4669	27	1.0	0.6		
	153	153	20:59	21:08	10744	145°	155	4625	24	1.2	0.6		
	154	154	21:13	21:24	10758	324°	158	4576	22	1.3	0.7		
	155	155	21:29	21:40	10751	145°	158	4533	22	1.3	0.7		
	156	156	21:45	21:56	10756	326°	168	4486	23	1.2	0.6		
	157	157	22:01	22:12	10673	144°	159	4443	24	1.2	0.6		
	288	288	22:23	22:34	7863	325°	164	4397	25	1.1	0.6		
	289	289	22:38	22:48	7991	146°	163	4346	26	1.1	0.6		
	290	290	22:52	23:02	7784	325°	161	4289	25	1.1	0.6		
	291	291	23:07	23:18	7690	143°	157	4246	24	1.2	0.6		
	292	292	23:22	23:33	7697	324°	161	4197	26	1.1	0.6		
	293	293	23:37	23:48	7628	143°	158	4105	25	1.1	0.6		
	294	294	23:52	:2	7627	324°	161	4082	25	1.1	0.6		
	295	295	:6	:17	7600	145°	163	4055	24	1.1	0.6		
	296	296	:21	:31	7569	325°	157	4007	23	1.1	0.7		
	297	297	:35	:46	7534	144°	163	3957	25	1.0	0.6		
	298	298	:49	1:00	7524	324°	157	3908	24	1.1	0.6		



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO		Lift	Temp °C Before	Temp °C After	Pressure (kPa)		Sensor Operator			
				9	-1	18	102.27		Cynthia Williams			
Date/Julian:	10.25.19		Disk Drive		Sensor <th colspan="2">Pilot</th>			Pilot				
Hobbs End	6925.4		TM MM30 (101, 102)		TM_90524			Wes Ashmore				
Hobbs ST	6920.1 <th>TARGET MSL</th> <th>Target AIRSPD</th> <th>Base Name</th> <th>PID</th> <th>Base Name</th> <th>PID</th> <th>Base Height</th> <th>Aircraft</th> <th>Airport Identification:</th>		TARGET MSL	Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:	
Flight Time	5.3		12,000		170	KCXP			JS4761		C441-N207SS KCXP ( CARSON CITY, NV)	
∠	Flight Line	Mission Line	UTC time:		GPS Altitude: ASL:	Direction	Speed: kts:	Available MM Space	S/Vs:	Position Acc.		Comments and Conditions:
			Begin:	End:						AVG PDOP	AVG HDOP	
	158	158	15:01	15:12	10071	324°	162	5016	20	1.3	0.6	
	159	159	15:16	15:28	10072	144°	162	4968	25	1.3	0.6	
	160	160	15:31	15:44	10696	323°	156	4922	25	1.5	0.6	
	161	161	15:47	15:59	10712	145°	156	4876	26	1.2	0.6	
	162	162	16:02	16:14	10617	325°	162	4831	24	1.2	0.6	
	163	163	16:20	16:29	10811	144°	160	4771	22	1.1	0.6	
	164	164	16:33	16:44	10513	325°	161	4733	21	1.2	0.7	
	165	165	16:48	17:00	10517	144°	162	4687	19	1.4	0.8	
	166	166	17:04	17:15	10512	323°	166	4621	19	1.4	0.8	
	167	167	17:20	17:31	10431	144°	158	4589	20	1.3	0.7	
	168	168	17:34	17:45	10402	324°	162	4545	20	1.2	0.7	
	169	169	17:49	18:01	10385	145°	161	4496	24	1.0	0.6	
	170	170	18:05	18:17	10334	325°	165	4449	21	1.1	0.7	
	171	171	18:20	18:32	10334	156°	158	4400	19	1.2	0.7	
	172	172	18:36	18:48	10340	325°	157	4352	19	1.0	0.6	
	173	173	18:50	19:01	10292	148°	150	4303	16	1.3	0.7	
	174	174	19:07	19:20	10283	324°	163	4256	19	1.4	0.8	
	175	175	19:22	19:34	10199	143°	164	4206	16	1.5	0.8	
	176	176	19:37	19:49	10196	324°	159	4159	16	1.6	0.8	



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO_170KTS		Lift	Temp °C Before		Temp °C After		Pressure (kPa)		Sensor Operator		
				10	19		16		102.47		Stephen Overcast		
Date/Julian:		10.25.2019		Disk Drive			Sensor				Pilot		
Hobbs End		6930.3		TM MM30 (103, 104)			TM_90524				Mike Wasielewski		
Hobbs ST		6923.4		TARGET MSL		Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:
Flight Time		6.9		10,131		170	KXCP		JS4761		1.500	C441-N207SS	KXCP( Carson City ,NV)
∠	Flight Line	Mission Line	UTC time:		Direction	GPS Altitude	Speed	Available	S/Vs	Position Acc.		Comments and Conditions:	
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP		
	151	151	20:24	20:35	10773	145°	154	4718	25	1.0	0.6		
	152	152	20:40	20:51	10751	3225°	161	4669	27	1.0	0.6		
	153	153	20:59	21:08	10744	145°	155	4625	24	1.2	0.6		
	154	154	21:13	21:24	10758	324°	158	4576	22	1.3	0.7		
	155	155	21:29	21:40	10751	145°	158	4533	22	1.3	0.7		
	156	156	21:45	21:56	10756	326°	168	4486	23	1.2	0.6		
	157	157	22:01	22:12	10673	144°	159	4443	24	1.2	0.6		
	288	288	22:23	22:34	7863	325°	164	4397	25	1.1	0.6		
	289	289	22:38	22:48	7991	146°	163	4346	26	1.1	0.6		
	290	290	22:52	23:02	7784	325°	161	4289	25	1.1	0.6		
	291	291	23:07	23:18	7690	143°	157	4246	24	1.2	0.6		
	292	292	23:22	23:33	7697	324°	161	4197	26	1.1	0.6		
	293	293	23:37	23:48	7628	143°	158	4105	25	1.1	0.6		
	294	294	23:52	:2	7627	324°	161	4082	25	1.1	0.6		
	295	295	:6	:17	7600	145°	163	4055	24	1.1	0.6		
	296	296	:21	:31	7569	325°	157	4007	23	1.1	0.7		
	297	297	:35	:46	7534	144°	163	3957	25	1.0	0.6		
	298	298	:49	1:00	7524	324°	157	3908	24	1.1	0.6		



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO			Lift	Temp °C Before		Temp °C After		Pressure (kPa)		Sensor Operator	
					11	1		23		102.27		Cynthia Williams	
Date/Julian:		10.26.19		Disk Drive			Sensor					Pilot	
Hobbs End		6935.5		TM MM30 (101, 102)			TM_90524					Wes Ashmore	
Hobbs ST		6930.3		TARGET MSL		Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:
Flight Time		5.2		12,000		170	KCXP			JS4761		C441-N207SS	KCXP ( CARSON CITY, NV)
∠	Flight Line	Mission Line	UTC time:		GPS Altitude: ASL:	Direction	Speed: kts:	Available MM Space	S/Vs:	Position Acc.		Comments and Conditions:	
			Begin:	End:						AVG PDOP	AVG HDOP		
	196	196	15:32	15:44	9965	325°	153	4109	24	1.2	0.6		
	197	197	15:48	16:00	9973	144°	163	4062	24	1.2	0.6		
	198	198	16:04	16:15	9958	341°	157	4008	25	1.1	0.6		
	199	199	16:52	16:30	9969	144°	164	3963	24	1.1	0.6		
	200	200	16:33	16:45	9963	325°	156	3920	23	1.1	0.7		
	201	201	16:49	17:00	9962	145°	159	3878	23	1.2	0.8		
	202	202	17:03	17:16	9889	325°	159	3860	23	1.4	0.8		
	203	203	17:20	17:30	9839	146°	159	3780	21	1.4	0.7		
	204	204	17:34	17:46	9839	326°	168	3735	21	1.2	0.6		
	205	205	17:49	1:80	9775	142°	165	3689	23	1.1	0.6		
	206	206	18:04	118:16	9757	325°	161	3642	21	1.0	0.6		
	207	207	18:07	18:31	9764	146°	161	3595	20	1.0	0.6		
	208	208	18:53	18:46	9767	325°	157	3550	20	1.0	0.6		
	209	209	18:52	19:01	9680	144°	160	3496	18	1.3	0.7		
	227	227	19:04	19:12	9303	324°	162	3459	16	1.6	0.8		
	228	228	19:18	19:31	9297	145°	158	3406	16	1.7	0.8		
	229	229	19:33	19:44	9302	323°	162	3359	16	1.7	0.8		
	230	230	19:48	19:59	9230	145°	161	3309	18	1.2	0.7		
	231	231	20:03	20:14	9219	326°	156	3262	22	1.0	0.6		



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO_170KTS		Lift	Temp °C Before		Temp °C After		Pressure (kPa)		Sensor Operator		
				12	23		18		101.29		Stephen Overcast		
Date/Julian:		10.26.2019		Disk Drive			Sensor			Pilot			
Hobbs End		6940.4		TM MM30 (103, 104)			TM_90524			Mike Wasielewski			
Hobbs ST		6935.5		TARGET MSL		Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:
Flight Time		4.9		10,131		170	KXCP		JS4761		1.500	C441-N207SS	KXCP( Carson City ,NV)
∠	Flight Line	Mission Line	UTC time:		Direction	GPS Altitude	Speed	Available	S/Vs	Position Acc.		Comments and Conditions:	
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP		
	232	232	21:21	21:32	9245	144°	162	3043	23	1.2	0.7		
	233	233	21:36	21:46	9191	324°	164	2994	21	1.3	0.7		
	234	234	21:50	22:01	9197	145°	167	2941	22	1.2	0.7	Gimble Data Warning	
	235	235	22:05	22:16	9173	324°	168	2898	19	1.3	0.7		
	236	236	22:20	22:30	9181	144°	163	2854	20	1.3	0.7		
	237	237	22:35	22:45	9178	325°	158	2808	22	1.2	0.6		
	238	238	22:49	23:00	9173	143°	159	2761	21	1.3	0.7		
	239	239	23:05	23:15	9168	325°	162	2712	21	1.3	0.7		
	240	240	23:19	23:30	9146	144°	161	2666	23	1.1	0.6		
	241	241	23:33	23:44	9156	324°	166	2619	23	1.0	0.6		
	242	242	23:48	23:58	9136	145°	165	2572	22	1.1	0.7		
	243	243	:5	:16	9082	324°	165	2525	22	1.0	0.6		
	244	244	:19	:30	9089	144°	165	2479	21	1.1	0.6		
	245	245	:34	:46	8978	325°	164	2434	23	1.0	0.6		
	246	246	:49	:59	8877	145°	169	2383	21	1.1	0.6		
	247	247	1:03	1:13	8856	324°	162	2339	20	1.1	0.6		
	248	248	1:17	1:28	8862	144°	165	2290	17	1.4	0.7		
	249	249	1:32	1:42	8829	324°	160	2243	16	1.6	0.8		



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO		Lift	Temp °C Before	Temp °C After	Pressure (kPa)		Sensor Operator			
				13	-5	5	102.27		Cynthia Williams			
Date/Julian:		10.26.19	Disk Drive			Sensor			Pilot			
Hobbs End		6945.3	TM MM30 (101, 102)			TM_90524			Wes Ashmore			
Hobbs ST		6940.4	TARGET MSL	Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:	
Flight Time		4.9	12,000	170	KCXP			JS4761		C441-N207SS	KCXP ( CARSON CITY, NV)	
∠	Flight Line	Mission Line	UTC time:		GPS Altitude: ASL:	Direction	Speed: kts:	Available MM Space	S/Vs:	Position Acc.		Comments and Conditions:
			Begin:	End:						AVG PDOP	AVG HDOP	
	250	250	15:55	16:06	8779	145°	158	3212	19	1.1	0.6	
	251	251	16:09	16:20	8759	325°	156	6165	20	1.1	0.6	
	252	252	16:24	16:35	5753	145°	157	3118	19	1.2	0.7	
	253	253	16:39	16:50	8617	325°	163	3070	19	1.2	0.7	
	254	254	16:54	17:06	8600	302°	158	3021	17	1.4	0.7	
	255	255	17:09	17:20	8569	297°	158	2972	18	1.2	0.7	
	256	256	17:25	17:35	8515	144°	153	2940	18	1.1	0.7	
	257	257	17:39	17:52	8388	324°	160	2876	20	1.0	0.6	
	258	258	17:54	18:04	8384	144°	162	2822	16	1.2	0.7	
	259	259	18:08	18:18	8382	325°	161	2762	16	1.2	0.7	
	260	260	18:23	18:34	8296	144°	163	2724	16	1.2	0.7	
	261	261	18:37	18:48	8292	324°	160	2678	14	1.5	0.8	
	262	262	18:52	19:03	8286	144°	163	2631	14	1.5	0.9	
	263	263	19:07	19:18	8275	324°	158	2581	17	1.5	0.8	
	264	264	19:21	19:33	8271	144°	158	2532	17	1.6	0.8	
	265	265	19:36	19:48	8128	325°	164	2481	19	1.2	0.7	
	266	266	19:52	20:03	8073	144°	160	2432	23	0.9	0.5	
	267	267	20:07	20:19	8047	326°	168	2383	22	1.0	0.6	



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO_170KTS			Lift	Temp °C Before		Temp °C After		Pressure (kPa)		Sensor Operator				
					14	10		7		101.73		Stephen Overcast				
Date/Julian:		10.28.2019		Disk Drive			Sensor					Pilot				
Hobbs End		6950.3		TM MM30 (103, 104)			TM_90524					Mike Wasielewski				
Hobbs ST		6945.3		TARGET MSL	Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:				
Flight Time		5		10,131		170		KXCP		JS4761		1.500		C441-N207SS	KXCP( Carson City ,NV)	
∠	Flight Line	Mission Line	UTC time:		Direction	GPS Altitude	Speed	Available	S/Vs	Position Acc.		Comments and Conditions:				
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP					
	268	268	21:33	21:44	8028	147°	160	2196	21	1.3	0.6					
	269	269	21:48	21:59	8026	327°	166	2145	23	1.2	0.6					
	270	270	22:03	22:15	8007	144°	166	2087	23	1.2	0.6	Gimble Data Warning				
	271	271	22:19	22:31	8004	325°	160	2040	23	1.1	0.6					
	272	272	22:35	22:47	7997	144°	164	1987	22	1.2	0.7					
	299	299	22:53	23:03	7354	325°	160	1931	21	1.3	0.7					
	300	300	23:07	23:18	7348	144°	166	1884	22	1.2	0.6					
	301	301	23:22	23:33	7295	324°	159	1837	23	1.0	0.6					
	302	302	23:36	23:47	7255	145°	163	1788	24	1.0	0.6					
	303	303	23:50	:1	7186	326°	160	1743	23	1.1	0.6					
	304	304	:5	:15	7184	144°	162	1695	21	1.2	0.7					
	305	305	:19	:30	7180	325°	160	1648	21	1.1	0.7					
	306	306	:34	:44	7172	144°	162	1605	22	1.1	0.6					
	307	307	:48	:58	7142	324°	163	1558	22	1.1	0.6					
	308	308	1:02	1:13	7125	144°	160	1512	18	1.4	0.7					
	309	309	1:17	1:28	7122	324°	163	1465	16	1.6	0.8					
	310	310	1:32	1:42	7115	145°	161	1418	16	1.5	0.7					
	311	311	1:47	1:57	7073	325°	161	1370	17	1.3	0.7					



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO			Lift	Temp °C Before	Temp °C After	Pressure (kPa)			Sensor Operator	
					15	3	8	101.83			Cynthia Williams	
Date/Julian:	10.29.2019		Disk Drive			Sensor						Pilot
Hobbs End	6955.3		TM MM30 (101, 102)			TM_90524						Wes Ashmore
Hobbs ST	6950.3		TARGET MSL	Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:	
Flight Time	5		12,000		170	KCXP			JS4761		C441-N207SS	KCXP ( CARSON CITY, NV)
∠	Flight Line	Mission Line	UTC time:		GPS Altitude: ASL:	Direction	Speed: kts:	Available	S/Vs:	Position Acc.		Comments and Conditions:
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP	
	312	312	15:40	15:52	7078	144°	159	7152	23	1.1	0.6	
	313	313	15:56	16:07	7055	325°	157	7057	22	1.1	0.6	
	314	314	16:10	16:21	7074	145°	161	7075	23	1.1	0.7	
	315	315	16:25	16:36	7055	324°	151	7062	22	1.3	0.8	
	316	316	16:40	16:51	7061	144°	162	7019	20	1.5	0.8	
	317	317	16:55	17:05	6452	324°	161	6910	19	1.5	0.8	
	318	318	17:09	17:20	6982	144°	158	6866	20	1.2	0.7	
	319	319	17:25	17:36	6915	325°	156	6821	20	1.1	0.7	
	320	320	17:39	17:56	6941	144°	157	6776	21	1.0	0.6	
	321	321	17:53	18:01	6861	325°	155	6732	19	1.0	0.7	
	322	322	18:07	18:08	6881	145°	155	6687	20	1.1	0.6	
	323	323	18:22	18:32	6865	325°	157	6642	19	1.2	0.7	
	324	324	18:37	18:47	6995	145°	165	6595	18	1.4	0.7	
	1	1	18:51	19:01	6827	324°	166	6556	17	1.7	.8	
	2	2	19:04	19:14	6856	147°	163	6513	18	1.6	0.8	
	3	3	19:18	19:27	6842	324°	157	6471	18	1.6	0.8	
	4	4	19:32	19:43	6827	144°	166	6428	20	1.2	0.7	
	5	5	19:47	19:58	6780	324°	162	6386	21	1.0	0.6	





# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO_170KTS			Lift	Temp °C Before	Temp °C After	Pressure (kPa)			Sensor Operator			
					16	8	2	101.96			Stephen Overcast			
Date/Julian:		10.29.2019			Disk Drive			Sensor			Pilot			
Hobbs End		6960.1			TM MM30 (103, 104)			TM_90524			Mike Wasielewski			
Hobbs ST		6955.3			TARGET MSL	Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:	
Flight Time		4.8			10,131		170	KXCP		JS4761		1.500	C441-N207SS	KXCP( Carson City ,NV)
∠	Flight Line	Mission Line	UTC time:		Direction	GPS Altitude	Speed	Available	S/Vs	Position Acc.		Comments and Conditions:		
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP			
	63	63	21:38	21:39	6106	144°	164	7150	20	1.1	0.6			
	62	62	21:45	21:46	6095	324°	160	7147	22	1.1	0.6			
	61	61	21:51	21:54	6116	145°	157	7140	20	1.2	0.6			
	60	60	21:59	22:03	6063	324°	157	7128	20	1.2	0.6			
	59	59	22:07	22:11	6084	144°	160	7113	21	1.1	0.6			
	58	58	22:15	22:20	6074	325°	155	7098	23	1.1	0.6			
	57	57	22:24	22:29	6142	146°	159	7078	23	1.2	0.6			
	56	56	22:33	22:38	6128	326°	158	7057	21	1.3	0.7			
	55	55	22:42	22:47	6129	144°	158	7036	21	1.3	0.7			
	54	54	22:51	22:57	6091	325°	162	7015	21	1.2	0.6			
	53	53	23:01	23:06	6115	145°	155	6996	22	1.2	0.6			
	52	52	23:10	23:16	6109	325°	159	6975	22	1.2	0.6			
	51	51	23:20	23:25	6111	146°	158	6948	21	1.1	0.6			
	50	50	23:29	23:33	6132	324°	157	6935	21	1.1	0.6			
	49	49	23:37	23:42	6142	145°	159	6919	20	1.1	0.6			
	48	48	23:45	23:49	6182	325°	162	6900	20	1.1	0.6			
	47	47	23:53	23:57	6178	145°	163	6886	20	1.1	0.6			
	46	46	:1	:6	6184	324°	160	6868	19	1.1	0.6			
	45	45	:9	:14	6195	144°	155	6847	19	1.1	0.7			
	44	44	:18	:21	6176	324°	62	6834	19	1.1	0.7			
	43	43	:25	:29	6172	146°	160	6818	19	1.1	0.7			
	42	42	:33	:37	6185	325°	157	6802	20	1.1	0.7			
	41	41	:40	:44	6191	145°	166	6787	20	1.1	0.7			
	40	40	:48	:52	6202	326°	156	6770	20	1.1	0.7			
	39	39	:56	1:00	6220	144°	159	6755	16	1.6	0.9			
	38	38	1:04	1:04	6233	325°	155	6738	16	1.6	0.9			













# Digital Aerial Solutions Flight Log

Project/Flight Plan:		TM_CA_ELDORADO			Lift	Temp °C Before		Temp °C After		Pressure (kPa)		Sensor Operator	
					21	10		25		102.24		Geoffrey McCall	
Date/Julian:		11.2.2019		Disk Drive			Sensor					Pilot	
Hobbs End		6978.8		TM MM30 (103, 104)			TM_90524					Wes Ashmore	
Hobbs ST		6974.5		TARGET MSL		Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:
Flight Time		4.3		12,000		170	O22					C441-N207SS	KCXP ( CARSON CITY, NV)
∠	Flight Line	Mission Line	UTC time:		GPS Altitude: ASL:	Direction	Speed: kts:	Available MM Space	S/Vs:	Position Acc.		Comments and Conditions:	
			Begin:	End:						AVG PDOP	AVG HDOP		
	339	339	16:37	16:45	6453	292°	157	4830	19	1.4	0.8		
	340	340	16:49	16:57	6450	112°	159	4799	20	1.2	0.7		
	341	341	17:01	17:10	6511	292°	158	4770	20	1.2	0.7		
	342	342	17:14	17:22	6501	113°	161	4742	21	1.1	0.6		
	343	343	17:25	17:34	6533	291°	163	4709	21	1.1	0.7		
	344	344	17:37	17:46	6575	112°	161	4678	22	1.1	0.7		
	345	345	17:49	17:57	6630	291°	170	4645	19	1.2	0.7		
	346	346	18:01	18:09	6662	112°	161	4614	19	1.2	0.6		
	347	347	18:13	18:21	6762	291°	164	4582	19	1.2	0.7		
	348	348	18:25	18:32	6762	113°	158	4551	18	1.3	0.8		
	349	349	18:37	18:44	7000	292°	166	4520	16	1.6	0.8		
	350	350	18:48	18:55	6993	111°	165	4493	16	1.7	0.8		
	351	351	18:58	19:05	7162	292°	165	4464	17	1.5	0.8		
	352	352	19:08	19:15	7153	111°	157	4436	17	1.6	0.8		
	353	353	19:19	19:25	7159	292°	163	4409	18	1.2	0.7		
	354	354	19:29	19:35	7239	111°	166	4384	21	1.0	0.6		
	355	355	19:38	19:44	7249	293°	166	4358	21	1.0	0.6		
	356	356	19:48	19:54	7461	114°	167	4332	23	0.9	0.6		
	357	357	19:57	20:02	7411	289°	170	4310	22	1.0	0.6		
	358	358	20:06	20:09	7924	112°	161	42914	23	1.0	0.6		
	359	359	20:13	20:15	7899	291°	160	4279	24	1.0	0.6		



# Digital Aerial Solutions Flight Log

Project/Flight Plan:		Eldorado Refly			Lift	Temp °C Before		Temp °C After		Pressure (kPa)		Sensor Operator	
					22	14		20		102.10		Cynthia Williams	
Date/Julian:		3.5.2020		Disk Drive			Sensor					Pilot	
Hobbs End		7007.6		TM MM30 (105, 106)			TM_90524					Mike Wasielewski	
Hobbs ST		7004		TARGET MSL		Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:
Flight Time		3.6		6,400		160	KTCY		KTCY02		1.500	C441-N207SS	KTCY (Tracy, CA)
∠	Flight Line	Mission Line	UTC time:		Direction	GPS Altitude	Speed	Available	S/Vs	Position Acc.		Comments and Conditions:	
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP		
	22	22	17:18	17:19	113°	6379	155	7153	22	1.1	0.7		
	29	29	17:24	19:25	286°	6468	157	7150	25	1.1	0.7		
	28	28	17:32	17:34	111°	6464	156	7148	25	1.1	0.7		
	4	4	17:39	17:40	298°	6730	157	7146	25	1.1	0.7		
	5	5	17:45	17:46	111°	6720	156	7146	23	1.2	0.7		
	9	9	17:50	17:51	292°	6835	154	7144	222	1.2	0.7		
	27	27	17:57	17:58	114°	6899	153	7144	222	1.2	0.7		
	13	13	18:05	18:06	112°	6932	154	7142	21	1.4	0.8		
	26	26	18:12	18:14	293°	7333	153	7139	22	1.4	0.8		
	17	17	18:20	18:21	113°	7399	151	7137	21	1.2	0.7		
	14	14	18:27	18:28	112°	7135	154	7463	21	1.2	0.7		
	24	24	18:32	18:33	292°	7663	152	7461	20	1.2	0.7		
	21	21	18:38	18:40	290°	7864	159	7133	20	1.3	0.7		
	18	18	18:49	18:50	112°	7722	157	7132	22	1.2	0.7		
	19	19	18:56	18:57	117°	8081	148	7130	24	1.1	0.6		
	20	20	19:02	19:03	293°	8160	153	7128	24	1.2	0.6		
	23	23	19:09	19:10	112°	7969	141	7128	25	1.1	0.6		
	30	30	19:15	19:16	297°	7915	155	7127	26	1.1	0.6		
	31	31	19:21	19:24	112°	7510	146	7125	26	1.1	0.6		
	25	25	19:29	19:30	292°	7605	156	1720	25	1.2	0.6		
	15	15	19:35	19:38	113°	7478	151	7118	25	1.2	0.6		
	16	16	19:42	19:44	293°	7137	158	7114	24	1.3	0.7		
	11	11	19:45	19:50	112°	6579	153	7112	25	1.2	0.6		
	12	12	19:54	19:55	294°	6833	150	7111	25	1.2	0.6		
	10	1	20:00	20:03	113°	6704	152	7109	26	1.2	0.6		
	8	8	20:08	20:11	293°	6713	155	7105	26	1.2	0.6		





# Digital Aerial Solutions Flight Log

Project/Flight Plan:		Eldorado Refly			Lift	Temp °C Before	Temp °C After	Pressure (kPa)		Sensor Operator		
					22	14	20	102.10		Cynthia Williams		
Date/Julian:	3.5.2020	Disk Drive			Sensor					Pilot		
Hobbs End	7007.6	TM MM30 (105, 106)			TM_90524					Mike Wasielewski		
Hobbs ST	7004	TARGET MSL	Target AIRSPD	Base Name	PID	Base Name	PID	Base Height	Aircraft	Airport Identification:		
Flight Time	3.6	6,400	160	KTCY		KTCY02		1.500	C441-N207SS	KTCY (Tracy, CA)		
∠	Flight Line	Mission Line	UTC time:		Direction	GPS Altitude	Speed	Available	S/Vs	Position Acc.		Comments and Conditions:
			Begin:	End:				MM Space		AVG PDOP	AVG HDOP	
	7	7	20:16	20:21	113°	67333	15	7101	26	1.2	0.6	
	6	6	20:22	20:23	109°	66829	141	7099	26	1.2	0.6	
	3	3	20:24	20:26	291°	6740	1449	7096	24	1.2	0.6	
	2	2	20:27	20:28	292°	6691	152	7094	22	1.4	0.6	
	1	1	20:33	20:34	113°	6984	155	7094	22	1.4	0.6	



## Appendix B. Base Station GPS Session Forms

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> USGS-140G0219F0344 CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 10/22/2019	
<b>DAS Project No.</b> 19016		<b>Survey Firm</b> DAS		<b>Operator Name</b> Akeem Kerr	
<b>Monument Name/Designation</b> FAA PVF A			<b>Exact Stamping (include photo in survey report)</b> FAA PVF A 1992		
<b>Monument No./PID</b> JS4761		<b>Collection Type (circle one)</b> <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name (receiver generated)</b> 6684_1022_080606.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1506684	
<b>Antenna Part No.</b> N/A		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1   2   3   AVG		<b>Starting Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1   2   3   AVG		<b>Ending Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point (include and reference a dimensional diagram in Survey Report)</b> (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 10/22/2019		<b>Start Time (UTC)</b> 15:05		<b>Approx. Lat. (if available)</b> N 38 43 22.18074	
<b>End Date (UTC)</b> 10/23/2019		<b>End Time (UTC)</b> 2:15		<b>Approx. Long. (if available)</b> W 120 45 27.64951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> USGS-140G0219F0344 CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 10/23/2019	
<b>DAS Project No.</b> 19016		<b>Survey Firm</b> DAS		<b>Operator Name</b> Akeem Kerr	
<b>Monument Name/Designation</b> FAA PVF A			<b>Exact Stamping (include photo in survey report)</b> FAA PVF A 1992		
<b>Monument No./PID</b> JS4761		<b>Collection Type (circle one)</b> <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name (receiver generated)</b> 6684_1023_075548.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1506684	
<b>Antenna Part No.</b> N/A		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1   2   3   AVG		<b>Starting Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1   2   3   AVG		<b>Ending Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point (include and reference a dimensional diagram in Survey Report)</b> (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 10/23/2019		<b>Start Time (UTC)</b> 15:55		<b>Approx. Lat. (if available)</b> N 38 43 22.18074	
<b>End Date (UTC)</b> 10/24/2019		<b>End Time (UTC)</b> 3:15		<b>Approx. Long. (if available)</b> W 120 45 27.64951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> USGS-140G0219F0344 CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 10/24/2019	
<b>DAS Project No.</b> 19016		<b>Survey Firm</b> DAS		<b>Operator Name</b> Akeem Kerr	
<b>Monument Name/Designation</b> FAA PVF A			<b>Exact Stamping (include photo in survey report)</b> FAA PVF A 1992		
<b>Monument No./PID</b> JS4761		<b>Collection Type (circle one)</b> <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name (receiver generated)</b> 6684_1024_064647.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1506684	
<b>Antenna Part No.</b> N/A		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1   2   3   AVG		<b>Starting Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1   2   3   AVG		<b>Ending Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point (include and reference a dimensional diagram in Survey Report)</b> (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 10/24/2019		<b>Start Time (UTC)</b> 15:45:00 PM		<b>Approx. Lat. (if available)</b> N 38 43 22.18074	
<b>End Date (UTC)</b> 10/25/2019		<b>End Time (UTC)</b> 3:10		<b>Approx. Long. (if available)</b> W 120 45 27.64951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> USGS-140G0219F0344 CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 10/25/2019	
<b>DAS Project No.</b> 19016		<b>Survey Firm</b> DAS		<b>Operator Name</b> Akeem Kerr	
<b>Monument Name/Designation</b> FAA PVF A			<b>Exact Stamping (include photo in survey report)</b> FAA PVF A 1992		
<b>Monument No./PID</b> JS4761		<b>Collection Type (circle one)</b> <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name (receiver generated)</b> 6684_1025_064854.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1506684	
<b>Antenna Part No.</b> N/A		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1   2   3   AVG		<b>Starting Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1   2   3   AVG		<b>Ending Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point (include and reference a dimensional diagram in Survey Report)</b> (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 10/25/2019		<b>Start Time (UTC)</b> 14:50		<b>Approx. Lat. (if available)</b> N 38 43 22.18074	
<b>End Date (UTC)</b> 10/26/2019		<b>End Time (UTC)</b> 3:15		<b>Approx. Long. (if available)</b> W 120 45 27.64951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> USGS-140G0219F0344 CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 10/26/2019	
<b>DAS Project No.</b> 19016		<b>Survey Firm</b> DAS		<b>Operator Name</b> Akeem Kerr	
<b>Monument Name/Designation</b> FAA PVF A			<b>Exact Stamping (include photo in survey report)</b> FAA PVF A 1992		
<b>Monument No./PID</b> JS4761		<b>Collection Type (circle one)</b> <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name (receiver generated)</b> 6684_1026_064820.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1506684	
<b>Antenna Part No.</b> N/A		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1   2   3   AVG		<b>Starting Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1   2   3   AVG		<b>Ending Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point (include and reference a dimensional diagram in Survey Report)</b> (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 10/26/2019		<b>Start Time (UTC)</b> 14:50		<b>Approx. Lat. (if available)</b> N 38 43 22.18074	
<b>End Date (UTC)</b> 10/27/2019		<b>End Time (UTC)</b> 4:05		<b>Approx. Long. (if available)</b> W 120 45 27.64951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> USGS-140G0219F0344 CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 10/28/2019	
<b>DAS Project No.</b> 19016		<b>Survey Firm</b> DAS		<b>Operator Name</b> Akeem Kerr	
<b>Monument Name/Designation</b> FAA PVF A			<b>Exact Stamping (include photo in survey report)</b> FAA PVF A 1992		
<b>Monument No./PID</b> JS4761		<b>Collection Type (circle one)</b> <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name (receiver generated)</b> 6684_1028_064510.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1506684	
<b>Antenna Part No.</b> N/A		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1   2   3   AVG		<b>Starting Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1   2   3   AVG		<b>Ending Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point (include and reference a dimensional diagram in Survey Report)</b> (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 10/28/2019		<b>Start Time (UTC)</b> 14:45		<b>Approx. Lat. (if available)</b> N 38 43 22.18074	
<b>End Date (UTC)</b> 10/29/2019		<b>End Time (UTC)</b> 3:30		<b>Approx. Long. (if available)</b> W 120 45 27.64951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		



# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> USGS-140G0219F0344 CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 10/29/2019	
<b>DAS Project No.</b> 19016		<b>Survey Firm</b> DAS		<b>Operator Name</b> Akeem Kerr	
<b>Monument Name/Designation</b> FAA PVF A			<b>Exact Stamping (include photo in survey report)</b> FAA PVF A 1992		
<b>Monument No./PID</b> JS4761		<b>Collection Type (circle one)</b> <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name (receiver generated)</b> 6684_1029_064246.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1506684	
<b>Antenna Part No.</b> N/A		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1   2   3   AVG		<b>Starting Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1   2   3   AVG		<b>Ending Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point (include and reference a dimensional diagram in Survey Report)</b> (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 10/29/2019		<b>Start Time (UTC)</b> 14:45		<b>Approx. Lat. (if available)</b> N 38 43 22.18074	
<b>End Date (UTC)</b> 10/30/2019		<b>End Time (UTC)</b> 3:40		<b>Approx. Long. (if available)</b> W 120 45 27.64951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> USGS-140G0219F0344 CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 10/30/2019	
<b>DAS Project No.</b> 19016		<b>Survey Firm</b> DAS		<b>Operator Name</b> Akeem Kerr	
<b>Monument Name/Designation</b> FAA PVF A			<b>Exact Stamping (include photo in survey report)</b> FAA PVF A 1992		
<b>Monument No./PID</b> JS4761		<b>Collection Type (circle one)</b> <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name (receiver generated)</b> 6684_1030_070240.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1506684	
<b>Antenna Part No.</b> N/A		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1   2   3   AVG		<b>Starting Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1   2   3   AVG		<b>Ending Antenna Height in Meters</b> 1   2   3   AVG 1.5		<b>Type of Measurement (circle one)</b> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point (include and reference a dimensional diagram in Survey Report)</b> (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 10/30/2019		<b>Start Time (UTC)</b> 15:00		<b>Approx. Lat. (if available)</b> N 38 43 22.18074	
<b>End Date (UTC)</b> 10/31/2019		<b>End Time (UTC)</b> 2:10		<b>Approx. Long. (if available)</b> W 120 45 27.64951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 10.21.2019	
<b>DAS Project No.</b>		<b>Survey Firm</b> DAS		<b>Operator Name</b> Cynthia Williams	
<b>Monument Name/Designation</b> KCXP			<b>Exact Stamping</b> <i>(include photo in survey report)</i>		
<b>Monument No./PID</b>		<b>Collection Type</b> <i>(circle one)</i> <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name</b> <i>(receiver generated)</i> 1514_1021_105540.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1506684	
<b>Antenna Part No.</b> N/A		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1    2    3    AVG		<b>Starting Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> <i>(circle one)</i> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1    2    3    AVG		<b>Ending Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> <i>(circle one)</i> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point</b> <i>(include and reference a dimensional diagram in Survey Report)</i> <i>(e.g., bottom edge of notch in ground plane, Page 5, Figure 2)</i>					
<b>Start Date (UTC)</b> 10.21.2019		<b>Start Time (UTC)</b> 15:56		<b>Approx. Lat.</b> <i>(if available)</i> N 39 11 43.22283	
<b>End Date (UTC)</b> 10.22.2019		<b>End Time (UTC)</b> 2:51		<b>Approx. Long.</b> <i>(if available)</i> W 119 44 43.22951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

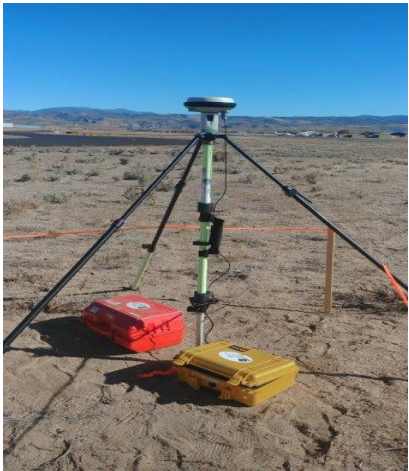
# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 10.22.2019	
<b>DAS Project No.</b>		<b>Survey Firm</b> DAS		<b>Operator Name</b> Stephen Overcast	
<b>Monument Name/Designation</b> KCXP			<b>Exact Stamping</b> (include photo in survey report)		
<b>Monument No./PID</b>		<b>Collection Type</b> (circle one) <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name</b> (receiver generated) 1514_1022_111220.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1506684	
<b>Antenna Part No.</b> N/A		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1    2    3    AVG		<b>Starting Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1    2    3    AVG		<b>Ending Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point</b> (include and reference a dimensional diagram in Survey Report) (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 10.22.2019		<b>Start Time (UTC)</b> 16:12		<b>Approx. Lat.</b> (if available) N 39 11 43.22283	
<b>End Date (UTC)</b> 10.23.2019		<b>End Time (UTC)</b> 3:02		<b>Approx. Long.</b> (if available) W 119 44 43.22951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

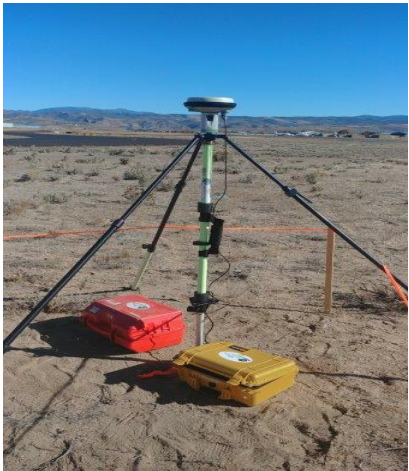
# GPS SESSION FORM



Contract # / TO # G17PC00044		Client / Project Name U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		Date 10.23.2019
DAS Project No.		Survey Firm DAS		Operator Name Stephen Overcast
Monument Name/Designation KCXP			Exact Stamping (include photo in survey report)	
Monument No./PID		Collection Type (circle one) <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		File Name (receiver generated) 1514_1023_103529.m00
Receiver Manufacturer N/A		Receiver Model N/A		Receiver Serial No. N/A
Data Collector Manufacturer Leica		Data Collector Model GS15		Data Collector Serial No. 1506684
Antenna Part No. N/A		Antenna Model N/A		Antenna Serial No. N/A
Starting Antenna Height in Feet 1   2   3   AVG		Starting Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Ending Antenna Height in Feet 1   2   3   AVG		Ending Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Antenna Reference Point (include and reference a dimensional diagram in Survey Report) (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)				
Start Date (UTC) 10.23.219		Start Time (UTC) 14:48		Approx. Lat. (if available) N 39 11 43.22283
End Date (UTC) 10.24.2019		End Time (UTC) 2:30		Approx. Long. (if available) W 119 44 43.22951
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.			Site Diagram/Setup-Photo 	

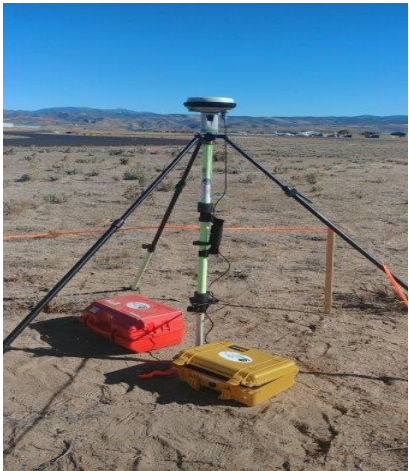
# GPS SESSION FORM



Contract # / TO # G17PC00044		Client / Project Name U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		Date 10.24.2019
DAS Project No.		Survey Firm DAS		Operator Name Stephen Overcast
Monument Name/Designation KCXP			Exact Stamping (include photo in survey report)	
Monument No./PID		Collection Type (circle one) <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		File Name (receiver generated) 1514_1024_094811.m00
Receiver Manufacturer N/A		Receiver Model N/A		Receiver Serial No. N/A
Data Collector Manufacturer Leica		Data Collector Model GS15		Data Collector Serial No. 1506684
Antenna Part No. N/A		Antenna Model N/A		Antenna Serial No. N/A
Starting Antenna Height in Feet 1   2   3   AVG		Starting Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Ending Antenna Height in Feet 1   2   3   AVG		Ending Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Antenna Reference Point (include and reference a dimensional diagram in Survey Report) (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)				
Start Date (UTC) 10.24.2019		Start Time (UTC) 14:48		Approx. Lat. (if available) N 39 11 43.22283
End Date (UTC) 10.25.2019		End Time (UTC) 2:30		Approx. Long. (if available) W 119 44 43.22951
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.			Site Diagram/Setup-Photo 	

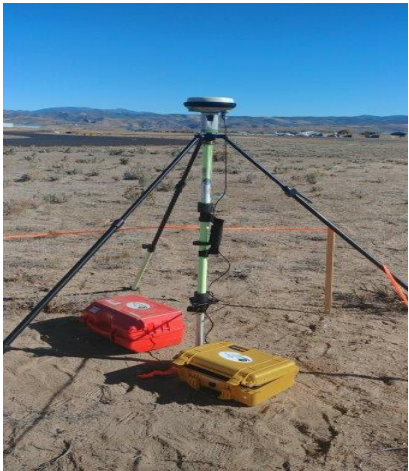
# GPS SESSION FORM



Contract # / TO # G17PC00044		Client / Project Name U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		Date 10.25.2019
DAS Project No.		Survey Firm DAS		Operator Name Stephen Overcast
Monument Name/Designation KCXP			Exact Stamping (include photo in survey report)	
Monument No./PID		Collection Type (circle one) <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		File Name (receiver generated) 1514_1025_095755.m00
Receiver Manufacturer N/A		Receiver Model N/A		Receiver Serial No. N/A
Data Collector Manufacturer Leica		Data Collector Model GS15		Data Collector Serial No. 1506684
Antenna Part No. N/A		Antenna Model N/A		Antenna Serial No. N/A
Starting Antenna Height in Feet 1   2   3   AVG		Starting Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Ending Antenna Height in Feet 1   2   3   AVG		Ending Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Antenna Reference Point (include and reference a dimensional diagram in Survey Report) (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)				
Start Date (UTC) 10.25.2019		Start Time (UTC) 15:58		Approx. Lat. (if available) N 39 11 43.22283
End Date (UTC) 10.26.2019		End Time (UTC) 2:35		Approx. Long. (if available) W 119 44 43.22951
Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.			Site Diagram/Setup-Photo 	

# GPS SESSION FORM

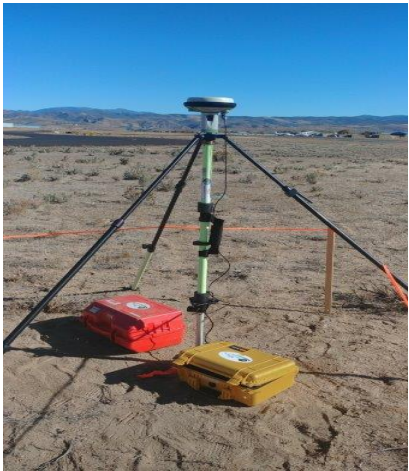


Contract # / TO # G17PC00044		Client / Project Name U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		Date 10.26.2019
DAS Project No.		Survey Firm DAS		Operator Name Stephen Overcast
Monument Name/Designation KCXP			Exact Stamping (include photo in survey report)	
Monument No./PID		Collection Type (circle one) <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		File Name (receiver generated) 1514_1026_102922.m00
Receiver Manufacturer N/A		Receiver Model N/A		Receiver Serial No. N/A
Data Collector Manufacturer Leica		Data Collector Model GS15		Data Collector Serial No. 1506684
Antenna Part No. N/A		Antenna Model N/A		Antenna Serial No. N/A
Starting Antenna Height in Feet 1   2   3   AVG		Starting Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Ending Antenna Height in Feet 1   2   3   AVG		Ending Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Antenna Reference Point (include and reference a dimensional diagram in Survey Report) (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)				
Start Date (UTC) 10.26.2019		Start Time (UTC) 15:49		Approx. Lat. (if available) N 39 11 43.22283
End Date (UTC) 10.27.2019		End Time (UTC) 3:05		Approx. Long. (if available) W 119 44 43.22951
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.			Site Diagram/Setup-Photo 	



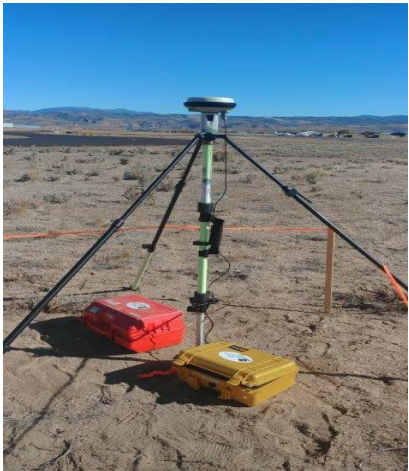
# GPS SESSION FORM



Contract # / TO # G17PC00044		Client / Project Name U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		Date 10.28.2019
DAS Project No.		Survey Firm DAS		Operator Name Stephen Overcast
Monument Name/Designation KCXP			Exact Stamping (include photo in survey report)	
Monument No./PID		Collection Type (circle one) <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		File Name (receiver generated) 1514_1028_095900.m00
Receiver Manufacturer N/A		Receiver Model N/A		Receiver Serial No. N/A
Data Collector Manufacturer Leica		Data Collector Model GS15		Data Collector Serial No. 1506684
Antenna Part No. N/A		Antenna Model N/A		Antenna Serial No. N/A
Starting Antenna Height in Feet 1   2   3   AVG		Starting Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Ending Antenna Height in Feet 1   2   3   AVG		Ending Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Antenna Reference Point (include and reference a dimensional diagram in Survey Report) (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)				
Start Date (UTC) 10.28.2019		Start Time (UTC) 14:49		Approx. Lat. (if available) N 39 11 43.22283
End Date (UTC) 10.29.2019		End Time (UTC) 3:20		Approx. Long. (if available) W 119 44 43.22951
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.			Site Diagram/Setup-Photo 	

# GPS SESSION FORM



Contract # / TO # G17PC00044		Client / Project Name U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		Date 10.29.2019
DAS Project No.		Survey Firm DAS		Operator Name Stephen Overcast
Monument Name/Designation KCXP			Exact Stamping (include photo in survey report)	
Monument No./PID		Collection Type (circle one) <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		File Name (receiver generated) 1514_1029_103831.m00
Receiver Manufacturer N/A		Receiver Model N/A		Receiver Serial No. N/A
Data Collector Manufacturer Leica		Data Collector Model GS15		Data Collector Serial No. 1506684
Antenna Part No. N/A		Antenna Model N/A		Antenna Serial No. N/A
Starting Antenna Height in Feet 1   2   3   AVG		Starting Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Ending Antenna Height in Feet 1   2   3   AVG		Ending Antenna Height in Meters 1   2   3   AVG 1.5		Type of Measurement (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP
Antenna Reference Point (include and reference a dimensional diagram in Survey Report) (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)				
Start Date (UTC) 10.29.2019		Start Time (UTC) 15:48		Approx. Lat. (if available) N 39 11 43.22283
End Date (UTC) 10.30.2019		End Time (UTC) 3:40		Approx. Long. (if available) W 119 44 43.22951
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.			Site Diagram/Setup-Photo 	

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 10.30.2019	
<b>DAS Project No.</b>		<b>Survey Firm</b> DAS		<b>Operator Name</b> Stephen Overcast	
<b>Monument Name/Designation</b> KCXP			<b>Exact Stamping</b> (include photo in survey report)		
<b>Monument No./PID</b>		<b>Collection Type</b> (circle one) <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name</b> (receiver generated) 1514_1030_103917.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1506684	
<b>Antenna Part No.</b> N/A		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1    2    3    AVG		<b>Starting Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1    2    3    AVG		<b>Ending Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point</b> (include and reference a dimensional diagram in Survey Report) (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 10.30.2019		<b>Start Time (UTC)</b> 15:49		<b>Approx. Lat.</b> (if available) N 39 11 43.22283	
<b>End Date (UTC)</b> 10.31.2019		<b>End Time (UTC)</b> 3:49		<b>Approx. Long.</b> (if available) W 119 44 43.22951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 11.1.2019	
<b>DAS Project No.</b>		<b>Survey Firm</b> DAS		<b>Operator Name</b> Cynthia Williams	
<b>Monument Name/Designation</b> O22			<b>Exact Stamping</b> <i>(include photo in survey report)</i>		
<b>Monument No./PID</b>		<b>Collection Type</b> <i>(circle one)</i> <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name</b> <i>(receiver generated)</i> 1514_1021_105540.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1501514	
<b>Antenna Part No.</b> 3725413		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1    2    3    AVG		<b>Starting Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> <i>(circle one)</i> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1    2    3    AVG		<b>Ending Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> <i>(circle one)</i> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point</b> <i>(include and reference a dimensional diagram in Survey Report)</i> <i>(e.g., bottom edge of notch in ground plane, Page 5, Figure 2)</i>					
<b>Start Date (UTC)</b> 11.1.2019		<b>Start Time (UTC)</b> 23:00		<b>Approx. Lat.</b> <i>(if available)</i> N 39 11 43.22283	
<b>End Date (UTC)</b> 11.2.2019		<b>End Time (UTC)</b> 3:51		<b>Approx. Long.</b> <i>(if available)</i> W 119 44 43.22951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 3.5.2020	
<b>DAS Project No.</b> 19016		<b>Survey Firm</b> DAS		<b>Operator Name</b> Cynthia Williams	
<b>Monument Name/Designation</b> KTCY			<b>Exact Stamping</b> (include photo in survey report)		
<b>Monument No./PID</b>		<b>Collection Type</b> (circle one) <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name</b> (receiver generated) 1514_0305_110520.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1501514	
<b>Antenna Part No.</b> 3725413		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1    2    3    AVG		<b>Starting Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1    2    3    AVG		<b>Ending Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point</b> (include and reference a dimensional diagram in Survey Report) (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 3.5.2020		<b>Start Time (UTC)</b> 15:06		<b>Approx. Lat.</b> (if available) N 37 41 13.82946	
<b>End Date (UTC)</b> 3.5.2020		<b>End Time (UTC)</b> 18:32		<b>Approx. Long.</b> (if available) W 121 26 8.99149	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 3.5.2020	
<b>DAS Project No.</b> 19016		<b>Survey Firm</b> DAS		<b>Operator Name</b> Cynthia Williams	
<b>Monument Name/Designation</b> KTCY02			<b>Exact Stamping</b> <i>(include photo in survey report)</i>		
<b>Monument No./PID</b>		<b>Collection Type</b> <i>(circle one)</i> <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name</b> <i>(receiver generated)</i> 6674_0305_111202.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1516674	
<b>Antenna Part No.</b> 6194452		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1    2    3    AVG		<b>Starting Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> <i>(circle one)</i> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1    2    3    AVG		<b>Ending Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> <i>(circle one)</i> TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point</b> <i>(include and reference a dimensional diagram in Survey Report)</i> <i>(e.g., bottom edge of notch in ground plane, Page 5, Figure 2)</i>					
<b>Start Date (UTC)</b> 3.5.2020		<b>Start Time (UTC)</b> 15:12		<b>Approx. Lat.</b> <i>(if available)</i> N 37 41 13.38065	
<b>End Date (UTC)</b> 3.5.2020		<b>End Time (UTC)</b> 18:32		<b>Approx. Long.</b> <i>(if available)</i> W 121 26 8.94959	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		

# GPS SESSION FORM



<b>Contract # / TO #</b> G17PC00044		<b>Client / Project Name</b> U. S. GEOLOGICAL SURVEY Rolla, MO CA_UpperSouthAmerican_Eldorado_2019_B19		<b>Date</b> 11.2.2019	
<b>DAS Project No.</b>		<b>Survey Firm</b> DAS		<b>Operator Name</b> Cynthia Williams	
<b>Monument Name/Designation</b> O22			<b>Exact Stamping</b> (include photo in survey report)		
<b>Monument No./PID</b>		<b>Collection Type</b> (circle one) <input checked="" type="radio"/> ABGPS <input type="radio"/> STATIC <input type="radio"/> RTK		<b>File Name</b> (receiver generated) 1514_1102_113903.m00	
<b>Receiver Manufacturer</b> N/A		<b>Receiver Model</b> N/A		<b>Receiver Serial No.</b> N/A	
<b>Data Collector Manufacturer</b> Leica		<b>Data Collector Model</b> GS15		<b>Data Collector Serial No.</b> 1501514	
<b>Antenna Part No.</b> 3725413		<b>Antenna Model</b> N/A		<b>Antenna Serial No.</b> N/A	
<b>Starting Antenna Height in Feet</b> 1    2    3    AVG		<b>Starting Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Ending Antenna Height in Feet</b> 1    2    3    AVG		<b>Ending Antenna Height in Meters</b> 1    2    3    AVG 1.5		<b>Type of Measurement</b> (circle one) TRUE VERTICAL <input checked="" type="radio"/> ARP	
<b>Antenna Reference Point</b> (include and reference a dimensional diagram in Survey Report) (e.g., bottom edge of notch in ground plane, Page 5, Figure 2)					
<b>Start Date (UTC)</b> 11.2.2019		<b>Start Time (UTC)</b> 15:40		<b>Approx. Lat.</b> (if available) N 39 11 43.22283	
<b>End Date (UTC)</b> 11.3.2019		<b>End Time (UTC)</b> 21:51		<b>Approx. Long.</b> (if available) W 119 44 43.22951	
<b>Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.</b>			<b>Site Diagram/Setup-Photo</b>		



## Appendix C. Vertical Accuracy Calculations





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## Project Information

Prepared By: DAS  
Project Name: CA\_UpperSouthAmerican\_Eldorado\_2019\_B19  
Sensor Info: TM90524  
Required Nominal Pulse Spacing: 0.35  
Vendor Name: Digital Aerial Solutions  
Units: US Survey Feet  
Percent of Extent Tolerance: Extents Not Checked  
Date of Aquisition: Start: 10/21/2019 Finish: 11/2/2019

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## Metadata Information

### Tile Index:

Filename: USGS\_CA\_UpperSouthAmerican\_Eldorado\_2019\_TileIndex.shp

Number of Polys: 0

### Intensity:

Tile Index Attribute: Not Specified

Data Filename: Not Specified

### DEM:

Tile Index Attribute: Tile\_ID

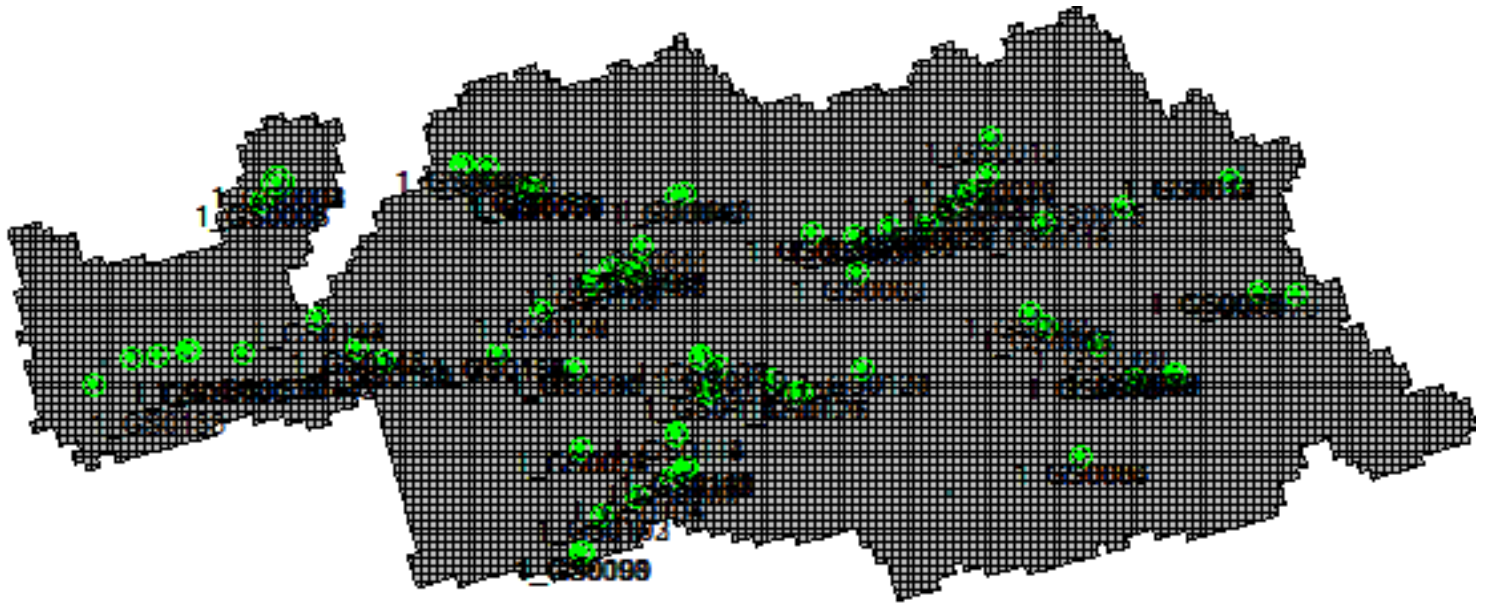
Data Filename: Combo\_DEM

### LAS:

Tile Index Attribute: Tile\_ID

Data Filename: SPC\_LAS

## Tiled-Data Area



## LiDAR Accuracy Assessment Summary

LC Type	# Points	NVA	VVA	RMSE Z
LAS		95% Confidence	95 Percentile	
Bare Earth	45	0.365		0.186
High Vegetation	20		0.502	0.297
Low Vegetation	21		0.674	0.399
Medium Vegetation	28		0.473	0.216
Urban Terrain	49	0.345		0.176
NVA Total:	94	0.355		0.181
VVA Total:	69		0.595	0.305
Total:	163			0.241
DEM		95% Confidence	95 Percentile	
Bare Earth	45	0.370		0.189
High Vegetation	20		0.443	0.290
Low Vegetation	21		0.904	0.474
Medium Vegetation	28		0.523	0.238
Urban Terrain	49	0.351		0.179
NVA Total:	94	0.360		0.184
VVA Total:	69		0.844	0.340
Total:	163			0.241
			Units:	US Survey Feet

## Coordinates and Offsets of Analyzed Locations

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
				LC Type	ΔZ DEM	ΔZ LAS	
1)	<input checked="" type="checkbox"/>	<b>1_GS0002</b>					
		6793174.799	2059631.071	372.876	372.983	372.974	
				Bare Earth	0.107	0.098	
2)	<input checked="" type="checkbox"/>	<b>1_GS0018</b>					
		7025030.439	2074136.214	4974.264	4974.14	4974.141	
				Bare Earth	-0.124	-0.123	
3)	<input checked="" type="checkbox"/>	<b>1_GS0019</b>					
		7023892.78	2061935.586	5311.03	5311.07	5311.047	
				Bare Earth	0.04	0.017	
4)	<input checked="" type="checkbox"/>	<b>1_GS0020</b>					
		7023816.841	2062068.902	5314.301	5314.536	5314.554	
				Bare Earth	0.235	0.253	
5)	<input checked="" type="checkbox"/>	<b>1_GS0029</b>					
		7003665.137	2046530.729	3244.797	3245.058	3245.045	
				Bare Earth	0.261	0.248	
6)	<input checked="" type="checkbox"/>	<b>1_GS0030</b>					
		6991711.723	2044537.118	3369.136	3369.434	3369.422	
				Bare Earth	0.298	0.286	
7)	<input checked="" type="checkbox"/>	<b>1_GS0032</b>					
		6991531.677	2044599.327	3376.3	3376.343	3376.343	
				Bare Earth	0.043	0.043	

Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
8)	<input checked="" type="checkbox"/>	<b>1_GS0043</b>					
		6924993.111	2055540.352	2601.263	2601.104	2601.072	
				Bare Earth	-0.159	-0.191	
9)	<input checked="" type="checkbox"/>	<b>1_GS0044</b>					
		6911398.609	2038754.108	2431.152	2431.222	2431.246	
				Bare Earth	0.07	0.094	
10)	<input checked="" type="checkbox"/>	<b>1_GS0046</b>					
		6901367.668	2031935.2	1917.438	1917.439	1917.429	
				Bare Earth	0.001	-0.009	
11)	<input checked="" type="checkbox"/>	<b>1_GS0048</b>					
		6853276.536	2065267.64	809.109	809.276	809.291	
				Bare Earth	0.167	0.182	
12)	<input checked="" type="checkbox"/>	<b>1_GS0050</b>					
		6861548.062	2064333.639	688.43	688.229	688.227	
				Bare Earth	-0.201	-0.203	
13)	<input checked="" type="checkbox"/>	<b>1_GS0058</b>					
		6876836.031	2056676.38	747.812	748.143	748.179	
				Bare Earth	0.331	0.367	
14)	<input checked="" type="checkbox"/>	<b>1_GS0068</b>					
		7059914.245	2006796.028	6982.043	6982.226	6982.253	
				Bare Earth	0.183	0.21	

Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS
		Survey X	Survey Y			
			LC Type			
15)	<input checked="" type="checkbox"/>	<b>1_GS0073</b>				
		7123885.604	2022709.732	7985.786	7985.926	7985.92
				Bare Earth	0.14	0.134
16)	<input checked="" type="checkbox"/>	<b>1_GS0075</b>				
		7111849.276	2023618.893	7683.912	7684.053	7684.059
				Bare Earth	0.141	0.147
17)	<input checked="" type="checkbox"/>	<b>1_GS0076</b>				
		7111946.287	2023625.818	7683.582	7683.625	7683.634
				Bare Earth	0.043	0.052
18)	<input checked="" type="checkbox"/>	<b>1_GS0078</b>				
		7084755.22	1997406.915	7728.334	7728.393	7728.337
				Bare Earth	0.059	0.003
19)	<input checked="" type="checkbox"/>	<b>1_GS0080</b>				
		7084545.301	1997351.707	7724.154	7724.274	7724.225
				Bare Earth	0.12	0.071
20)	<input checked="" type="checkbox"/>	<b>1_GS0094</b>				
		6891619.552	1973154.359	841.151	841.189	841.18
				Bare Earth	0.038	0.029
21)	<input checked="" type="checkbox"/>	<b>1_GS0096</b>				
		6891679.481	1973265.051	842.922	842.961	842.987
				Bare Earth	0.039	0.065

Coordinates and Offsets of Analyzed Locations (Continued)

		ID				
		Survey X	Survey Y	Z1	Z DEM	Z LAS
				LC Type	ΔZ DEM	ΔZ LAS
22)	<input checked="" type="checkbox"/>	<b>1_GS0097</b>				
		6891732.388	1973335.412	845.728	845.933	845.925
				Bare Earth	0.205	0.197
23)	<input checked="" type="checkbox"/>	<b>1_GS0098</b>				
		6892049.125	1939223.459	1084.706	1084.51	1084.541
				Bare Earth	-0.196	-0.165
24)	<input checked="" type="checkbox"/>	<b>1_GS0119</b>				
		6936758.681	1999935.47	2046.39	2046.433	2046.461
				Bare Earth	0.043	0.071
25)	<input checked="" type="checkbox"/>	<b>1_GS0121</b>				
		6961512.027	1990906.123	3160.405	3160.308	3160.312
				Bare Earth	-0.097	-0.093
26)	<input checked="" type="checkbox"/>	<b>1_GS0123</b>				
		6983298.499	1999288.716	3995.837	3995.252	3995.271
				Bare Earth	-0.585	-0.566
27)	<input checked="" type="checkbox"/>	<b>1_GS0124</b>				
		6983360.033	1999348.48	3996.072	3995.651	3995.642
				Bare Earth	-0.421	-0.43
28)	<input checked="" type="checkbox"/>	<b>1_GS0126</b>				
		6953533.312	1995569.604	3023.332	3023.198	3023.214
				Bare Earth	-0.134	-0.118

Coordinates and Offsets of Analyzed Locations (Continued)

		ID				
		Survey X	Survey Y	Z1	Z DEM	Z LAS
				LC Type	ΔZ DEM	ΔZ LAS
29)	<input checked="" type="checkbox"/>	<b>1_GS0144</b>				
		6806086.728	2015626.584	440.136	440.025	440.028
				Bare Earth	-0.111	-0.108
30)	<input checked="" type="checkbox"/>	<b>1_GS0154</b>				
		6865075.386	2004123.417	1527.15	1526.922	1526.929
				Bare Earth	-0.228	-0.221
31)	<input checked="" type="checkbox"/>	<b>1_GS0155</b>				
		6865177.711	2004107.518	1526.943	1526.807	1526.802
				Bare Earth	-0.136	-0.141
32)	<input checked="" type="checkbox"/>	<b>1_GS0003</b>				
		6793269.679	2059478.112	370.584	370.646	370.637
				Urban Terrain	0.062	0.053
33)	<input checked="" type="checkbox"/>	<b>1_GS0004</b>				
		6793068.338	2059769.39	375.262	375.488	375.412
				Urban Terrain	0.226	0.15
34)	<input checked="" type="checkbox"/>	<b>1_GS0012</b>				
		7102392.67	2060484.819	6551.945	6552.21	6552.179
				Urban Terrain	0.265	0.234
35)	<input checked="" type="checkbox"/>	<b>1_GS0014</b>				
		7102531.412	2060425.567	6557.01	6556.813	6556.852
				Urban Terrain	-0.198	-0.158



Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
36)	<input checked="" type="checkbox"/>	<b>1_GS0015</b>					
		7067497.922	2051977.323	5258.559	5258.798	5258.813	
				Urban Terrain	0.239	0.254	
37)	<input checked="" type="checkbox"/>	<b>1_GS0016</b>					
		7042030.553	2046147.661	3998.669	3998.71	3998.733	
				Urban Terrain	0.041	0.064	
38)	<input checked="" type="checkbox"/>	<b>1_GS0021</b>					
		7018458.324	2056619.963	5243.02	5242.914	5242.948	
				Urban Terrain	-0.106	-0.072	
39)	<input checked="" type="checkbox"/>	<b>1_GS0022</b>					
		7017369.352	2056099.295	5196.532	5196.487	5196.472	
				Urban Terrain	-0.045	-0.06	
40)	<input checked="" type="checkbox"/>	<b>1_GS0023</b>					
		7012013.937	2051619.356	4294.104	4293.738	4293.771	
				Urban Terrain	-0.366	-0.333	
41)	<input checked="" type="checkbox"/>	<b>1_GS0027</b>					
		7003773.919	2046437.442	3247	3247.228	3247.234	
				Urban Terrain	0.228	0.234	
42)	<input checked="" type="checkbox"/>	<b>1_GS0033</b>					
		6980726.971	2041907.44	3619.086	3619.048	3619.087	
				Urban Terrain	-0.038	0.001	

Coordinates and Offsets of Analyzed Locations (Continued)

	ID						
		Survey X	Survey Y	Z1	Z DEM	Z LAS	
				LC Type	ΔZ DEM	ΔZ LAS	
43)	<input checked="" type="checkbox"/>	<b>1_GS0034</b>					
		6980803.495	2042027.906	3619.072	3619.083	3619.068	
				Urban Terrain	0.011	-0.004	
44)	<input checked="" type="checkbox"/>	<b>1_GS0042</b>					
		6922955.329	2054845.46	2551.566	2551.502	2551.453	
				Urban Terrain	-0.064	-0.113	
45)	<input checked="" type="checkbox"/>	<b>1_GS0045</b>					
		6907255.959	2030136.728	1903.731	1903.695	1903.703	
				Urban Terrain	-0.036	-0.028	
46)	<input checked="" type="checkbox"/>	<b>1_GS0047</b>					
		6853181.649	2065315.353	812.701	812.623	812.653	
				Urban Terrain	-0.078	-0.048	
47)	<input checked="" type="checkbox"/>	<b>1_GS0053</b>					
		6874344.255	2057903.222	740.292	740.232	740.29	
				Urban Terrain	-0.06	-0.002	
48)	<input checked="" type="checkbox"/>	<b>1_GS0055</b>					
		6876605.033	2056895.709	749.94	749.844	749.865	
				Urban Terrain	-0.096	-0.075	
49)	<input checked="" type="checkbox"/>	<b>1_GS0059</b>					
		6876800.065	2056748.301	749.298	749.312	749.304	
				Urban Terrain	0.014	0.006	

Coordinates and Offsets of Analyzed Locations (Continued)

		ID				
		Survey X	Survey Y	Z1	Z DEM	Z LAS
				LC Type	ΔZ DEM	ΔZ LAS
50)	<input checked="" type="checkbox"/>	1_GS0062				
		6981173.102	2029835.045	3988.957	3988.767	3988.784
				Urban Terrain	-0.19	-0.173
51)	<input checked="" type="checkbox"/>	1_GS0065				
		7037543.415	2017186.685	6175.551	6175.248	6175.223
				Urban Terrain	-0.303	-0.328
52)	<input checked="" type="checkbox"/>	1_GS0067				
		7042878.194	2012926.786	6312.459	6312.096	6312.069
				Urban Terrain	-0.363	-0.39
53)	<input checked="" type="checkbox"/>	1_GS0072				
		7071672.292	1995747.202	7360.08	7360.193	7360.199
				Urban Terrain	0.113	0.119
54)	<input checked="" type="checkbox"/>	1_GS0084				
		7054133.911	1970279.644	6541.405	6541.24	6541.295
				Urban Terrain	-0.165	-0.11
55)	<input checked="" type="checkbox"/>	1_GS0085				
		7053848.964	1970244.233	6531.445	6531.013	6531.05
				Urban Terrain	-0.432	-0.395
56)	<input checked="" type="checkbox"/>	1_GS0091				
		6889814.826	1998903.916	1803.927	1803.656	1803.677
				Urban Terrain	-0.271	-0.25

Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
57)	<input checked="" type="checkbox"/>	<b>1_GS0099</b>					
		6892119.59	1939246.455	1085.626	1085.5	1085.484	
				Urban Terrain	-0.126	-0.142	
58)	<input checked="" type="checkbox"/>	<b>1_GS0101</b>					
		6892195.795	1939157.701	1085.529	1085.383	1085.376	
				Urban Terrain	-0.146	-0.153	
59)	<input checked="" type="checkbox"/>	<b>1_GS0102</b>					
		6898228.617	1951735.197	1451.154	1450.858	1450.863	
				Urban Terrain	-0.296	-0.291	
60)	<input checked="" type="checkbox"/>	<b>1_GS0104</b>					
		6909799.443	1957755.137	1780.25	1780.222	1780.184	
				Urban Terrain	-0.028	-0.066	
61)	<input checked="" type="checkbox"/>	<b>1_GS0106</b>					
		6921000.778	1963179.464	1992.486	1992.363	1992.378	
				Urban Terrain	-0.123	-0.108	
62)	<input checked="" type="checkbox"/>	<b>1_GS0125</b>					
		6963684.707	1991027.224	3103.782	3103.698	3103.644	
				Urban Terrain	-0.084	-0.138	
63)	<input checked="" type="checkbox"/>	<b>1_GS0132</b>					
		6754284.122	2003662.79	113.336	113.356	113.289	
				Urban Terrain	0.02	-0.047	

Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
64)	<input checked="" type="checkbox"/>	<b>1_GS0136</b>					
		6745739.037	2002680.425	109.986	110.21	110.148	
				Urban Terrain	0.224	0.162	
65)	<input checked="" type="checkbox"/>	<b>1_GS0137</b>					
		6745594.977	2002580.226	109.158	109.308	109.3	
				Urban Terrain	0.15	0.142	
66)	<input checked="" type="checkbox"/>	<b>1_GS0139</b>					
		6764270.003	2004646.349	184.161	184.183	184.159	
				Urban Terrain	0.022	-0.002	
67)	<input checked="" type="checkbox"/>	<b>1_GS0142</b>					
		6781952.593	2004405.237	231.963	232.055	232.23	
				Urban Terrain	0.092	0.267	
68)	<input checked="" type="checkbox"/>	<b>1_GS0147</b>					
		6819257.304	2006046.168	510.279	510.501	510.51	
				Urban Terrain	0.222	0.231	
69)	<input checked="" type="checkbox"/>	<b>1_GS0148</b>					
		6819159.419	2006038.72	509.077	509.19	509.23	
				Urban Terrain	0.113	0.153	
70)	<input checked="" type="checkbox"/>	<b>1_GS0150</b>					
		6827619.551	2001551.415	623.178	623.119	623.166	
				Urban Terrain	-0.059	-0.012	

Coordinates and Offsets of Analyzed Locations (Continued)

		ID				
		Survey X	Survey Y	Z1	Z DEM	Z LAS
				LC Type	ΔZ DEM	ΔZ LAS
71)	<input checked="" type="checkbox"/>	<b>1_GS0151</b>				
		6827443.085	2001399.362	623.048	622.979	623.022
				Urban Terrain	-0.069	-0.026
72)	<input checked="" type="checkbox"/>	<b>1_GS0157</b>				
		6878970.988	2017697.721	1373.097	1373.13	1373.116
				Urban Terrain	0.033	0.019
73)	<input checked="" type="checkbox"/>	<b>1_GS0158</b>				
		6878970.467	2017597.68	1375.17	1375.207	1375.202
				Urban Terrain	0.037	0.032
74)	<input checked="" type="checkbox"/>	<b>1_GS0160</b>				
		6894743.655	2027075.401	1776.245	1776.357	1776.365
				Urban Terrain	0.112	0.12
75)	<input checked="" type="checkbox"/>	<b>1_GS0164</b>				
		6910709.727	2031073.592	1988.096	1988.099	1988.116
				Urban Terrain	0.003	0.02
76)	<input checked="" type="checkbox"/>	<b>1_GS0165</b>				
		6910576.841	2030998.606	1984.116	1984.061	1984.085
				Urban Terrain	-0.055	-0.031
77)	<input checked="" type="checkbox"/>	<b>2_GS0006</b>				
		6718428.567	1642598.726	302.815	302.532	302.538
				Bare Earth	-0.283	-0.277

Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
78)	<input checked="" type="checkbox"/>	2_GS0007					
		6718478.552	1642684.411	300.745	300.609	300.624	
				Bare Earth	-0.136	-0.121	
79)	<input checked="" type="checkbox"/>	2_GS0009					
		6704461.975	1628150.119	541.627	541.582	541.625	
				Bare Earth	-0.045	-0.002	
80)	<input checked="" type="checkbox"/>	2_GS0010					
		6704319.883	1628087.78	543.574	543.346	543.379	
				Bare Earth	-0.228	-0.195	
81)	<input checked="" type="checkbox"/>	2_GS0012					
		6687775.245	1630013.506	729.591	729.623	729.631	
				Bare Earth	0.032	0.04	
82)	<input checked="" type="checkbox"/>	2_GS0014					
		6674438.359	1634333.095	1601.834	1601.881	1601.853	
				Bare Earth	0.047	0.019	
83)	<input checked="" type="checkbox"/>	2_GS0015					
		6674343.33	1634340.47	1599.548	1599.451	1599.448	
				Bare Earth	-0.097	-0.1	
84)	<input checked="" type="checkbox"/>	2_GS0019					
		6746729.47	1631690.589	191.189	190.995	191.042	
				Bare Earth	-0.194	-0.147	

Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
85)	<input checked="" type="checkbox"/>	2_GS0022					
		6742107.382	1621312.47	398.254	398.193	398.207	
				Bare Earth	-0.061	-0.047	
86)	<input checked="" type="checkbox"/>	2_GS0026					
		6758084.168	1609944.353	332.418	332.35	332.372	
				Bare Earth	-0.068	-0.046	
87)	<input checked="" type="checkbox"/>	2_GS0027					
		6773046.873	1594617.185	279.638	279.825	279.827	
				Bare Earth	0.187	0.189	
88)	<input checked="" type="checkbox"/>	2_GS0029					
		6773054.341	1594795.125	276.169	276.297	276.284	
				Bare Earth	0.128	0.115	
89)	<input checked="" type="checkbox"/>	2_GS0032					
		6773467.282	1594882.567	272.717	272.958	272.951	
				Bare Earth	0.241	0.234	
90)	<input checked="" type="checkbox"/>	2_GS0033					
		6773401.568	1594809.515	273.746	273.9	273.905	
				Bare Earth	0.154	0.159	
91)	<input checked="" type="checkbox"/>	2_GS0003					
		6695584.894	1659775.823	288.988	288.669	288.682	
				Urban Terrain	-0.319	-0.306	



Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
92)	<input checked="" type="checkbox"/>	2_GS0017					
		6735933.477	1631868.734	264.804	264.55	264.559	
				Urban Terrain	-0.254	-0.245	
93)	<input checked="" type="checkbox"/>	2_GS0021					
		6747198.874	1616978.452	336.226	335.954	335.952	
				Urban Terrain	-0.272	-0.274	
94)	<input checked="" type="checkbox"/>	2_GS0036					
		6774531.454	1595567.855	259.885	259.827	259.815	
				Urban Terrain	-0.058	-0.07	
95)	<input checked="" type="checkbox"/>	1_GS0006					
		6787889.617	2053352.031	316.981	316.866	316.868	
				High Vegetation	-0.115	-0.113	
96)	<input checked="" type="checkbox"/>	1_GS0011					
		7102374.586	2060406.945	6548.93	6549.323	6549.311	
				High Vegetation	0.393	0.381	
97)	<input checked="" type="checkbox"/>	1_GS0031					
		6991610.876	2044613.719	3375.995	3375.279	3375.307	
				High Vegetation	-0.716	-0.688	
98)	<input checked="" type="checkbox"/>	1_GS0037					
		6966870.524	2042711.444	3961.167	3961.23	3961.336	
				High Vegetation	0.063	0.169	

Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
99)	<input checked="" type="checkbox"/>	<b>1_GS0051</b>					
		6874246.533	2057877.402	741.574	741.632	741.657	
				High Vegetation	0.058	0.083	
100)	<input checked="" type="checkbox"/>	<b>1_GS0052</b>					
		6874258.038	2057973.901	742.252	742.531	742.489	
				High Vegetation	0.279	0.237	
101)	<input checked="" type="checkbox"/>	<b>1_GS0056</b>					
		6876602.402	2056711.101	749.468	749.592	749.579	
				High Vegetation	0.124	0.111	
102)	<input checked="" type="checkbox"/>	<b>1_GS0057</b>					
		6876720.483	2056673.332	749.06	749.342	749.444	
				High Vegetation	0.282	0.384	
103)	<input checked="" type="checkbox"/>	<b>1_GS0082</b>					
		7084801.65	1997245.899	7730.074	7730.276	7730.274	
				High Vegetation	0.202	0.2	
104)	<input checked="" type="checkbox"/>	<b>1_GS0086</b>					
		7053947.631	1970232.618	6535.236	6535.336	6535.317	
				High Vegetation	0.1	0.081	
105)	<input checked="" type="checkbox"/>	<b>1_GS0092</b>					
		6889807.775	1998993.53	1801.509	1801.567	1801.64	
				High Vegetation	0.058	0.131	

Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
106)	<input checked="" type="checkbox"/>	1_GS0095					
		6891615.844	1973032.817	836.431	836.758	836.751	
				High Vegetation	0.327	0.32	
107)	<input checked="" type="checkbox"/>	1_GS0105					
		6909796.41	1957673.578	1776.021	1776.464	1776.523	
				High Vegetation	0.443	0.502	
108)	<input checked="" type="checkbox"/>	1_GS0107					
		6921052.639	1963373.233	1995.39	1995.415	1995.385	
				High Vegetation	0.025	-0.005	
109)	<input checked="" type="checkbox"/>	1_GS0112					
		6925584.893	1966653.356	2138.228	2138.301	2138.28	
				High Vegetation	0.073	0.052	
110)	<input checked="" type="checkbox"/>	1_GS0118					
		6936680.521	1999743.119	2028.358	2028.688	2028.671	
				High Vegetation	0.33	0.313	
111)	<input checked="" type="checkbox"/>	1_GS0120					
		6961575.496	1990867.592	3163.235	3163.193	3163.175	
				High Vegetation	-0.042	-0.06	
112)	<input checked="" type="checkbox"/>	1_GS0138					
		6764177.241	2004702.004	184.627	184.995	185.008	
				High Vegetation	0.368	0.381	

Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
113)	<input checked="" type="checkbox"/>	<b>1_GS0149</b>					
		6827655.502	2001466.229	622.466	622.172	622.192	
				High Vegetation	-0.294	-0.274	
114)	<input checked="" type="checkbox"/>	<b>1_GS0156</b>					
		6878969.401	2017779.416	1371.501	1371.861	1371.873	
				High Vegetation	0.36	0.372	
115)	<input checked="" type="checkbox"/>	<b>1_GS0005</b>					
		6787848.93	2053434.505	317.735	317.603	317.633	
				Low Vegetation	-0.132	-0.102	
116)	<input checked="" type="checkbox"/>	<b>1_GS0007</b>					
		6787907.717	2053413.949	316.437	316.321	316.261	
				Low Vegetation	-0.116	-0.176	
117)	<input checked="" type="checkbox"/>	<b>1_GS0036</b>					
		6966897.361	2042559.418	3962.842	3963.686	3963.462	
				Low Vegetation	0.844	0.62	
118)	<input checked="" type="checkbox"/>	<b>1_GS0038</b>					
		6966732.209	2042669.674	3963.921	3964.784	3964.516	
				Low Vegetation	0.863	0.595	
119)	<input checked="" type="checkbox"/>	<b>1_GS0039</b>					
		6966746.746	2042547.085	3965.064	3965.279	3965.291	
				Low Vegetation	0.215	0.227	

Coordinates and Offsets of Analyzed Locations (Continued)

		ID				
		Survey X	Survey Y	Z1	Z DEM	Z LAS
				LC Type	ΔZ DEM	ΔZ LAS
120)	<input checked="" type="checkbox"/>	<b>1_GS0041</b>				
		6922860.988	2054831.666	2548.838	2548.907	2548.923
				Low Vegetation	0.069	0.085
121)	<input checked="" type="checkbox"/>	<b>1_GS0100</b>				
		6892083.28	1939014.576	1074.838	1074.955	1074.927
				Low Vegetation	0.117	0.089
122)	<input checked="" type="checkbox"/>	<b>1_GS0113</b>				
		6922481.287	1977711.258	1840.258	1840.612	1840.646
				Low Vegetation	0.354	0.388
123)	<input checked="" type="checkbox"/>	<b>1_GS0114</b>				
		6922509.6	1977828.058	1839.397	1840.25	1839.965
				Low Vegetation	0.853	0.568
124)	<input checked="" type="checkbox"/>	<b>1_GS0141</b>				
		6781956.786	2004491.536	231.696	231.907	231.919
				Low Vegetation	0.211	0.223
125)	<input checked="" type="checkbox"/>	<b>1_GS0143</b>				
		6806005.834	2015569.395	439.25	439.367	439.28
				Low Vegetation	0.117	0.03
126)	<input checked="" type="checkbox"/>	<b>1_GS0146</b>				
		6819331.382	2005938.382	510.193	511.138	510.921
				Low Vegetation	0.945	0.728

Coordinates and Offsets of Analyzed Locations (Continued)

		ID				
		Survey X	Survey Y	Z1	Z DEM	Z LAS
				LC Type	ΔZ DEM	ΔZ LAS
127)	<input checked="" type="checkbox"/>	<b>1_GS0153</b>				
		6865000.41	2004233.459	1524.232	1524.443	1524.364
				Low Vegetation	0.211	0.132
128)	<input checked="" type="checkbox"/>	<b>1_GS0159</b>				
		6894783.229	2026986.82	1777.604	1778.168	1778.143
				Low Vegetation	0.564	0.539
129)	<input checked="" type="checkbox"/>	<b>1_GS0013</b>				
		7102417.677	2060638.739	6553.66	6553.76	6553.782
				Medium Vegetation	0.1	0.122
130)	<input checked="" type="checkbox"/>	<b>1_GS0028</b>				
		7003892.906	2046342.959	3245.174	3245.82	3245.762
				Medium Vegetation	0.646	0.588
131)	<input checked="" type="checkbox"/>	<b>1_GS0060</b>				
		6876893.564	2056849.165	750.83	750.778	750.93
				Medium Vegetation	-0.052	0.1
132)	<input checked="" type="checkbox"/>	<b>1_GS0063</b>				
		6981343.191	2029853.341	3991.279	3991.054	3991.055
				Medium Vegetation	-0.225	-0.224
133)	<input checked="" type="checkbox"/>	<b>1_GS0066</b>				
		7042803.859	2012927.776	6308.758	6308.741	6308.653
				Medium Vegetation	-0.017	-0.105

Coordinates and Offsets of Analyzed Locations (Continued)

		ID				
		Survey X	Survey Y	Z1	Z DEM	Z LAS
				LC Type	ΔZ DEM	ΔZ LAS
134)	<input checked="" type="checkbox"/>	<b>1_GS0070</b>				
		7071541.93	1995808.754	7359.294	7359.491	7359.463
				Medium Vegetation	0.197	0.169
135)	<input checked="" type="checkbox"/>	<b>1_GS0071</b>				
		7071380.607	1995783.635	7364.928	7364.937	7365.043
				Medium Vegetation	0.009	0.115
136)	<input checked="" type="checkbox"/>	<b>1_GS0077</b>				
		7112059.214	2023639.322	7683.036	7683.345	7683.288
				Medium Vegetation	0.309	0.252
137)	<input checked="" type="checkbox"/>	<b>1_GS0079</b>				
		7084647.486	1997380.061	7722.699	7722.778	7722.844
				Medium Vegetation	0.079	0.145
138)	<input checked="" type="checkbox"/>	<b>1_GS0081</b>				
		7084709.132	1997298.752	7729.112	7729.458	7729.499
				Medium Vegetation	0.346	0.387
139)	<input checked="" type="checkbox"/>	<b>1_GS0090</b>				
		6889809.997	1998786.518	1805.529	1805.202	1805.214
				Medium Vegetation	-0.327	-0.315
140)	<input checked="" type="checkbox"/>	<b>1_GS0103</b>				
		6898315.627	1951692.809	1448.295	1448.273	1448.265
				Medium Vegetation	-0.022	-0.03

Coordinates and Offsets of Analyzed Locations (Continued)

		ID				
		Survey X	Survey Y	Z1	Z DEM	Z LAS
				LC Type	ΔZ DEM	ΔZ LAS
141)	<input checked="" type="checkbox"/>	<b>1_GS0109</b>				
		6926021.741	1966780.482	2141.879	2141.794	2141.824
				Medium Vegetation	-0.085	-0.055
142)	<input checked="" type="checkbox"/>	<b>1_GS0110</b>				
		6925799.893	1966783.757	2135.082	2134.896	2134.939
				Medium Vegetation	-0.186	-0.143
143)	<input checked="" type="checkbox"/>	<b>1_GS0111</b>				
		6925731.88	1966864.553	2142.306	2142.418	2142.45
				Medium Vegetation	0.112	0.144
144)	<input checked="" type="checkbox"/>	<b>1_GS0115</b>				
		6932913.529	1991693.792	1749.795	1749.974	1749.923
				Medium Vegetation	0.179	0.128
145)	<input checked="" type="checkbox"/>	<b>1_GS0116</b>				
		6932897.181	1991499.251	1758.444	1758.35	1758.45
				Medium Vegetation	-0.094	0.006
146)	<input checked="" type="checkbox"/>	<b>1_GS0127</b>				
		6930768.288	2002847.227	2019.448	2019.464	2019.455
				Medium Vegetation	0.016	0.007
147)	<input checked="" type="checkbox"/>	<b>1_GS0128</b>				
		6930806.567	2002746.279	2009.089	2009.304	2009.188
				Medium Vegetation	0.215	0.099



Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
148)	<input checked="" type="checkbox"/>	<b>1_GS0131</b>					
		6754197.553	2003651.437	113.389	113.403	113.355	
				Medium Vegetation	0.014	-0.034	
149)	<input checked="" type="checkbox"/>	<b>1_GS0133</b>					
		6733354.014	1993344.445	62.895	62.767	62.69	
				Medium Vegetation	-0.128	-0.205	
150)	<input checked="" type="checkbox"/>	<b>1_GS0135</b>					
		6745710.048	2002592.196	112.438	112.783	112.368	
				Medium Vegetation	0.345	-0.07	
151)	<input checked="" type="checkbox"/>	<b>1_GS0163</b>					
		6910617.17	2031063.801	1985.807	1985.826	1985.828	
				Medium Vegetation	0.019	0.021	
152)	<input checked="" type="checkbox"/>	<b>2_GS0004</b>					
		6695789.421	1659933.574	285.962	286.309	286.221	
				Low Vegetation	0.347	0.259	
153)	<input checked="" type="checkbox"/>	<b>2_GS0005</b>					
		6718354.922	1642519.512	304.323	304.254	304.016	
				Low Vegetation	-0.069	-0.307	
154)	<input checked="" type="checkbox"/>	<b>2_GS0008</b>					
		6704417.689	1628069.019	541.129	541.655	541.686	
				Low Vegetation	0.526	0.557	

Coordinates and Offsets of Analyzed Locations (Continued)

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
155)	<input checked="" type="checkbox"/>	2_GS0013					
		6687576.522	1630084.968	730.902	731.199	731.103	
				Low Vegetation	0.297	0.201	
156)	<input checked="" type="checkbox"/>	2_GS0018					
		6746814.523	1631712.907	190.194	190.094	190.035	
				Low Vegetation	-0.1	-0.159	
157)	<input checked="" type="checkbox"/>	2_GS0028					
		6772976.9	1594758.569	277.614	278.104	278.141	
				Low Vegetation	0.49	0.527	
158)	<input checked="" type="checkbox"/>	2_GS0030					
		6773367.034	1594914.496	272.881	273.381	273.451	
				Low Vegetation	0.5	0.57	
159)	<input checked="" type="checkbox"/>	2_GS0016					
		6735997.207	1631937.963	262.436	262.268	262.282	
				Medium Vegetation	-0.168	-0.154	
160)	<input checked="" type="checkbox"/>	2_GS0024					
		6757910.532	1610062.95	338.977	339.059	339.036	
				Medium Vegetation	0.082	0.059	
161)	<input checked="" type="checkbox"/>	2_GS0025					
		6758091.747	1610044.351	332.953	333.067	333.066	
				Medium Vegetation	0.114	0.113	

Coordinates and Offsets of Analyzed Locations (Continued)

		ID				
		Survey X	Survey Y	Z1	Z DEM	Z LAS
				LC Type	ΔZ DEM	ΔZ LAS
162)	<input checked="" type="checkbox"/>	2_GS0034				
		6773786.114	1595124.887	269.492	270.015	269.965
				Medium Vegetation	0.523	0.473
163)	<input checked="" type="checkbox"/>	2_GS0035				
		6773725.579	1595185.623	269.705	270.084	270.045
				Medium Vegetation	0.379	0.34

# LAS

**Nonvegetated Vertical Accuracy**

LandCover Type: Bare Earth, Urban Terrain

Minimum DZ: -0.566

Maximum DZ: 0.367

Mean DZ: -0.023

Mean Magnitude DZ: 0.377

Number Observations: 94

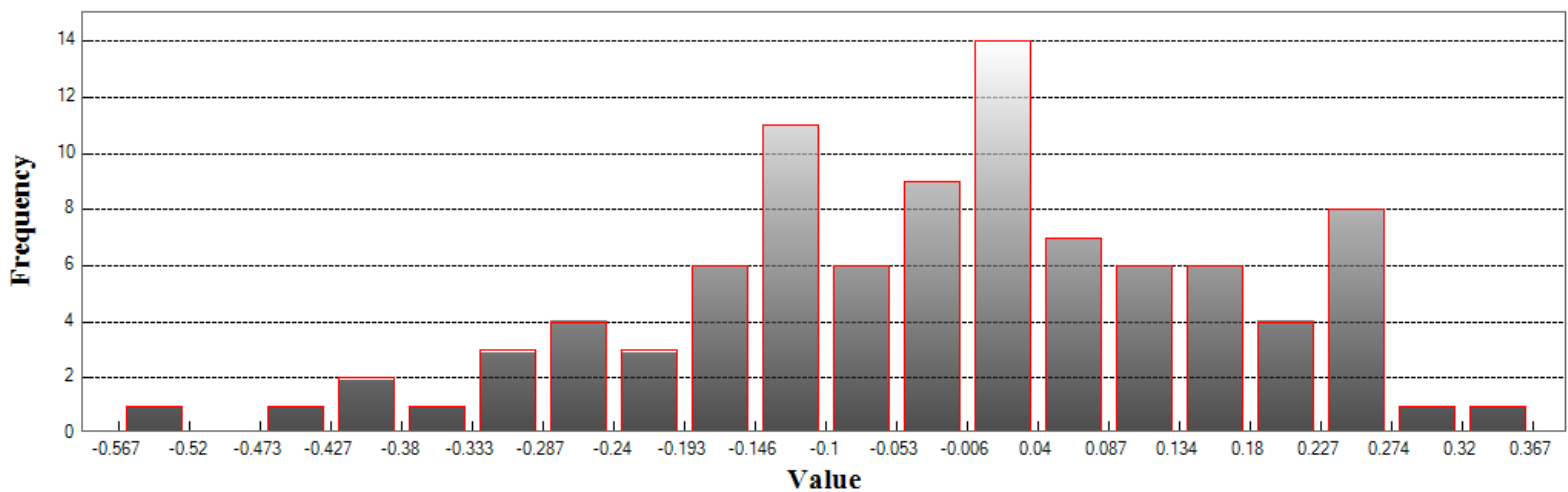
Standard Deviation DZ: 0.18

RMSE Z: 0.181

95% Confidence Level Z: 0.355

Units: US Survey Feet

## Histogram



Min: -0.566

Max: 0.367

Number Of Bins: 20

Bin Interval: 0.047

## LAS (Continued)

### Vegetated Vertical Accuracy

LandCover Type: High Vegetation

Minimum DZ: -0.688

Maximum DZ: 0.502

Mean DZ: 0.129

Mean Magnitude DZ: 0.493

Number Observations: 20

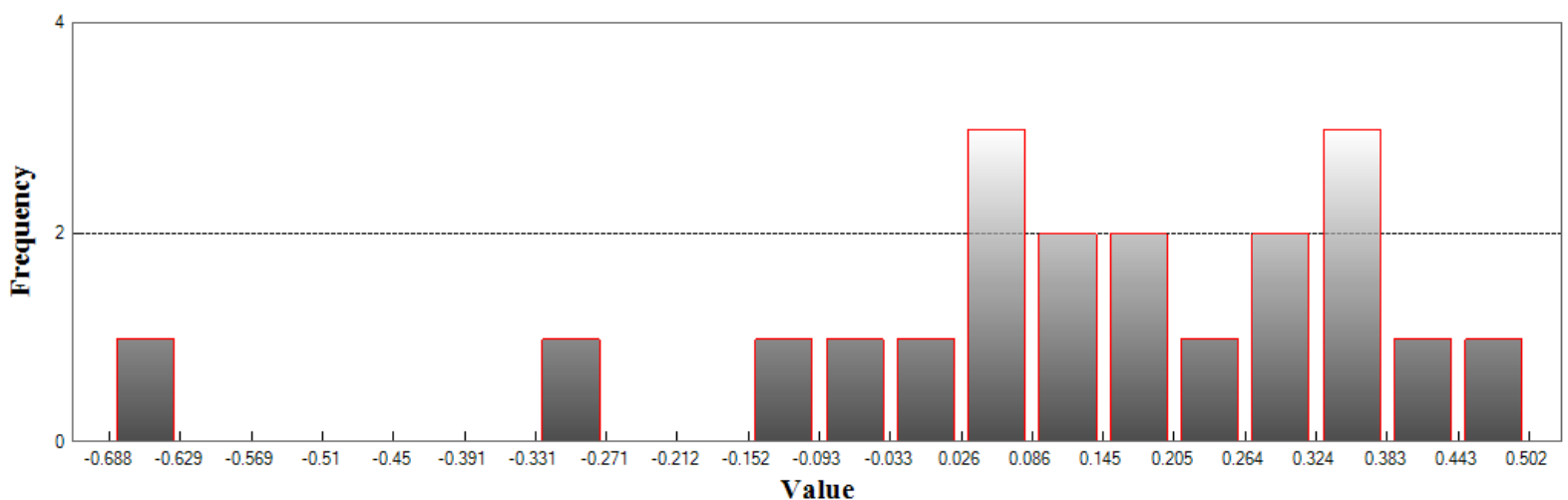
Standard Deviation DZ: 0.275

RMSE Z: 0.297

95th Percentile: 0.502

Units: US Survey Feet

## Histogram



Min: -0.688

Max: 0.502

Number Of Bins: 20

Bin Interval: 0.06

## LAS (Continued)

### Vegetated Vertical Accuracy

LandCover Type: Low Vegetation

Minimum DZ: -0.307

Maximum DZ: 0.728

Mean DZ: 0.266

Mean Magnitude DZ: 0.581

Number Observations: 21

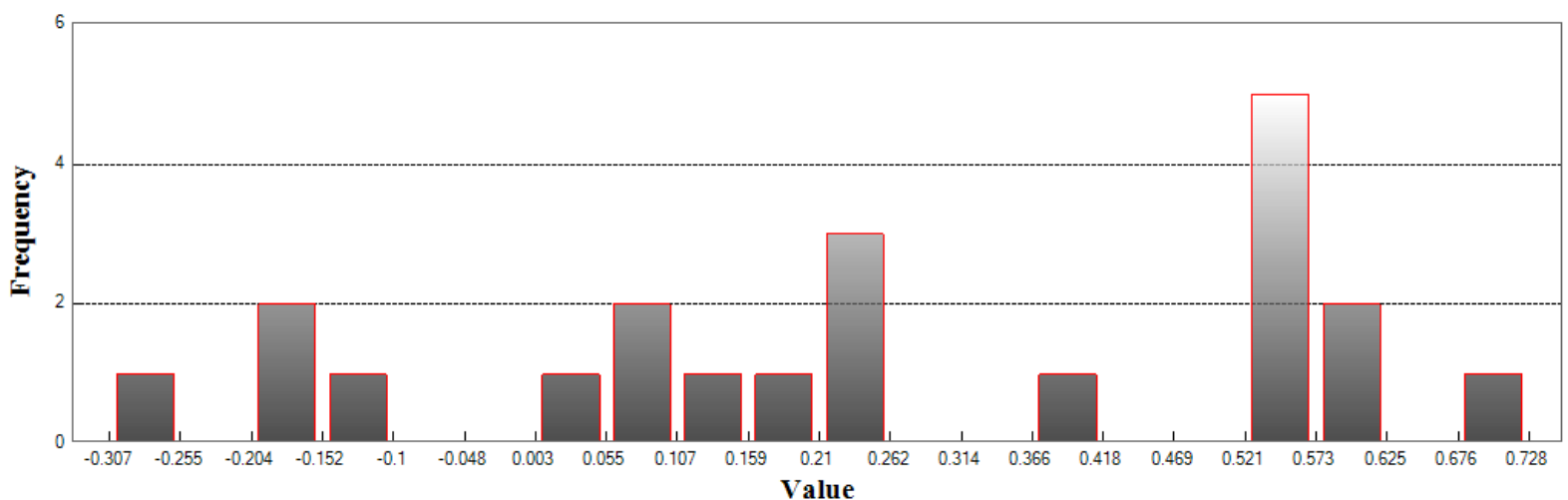
Standard Deviation DZ: 0.305

RMSE Z: 0.399

95th Percentile: 0.674

Units: US Survey Feet

## Histogram



Min: -0.307

Max: 0.728

Number Of Bins: 20

Bin Interval: 0.052

## LAS (Continued)

### Vegetated Vertical Accuracy

LandCover Type: Medium Vegetation

Minimum DZ: -0.315

Maximum DZ: 0.588

Mean DZ: 0.069

Mean Magnitude DZ: 0.406

Number Observations: 28

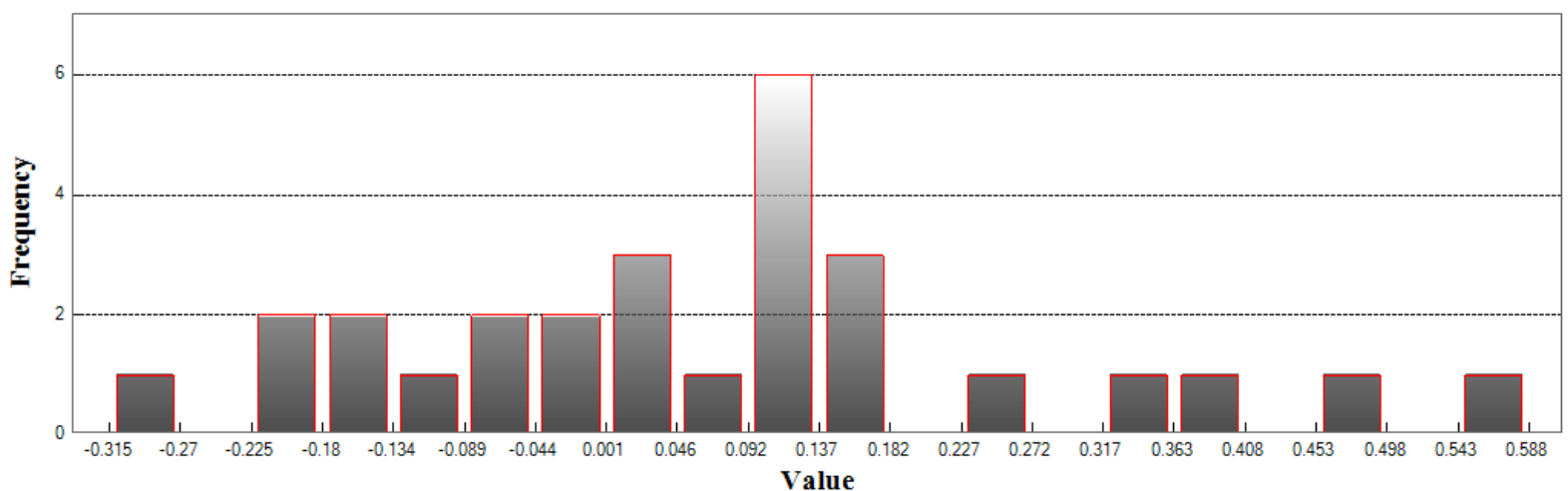
Standard Deviation DZ: 0.208

RMSE Z: 0.216

95th Percentile: 0.473

Units: US Survey Feet

## Histogram



Min: -0.315

Max: 0.588

Number Of Bins: 20

Bin Interval: 0.045

# DEM

**Nonvegetated Vertical Accuracy**

LandCover Type: Bare Earth, Urban Terrain

Minimum DZ: -0.585

Maximum DZ: 0.331

Mean DZ: -0.028

Mean Magnitude DZ: 0.383

Number Observations: 94

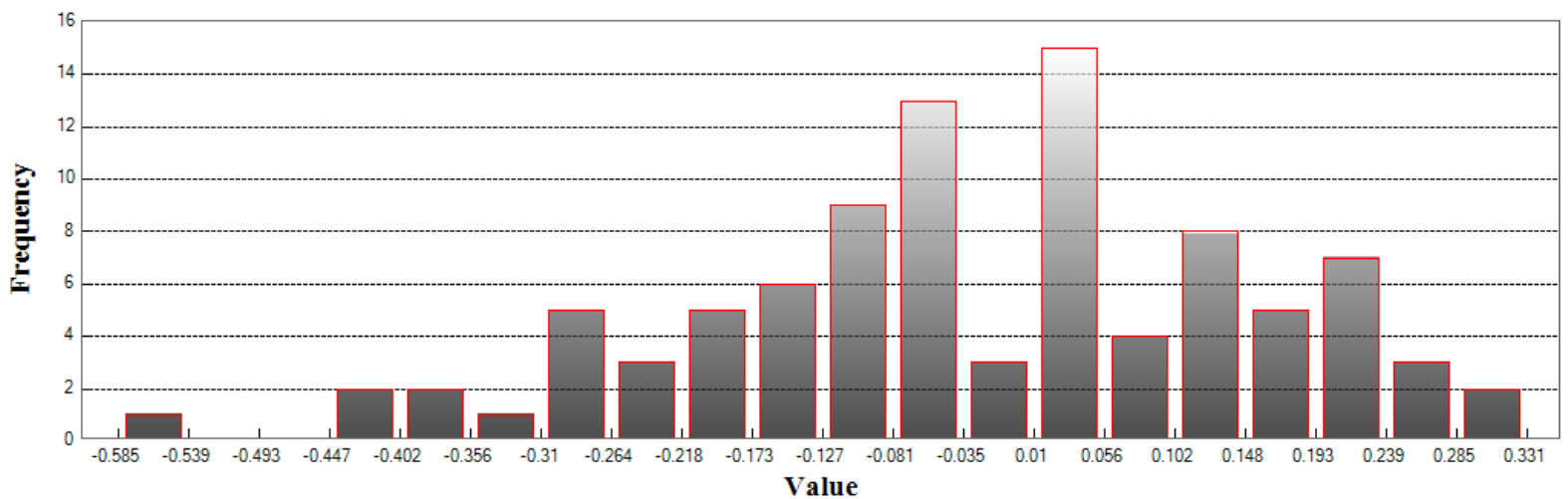
Standard Deviation DZ: 0.183

RMSE Z: 0.184

95% Confidence Level Z: 0.36

Units: US Survey Feet

# Histogram



Min: -0.585  
 Max: 0.331  
 Number Of Bins: 20  
 Bin Interval: 0.046



## DEM (Continued)

### Vegetated Vertical Accuracy

LandCover Type: High Vegetation

Minimum DZ: -0.716

Maximum DZ: 0.443

Mean DZ: 0.116

Mean Magnitude DZ: 0.482

Number Observations: 20

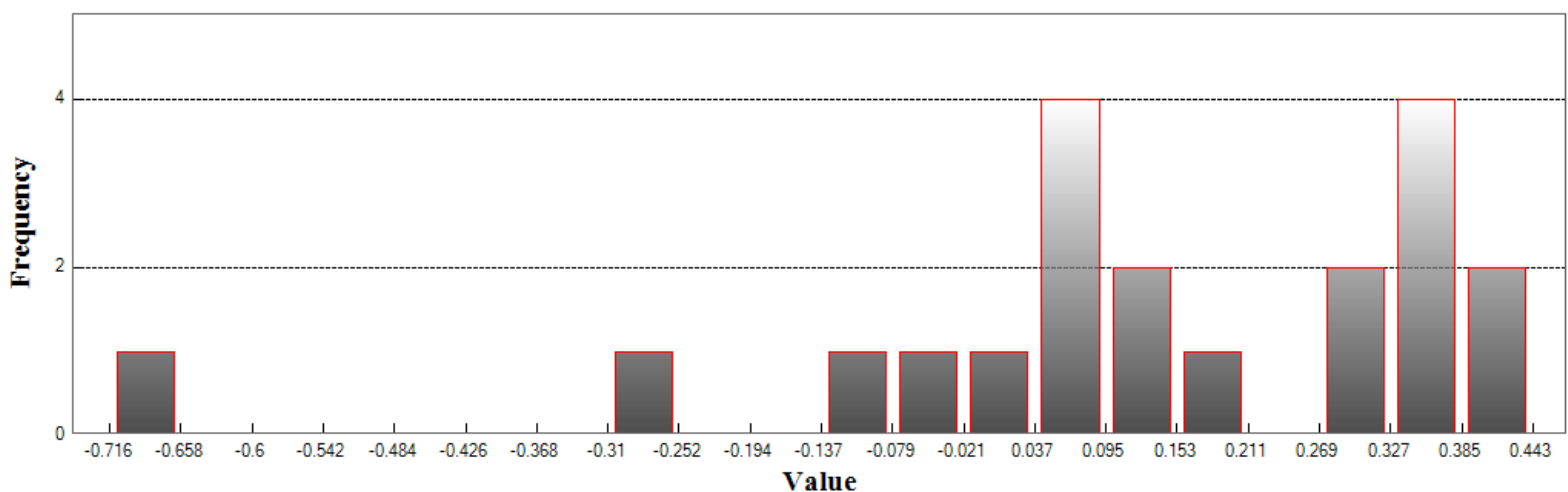
Standard Deviation DZ: 0.273

RMSE Z: 0.29

95th Percentile: 0.443

Units: US Survey Feet

## Histogram



Min: -0.716

Max: 0.443

Number Of Bins: 20

Bin Interval: 0.058

## DEM (Continued)

### Vegetated Vertical Accuracy

LandCover Type: Low Vegetation

Minimum DZ: -0.132

Maximum DZ: 0.945

Mean DZ: 0.338

Mean Magnitude DZ: 0.615

Number Observations: 21

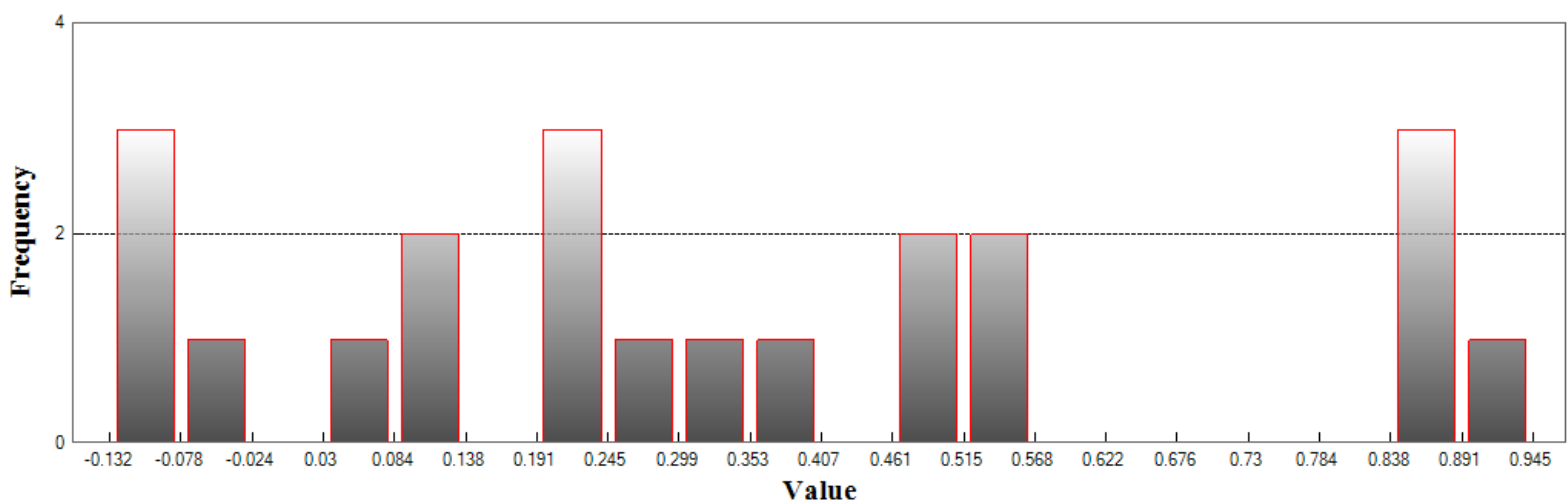
Standard Deviation DZ: 0.34

RMSE Z: 0.474

95th Percentile: 0.904

Units: US Survey Feet

## Histogram



Min: -0.132

Max: 0.945

Number Of Bins: 20

Bin Interval: 0.054

## DEM (Continued)

### Vegetated Vertical Accuracy

LandCover Type: Medium Vegetation

Minimum DZ: -0.327

Maximum DZ: 0.646

Mean DZ: 0.085

Mean Magnitude DZ: 0.422

Number Observations: 28

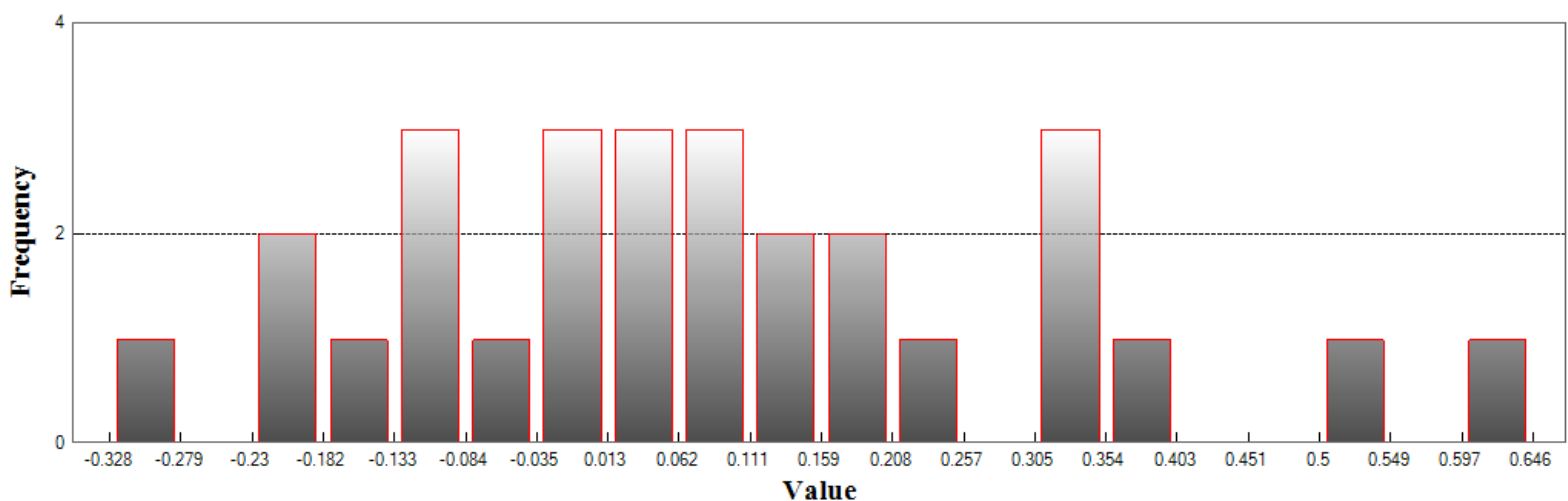
Standard Deviation DZ: 0.227

RMSE Z: 0.238

95th Percentile: 0.523

Units: US Survey Feet

## Histogram



Min: -0.327

Max: 0.646

Number Of Bins: 20

Bin Interval: 0.049



## Appendix D. Inertial Explorer

# Output Results for 20191021161741

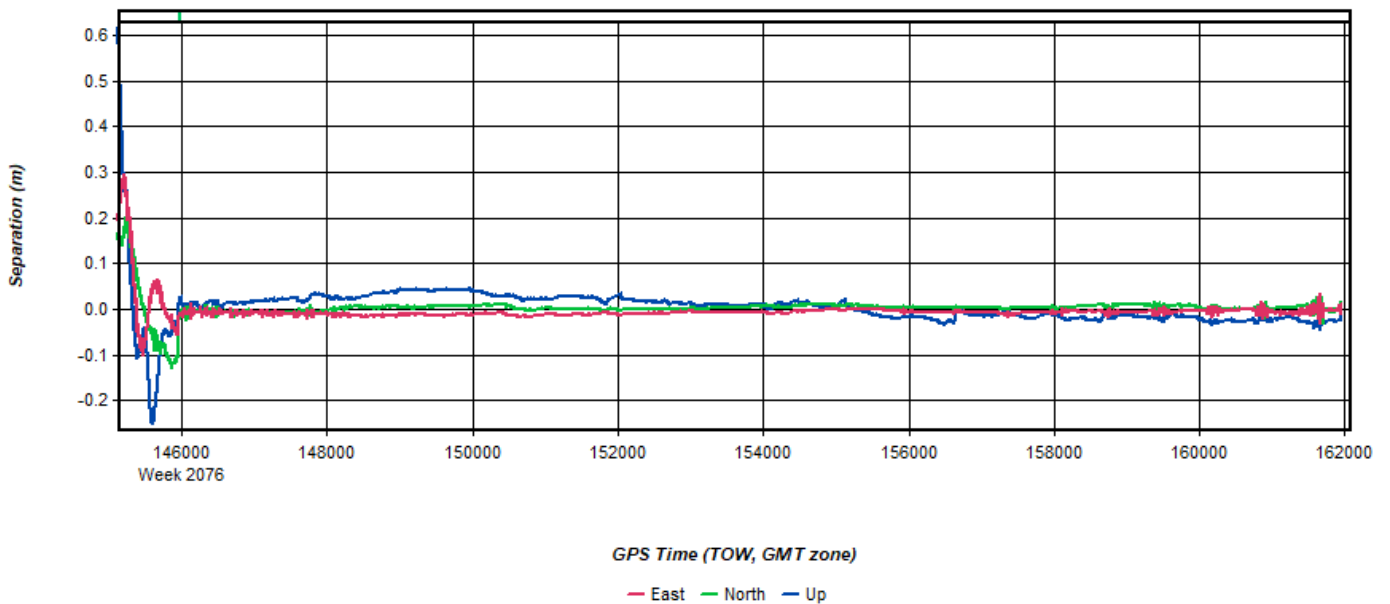
Inertial Explorer Version 8.80.2305  
10/23/2019

Figure 1: Smoothed TC Combined - Map



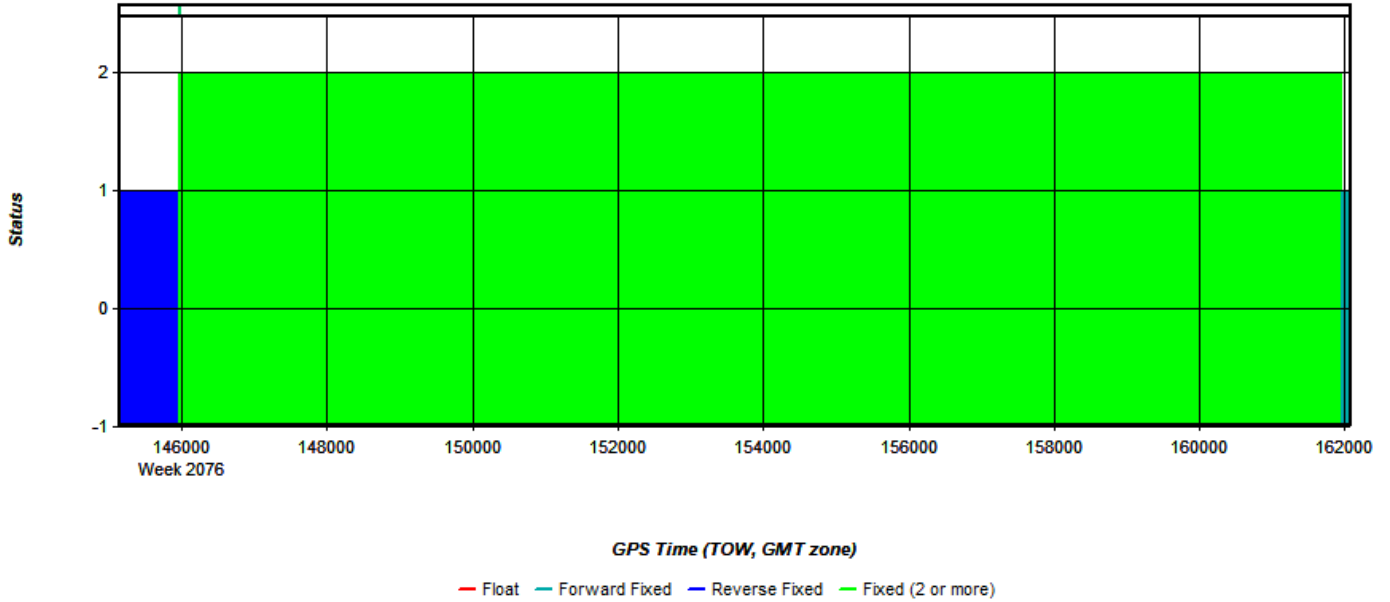
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 2: 20191021161741 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



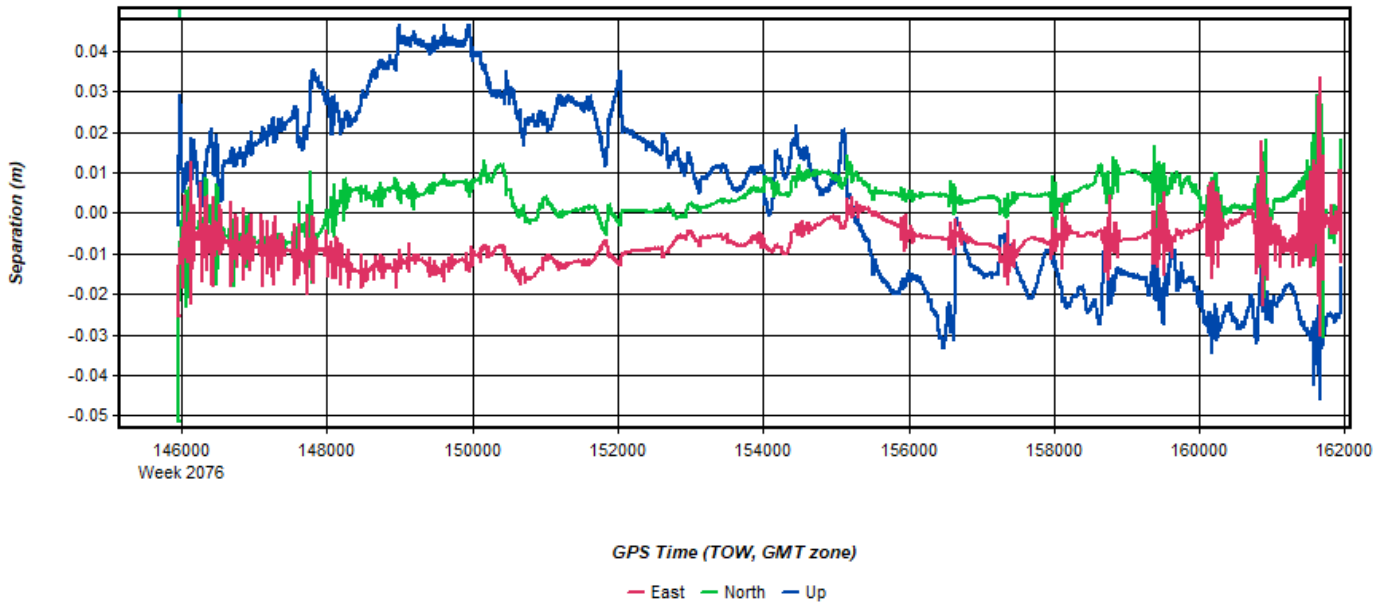
Process 20191021161741 by Unknown on 10/23/2019 at 16:39:46

Figure 3: 20191021161741 [Smoothed TC Combined] - Float or Fixed Ambiguity



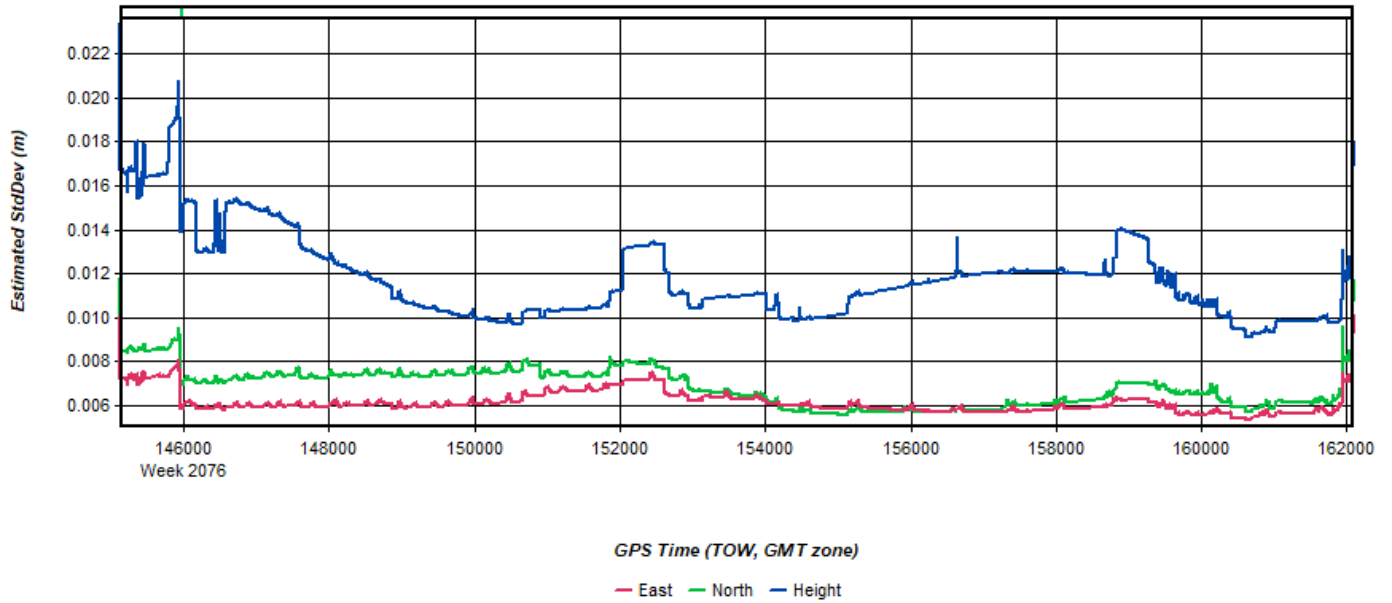
Process 20191021161741 by Unknown on 10/23/2019 at 16:39:46

Figure 4: 20191021161741 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)



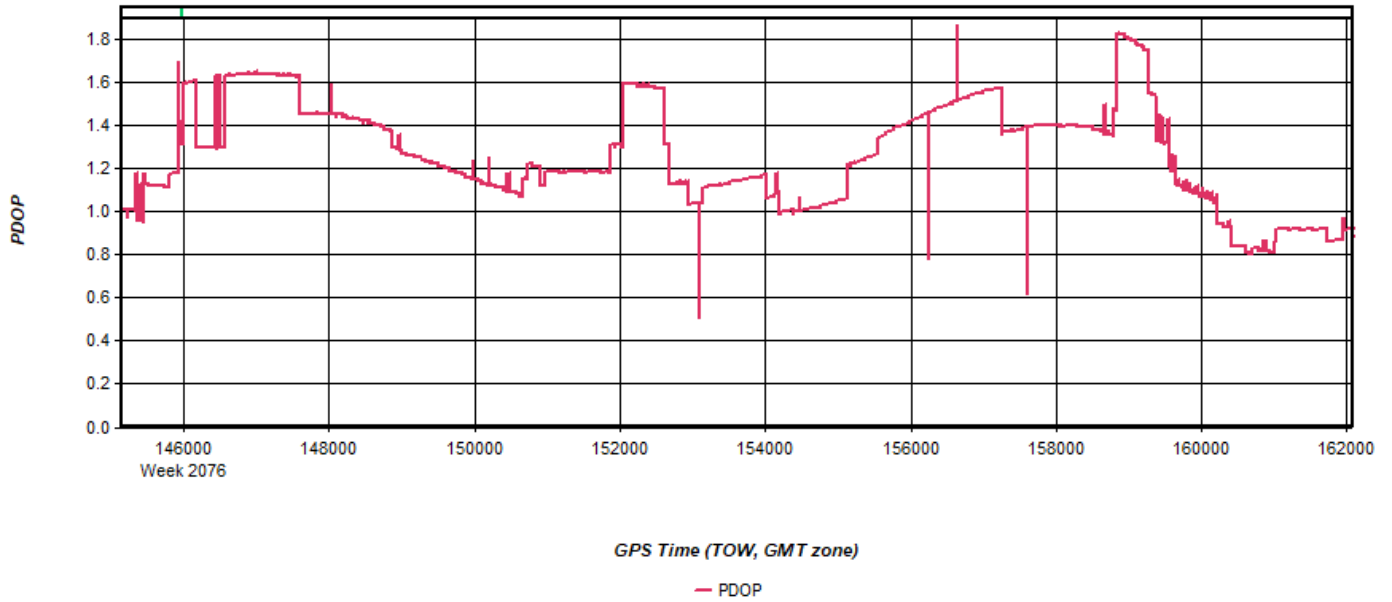
Process 20191021161741 by Unknown on 10/23/2019 at 16:39:46

Figure 5: 20191021161741 [Smoothed TC Combined] - Estimated Position Accuracy Plot



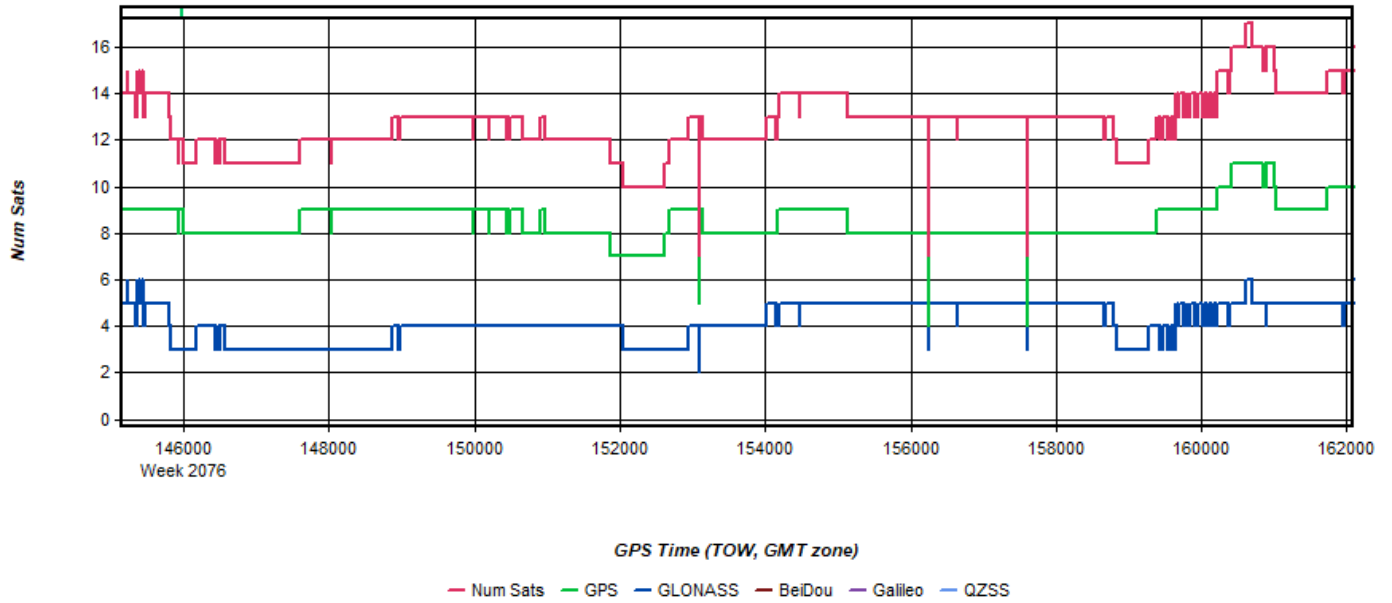
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 6: 20191021161741 [Smoothed TC Combined] - PDOP Plot



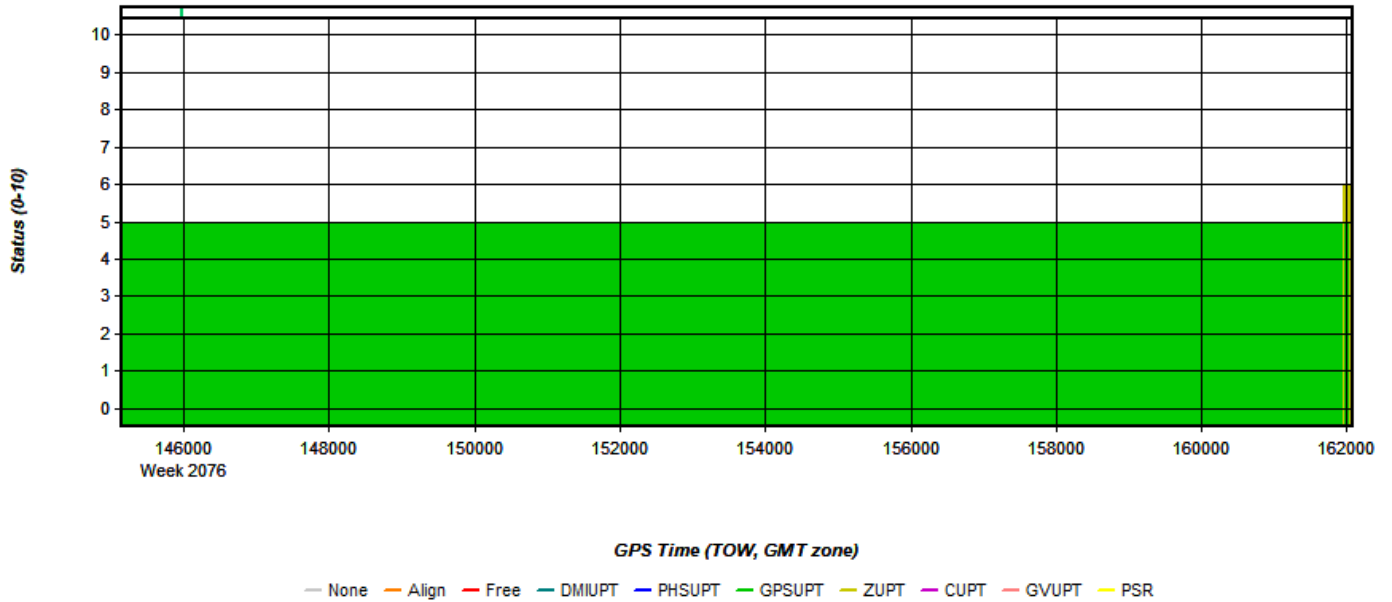
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 7: 20191021161741 [Smoothed TC Combined] - Number of Satellites Line Plot



Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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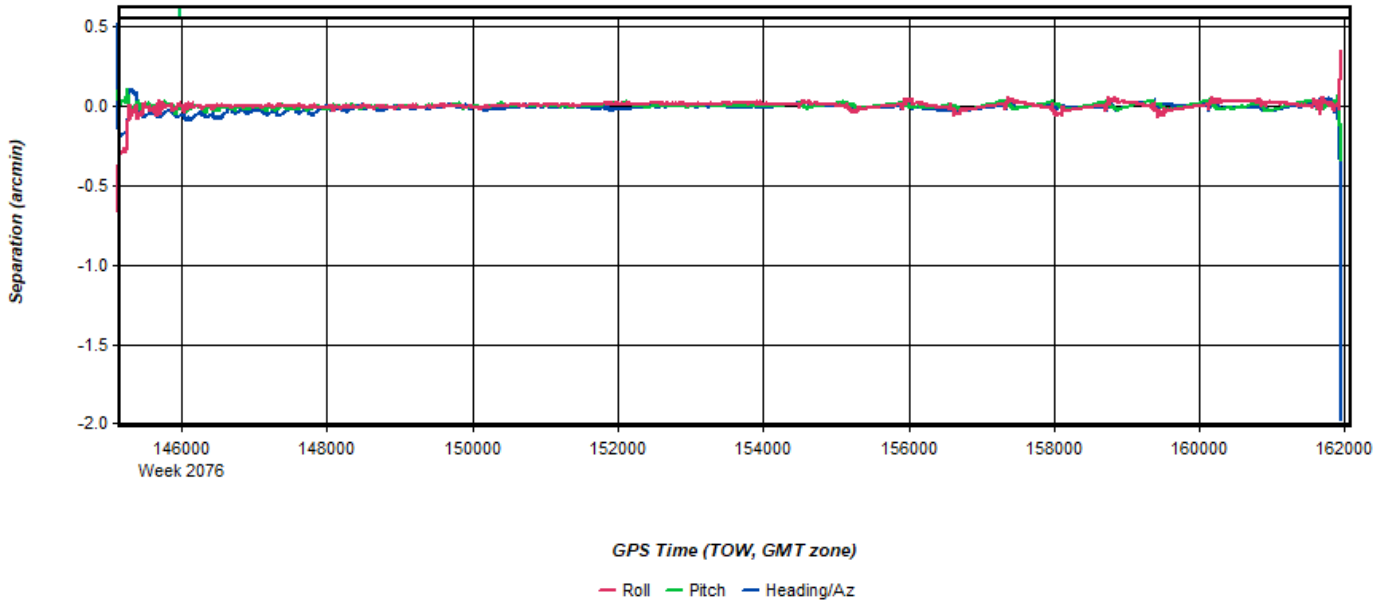
Figure 8: 20191021161741 [Smoothed TC Combined] - Status flag for IMU processing



Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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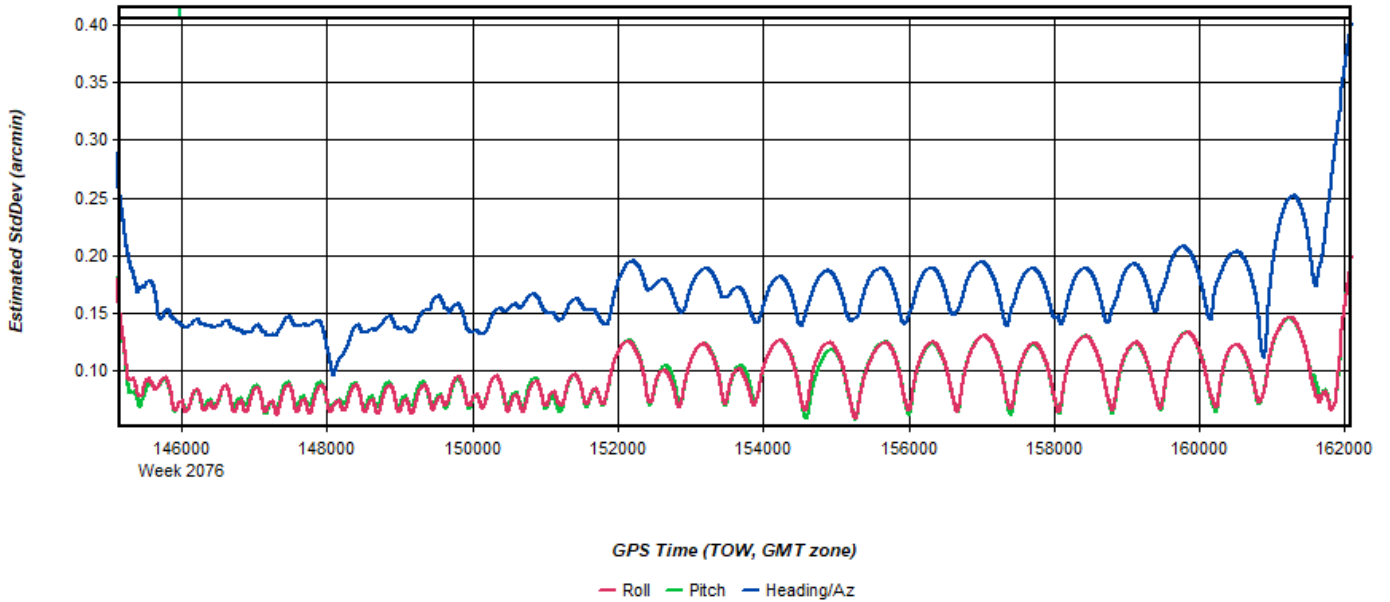
Figure 9: 20191021161741 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot





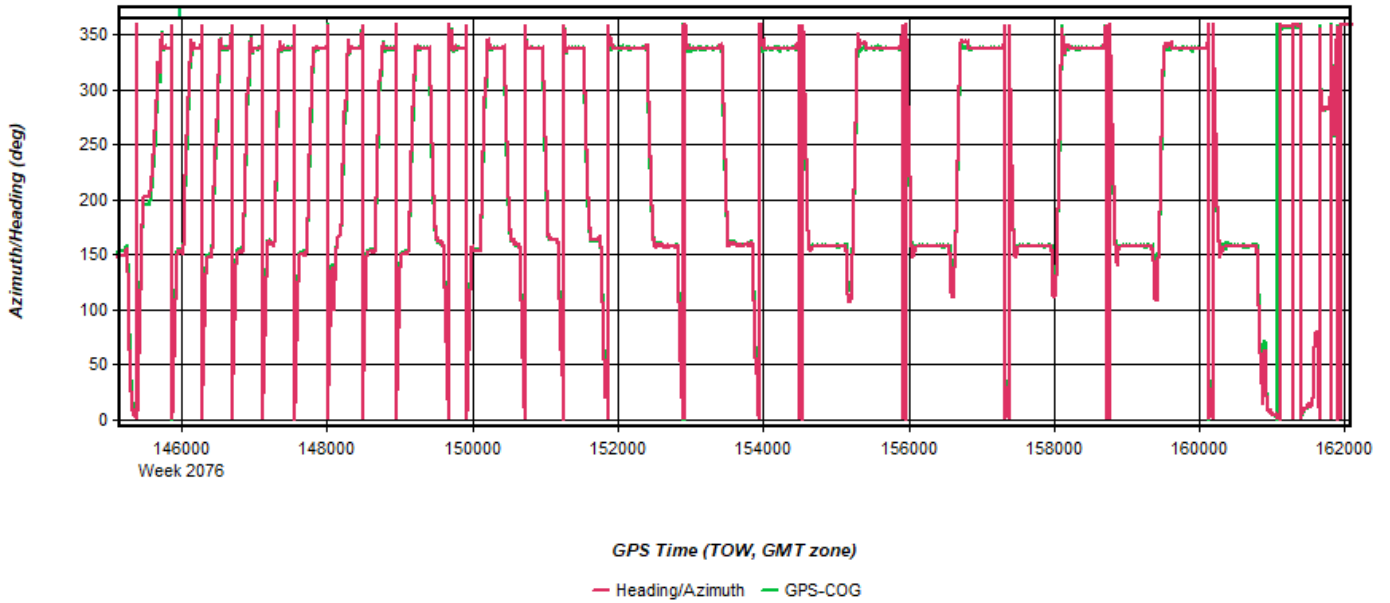
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 10: 20191021161741 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



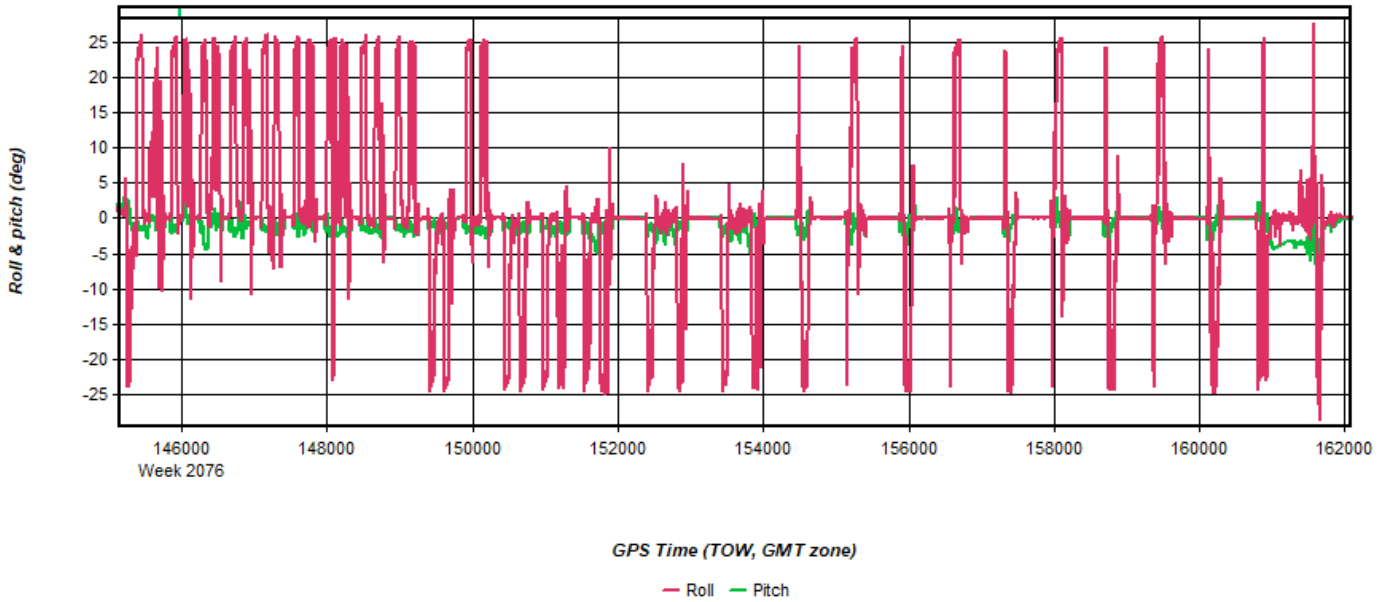
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 11: 20191021161741 [Smoothed TC Combined] - Azimuth Plot



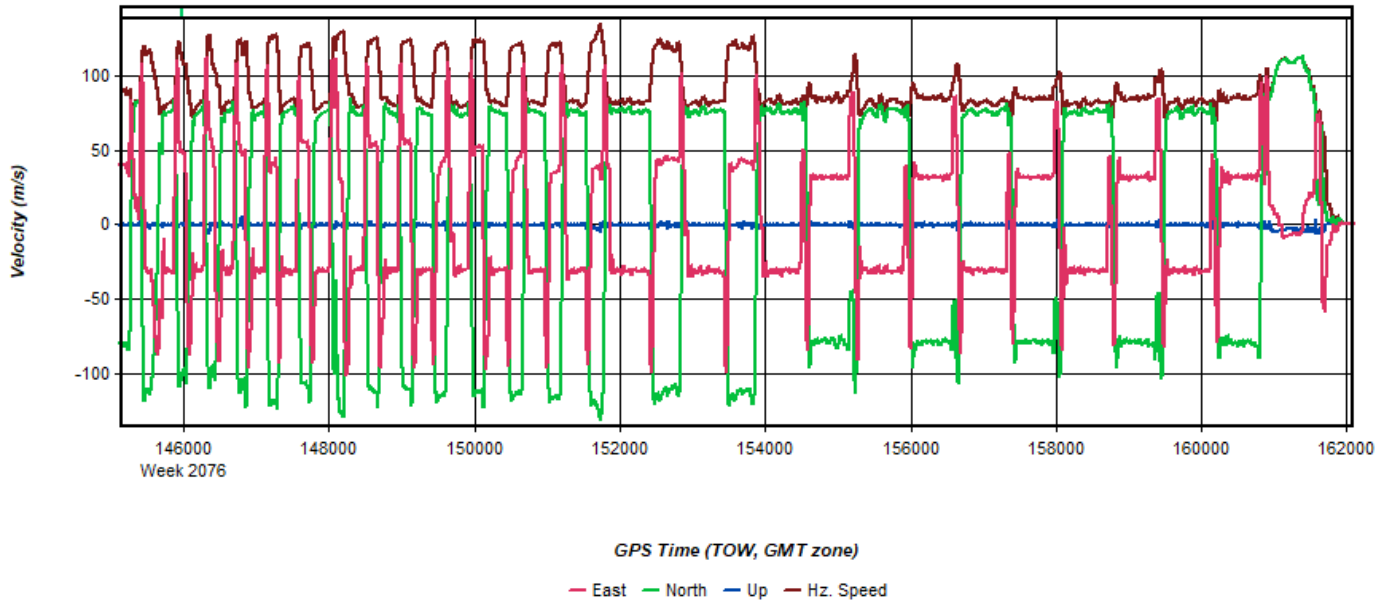
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 12: 20191021161741 [Smoothed TC Combined] - Roll & Pitch Plot



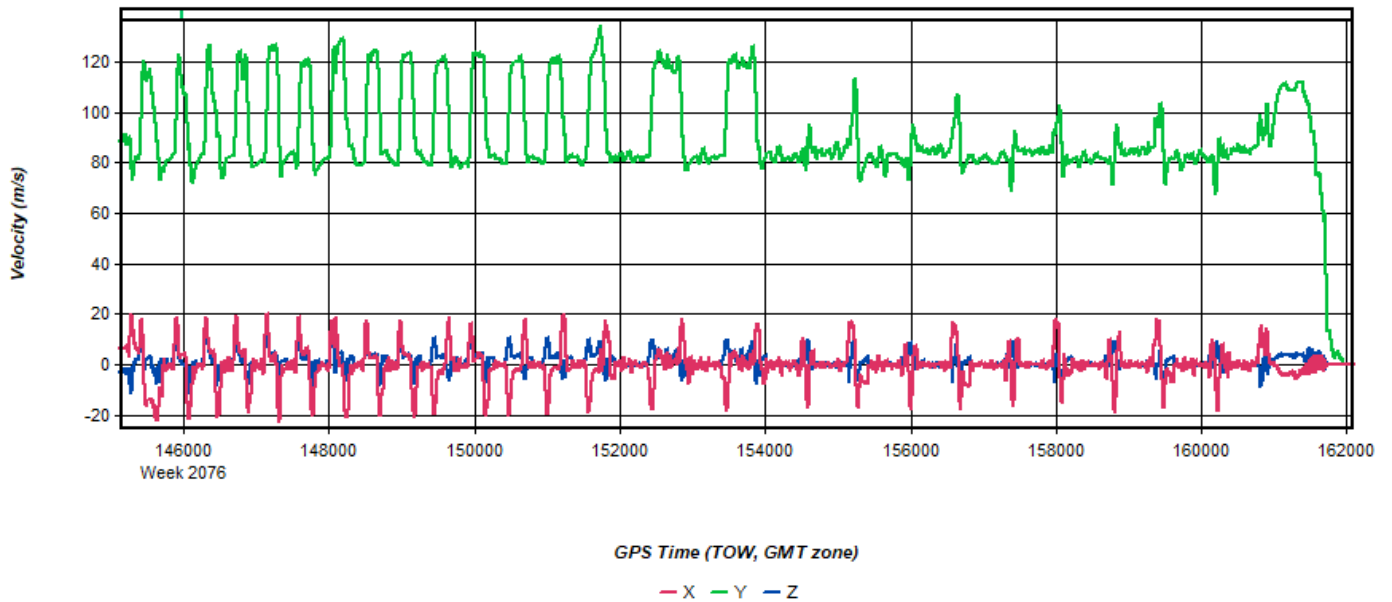
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 13: 20191021161741 [Smoothed TC Combined] - Velocity Profile Plot



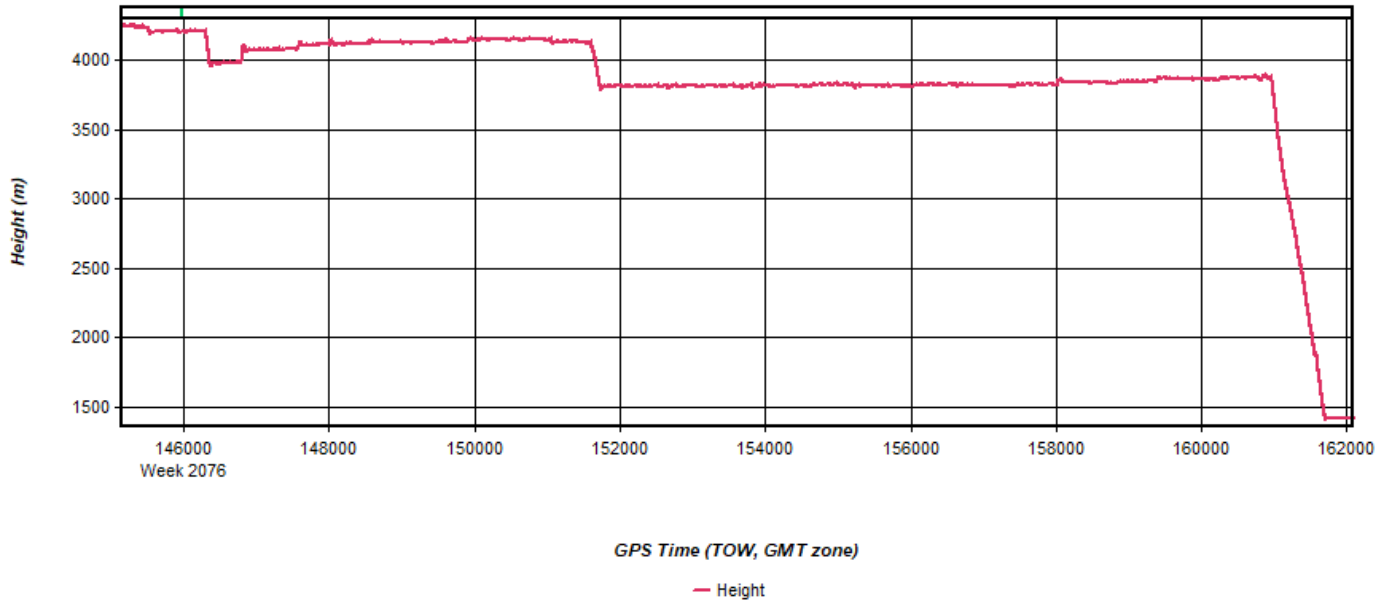
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 14: 20191021161741 [Smoothed TC Combined] - Body Frame Velocity Plot



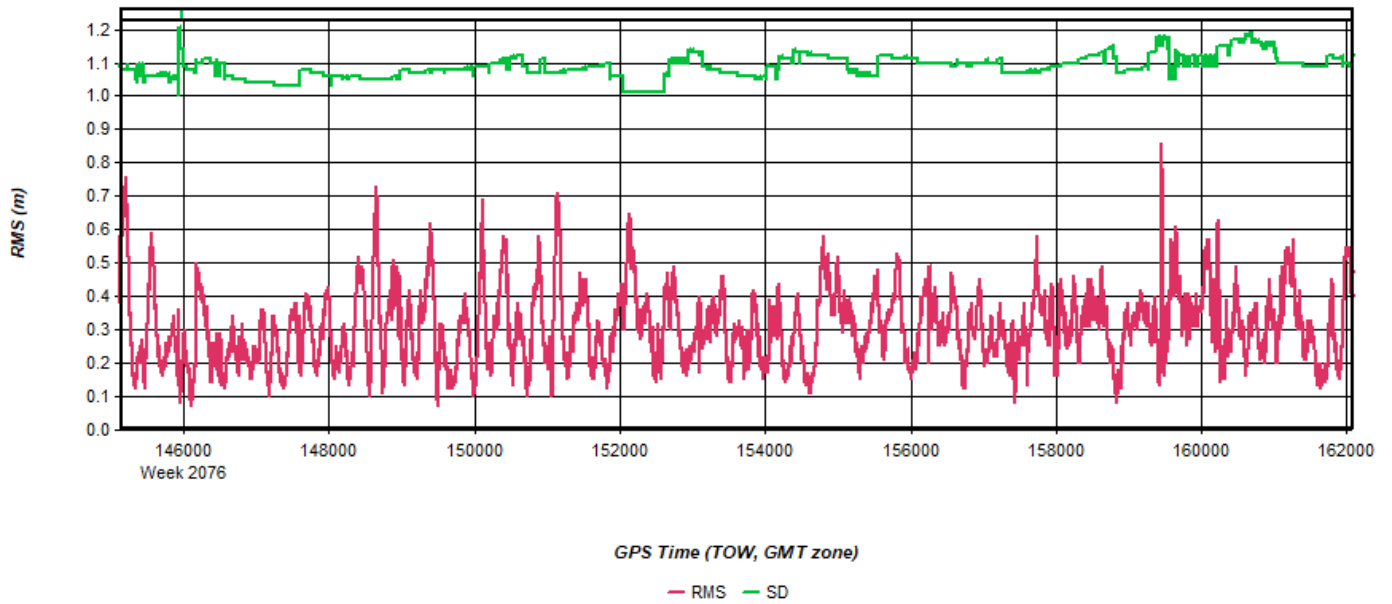
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 15: 20191021161741 [Smoothed TC Combined] - Height Profile Plot



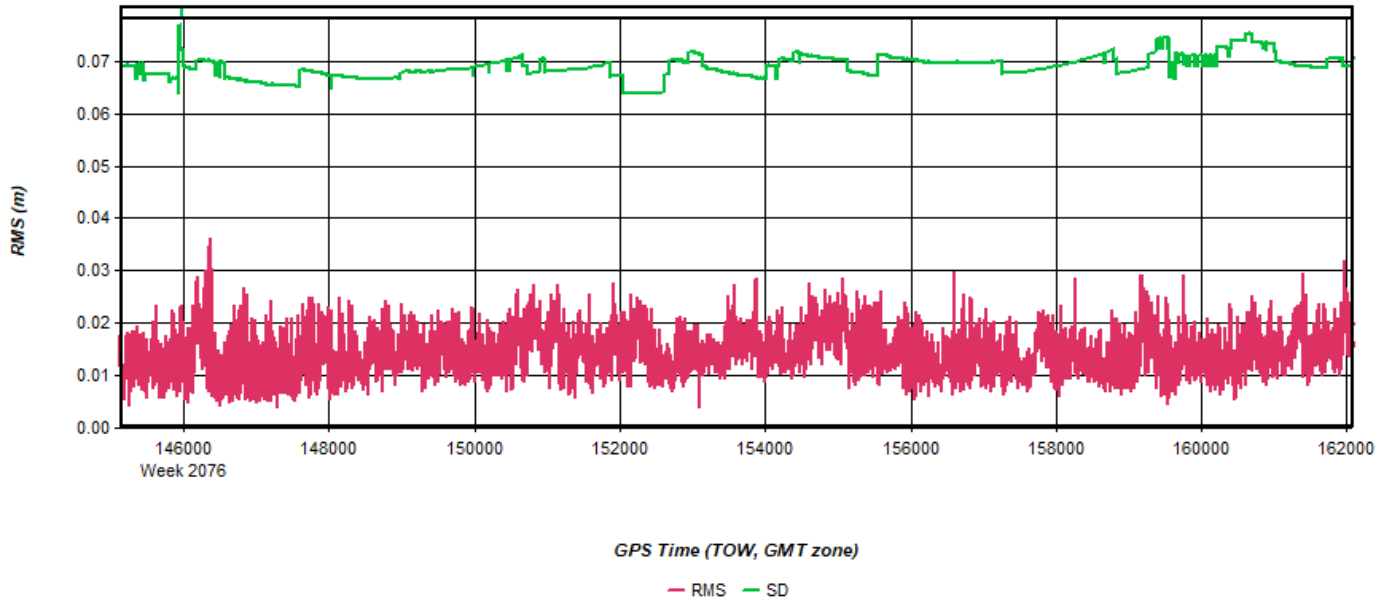
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 16: 20191021161741 [Smoothed TC Combined] - C/A Code Residual RMS Plot



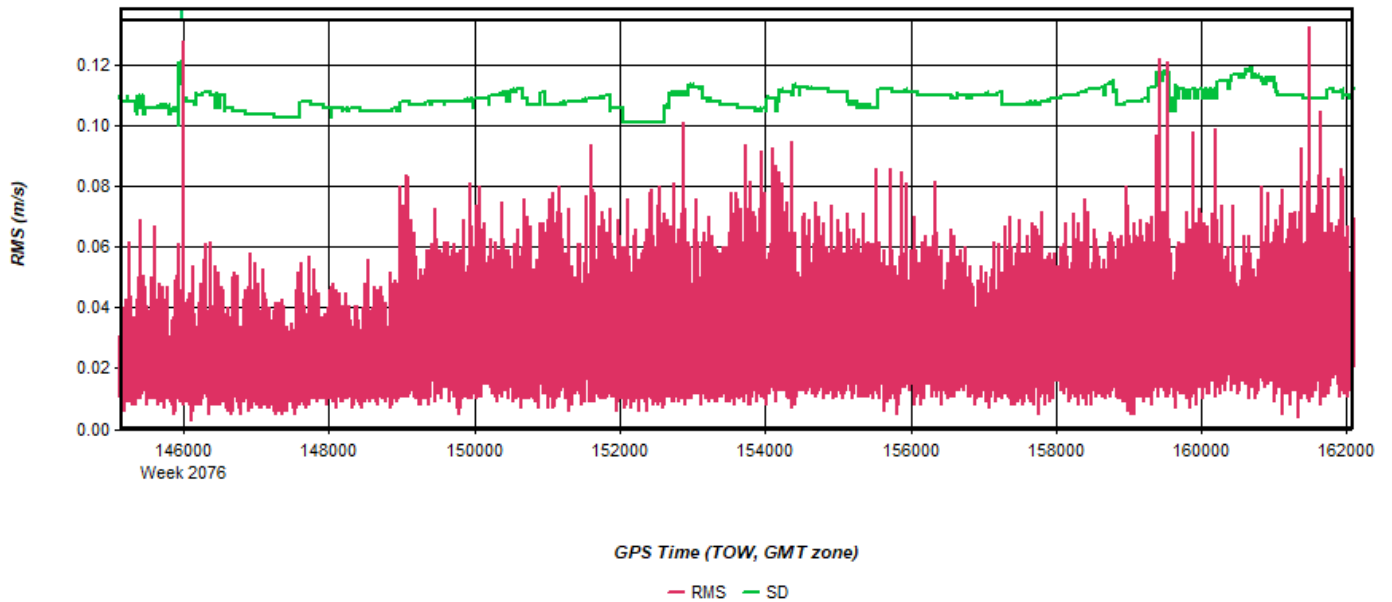
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 17: 20191021161741 [Smoothed TC Combined] - Carrier Residual RMS Plot



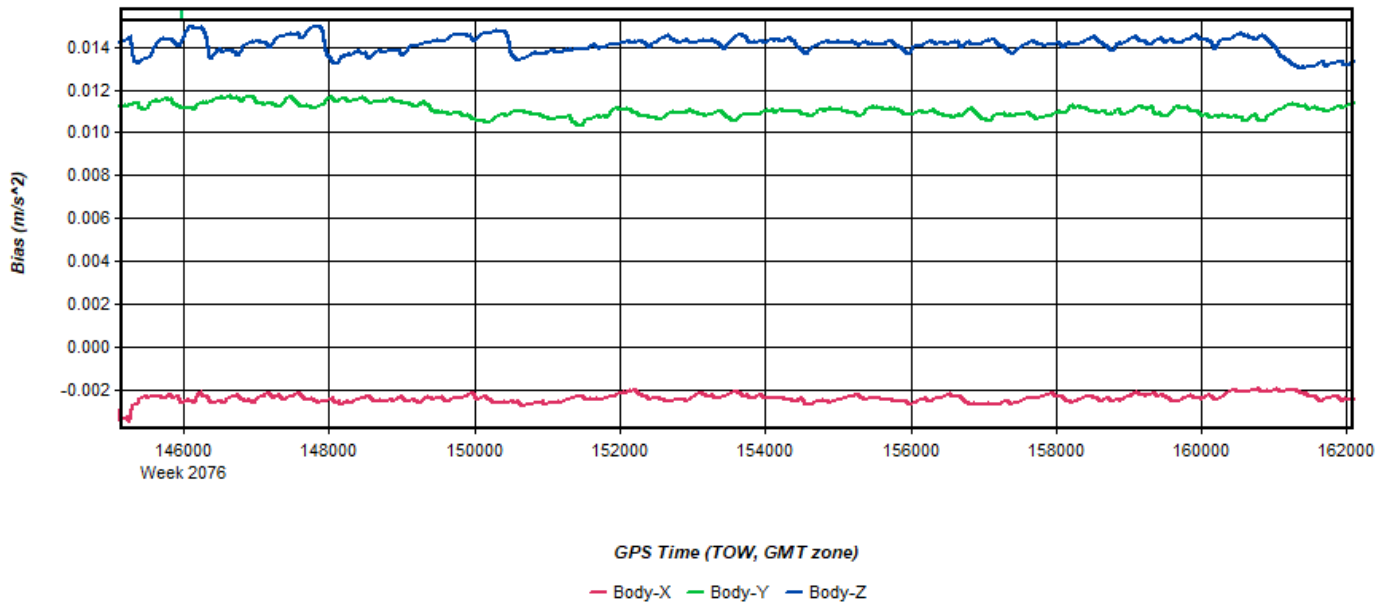
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 18: 20191021161741 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



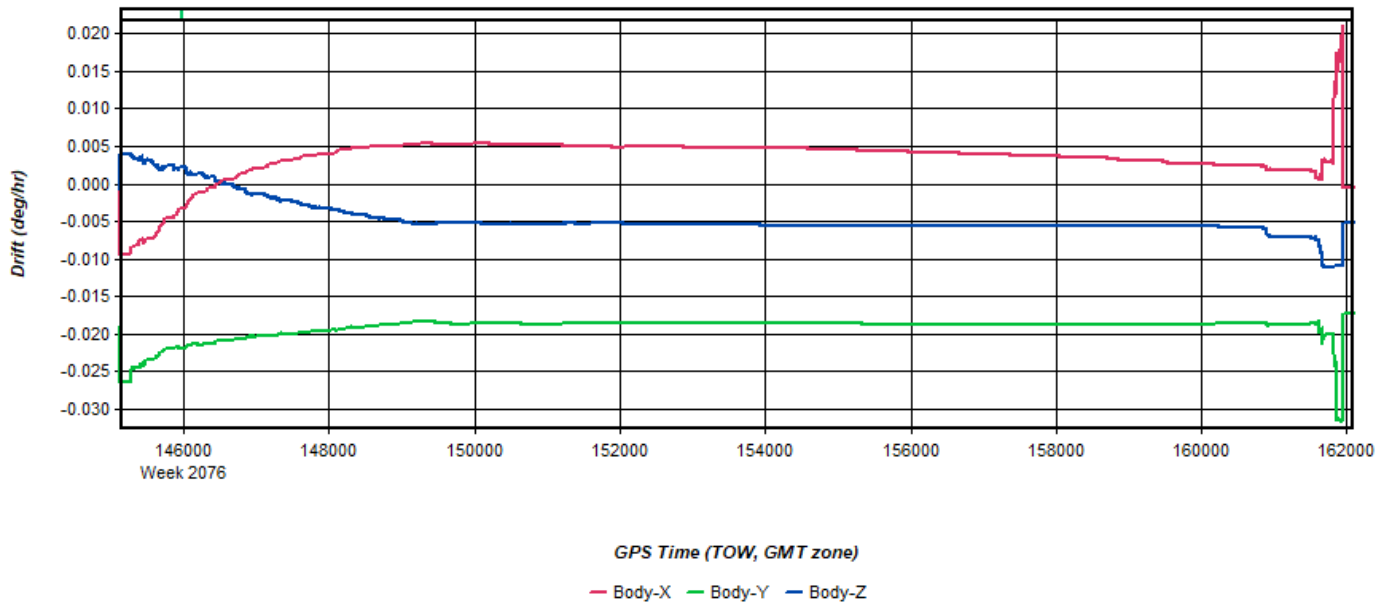
Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 19: 20191021161741 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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Figure 20: 20191021161741 [Smoothed TC Combined] - Gyro Drift Plot

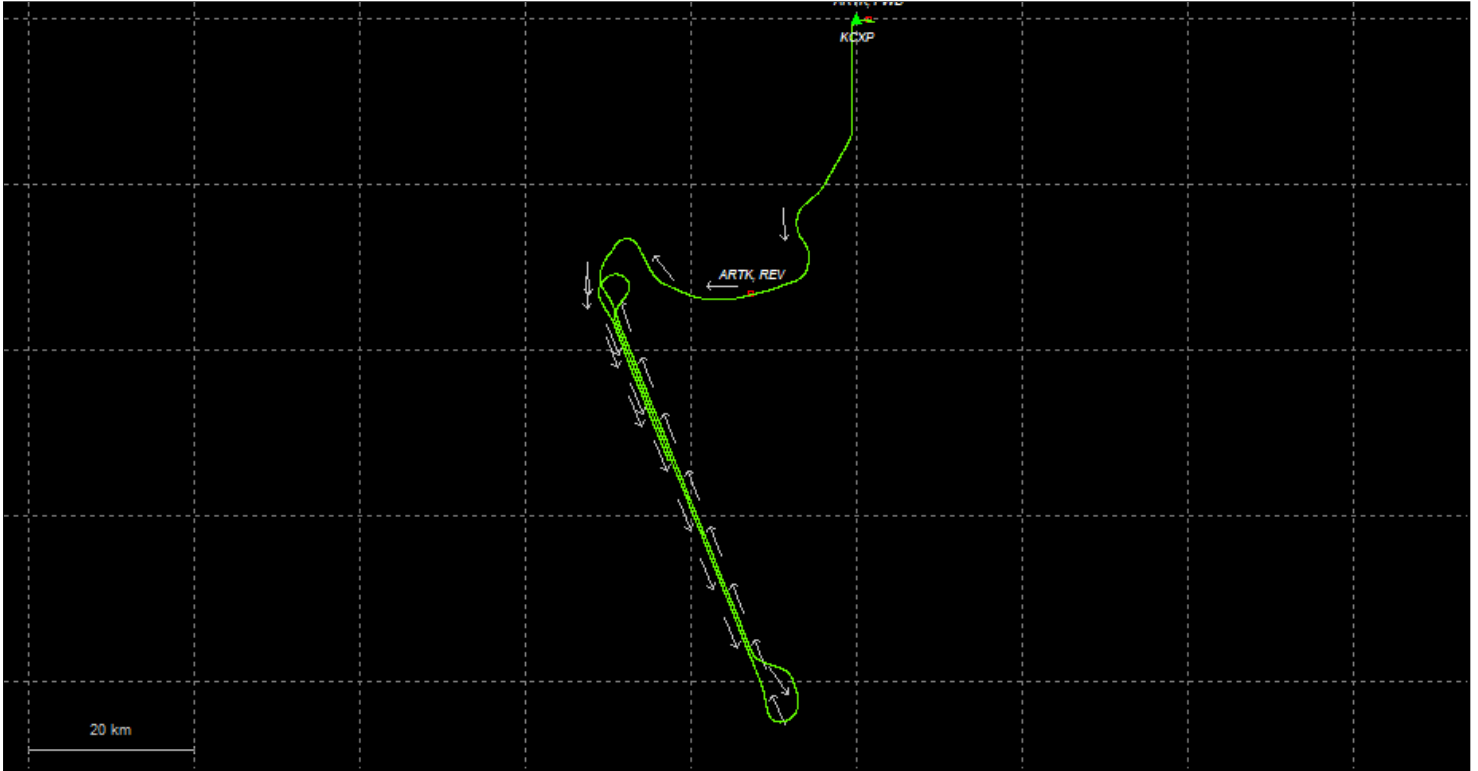


Process	20191021161741	by Unknown	on 10/23/2019	at 16:39:46
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# Output Results for 20191021214503

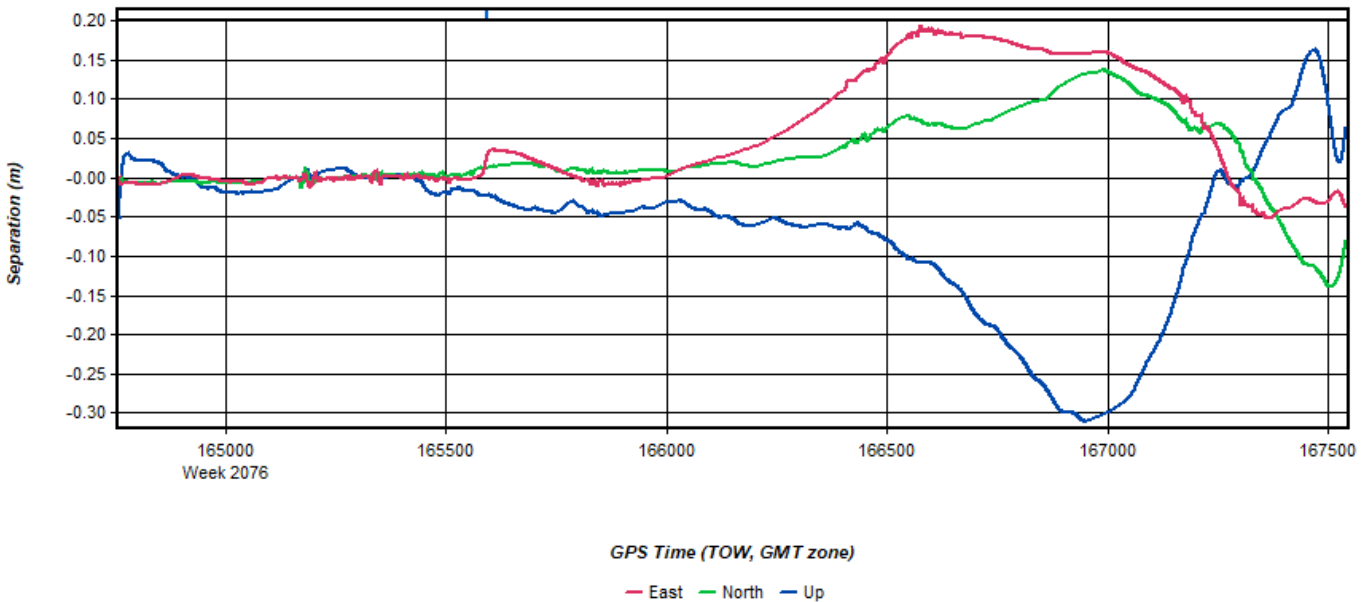
Inertial Explorer Version 8.80.2305  
10/24/2019

Figure 1: Smoothed TC Combined - Map



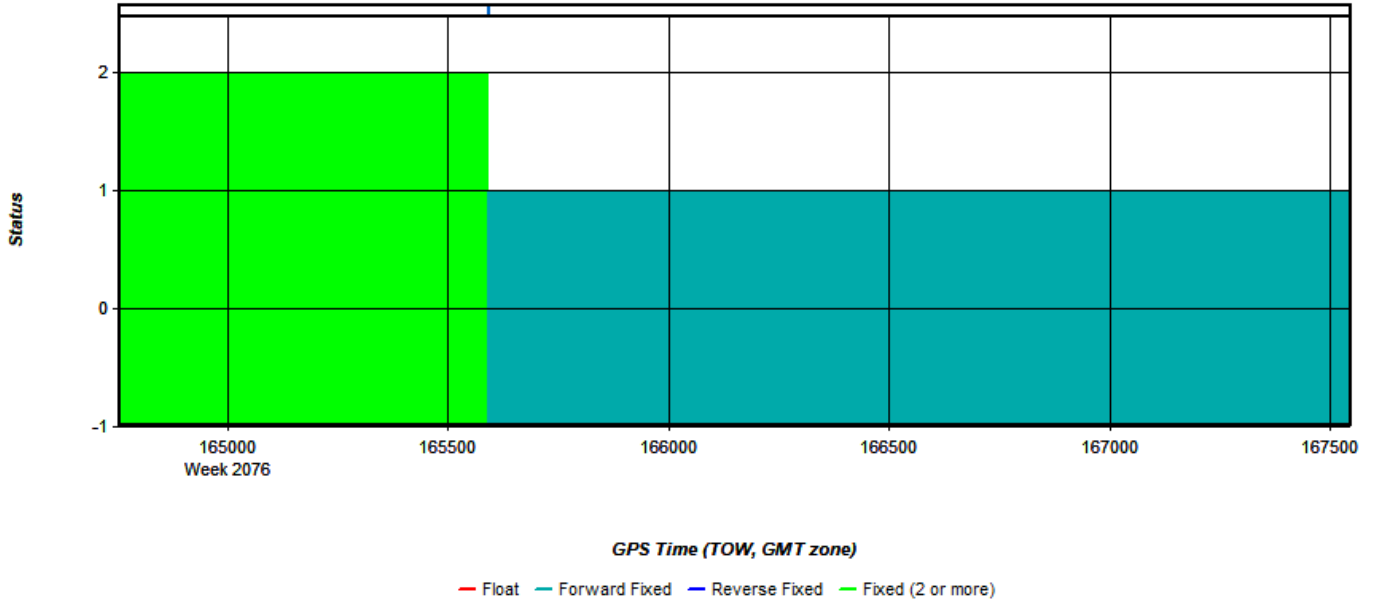
Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 2: 20191021214503 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



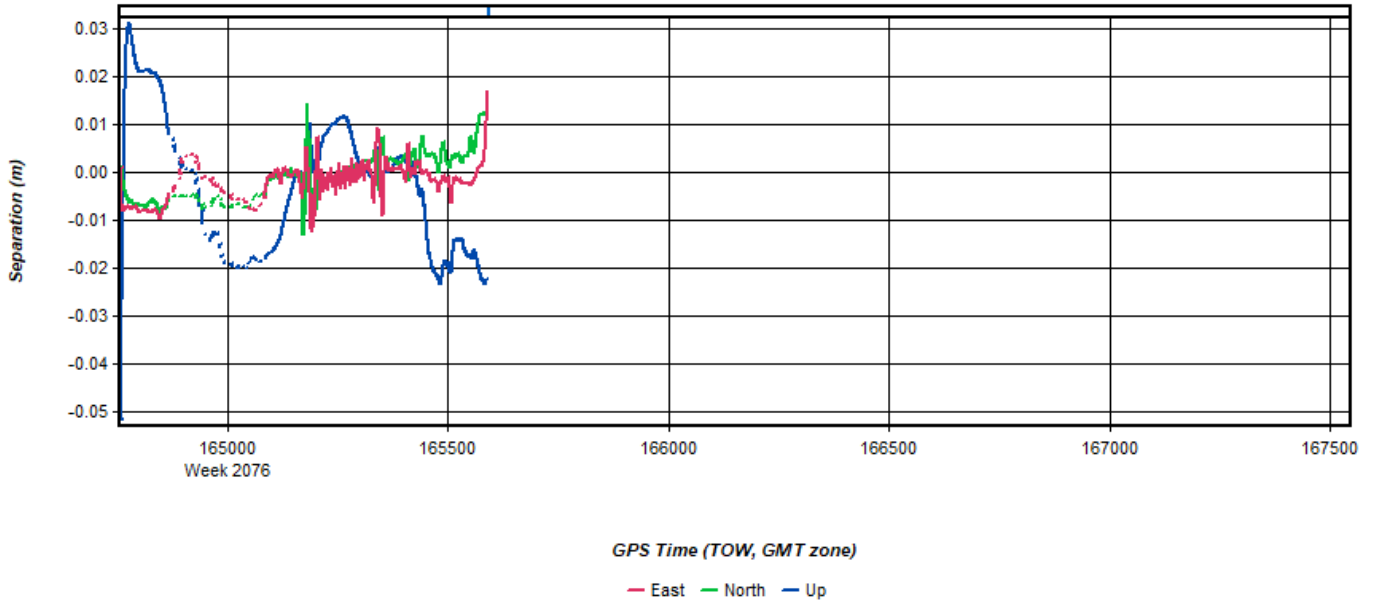
Process 20191021214503 by Unknown on 10/23/2019 at 17:22:54

Figure 3: 20191021214503 [Smoothed TC Combined] - Float or Fixed Ambiguity



Process 20191021214503 by Unknown on 10/23/2019 at 17:22:54

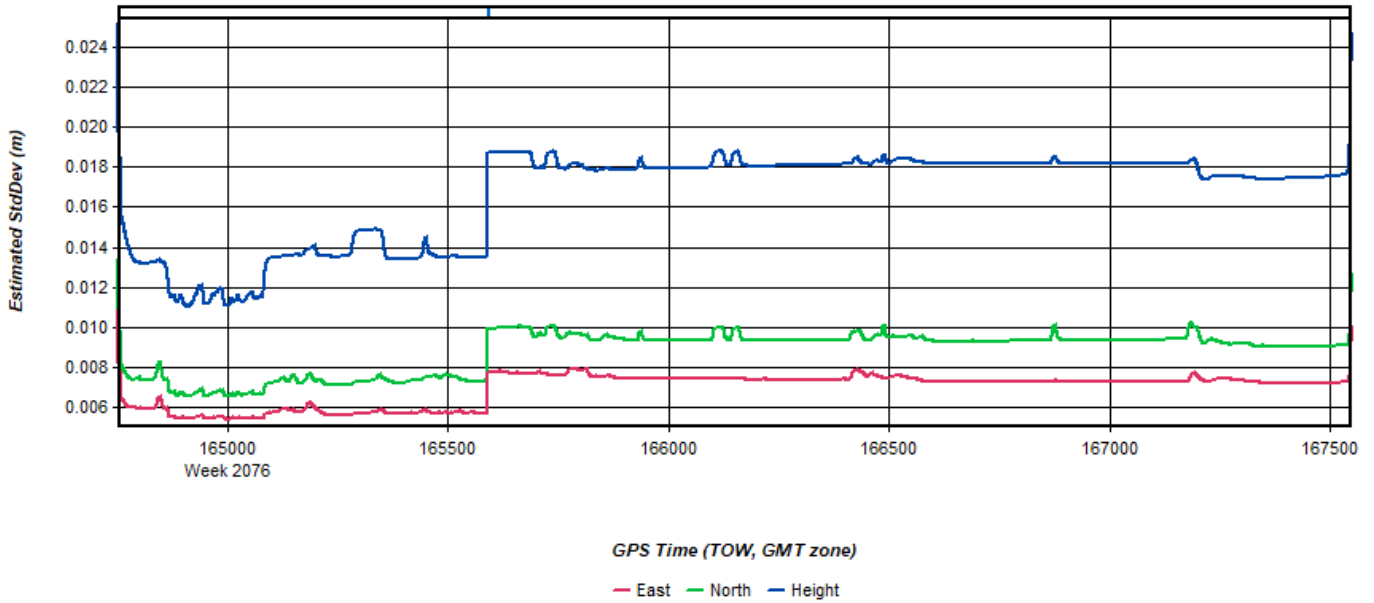
Figure 4: 20191021214503 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)



Process 20191021214503 by Unknown on 10/23/2019 at 17:22:54

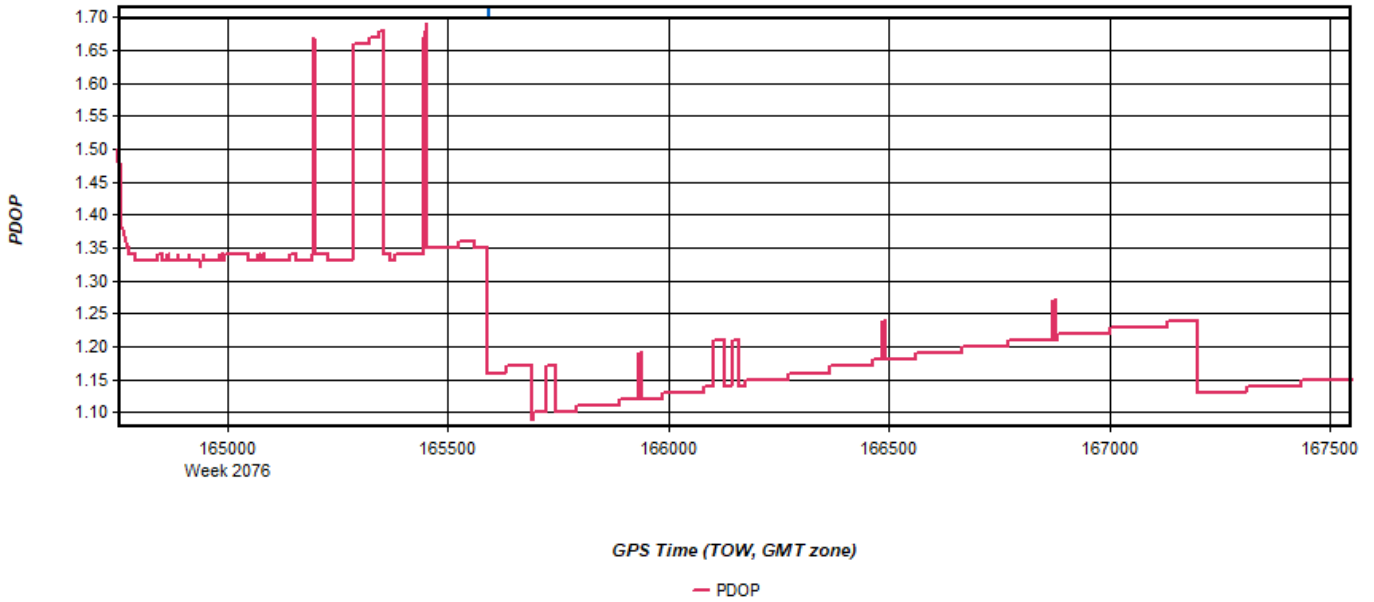
Figure 5: 20191021214503 [Smoothed TC Combined] - Estimated Position Accuracy Plot





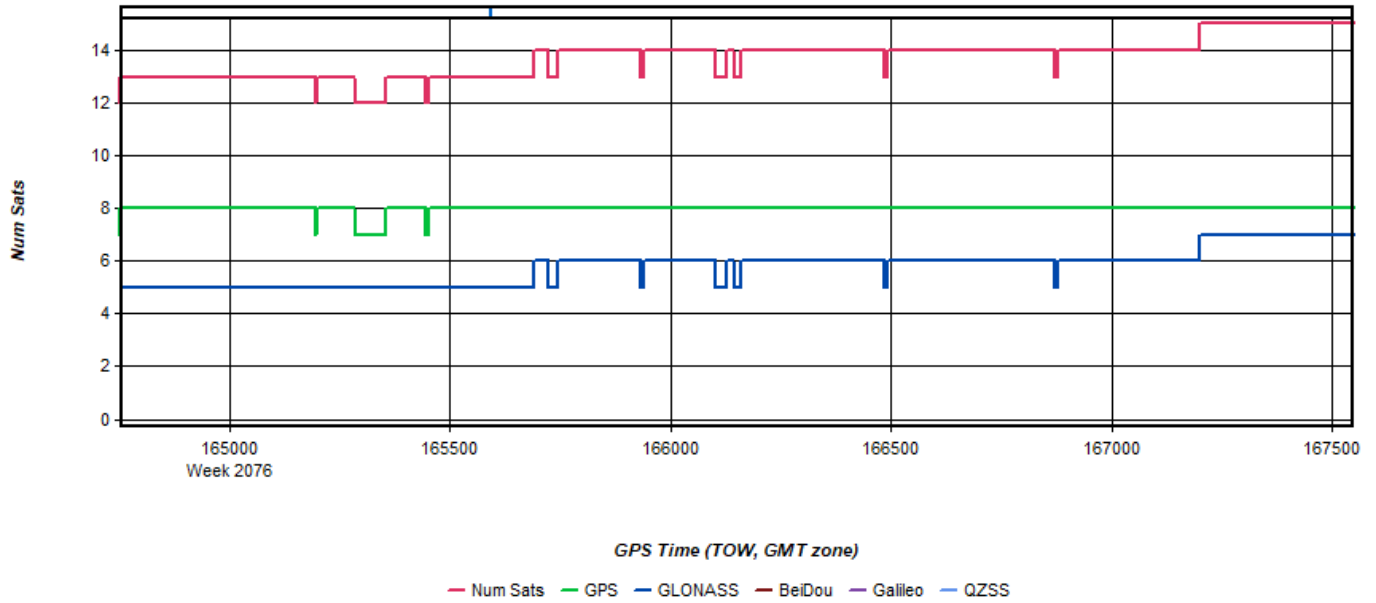
Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 6: 20191021214503 [Smoothed TC Combined] - PDOP Plot



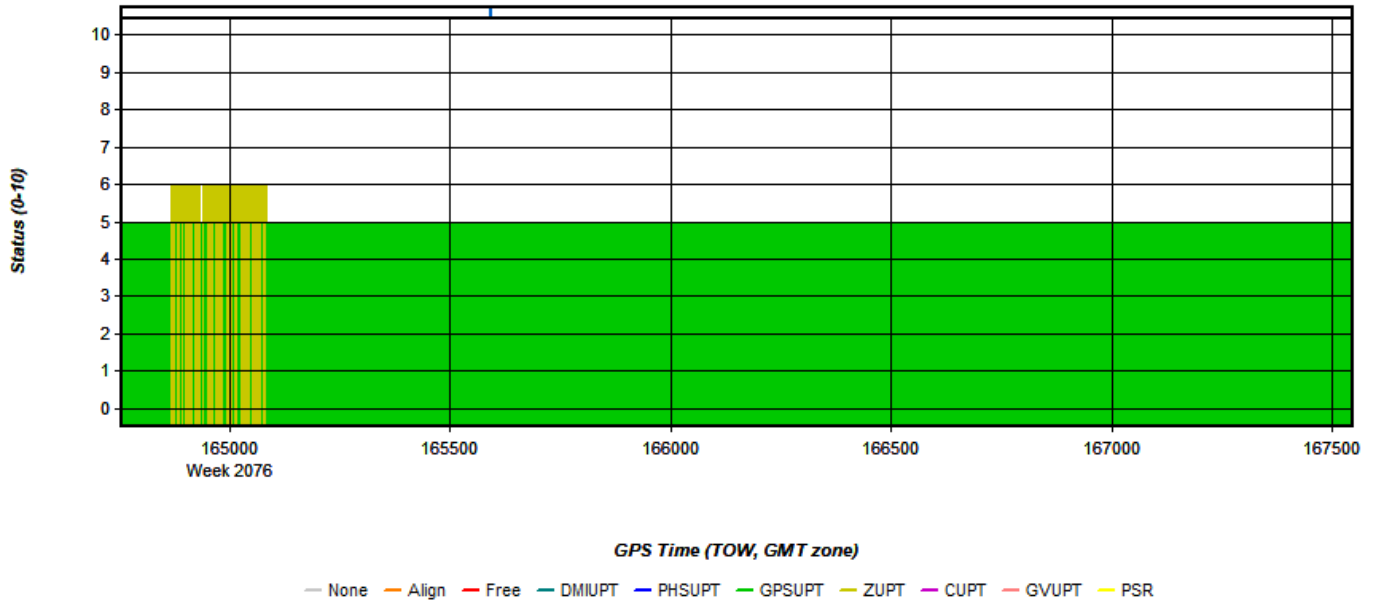
Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 7: 20191021214503 [Smoothed TC Combined] - Number of Satellites Line Plot



Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 8: 20191021214503 [Smoothed TC Combined] - Status flag for IMU processing



Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 9: 20191021214503 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot

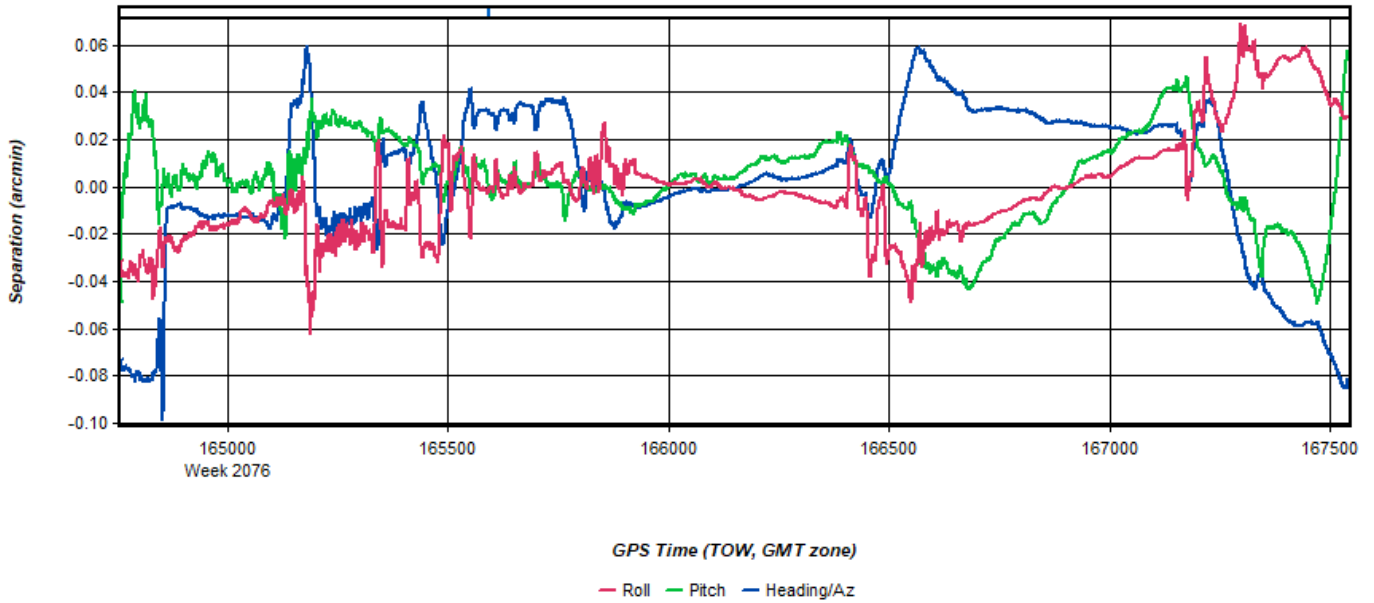


Figure 10: 20191021214503 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot

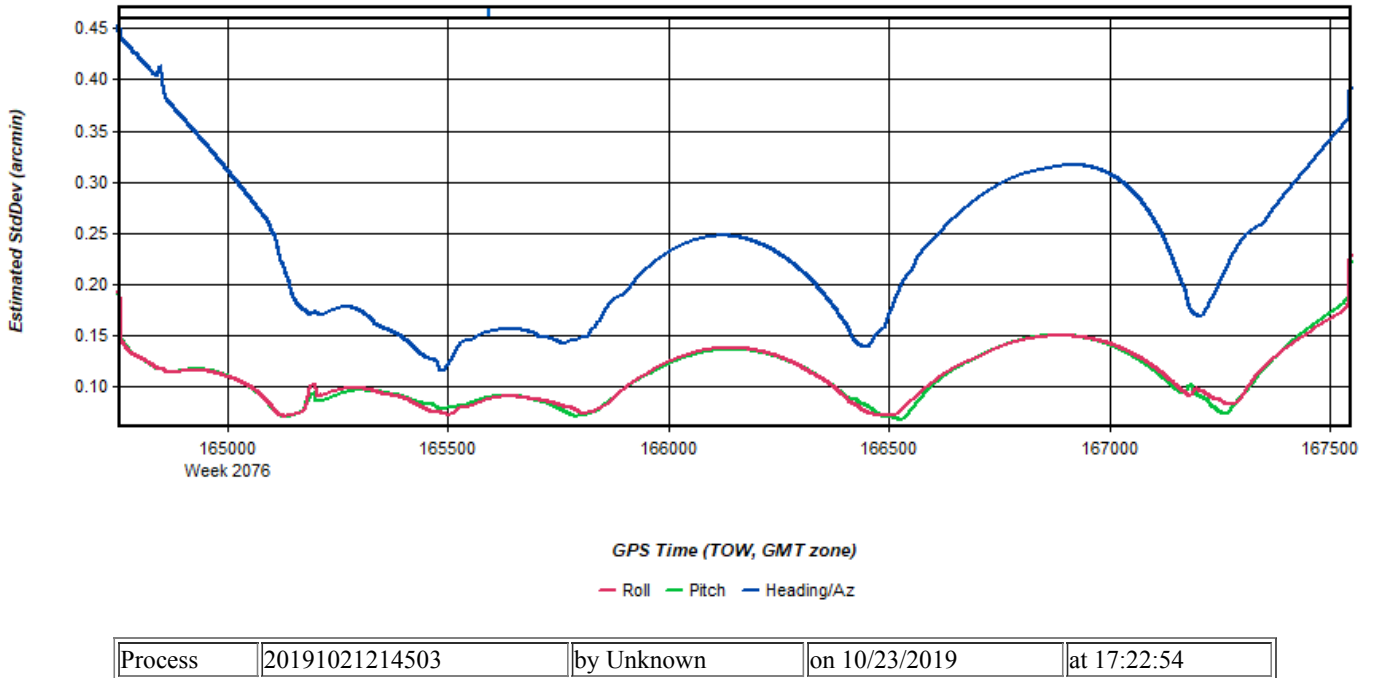
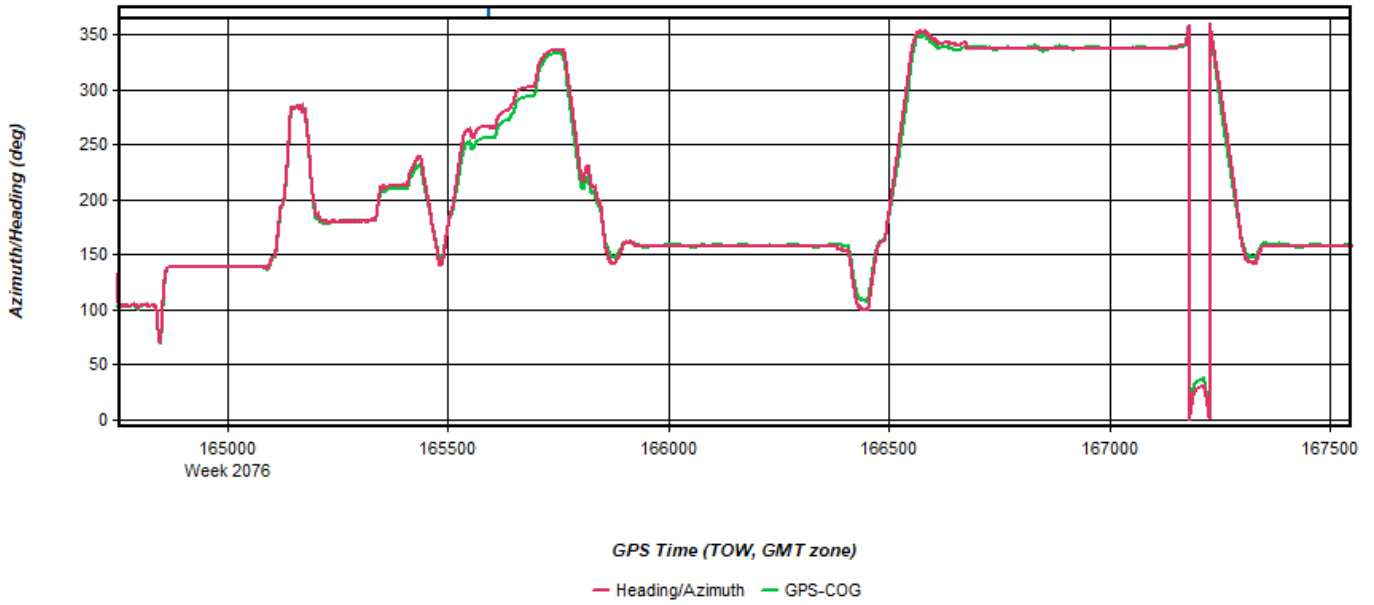


Figure 11: 20191021214503 [Smoothed TC Combined] - Azimuth Plot



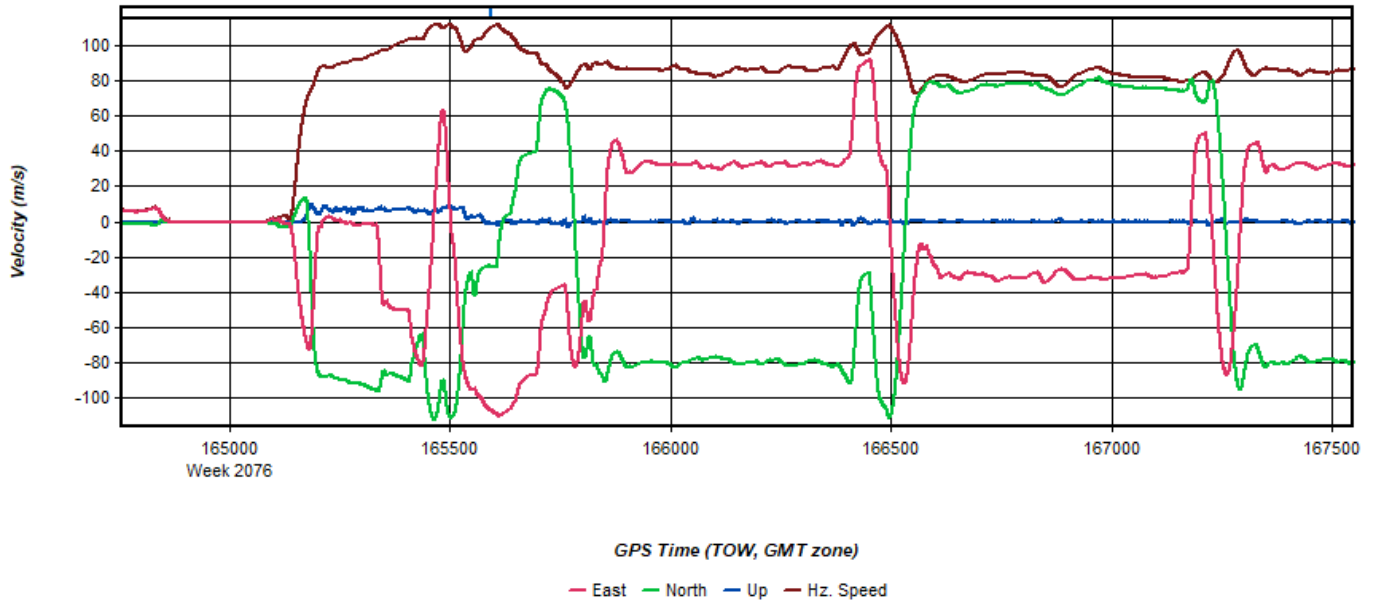
Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 12: 20191021214503 [Smoothed TC Combined] - Roll & Pitch Plot



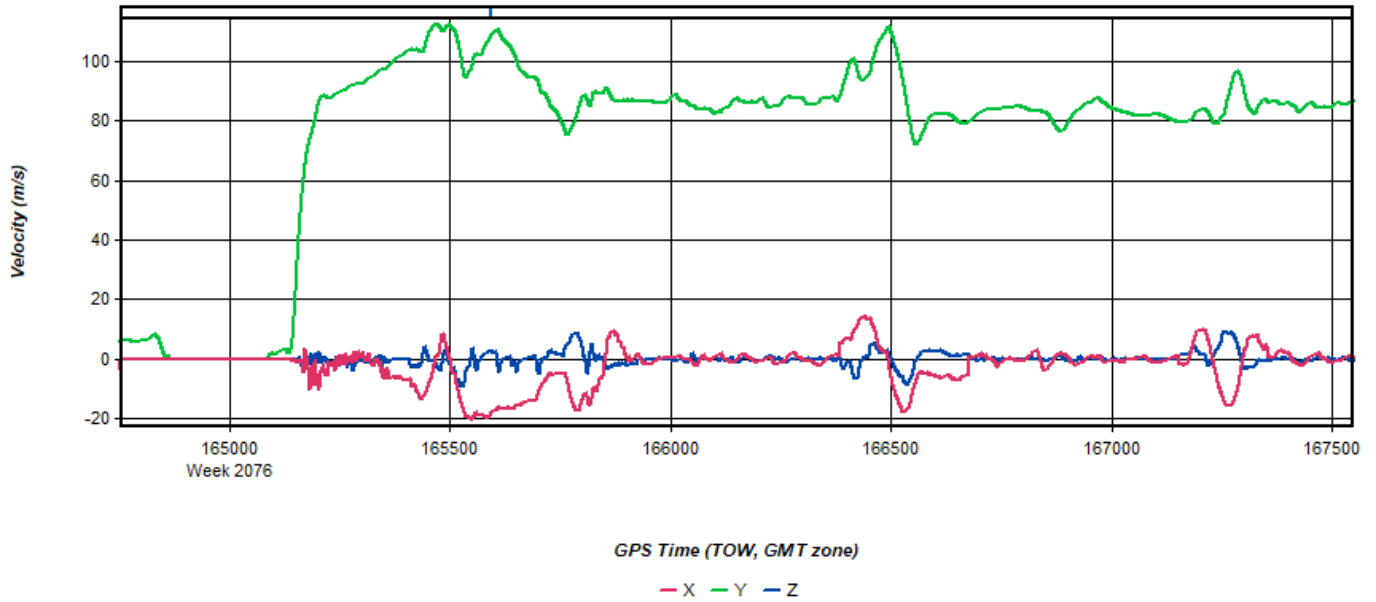
Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 13: 20191021214503 [Smoothed TC Combined] - Velocity Profile Plot



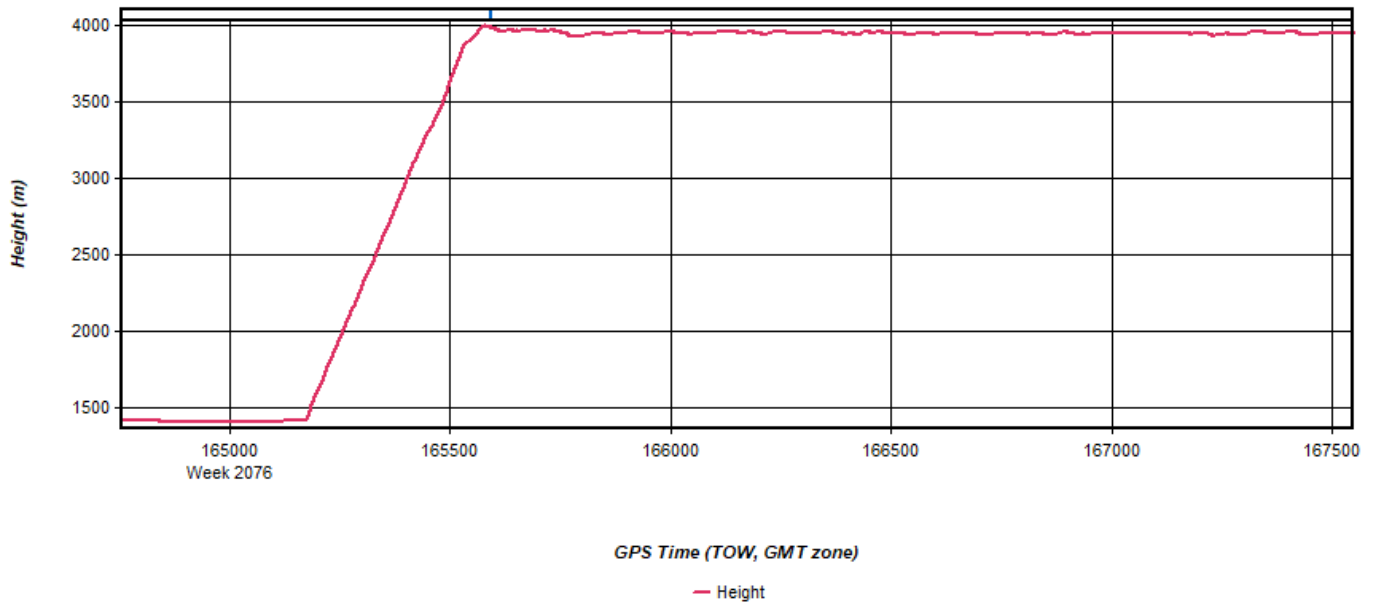
Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 14: 20191021214503 [Smoothed TC Combined] - Body Frame Velocity Plot



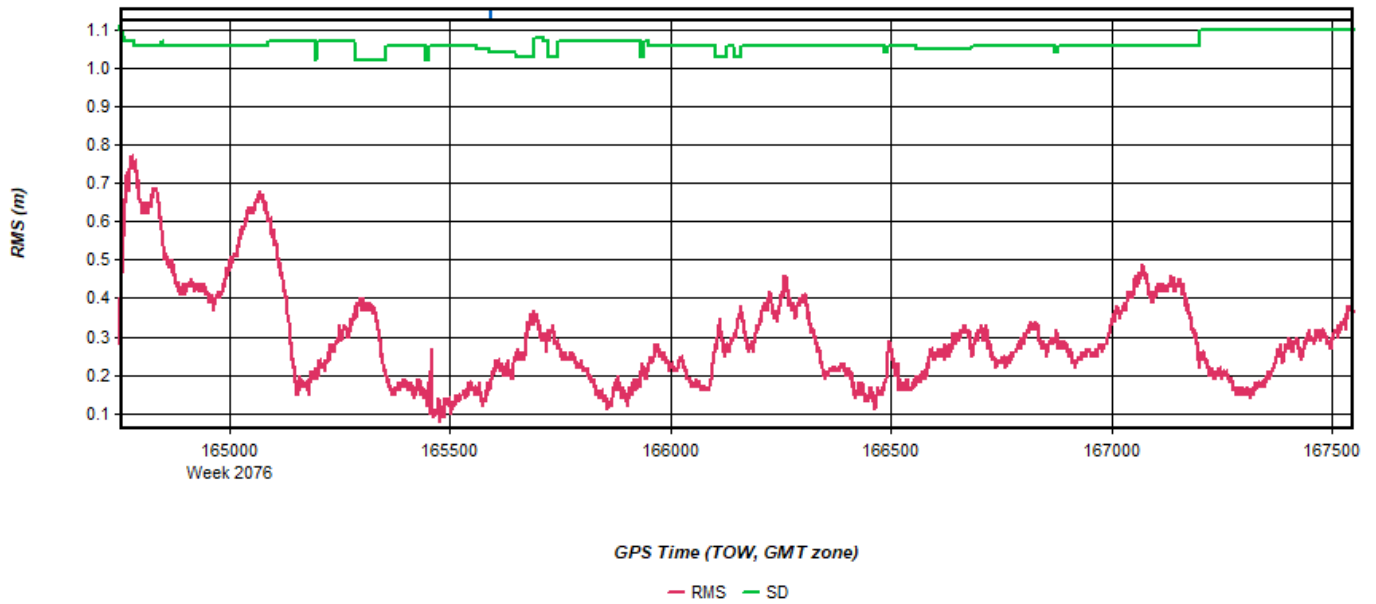
Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 15: 20191021214503 [Smoothed TC Combined] - Height Profile Plot



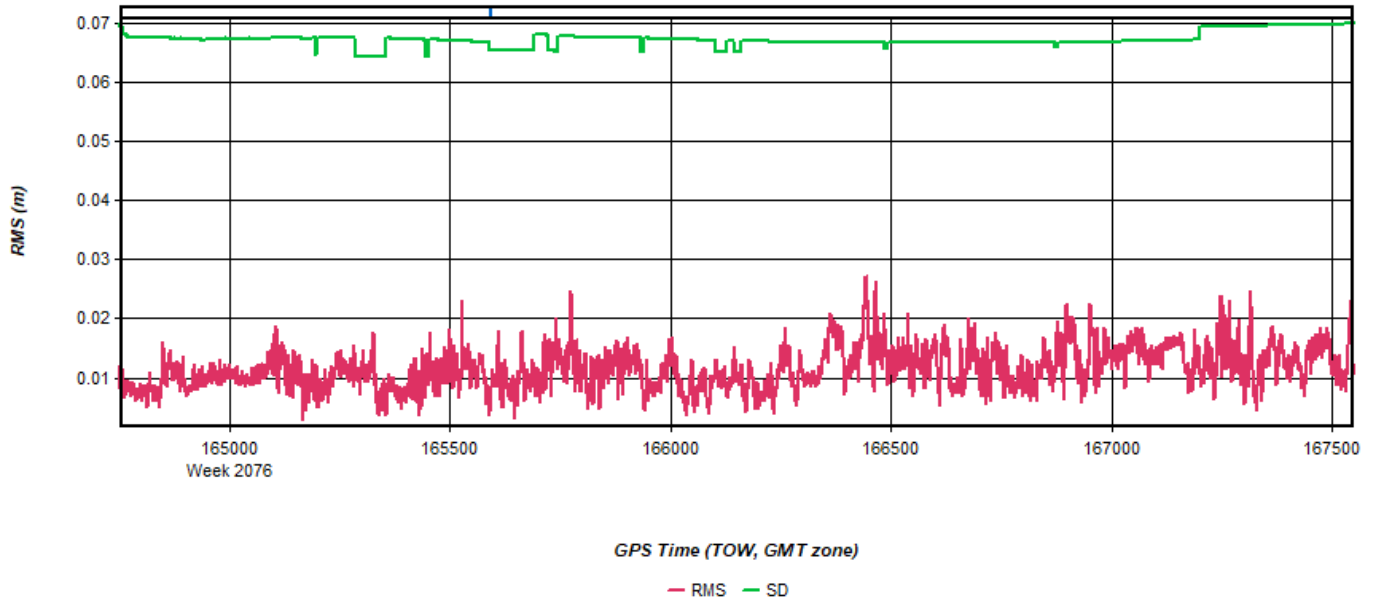
Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 16: 20191021214503 [Smoothed TC Combined] - C/A Code Residual RMS Plot



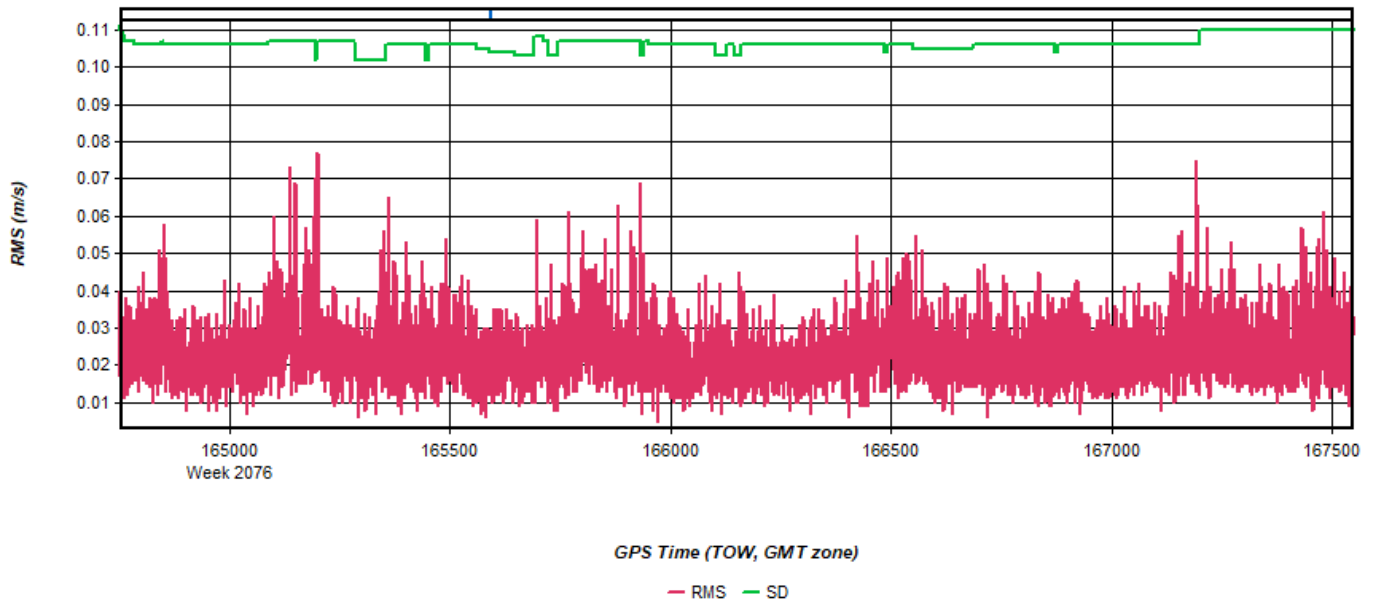
Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 17: 20191021214503 [Smoothed TC Combined] - Carrier Residual RMS Plot



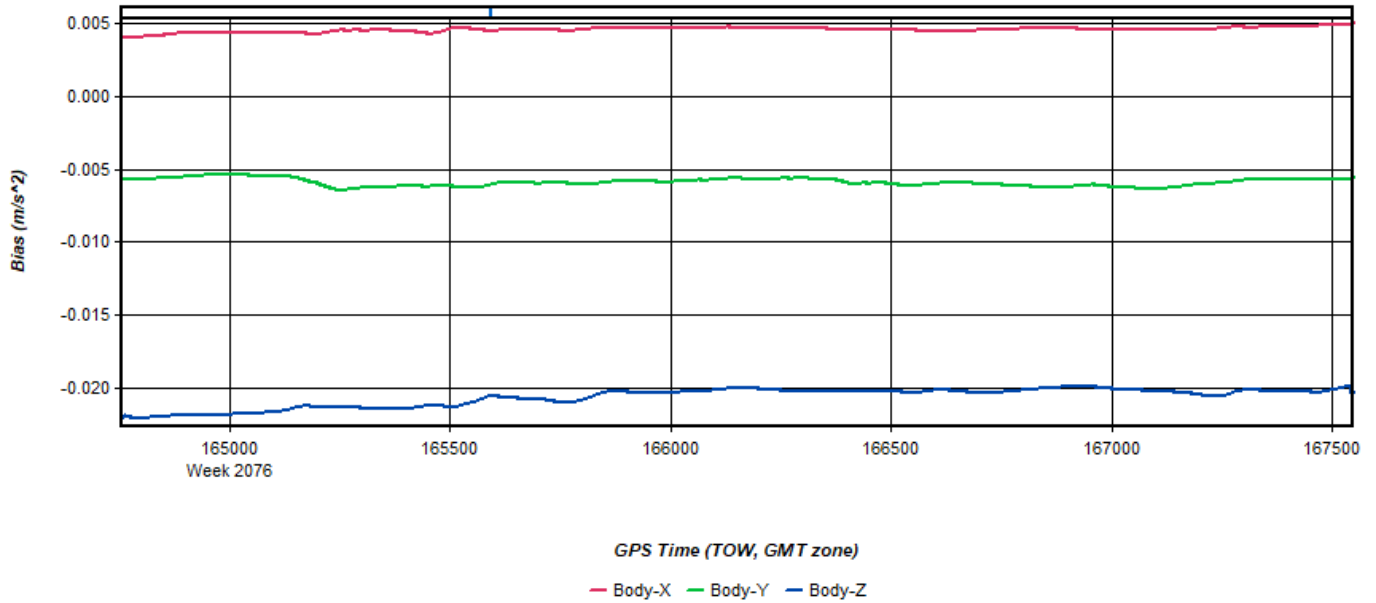
Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 18: 20191021214503 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



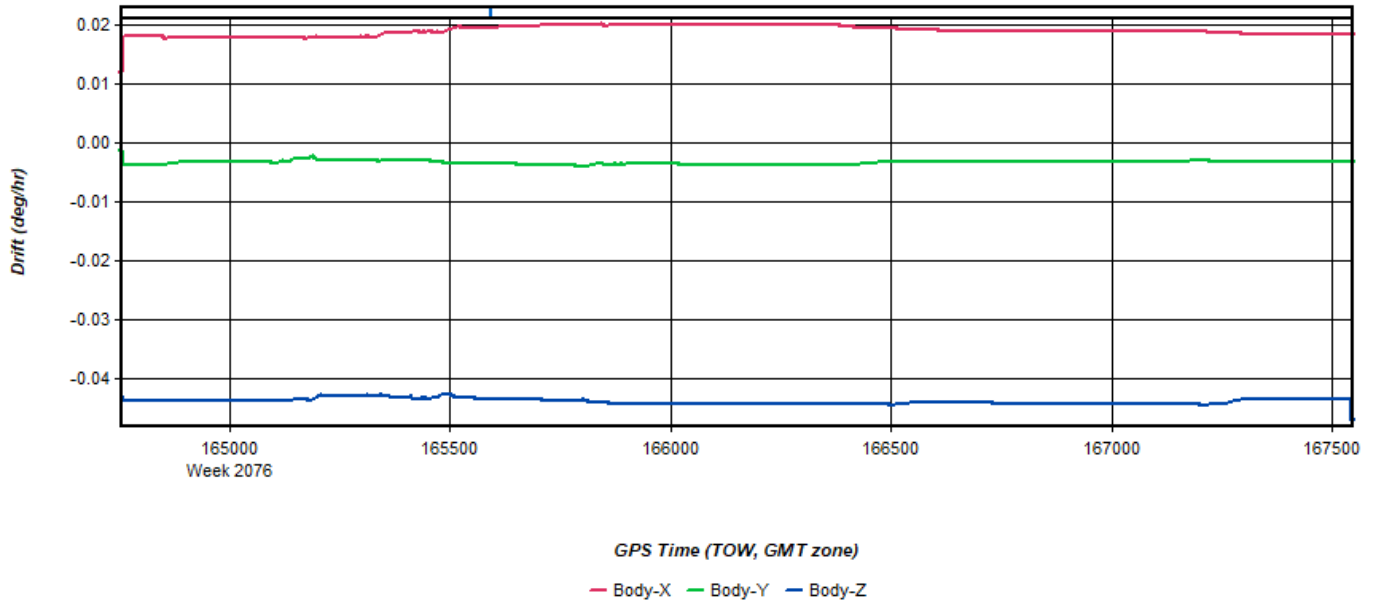
Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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Figure 19: 20191021214503 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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**Figure 20: 20191021214503 [Smoothed TC Combined] - Gyro Drift Plot**



Process	20191021214503	by Unknown	on 10/23/2019	at 17:22:54
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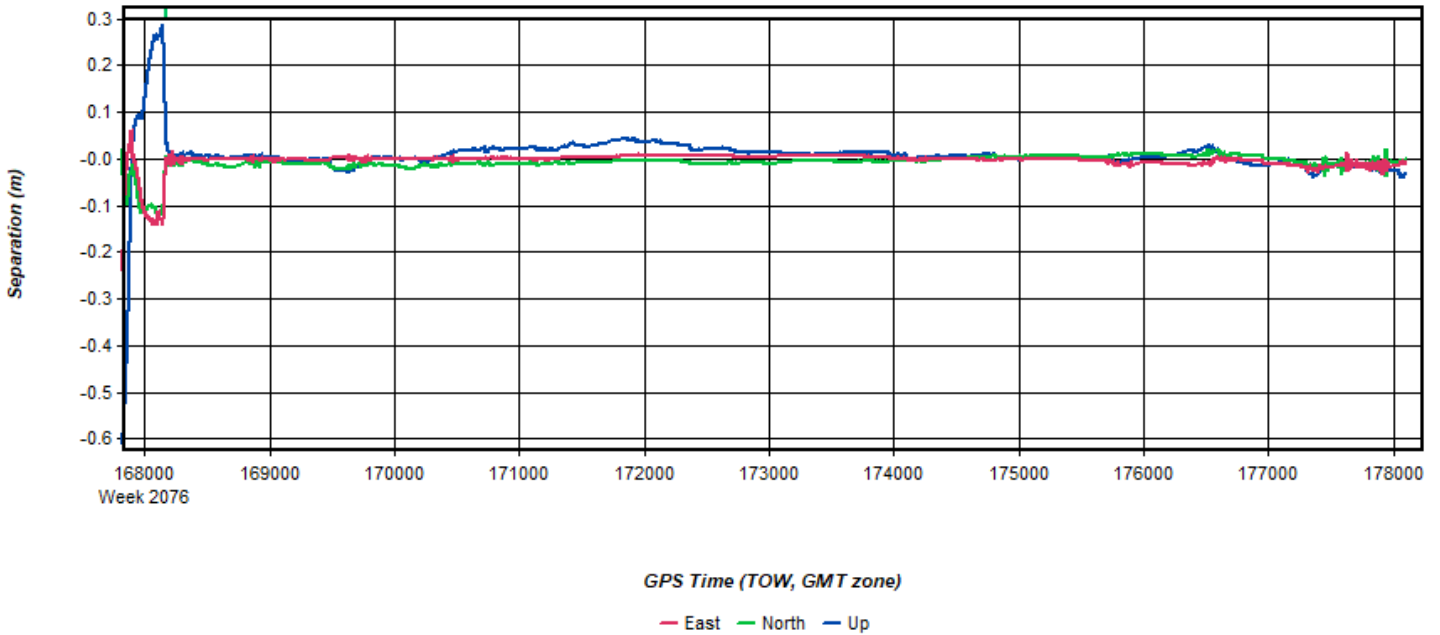


# Output Results for 20191021223600

Inertial Explorer Version 8.80.2305  
10/24/2019

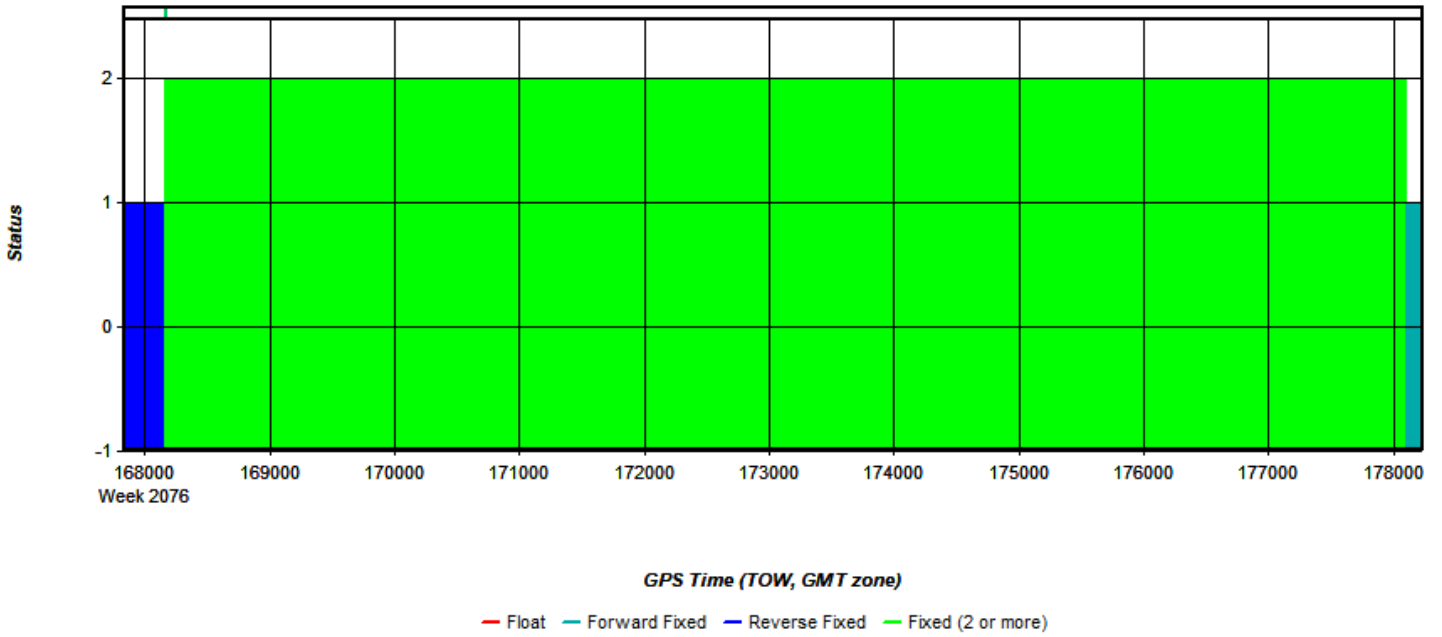
Object Smoothed TC Combined - Map failed--NULL bitmap handle

**Figure 1: 20191021223600 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot**



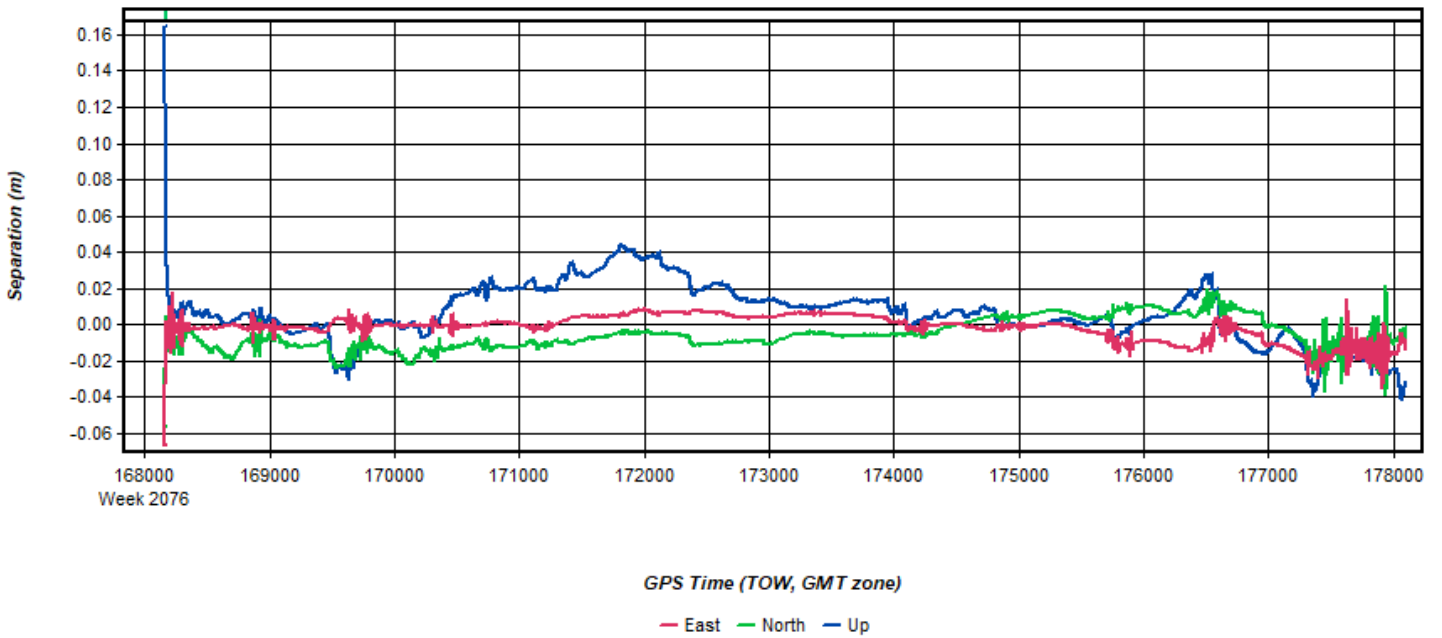
Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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**Figure 2: 20191021223600 [Smoothed TC Combined] - Float or Fixed Ambiguity**



Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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Figure 3: 20191021223600 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)



Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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Figure 4: 20191021223600 [Smoothed TC Combined] - Estimated Position Accuracy Plot

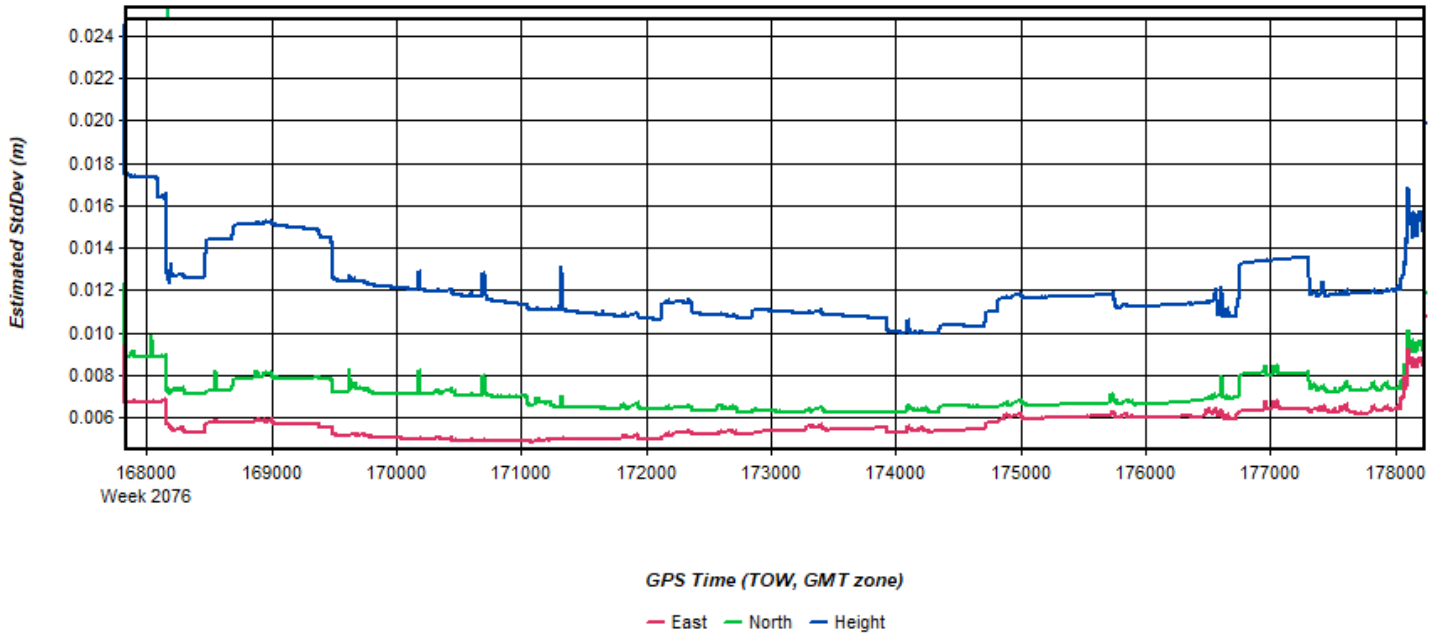


Figure 5: 20191021223600 [Smoothed TC Combined] - PDOP Plot

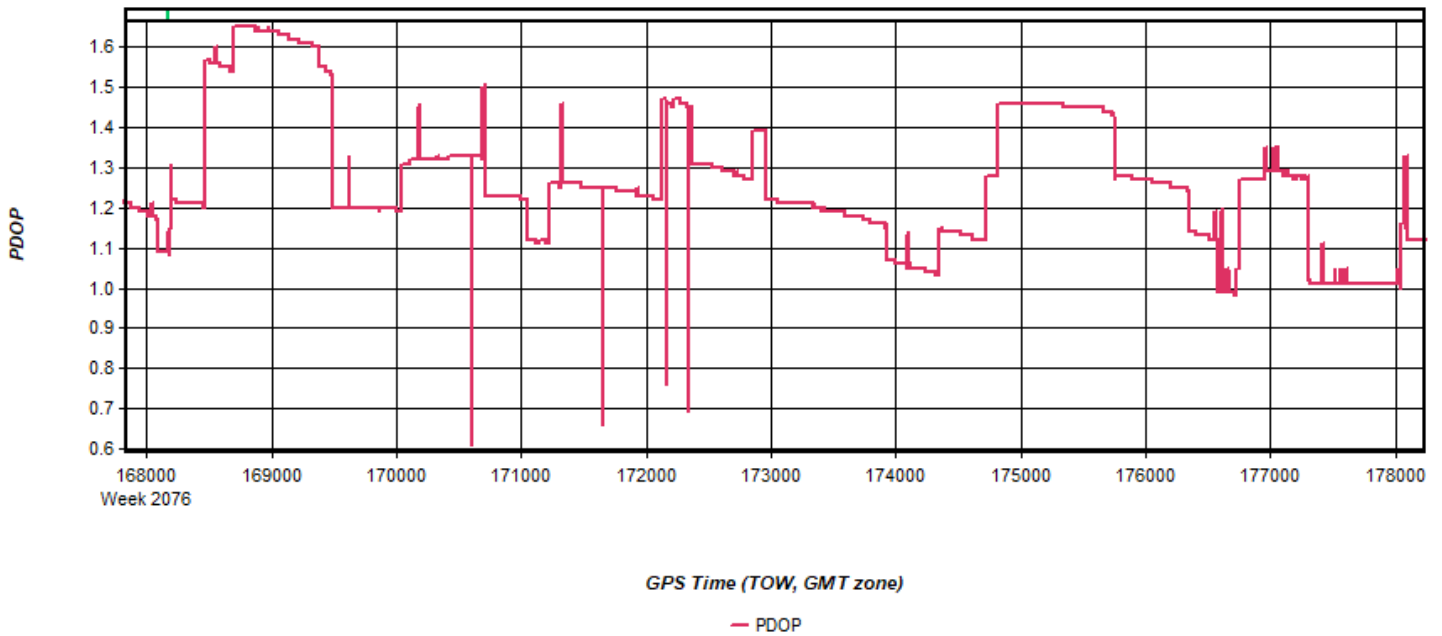
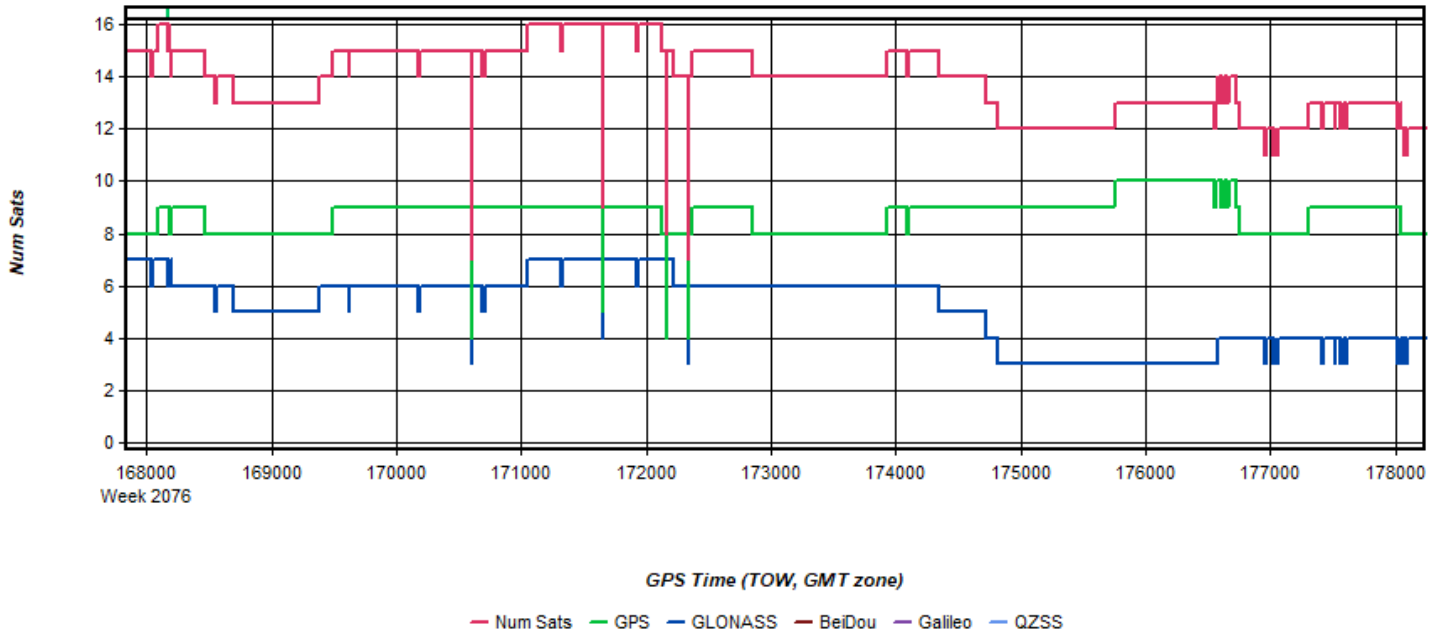
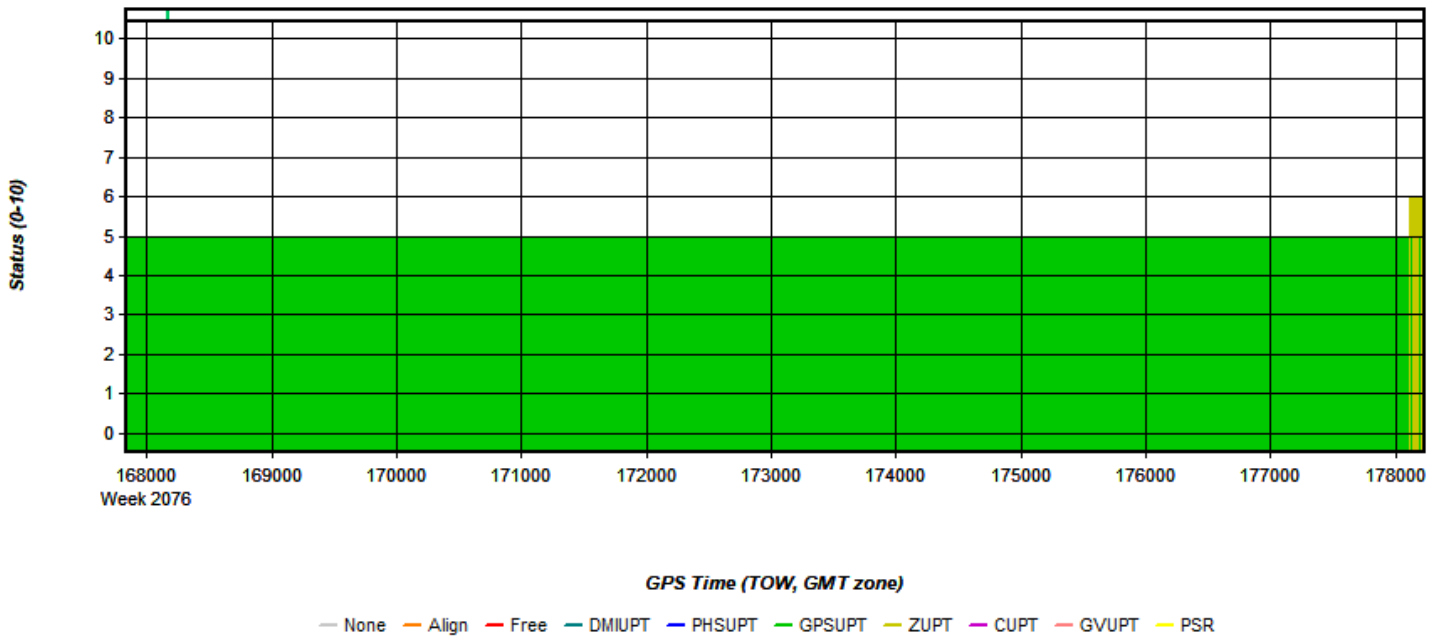


Figure 6: 20191021223600 [Smoothed TC Combined] - Number of Satellites Line Plot



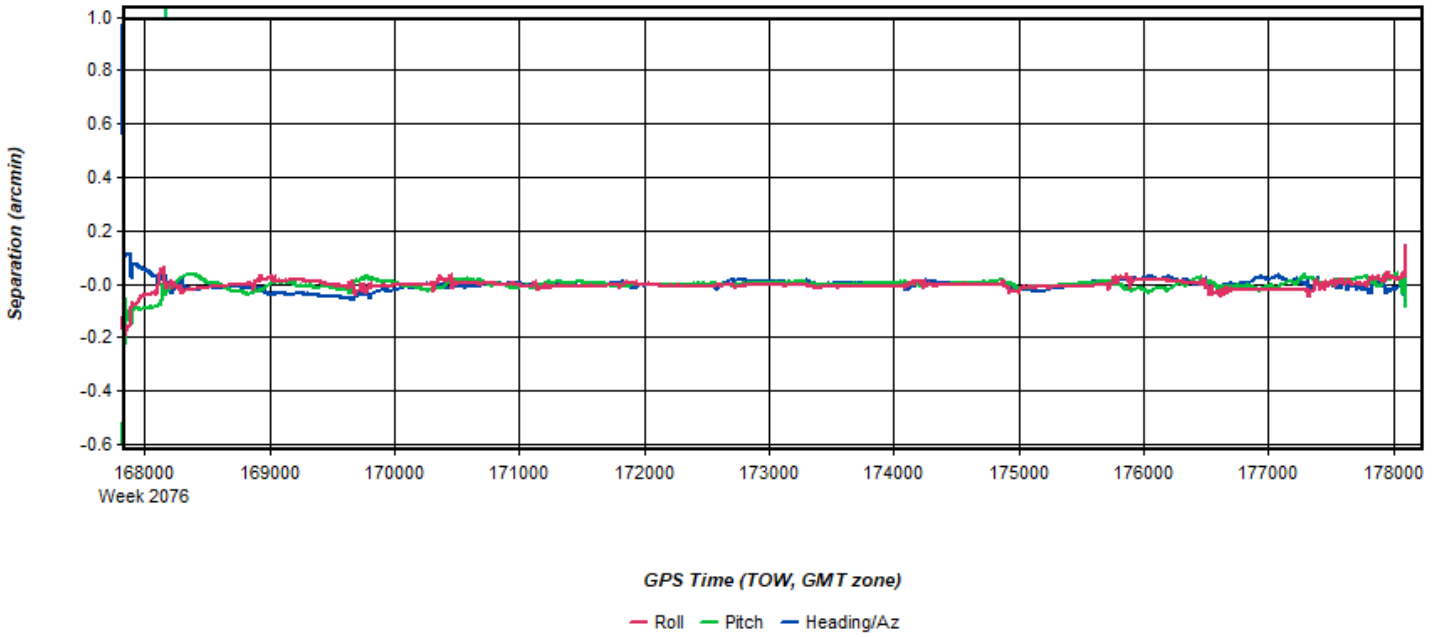
Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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Figure 7: 20191021223600 [Smoothed TC Combined] - Status flag for IMU processing



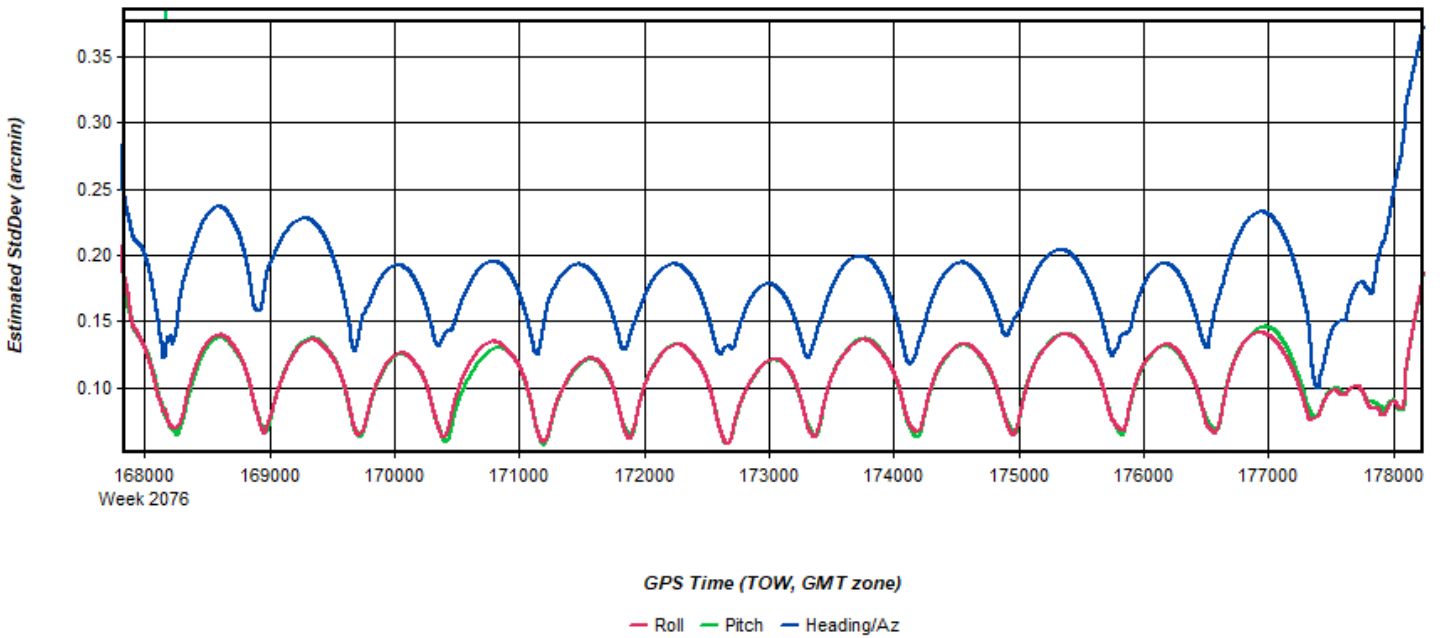
Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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Figure 8: 20191021223600 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



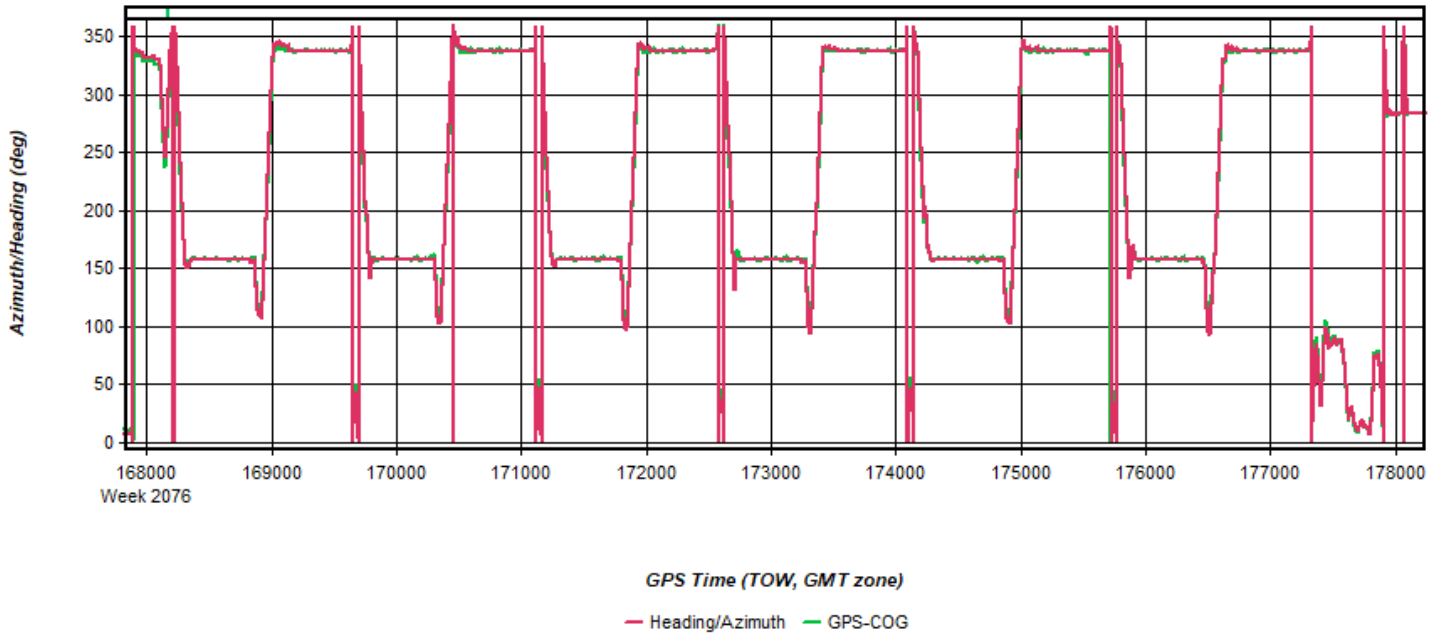
Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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Figure 9: 20191021223600 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



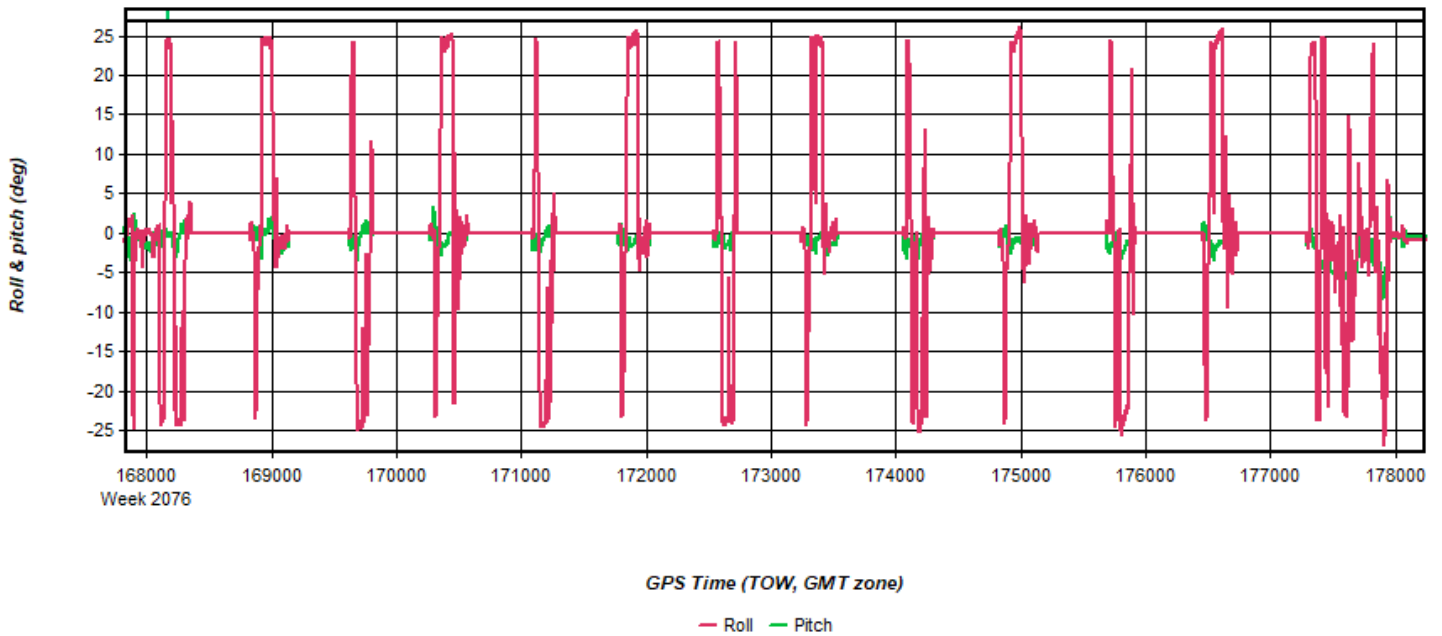
Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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Figure 10: 20191021223600 [Smoothed TC Combined] - Azimuth Plot



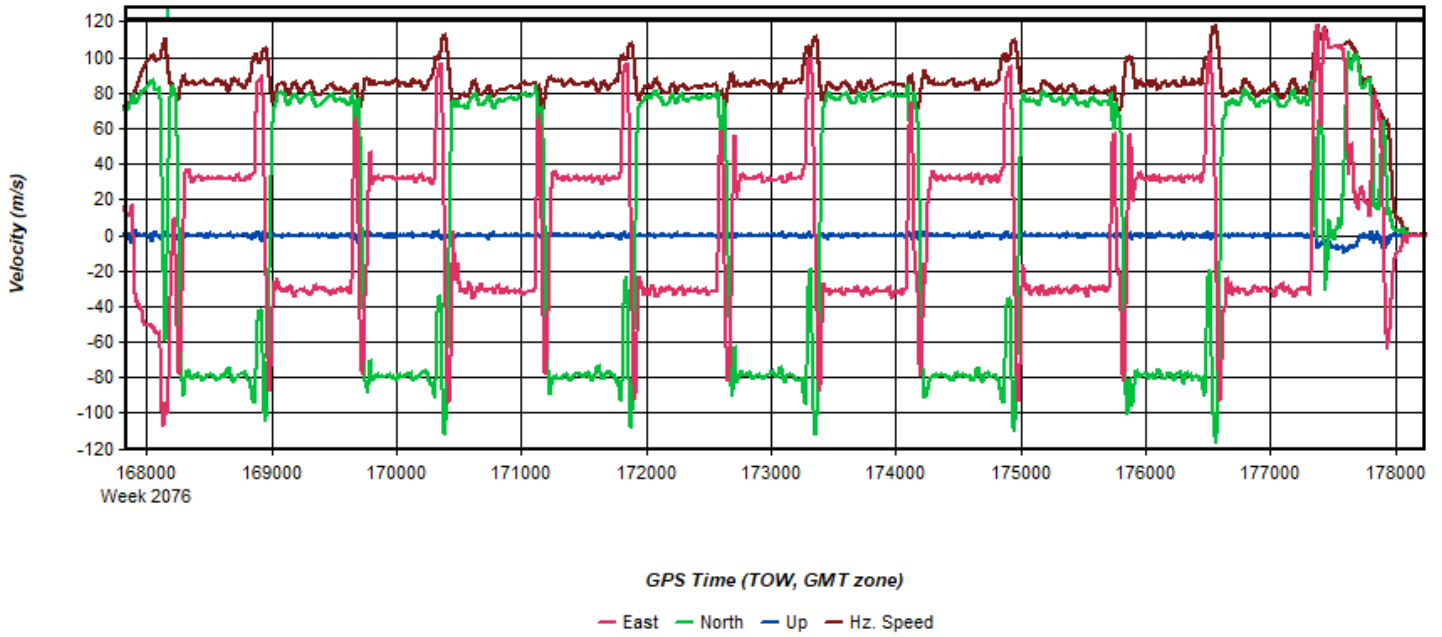
Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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Figure 11: 20191021223600 [Smoothed TC Combined] - Roll & Pitch Plot



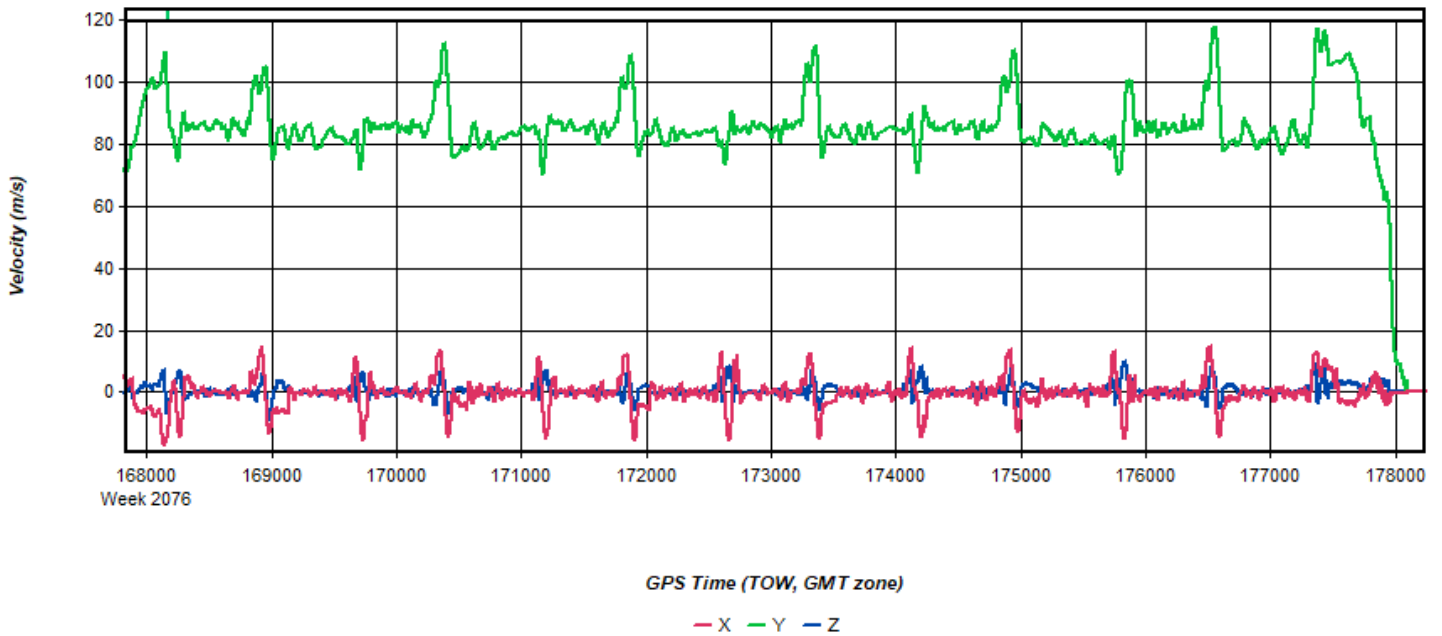
Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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Figure 12: 20191021223600 [Smoothed TC Combined] - Velocity Profile Plot



Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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Figure 13: 20191021223600 [Smoothed TC Combined] - Body Frame Velocity Plot



Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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Figure 14: 20191021223600 [Smoothed TC Combined] - Height Profile Plot

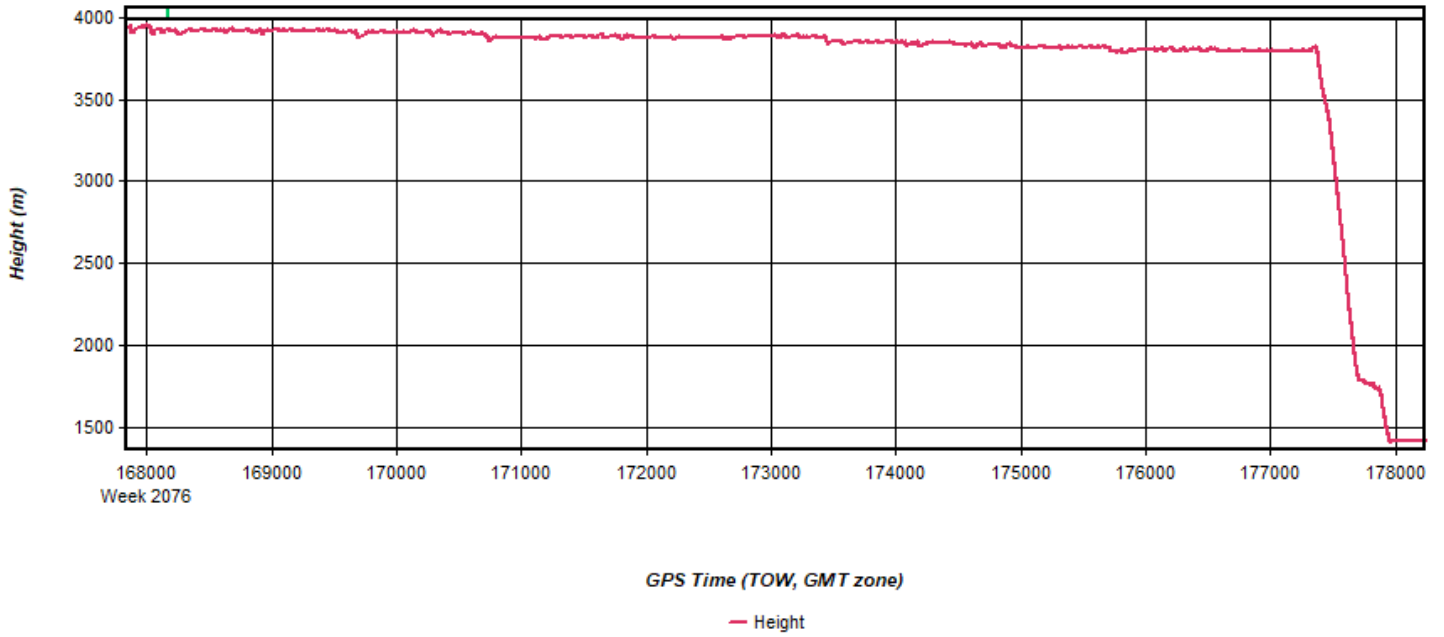


Figure 15: 20191021223600 [Smoothed TC Combined] - C/A Code Residual RMS Plot

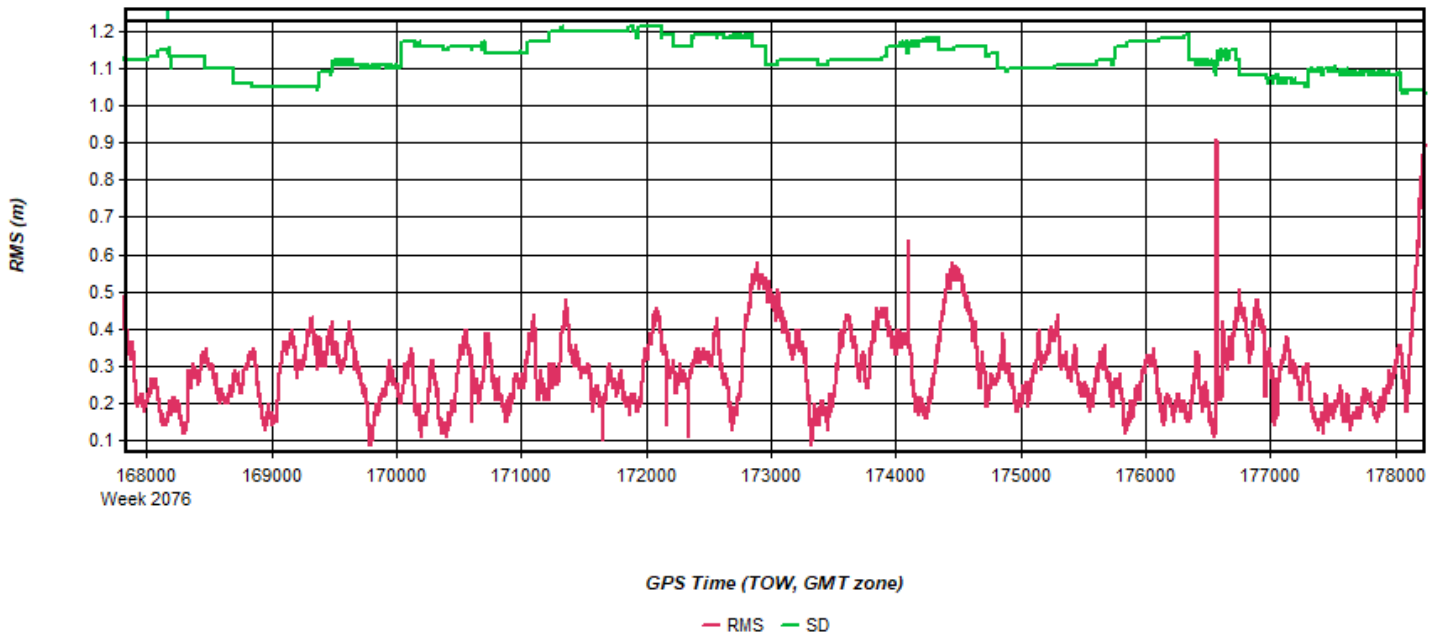


Figure 16: 20191021223600 [Smoothed TC Combined] - Carrier Residual RMS Plot



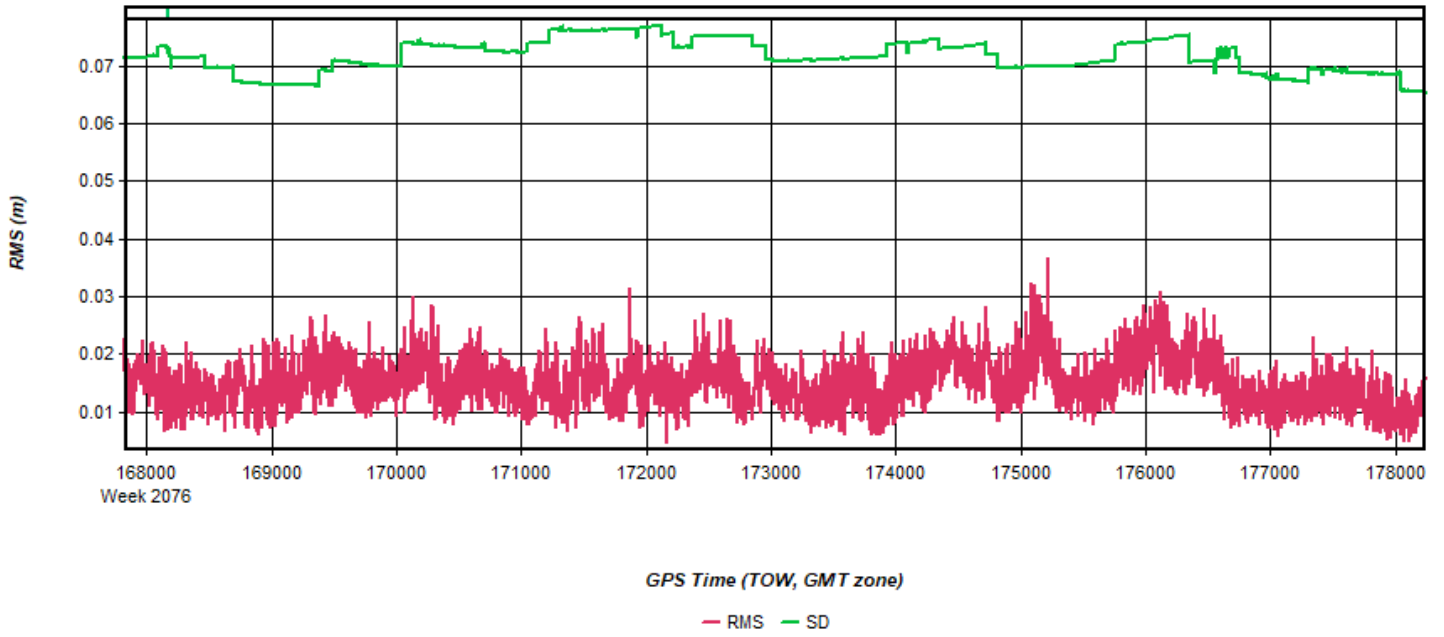


Figure 17: 20191021223600 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot

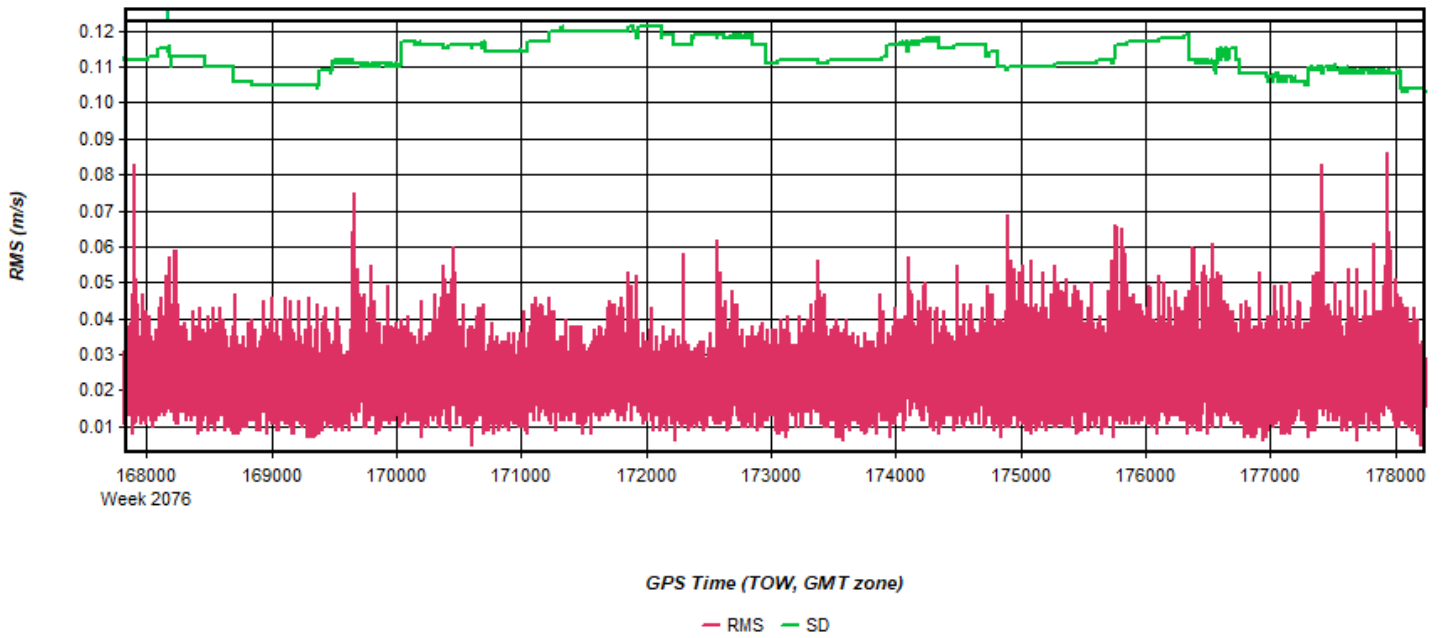
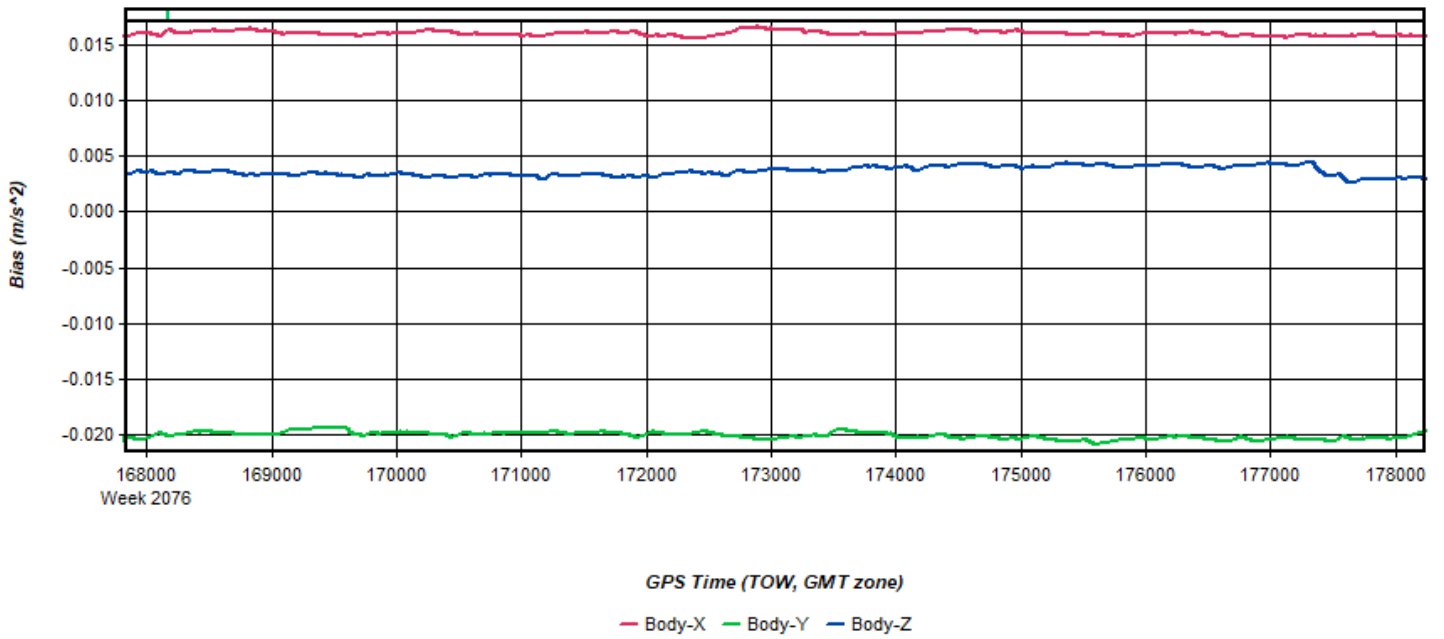
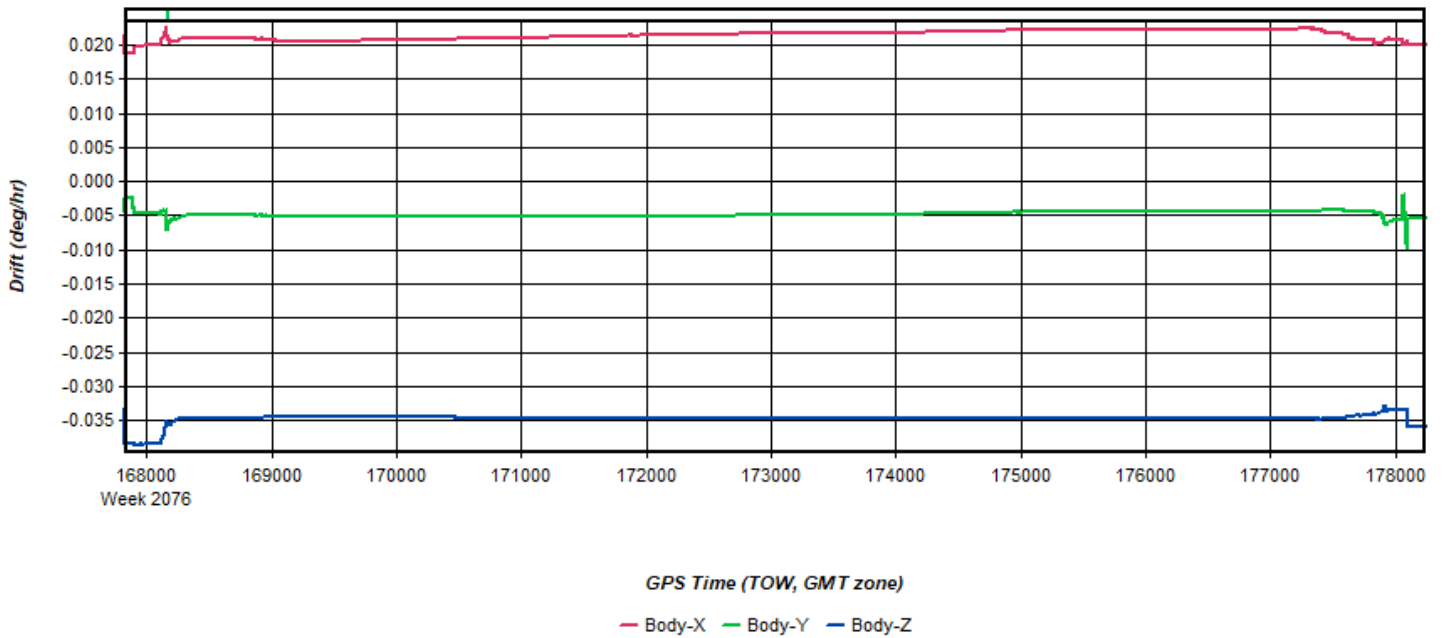


Figure 18: 20191021223600 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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Figure 19: 20191021223600 [Smoothed TC Combined] - Gyro Drift Plot

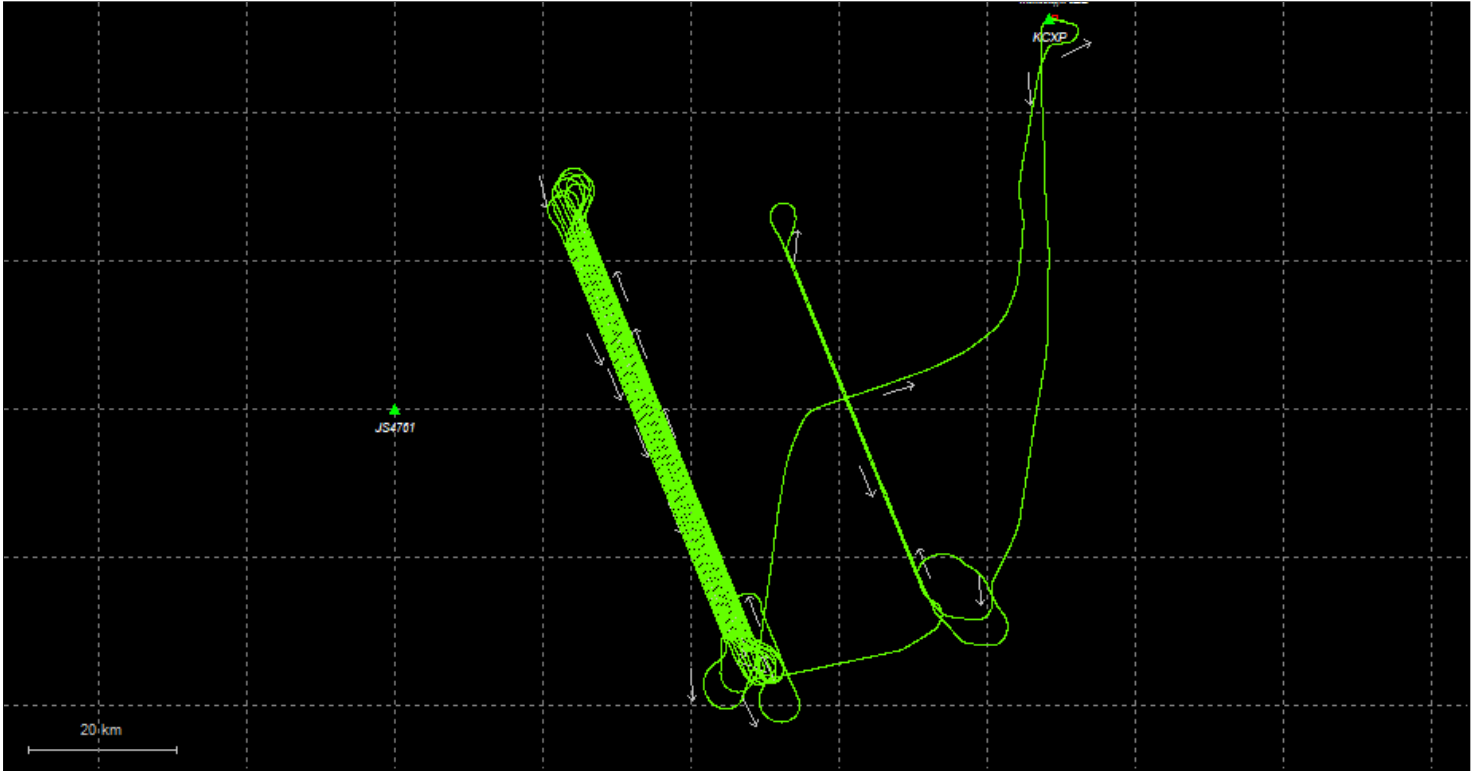


Process	20191021223600	by Unknown	on 10/24/2019	at 10:06:15
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# Output Results for 20191022155040

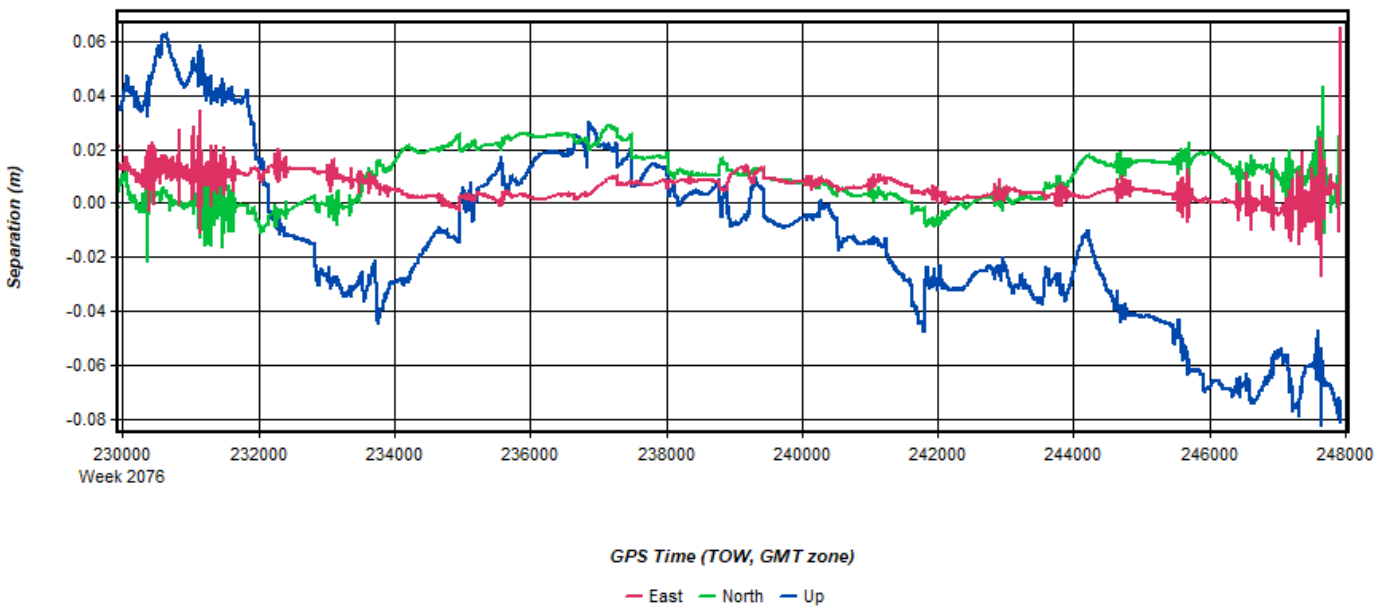
Inertial Explorer Version 8.80.2305  
10/26/2019

Figure 1: Smoothed TC Combined - Map



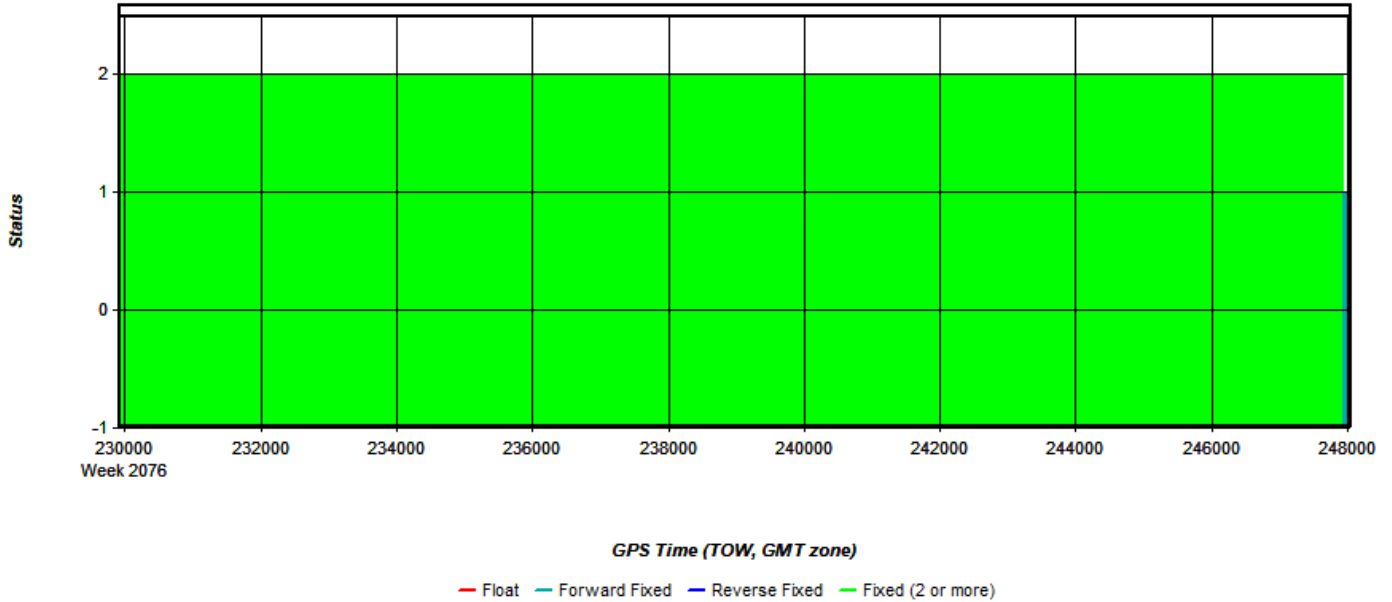
Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 2: 20191022155040 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



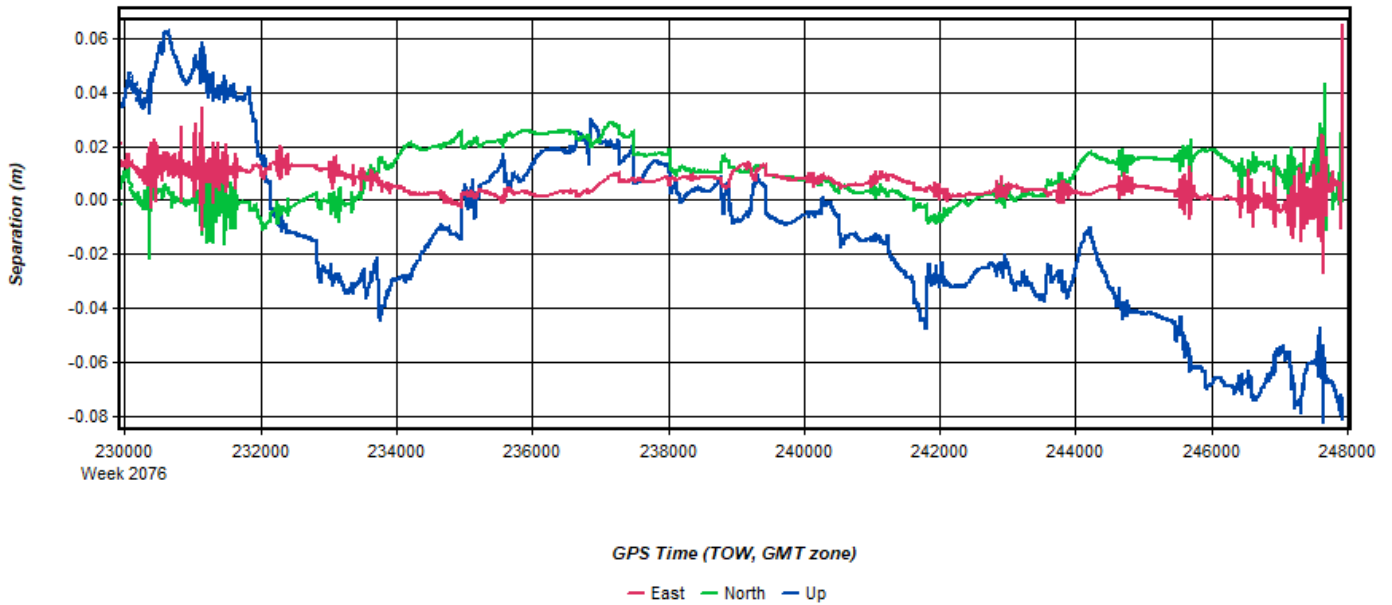
Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 3: 20191022155040 [Smoothed TC Combined] - Float or Fixed Ambiguity



Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 4: 20191022155040 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)



Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 5: 20191022155040 [Smoothed TC Combined] - Estimated Position Accuracy Plot

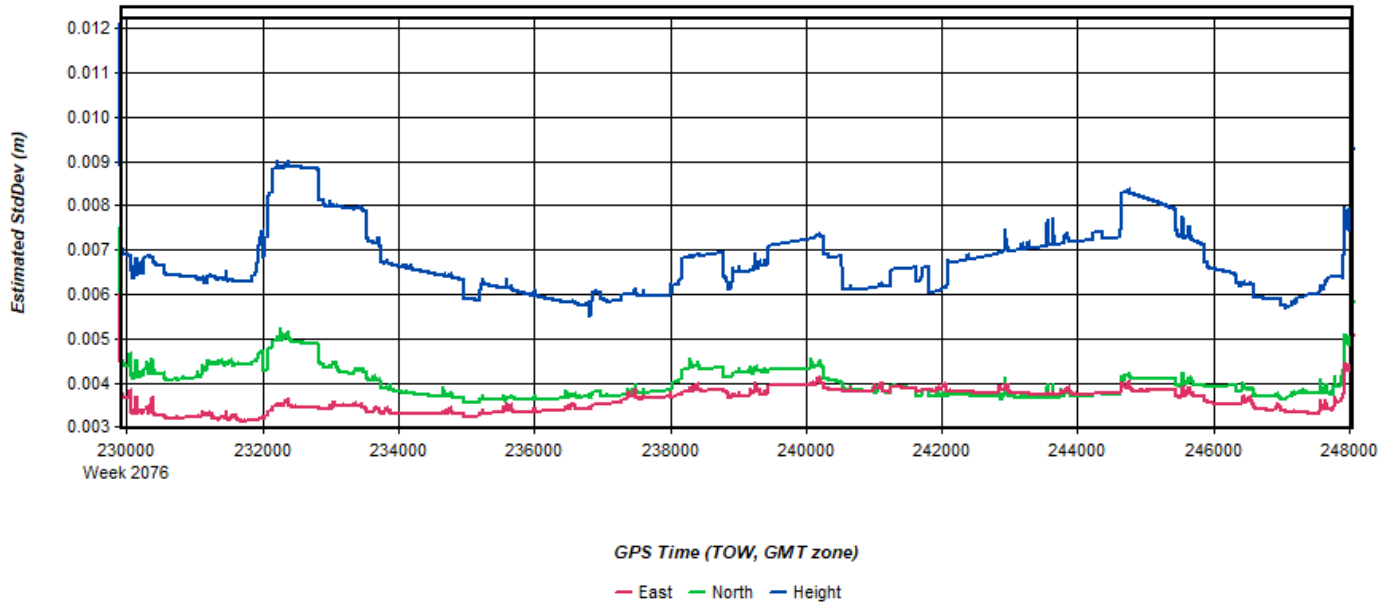


Figure 6: 20191022155040 [Smoothed TC Combined] - PDOP Plot

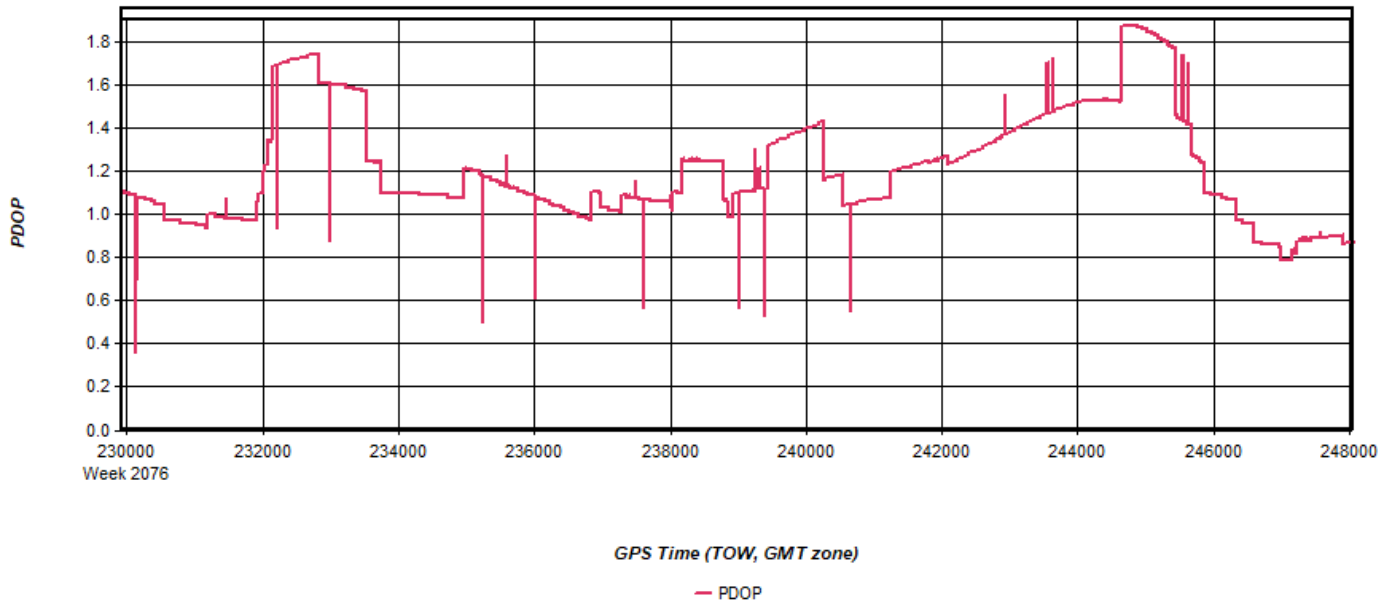
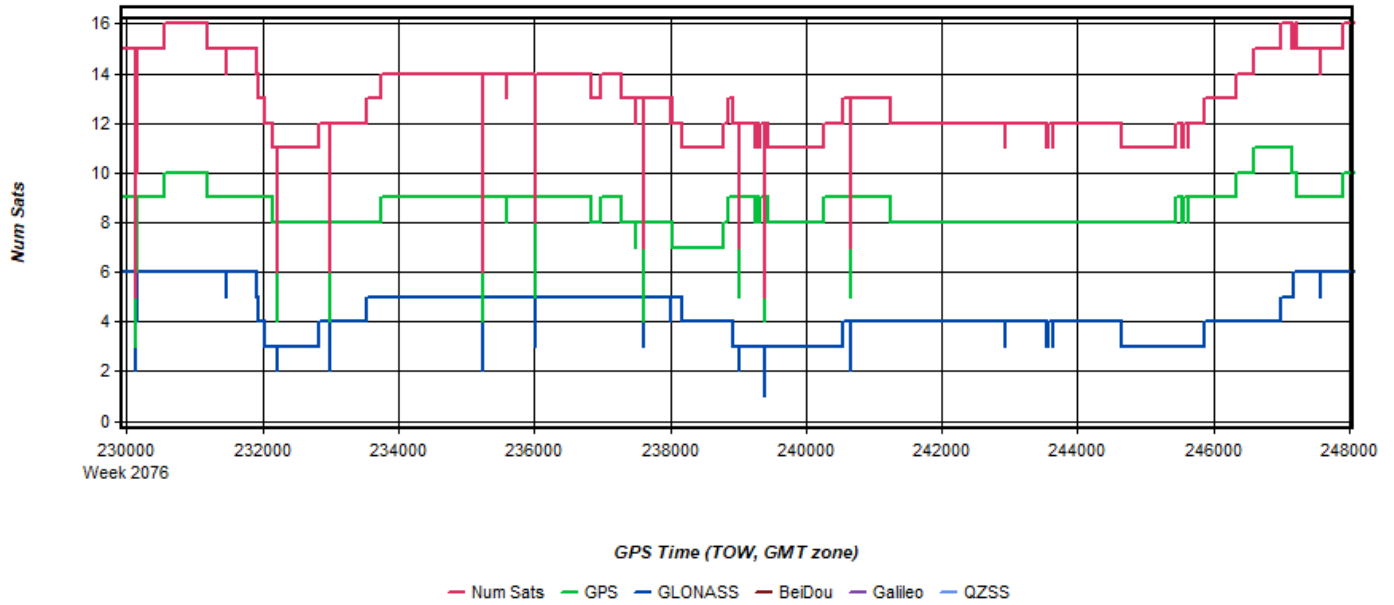
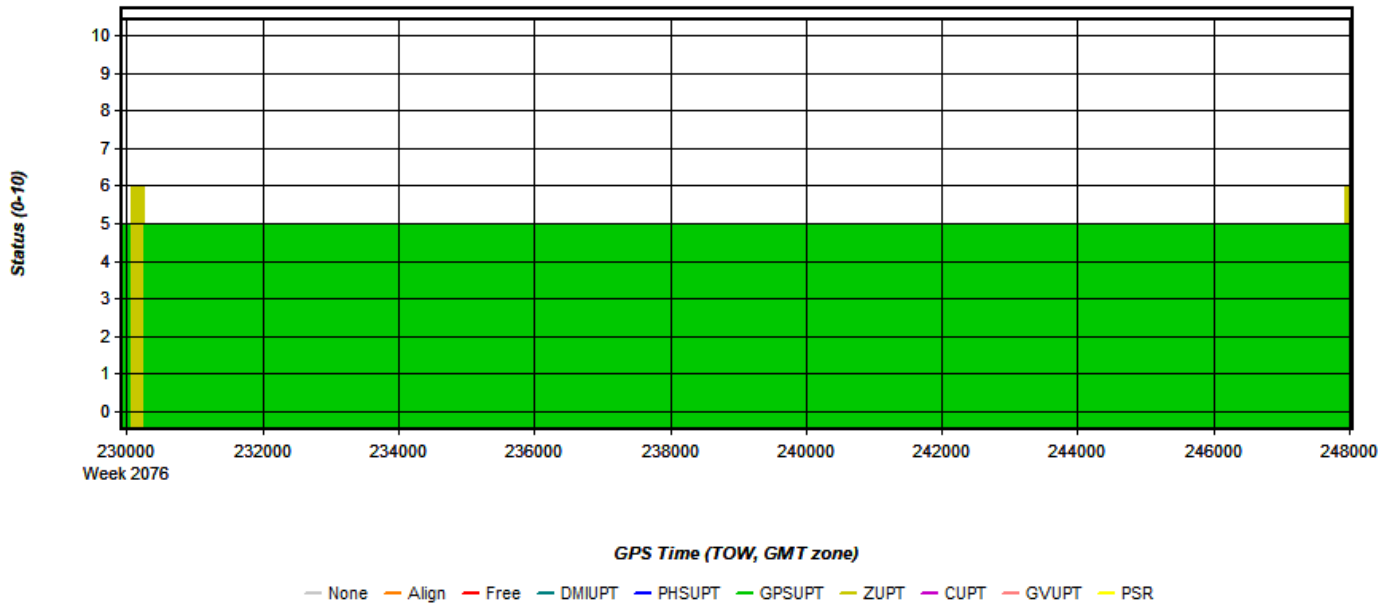


Figure 7: 20191022155040 [Smoothed TC Combined] - Number of Satellites Line Plot



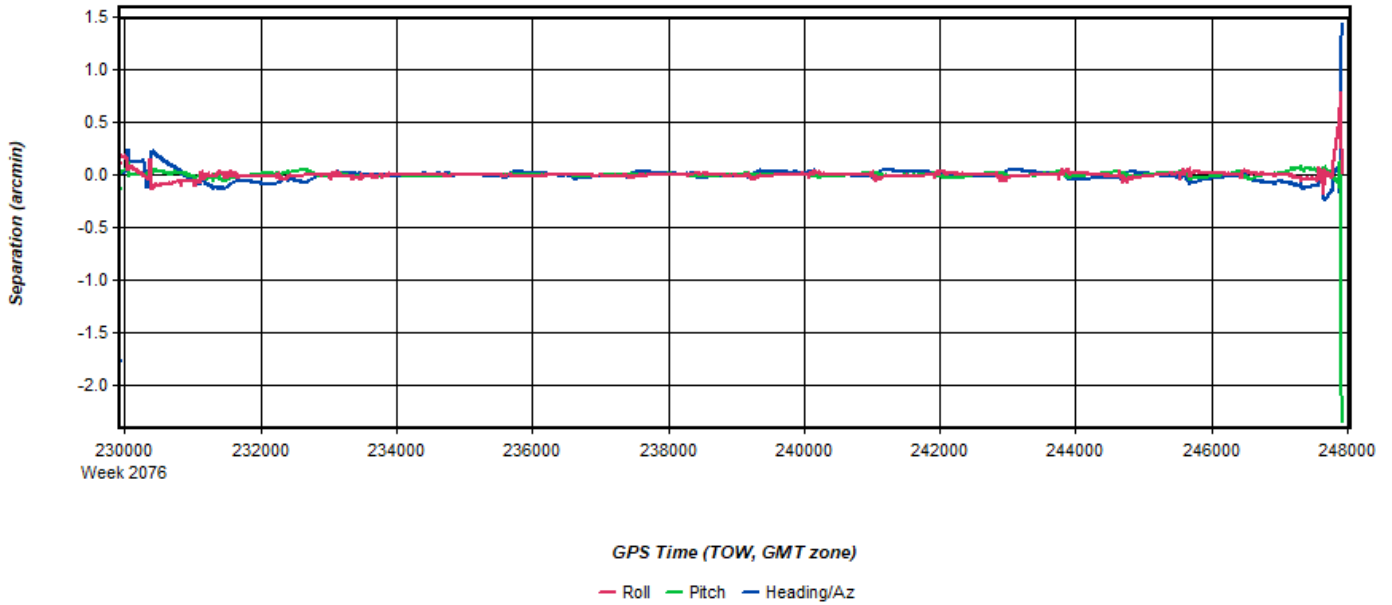
Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 8: 20191022155040 [Smoothed TC Combined] - Status flag for IMU processing



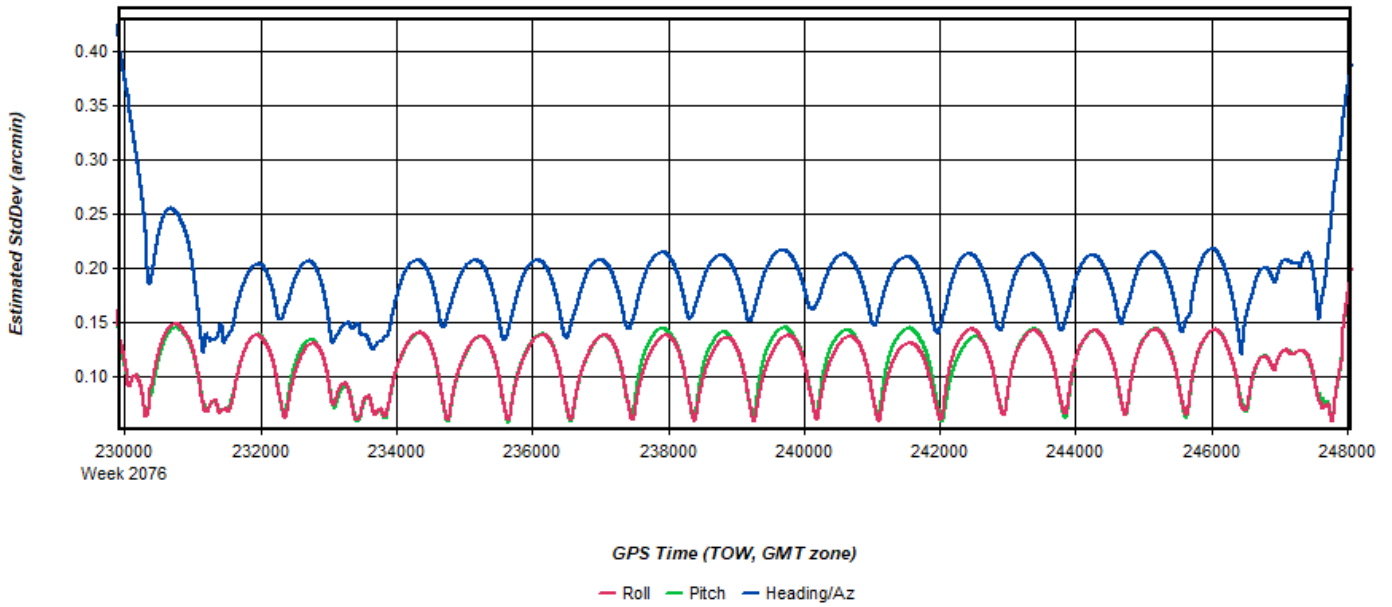
Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 9: 20191022155040 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



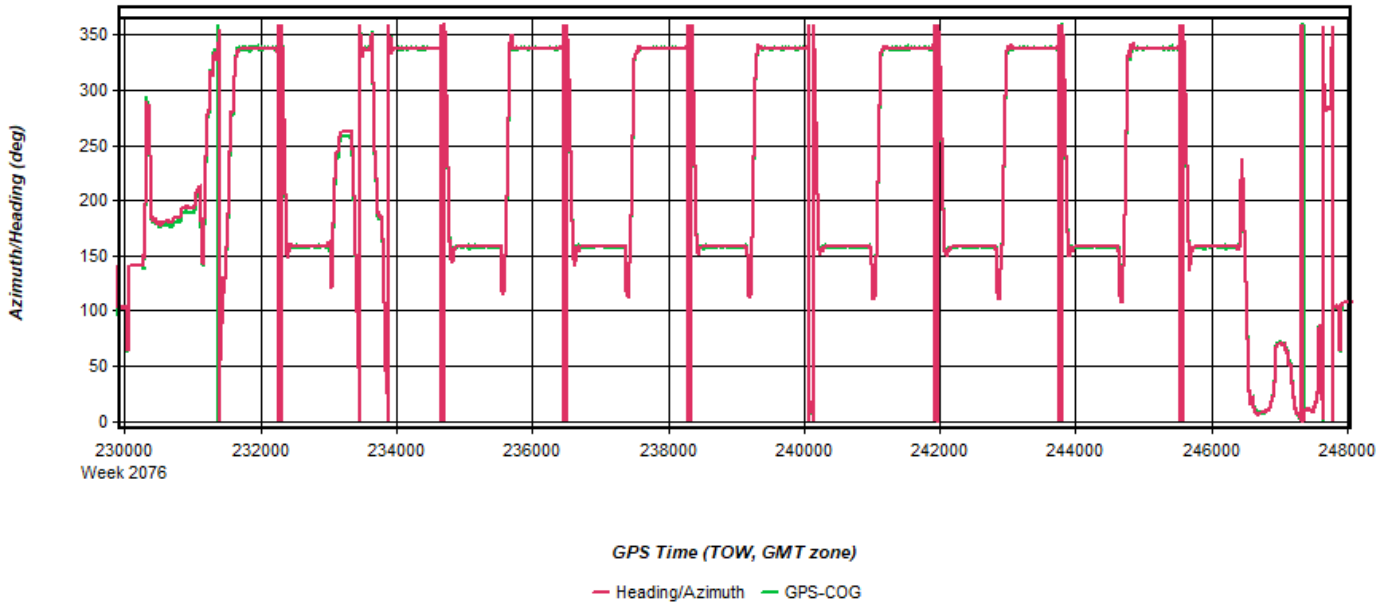
Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 10: 20191022155040 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



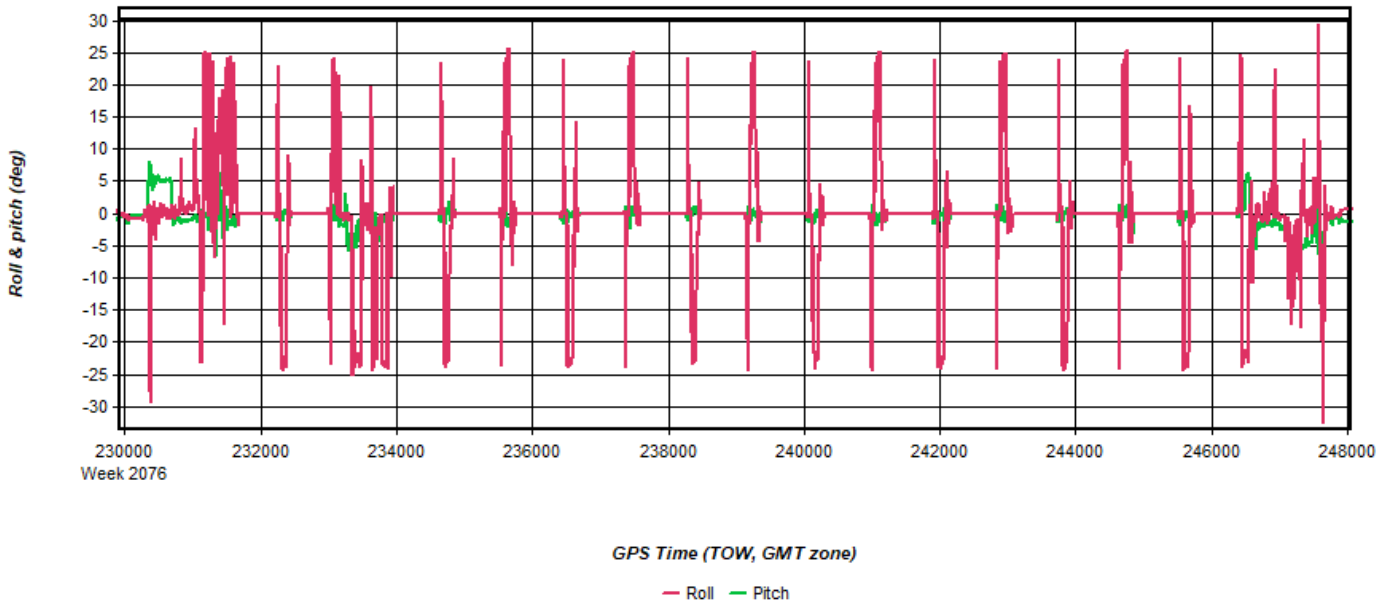
Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 11: 20191022155040 [Smoothed TC Combined] - Azimuth Plot



Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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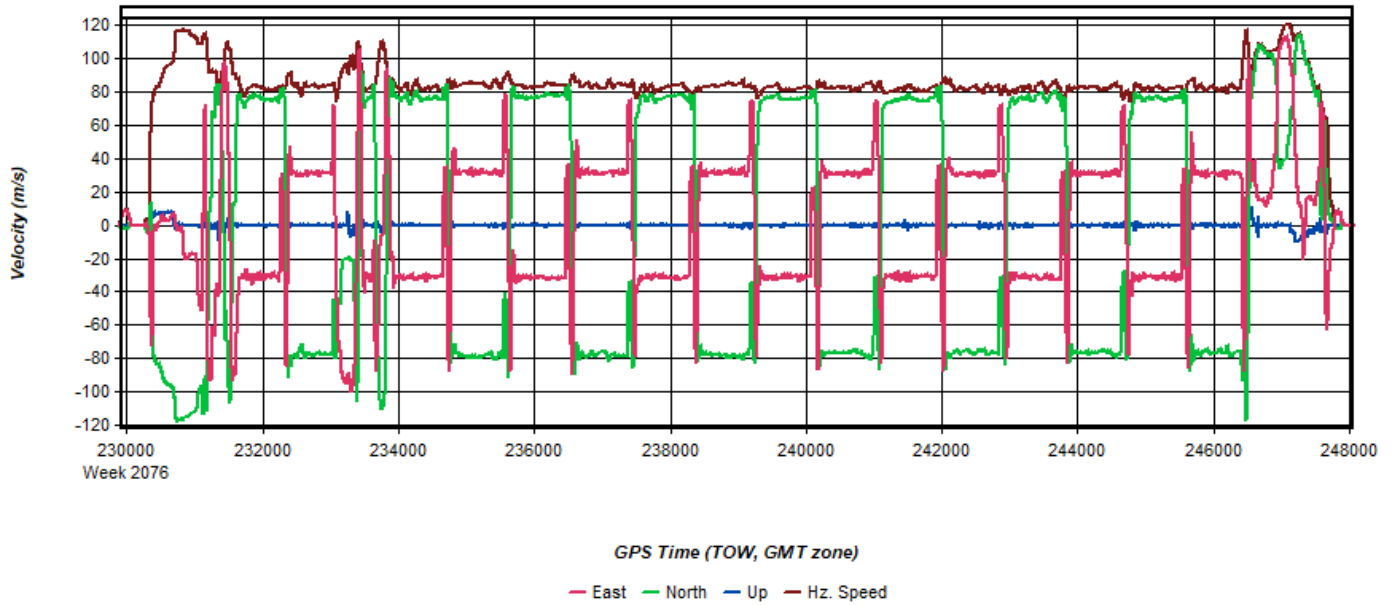
Figure 12: 20191022155040 [Smoothed TC Combined] - Roll & Pitch Plot



Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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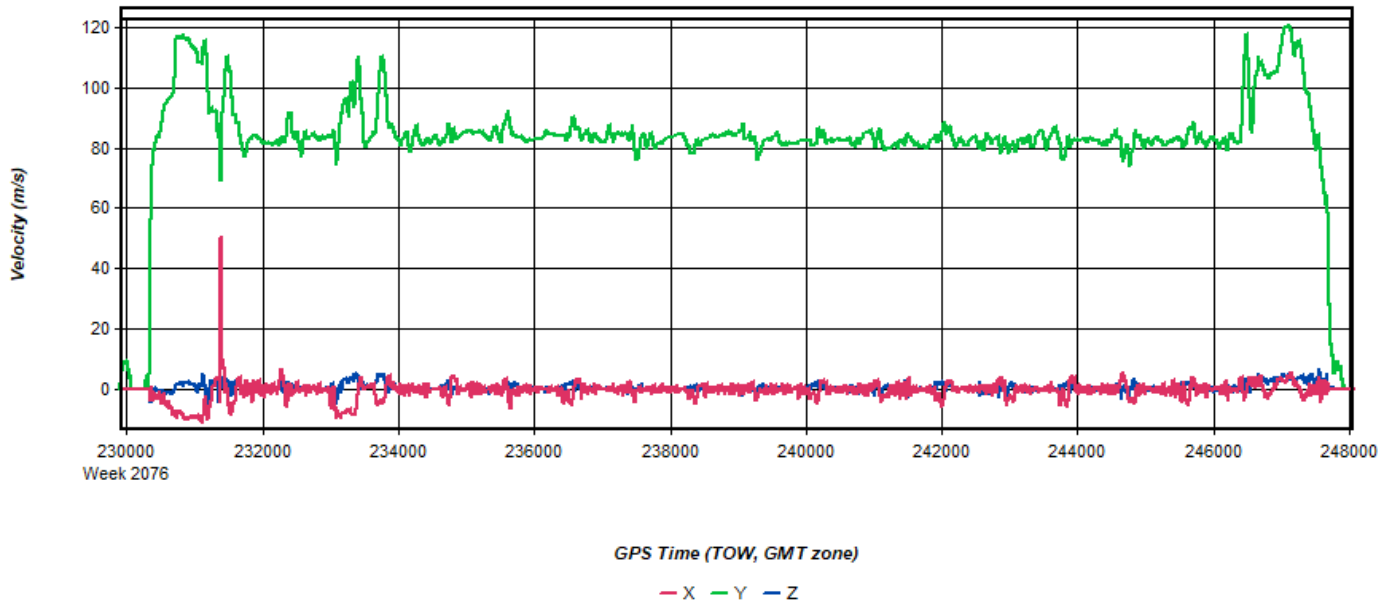
Figure 13: 20191022155040 [Smoothed TC Combined] - Velocity Profile Plot





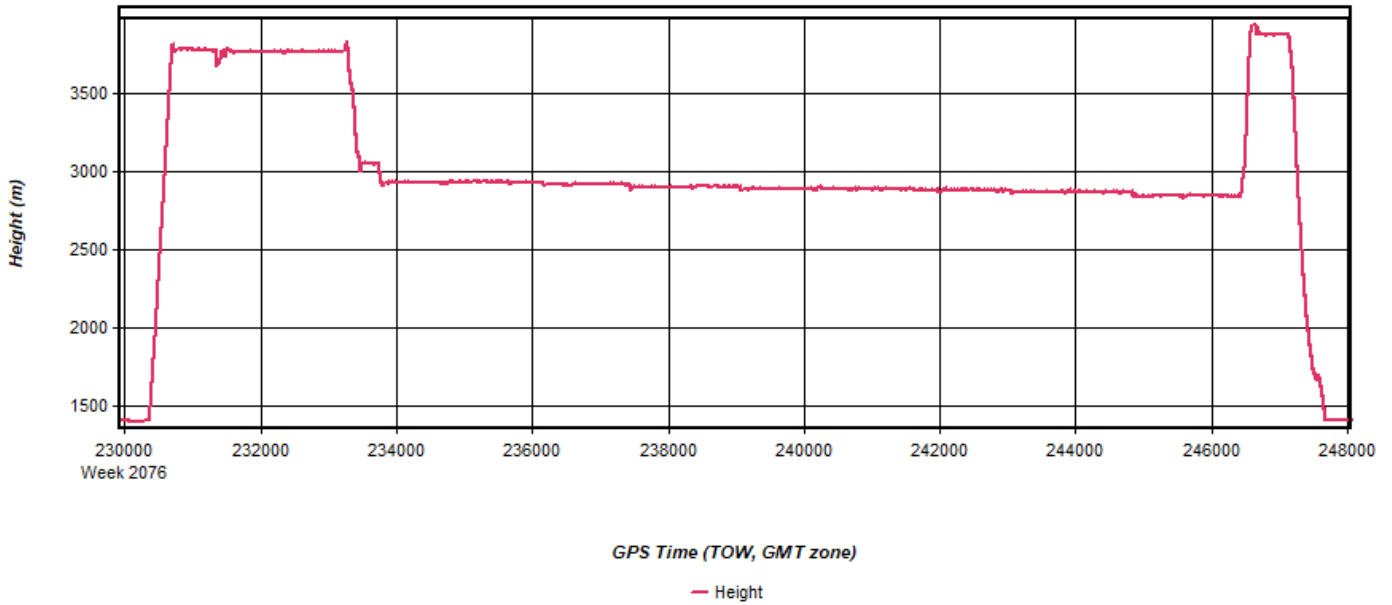
Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 14: 20191022155040 [Smoothed TC Combined] - Body Frame Velocity Plot



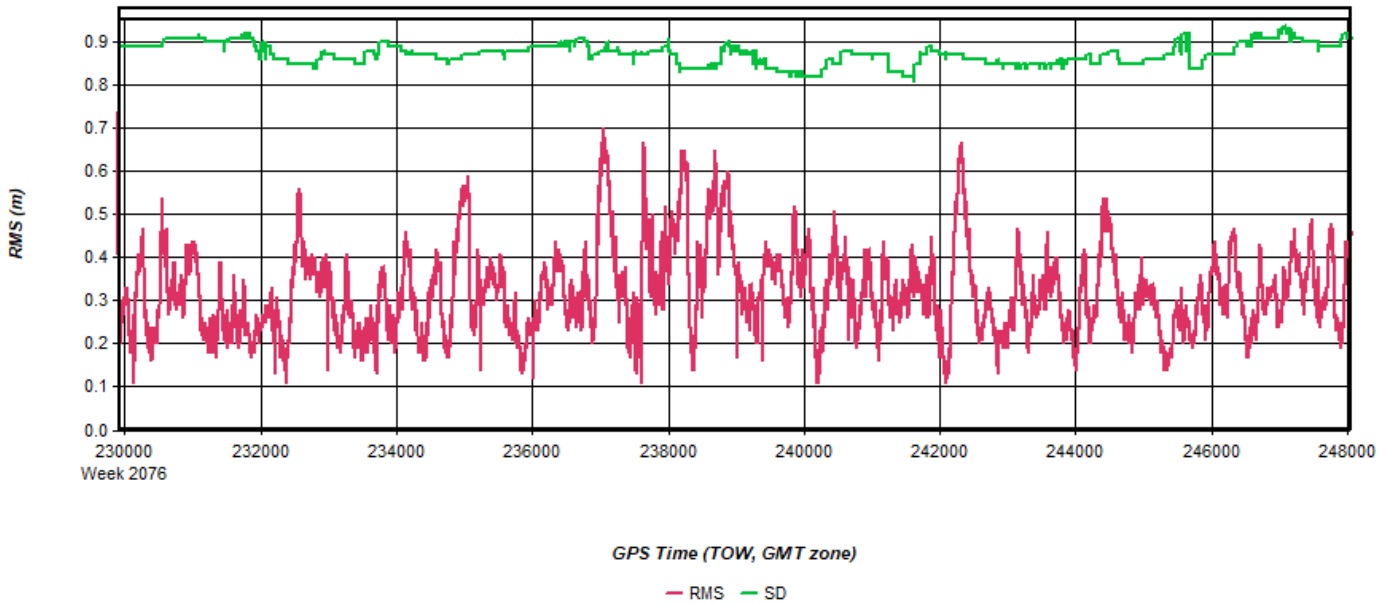
Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 15: 20191022155040 [Smoothed TC Combined] - Height Profile Plot



Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 16: 20191022155040 [Smoothed TC Combined] - C/A Code Residual RMS Plot



Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 17: 20191022155040 [Smoothed TC Combined] - Carrier Residual RMS Plot

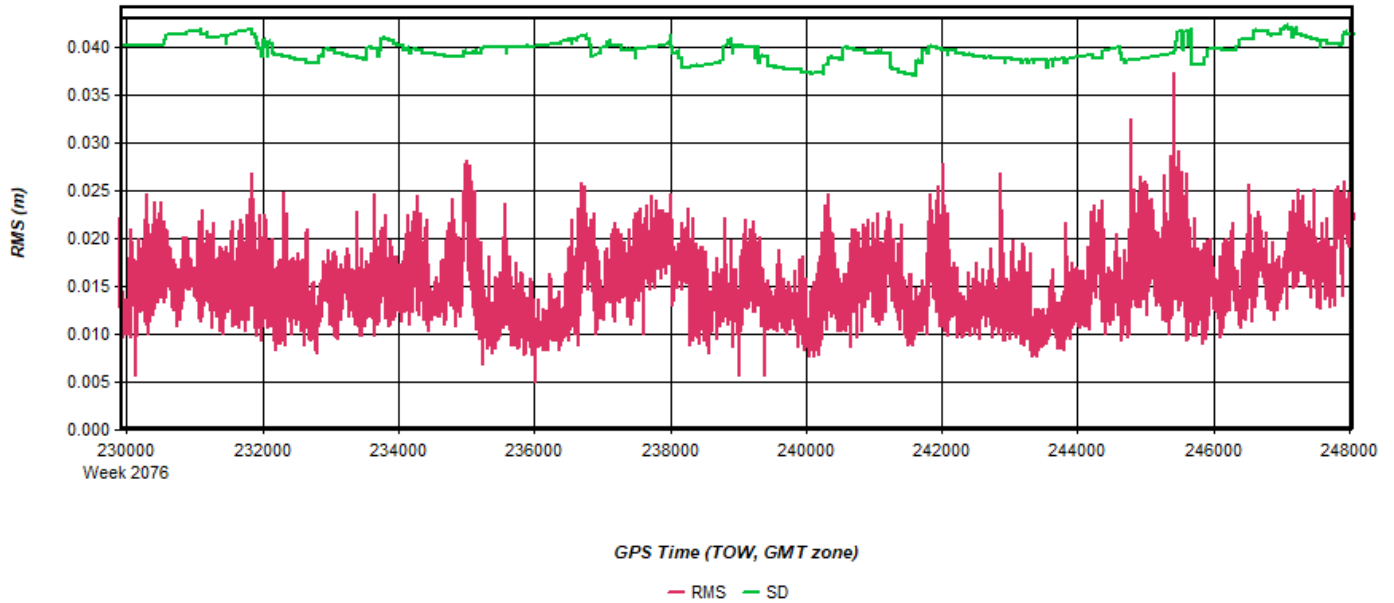


Figure 18: 20191022155040 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot

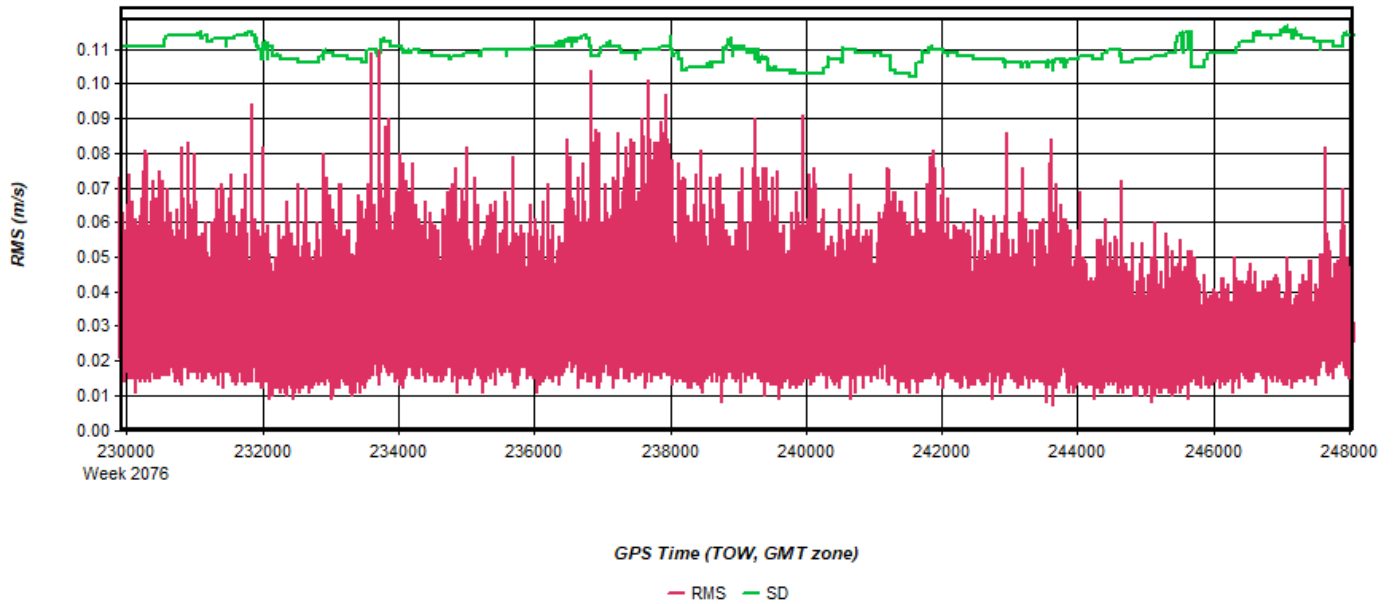
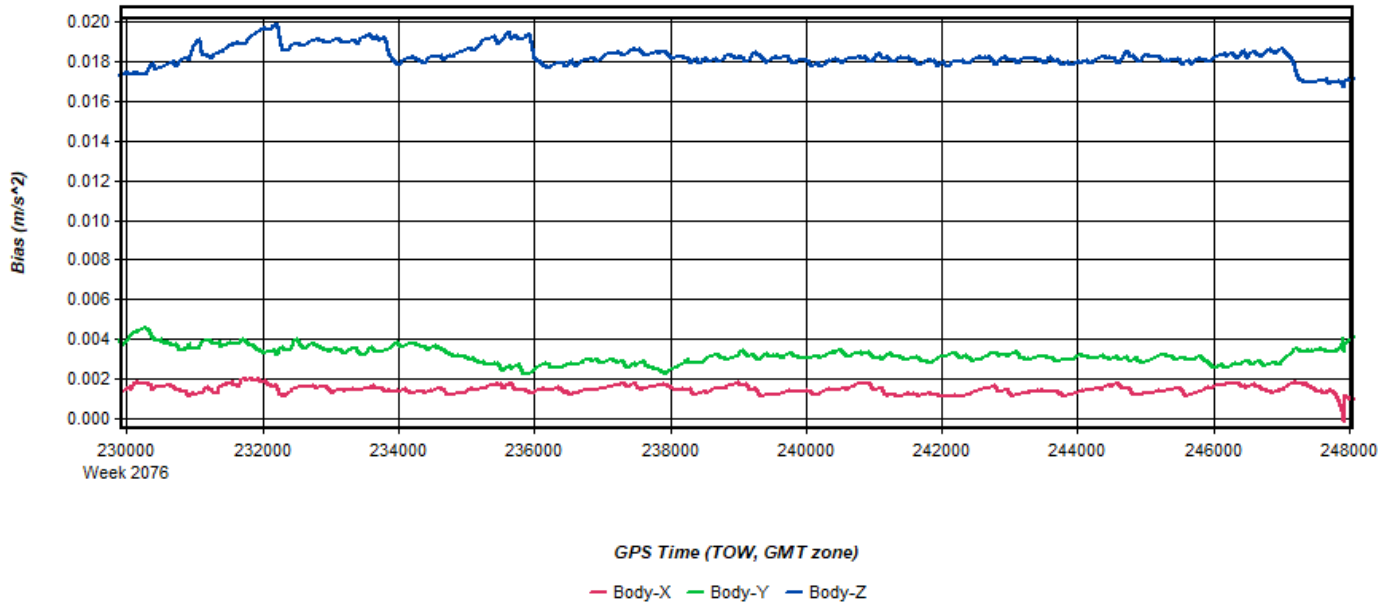
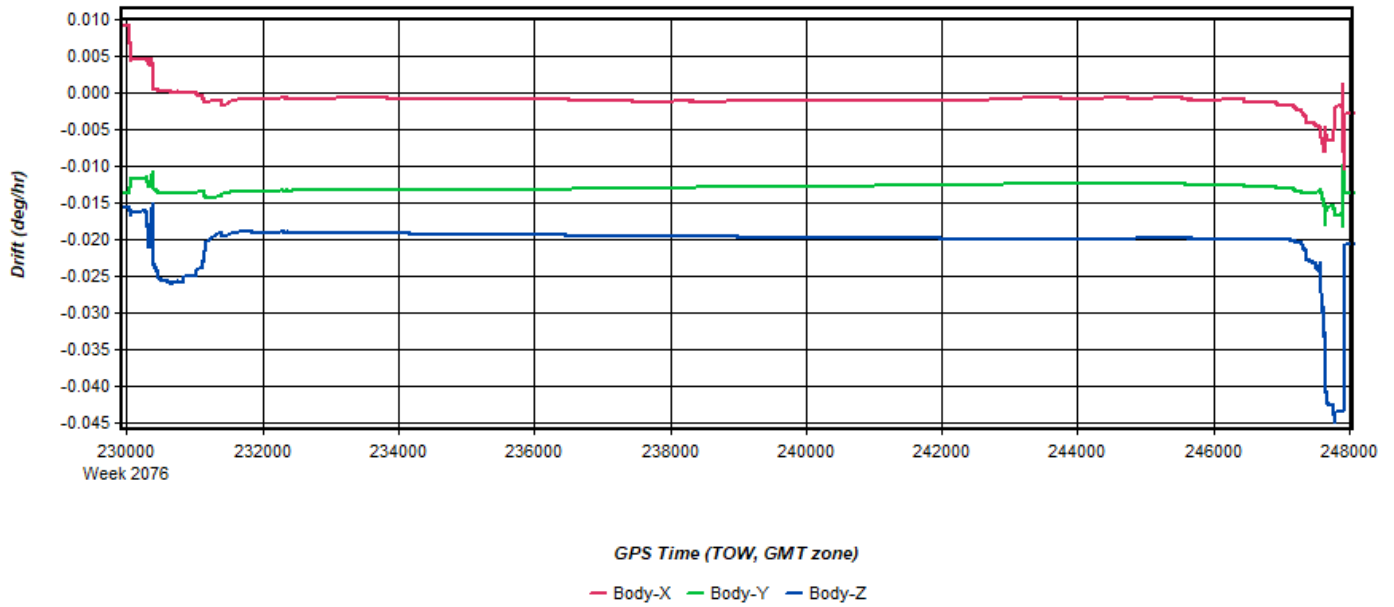


Figure 19: 20191022155040 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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Figure 20: 20191022155040 [Smoothed TC Combined] - Gyro Drift Plot

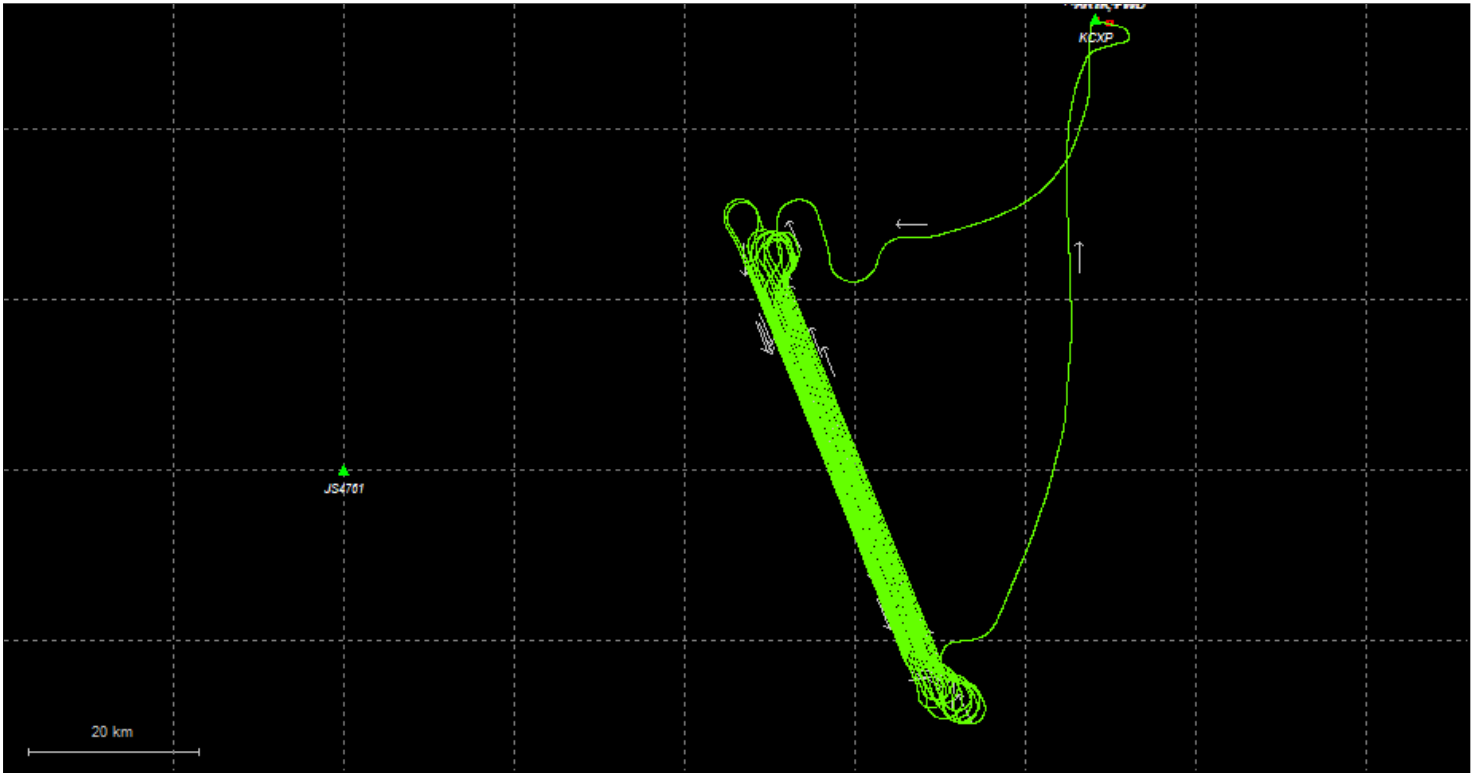


Process	20191022155040	by Unknown	on 10/26/2019	at 12:36:22
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# Output Results for 20191022211545

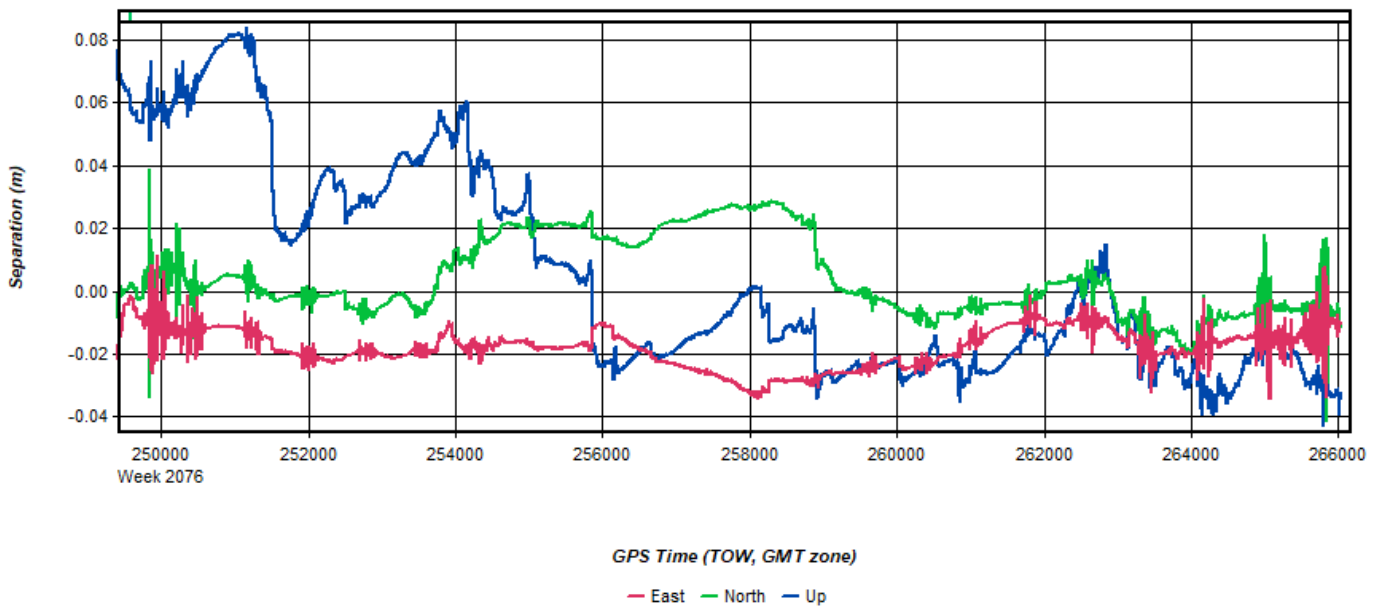
Inertial Explorer Version 8.80.2305  
10/26/2019

Figure 1: Smoothed TC Combined - Map



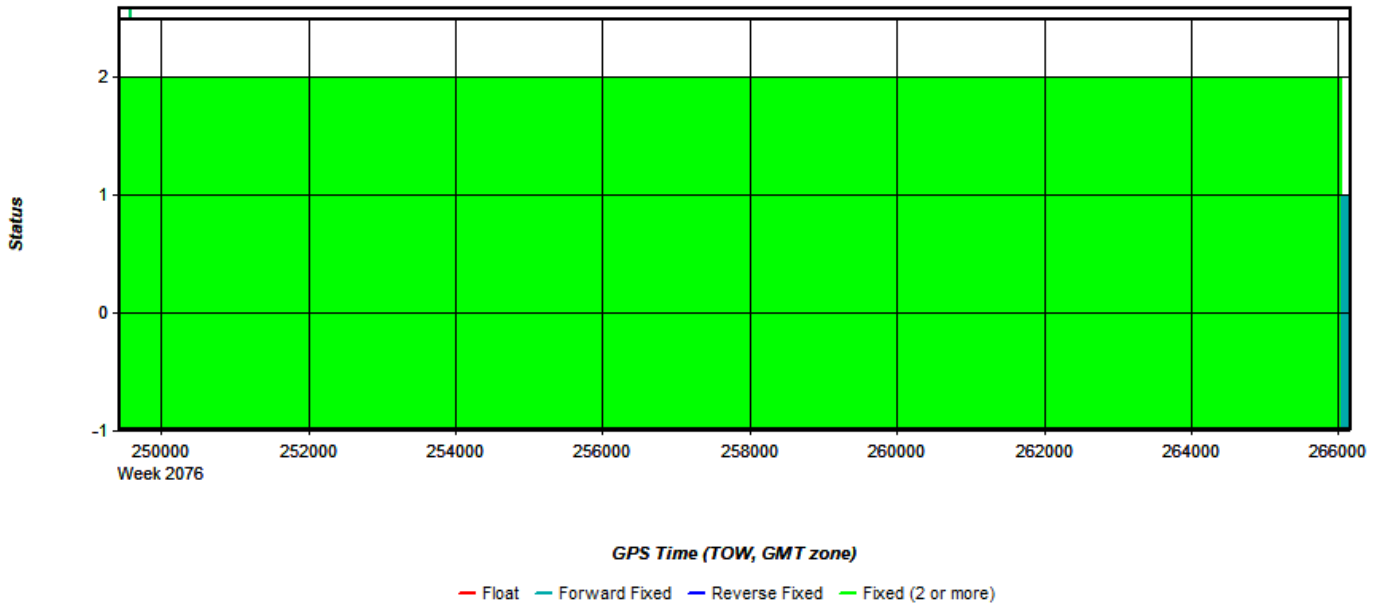
Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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Figure 2: 20191022211545 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



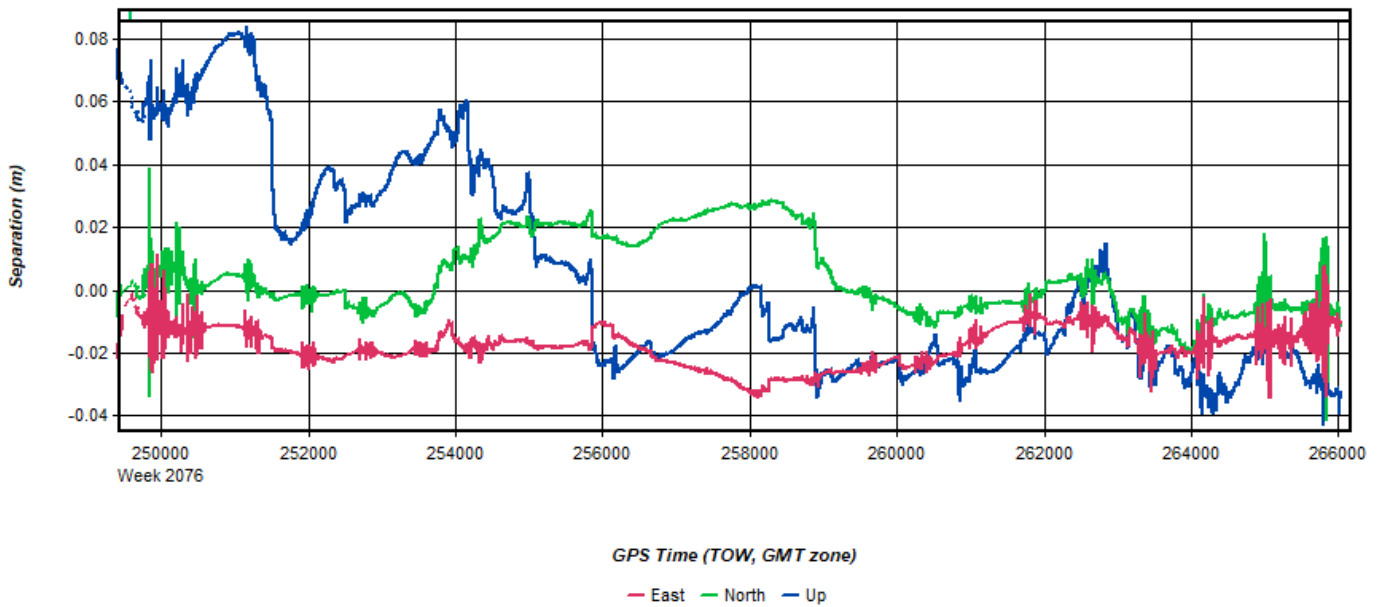
Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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Figure 3: 20191022211545 [Smoothed TC Combined] - Float or Fixed Ambiguity



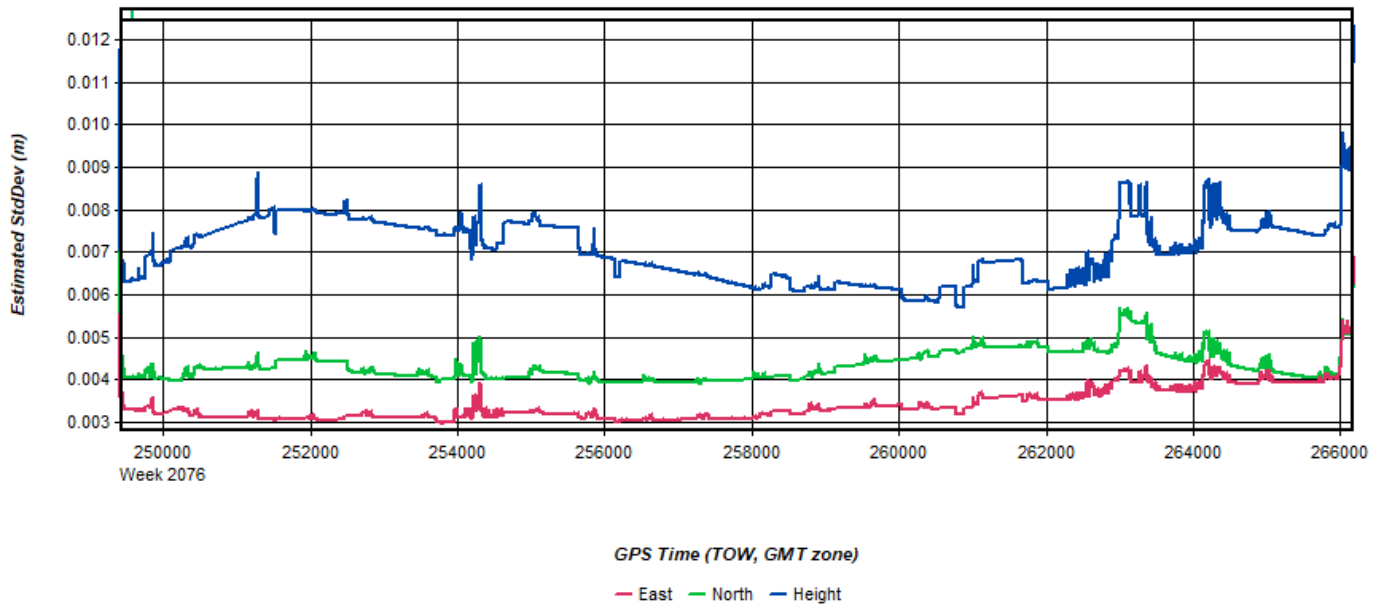
Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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Figure 4: 20191022211545 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)



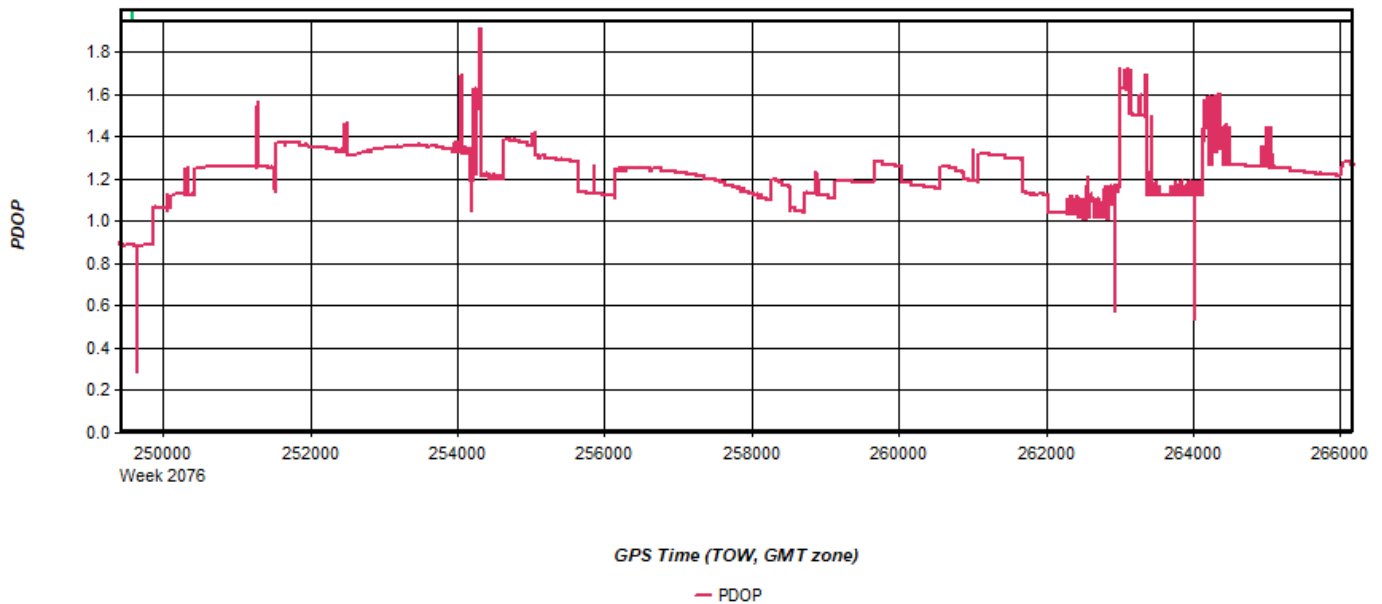
Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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Figure 5: 20191022211545 [Smoothed TC Combined] - Estimated Position Accuracy Plot



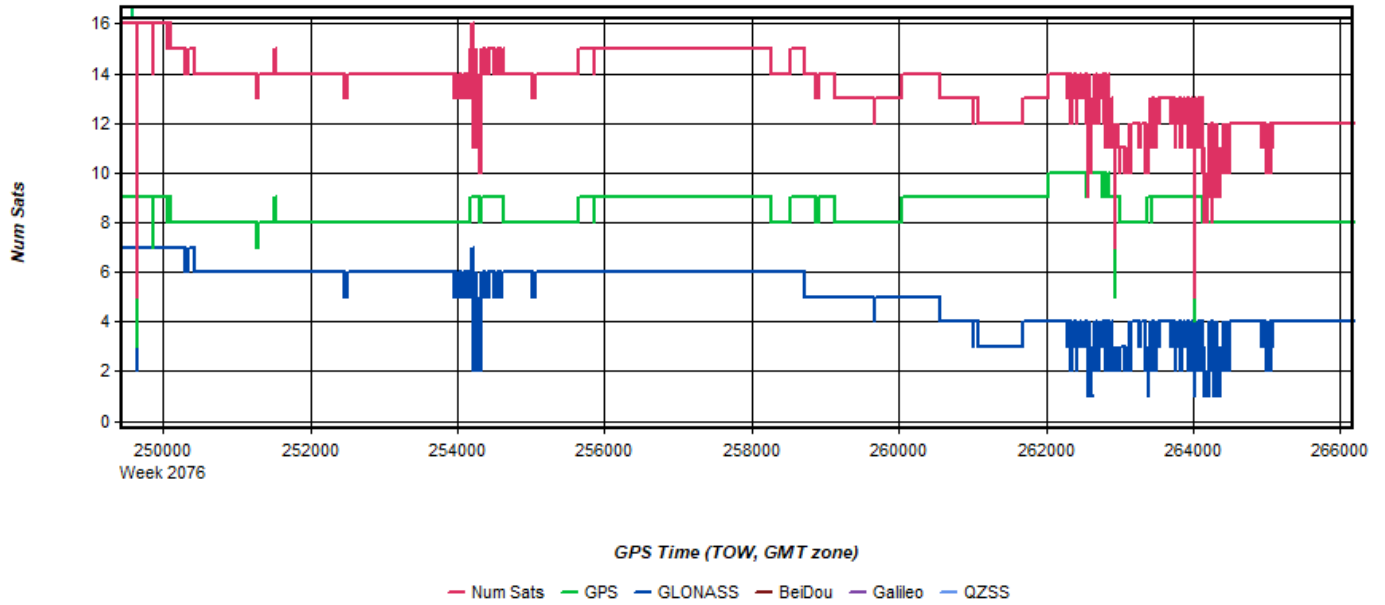
Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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**Figure 6: 20191022211545 [Smoothed TC Combined] - PDOP Plot**



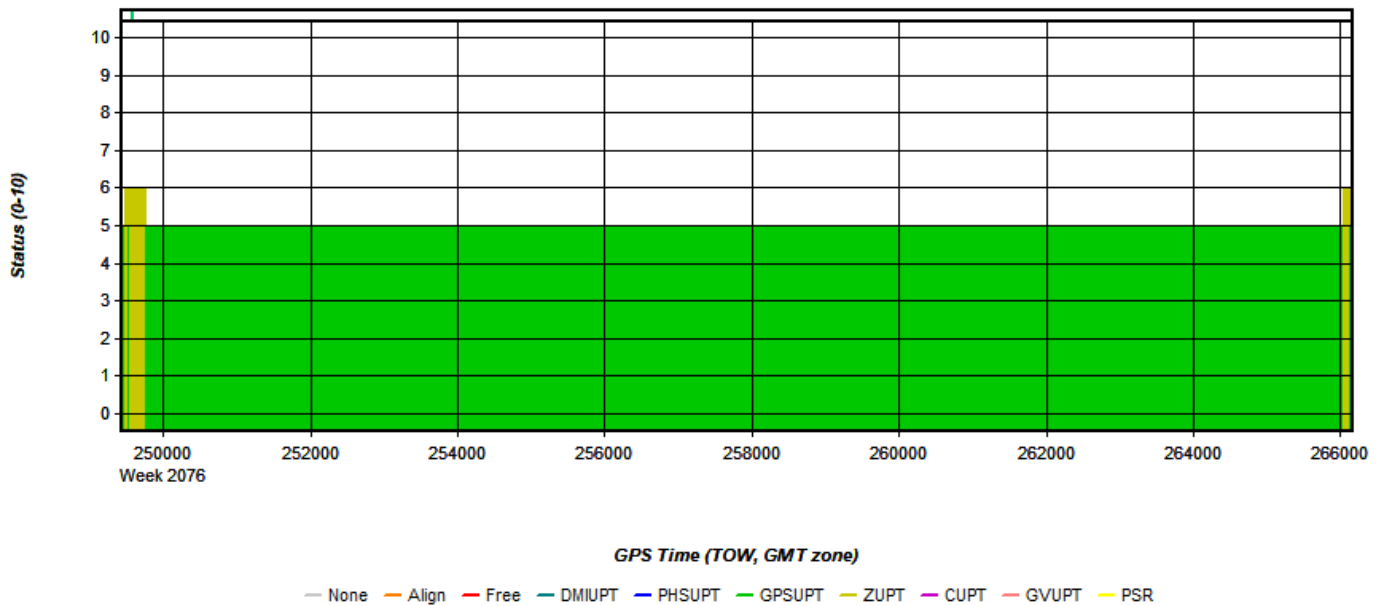
Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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**Figure 7: 20191022211545 [Smoothed TC Combined] - Number of Satellites Line Plot**



Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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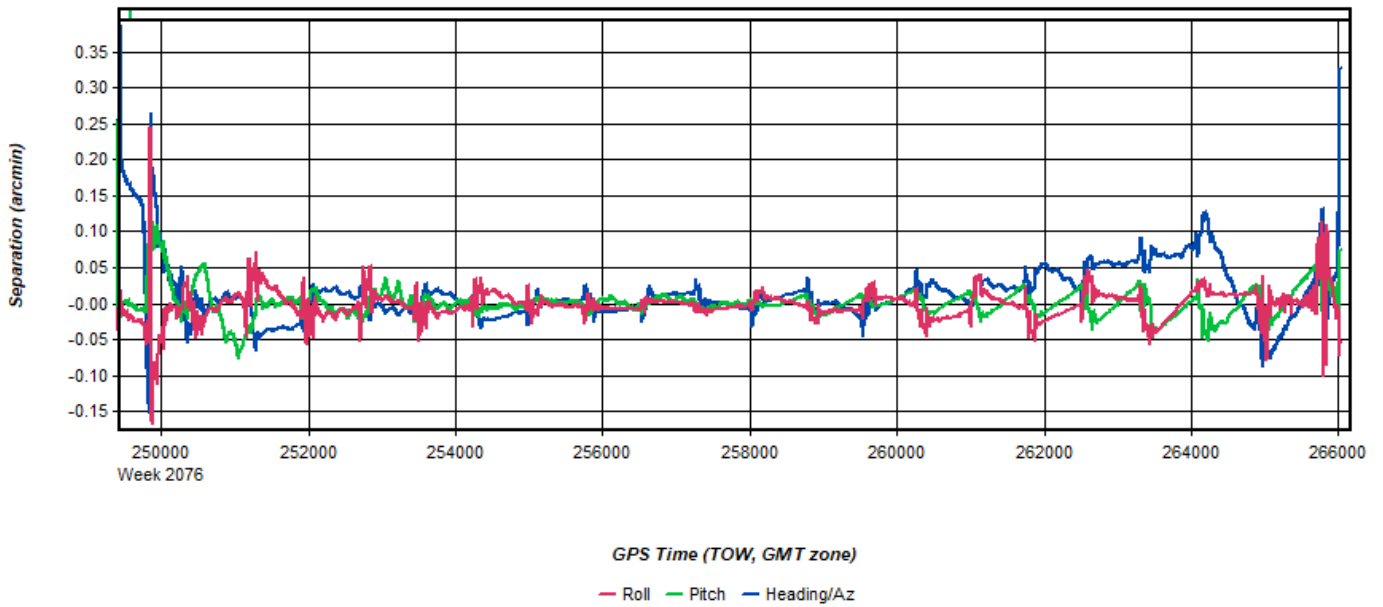
Figure 8: 20191022211545 [Smoothed TC Combined] - Status flag for IMU processing



Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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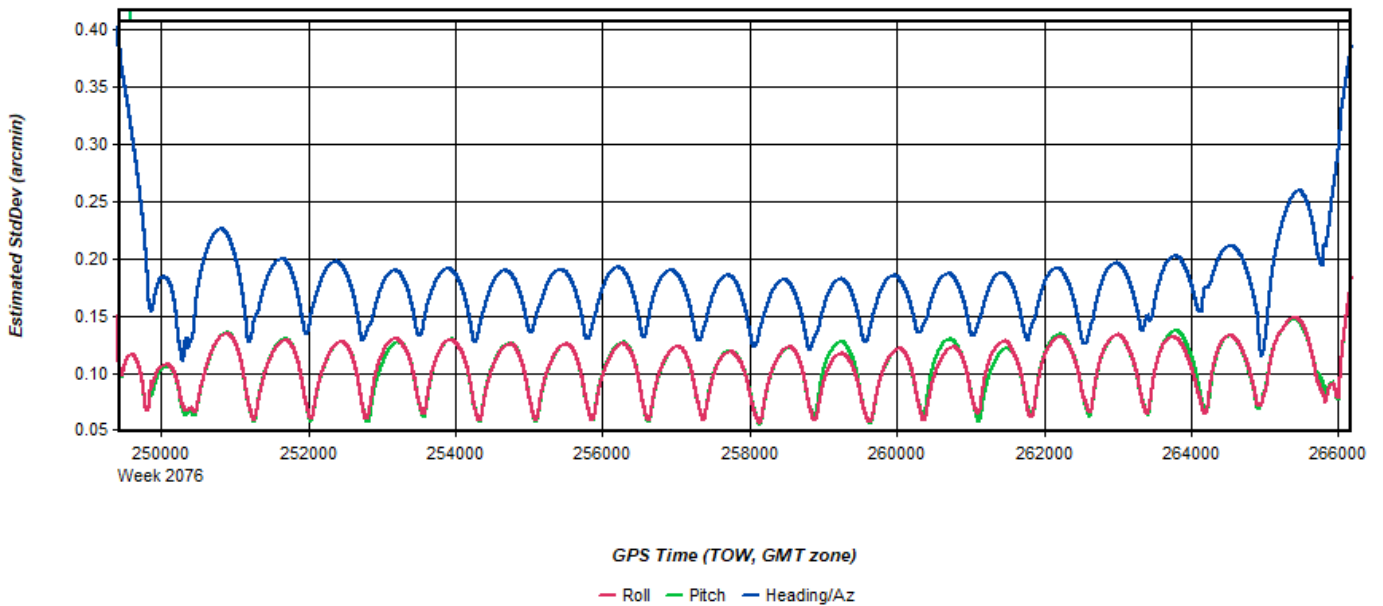
Figure 9: 20191022211545 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot





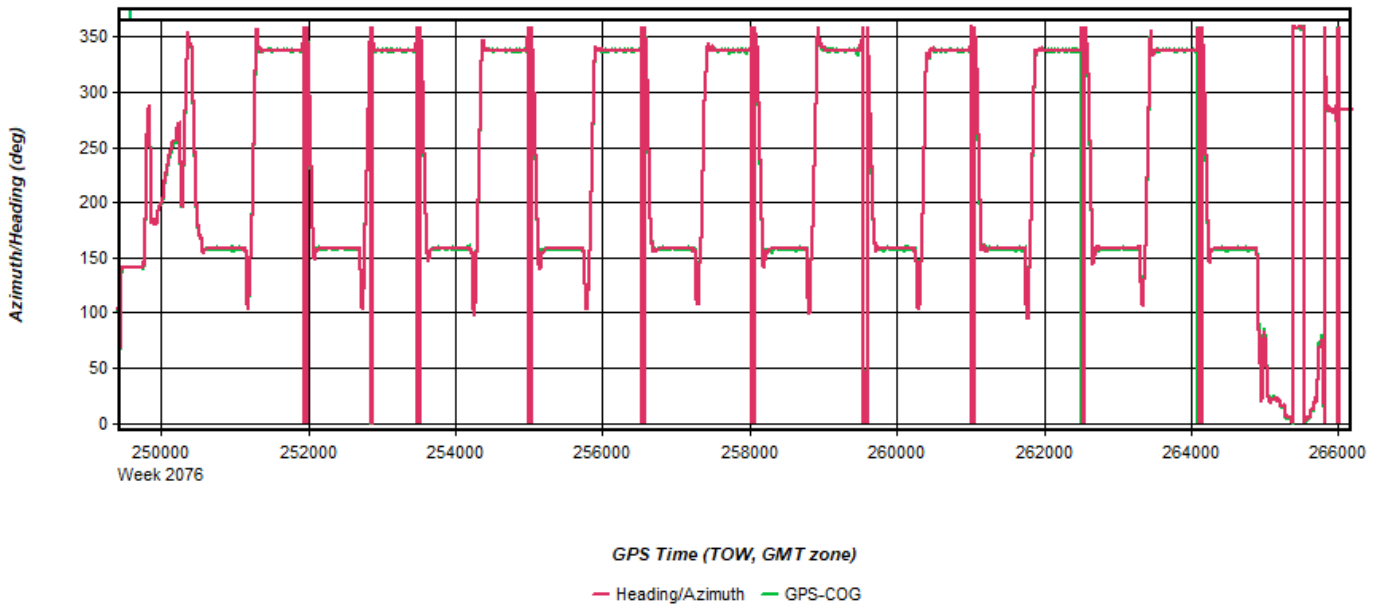
Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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Figure 10: 20191022211545 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



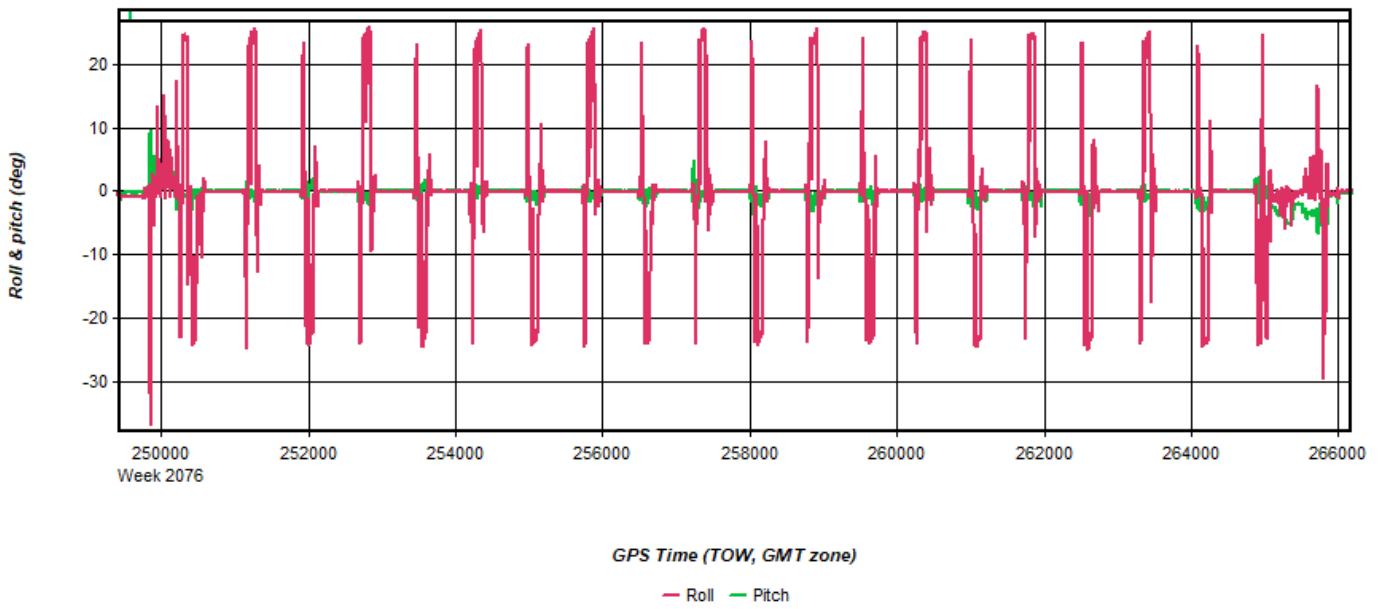
Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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Figure 11: 20191022211545 [Smoothed TC Combined] - Azimuth Plot



Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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Figure 12: 20191022211545 [Smoothed TC Combined] - Roll & Pitch Plot



Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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Figure 13: 20191022211545 [Smoothed TC Combined] - Velocity Profile Plot

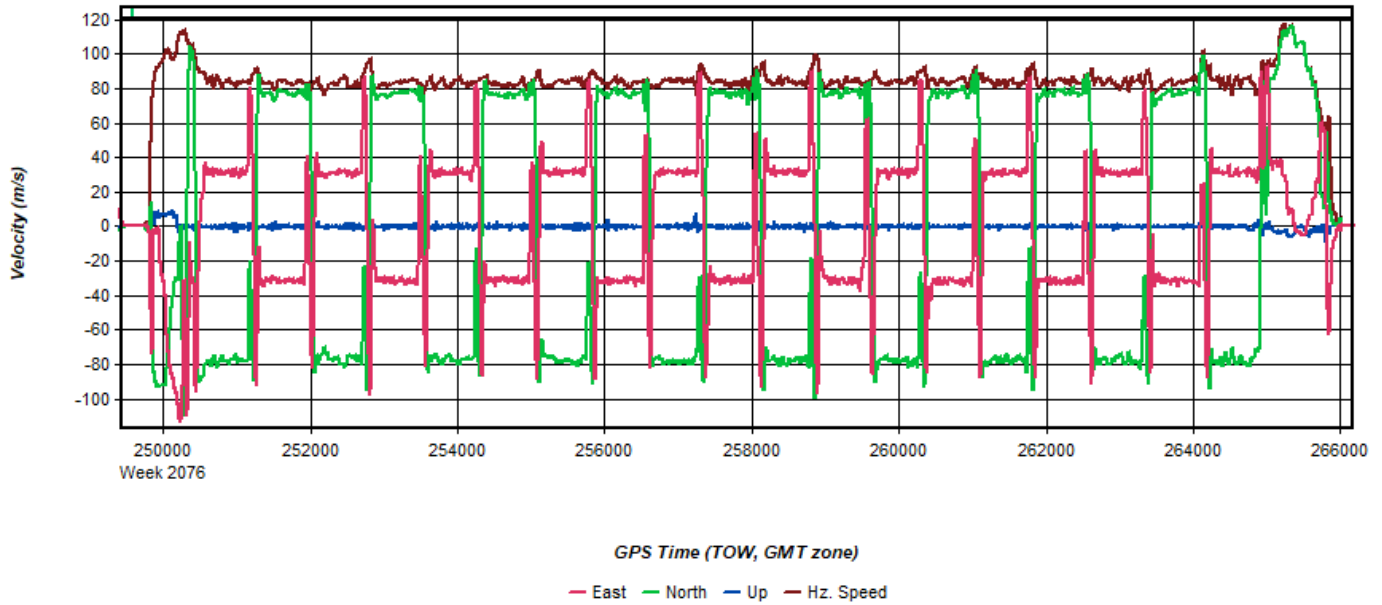


Figure 14: 20191022211545 [Smoothed TC Combined] - Body Frame Velocity Plot

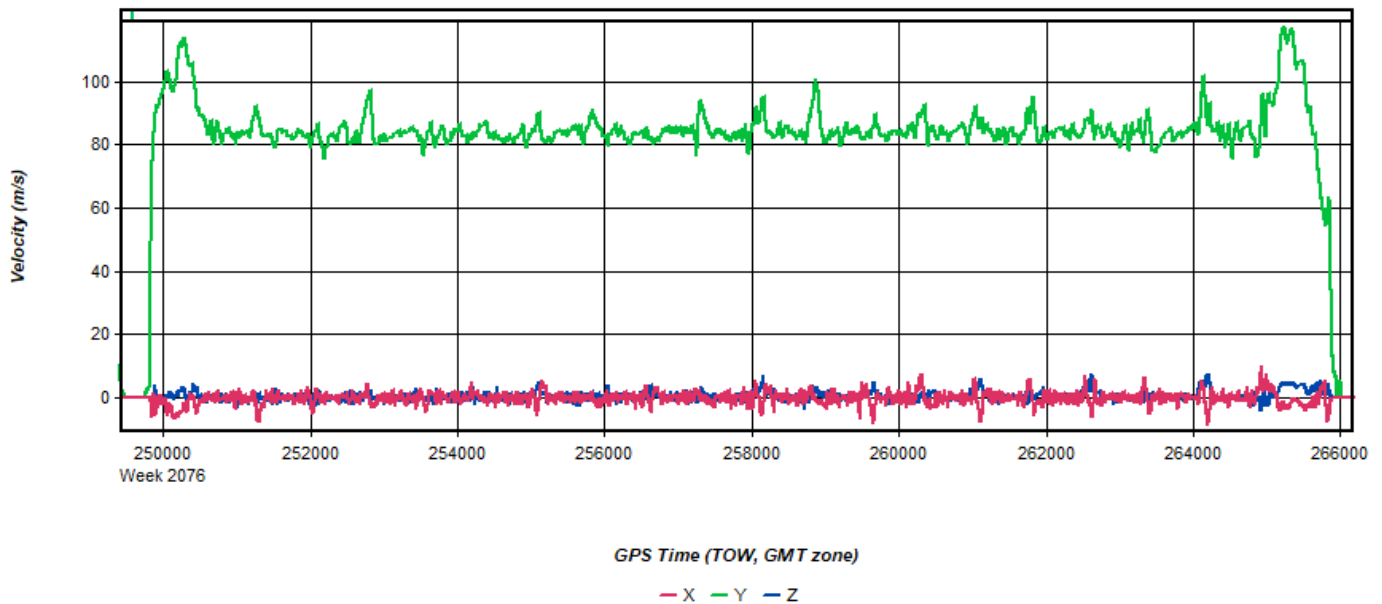


Figure 15: 20191022211545 [Smoothed TC Combined] - Height Profile Plot

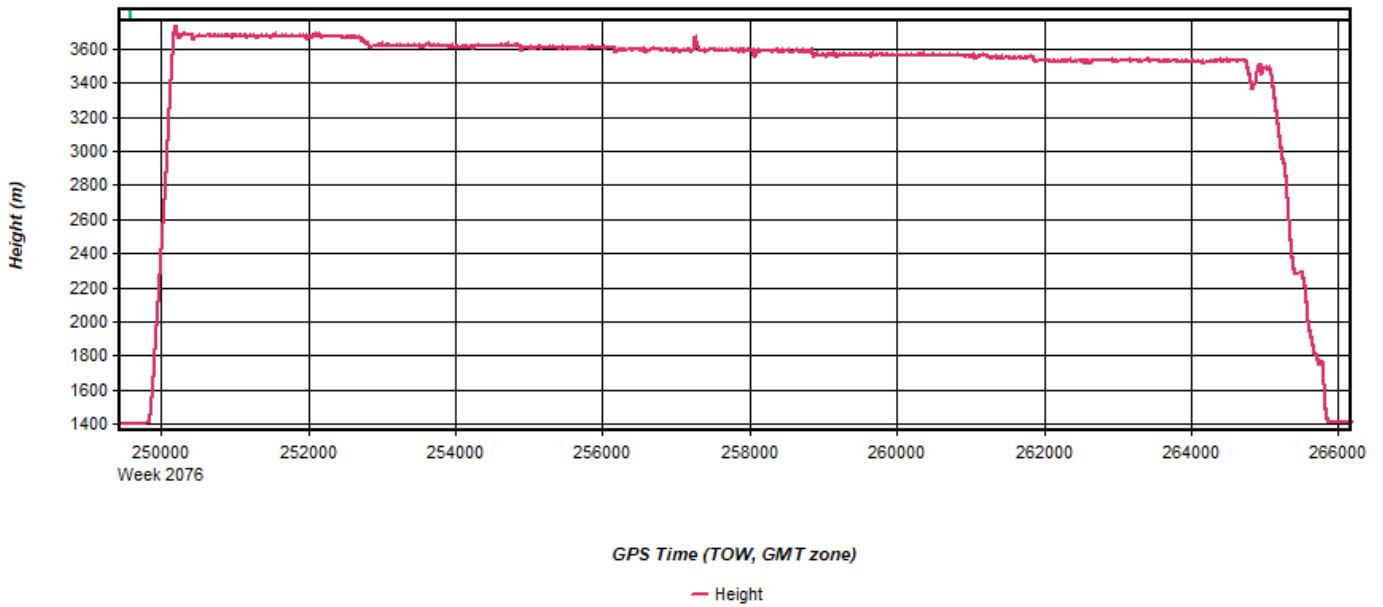


Figure 16: 20191022211545 [Smoothed TC Combined] - C/A Code Residual RMS Plot

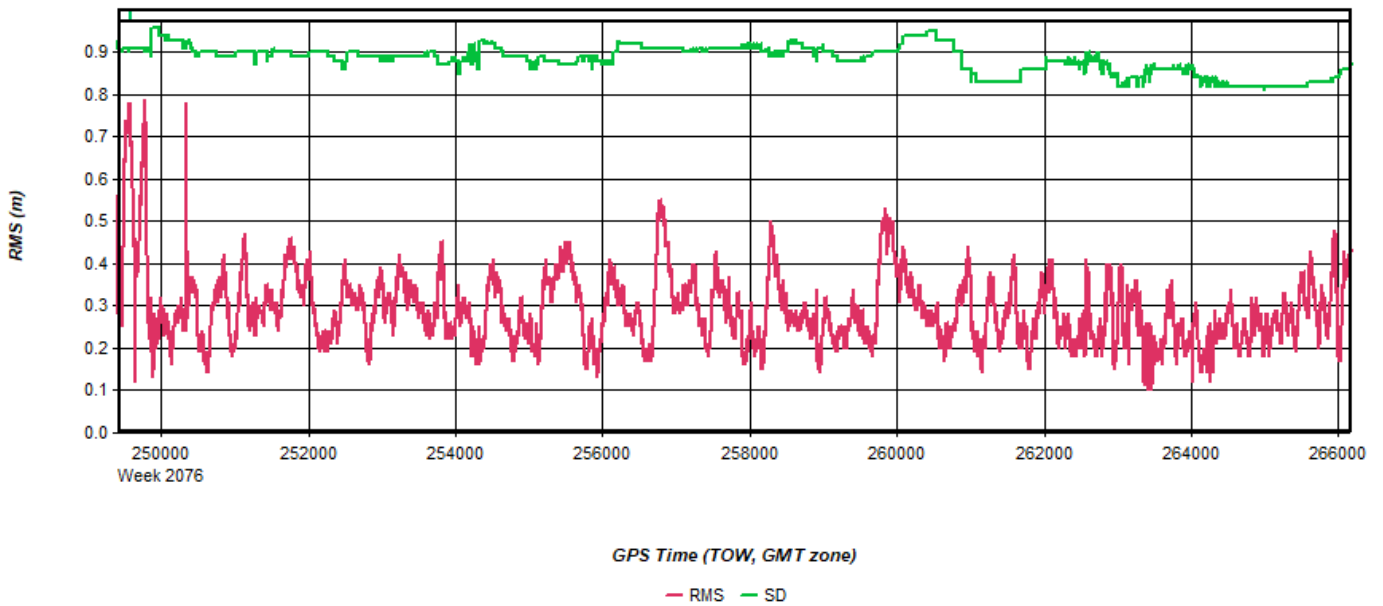
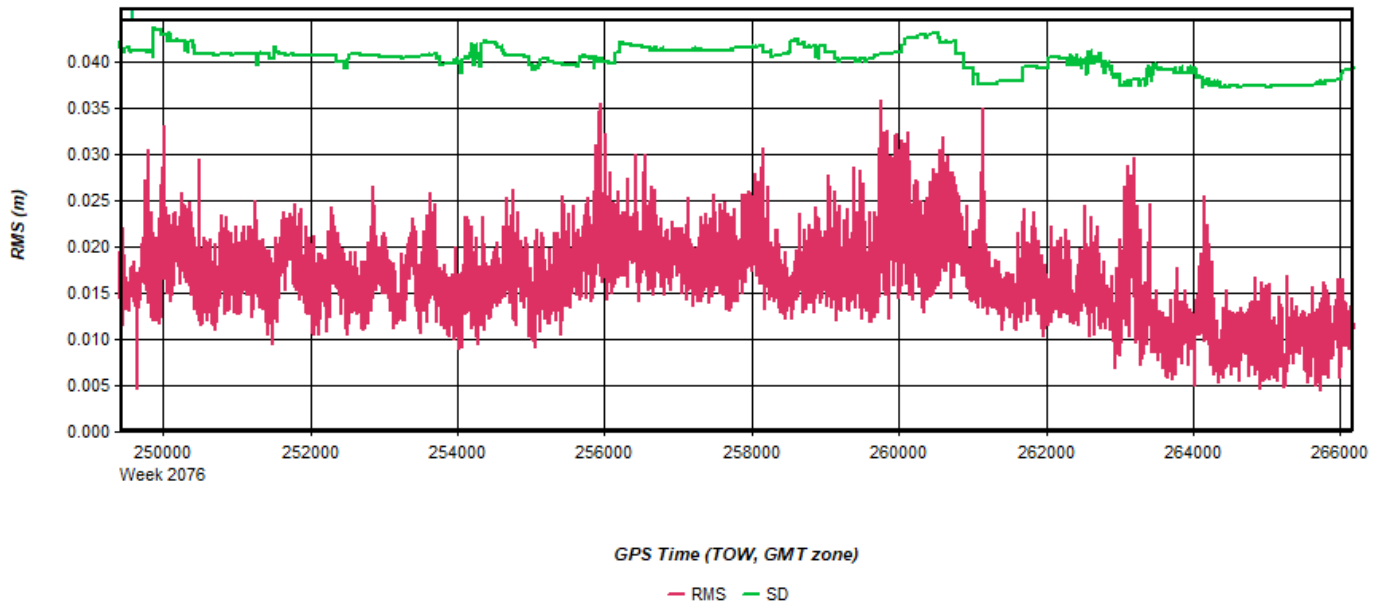
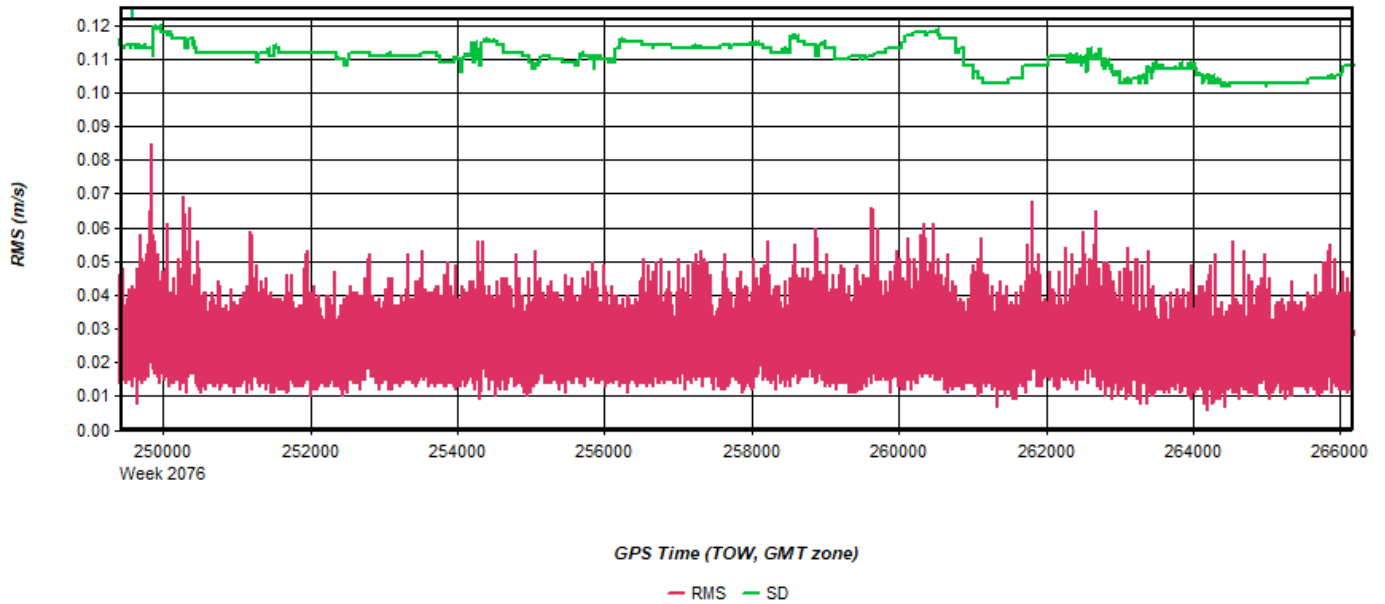


Figure 17: 20191022211545 [Smoothed TC Combined] - Carrier Residual RMS Plot



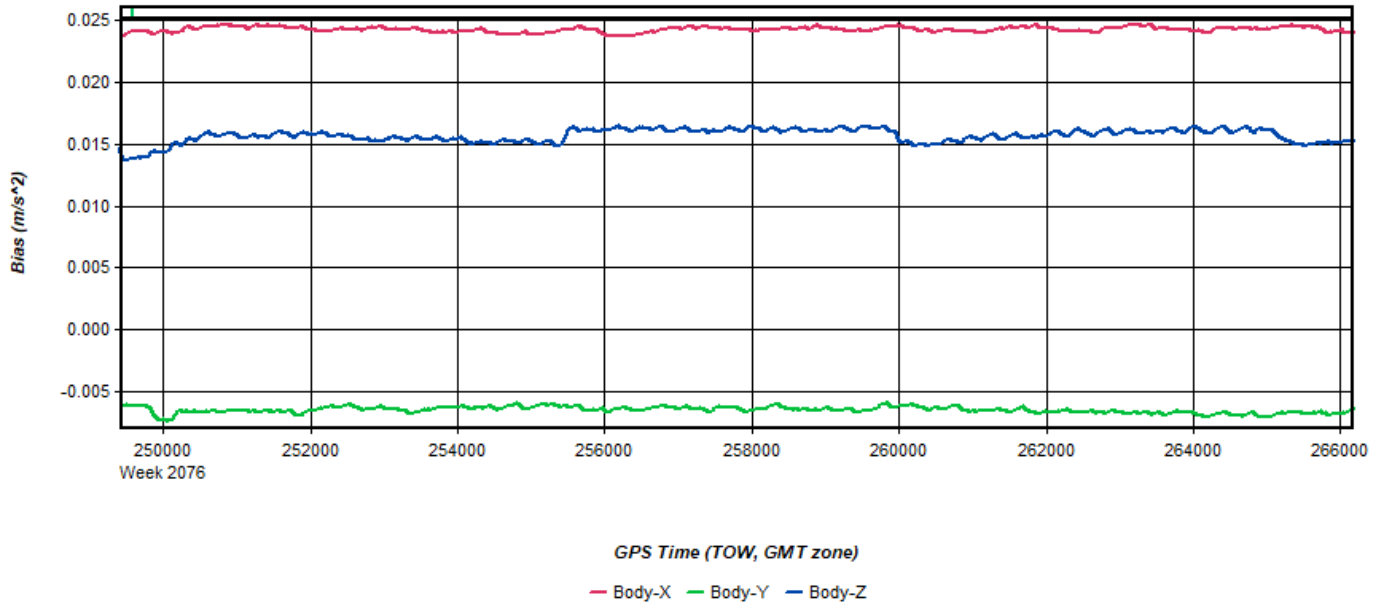
Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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Figure 18: 20191022211545 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



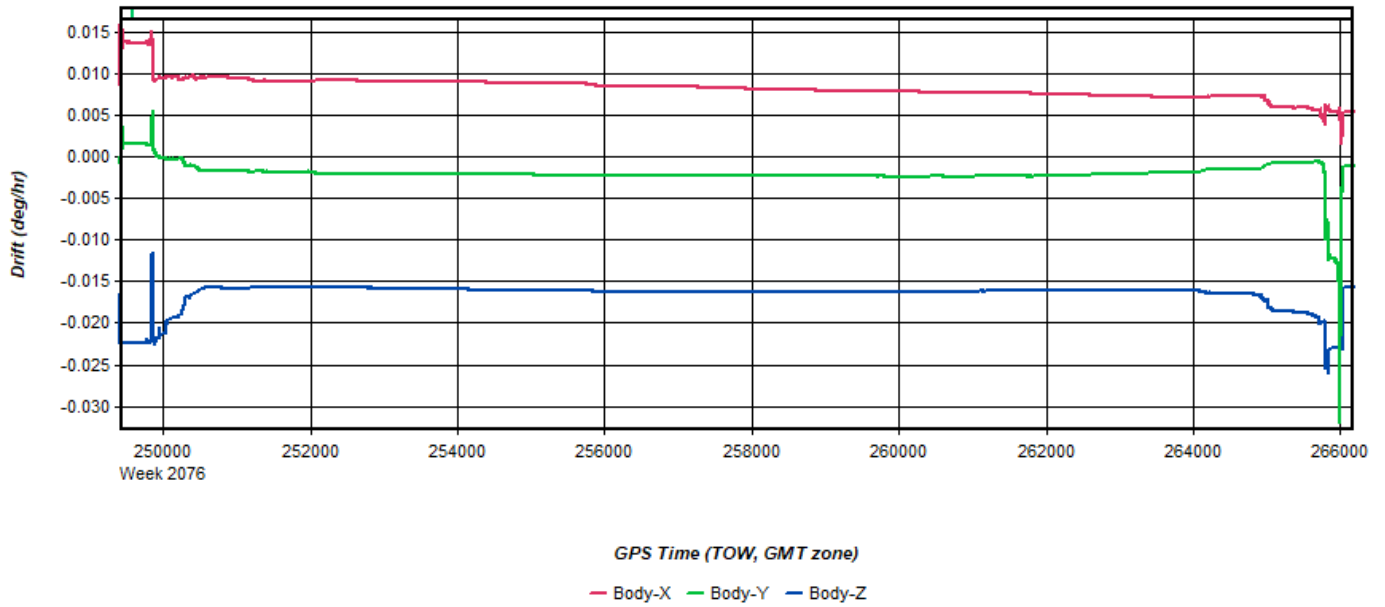
Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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Figure 19: 20191022211545 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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Figure 20: 20191022211545 [Smoothed TC Combined] - Gyro Drift Plot

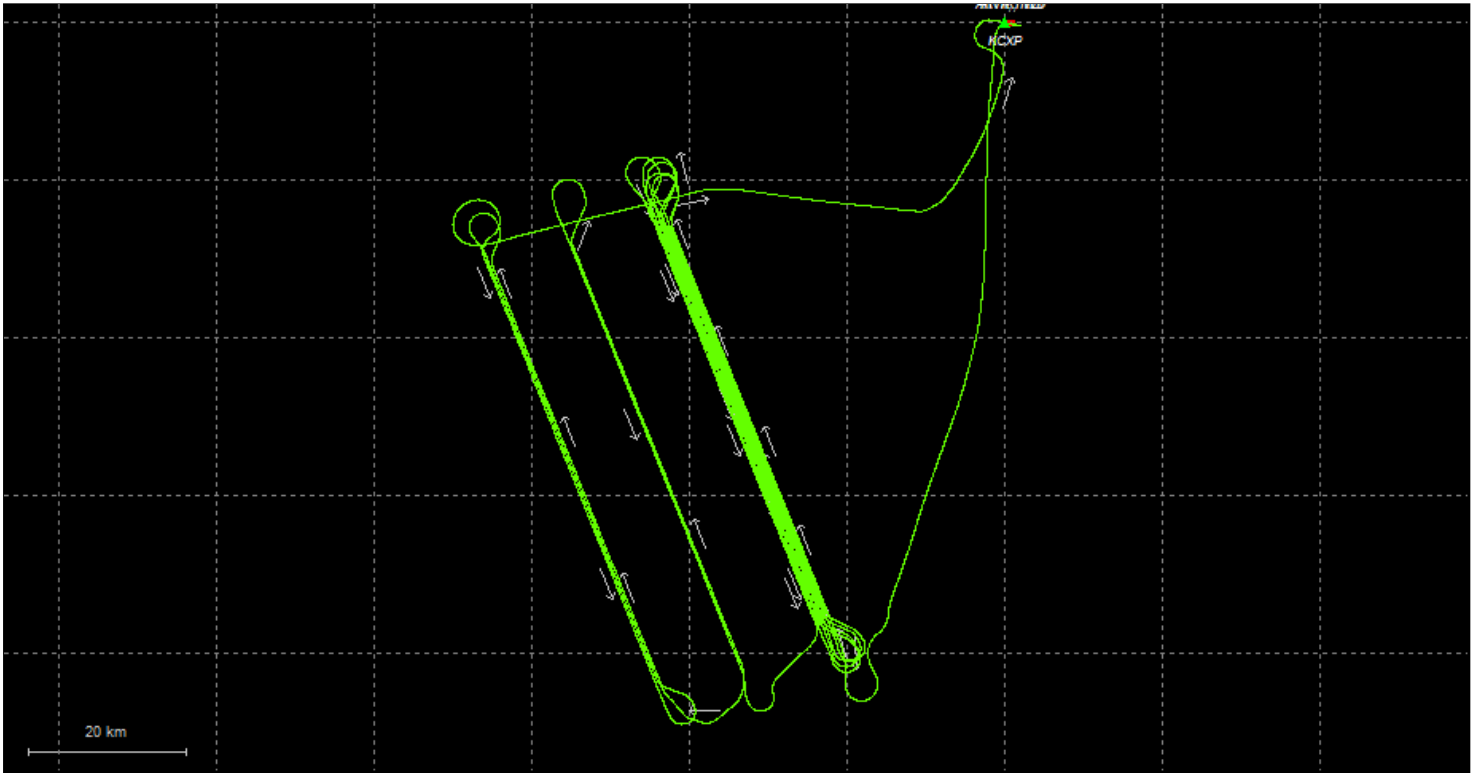


Process	20191022211545	by Unknown	on 10/26/2019	at 13:34:35
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# Output Results for 20191023151412

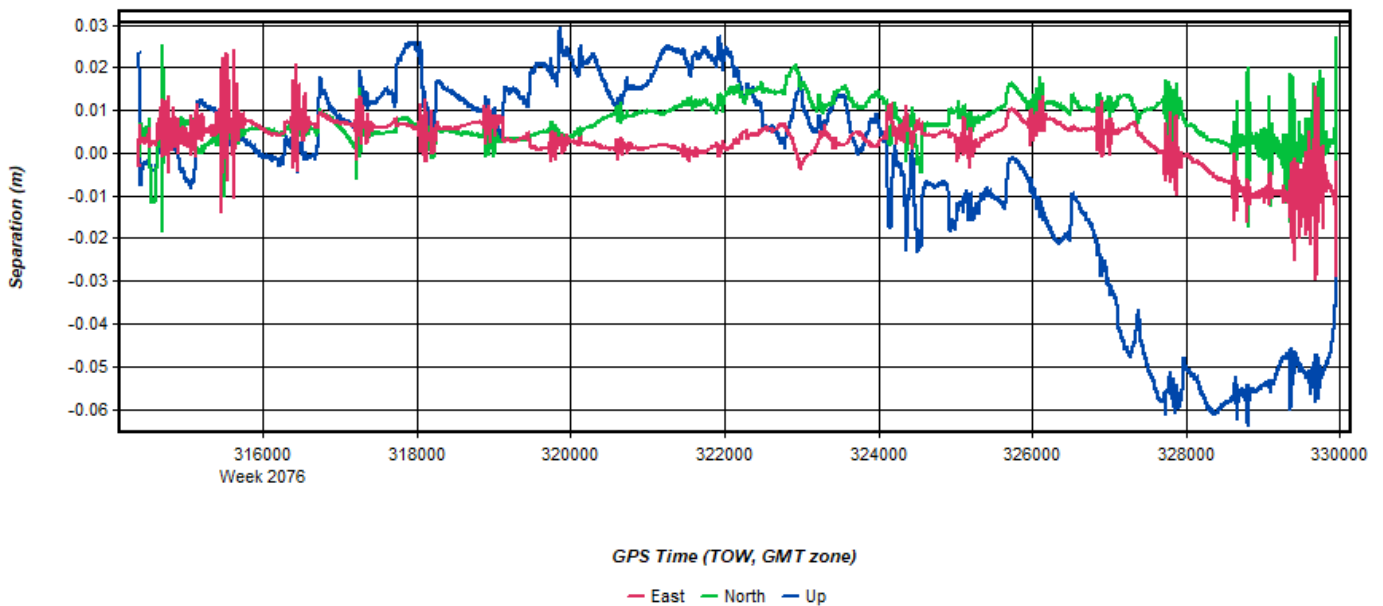
Inertial Explorer Version 8.80.2305  
10/26/2019

Figure 1: Smoothed TC Combined - Map



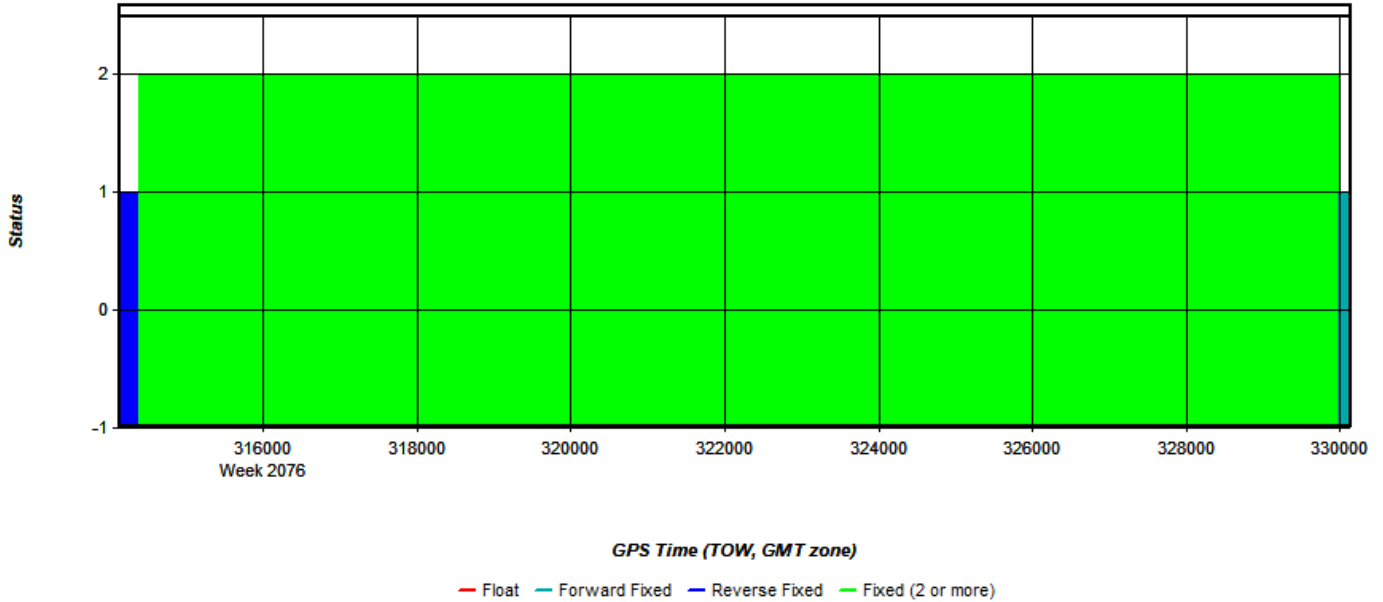
Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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Figure 2: 20191023151412 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



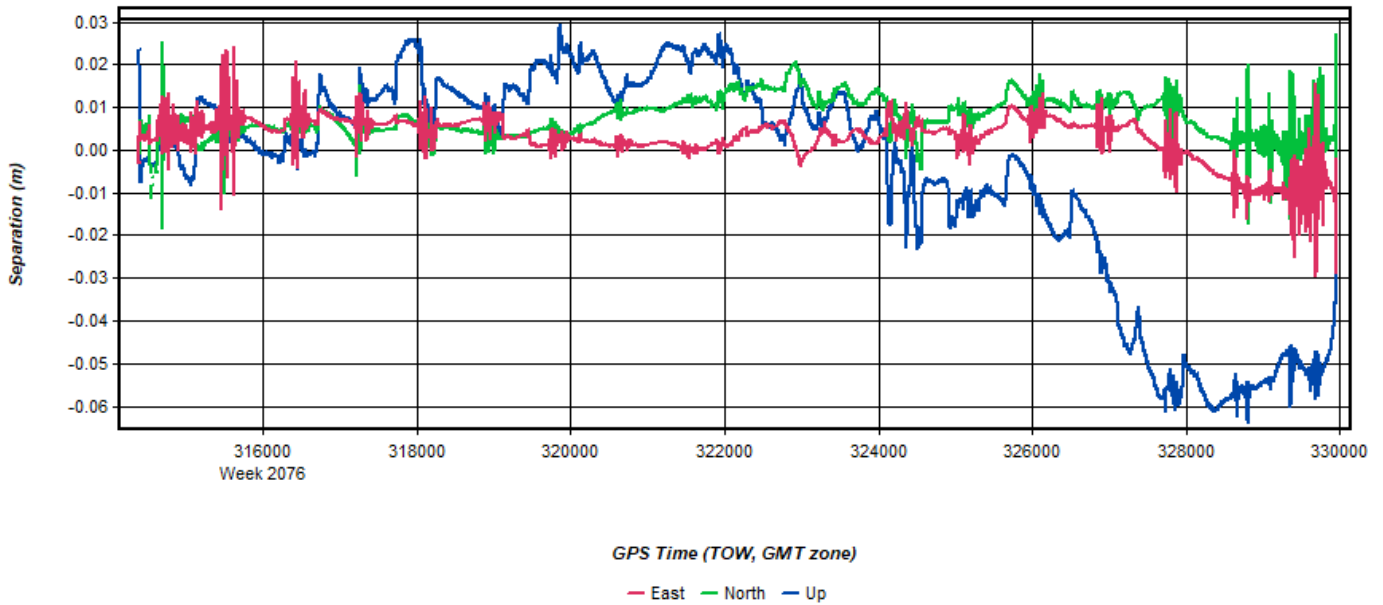
Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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**Figure 3: 20191023151412 [Smoothed TC Combined] - Float or Fixed Ambiguity**



Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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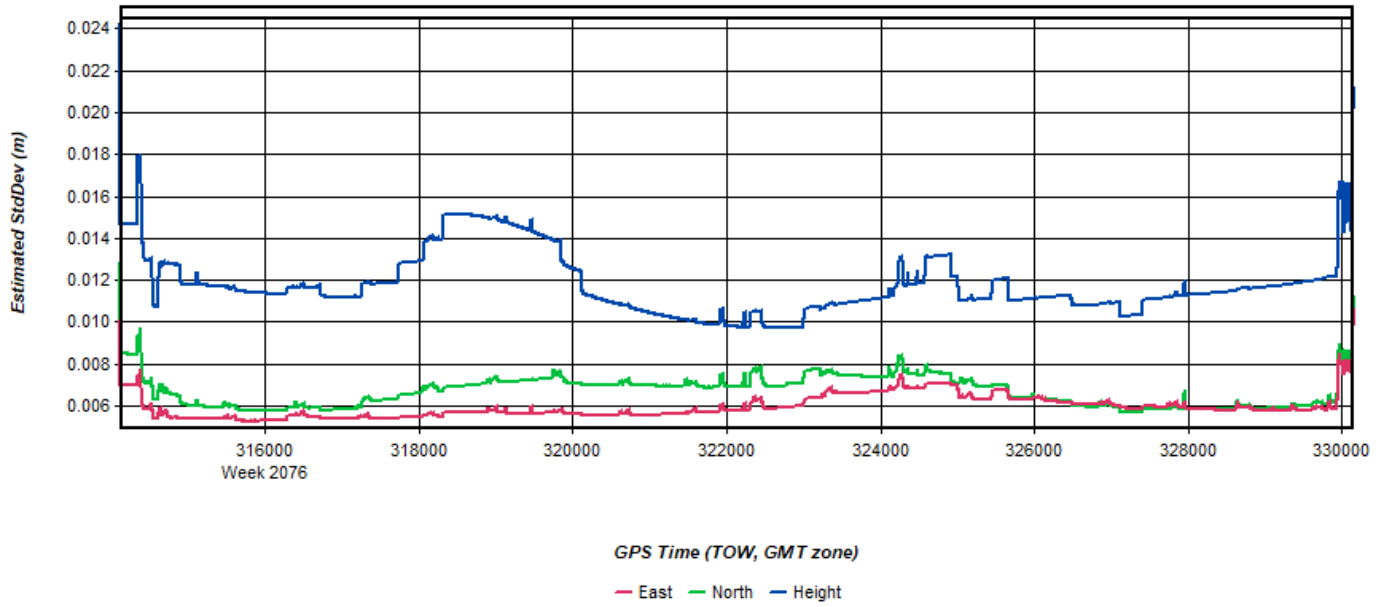
**Figure 4: 20191023151412 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)**



Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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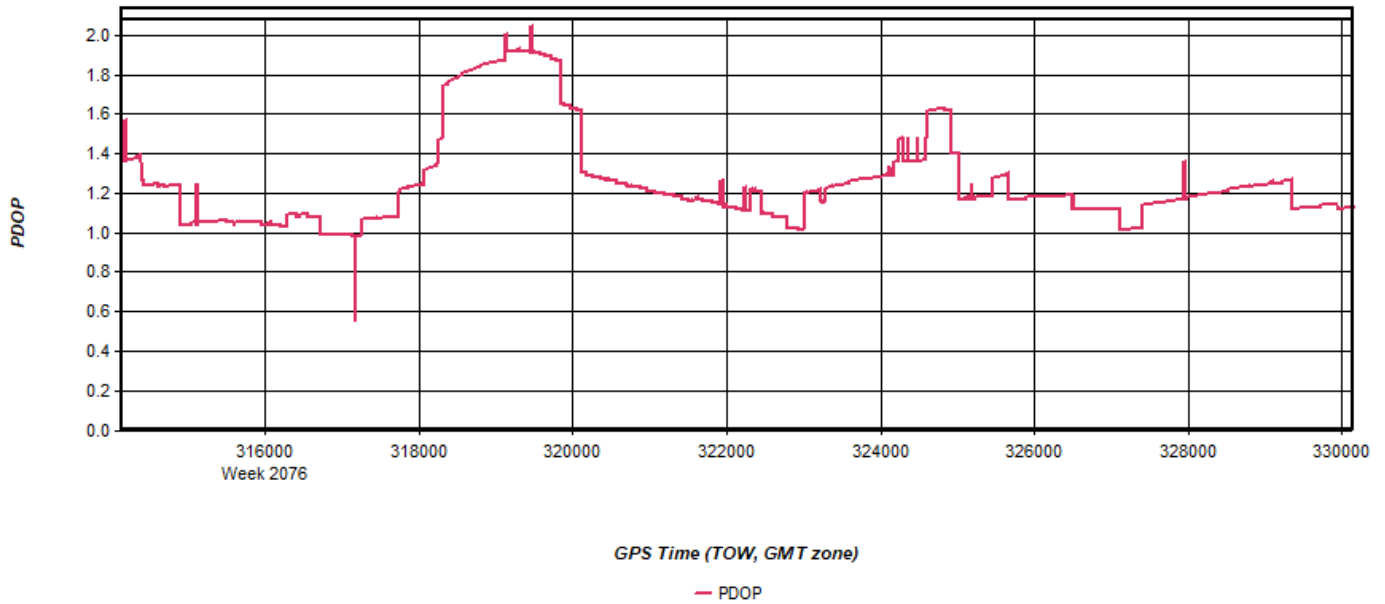
**Figure 5: 20191023151412 [Smoothed TC Combined] - Estimated Position Accuracy Plot**





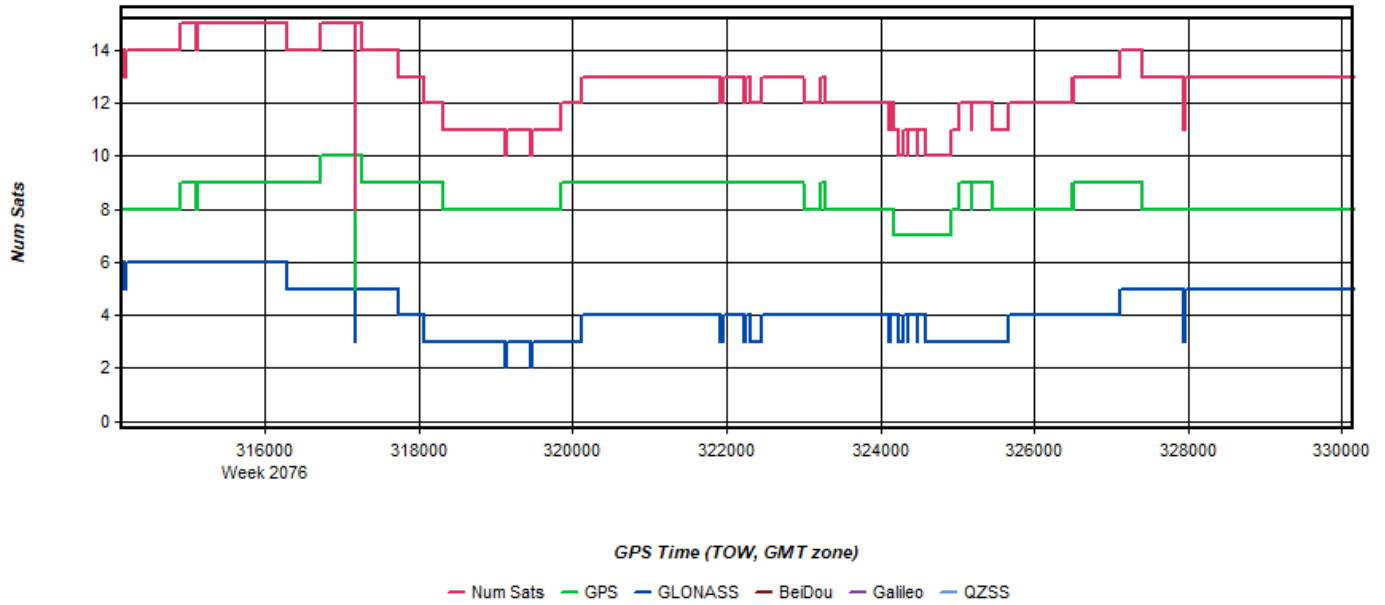
Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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Figure 6: 20191023151412 [Smoothed TC Combined] - PDOP Plot



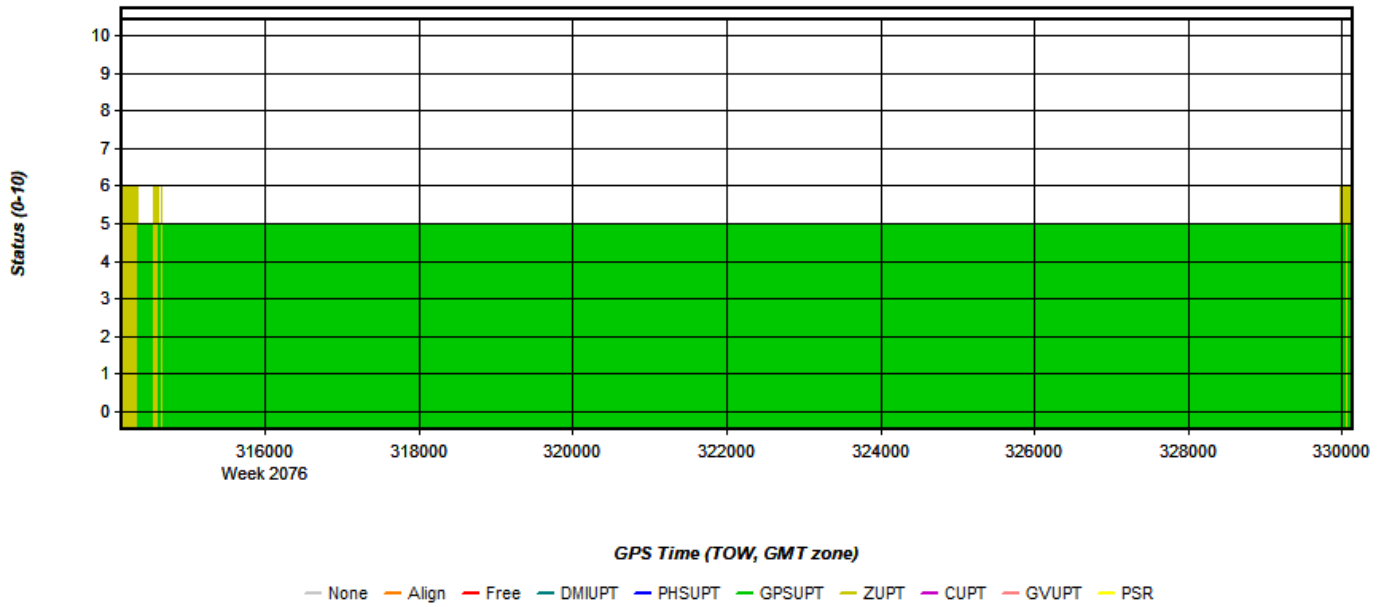
Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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Figure 7: 20191023151412 [Smoothed TC Combined] - Number of Satellites Line Plot



Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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Figure 8: 20191023151412 [Smoothed TC Combined] - Status flag for IMU processing



Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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Figure 9: 20191023151412 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot

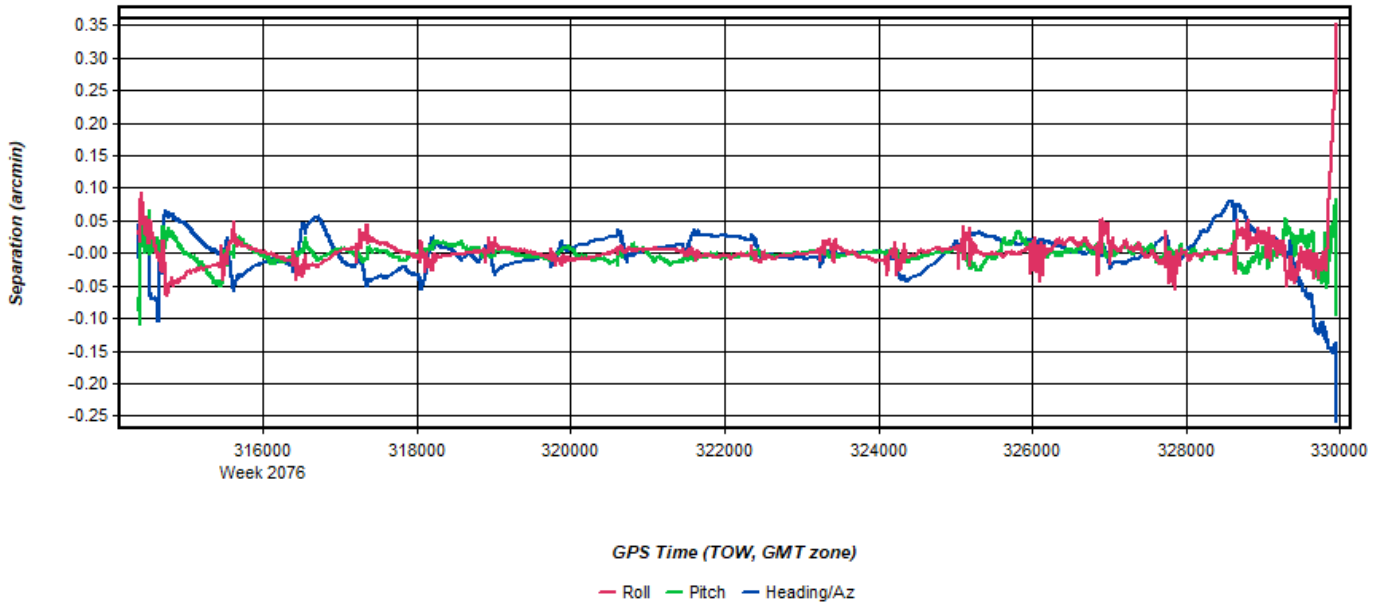


Figure 10: 20191023151412 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot

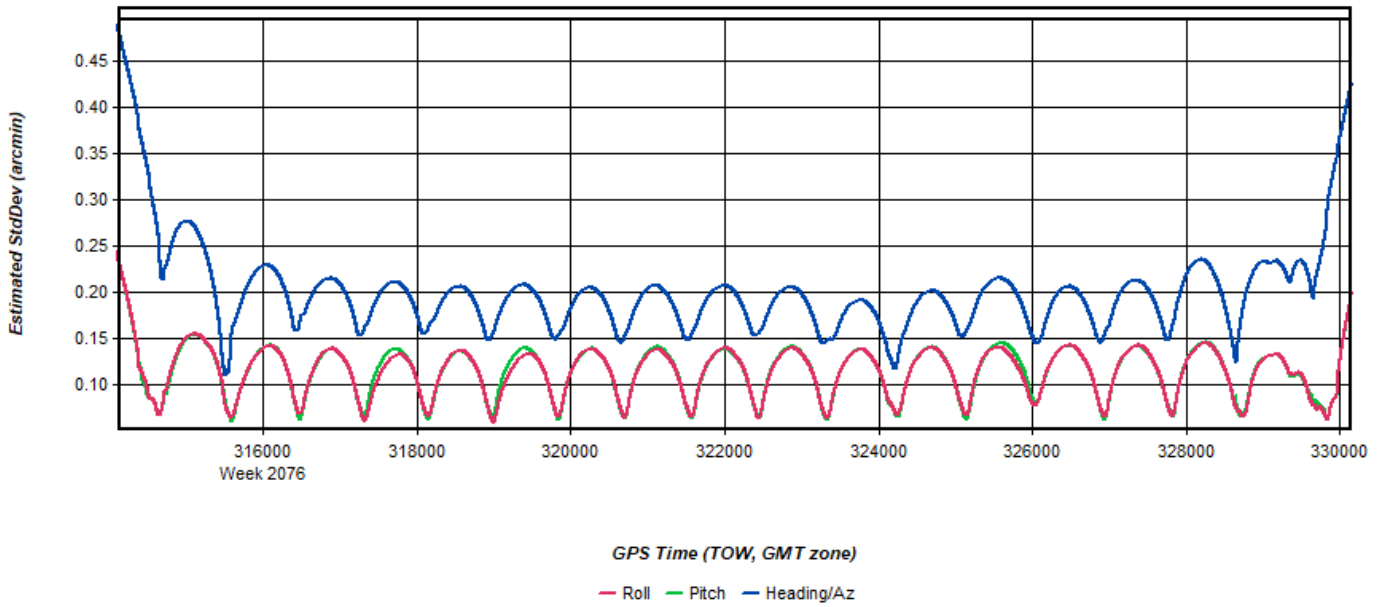
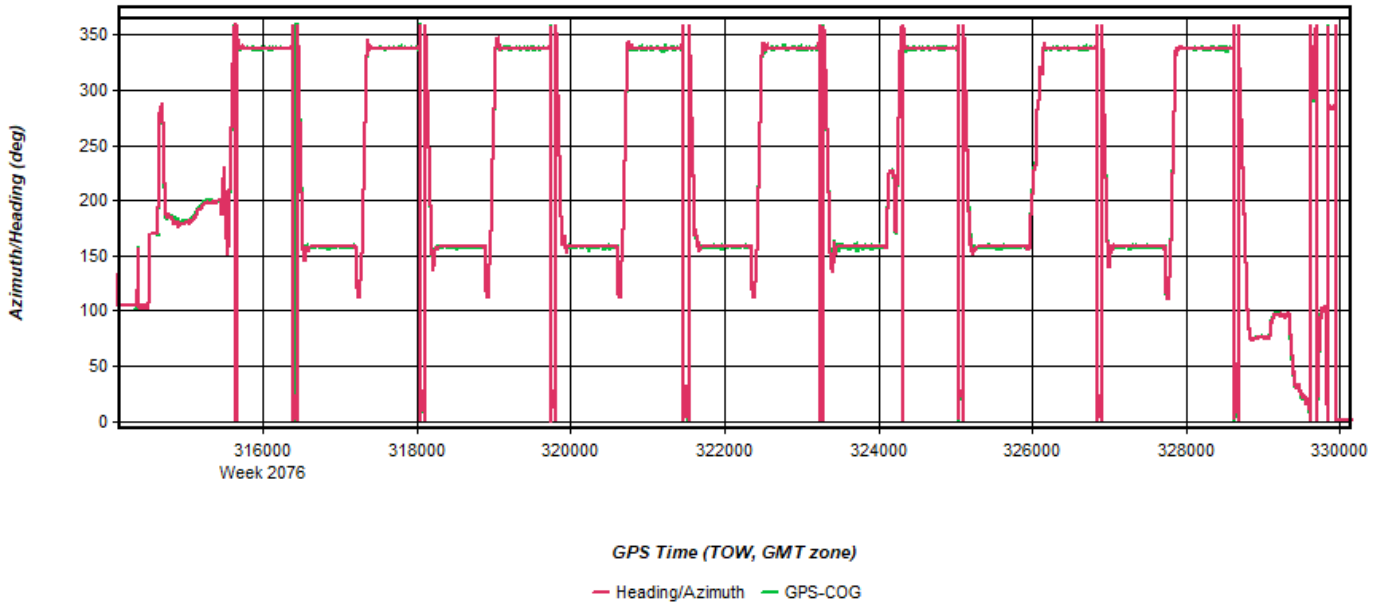
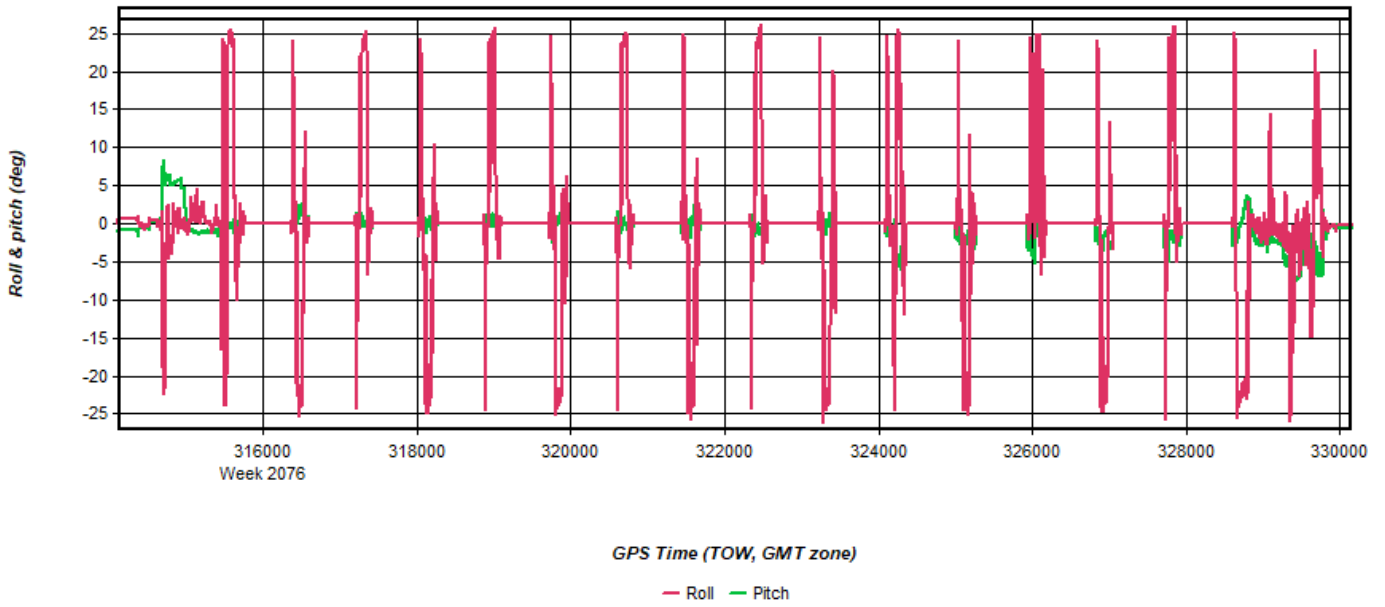


Figure 11: 20191023151412 [Smoothed TC Combined] - Azimuth Plot



Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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Figure 12: 20191023151412 [Smoothed TC Combined] - Roll & Pitch Plot



Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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Figure 13: 20191023151412 [Smoothed TC Combined] - Velocity Profile Plot

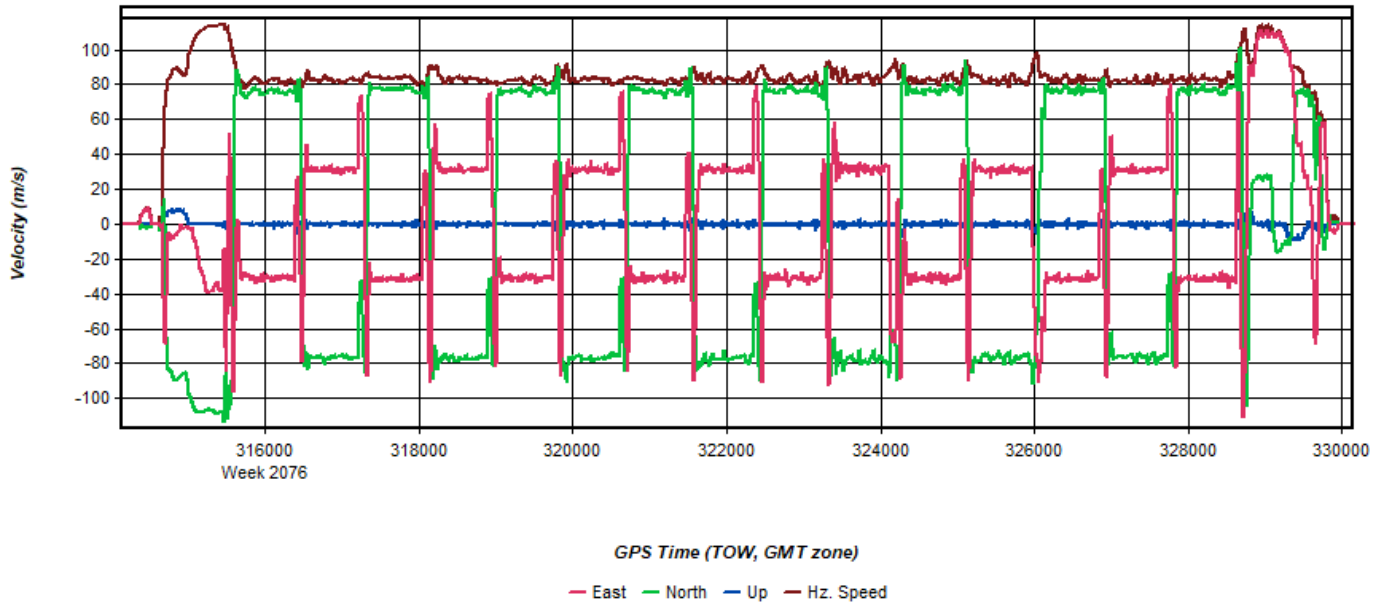


Figure 14: 20191023151412 [Smoothed TC Combined] - Body Frame Velocity Plot

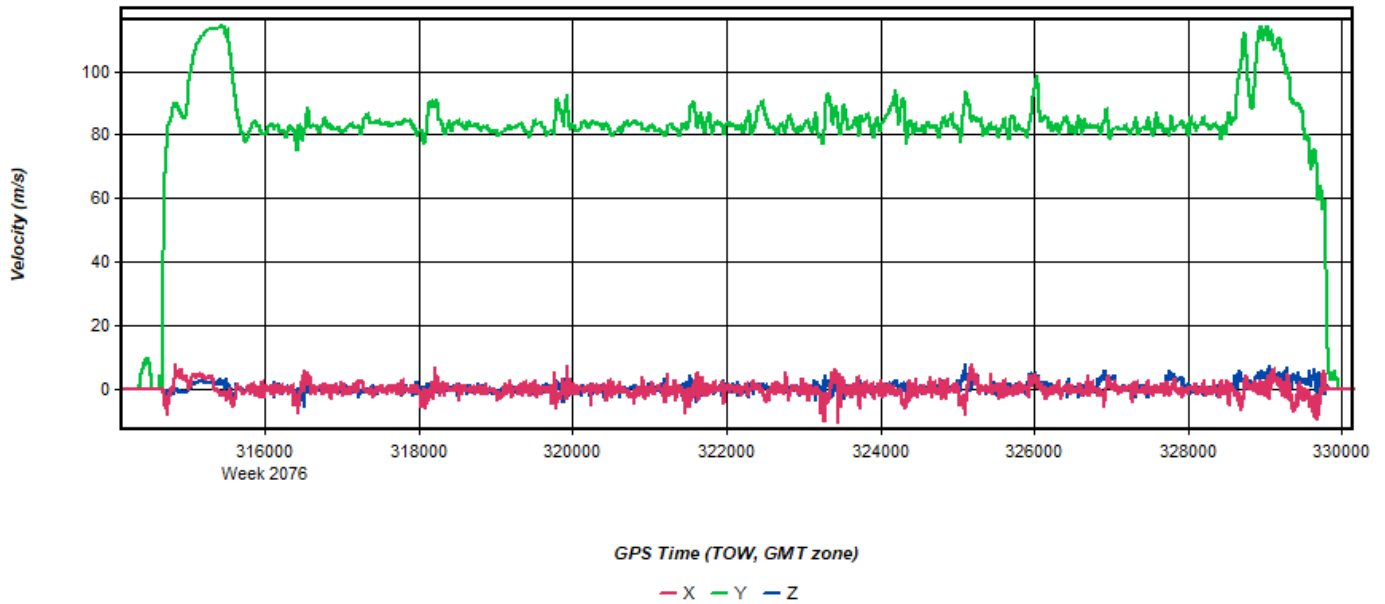


Figure 15: 20191023151412 [Smoothed TC Combined] - Height Profile Plot

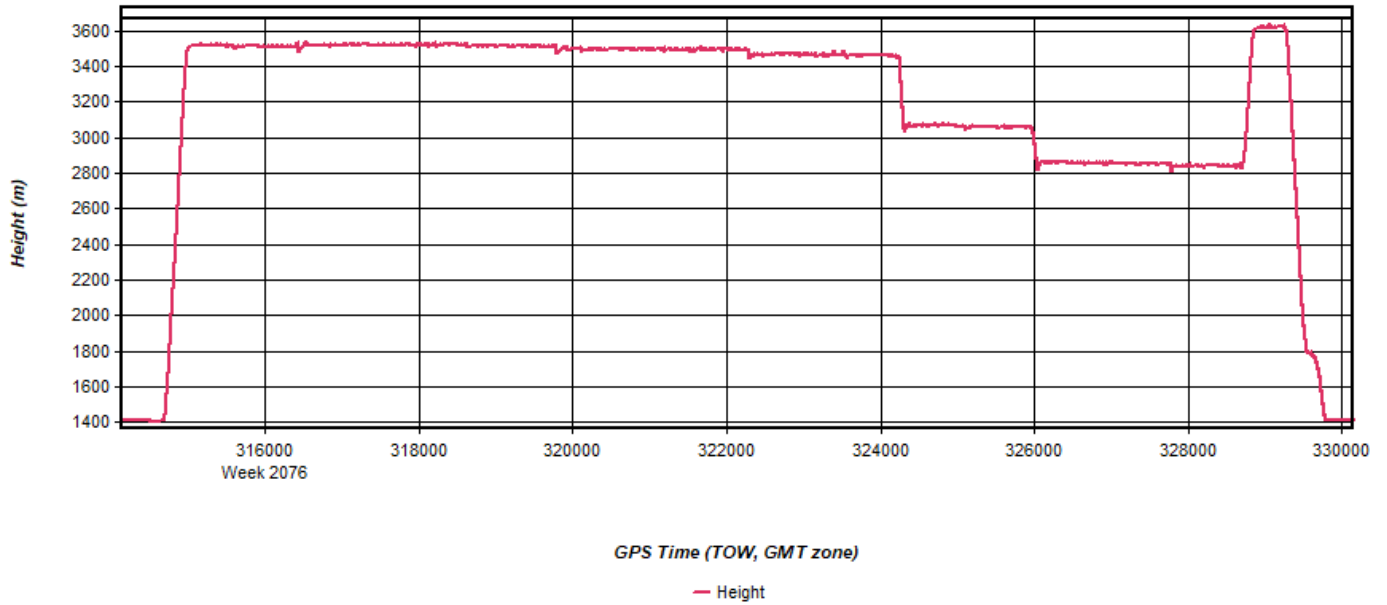


Figure 16: 20191023151412 [Smoothed TC Combined] - C/A Code Residual RMS Plot

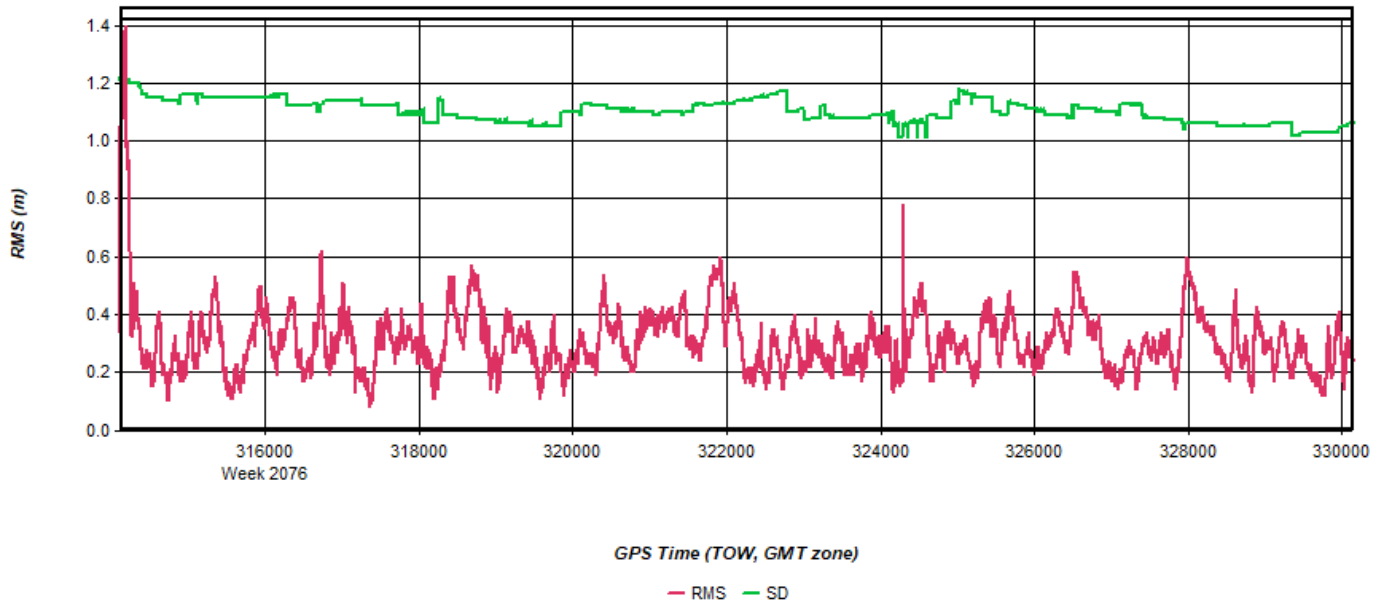


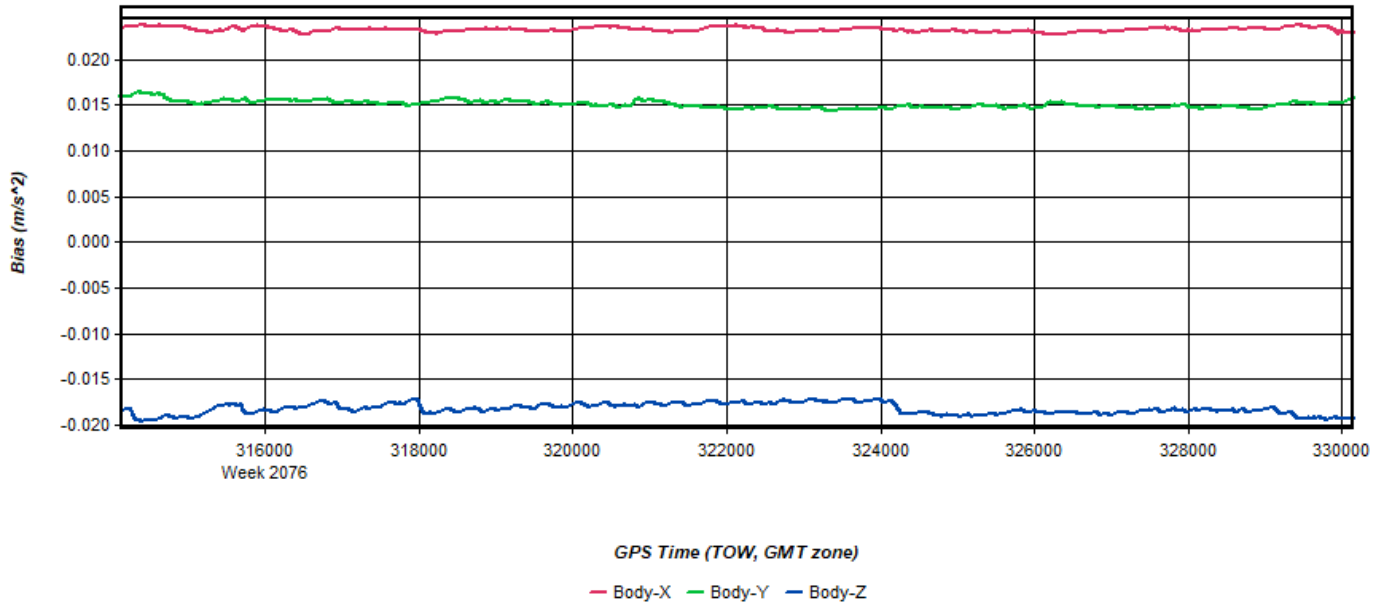
Figure 17: 20191023151412 [Smoothed TC Combined] - Carrier Residual RMS Plot



Figure 18: 20191023151412 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot

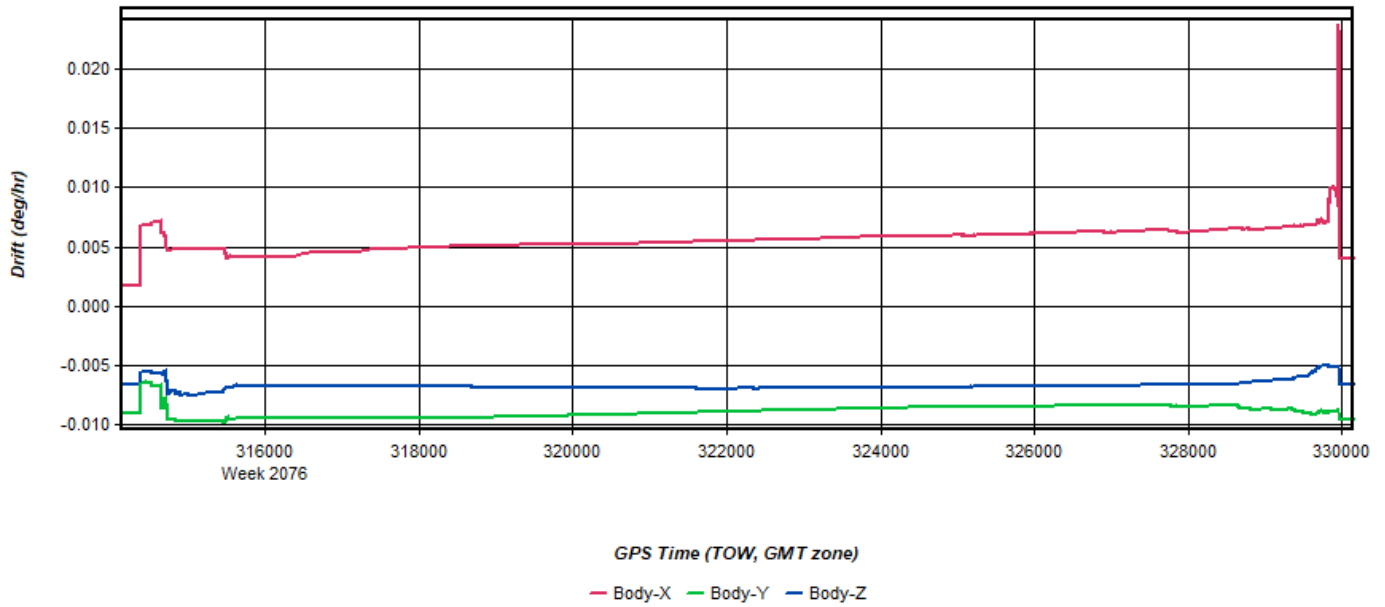


Figure 19: 20191023151412 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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Figure 20: 20191023151412 [Smoothed TC Combined] - Gyro Drift Plot



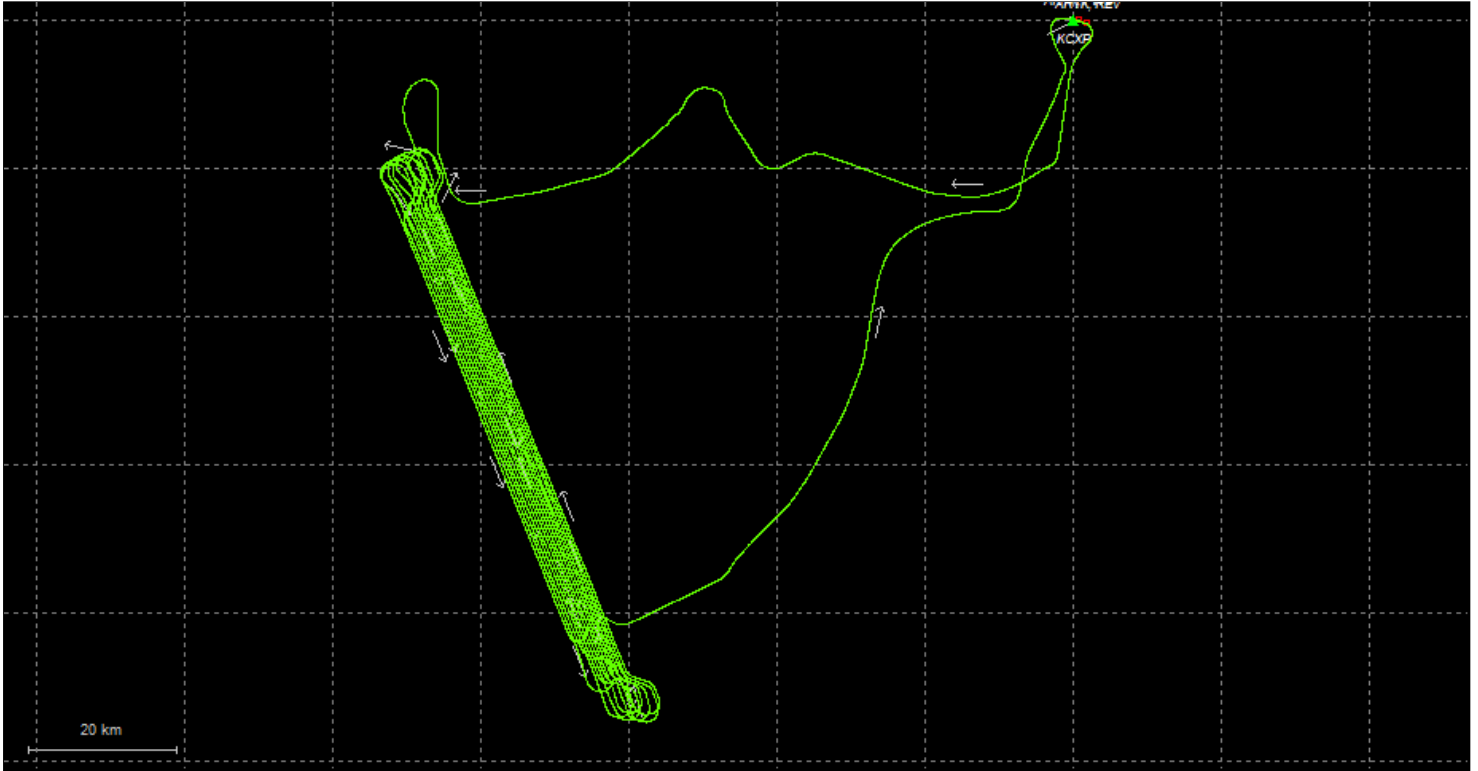
Process	20191023151412	by Unknown	on 10/26/2019	at 14:30:32
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# Output Results for 20191023200504

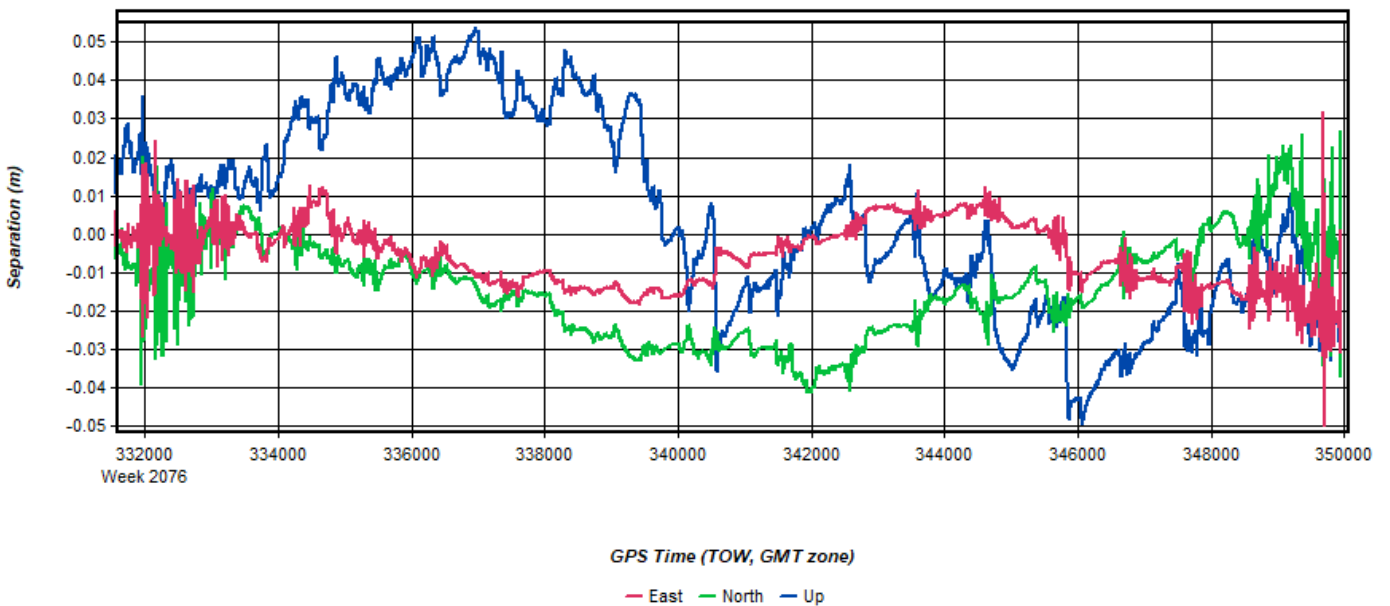
Inertial Explorer Version 8.80.2305  
10/26/2019

Figure 1: Smoothed TC Combined - Map



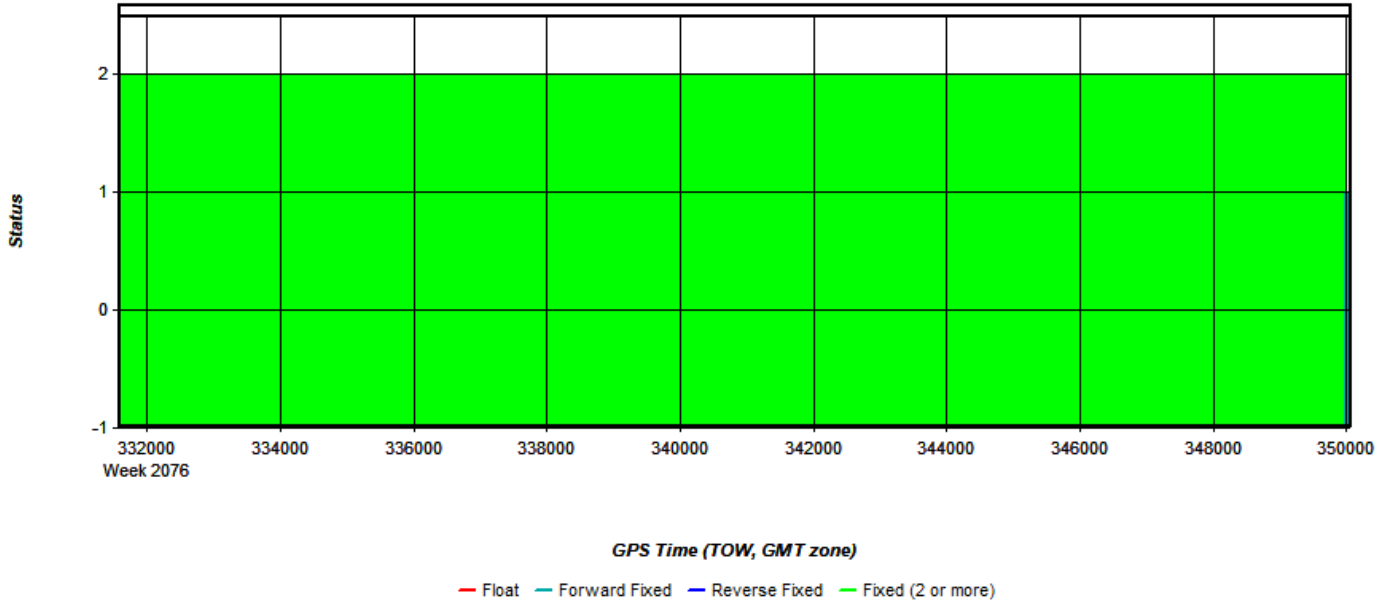
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 2: 20191023200504 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



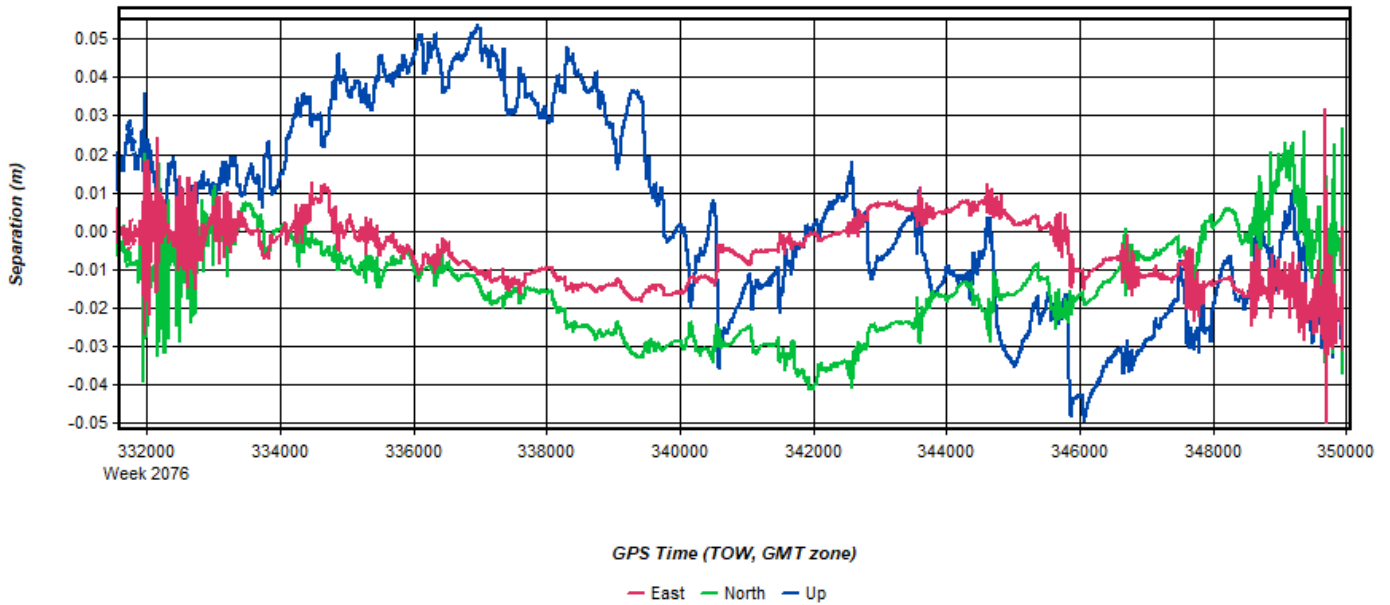
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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**Figure 3: 20191023200504 [Smoothed TC Combined] - Float or Fixed Ambiguity**



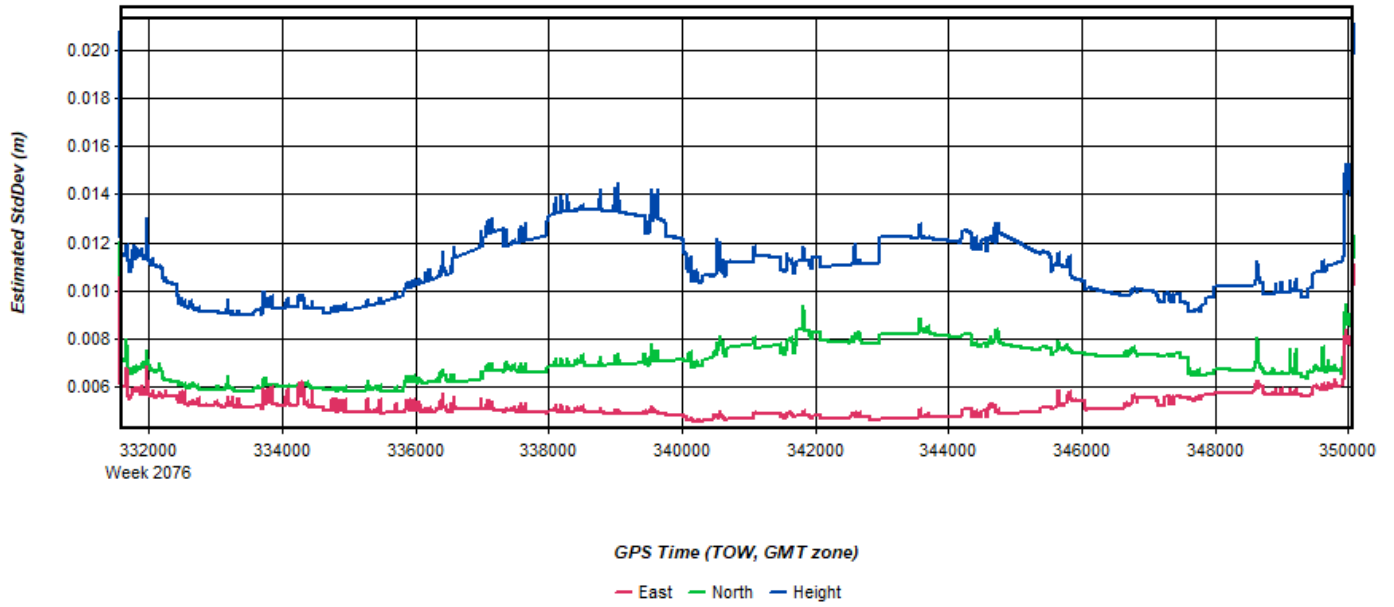
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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**Figure 4: 20191023200504 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)**



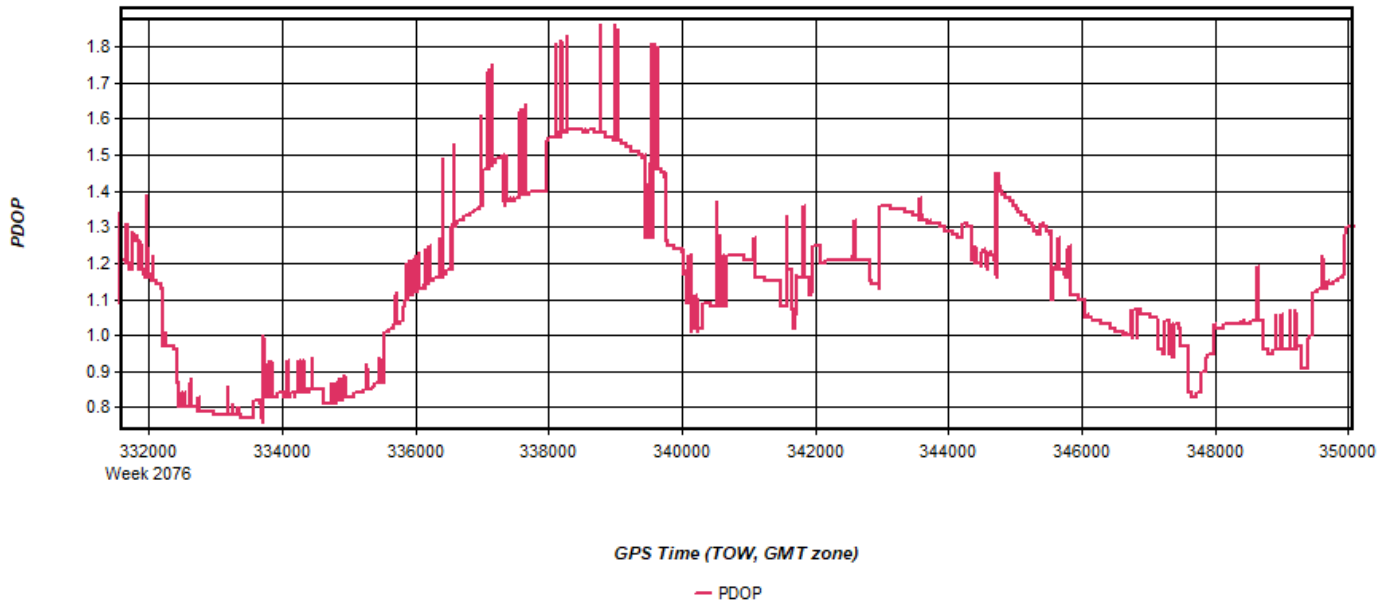
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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**Figure 5: 20191023200504 [Smoothed TC Combined] - Estimated Position Accuracy Plot**



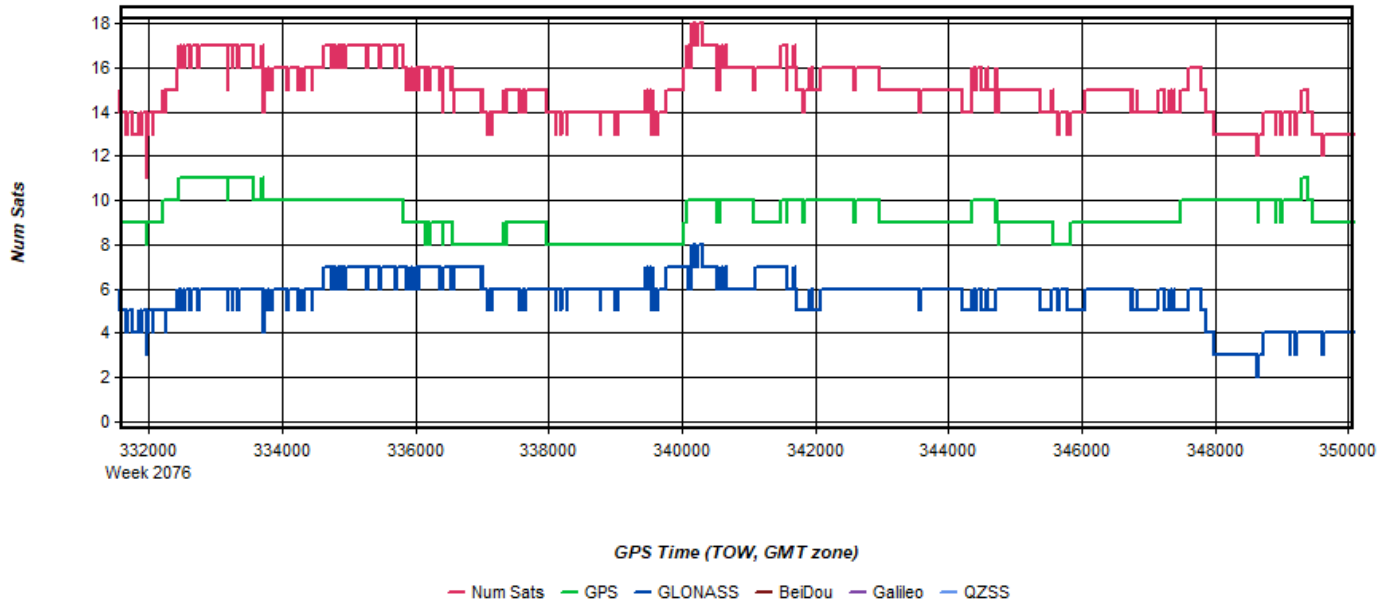
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 6: 20191023200504 [Smoothed TC Combined] - PDOP Plot



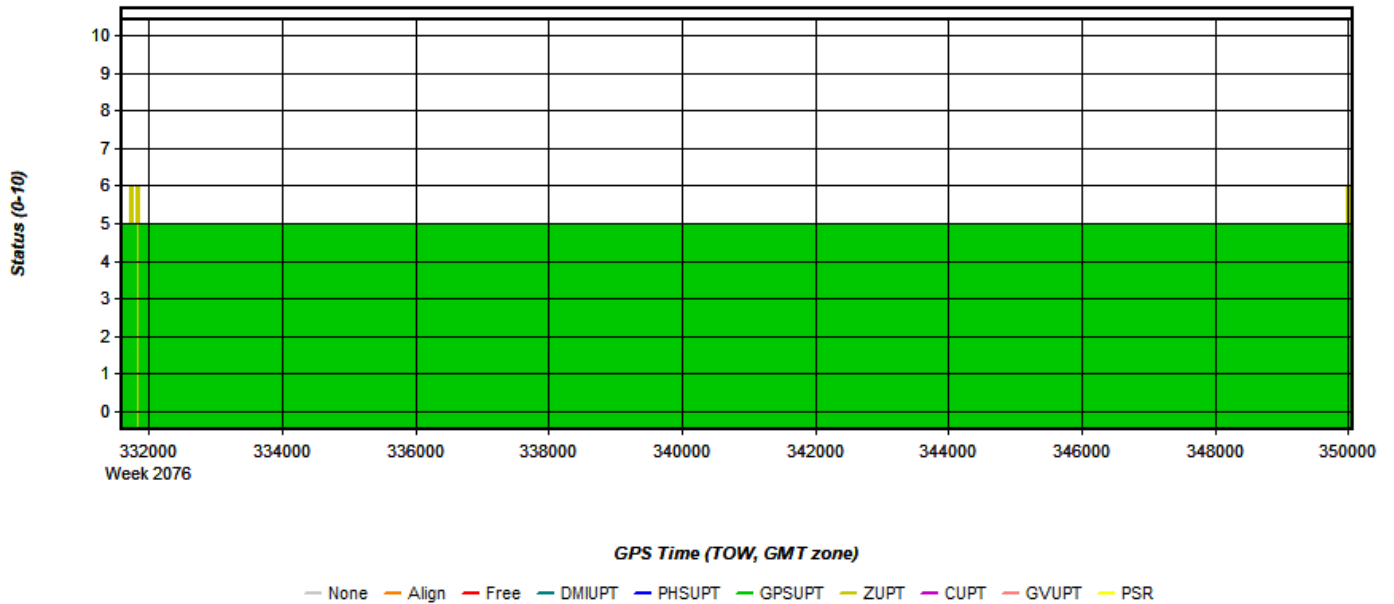
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 7: 20191023200504 [Smoothed TC Combined] - Number of Satellites Line Plot



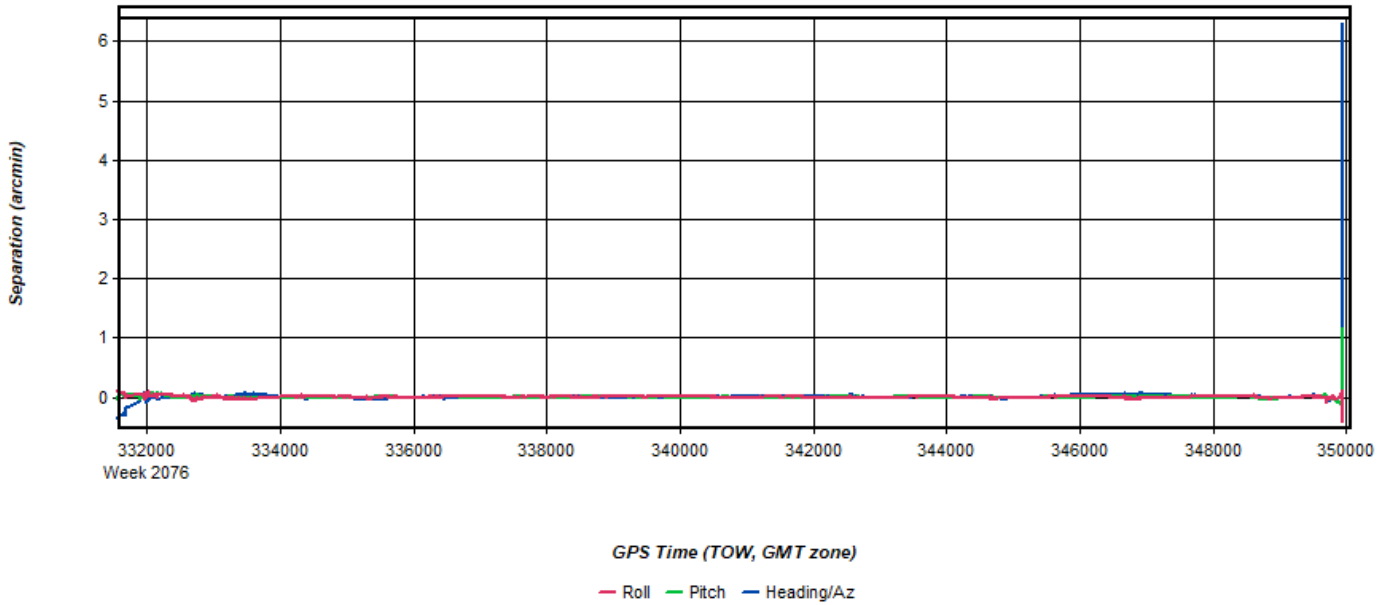
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 8: 20191023200504 [Smoothed TC Combined] - Status flag for IMU processing



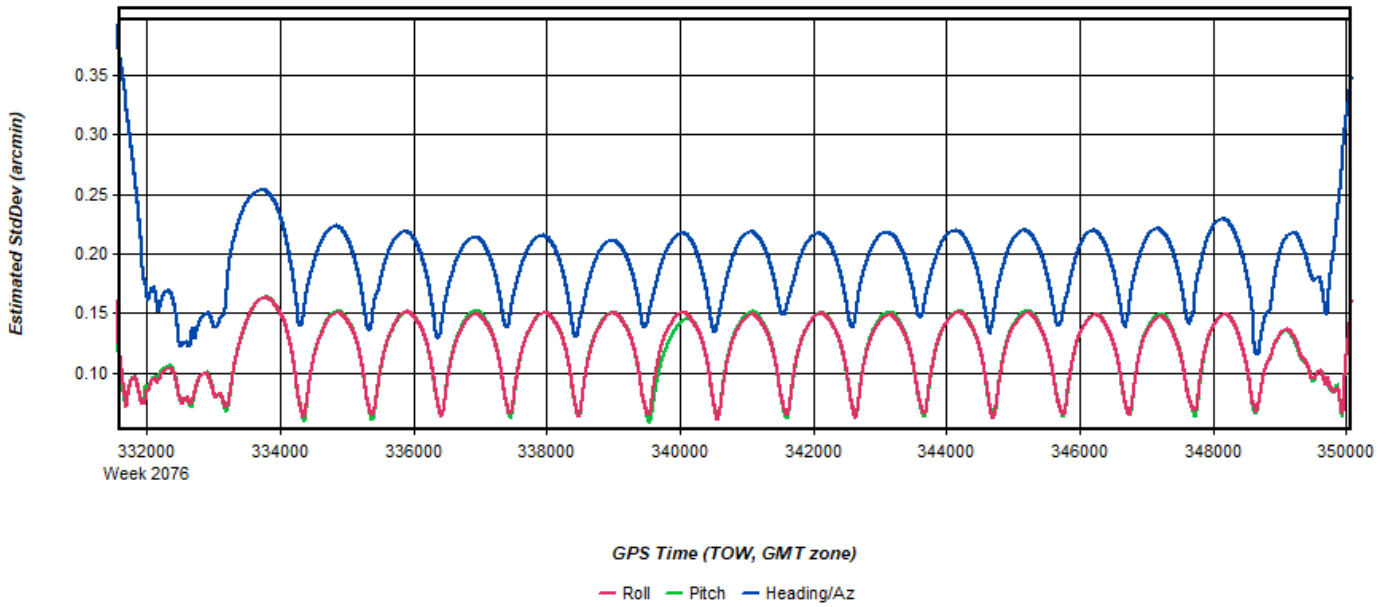
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 9: 20191023200504 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



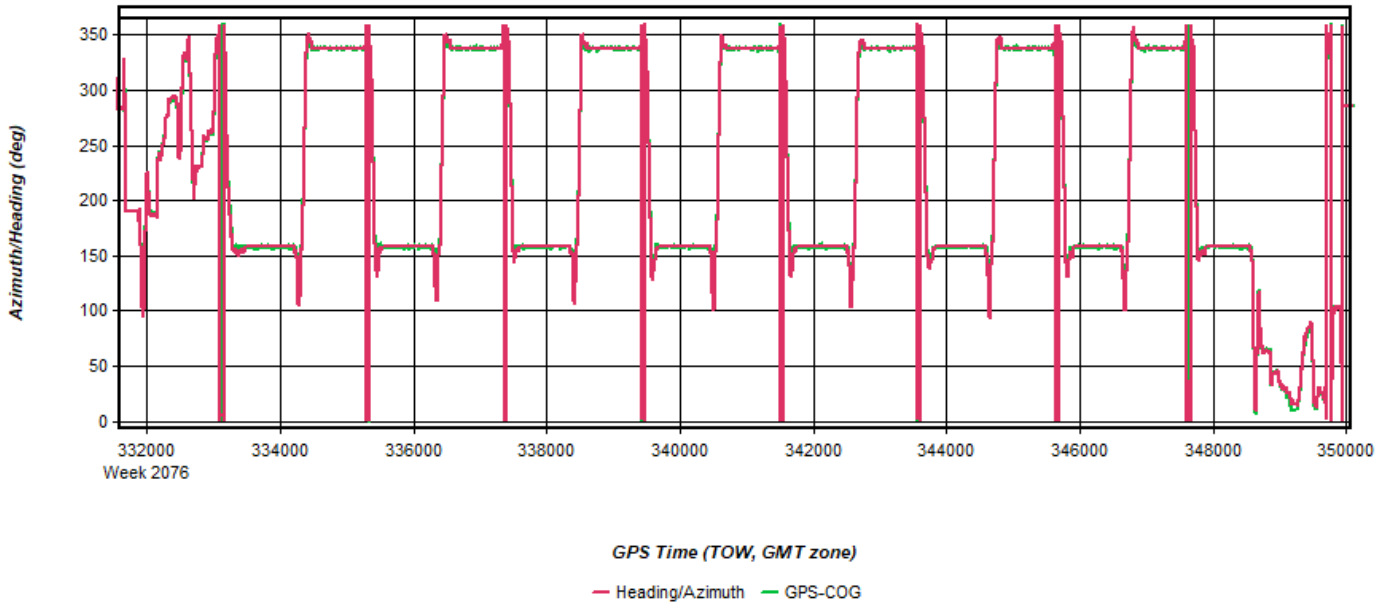
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 10: 20191023200504 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



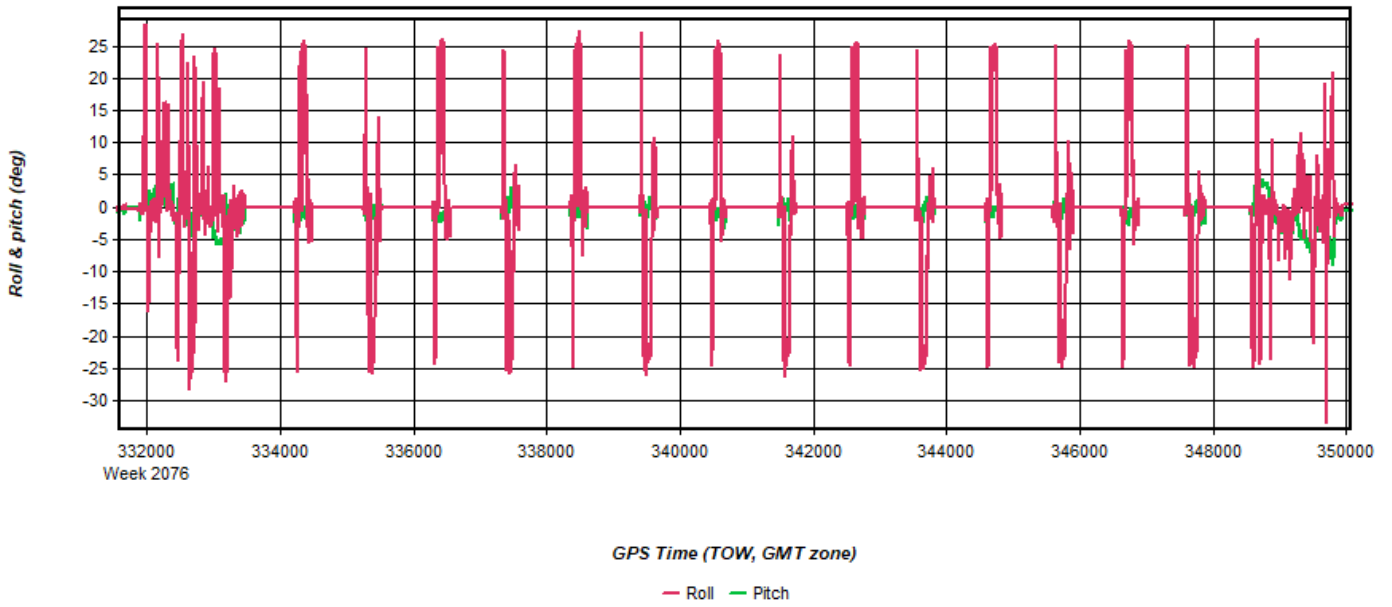
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 11: 20191023200504 [Smoothed TC Combined] - Azimuth Plot



Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 12: 20191023200504 [Smoothed TC Combined] - Roll & Pitch Plot



Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 13: 20191023200504 [Smoothed TC Combined] - Velocity Profile Plot

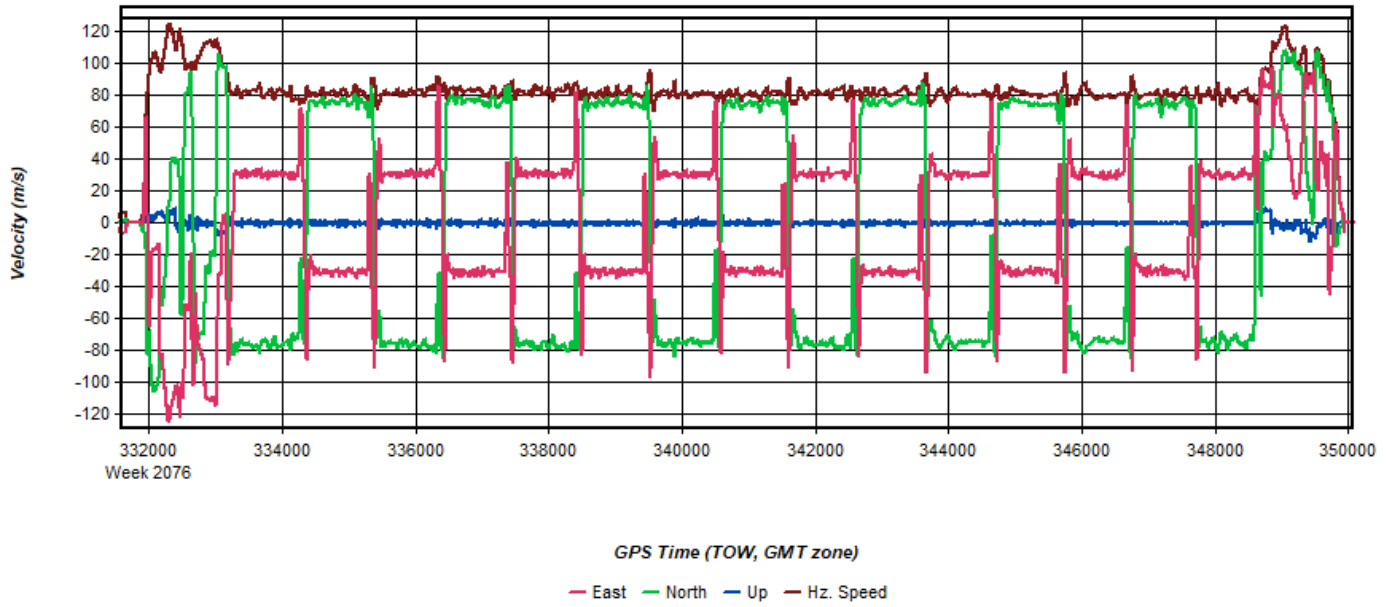


Figure 14: 20191023200504 [Smoothed TC Combined] - Body Frame Velocity Plot

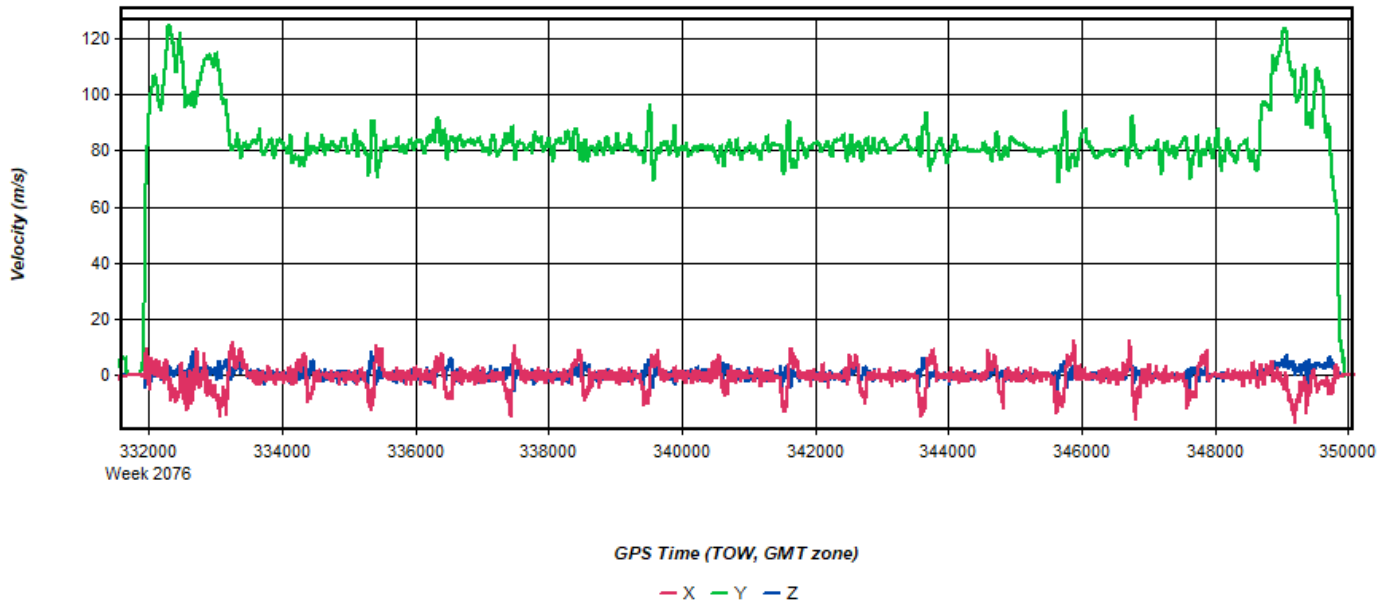


Figure 15: 20191023200504 [Smoothed TC Combined] - Height Profile Plot

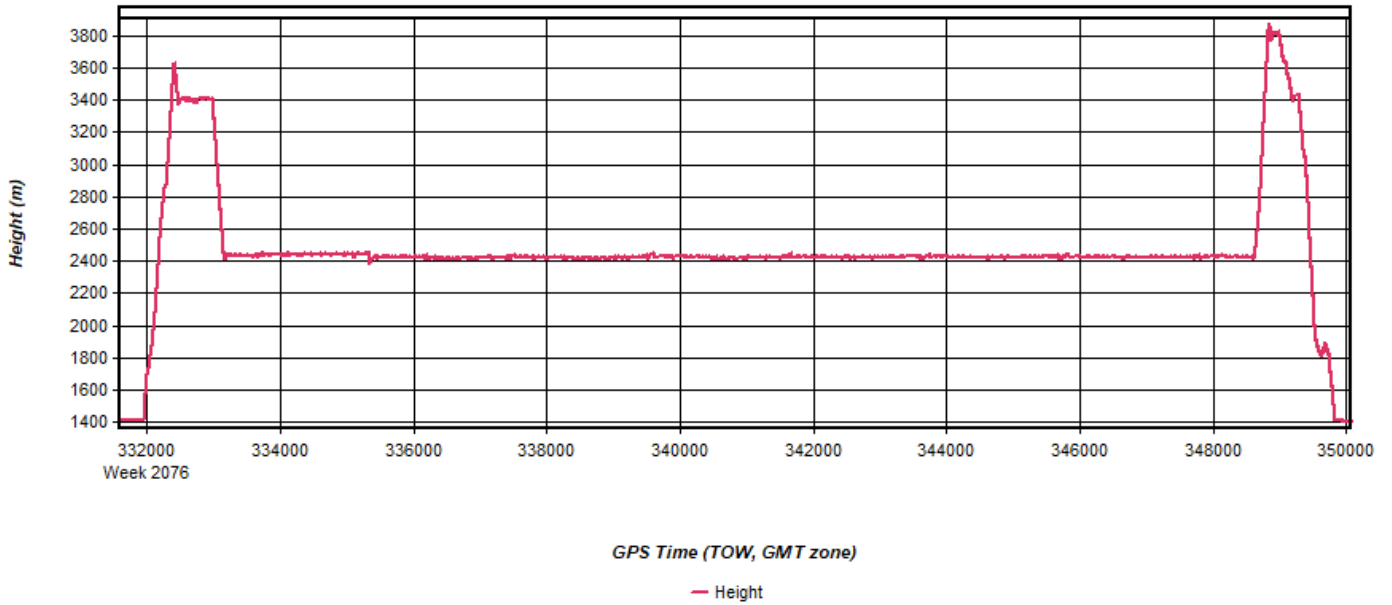


Figure 16: 20191023200504 [Smoothed TC Combined] - C/A Code Residual RMS Plot

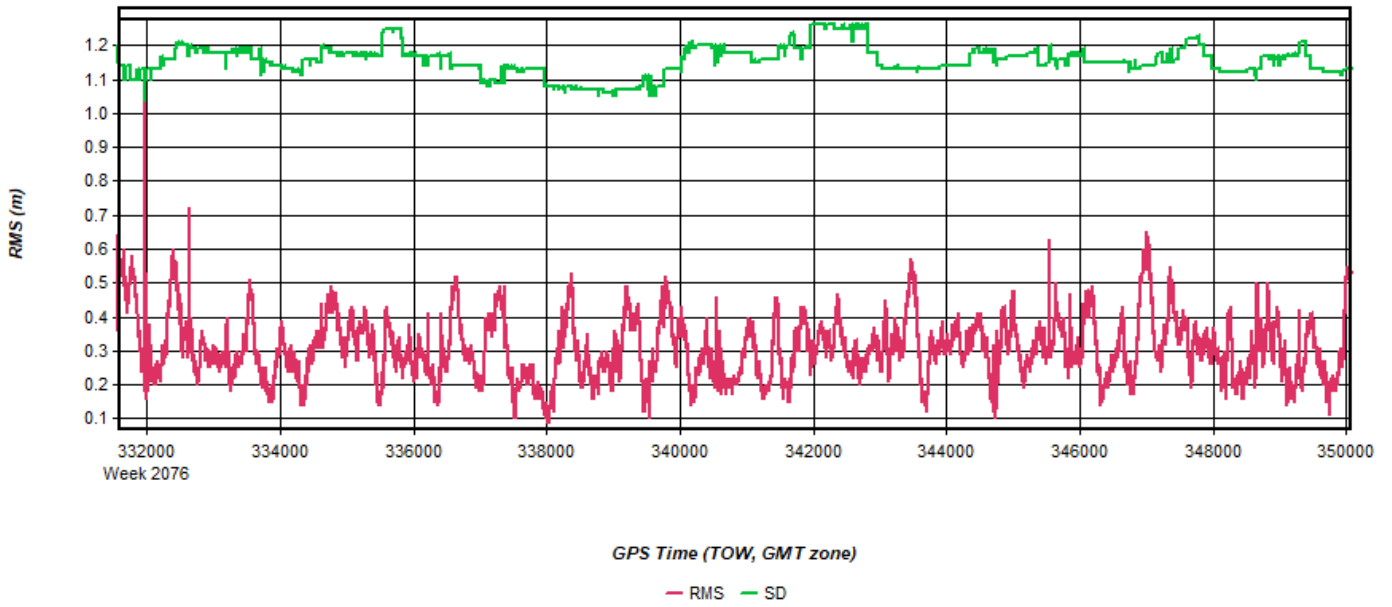
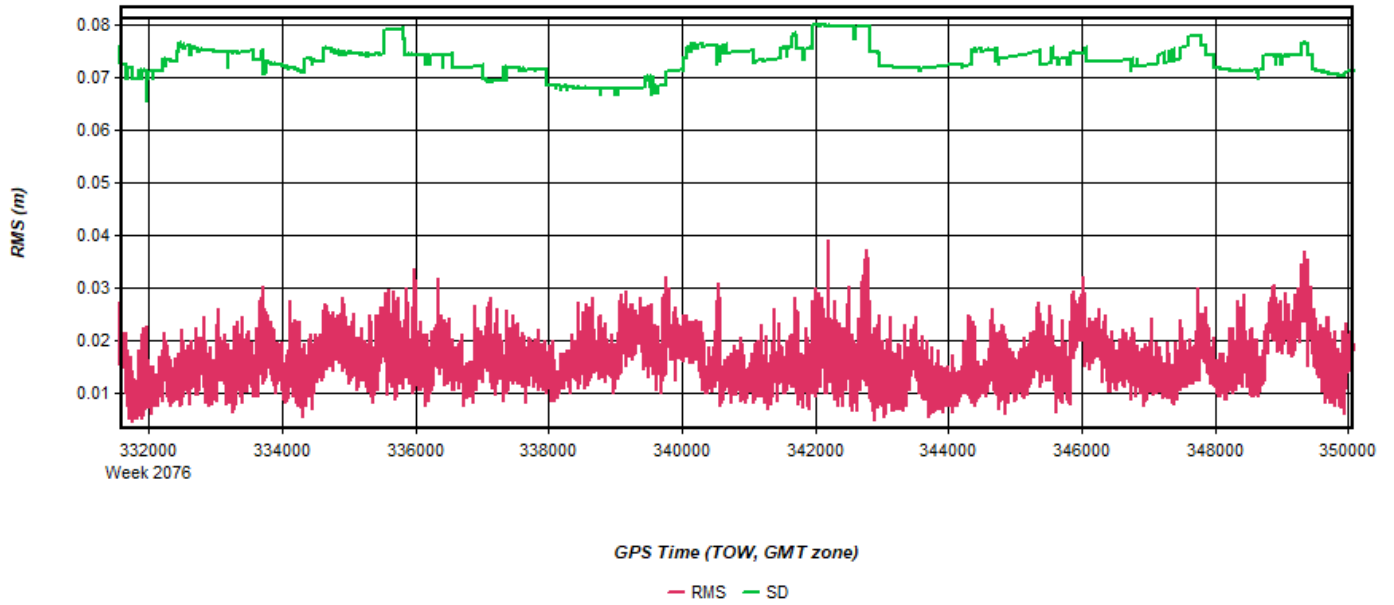


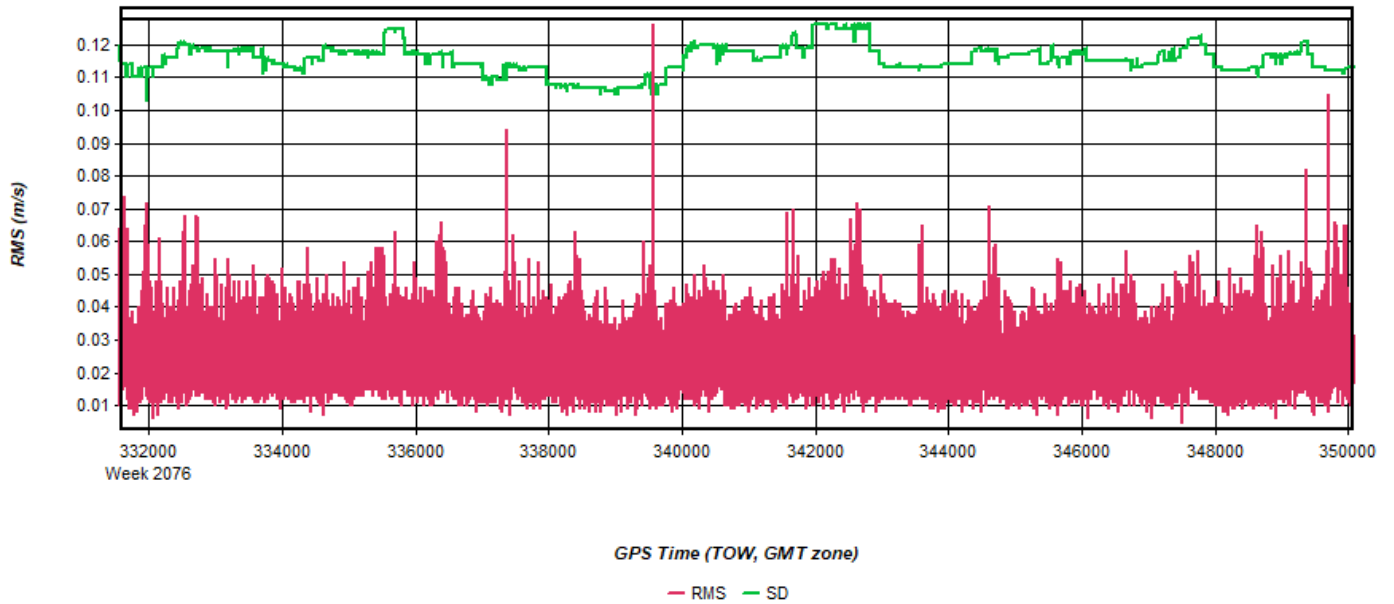
Figure 17: 20191023200504 [Smoothed TC Combined] - Carrier Residual RMS Plot





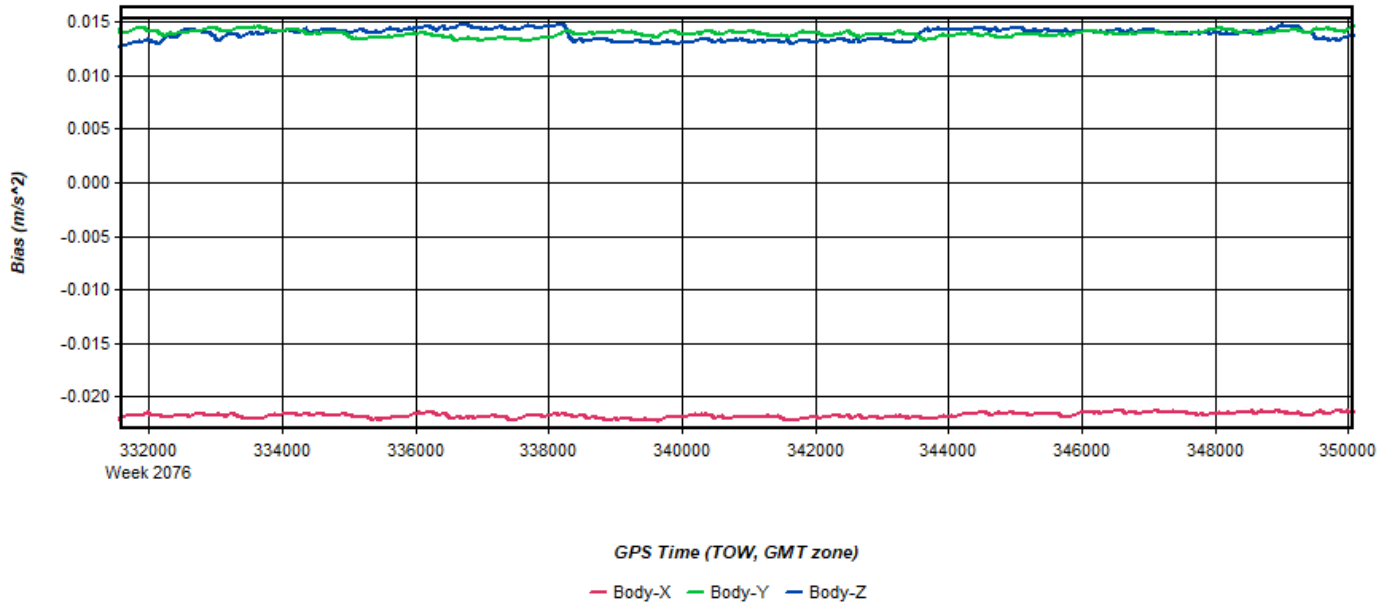
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 18: 20191023200504 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



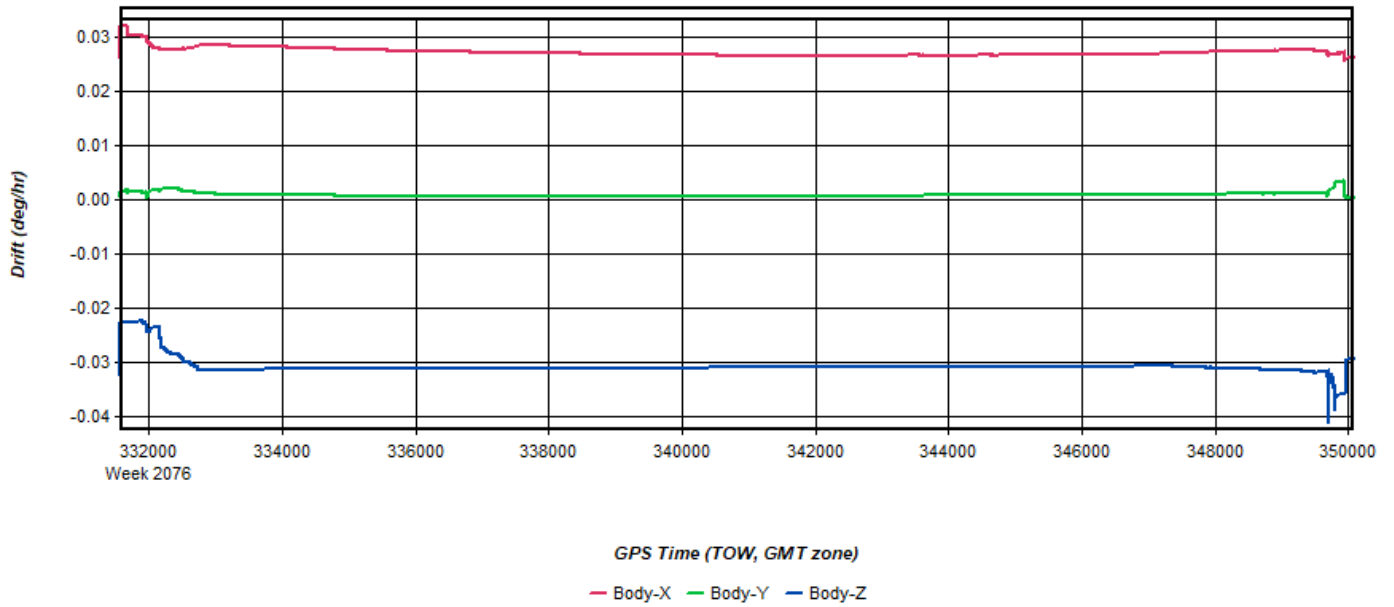
Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 19: 20191023200504 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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Figure 20: 20191023200504 [Smoothed TC Combined] - Gyro Drift Plot



Process	20191023200504	by Unknown	on 10/26/2019	at 15:38:16
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# Output Results for 20191024142210

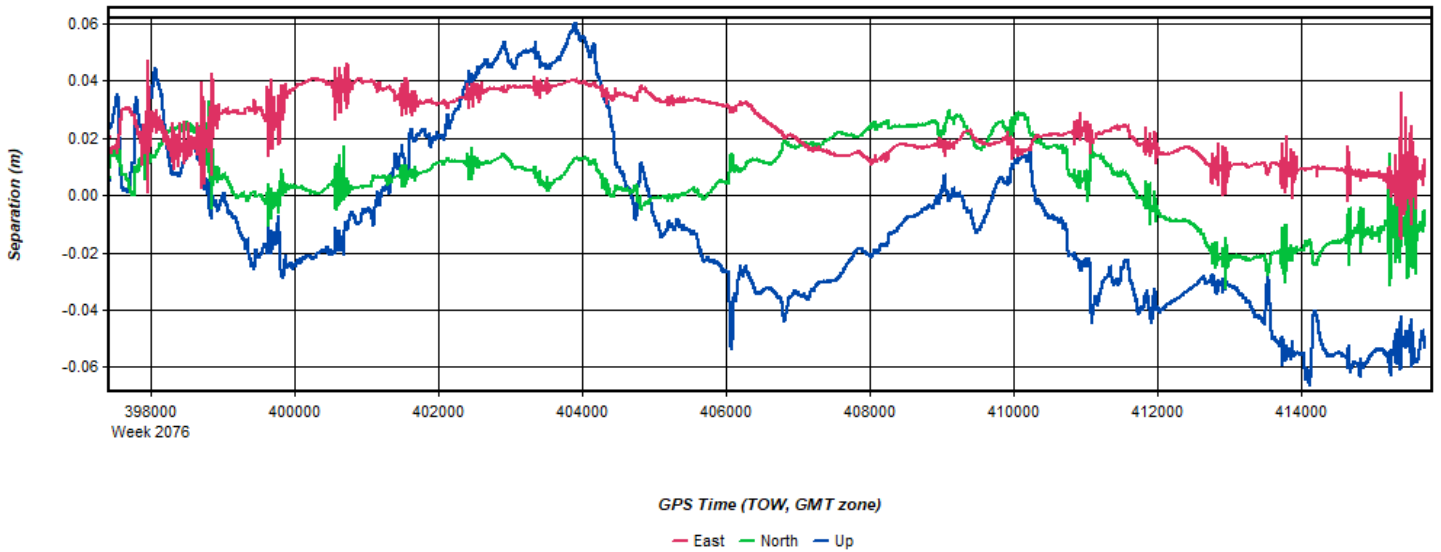
Inertial Explorer Version 8.80.2305  
10/28/2019

Figure 1: Smoothed TC Combined - Map



Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 2: 20191024142210 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 3: 20191024142210 [Smoothed TC Combined] - Float or Fixed Ambiguity

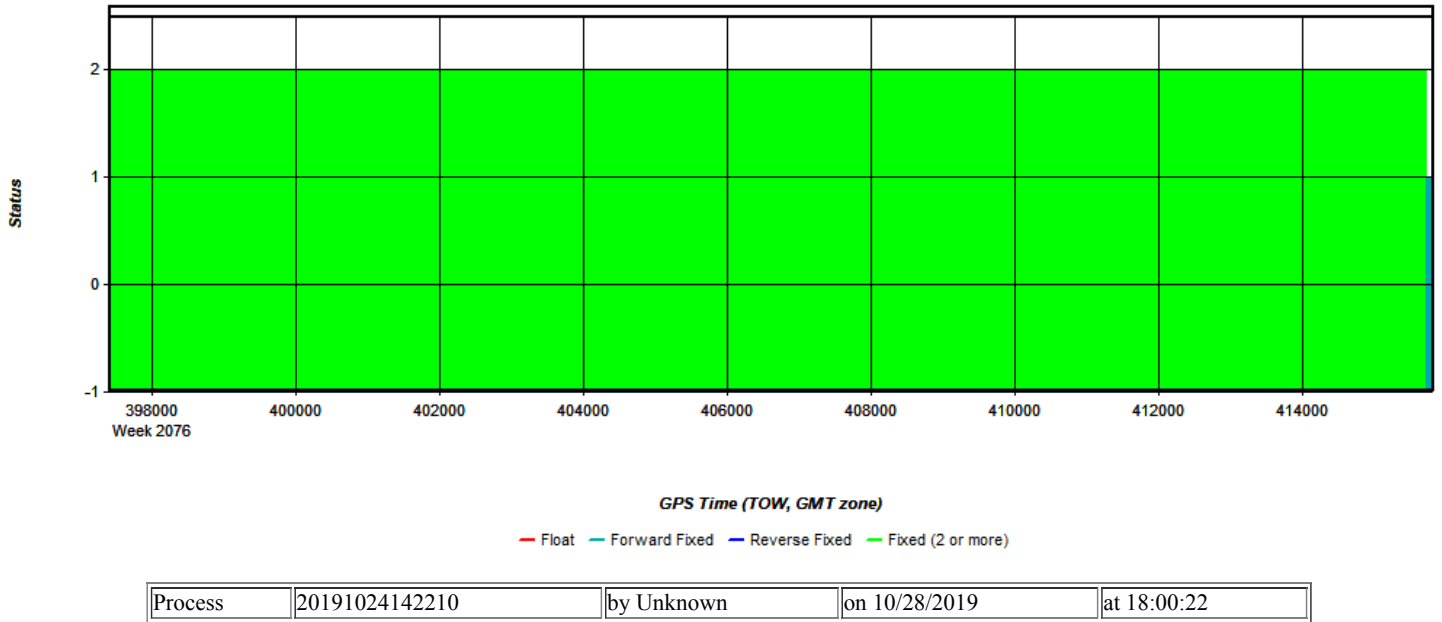


Figure 4: 20191024142210 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)

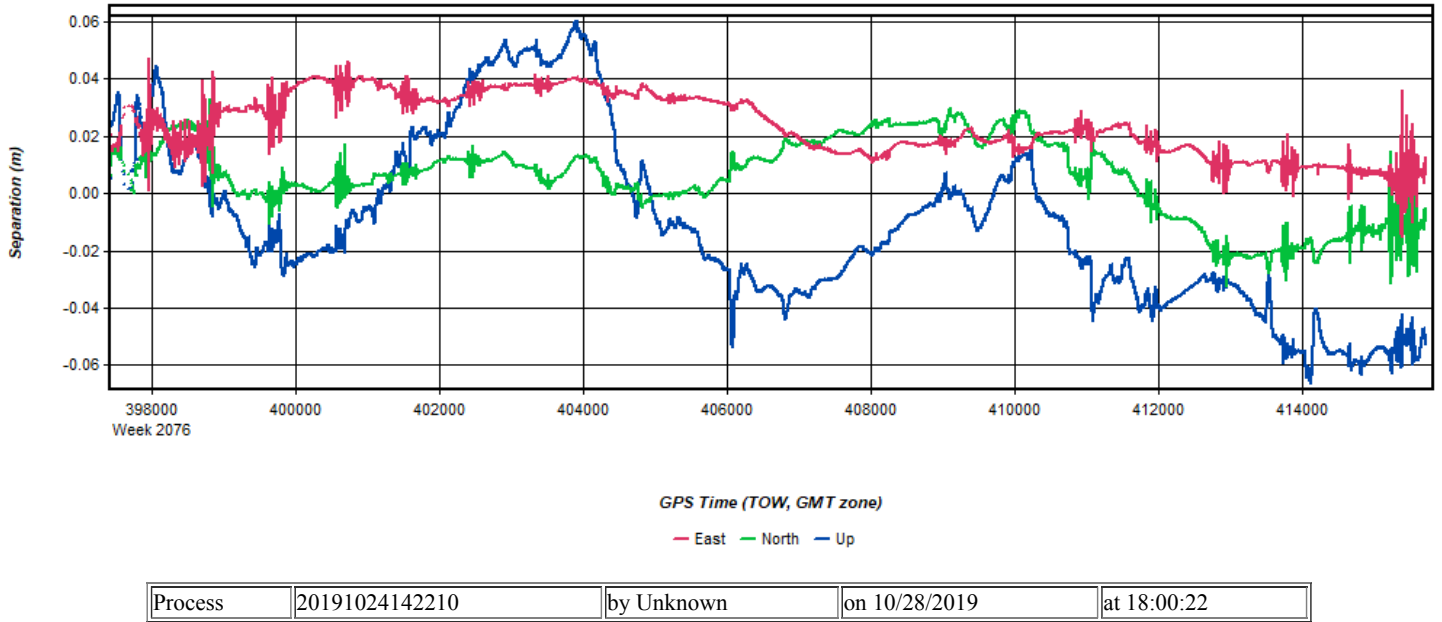
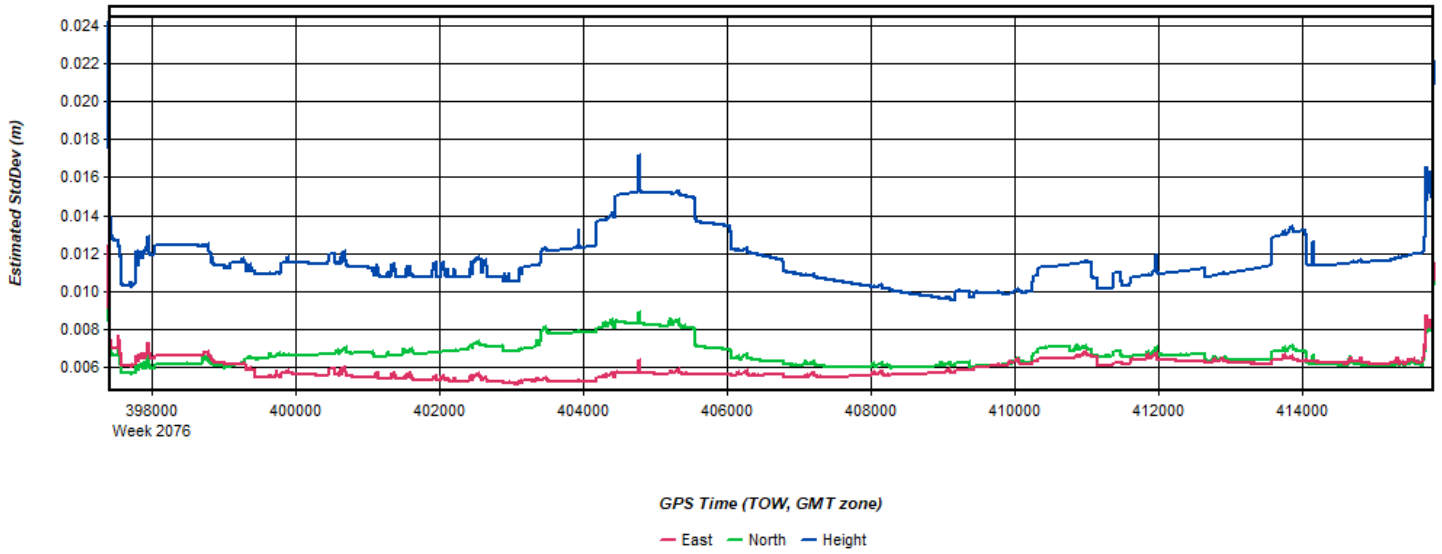
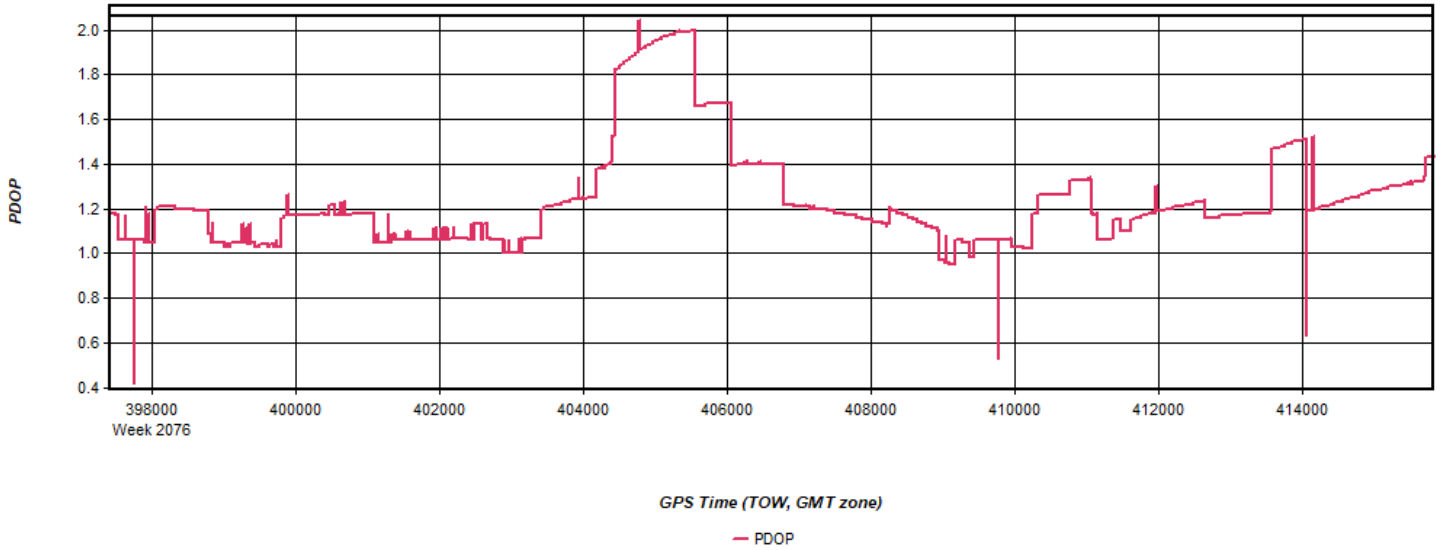


Figure 5: 20191024142210 [Smoothed TC Combined] - Estimated Position Accuracy Plot



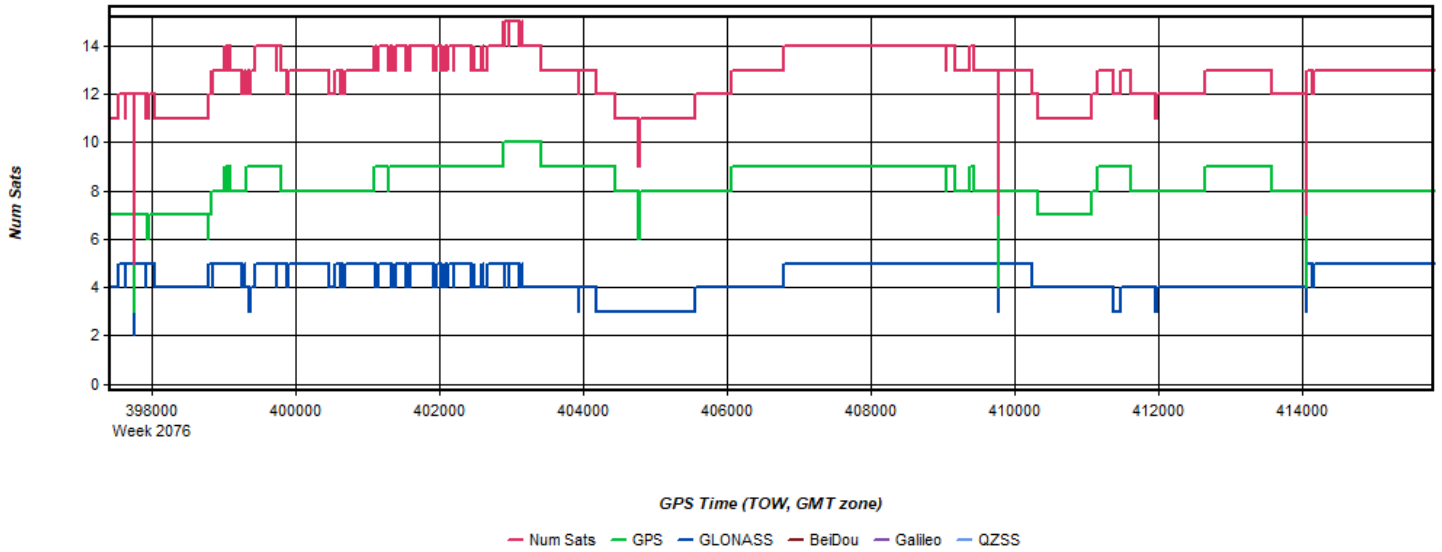
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 6: 20191024142210 [Smoothed TC Combined] - PDOP Plot



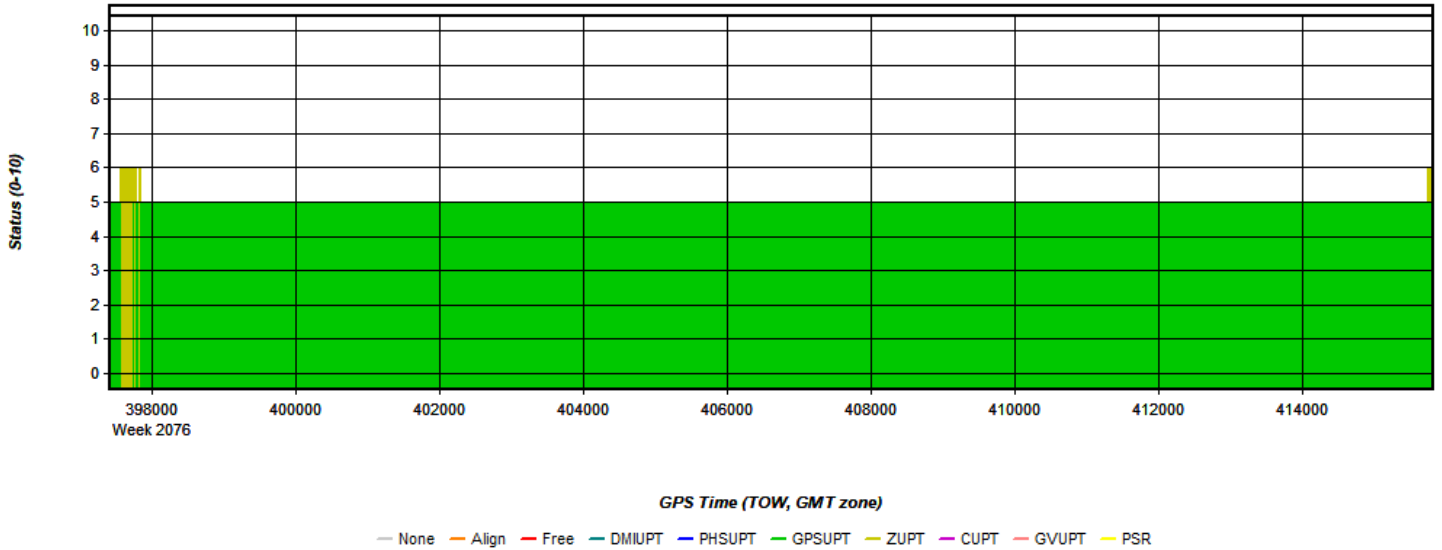
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 7: 20191024142210 [Smoothed TC Combined] - Number of Satellites Line Plot



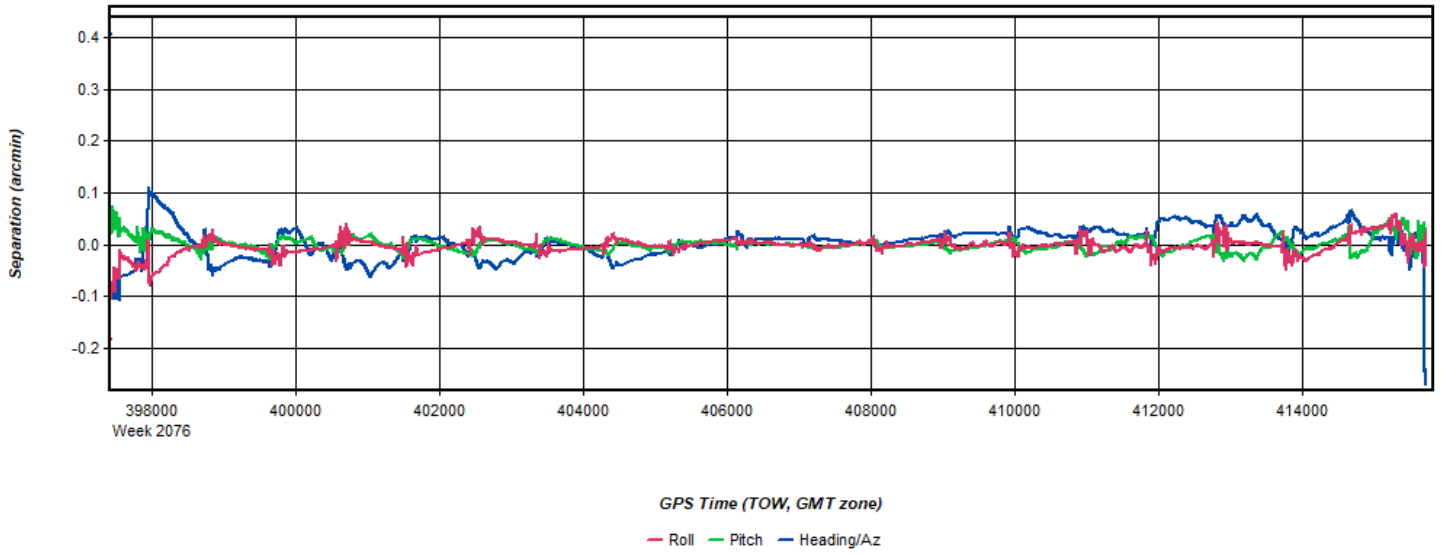
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 8: 20191024142210 [Smoothed TC Combined] - Status flag for IMU processing



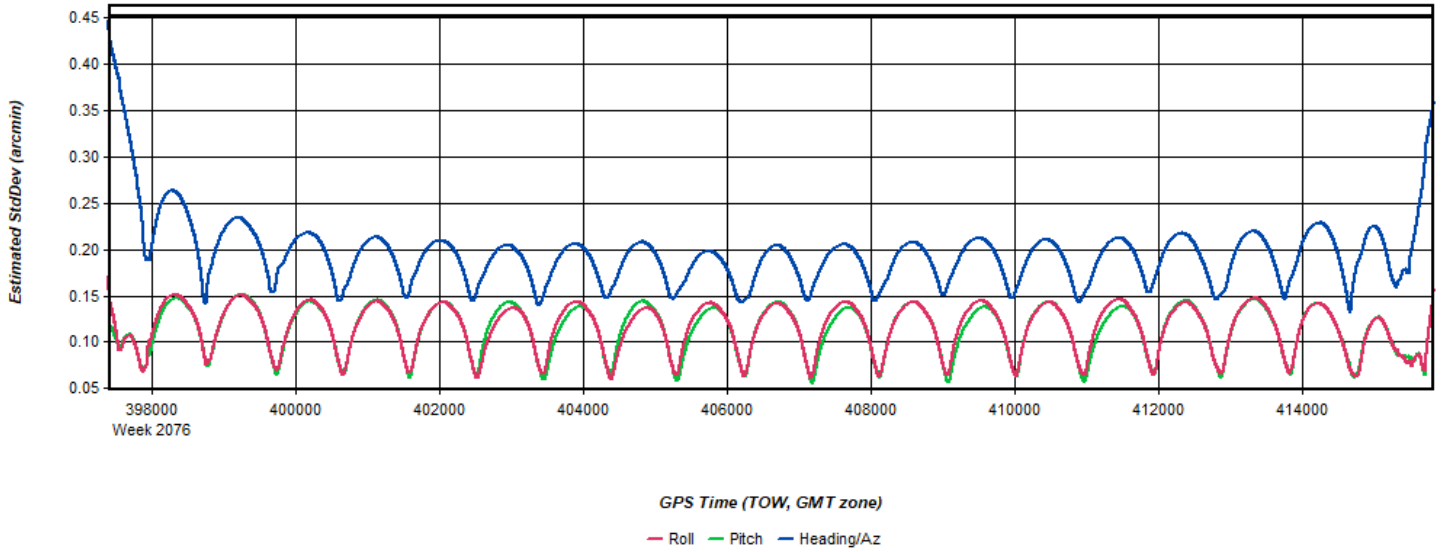
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 9: 20191024142210 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



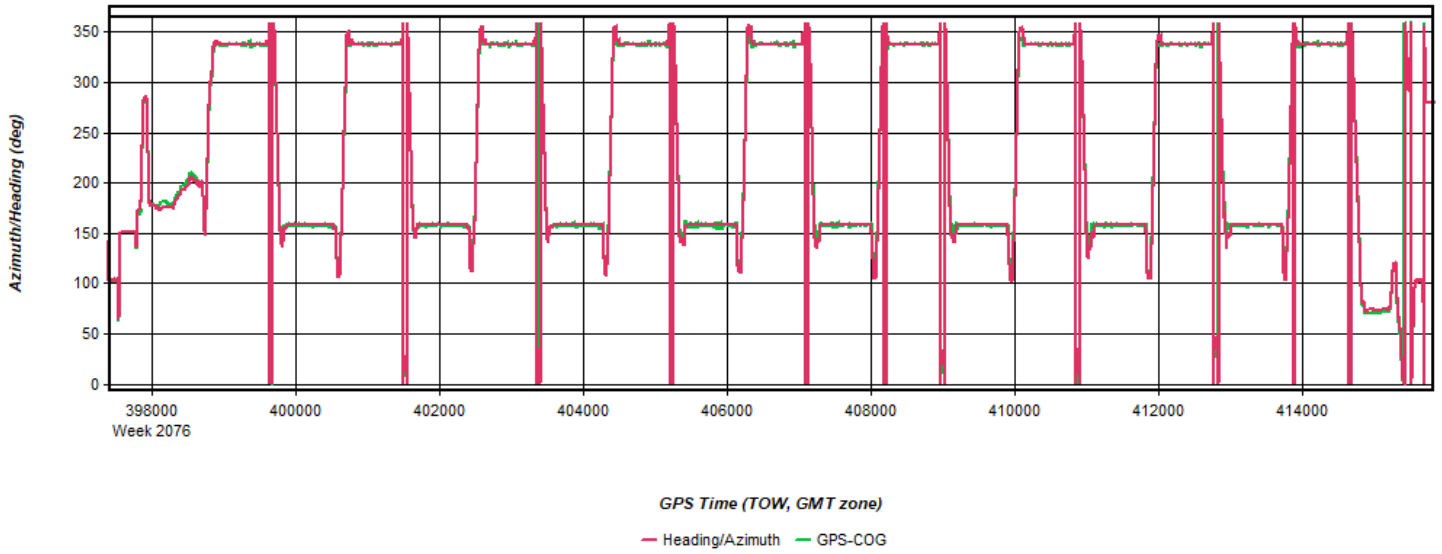
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 10: 20191024142210 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



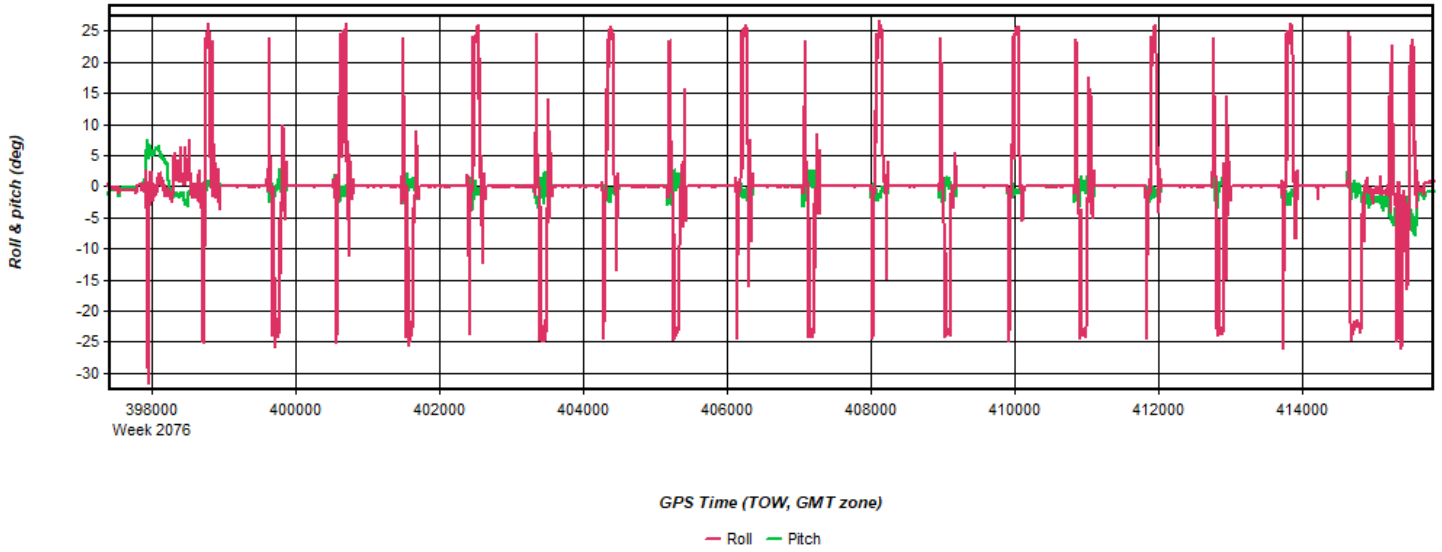
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 11: 20191024142210 [Smoothed TC Combined] - Azimuth Plot



Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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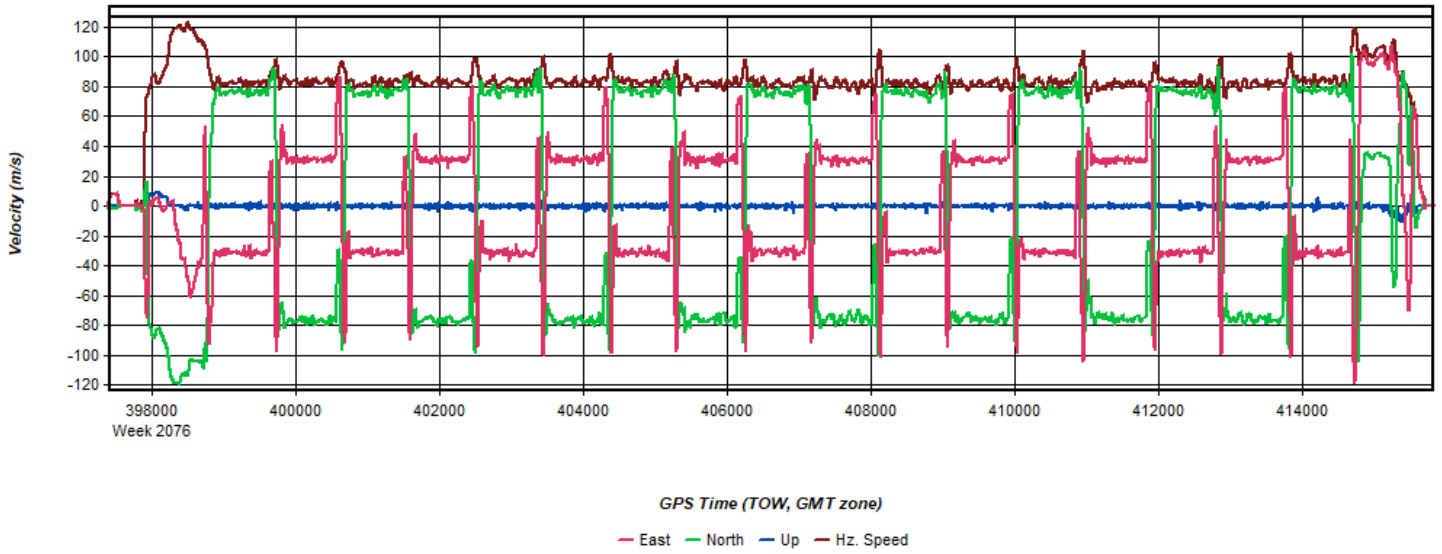
Figure 12: 20191024142210 [Smoothed TC Combined] - Roll & Pitch Plot



Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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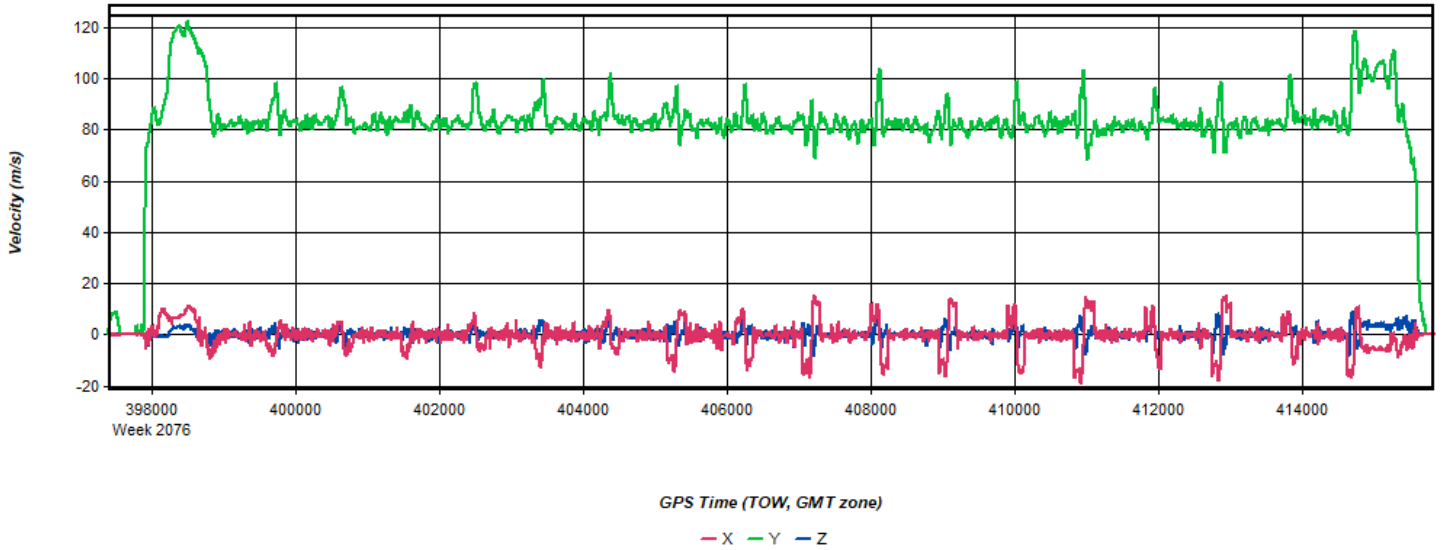
Figure 13: 20191024142210 [Smoothed TC Combined] - Velocity Profile Plot





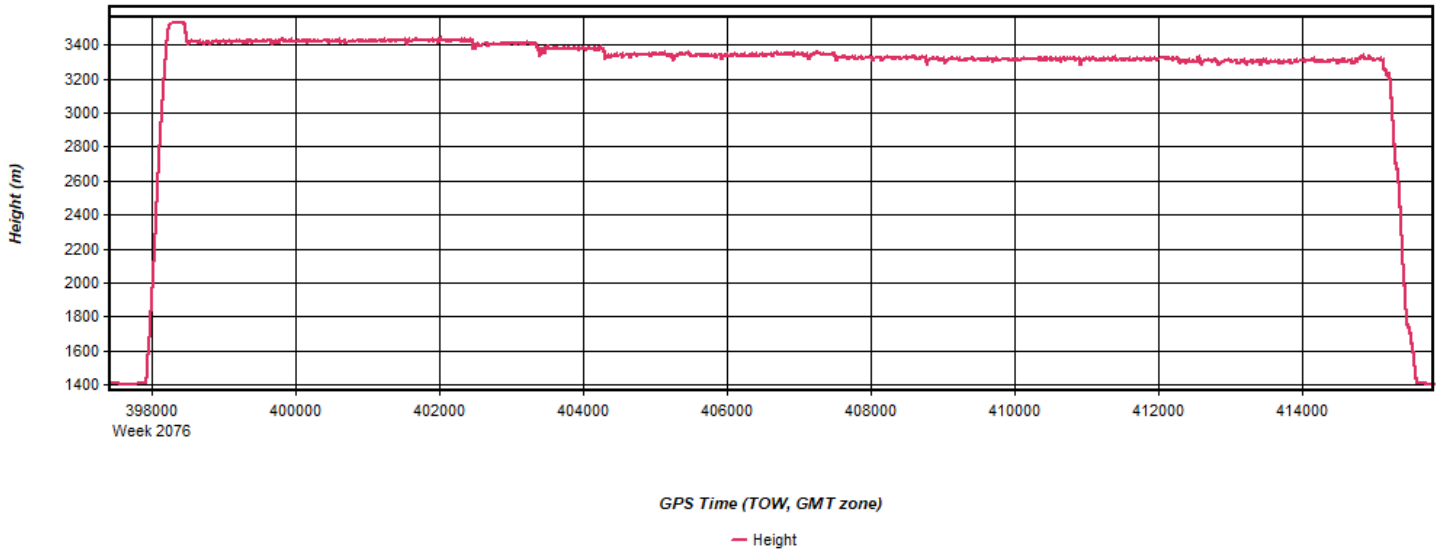
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 14: 20191024142210 [Smoothed TC Combined] - Body Frame Velocity Plot



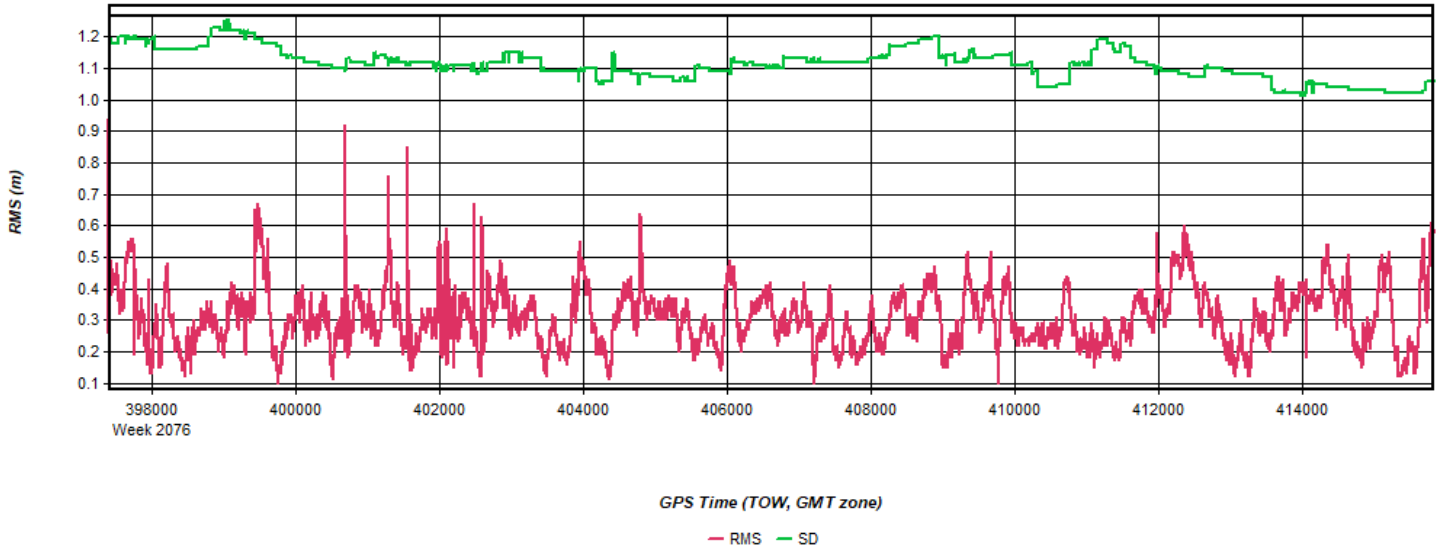
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 15: 20191024142210 [Smoothed TC Combined] - Height Profile Plot



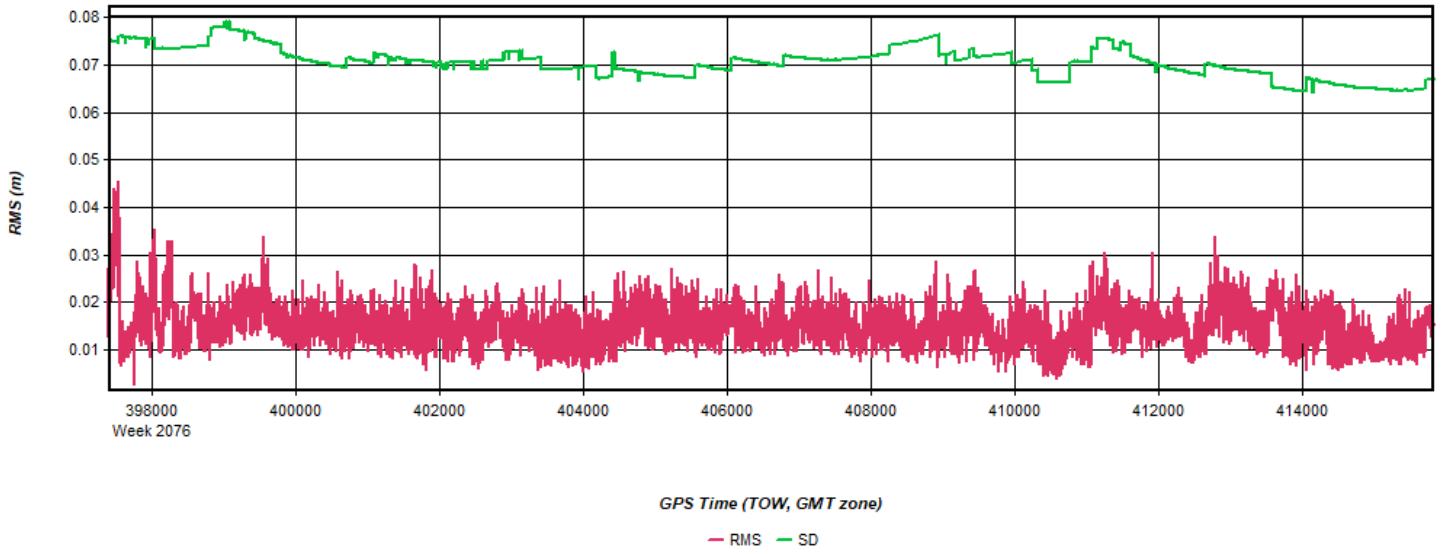
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 16: 20191024142210 [Smoothed TC Combined] - C/A Code Residual RMS Plot



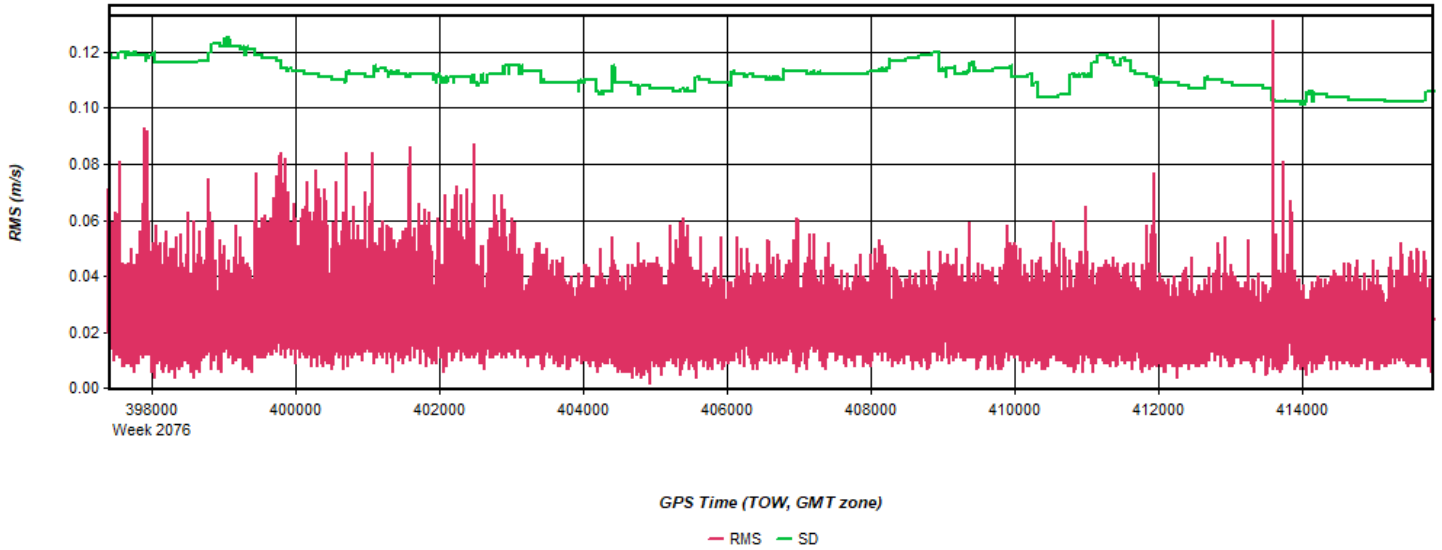
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 17: 20191024142210 [Smoothed TC Combined] - Carrier Residual RMS Plot



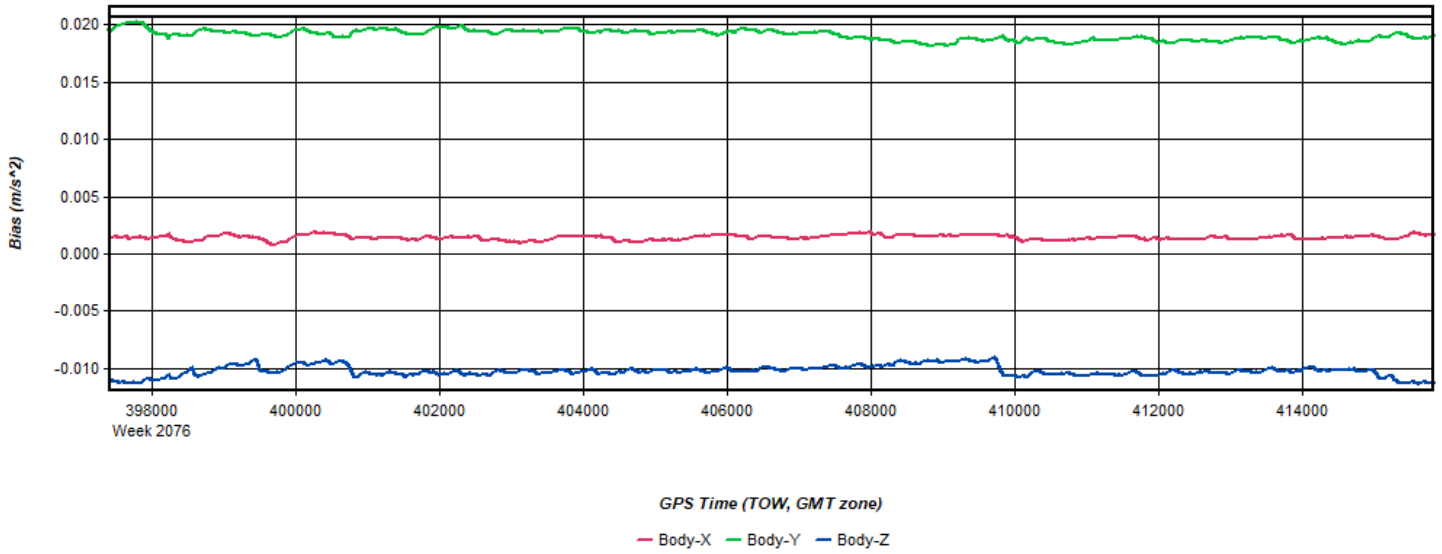
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 18: 20191024142210 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



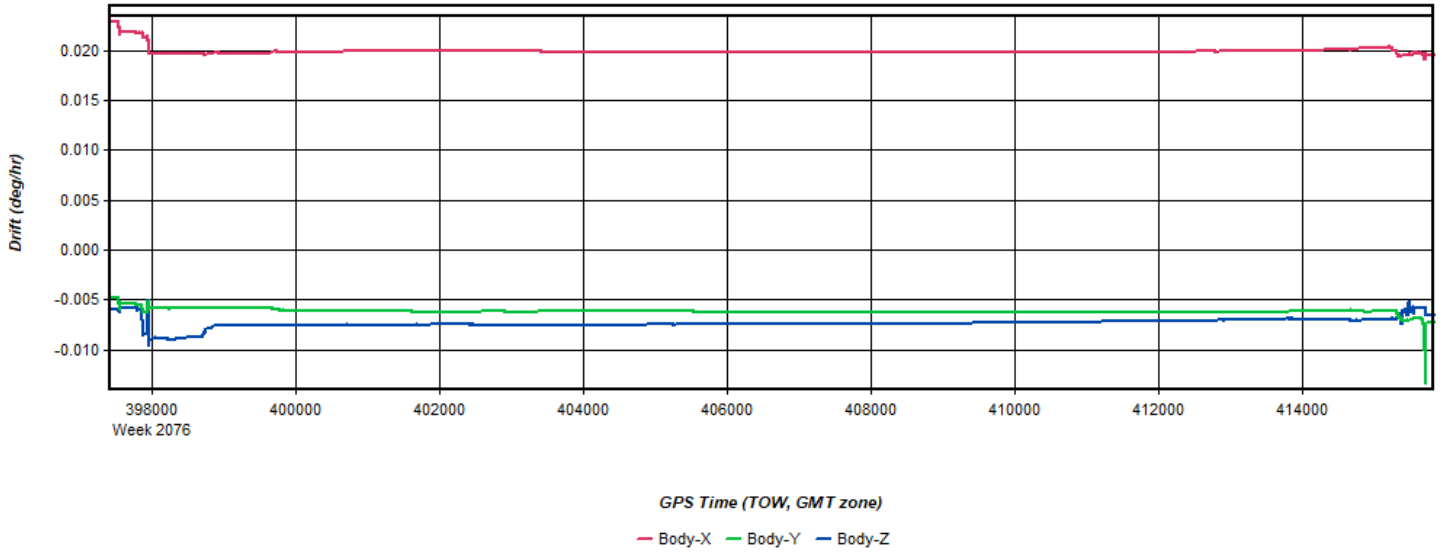
Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 19: 20191024142210 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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Figure 20: 20191024142210 [Smoothed TC Combined] - Gyro Drift Plot



Process	20191024142210	by Unknown	on 10/28/2019	at 18:00:22
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# Output Results for 20191024200502

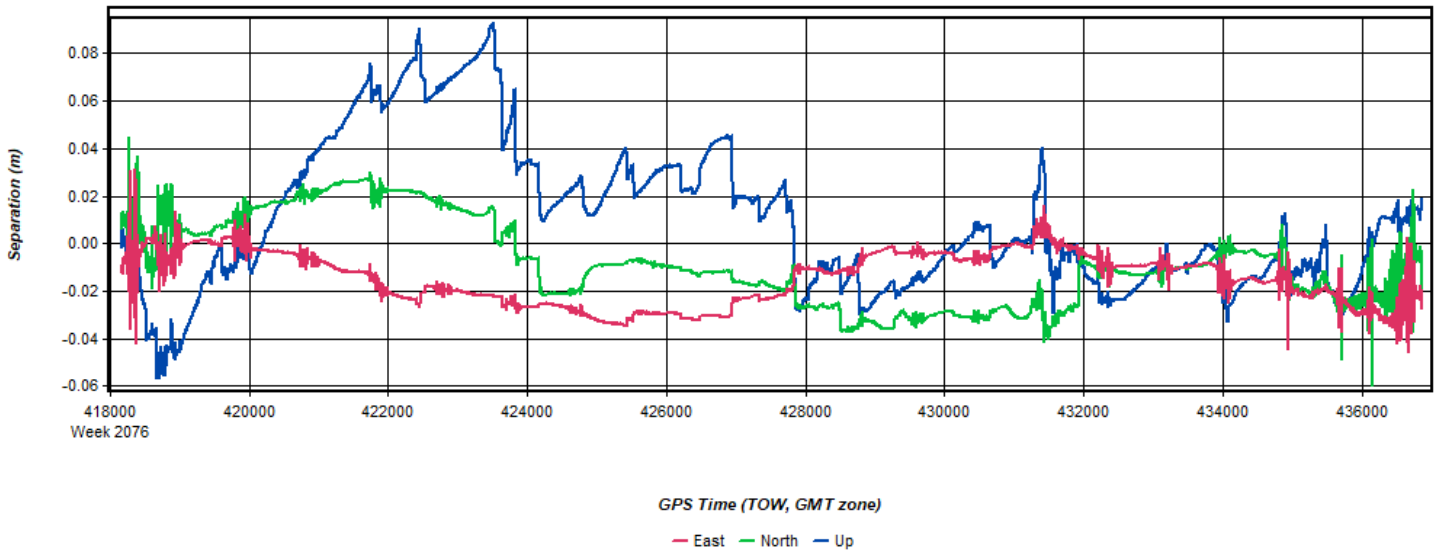
Inertial Explorer Version 8.80.2305  
10/28/2019

Figure 1: Smoothed TC Combined - Map



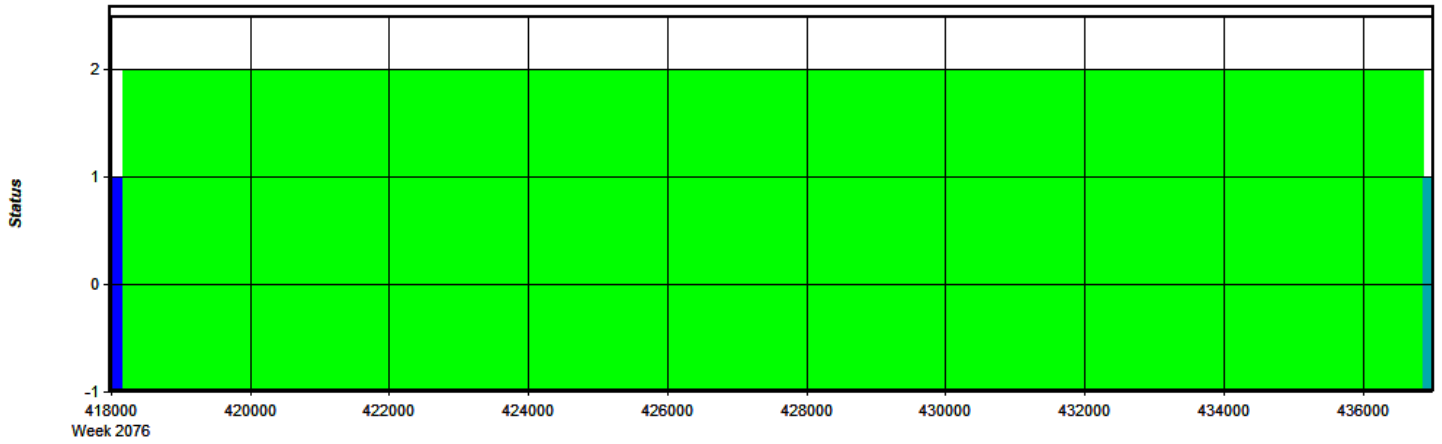
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 2: 20191024200502 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 3: 20191024200502 [Smoothed TC Combined] - Float or Fixed Ambiguity

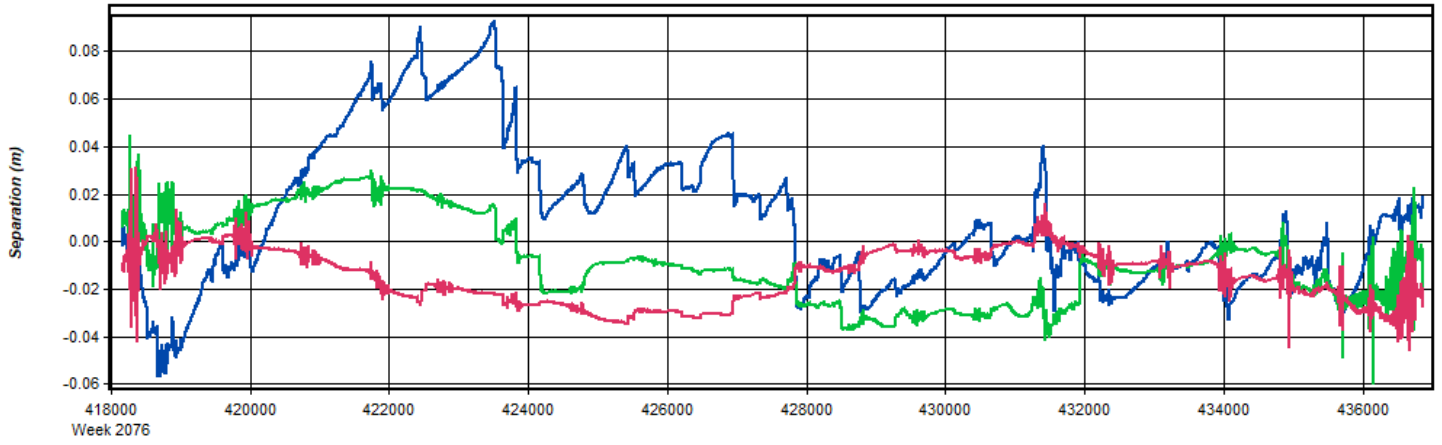


GPS Time (TOW, GMT zone)

— Float — Forward Fixed — Reverse Fixed — Fixed (2 or more)

Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 4: 20191024200502 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)

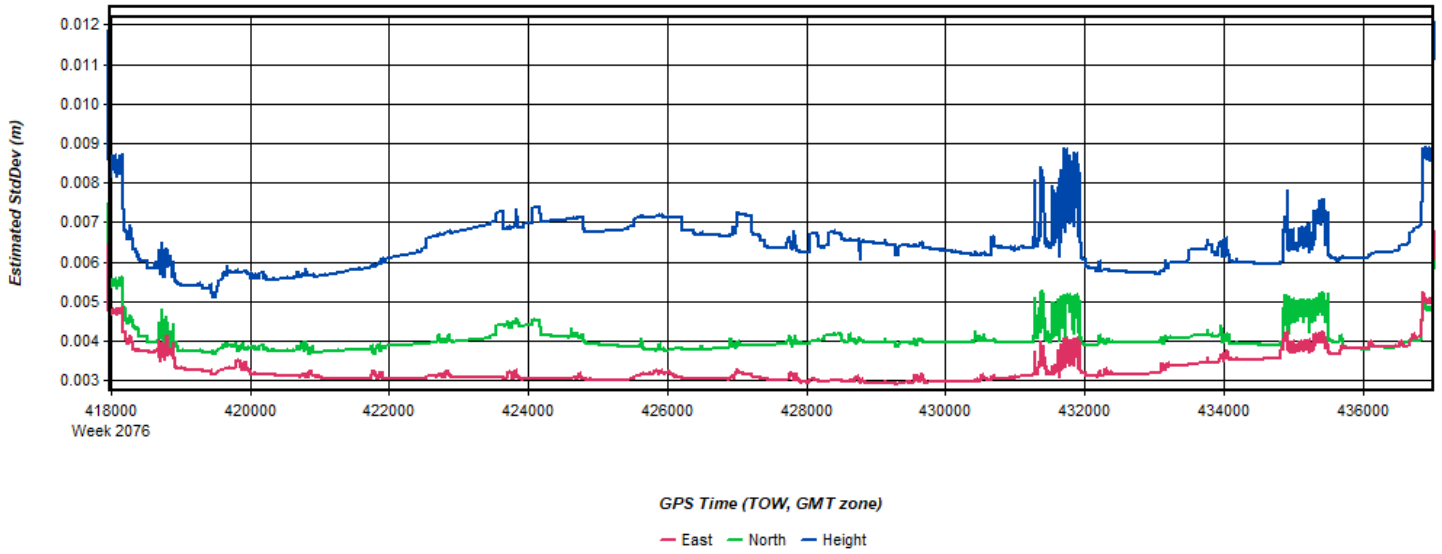


GPS Time (TOW, GMT zone)

— East — North — Up

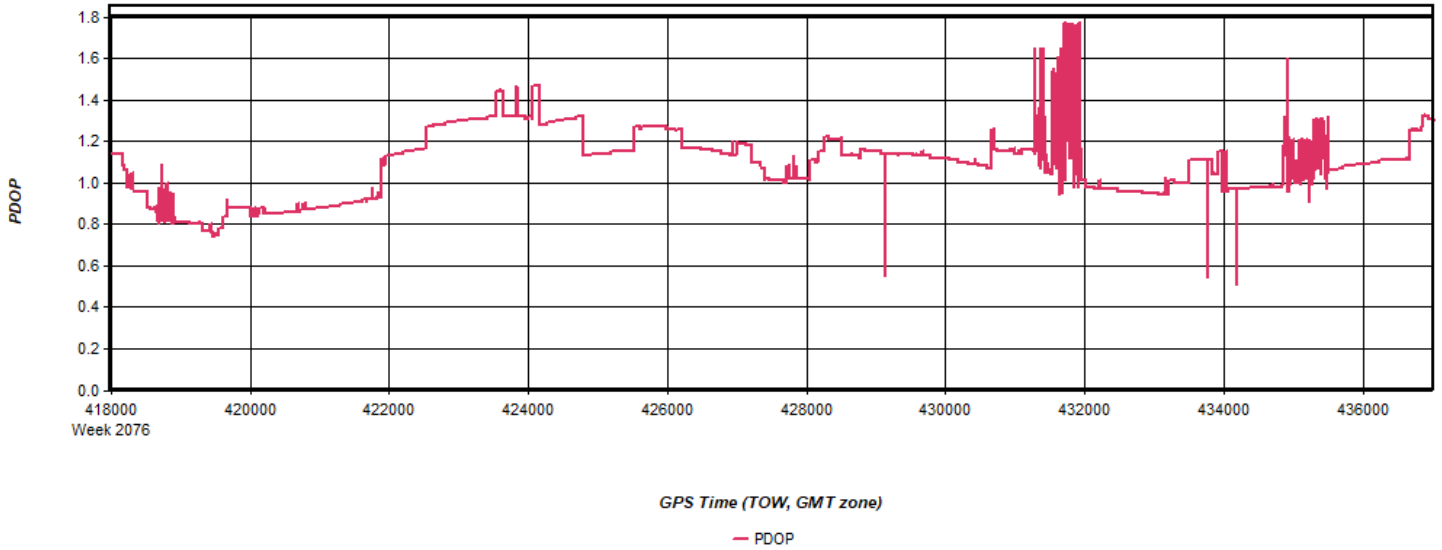
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 5: 20191024200502 [Smoothed TC Combined] - Estimated Position Accuracy Plot



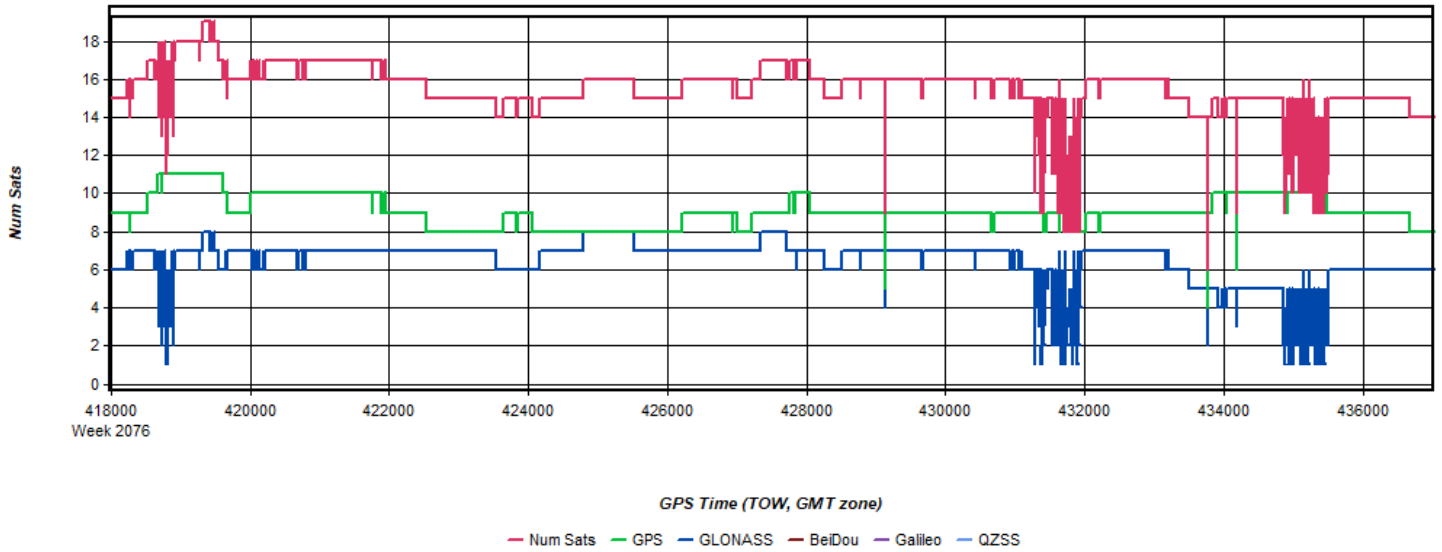
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 6: 20191024200502 [Smoothed TC Combined] - PDOP Plot



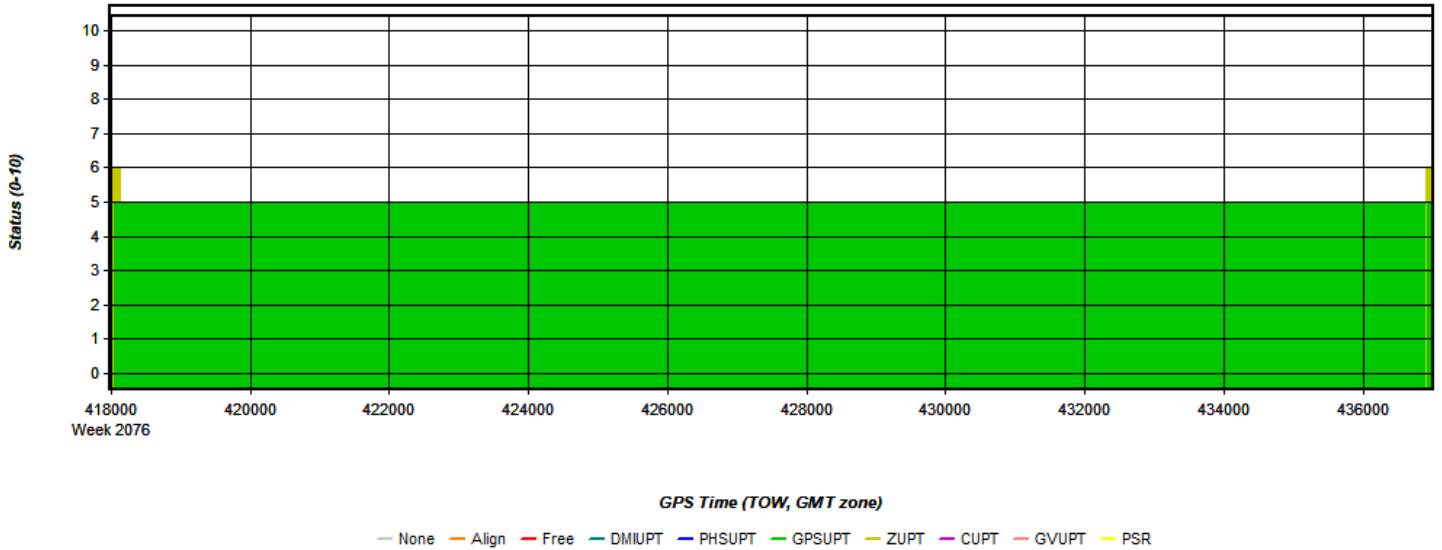
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 7: 20191024200502 [Smoothed TC Combined] - Number of Satellites Line Plot



Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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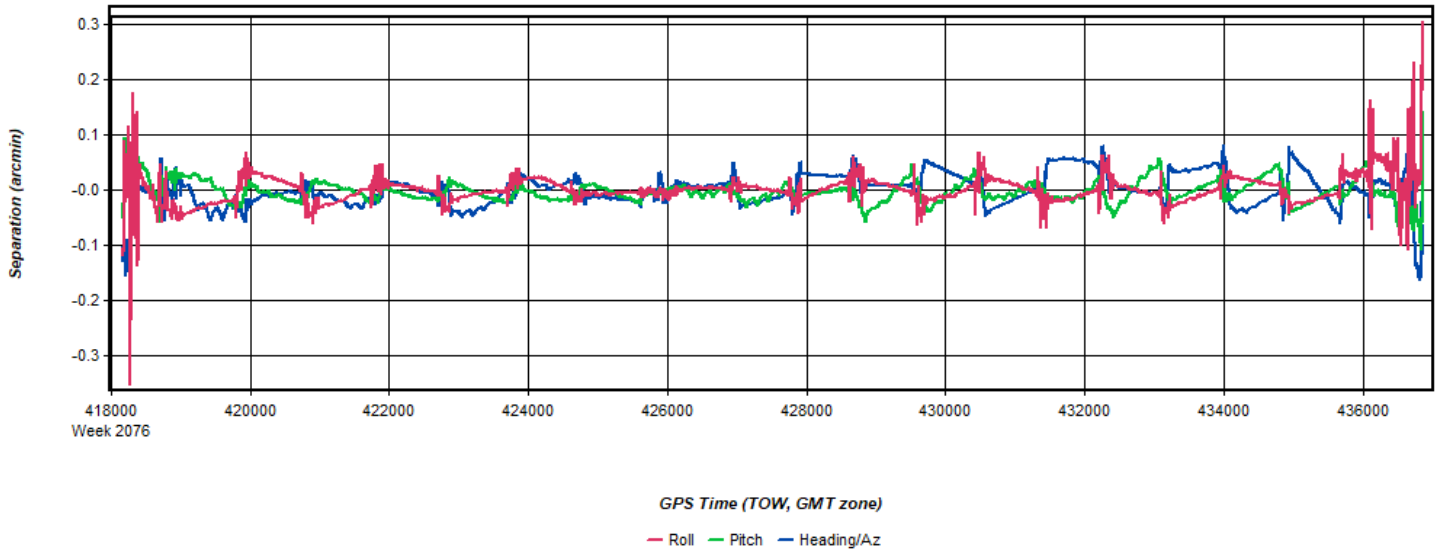
Figure 8: 20191024200502 [Smoothed TC Combined] - Status flag for IMU processing



Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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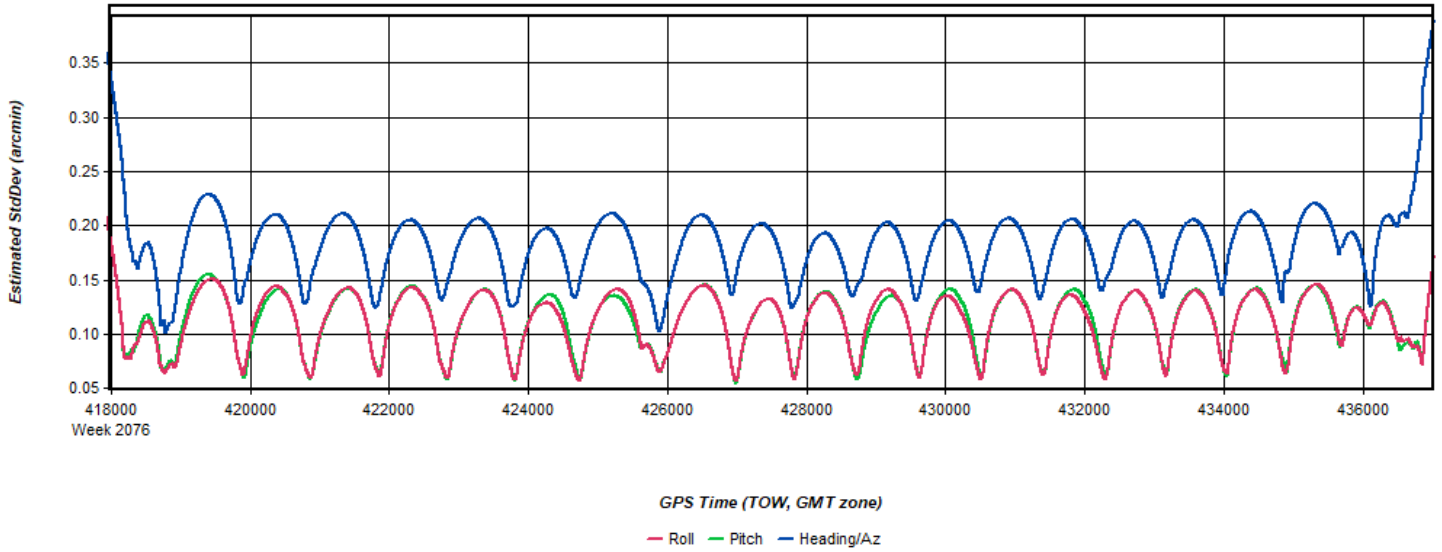
Figure 9: 20191024200502 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot





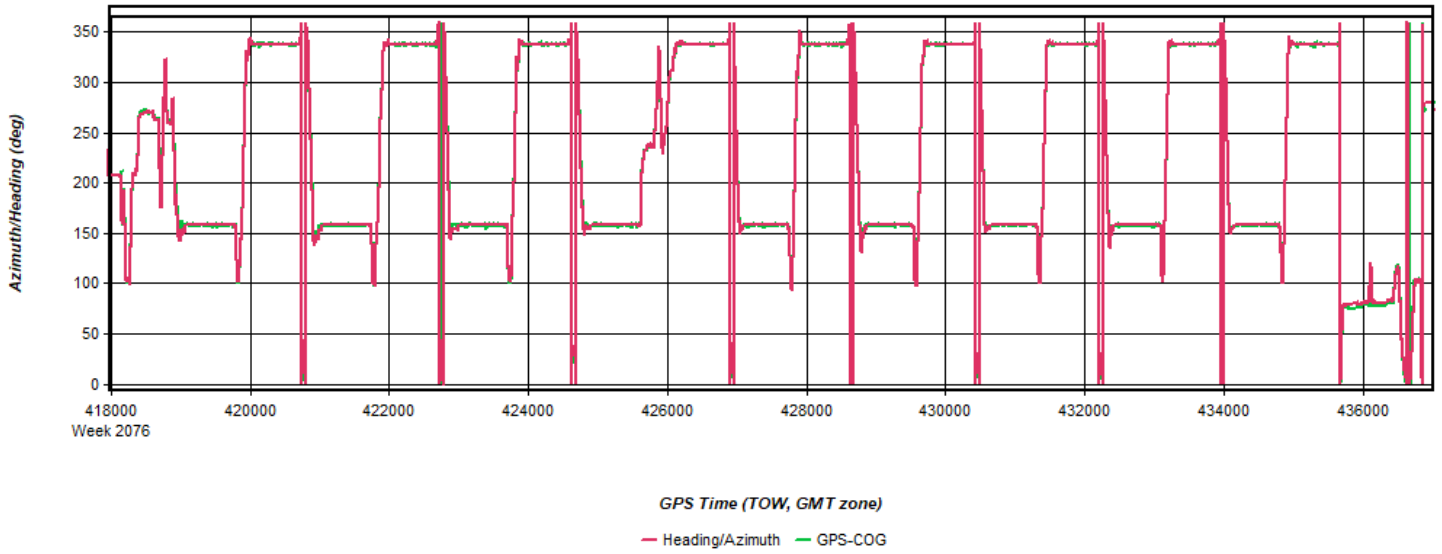
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 10: 20191024200502 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



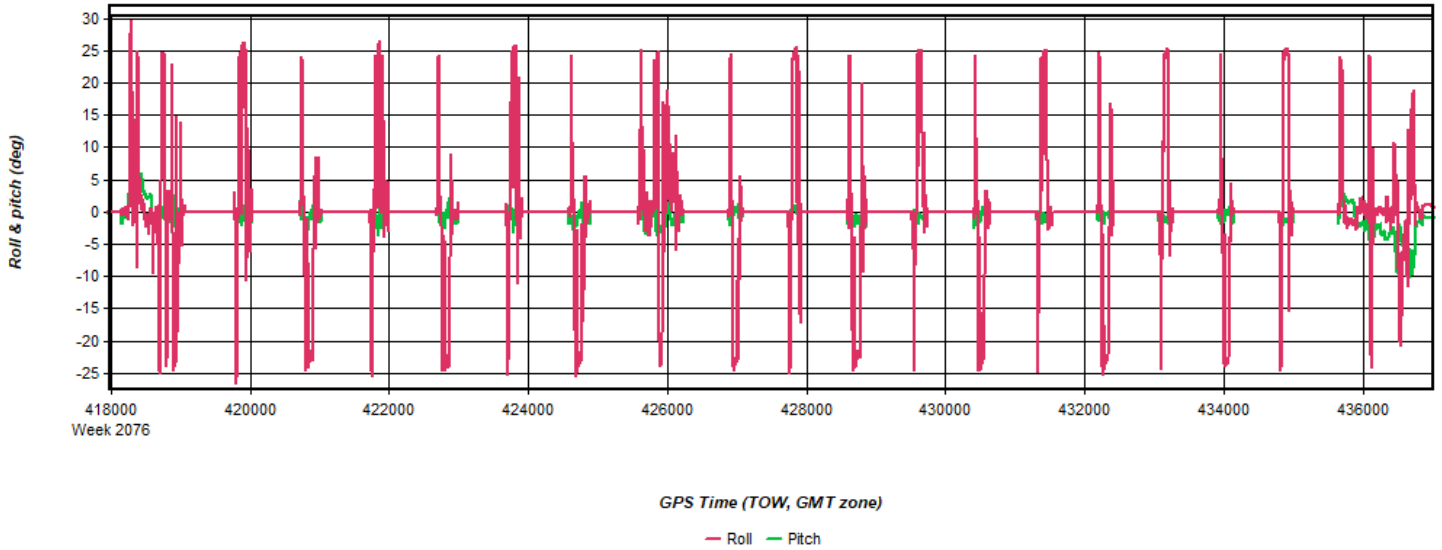
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 11: 20191024200502 [Smoothed TC Combined] - Azimuth Plot



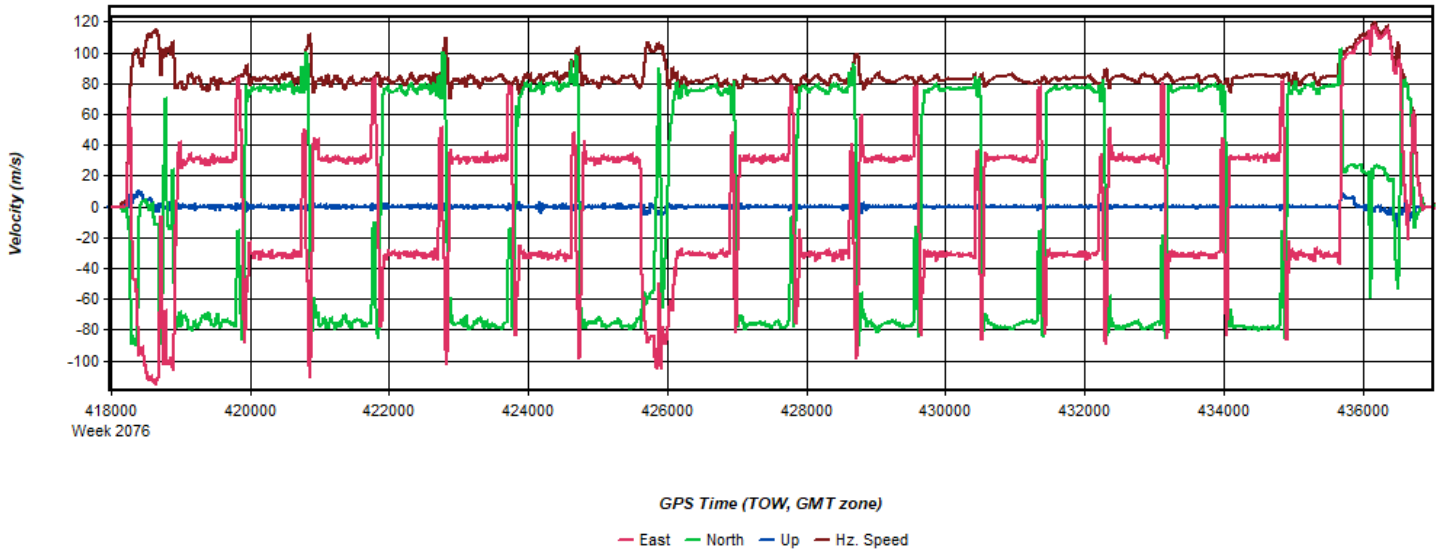
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 12: 20191024200502 [Smoothed TC Combined] - Roll & Pitch Plot



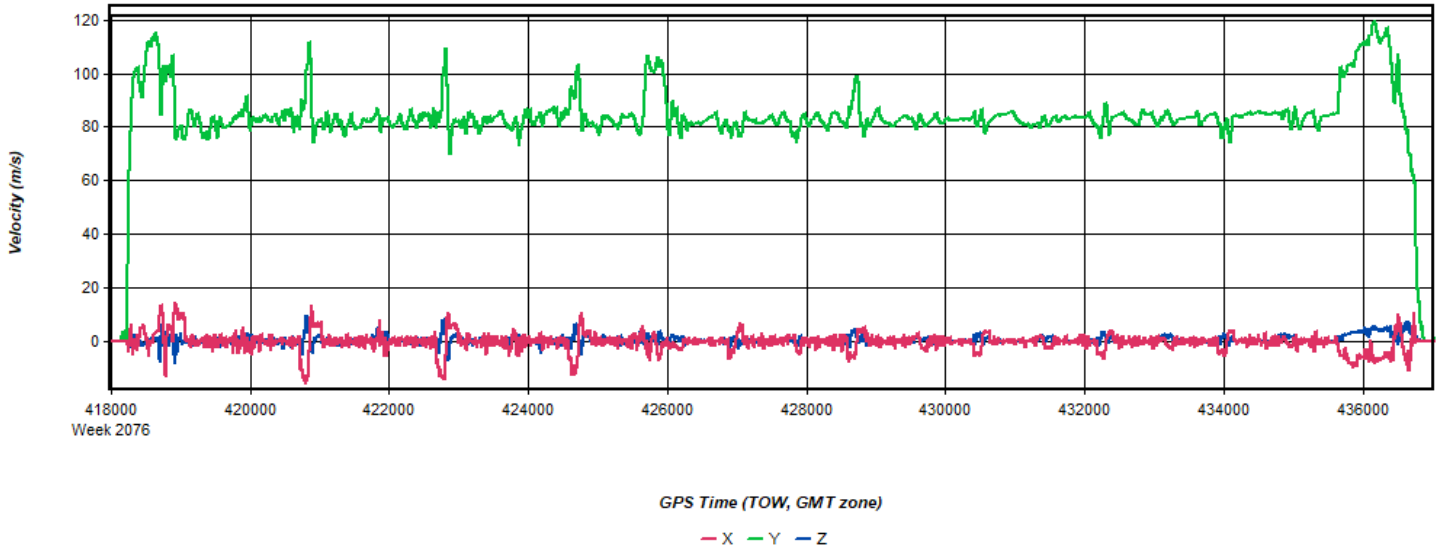
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 13: 20191024200502 [Smoothed TC Combined] - Velocity Profile Plot



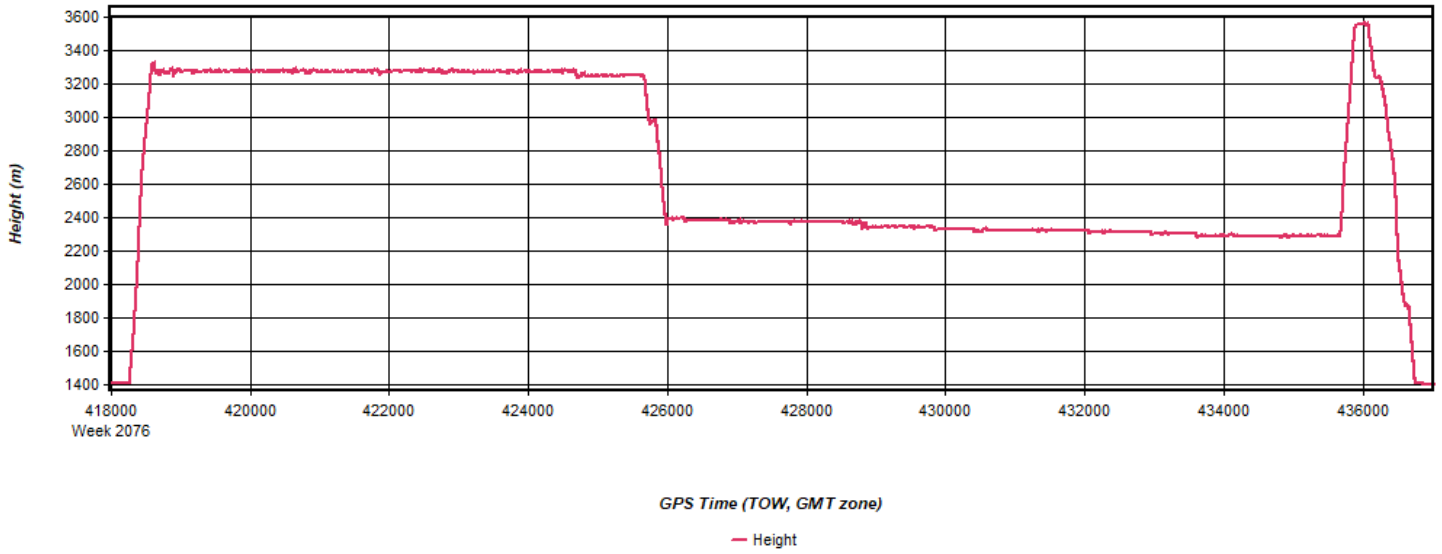
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 14: 20191024200502 [Smoothed TC Combined] - Body Frame Velocity Plot



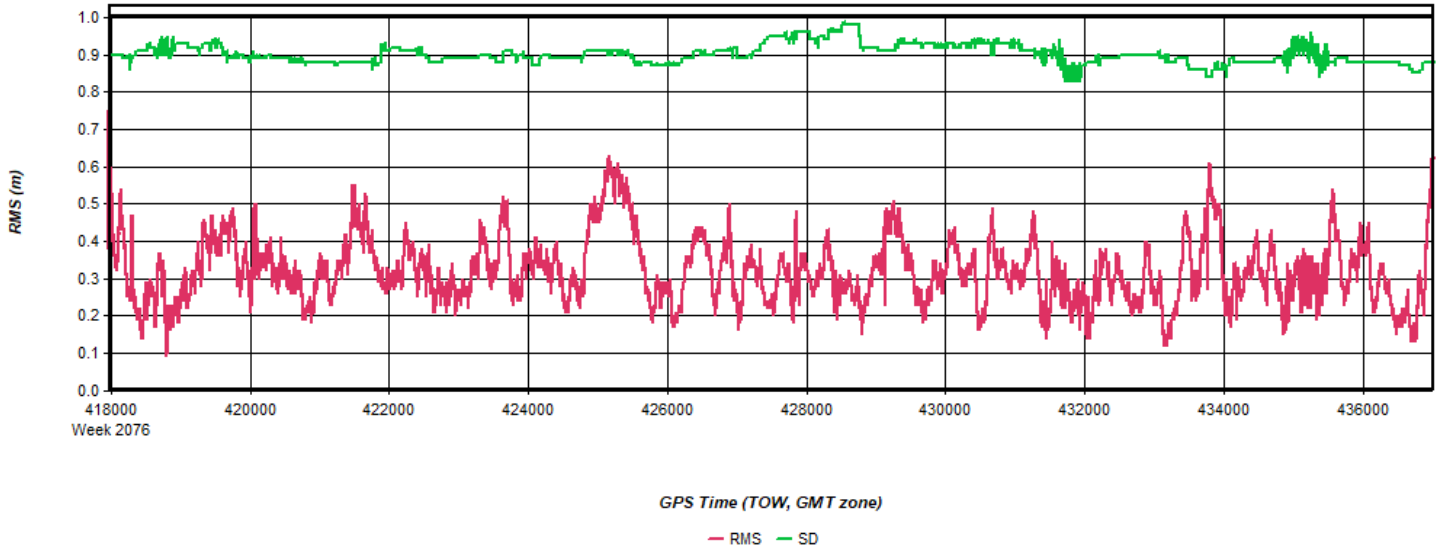
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 15: 20191024200502 [Smoothed TC Combined] - Height Profile Plot



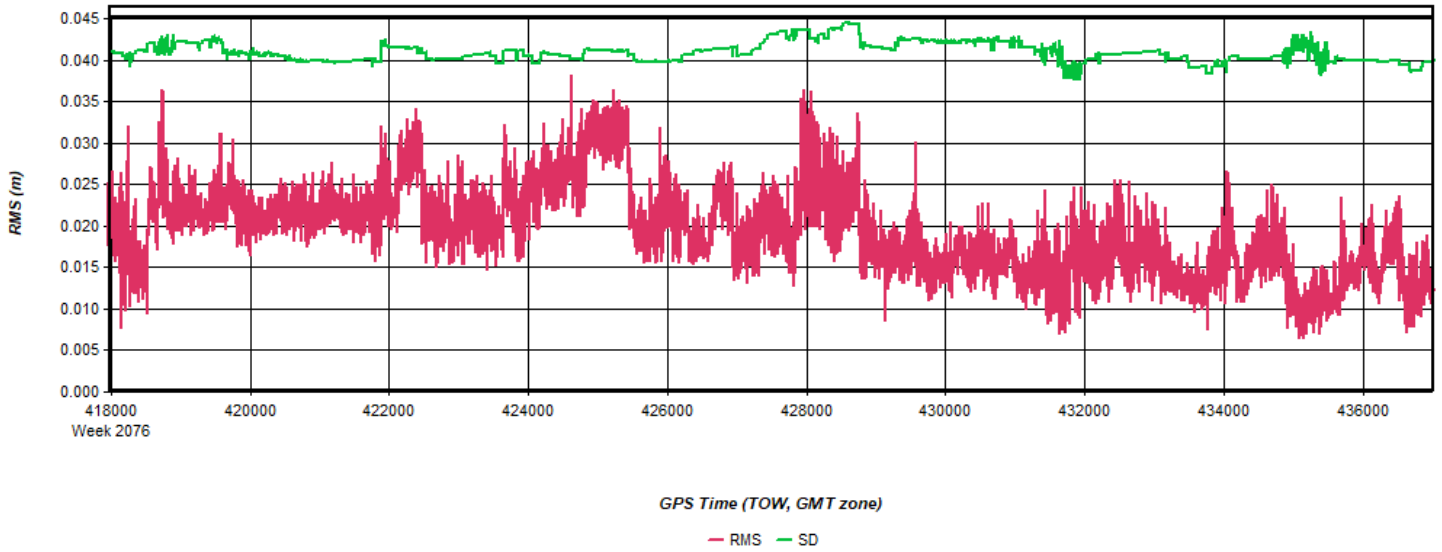
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 16: 20191024200502 [Smoothed TC Combined] - C/A Code Residual RMS Plot



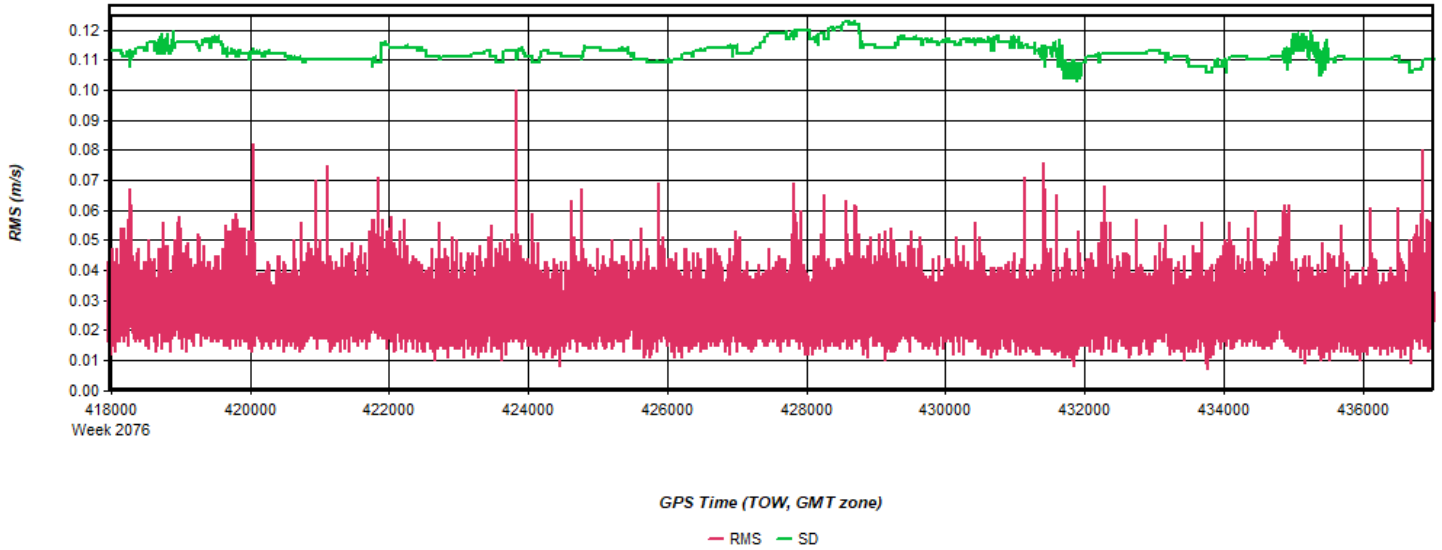
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 17: 20191024200502 [Smoothed TC Combined] - Carrier Residual RMS Plot



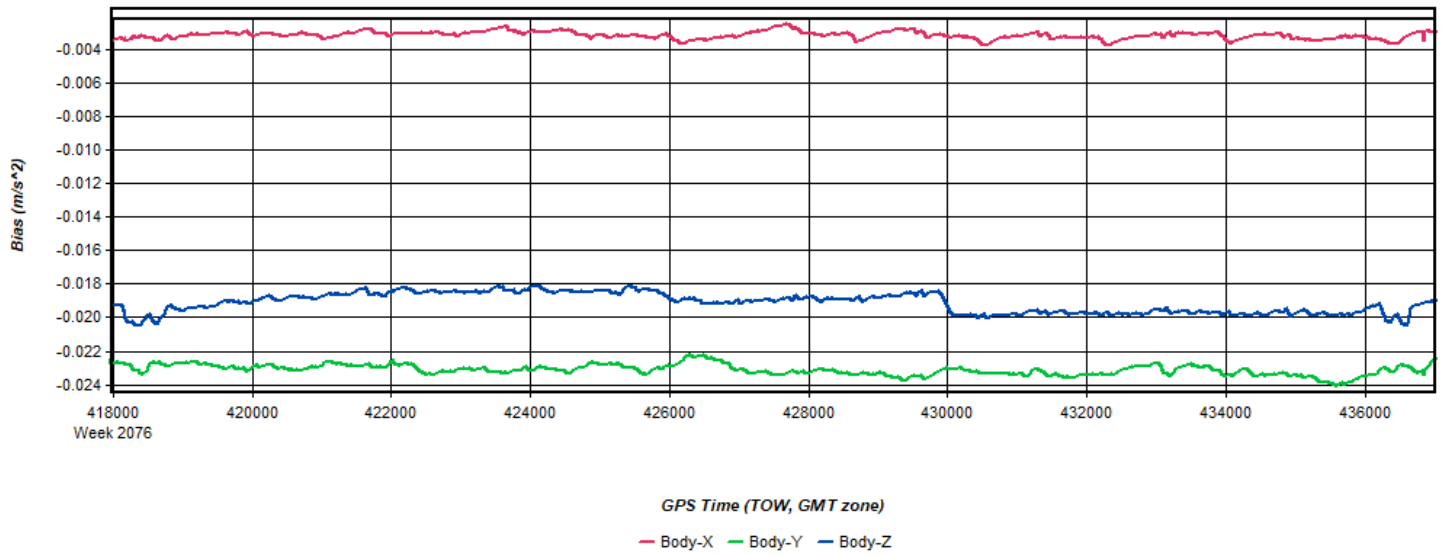
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 18: 20191024200502 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



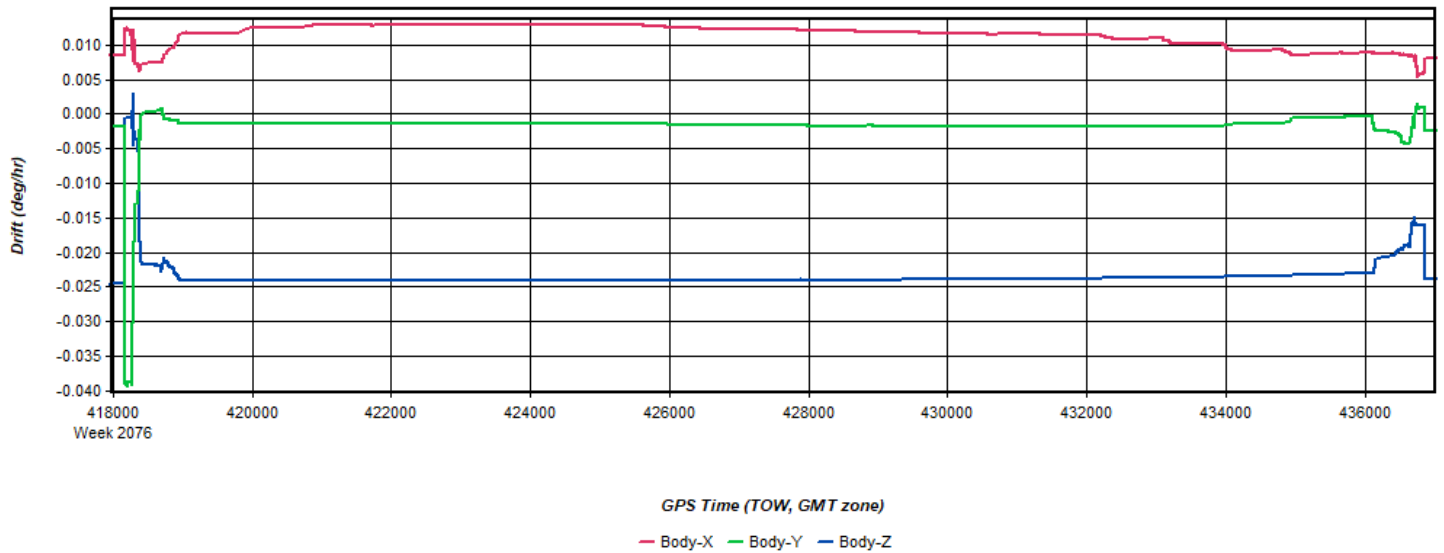
Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 19: 20191024200502 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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Figure 20: 20191024200502 [Smoothed TC Combined] - Gyro Drift Plot

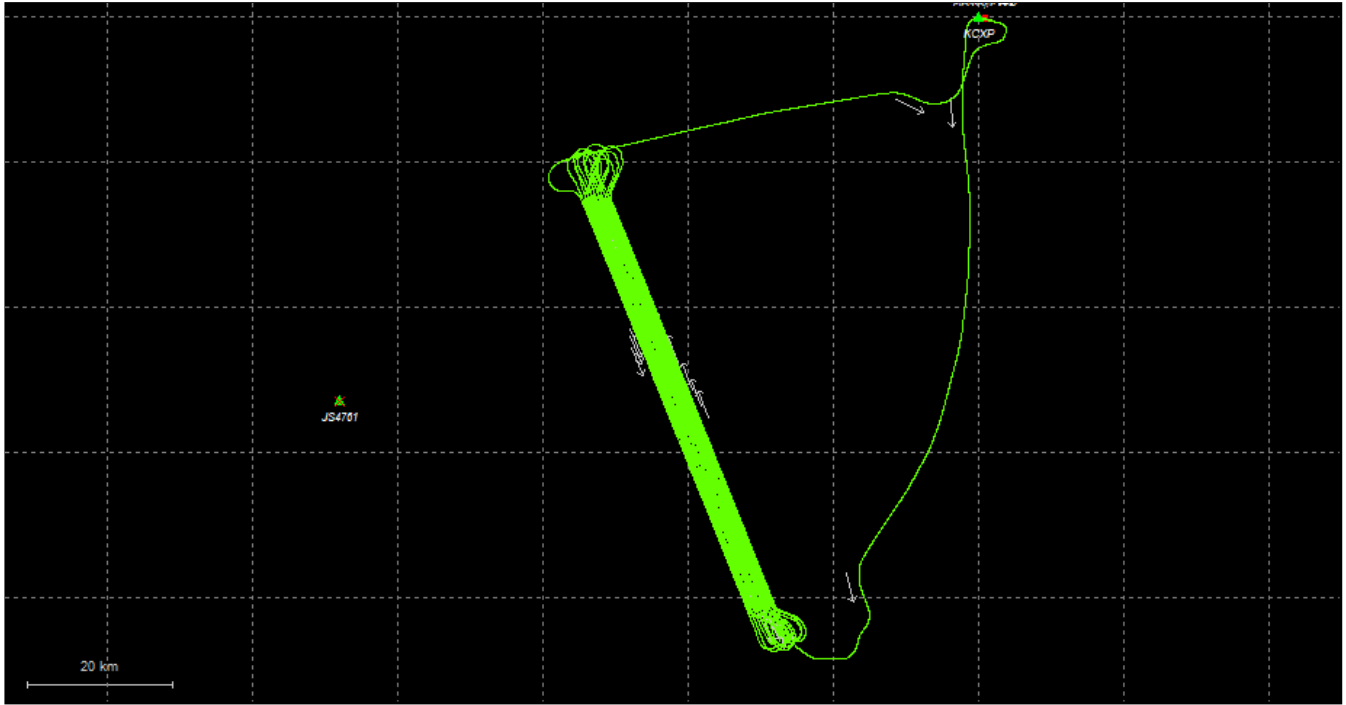


Process	20191024200502	by Unknown	on 10/28/2019	at 20:23:43
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# Output Results for 20191025143434

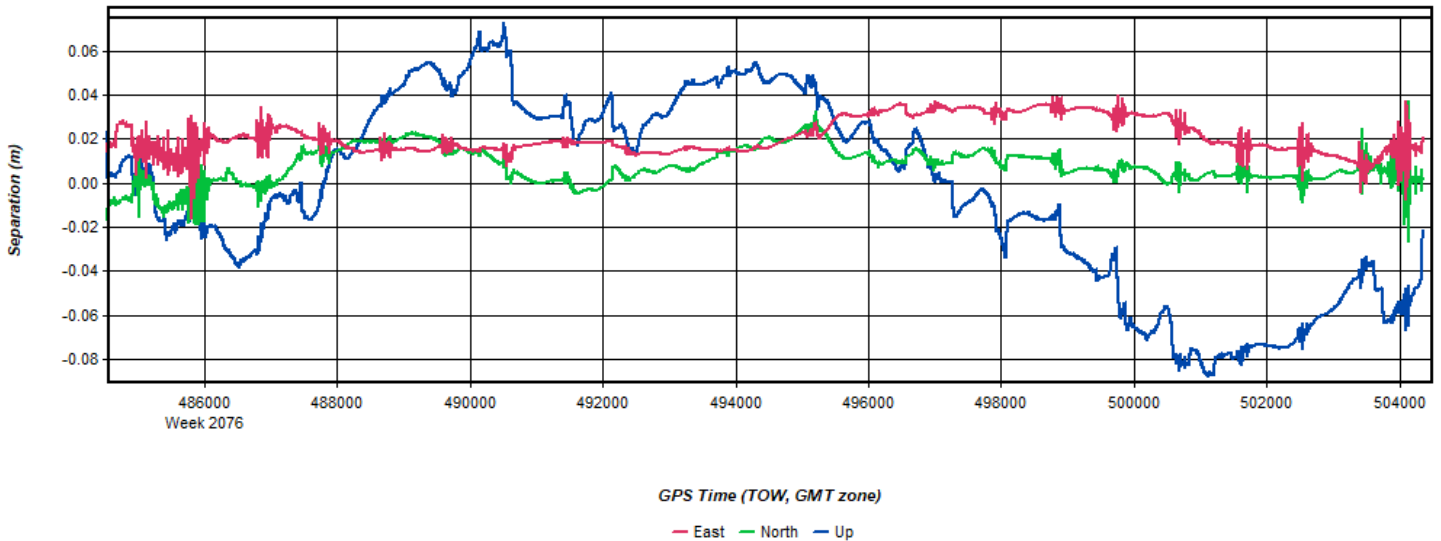
Inertial Explorer Version 8.80.2305  
10/29/2019

Figure 1: Smoothed TC Combined - Map



Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 2: 20191025143434 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 3: 20191025143434 [Smoothed TC Combined] - Float or Fixed Ambiguity

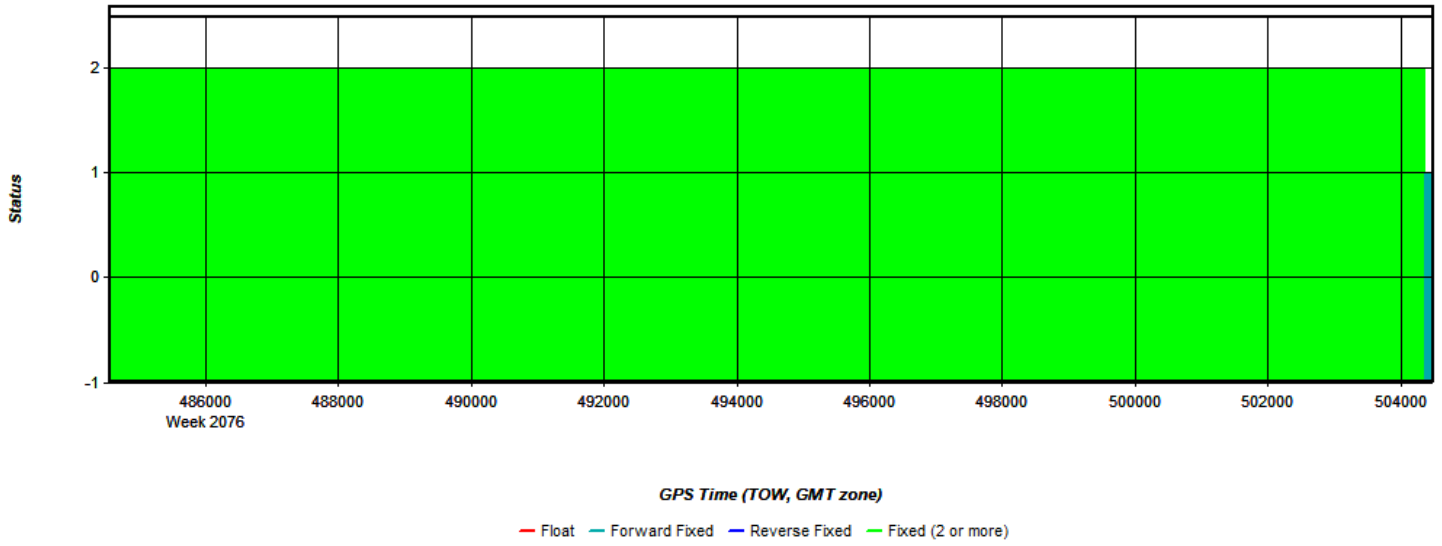


Figure 4: 20191025143434 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)

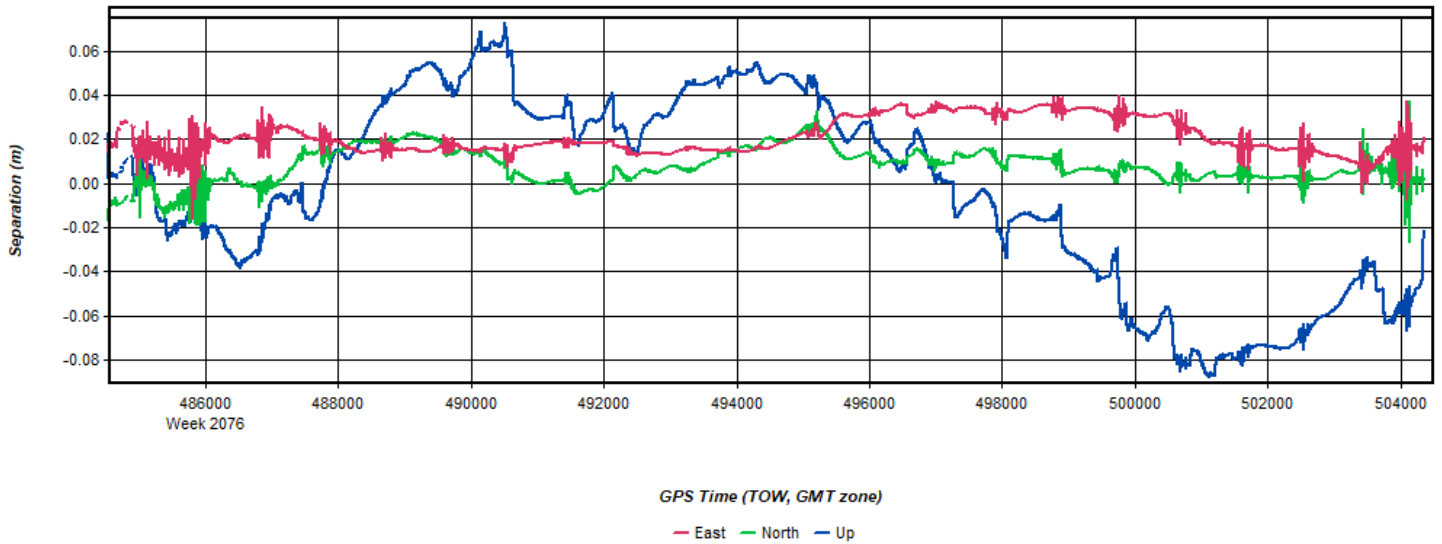
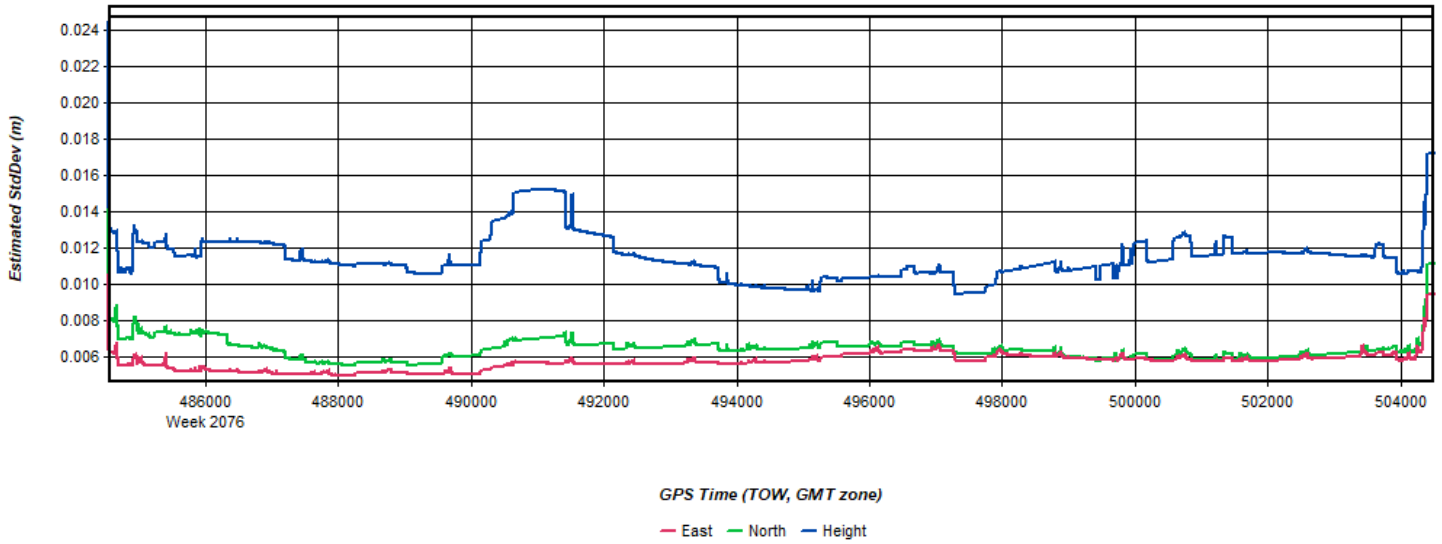


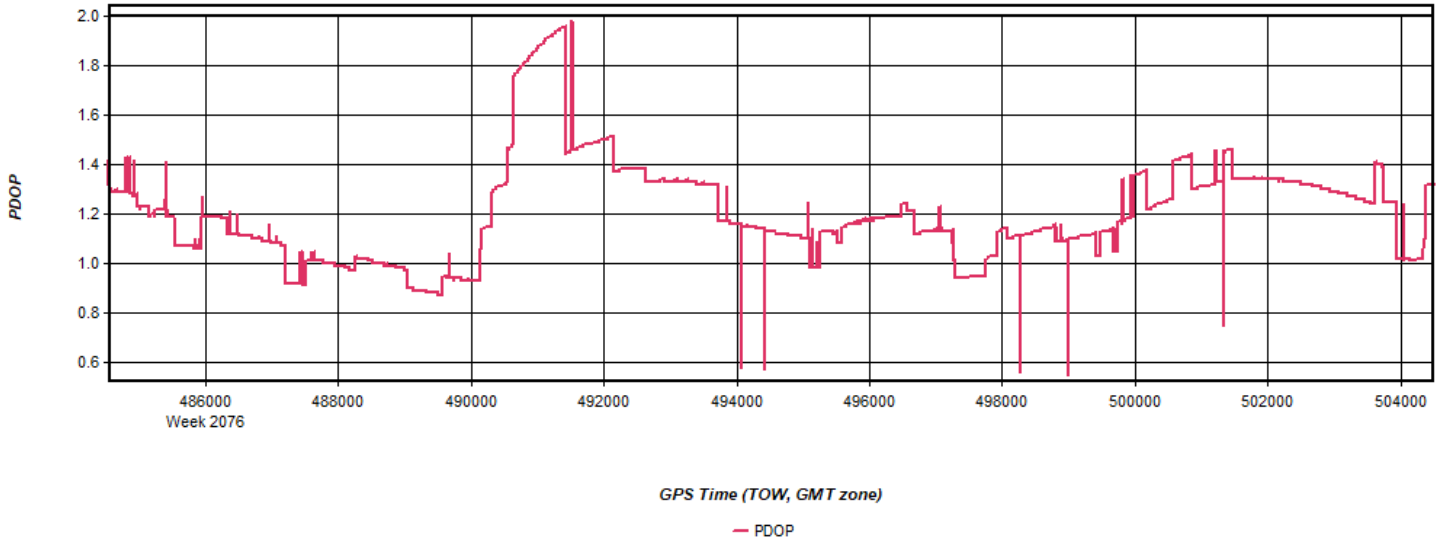
Figure 5: 20191025143434 [Smoothed TC Combined] - Estimated Position Accuracy Plot





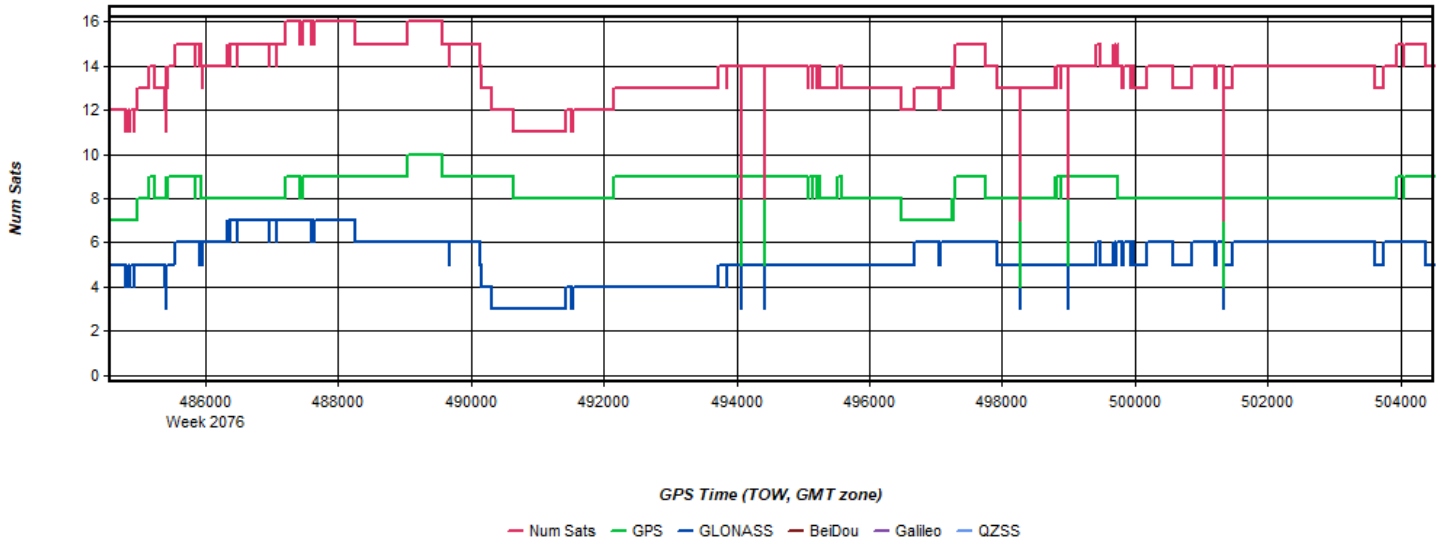
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 6: 20191025143434 [Smoothed TC Combined] - PDOP Plot



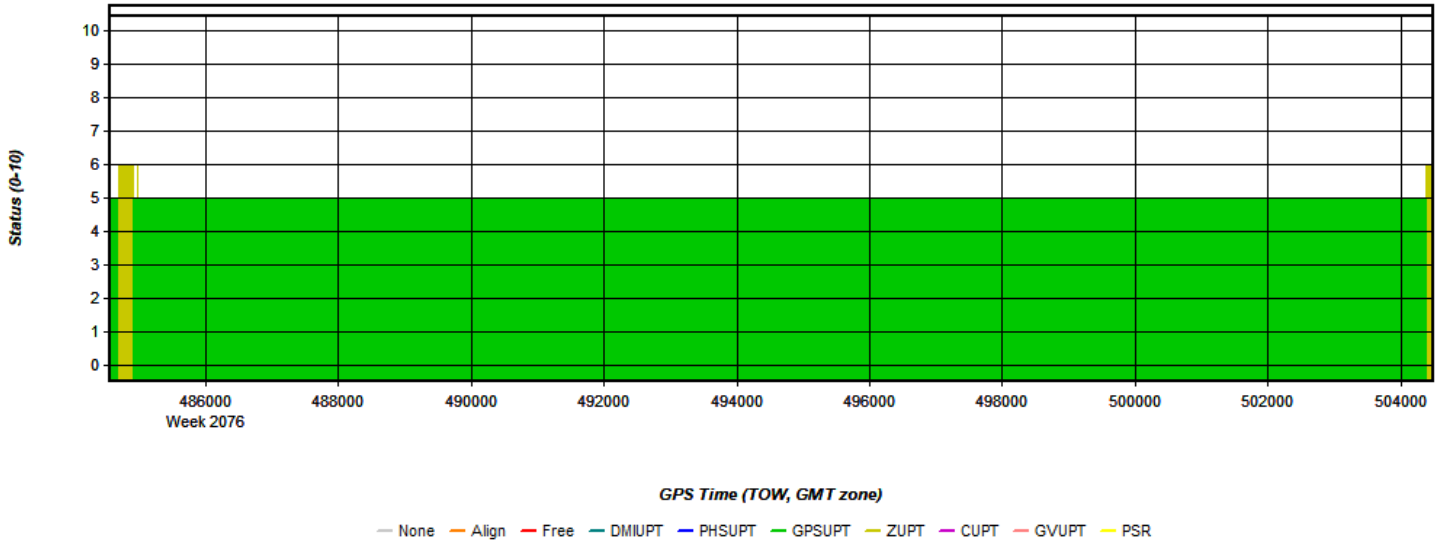
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 7: 20191025143434 [Smoothed TC Combined] - Number of Satellites Line Plot



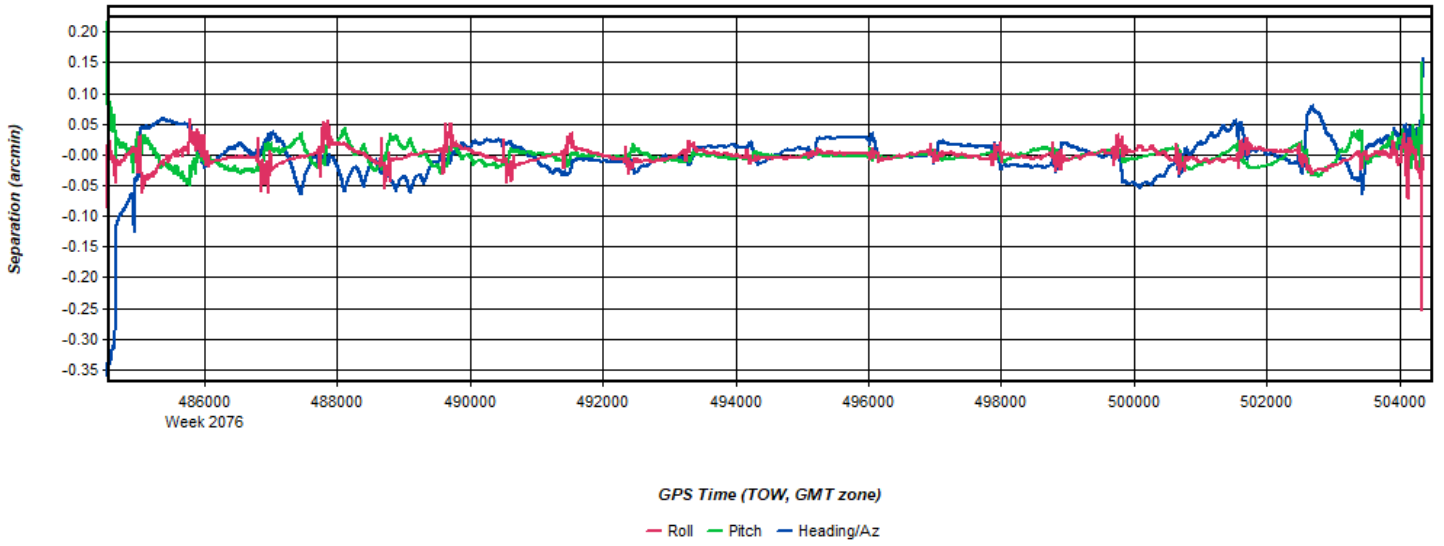
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 8: 20191025143434 [Smoothed TC Combined] - Status flag for IMU processing



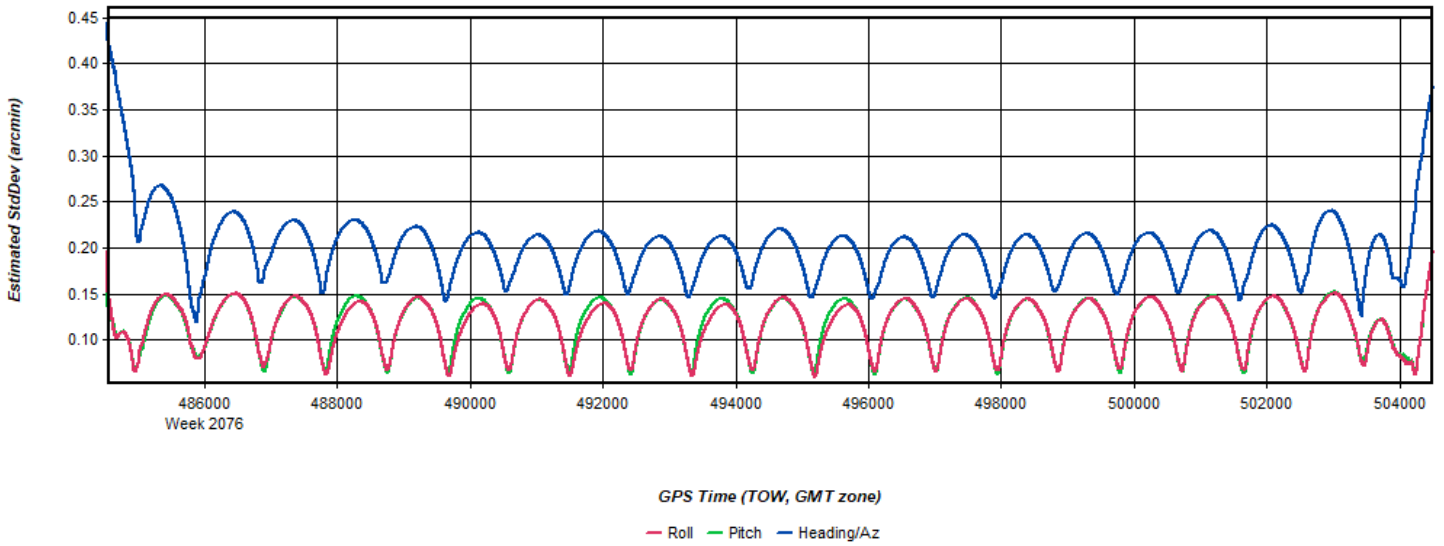
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 9: 20191025143434 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



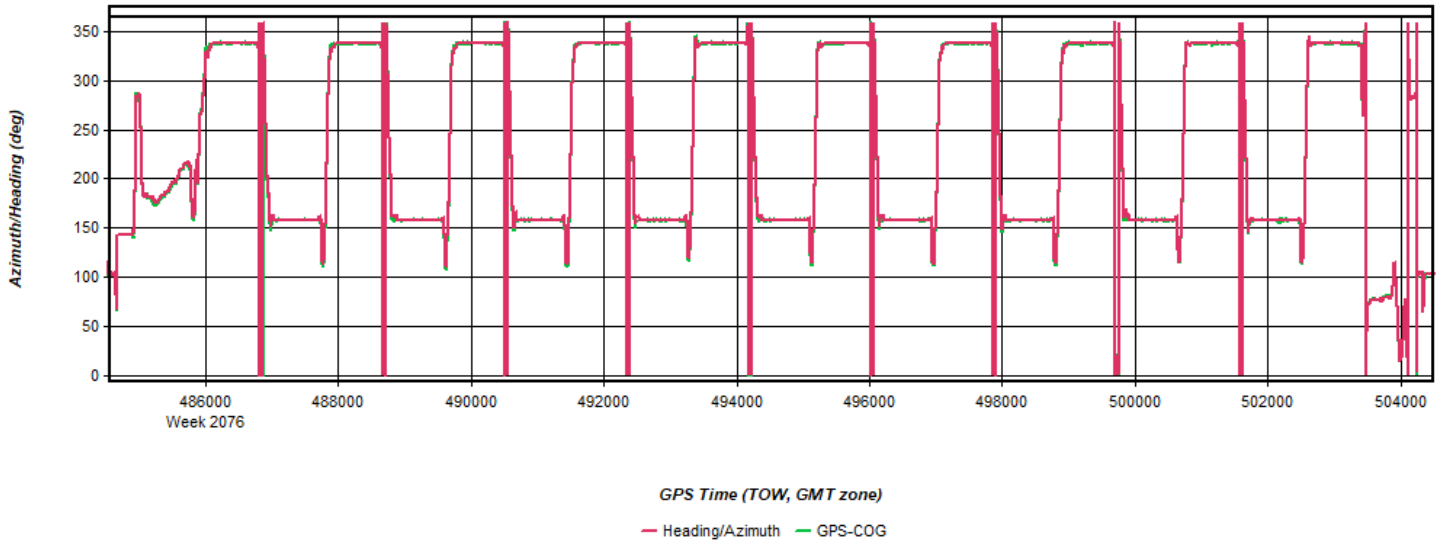
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 10: 20191025143434 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



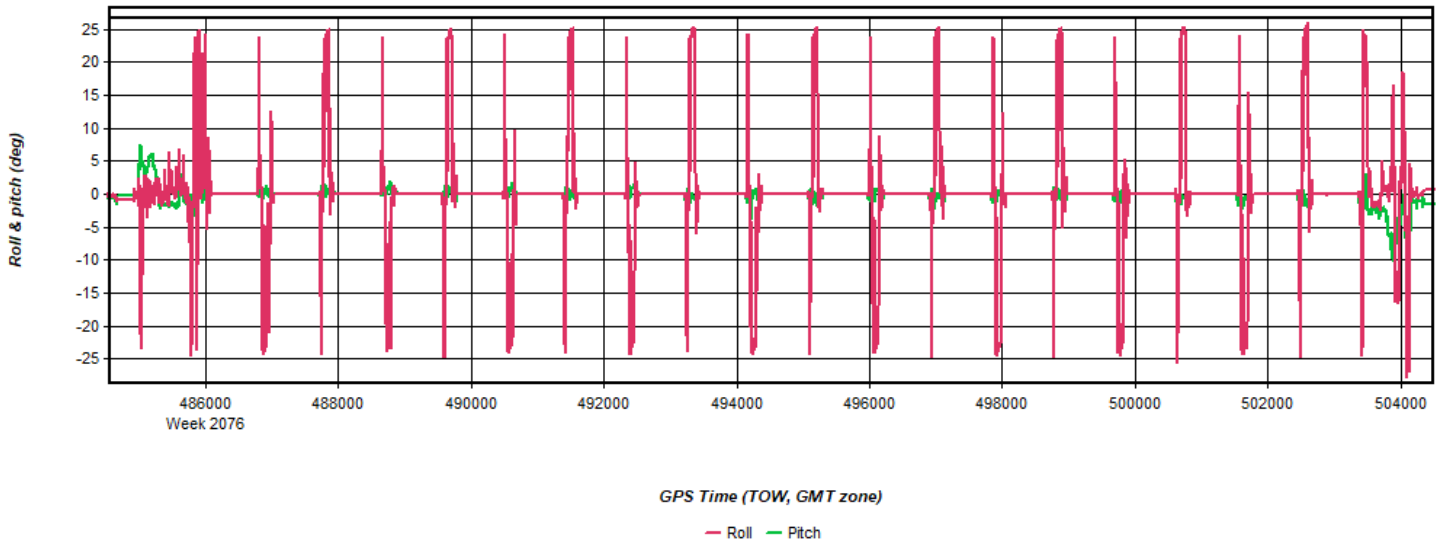
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 11: 20191025143434 [Smoothed TC Combined] - Azimuth Plot



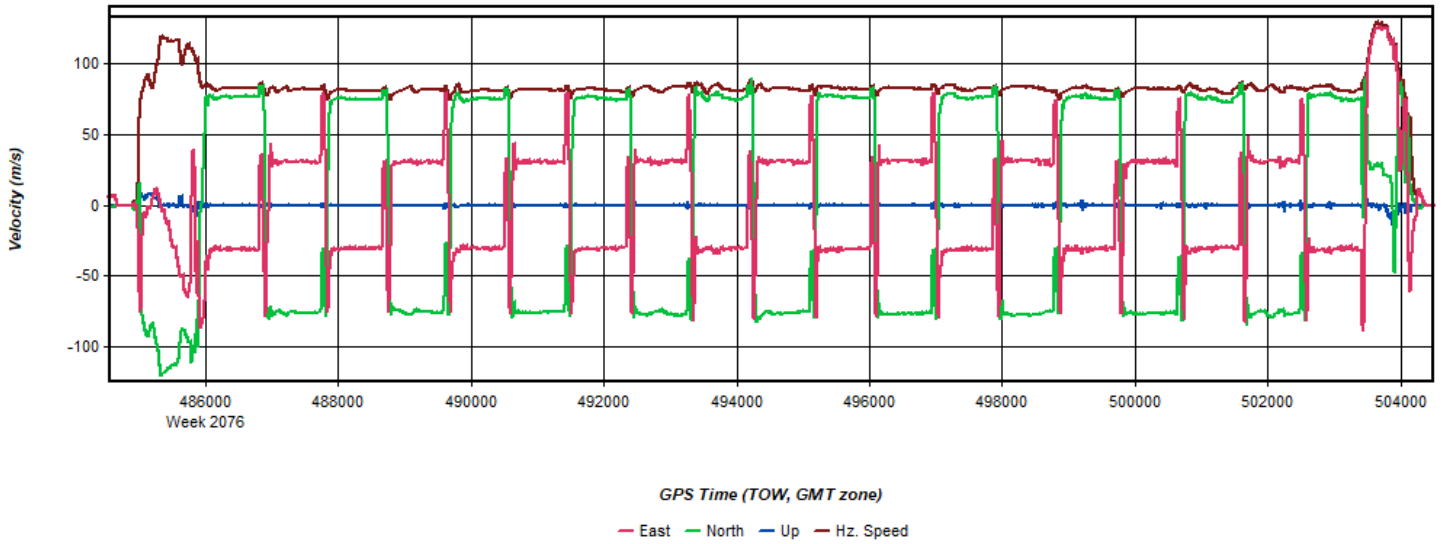
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 12: 20191025143434 [Smoothed TC Combined] - Roll & Pitch Plot



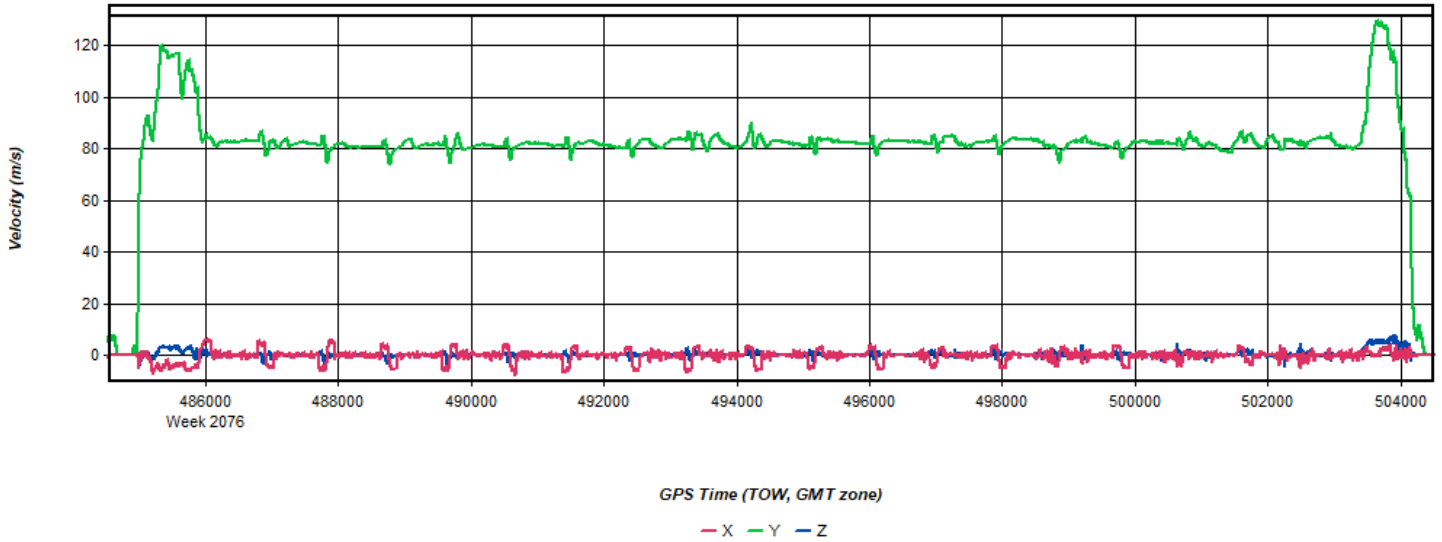
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 13: 20191025143434 [Smoothed TC Combined] - Velocity Profile Plot



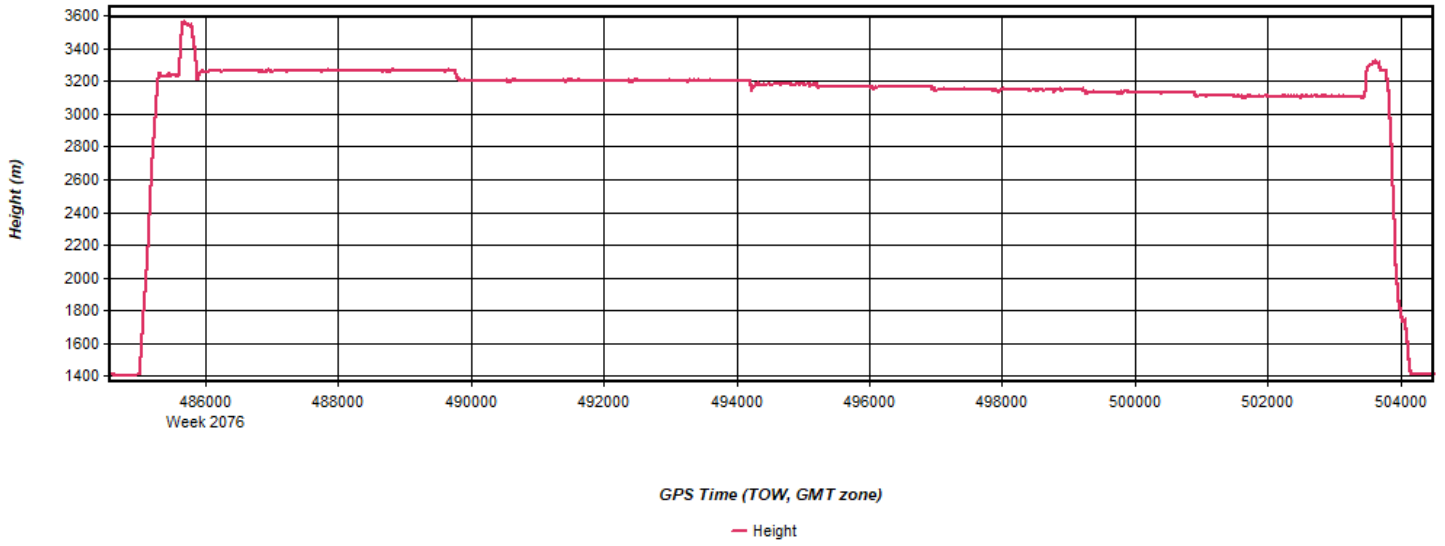
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 14: 20191025143434 [Smoothed TC Combined] - Body Frame Velocity Plot



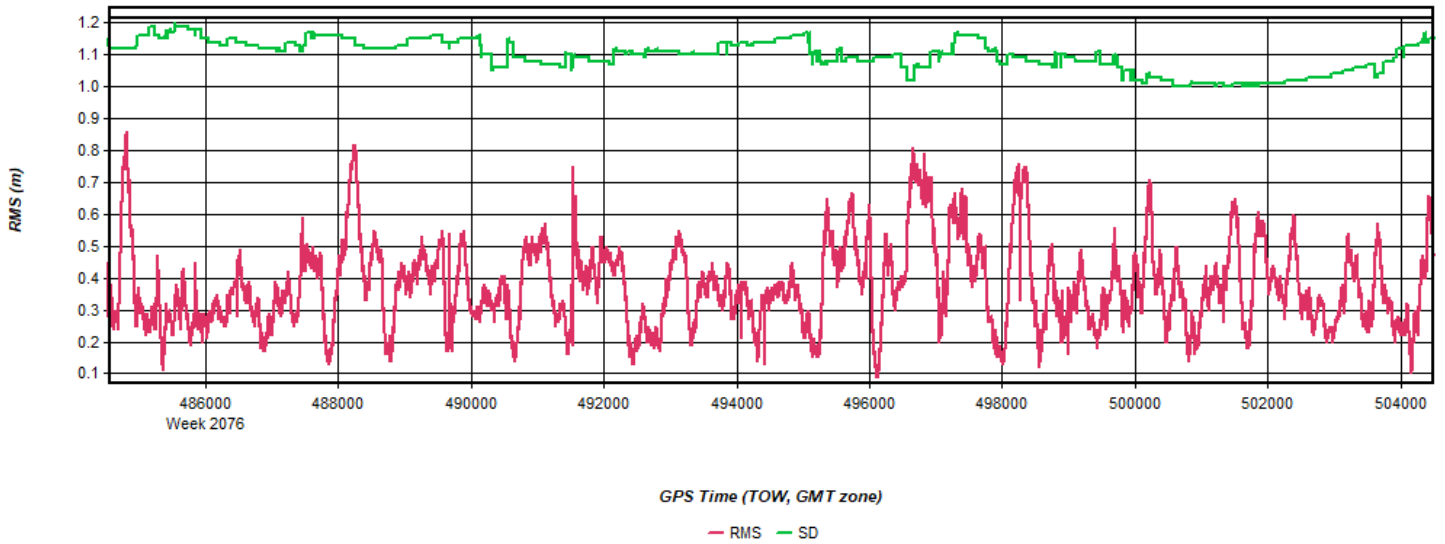
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 15: 20191025143434 [Smoothed TC Combined] - Height Profile Plot



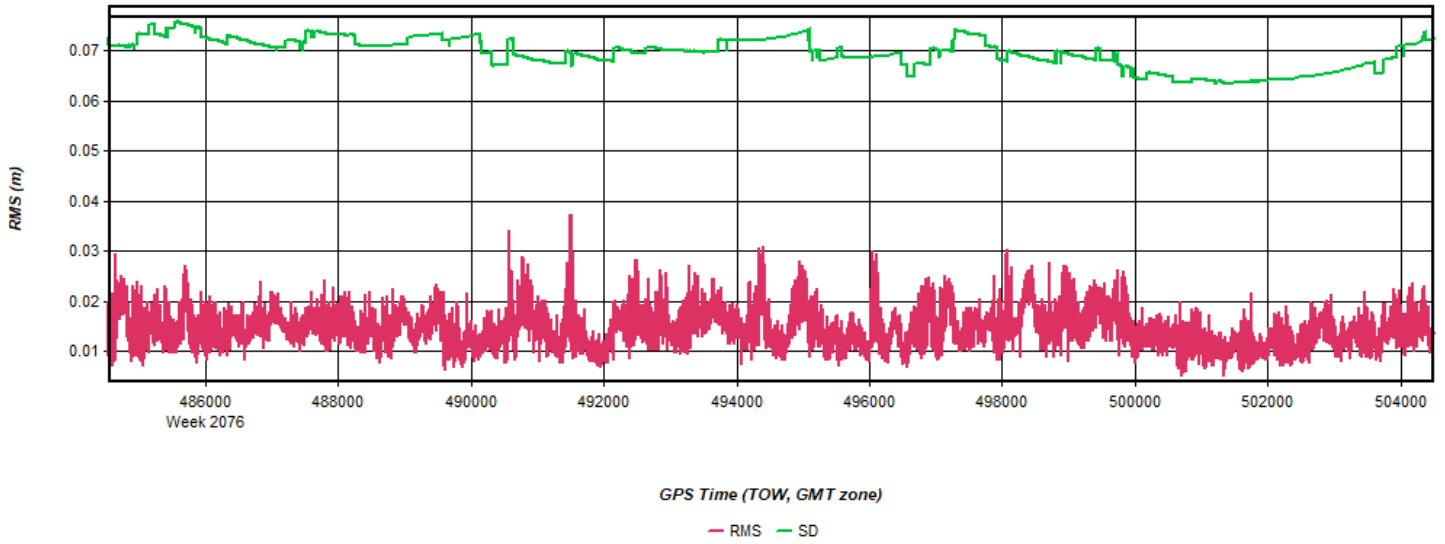
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 16: 20191025143434 [Smoothed TC Combined] - C/A Code Residual RMS Plot



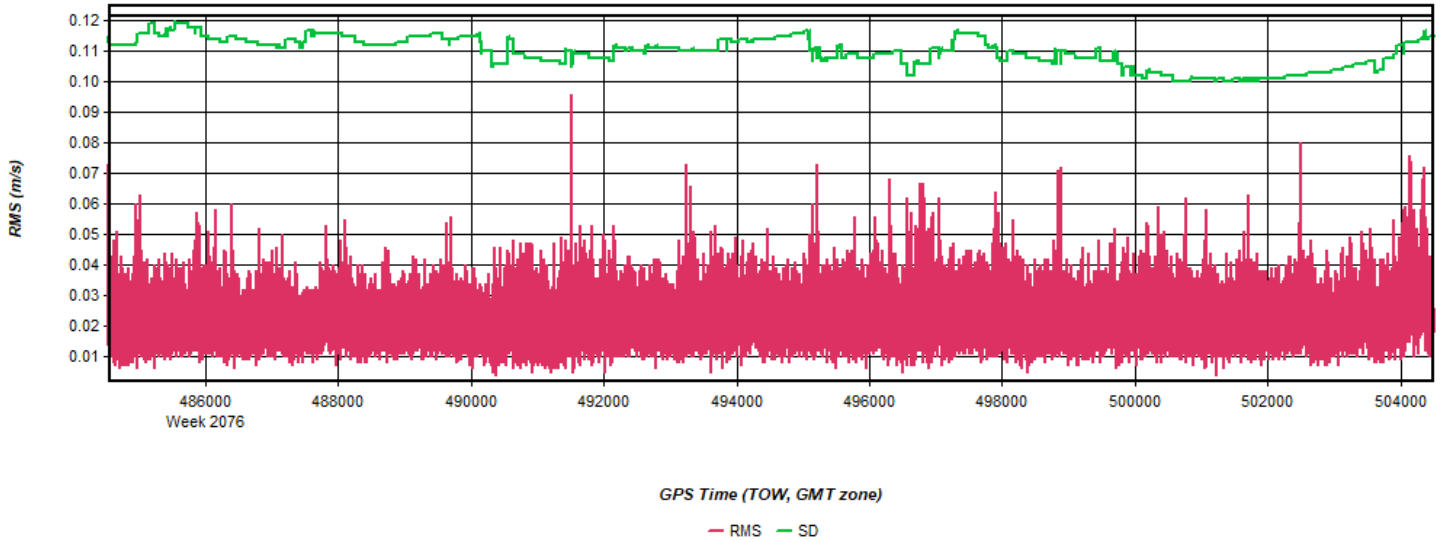
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 17: 20191025143434 [Smoothed TC Combined] - Carrier Residual RMS Plot



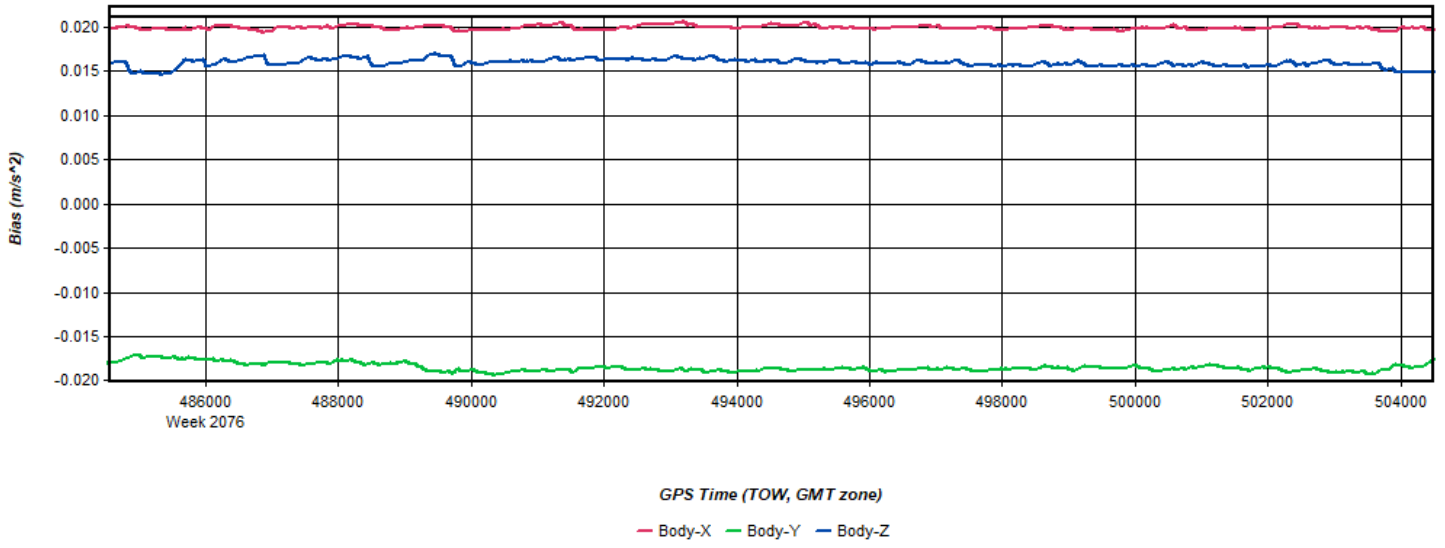
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 18: 20191025143434 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



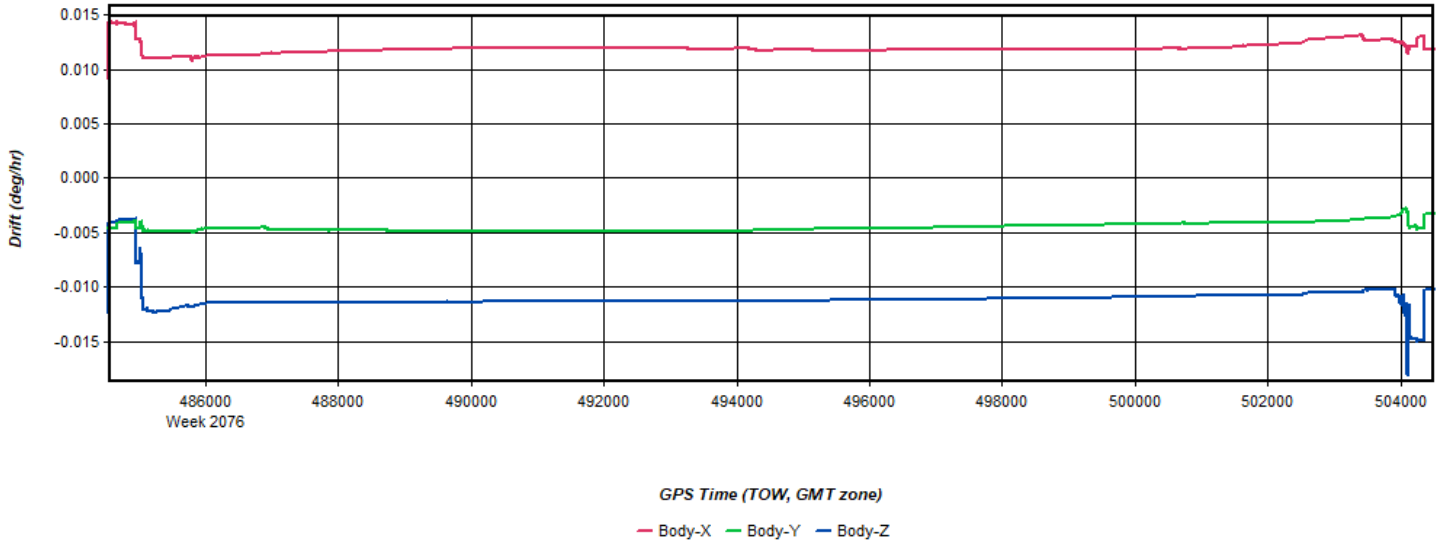
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 19: 20191025143434 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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Figure 20: 20191025143434 [Smoothed TC Combined] - Gyro Drift Plot



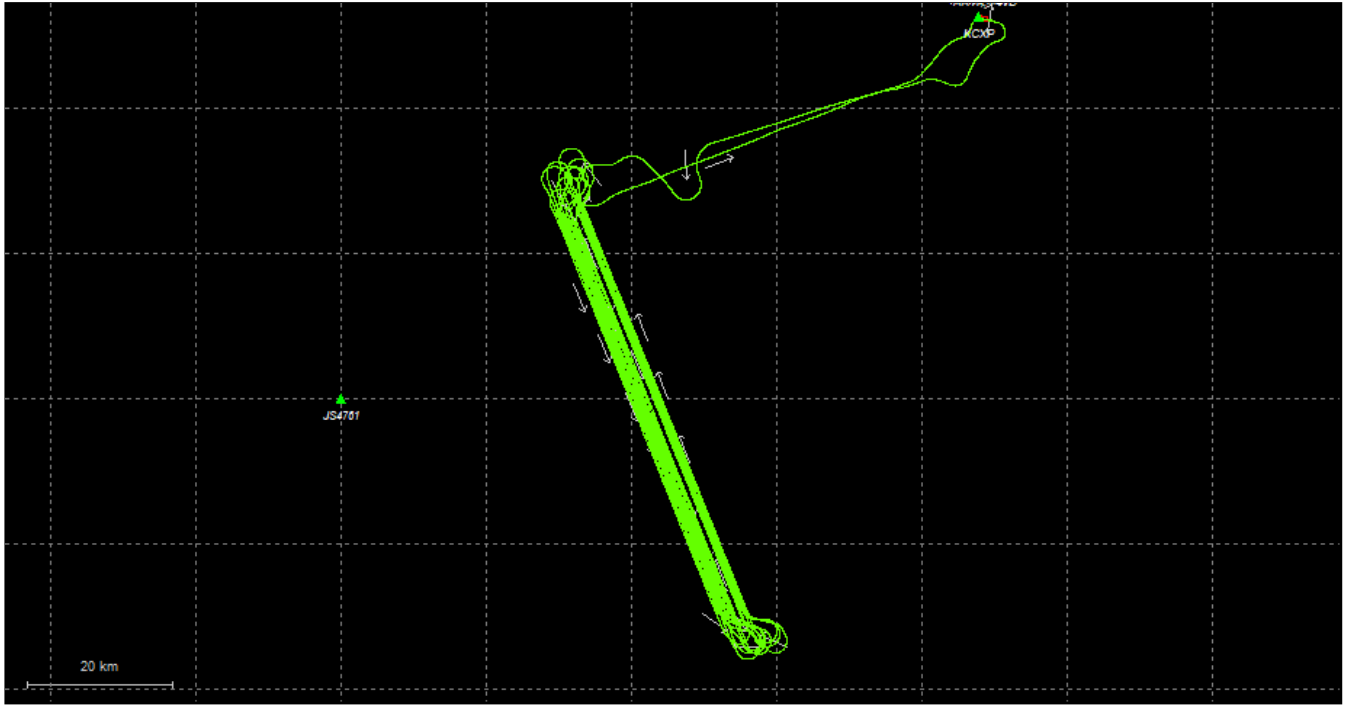
Process	20191025143434	by Unknown	on 10/28/2019	at 23:13:48
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# Output Results for 20191025202842

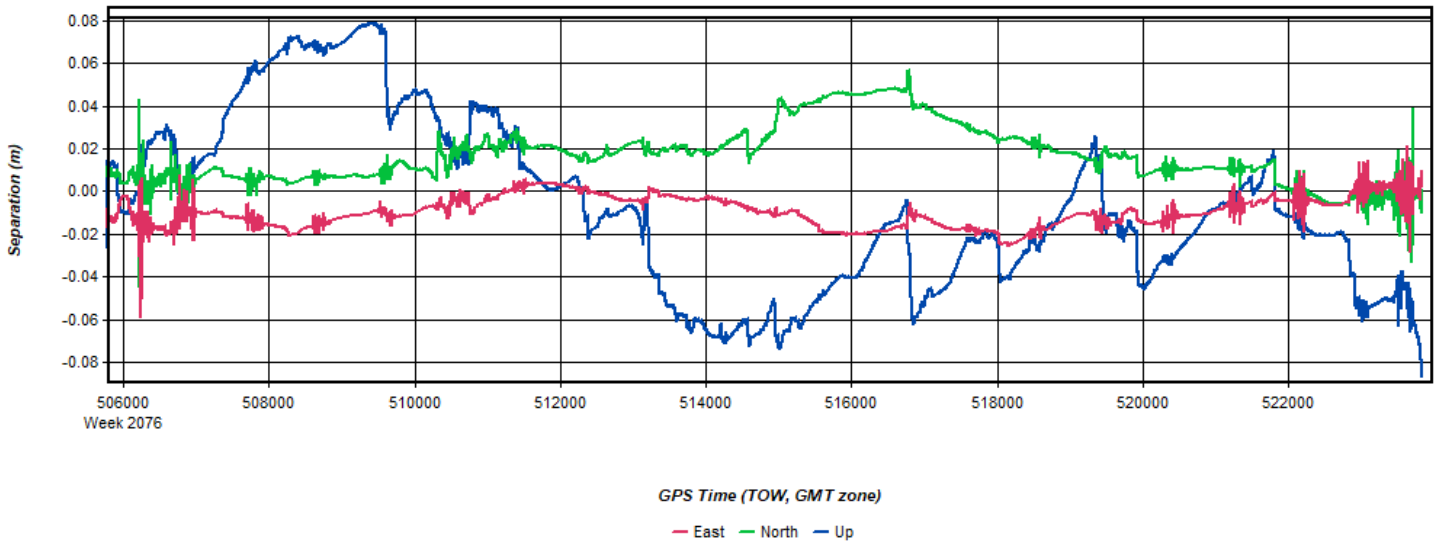
Inertial Explorer Version 8.80.2305  
10/29/2019

Figure 1: Smoothed TC Combined - Map



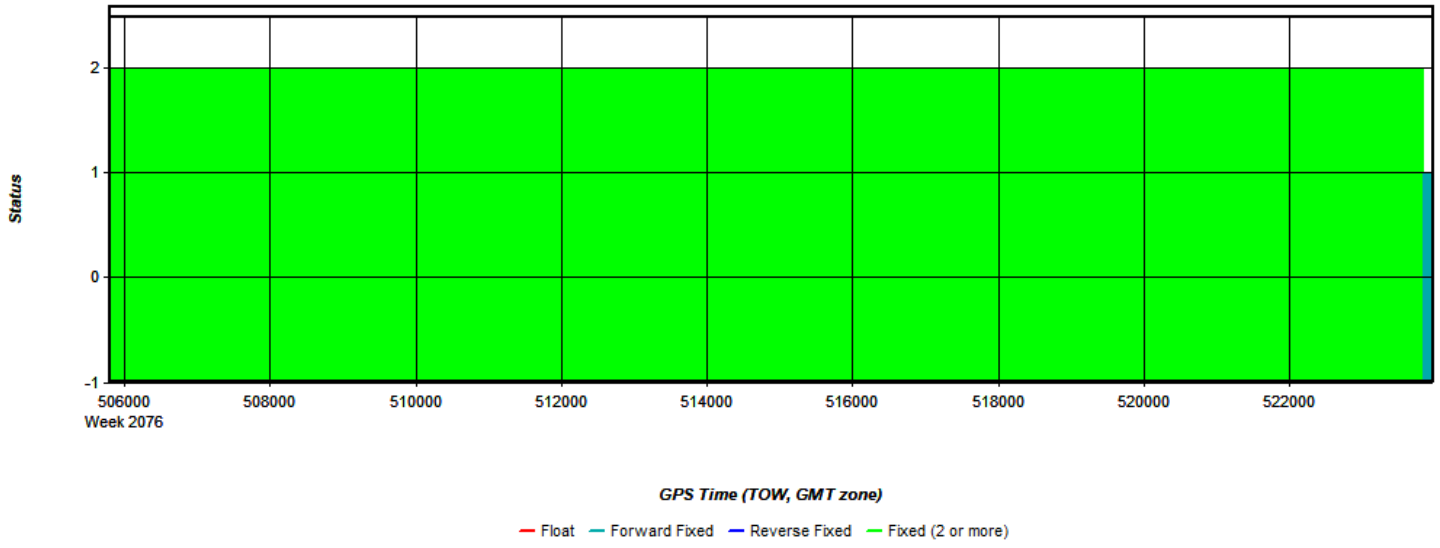
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 2: 20191025202842 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



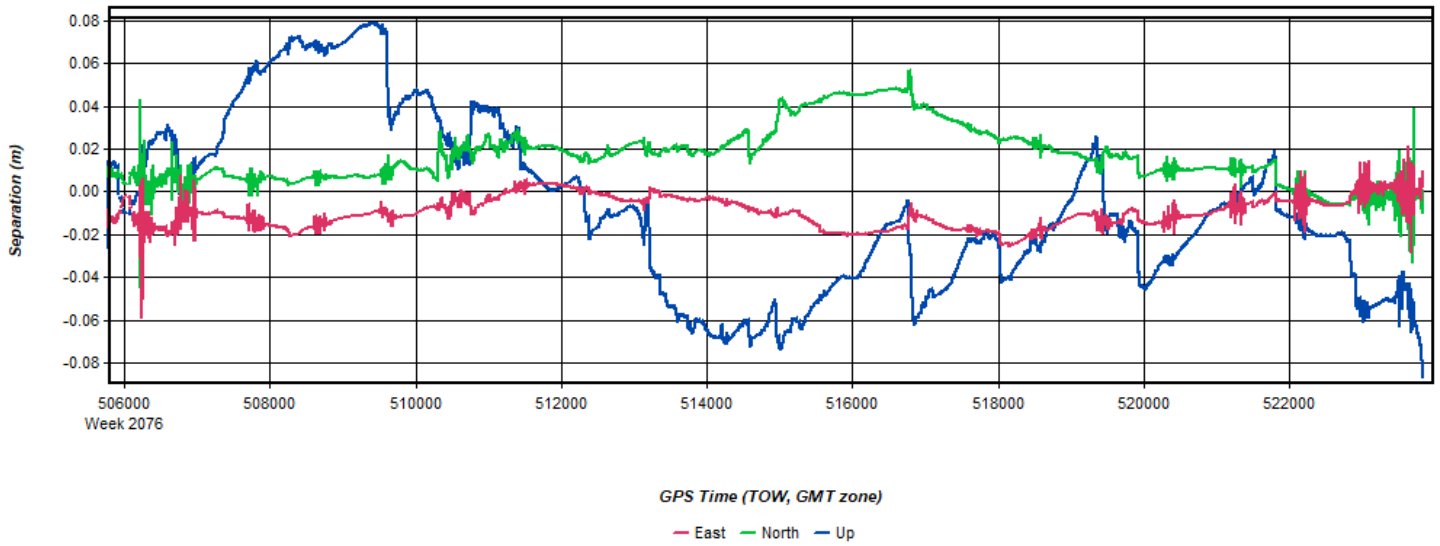
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 3: 20191025202842 [Smoothed TC Combined] - Float or Fixed Ambiguity



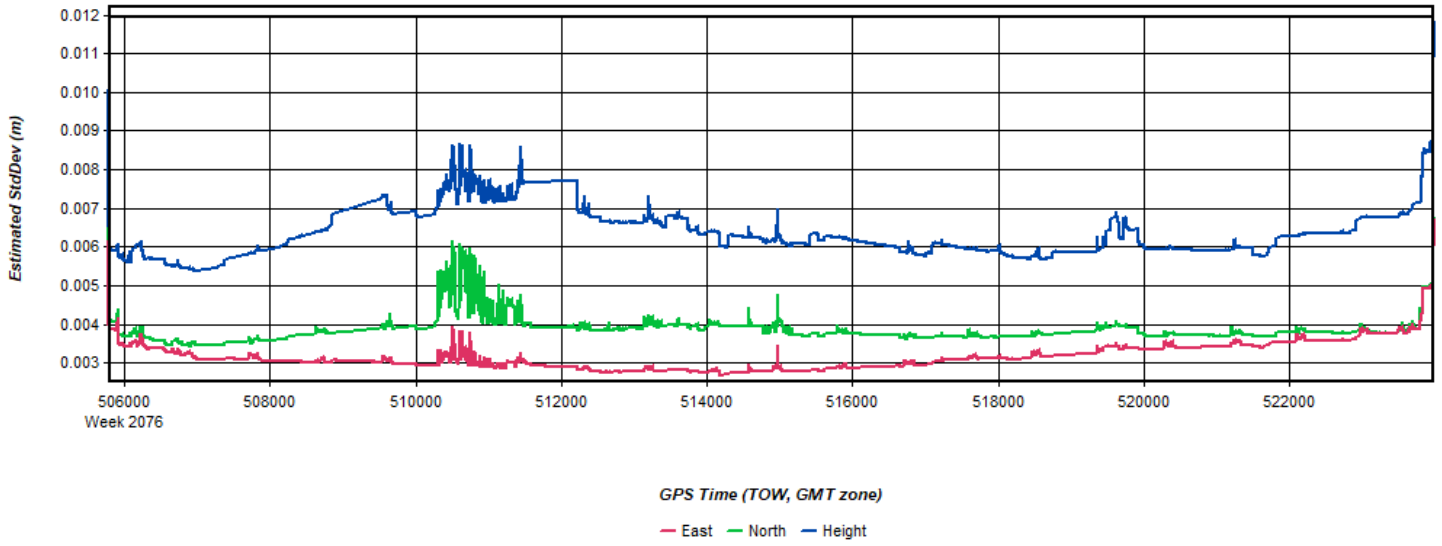
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 4: 20191025202842 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)



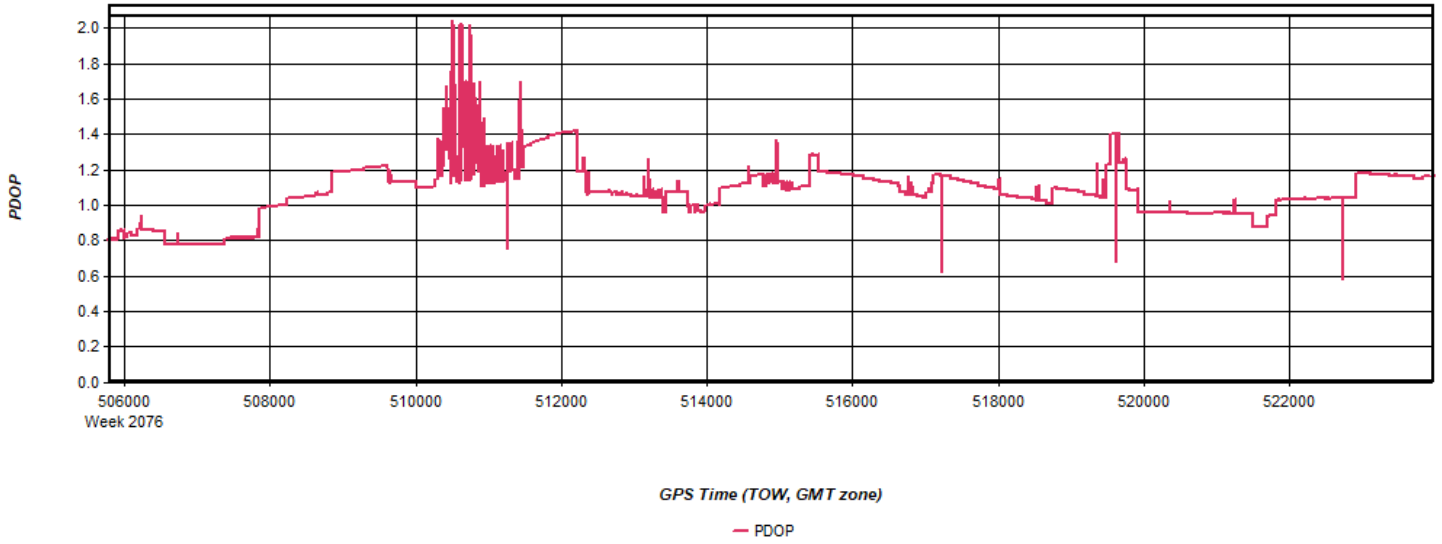
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 5: 20191025202842 [Smoothed TC Combined] - Estimated Position Accuracy Plot



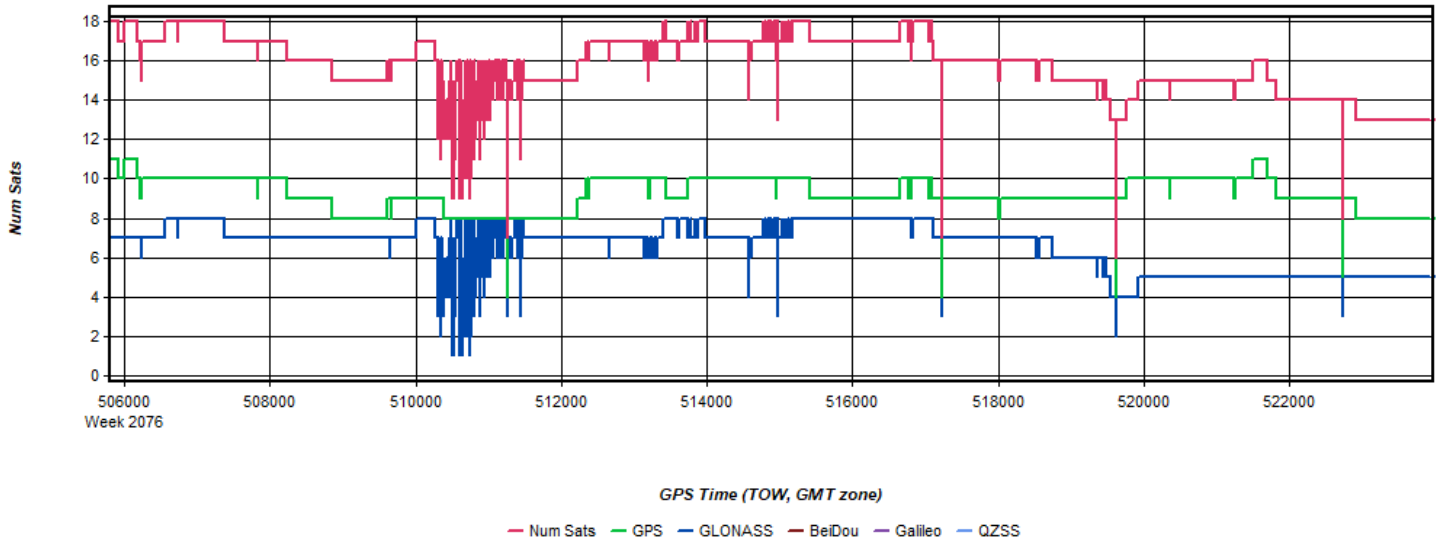
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 6: 20191025202842 [Smoothed TC Combined] - PDOP Plot



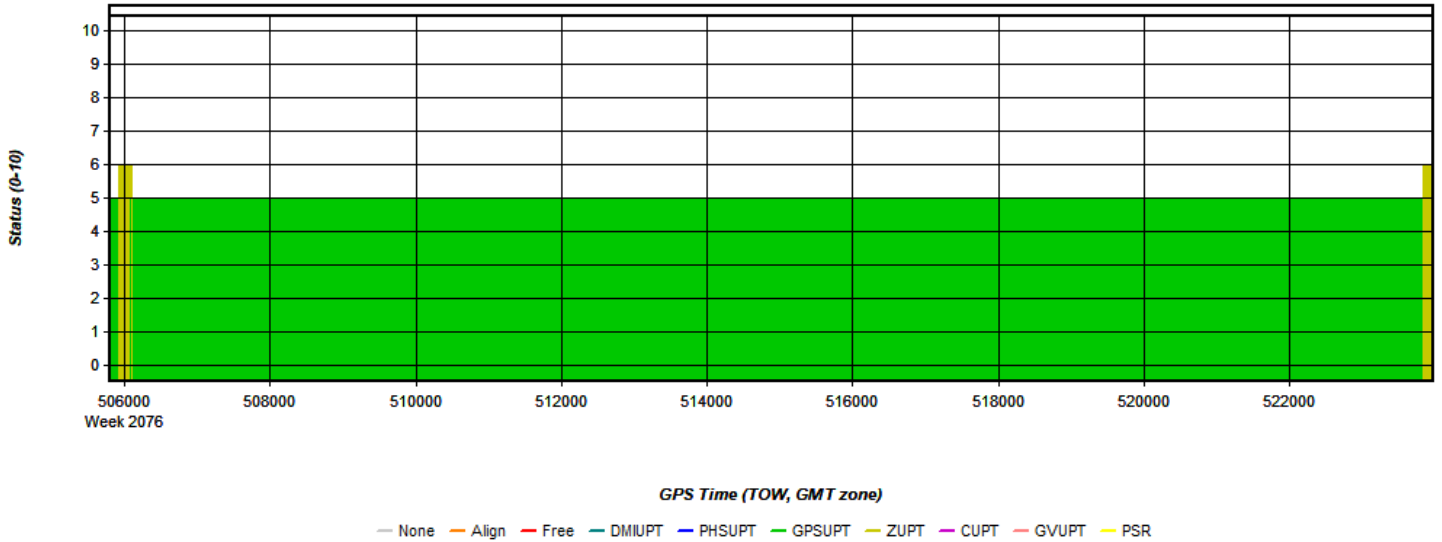
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 7: 20191025202842 [Smoothed TC Combined] - Number of Satellites Line Plot



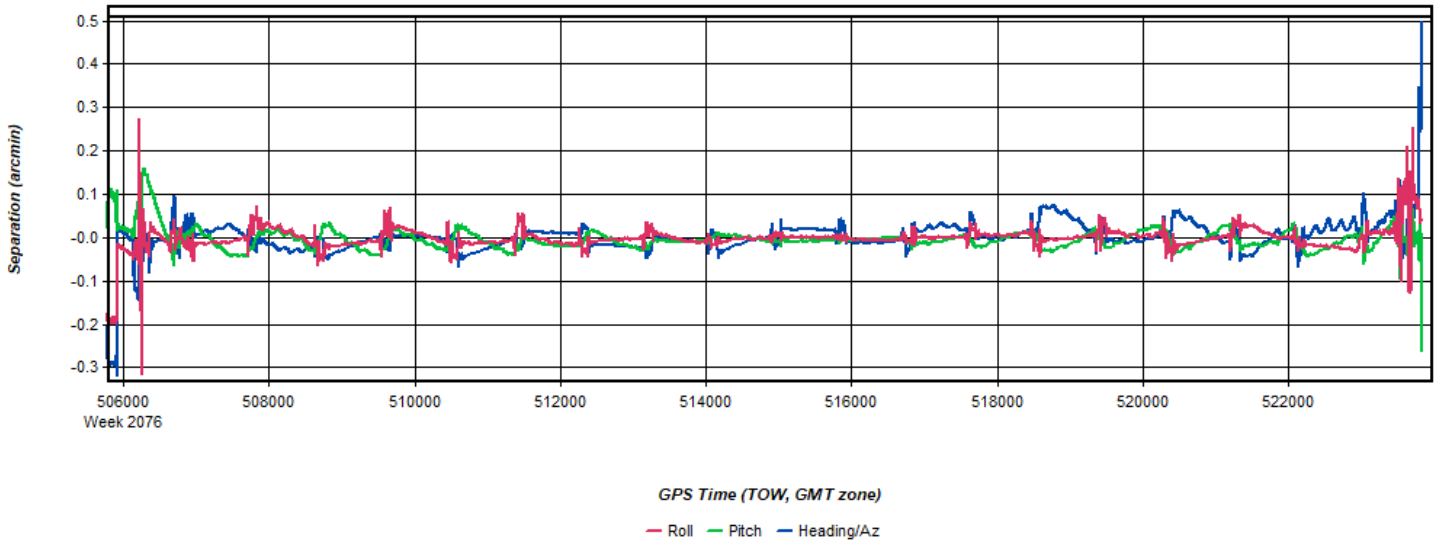
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 8: 20191025202842 [Smoothed TC Combined] - Status flag for IMU processing



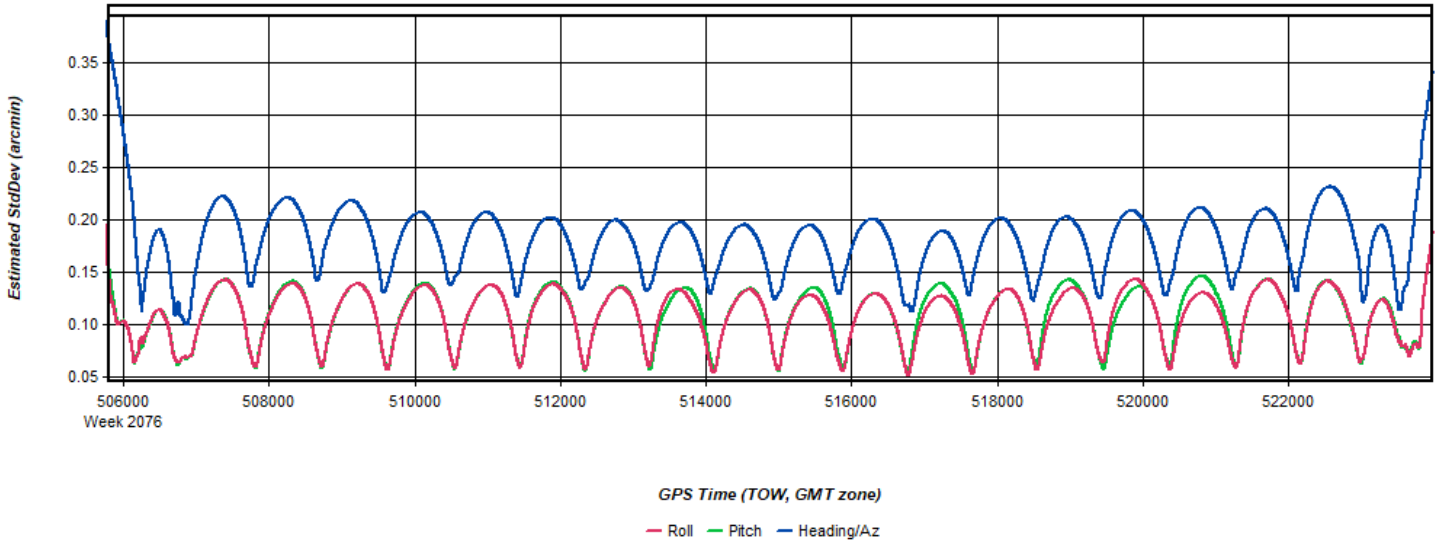
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 9: 20191025202842 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



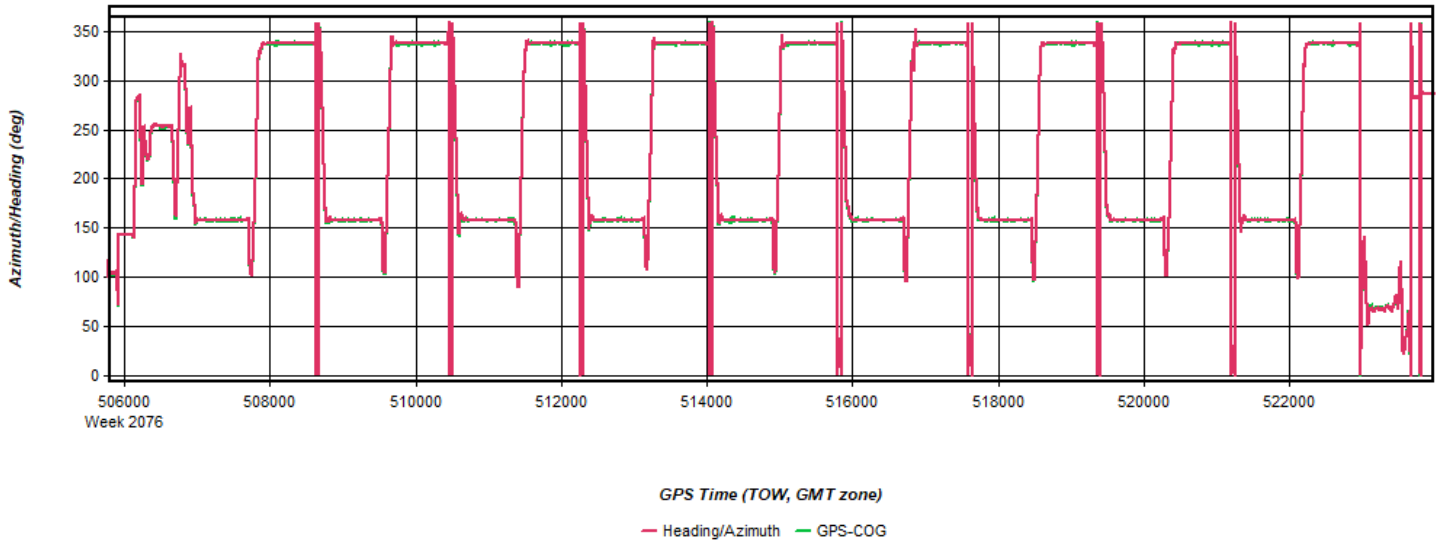
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 10: 20191025202842 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



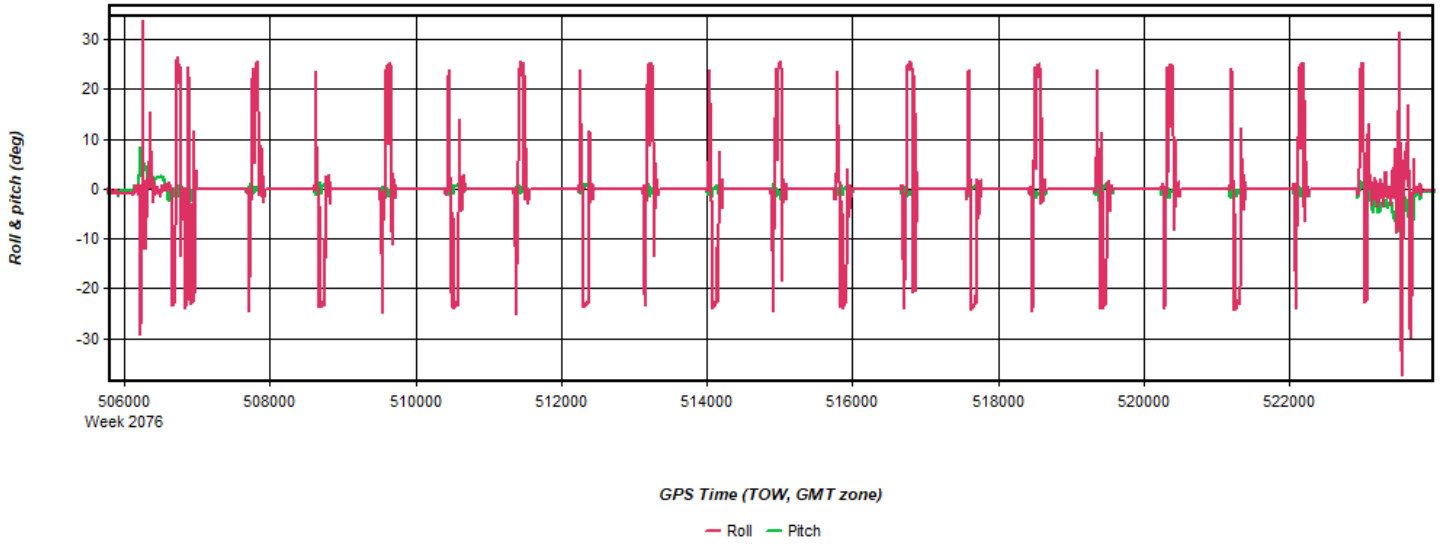
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 11: 20191025202842 [Smoothed TC Combined] - Azimuth Plot



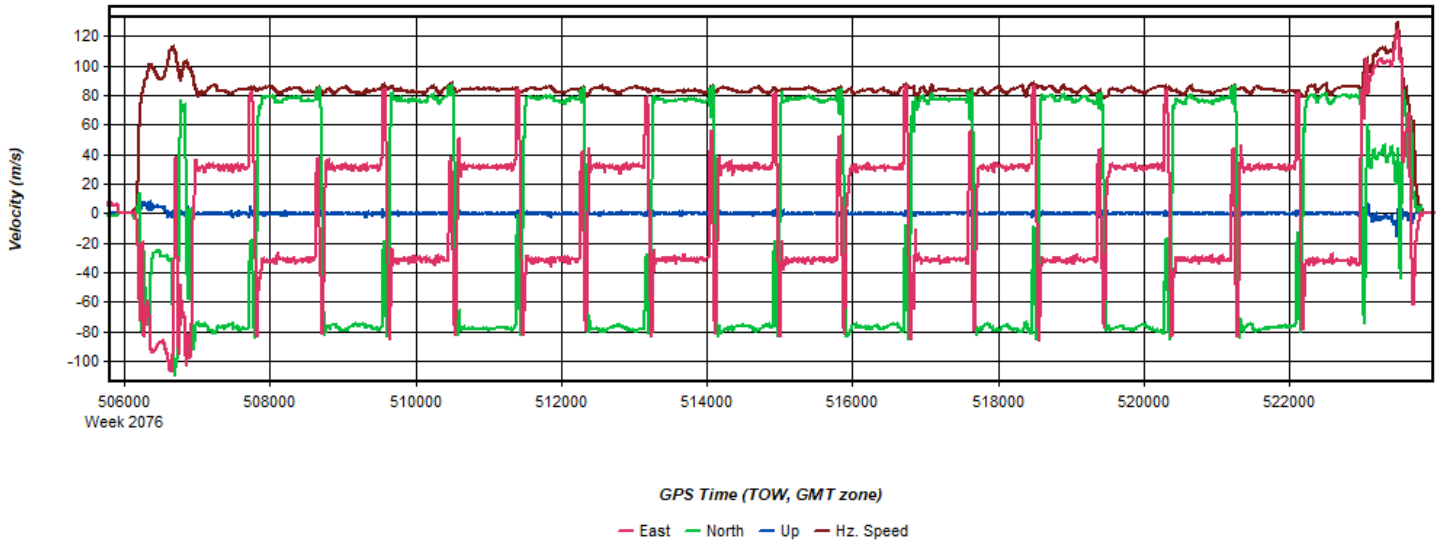
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 12: 20191025202842 [Smoothed TC Combined] - Roll & Pitch Plot



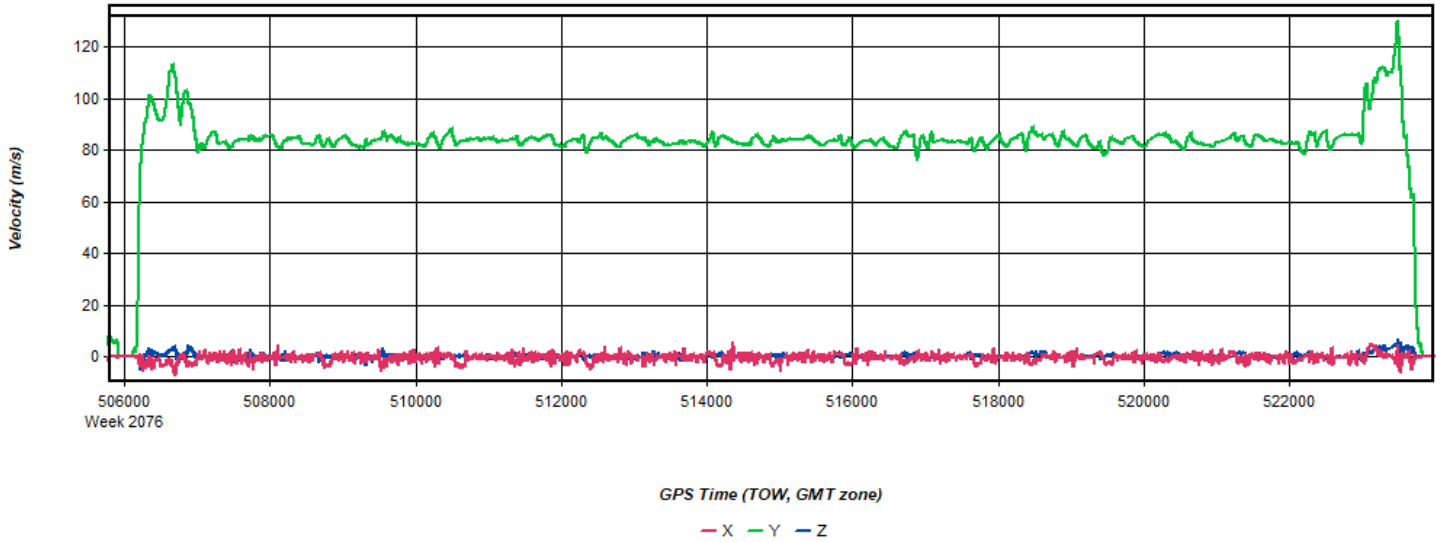
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 13: 20191025202842 [Smoothed TC Combined] - Velocity Profile Plot



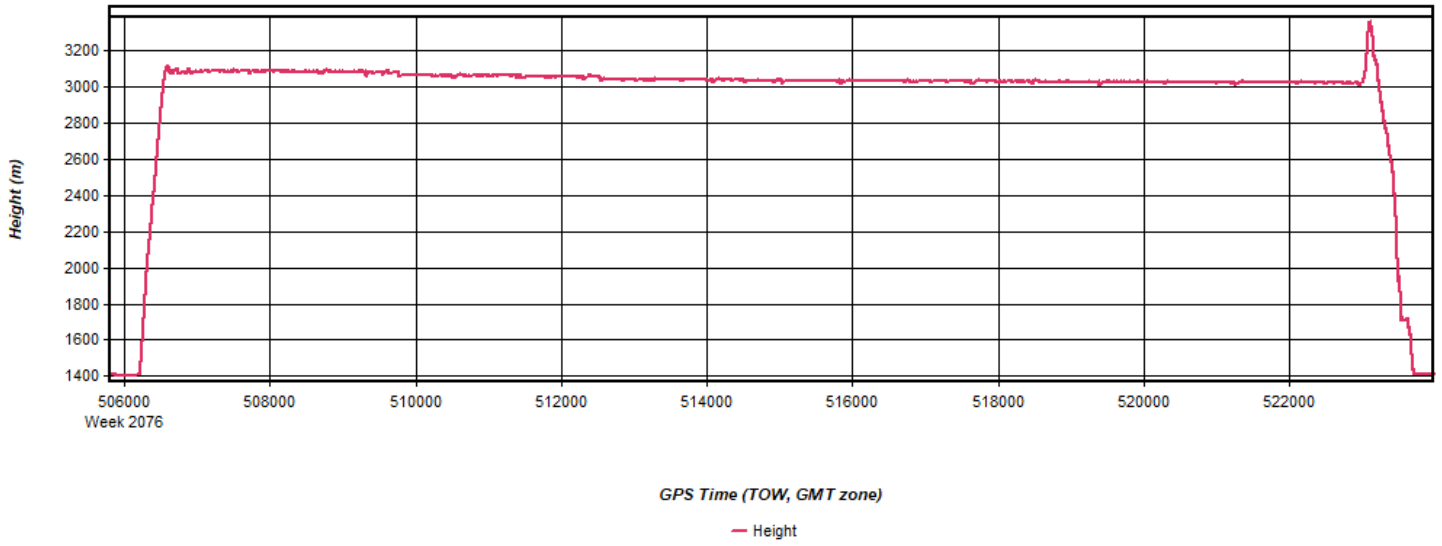
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 14: 20191025202842 [Smoothed TC Combined] - Body Frame Velocity Plot



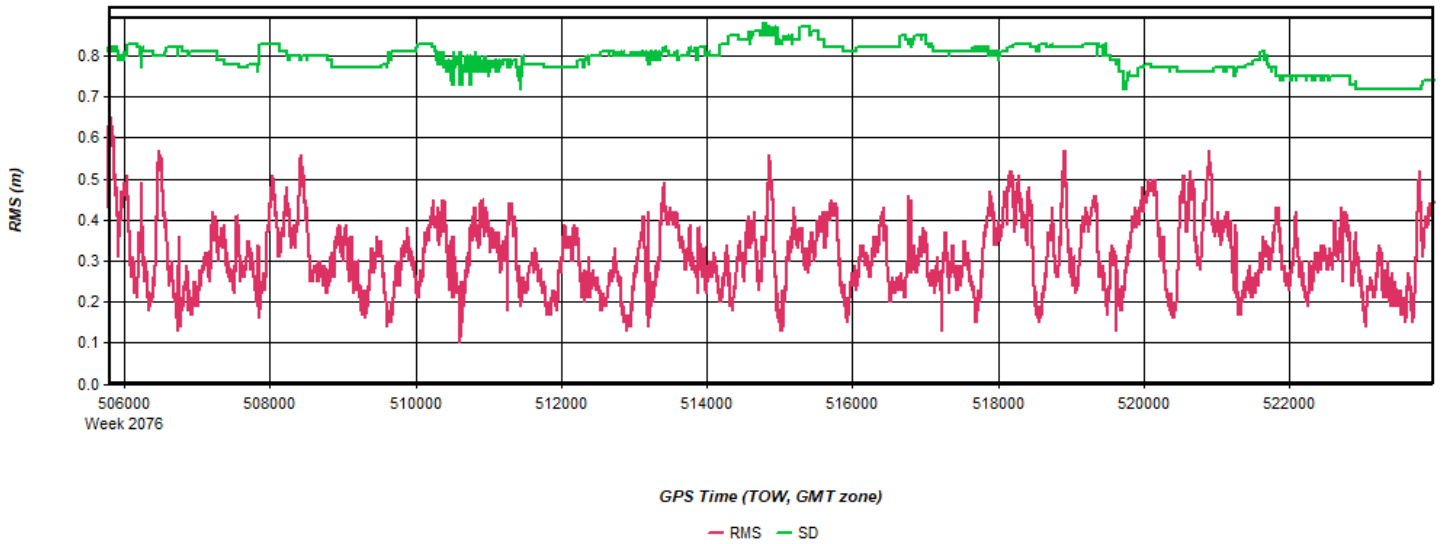
Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 15: 20191025202842 [Smoothed TC Combined] - Height Profile Plot



Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 16: 20191025202842 [Smoothed TC Combined] - C/A Code Residual RMS Plot



Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 17: 20191025202842 [Smoothed TC Combined] - Carrier Residual RMS Plot



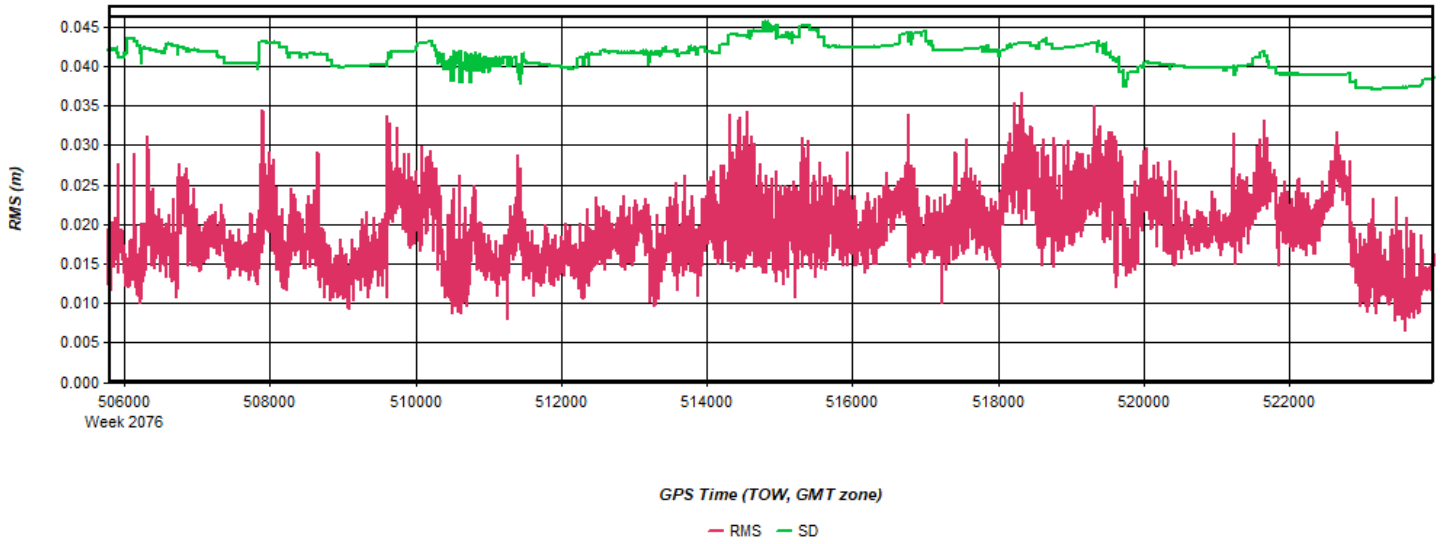


Figure 18: 20191025202842 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot

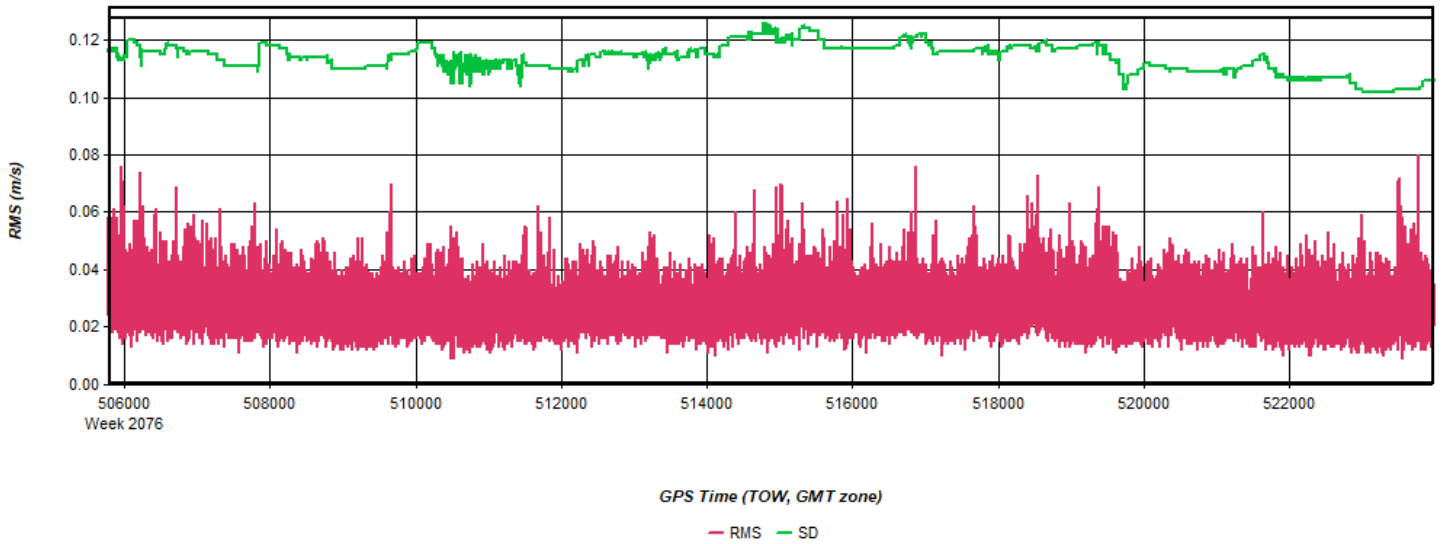
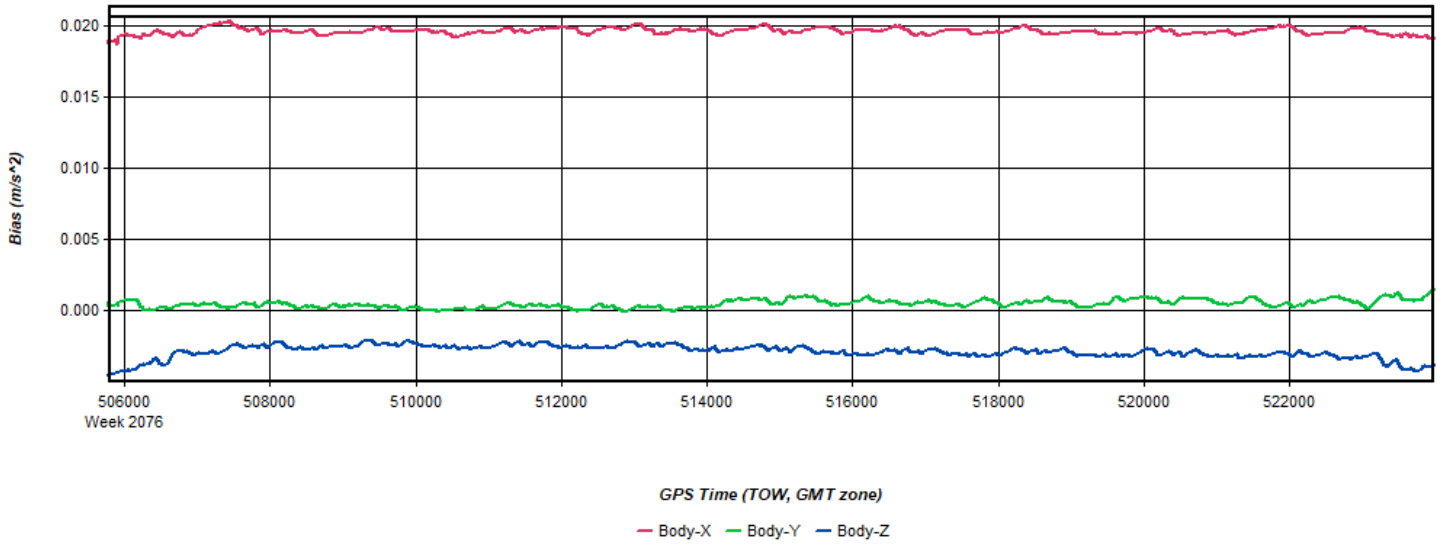
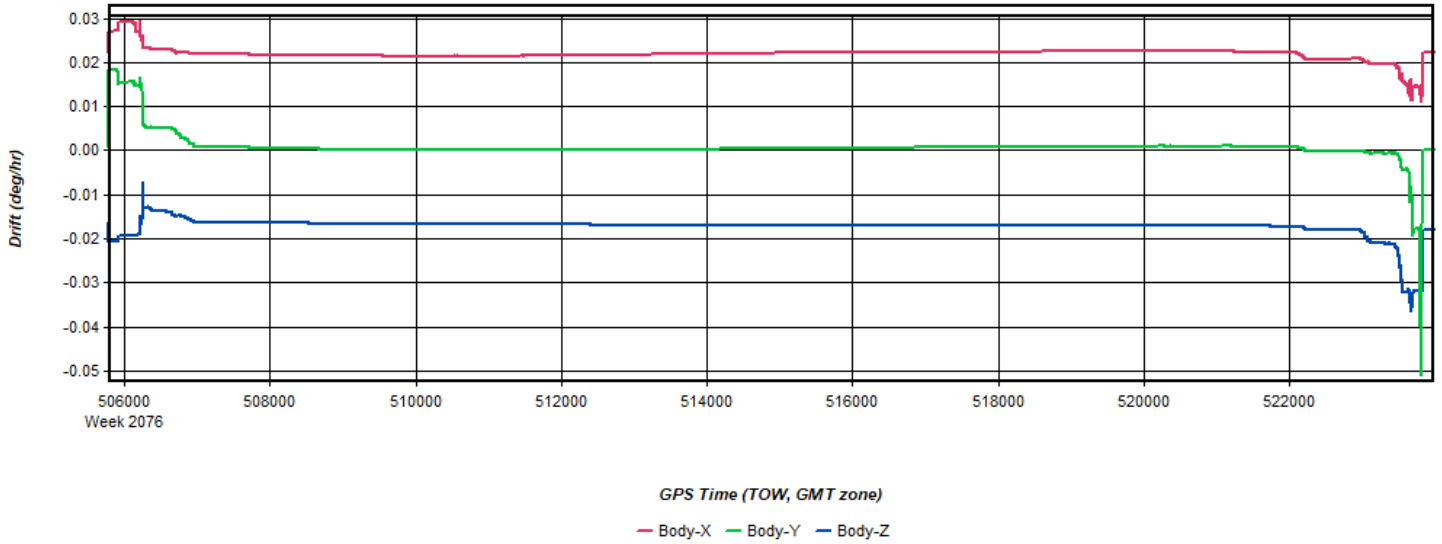


Figure 19: 20191025202842 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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Figure 20: 20191025202842 [Smoothed TC Combined] - Gyro Drift Plot

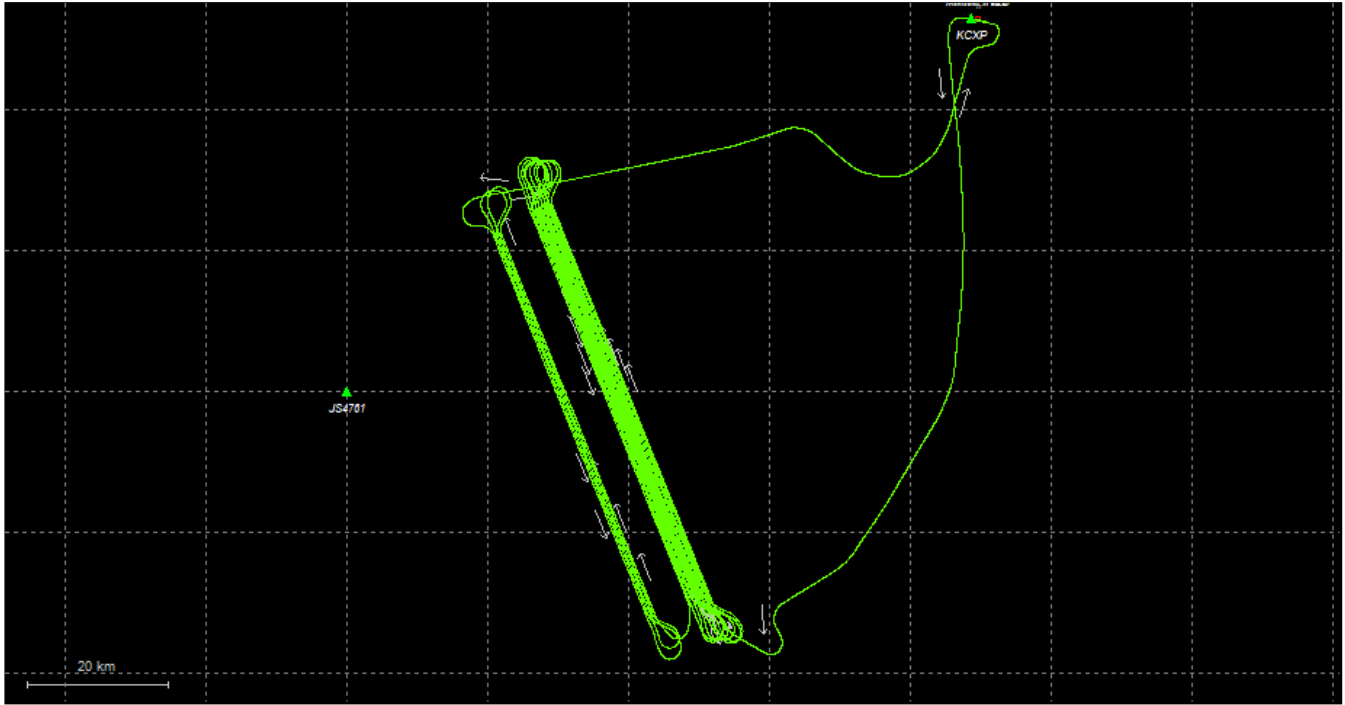


Process	20191025202842	by Unknown	on 10/29/2019	at 11:02:59
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# Output Results for 20191026150432

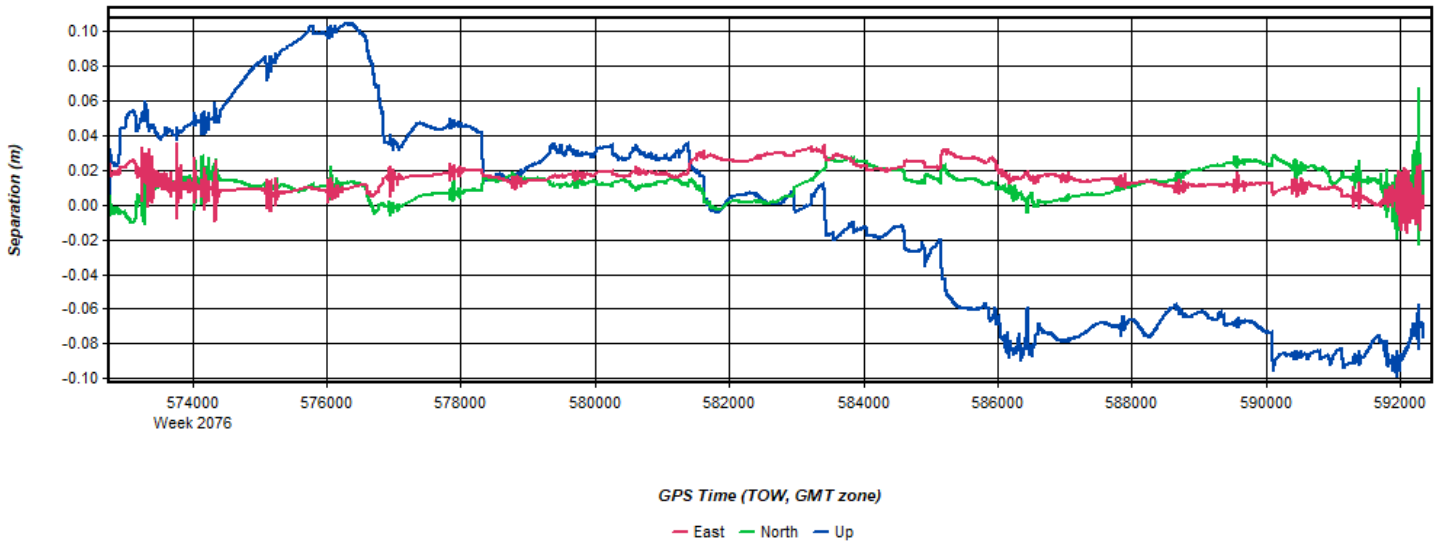
Inertial Explorer Version 8.80.2305  
10/31/2019

Figure 1: Smoothed TC Combined - Map



Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 2: 20191026150432 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 3: 20191026150432 [Smoothed TC Combined] - Float or Fixed Ambiguity

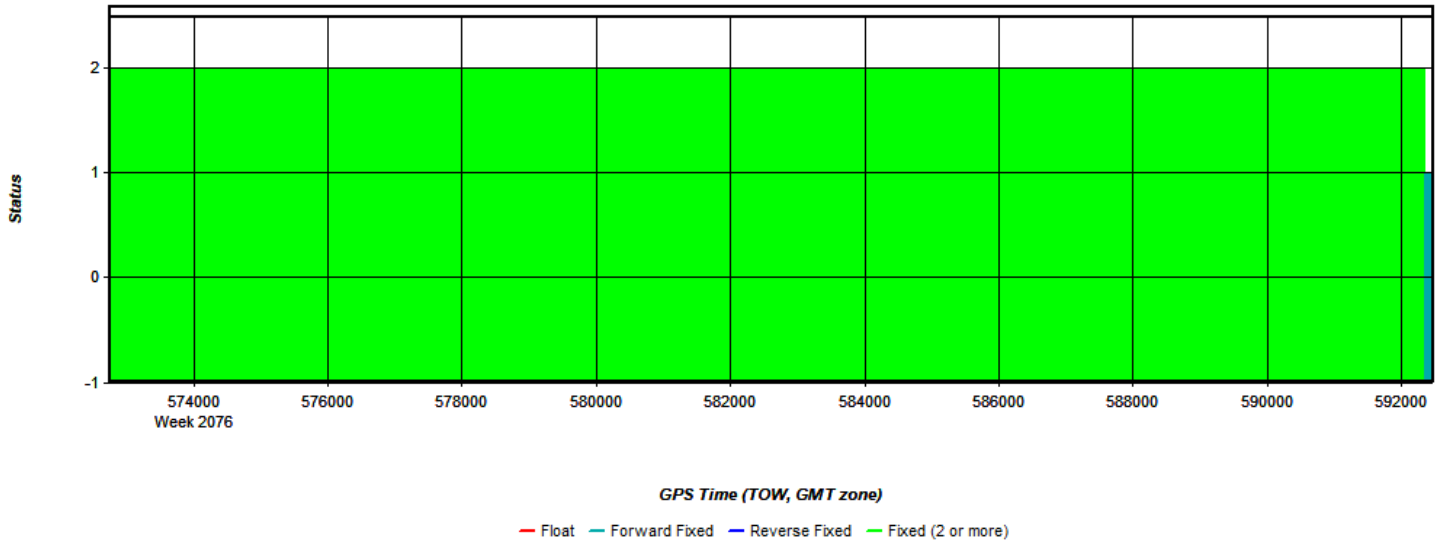


Figure 4: 20191026150432 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)

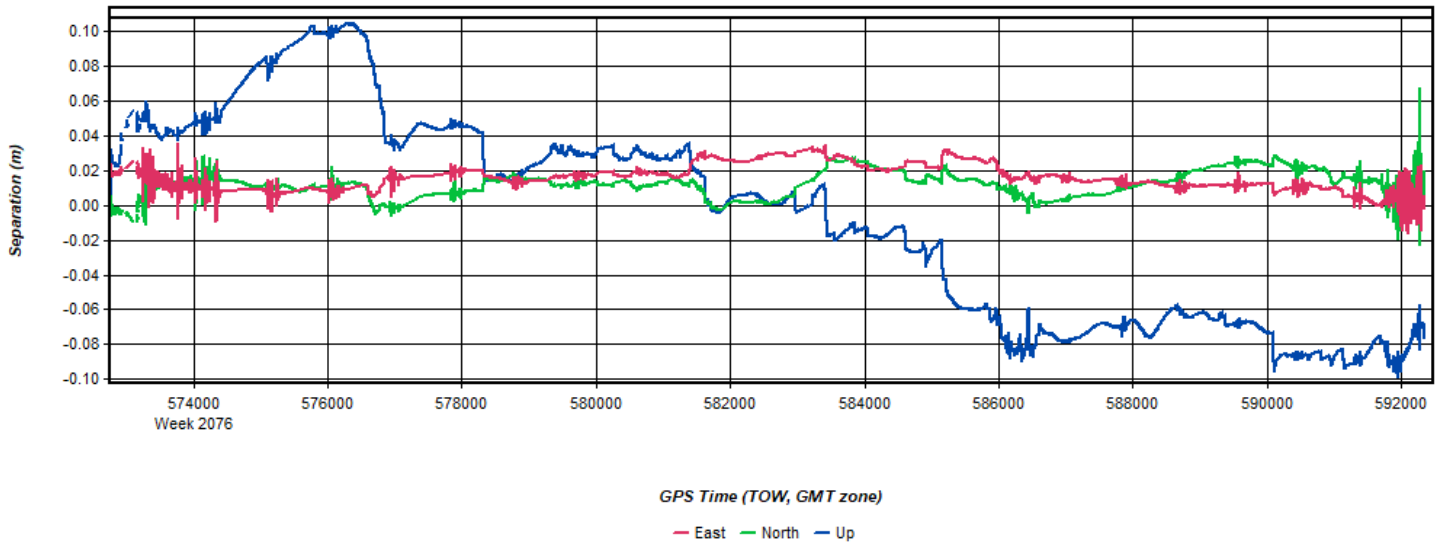
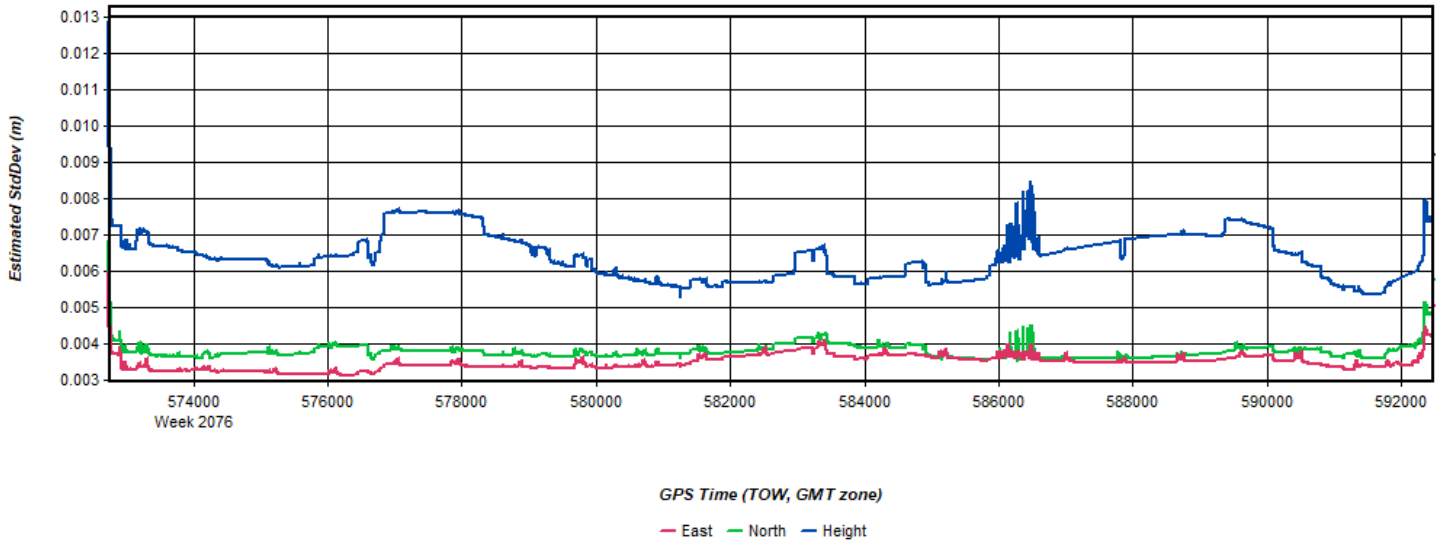
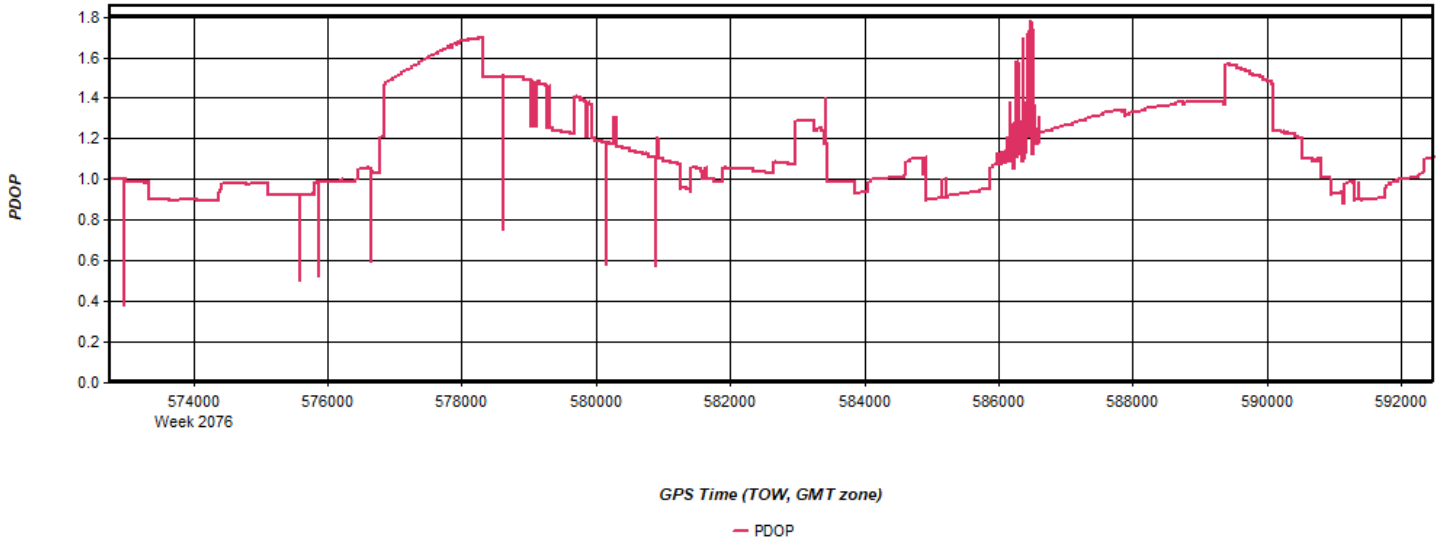


Figure 5: 20191026150432 [Smoothed TC Combined] - Estimated Position Accuracy Plot



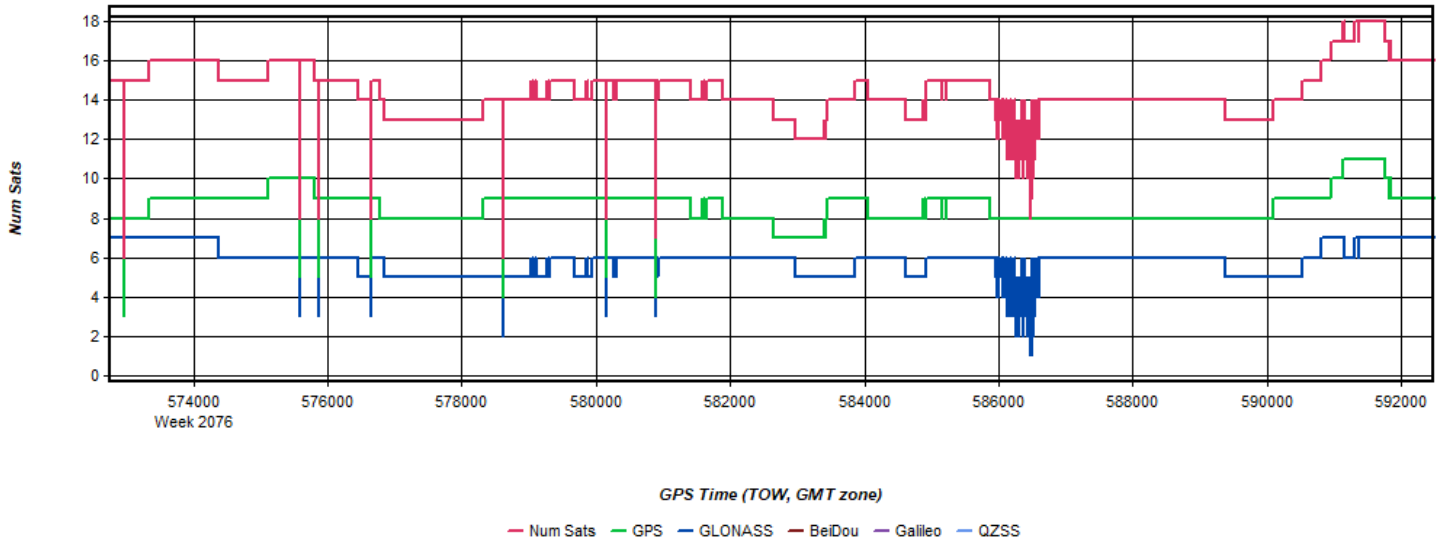
Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 6: 20191026150432 [Smoothed TC Combined] - PDOP Plot



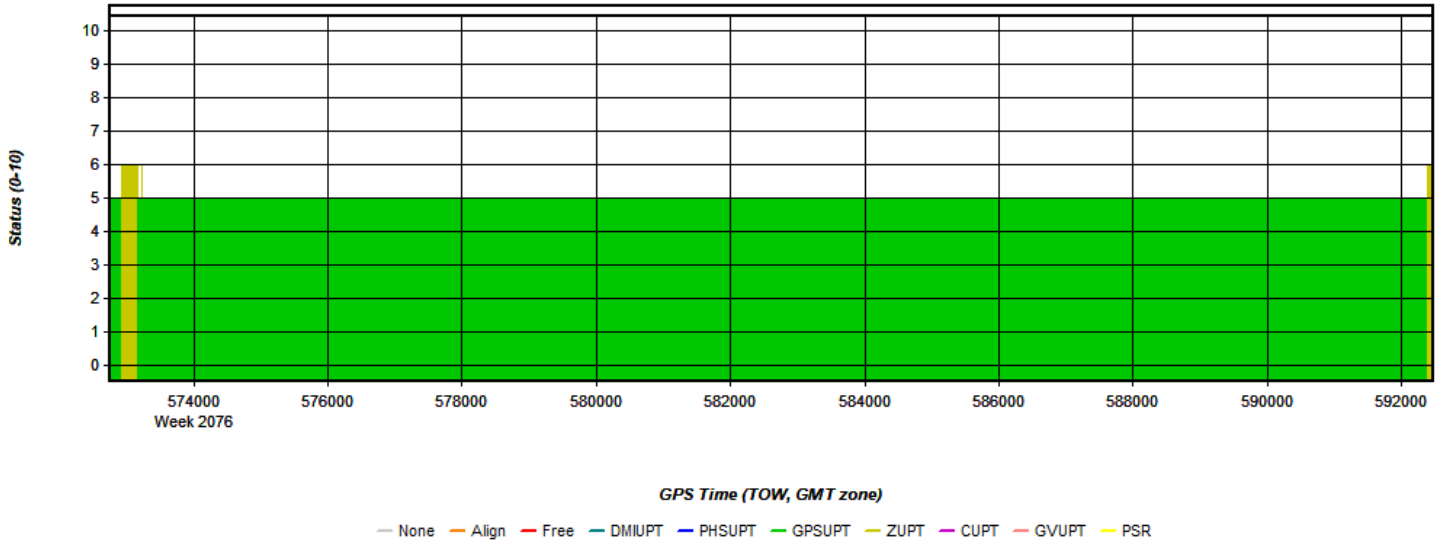
Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 7: 20191026150432 [Smoothed TC Combined] - Number of Satellites Line Plot



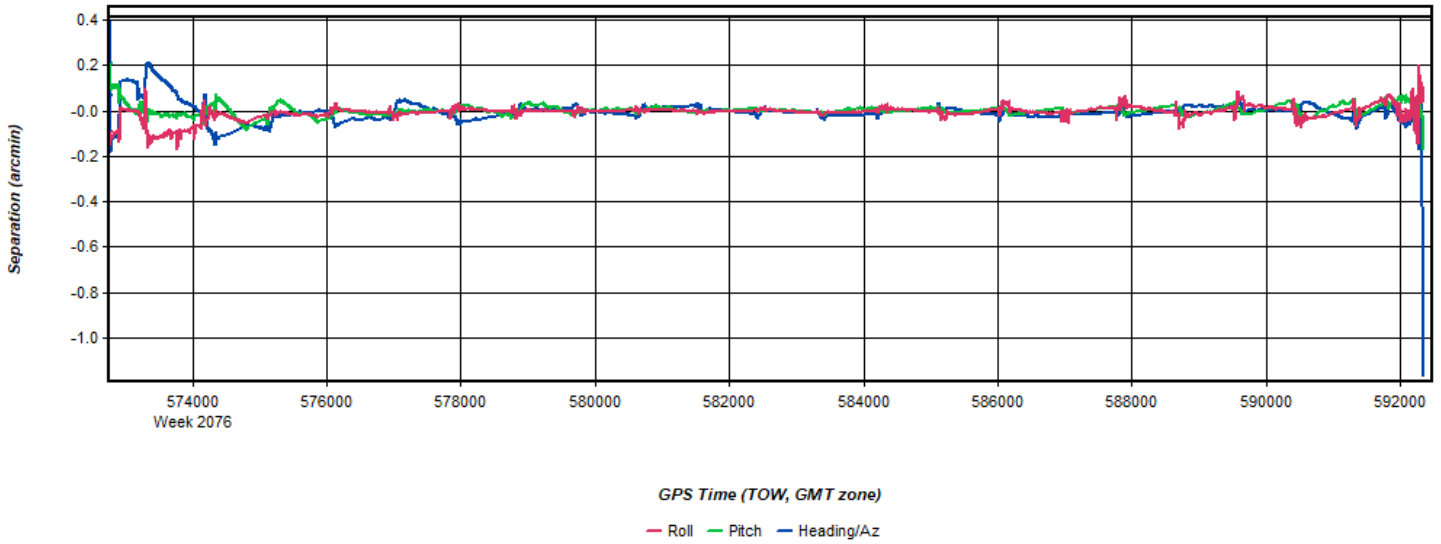
Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 8: 20191026150432 [Smoothed TC Combined] - Status flag for IMU processing



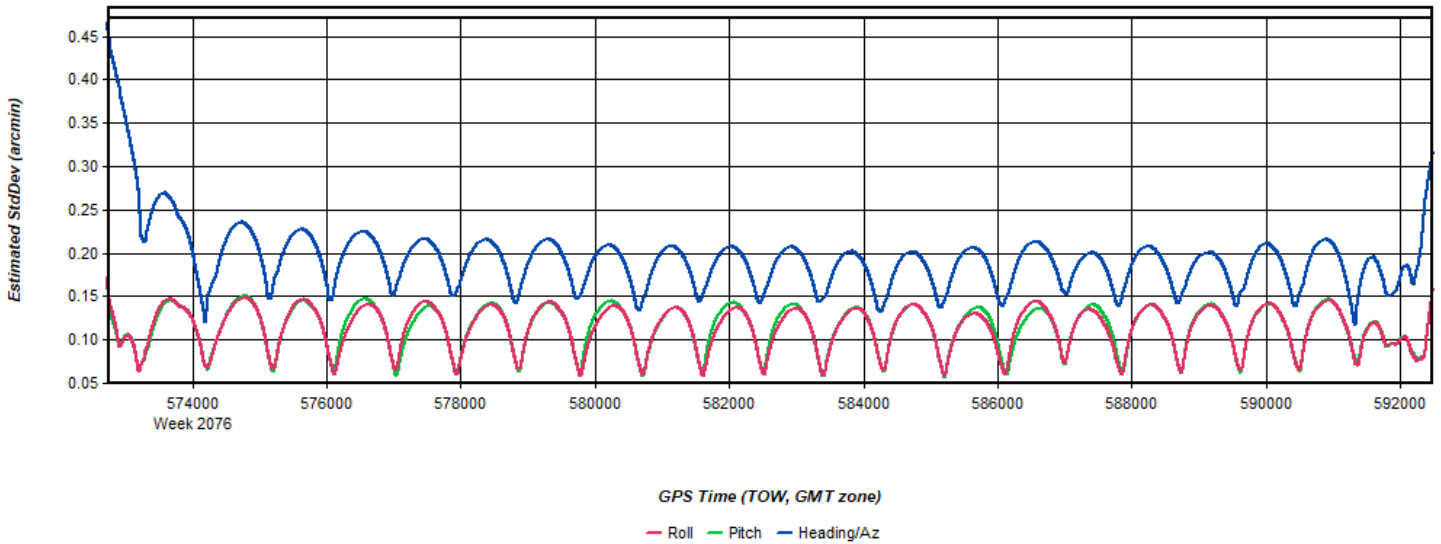
Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 9: 20191026150432 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



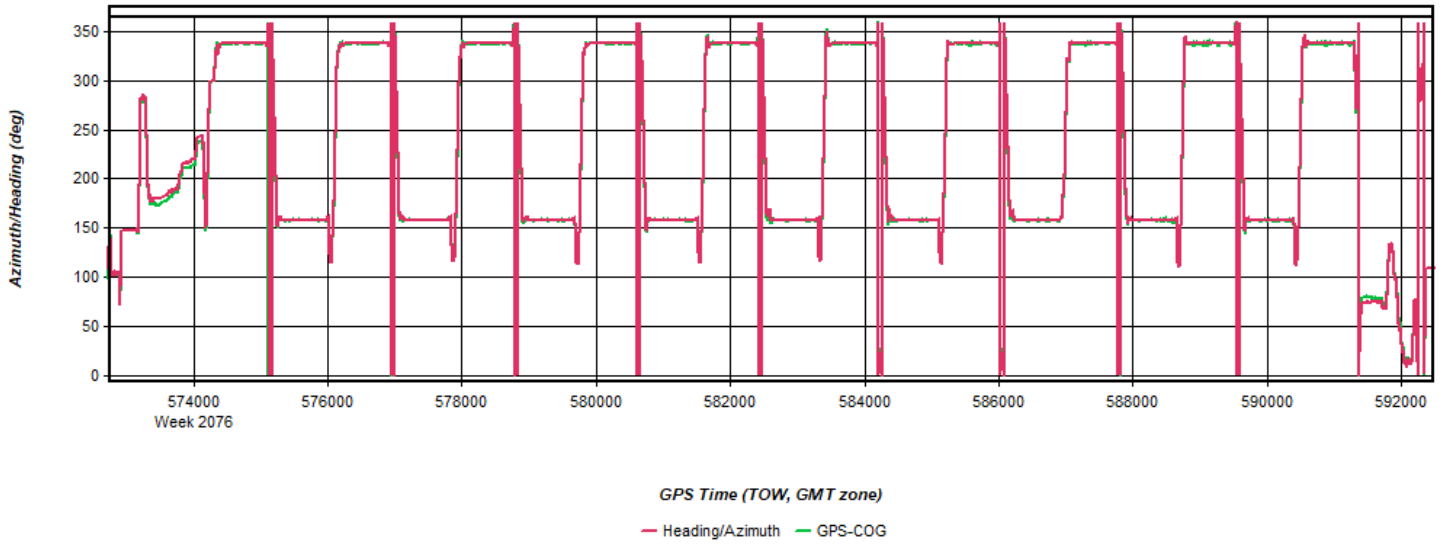
Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 10: 20191026150432 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



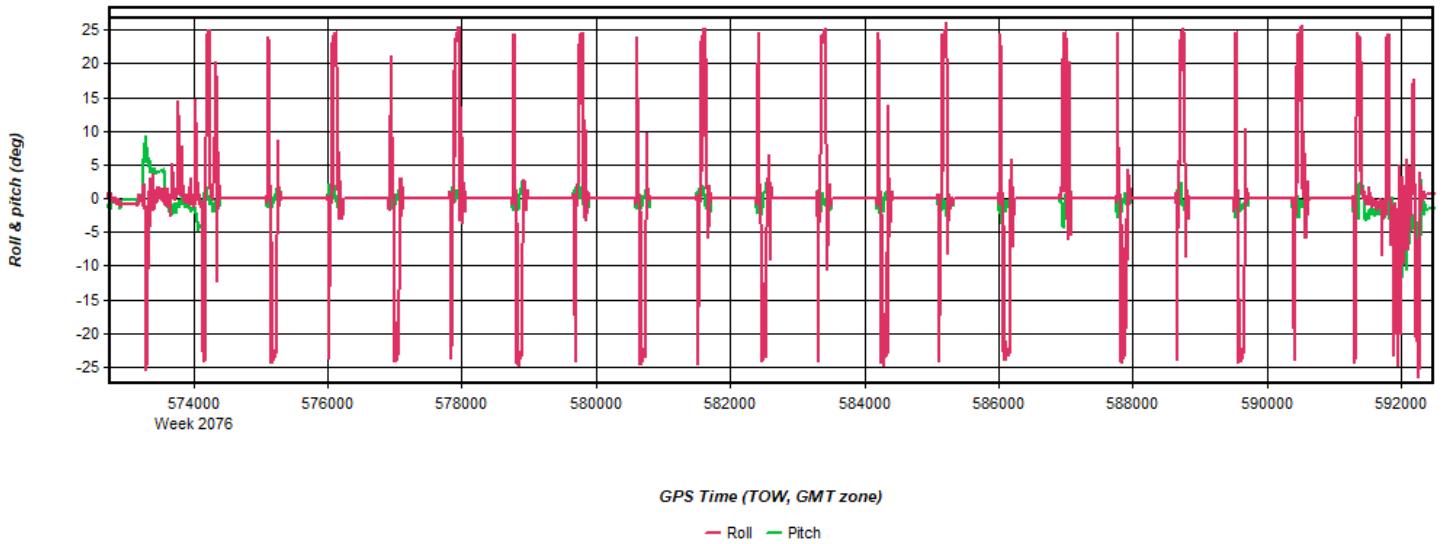
Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 11: 20191026150432 [Smoothed TC Combined] - Azimuth Plot



Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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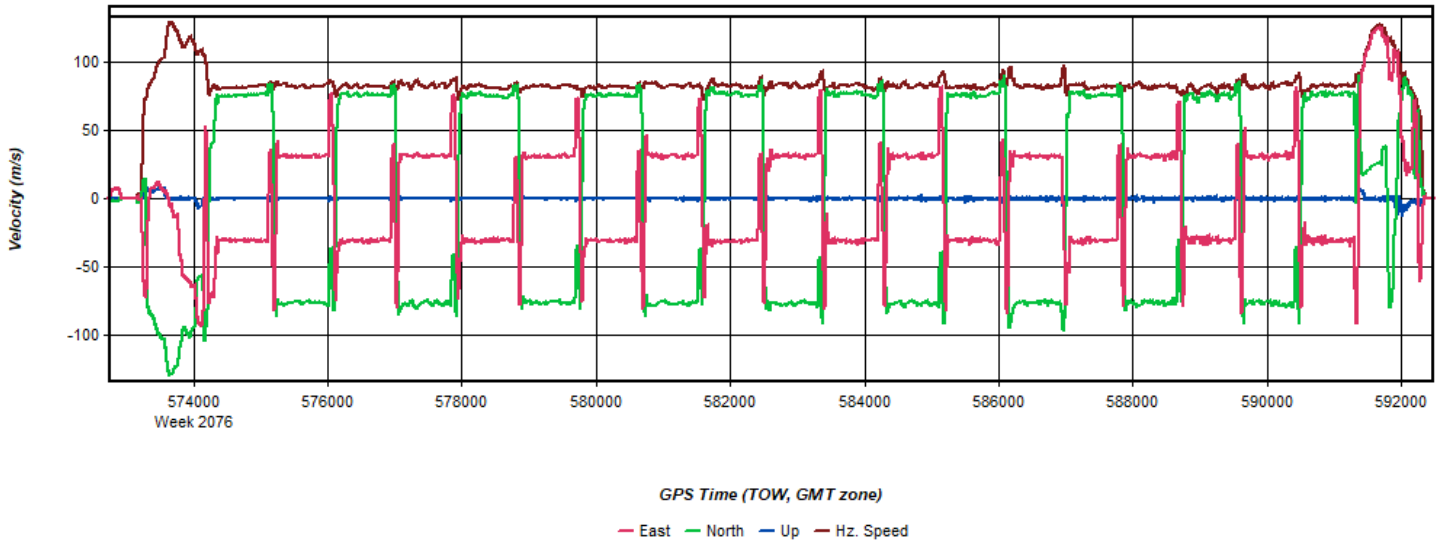
Figure 12: 20191026150432 [Smoothed TC Combined] - Roll & Pitch Plot



Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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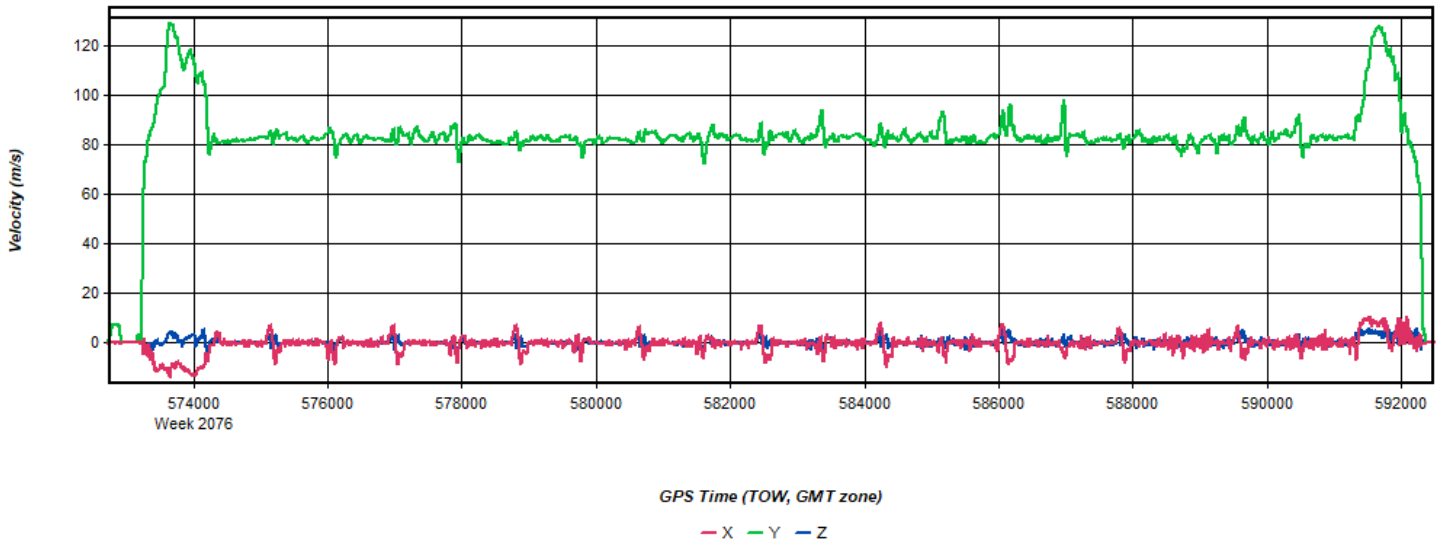
Figure 13: 20191026150432 [Smoothed TC Combined] - Velocity Profile Plot





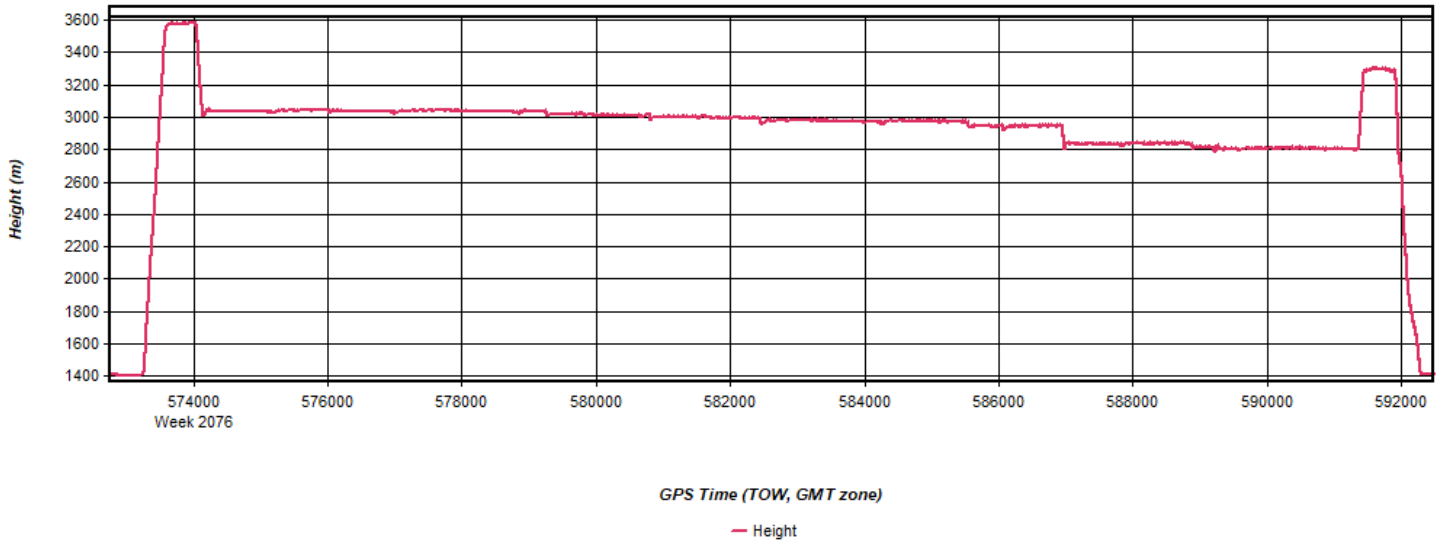
Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 14: 20191026150432 [Smoothed TC Combined] - Body Frame Velocity Plot



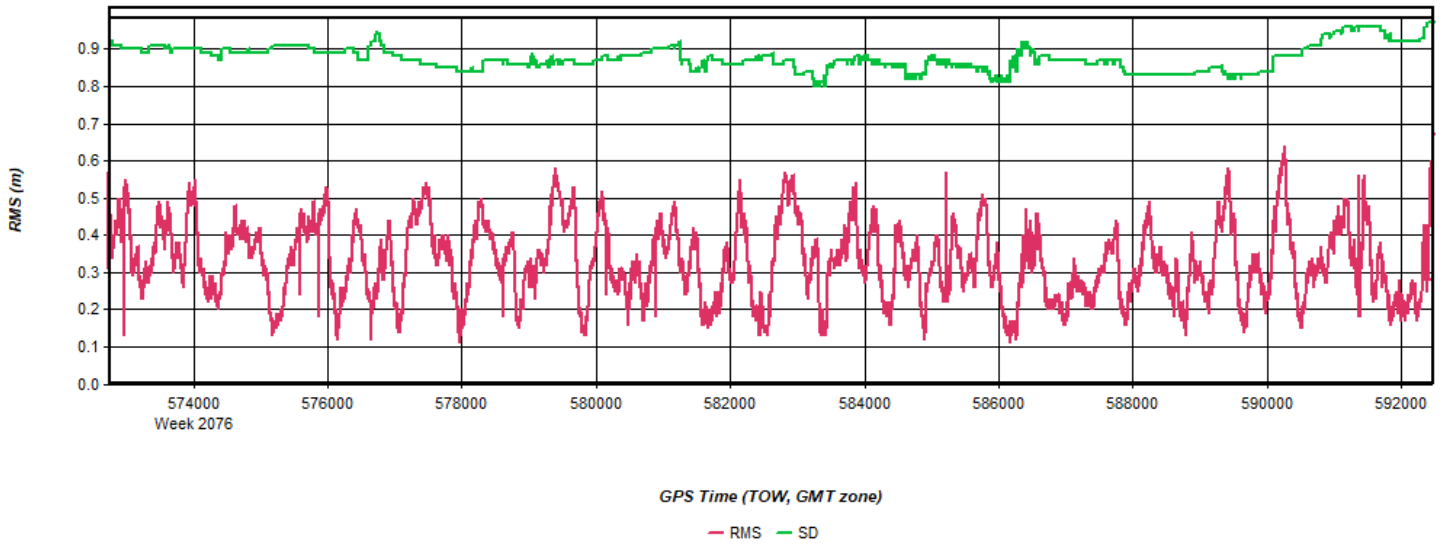
Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 15: 20191026150432 [Smoothed TC Combined] - Height Profile Plot



Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 16: 20191026150432 [Smoothed TC Combined] - C/A Code Residual RMS Plot



Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 17: 20191026150432 [Smoothed TC Combined] - Carrier Residual RMS Plot

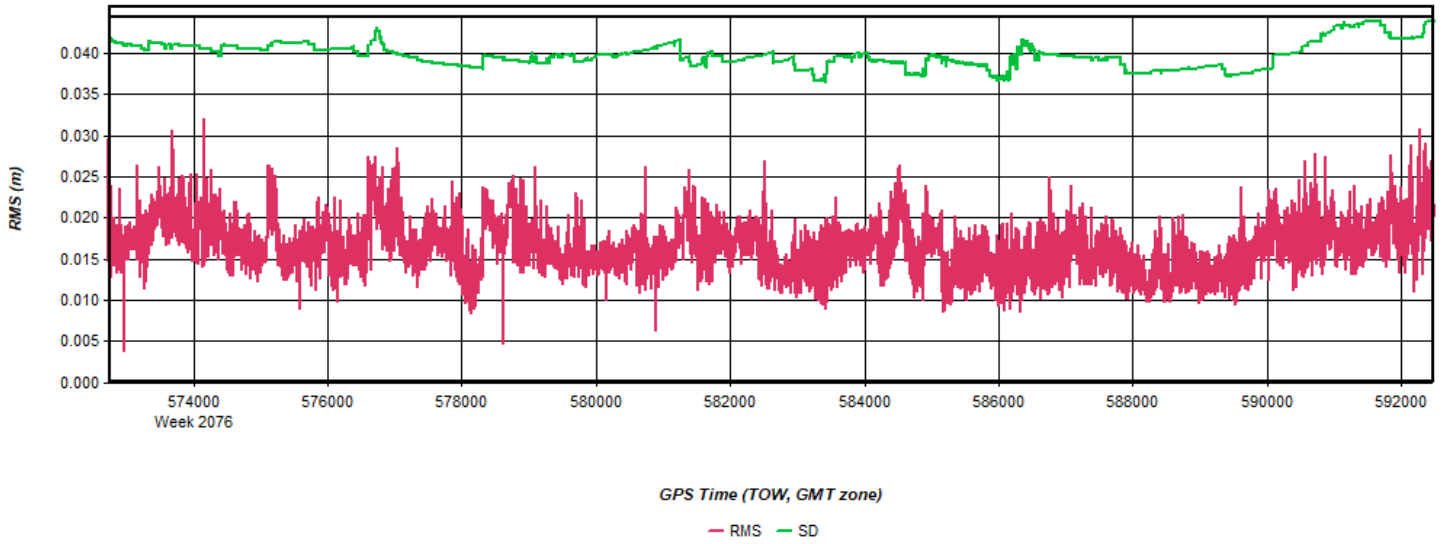


Figure 18: 20191026150432 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot

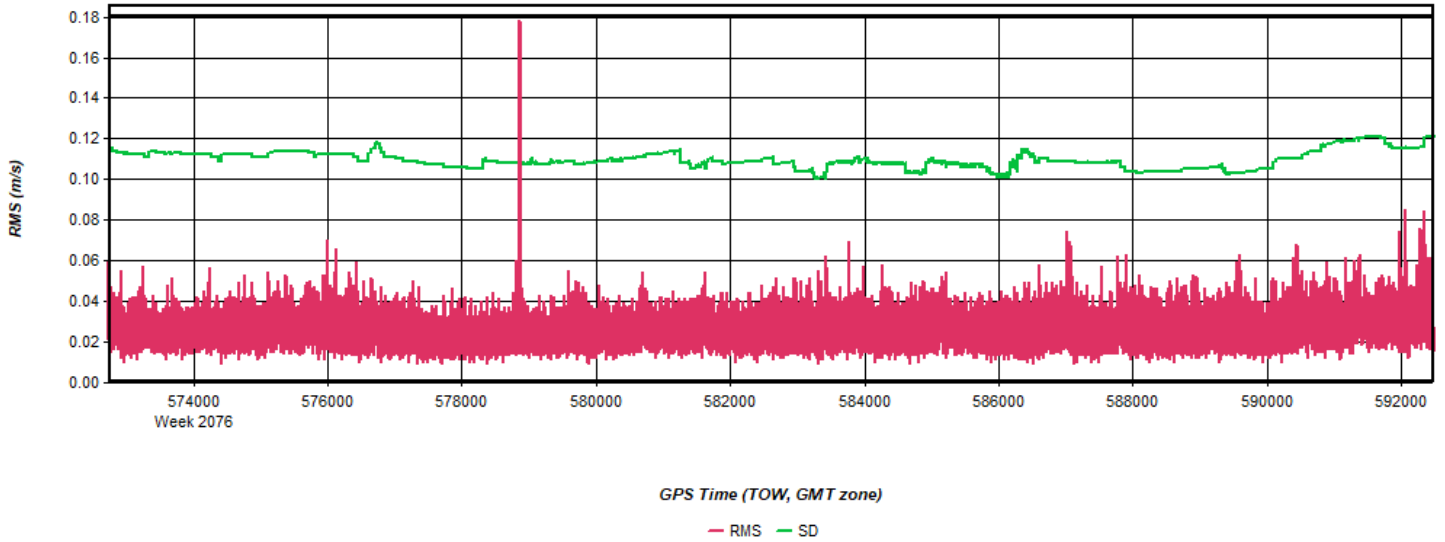
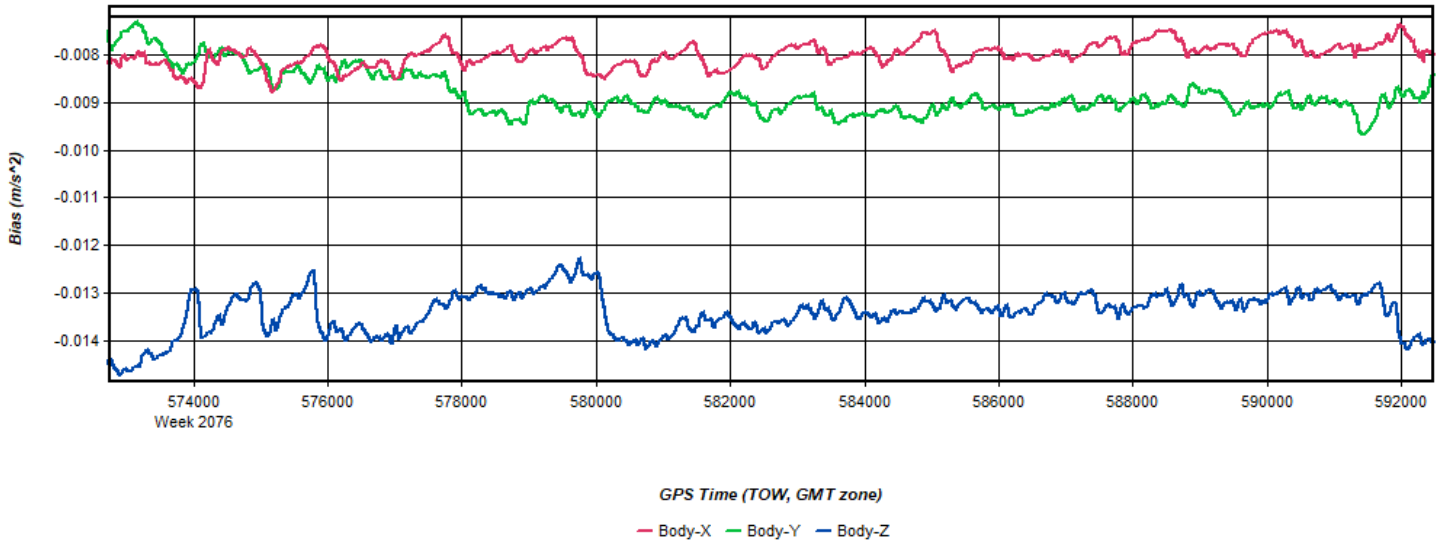
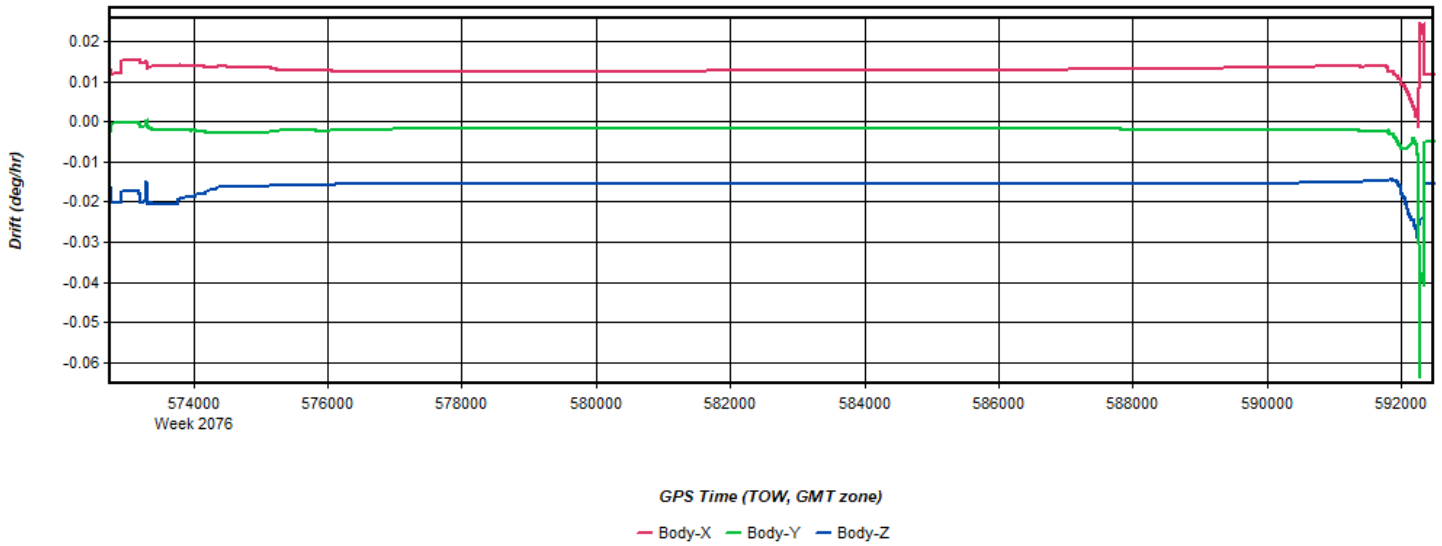


Figure 19: 20191026150432 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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Figure 20: 20191026150432 [Smoothed TC Combined] - Gyro Drift Plot



Process	20191026150432	by Unknown	on 10/31/2019	at 13:56:57
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# Output Results for 20191026205630

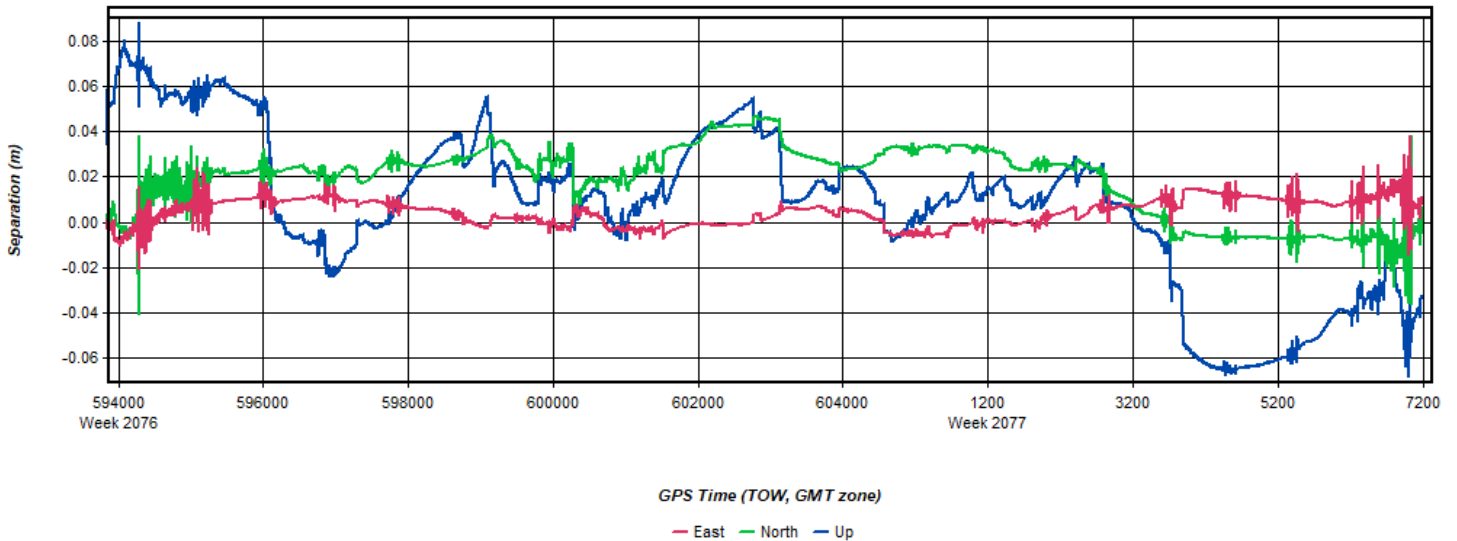
Inertial Explorer Version 8.80.2305  
10/31/2019

Figure 1: Smoothed TC Combined - Map



Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 2: 20191026205630 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 3: 20191026205630 [Smoothed TC Combined] - Float or Fixed Ambiguity

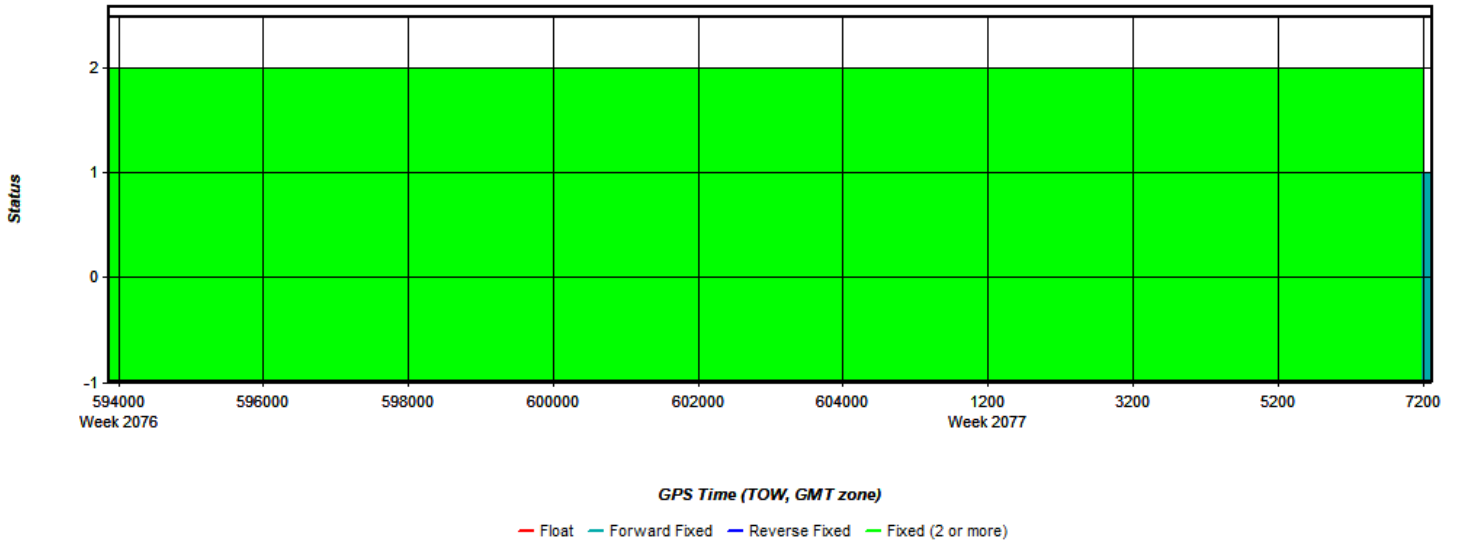


Figure 4: 20191026205630 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)

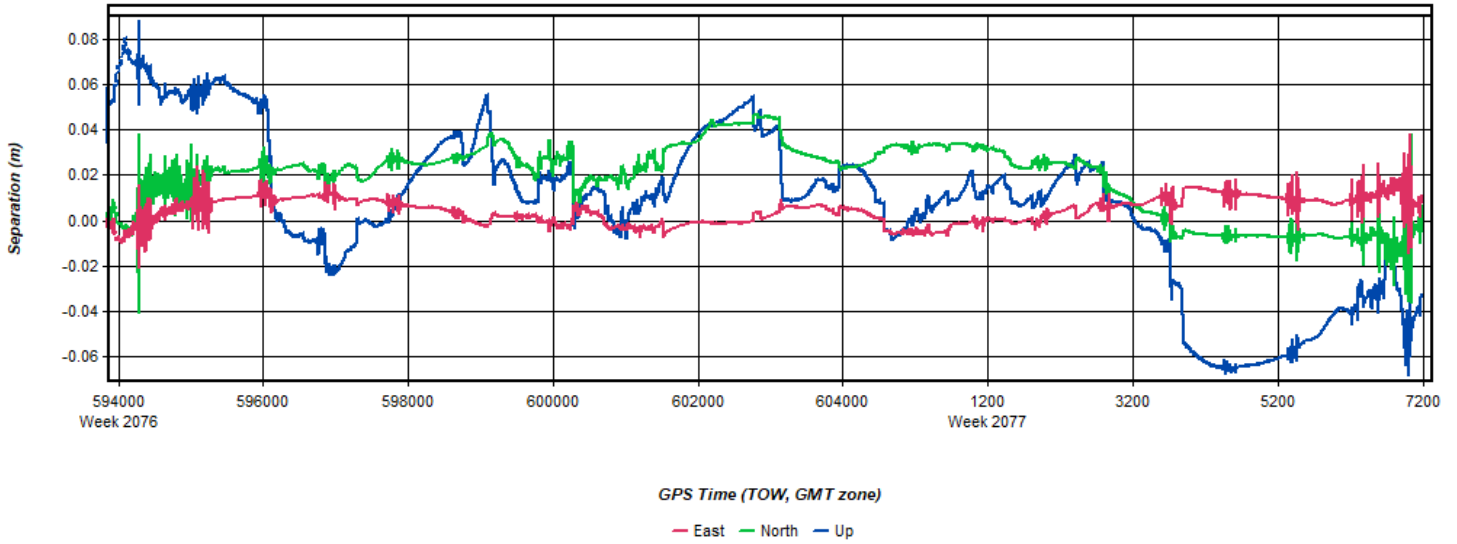
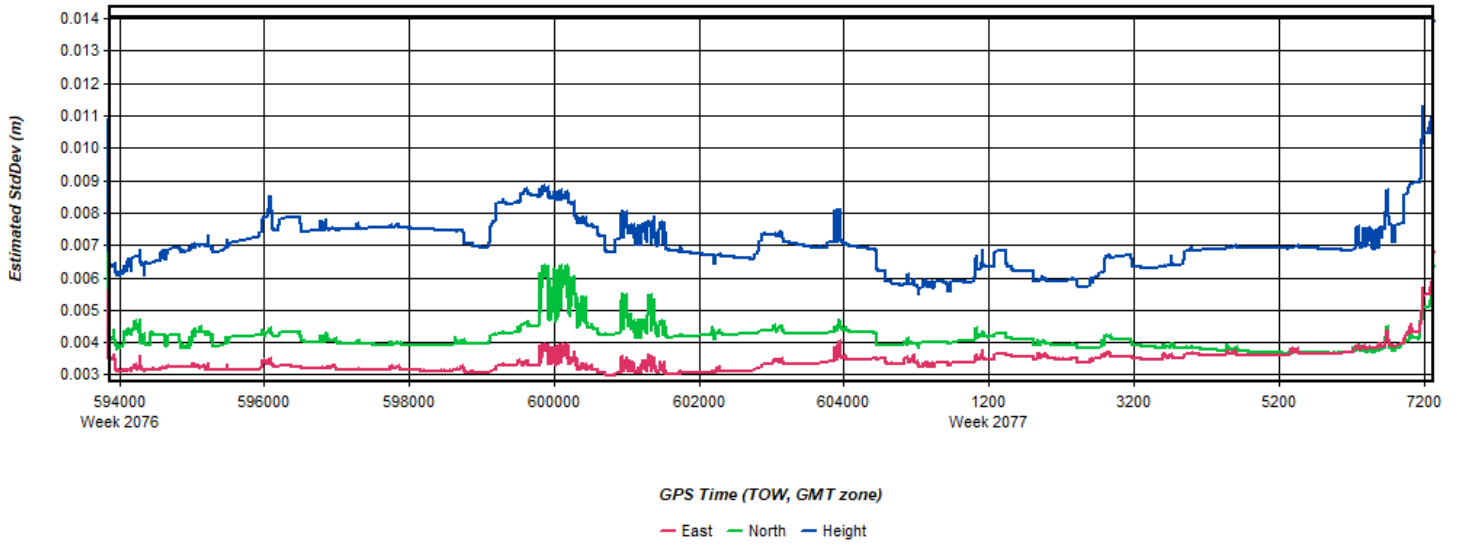
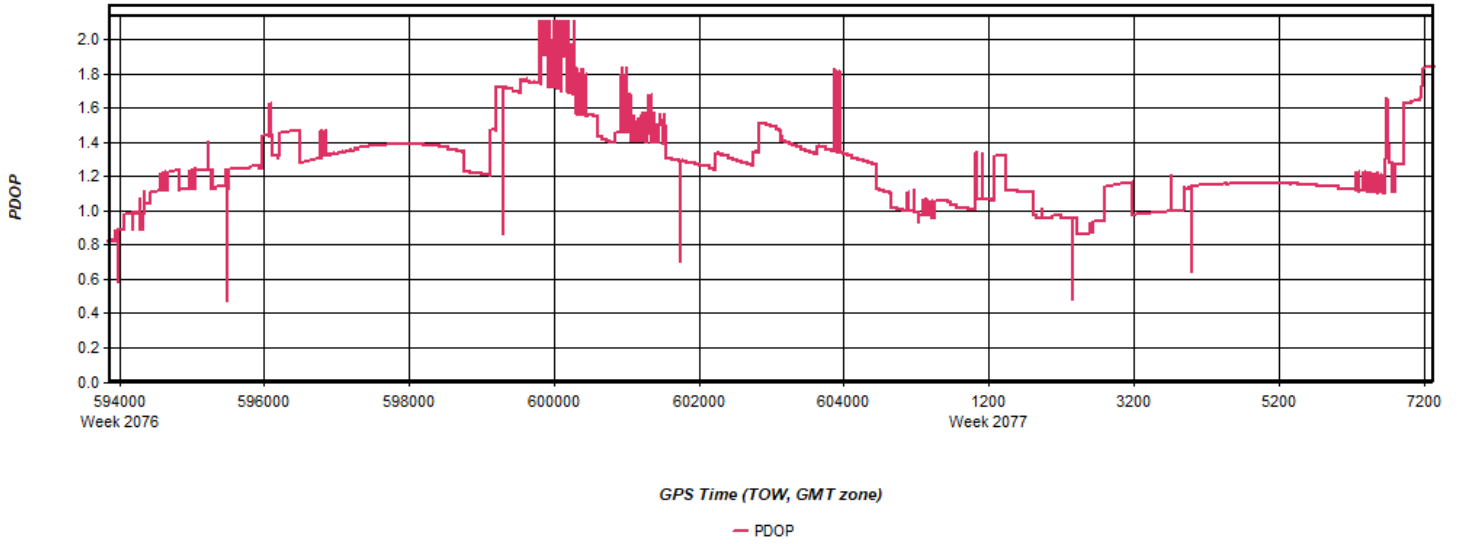


Figure 5: 20191026205630 [Smoothed TC Combined] - Estimated Position Accuracy Plot



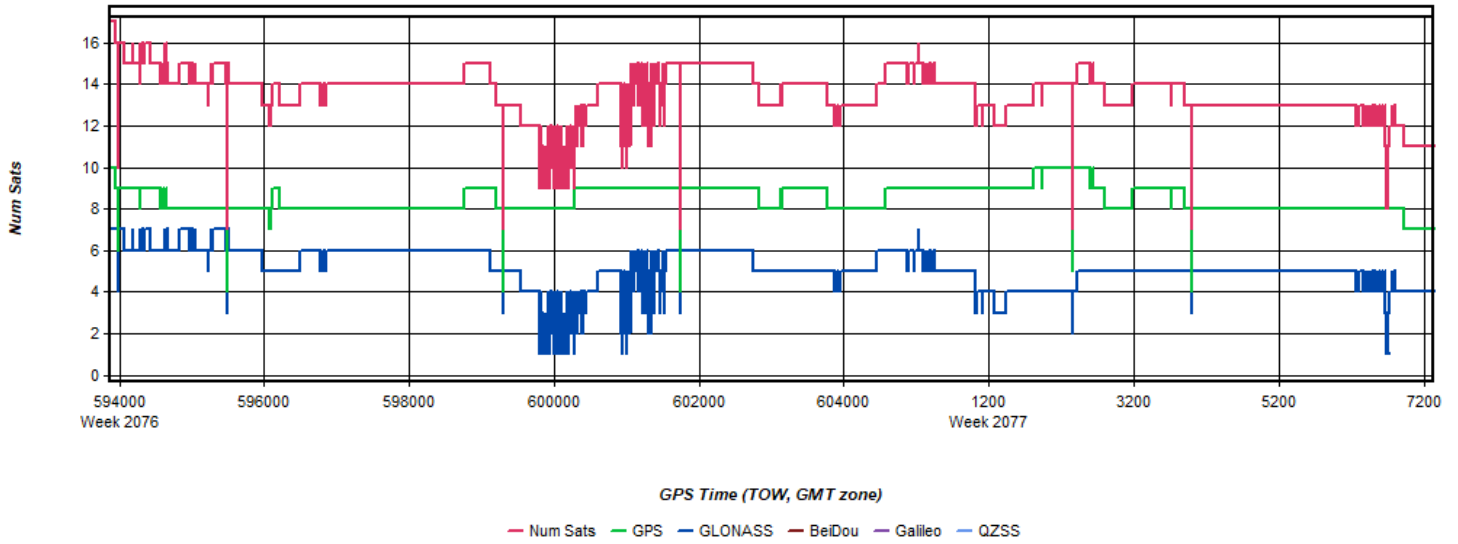
Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 6: 20191026205630 [Smoothed TC Combined] - PDOP Plot



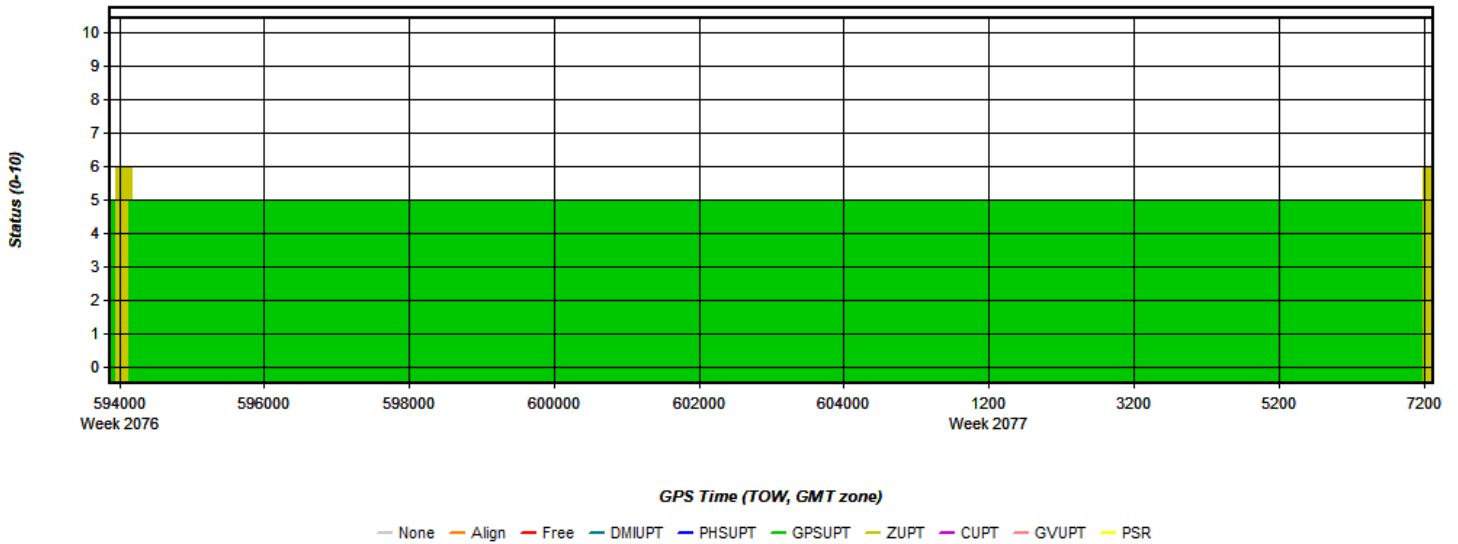
Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 7: 20191026205630 [Smoothed TC Combined] - Number of Satellites Line Plot



Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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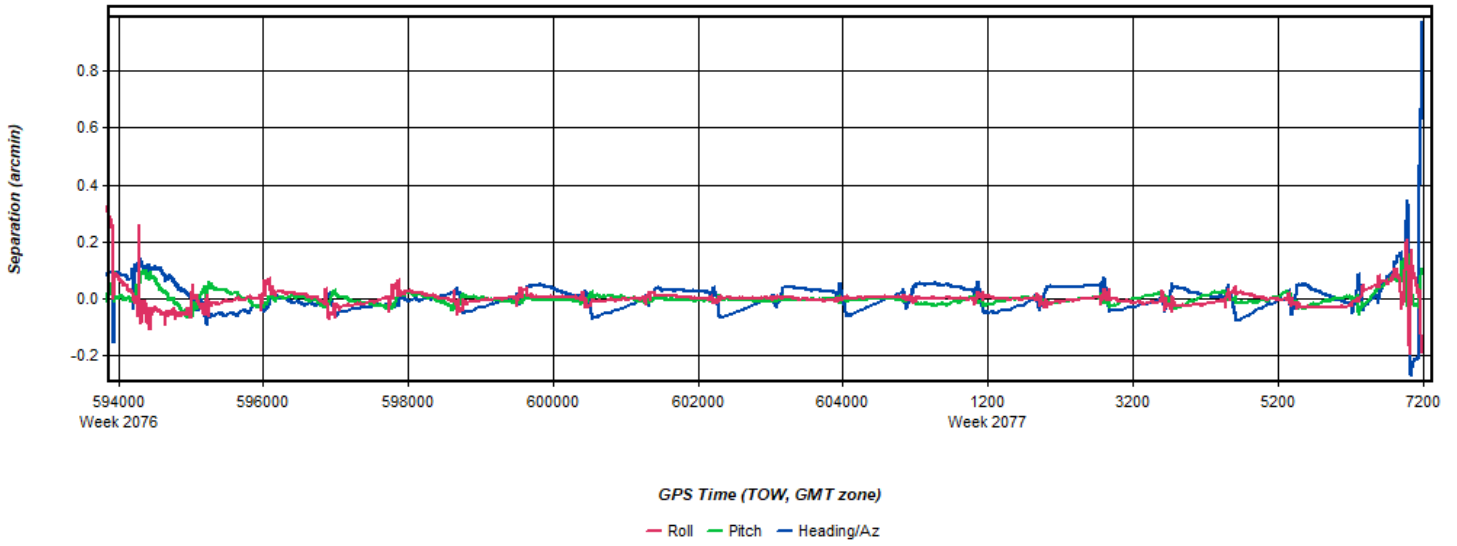
Figure 8: 20191026205630 [Smoothed TC Combined] - Status flag for IMU processing



Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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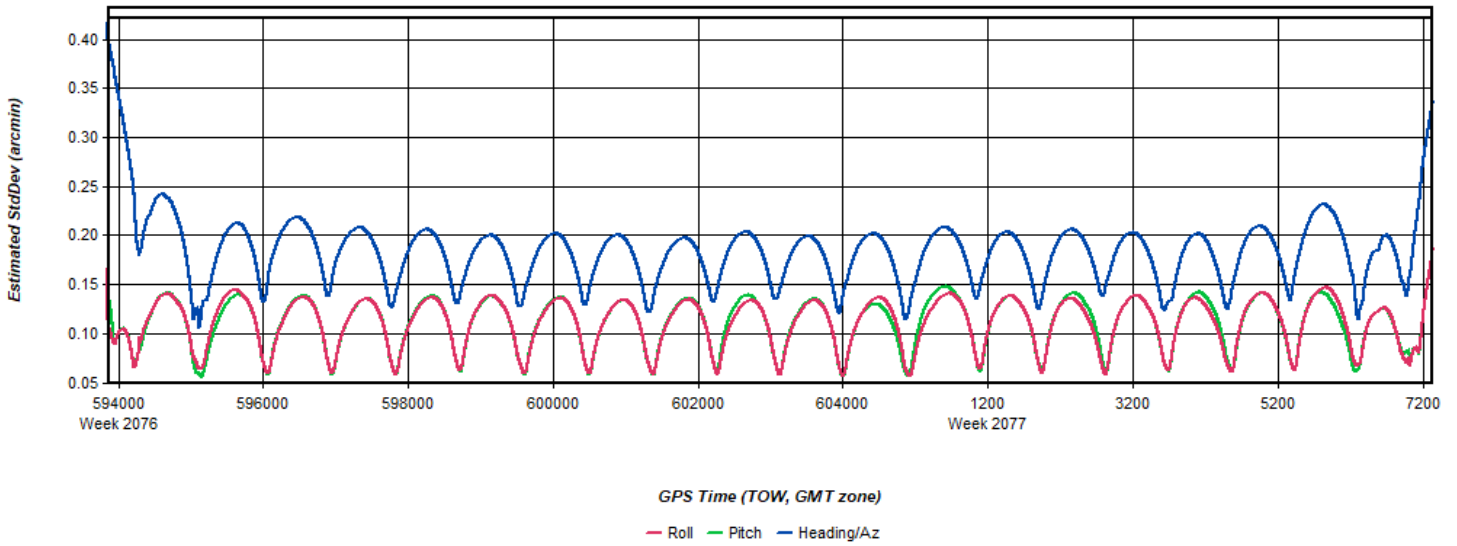
Figure 9: 20191026205630 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot





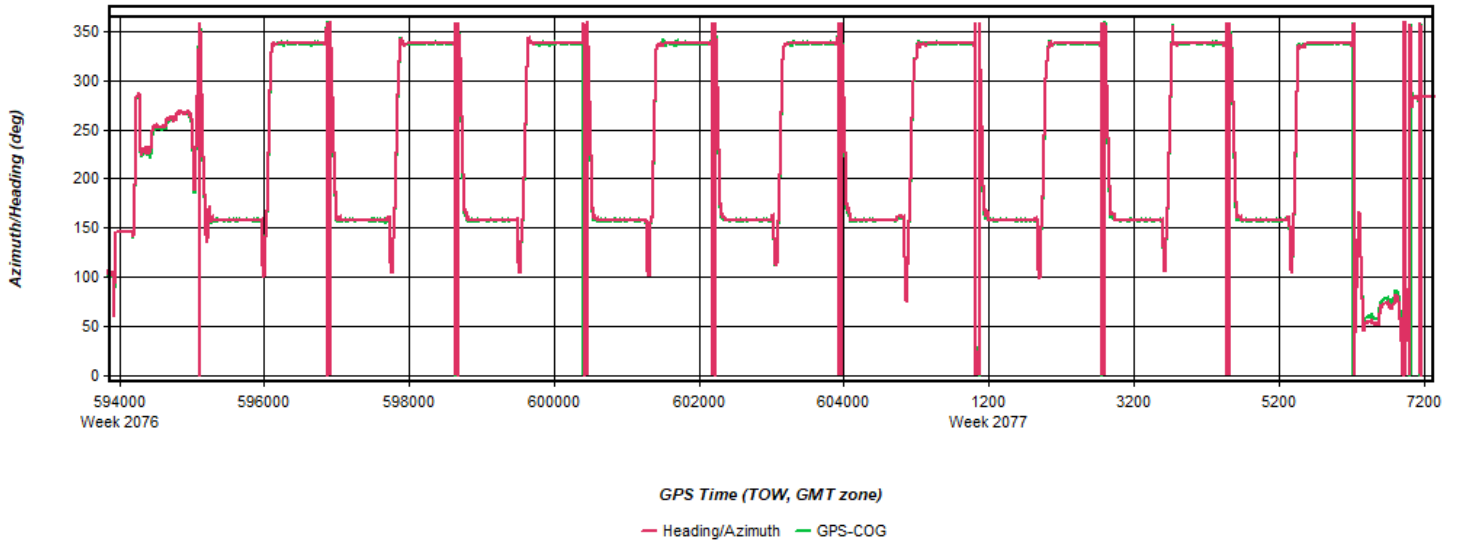
Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 10: 20191026205630 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



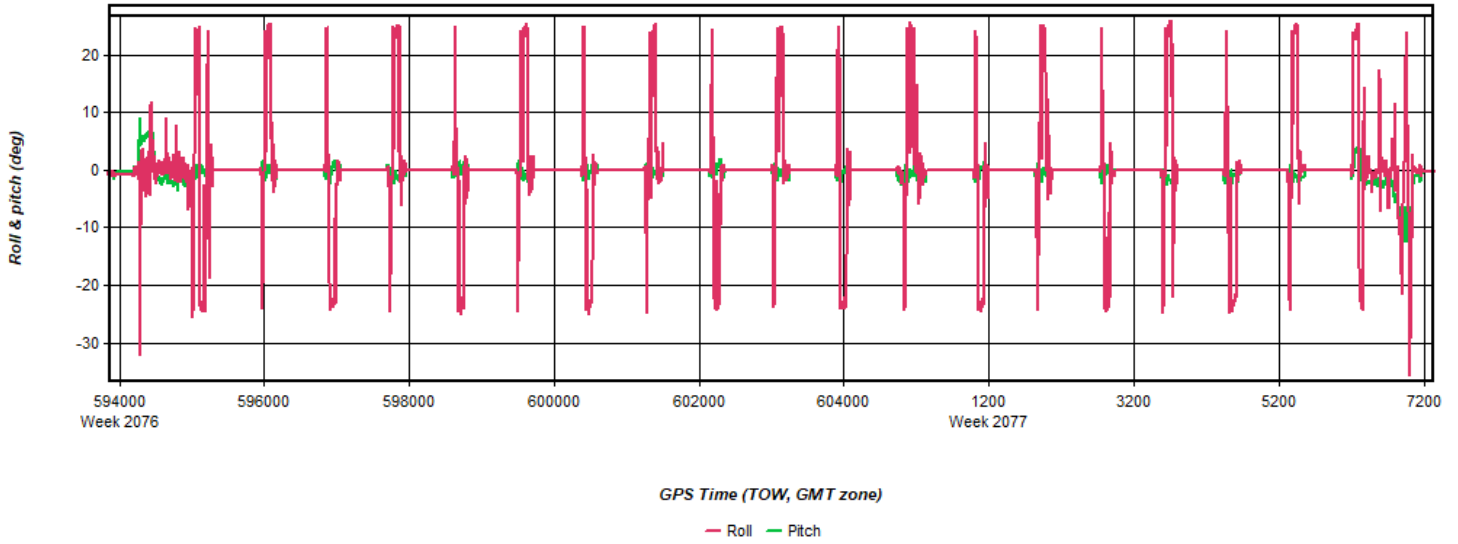
Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 11: 20191026205630 [Smoothed TC Combined] - Azimuth Plot



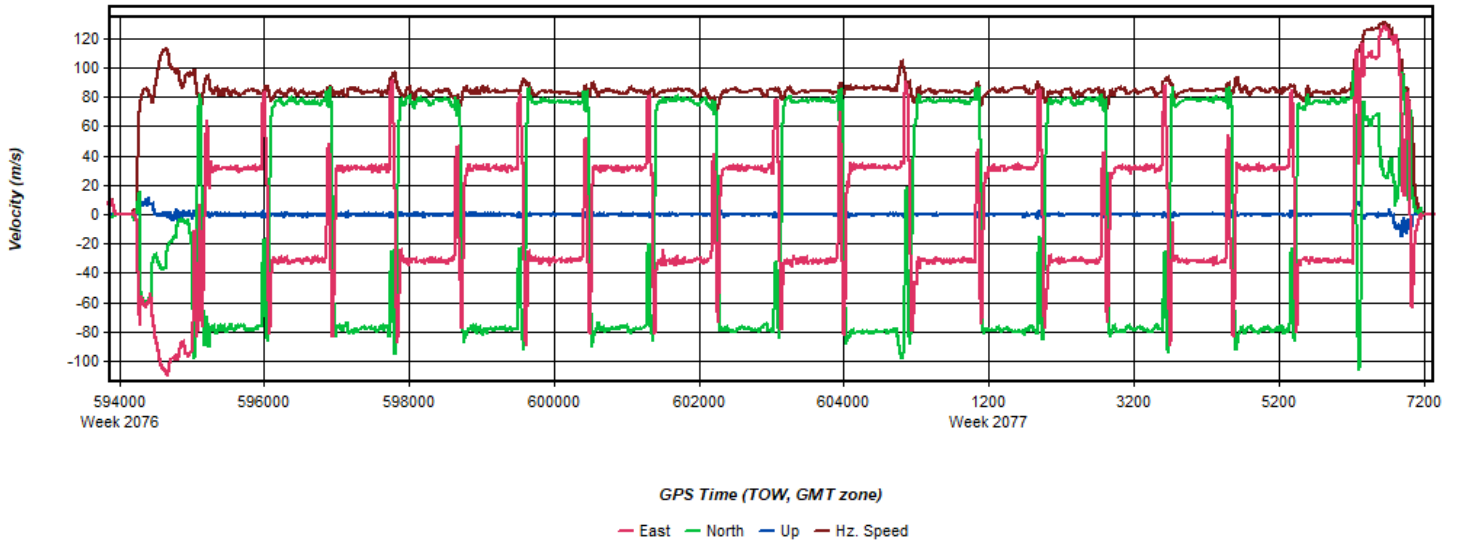
Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 12: 20191026205630 [Smoothed TC Combined] - Roll & Pitch Plot



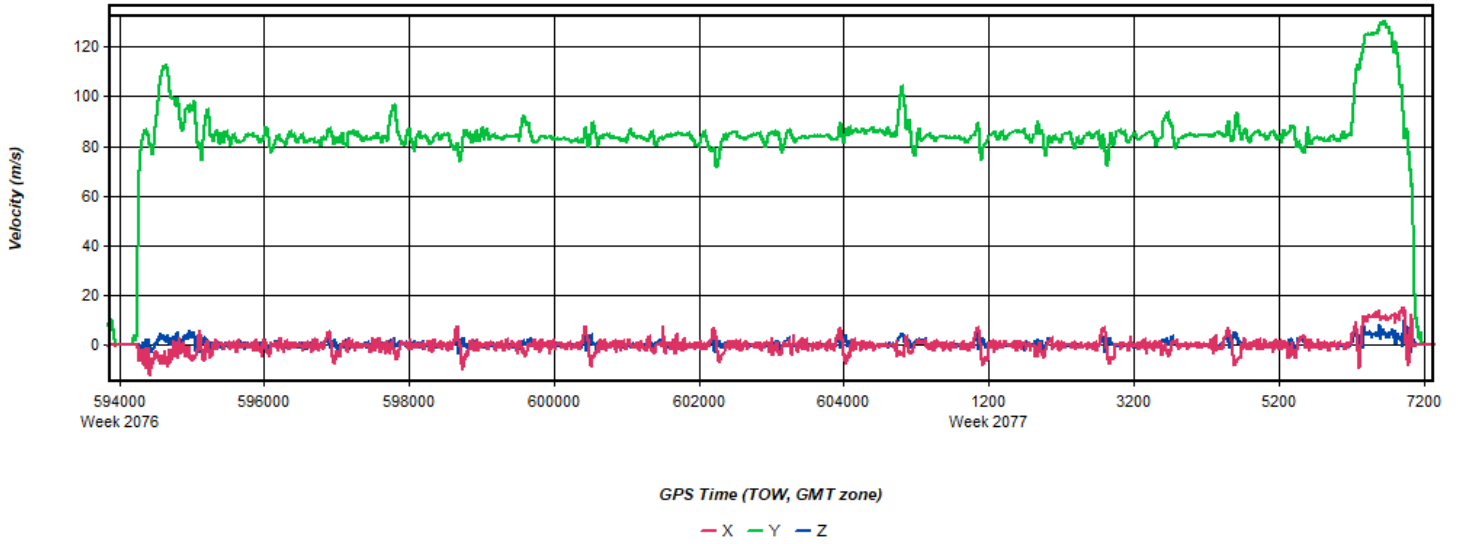
Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 13: 20191026205630 [Smoothed TC Combined] - Velocity Profile Plot



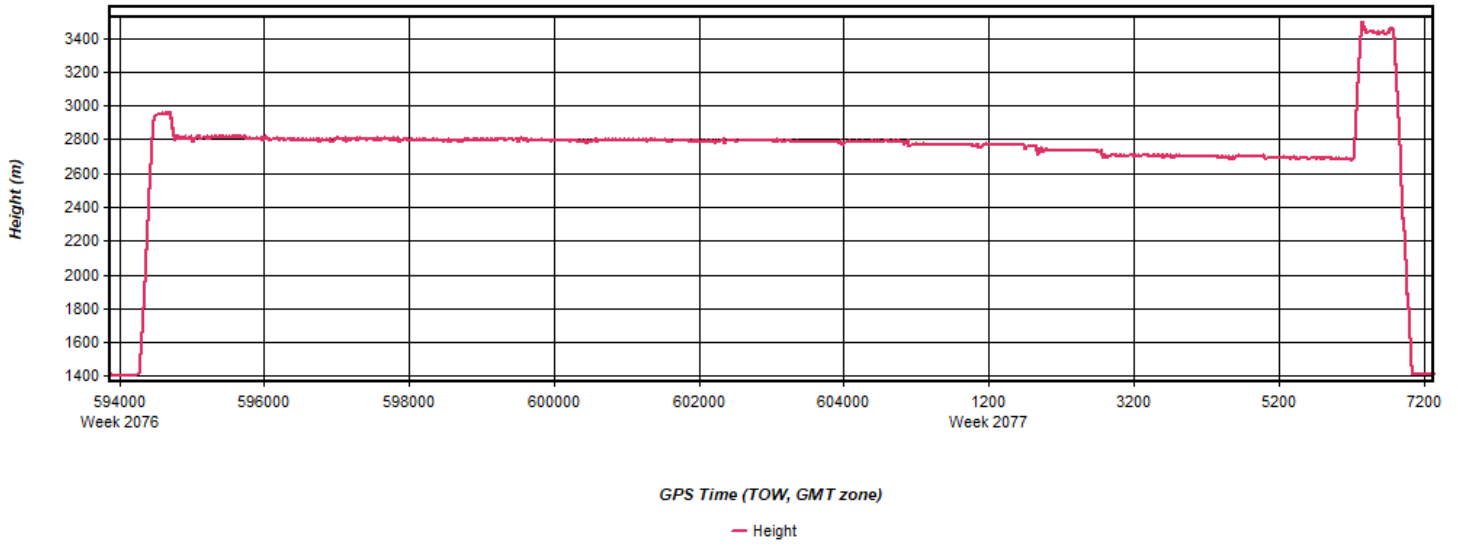
Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 14: 20191026205630 [Smoothed TC Combined] - Body Frame Velocity Plot



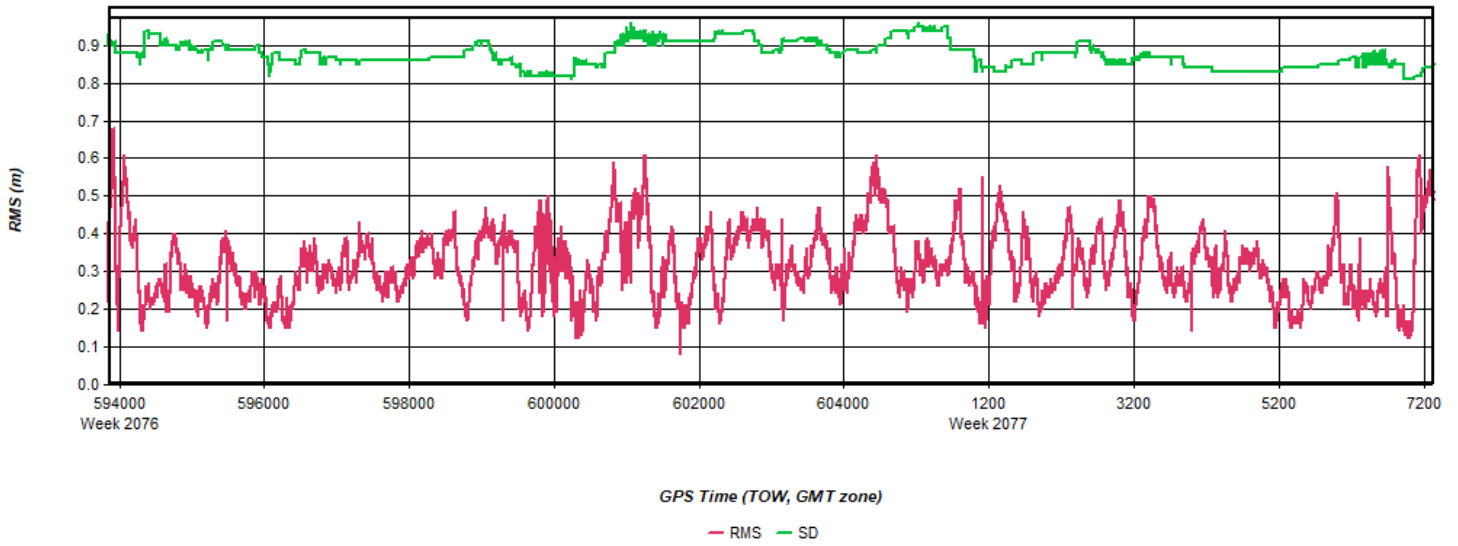
Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 15: 20191026205630 [Smoothed TC Combined] - Height Profile Plot



Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 16: 20191026205630 [Smoothed TC Combined] - C/A Code Residual RMS Plot



Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 17: 20191026205630 [Smoothed TC Combined] - Carrier Residual RMS Plot

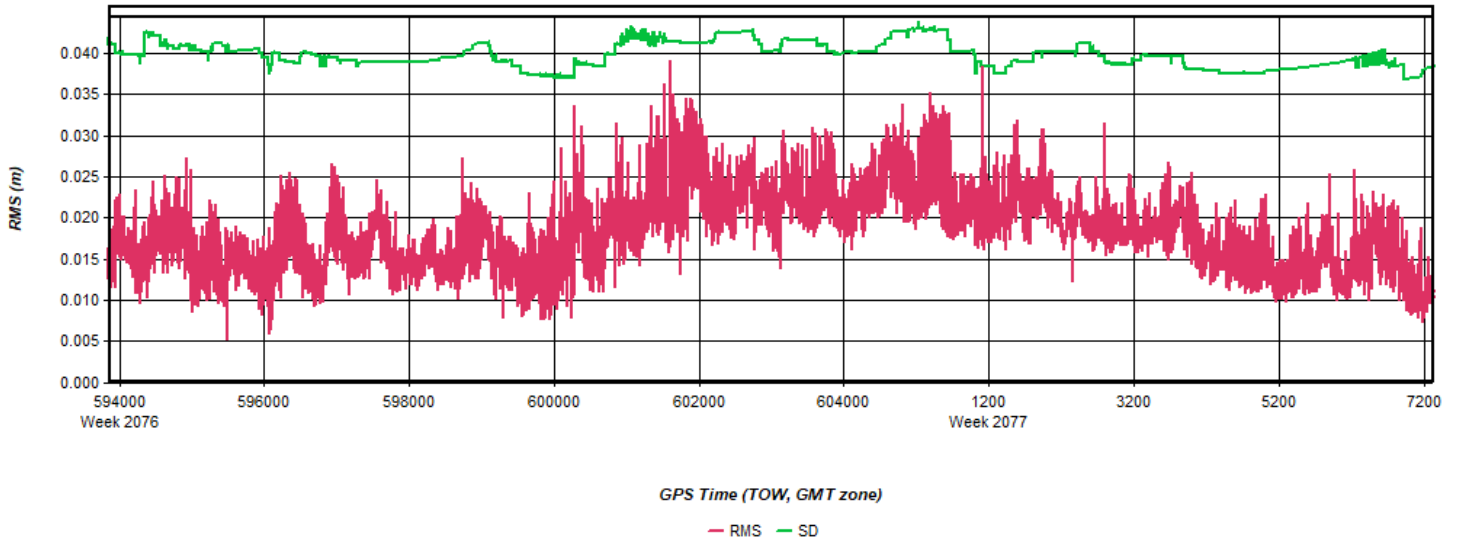


Figure 18: 20191026205630 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot

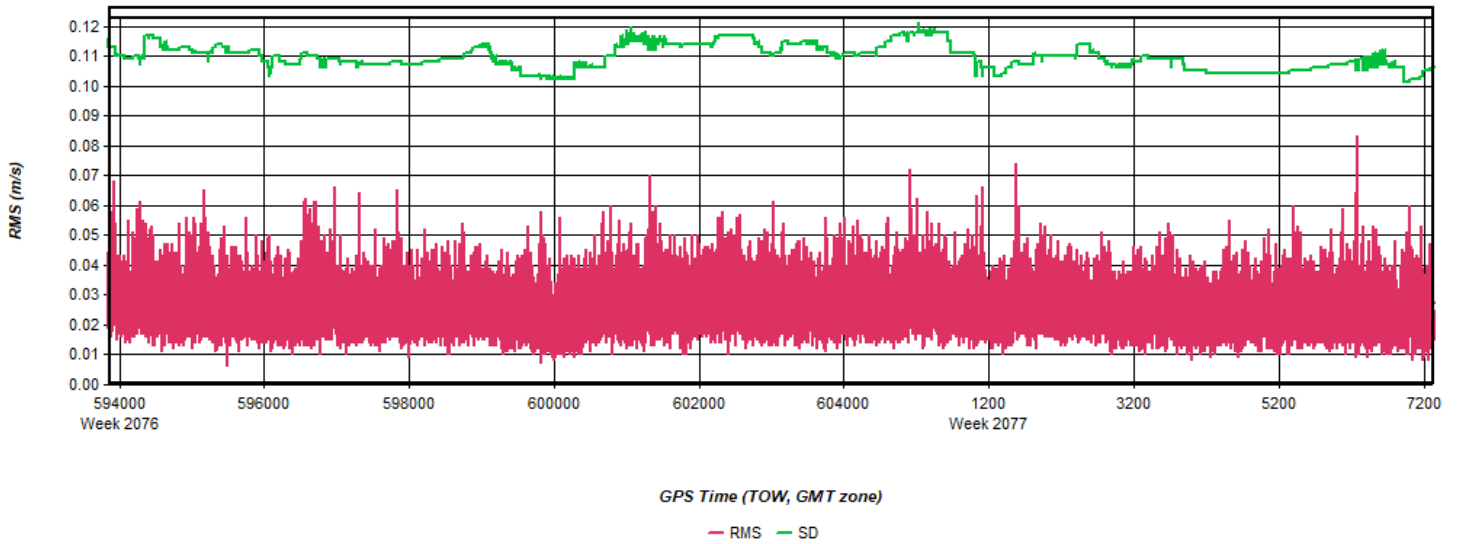
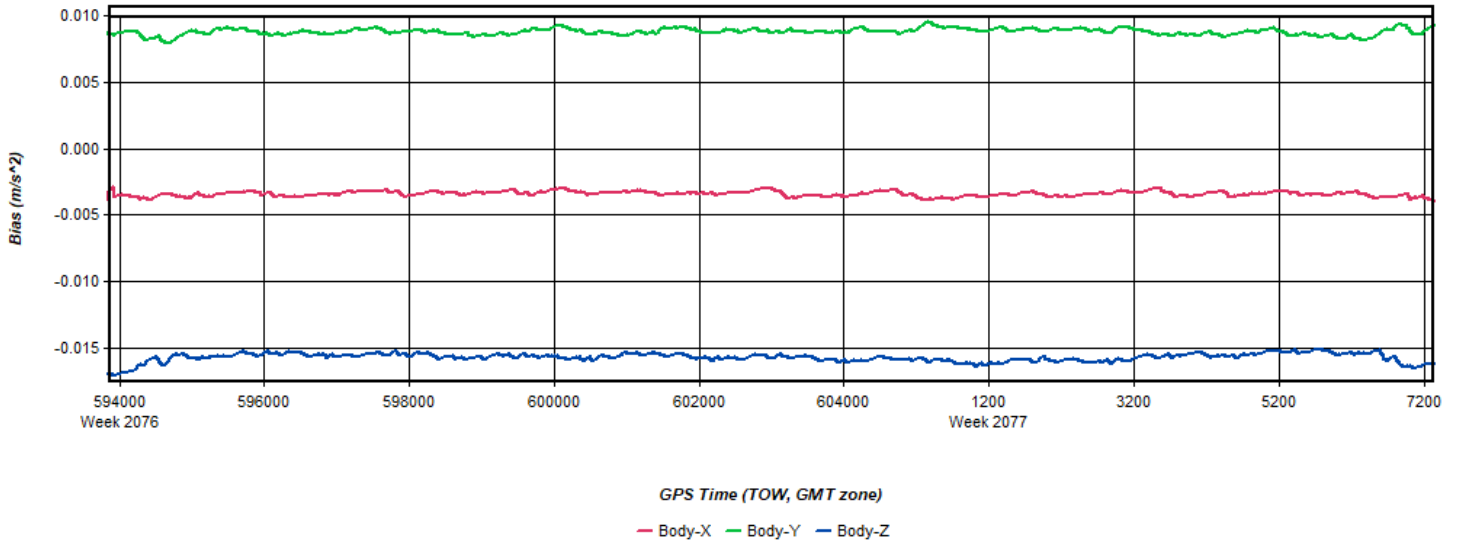
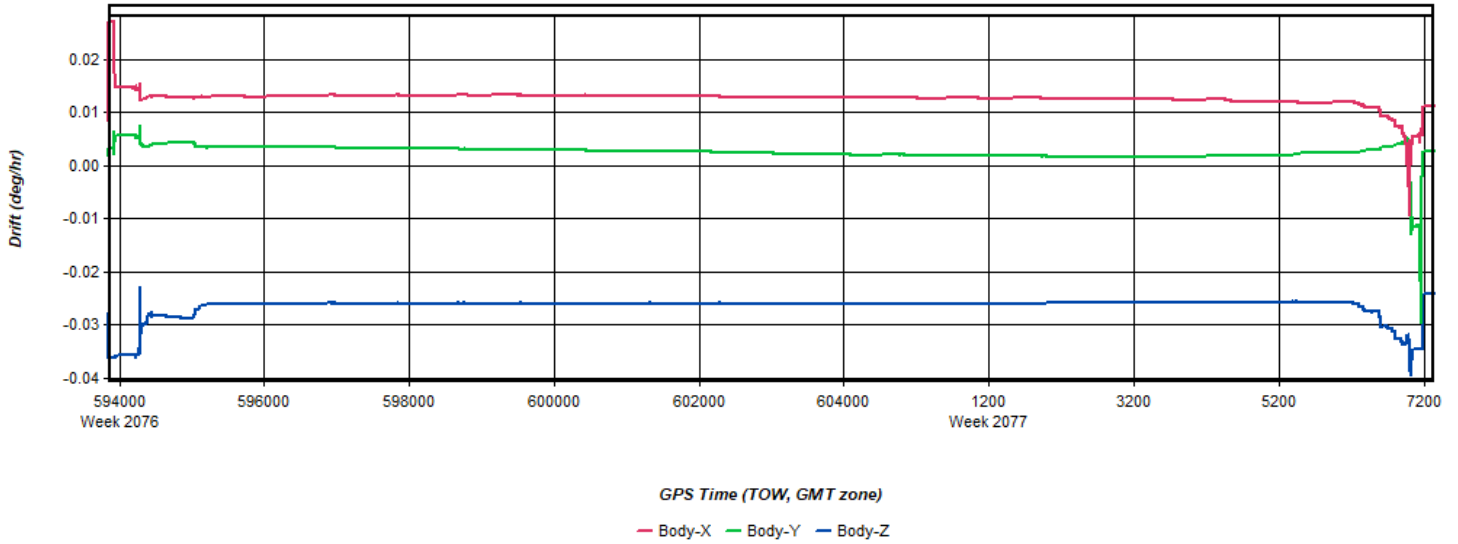


Figure 19: 20191026205630 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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Figure 20: 20191026205630 [Smoothed TC Combined] - Gyro Drift Plot



Process	20191026205630	by Unknown	on 10/31/2019	at 15:43:55
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# Output Results for 20191028153001

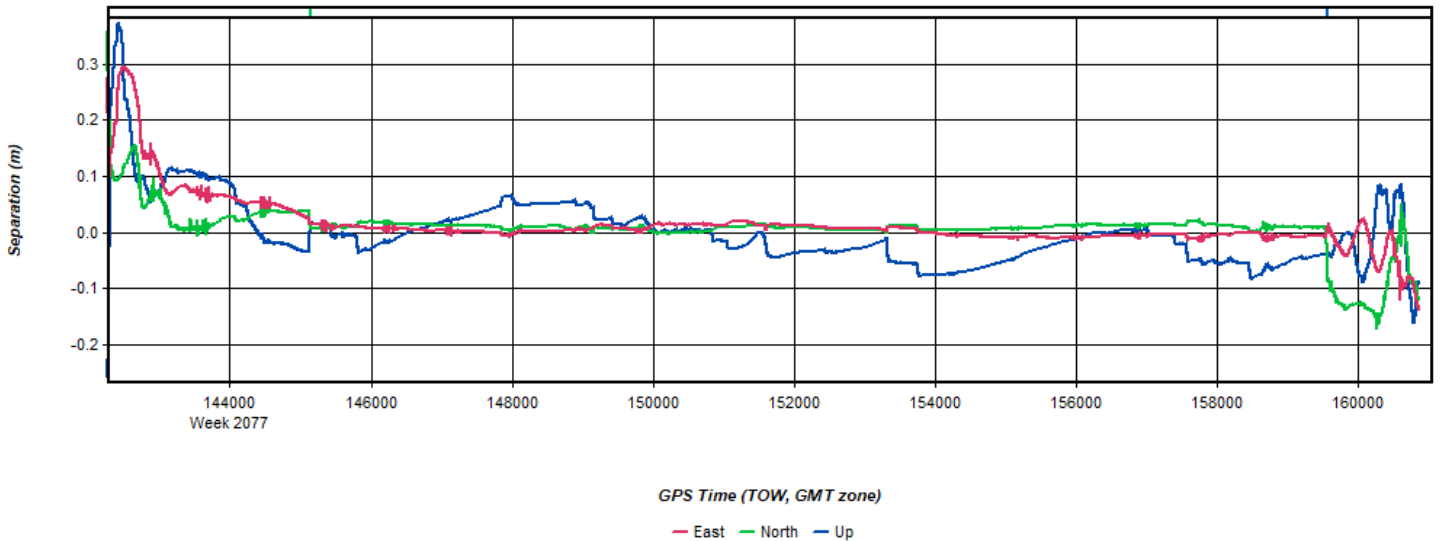
Inertial Explorer Version 8.80.2305  
10/31/2019

Figure 1: Smoothed TC Combined - Map



Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 2: 20191028153001 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 3: 20191028153001 [Smoothed TC Combined] - Float or Fixed Ambiguity

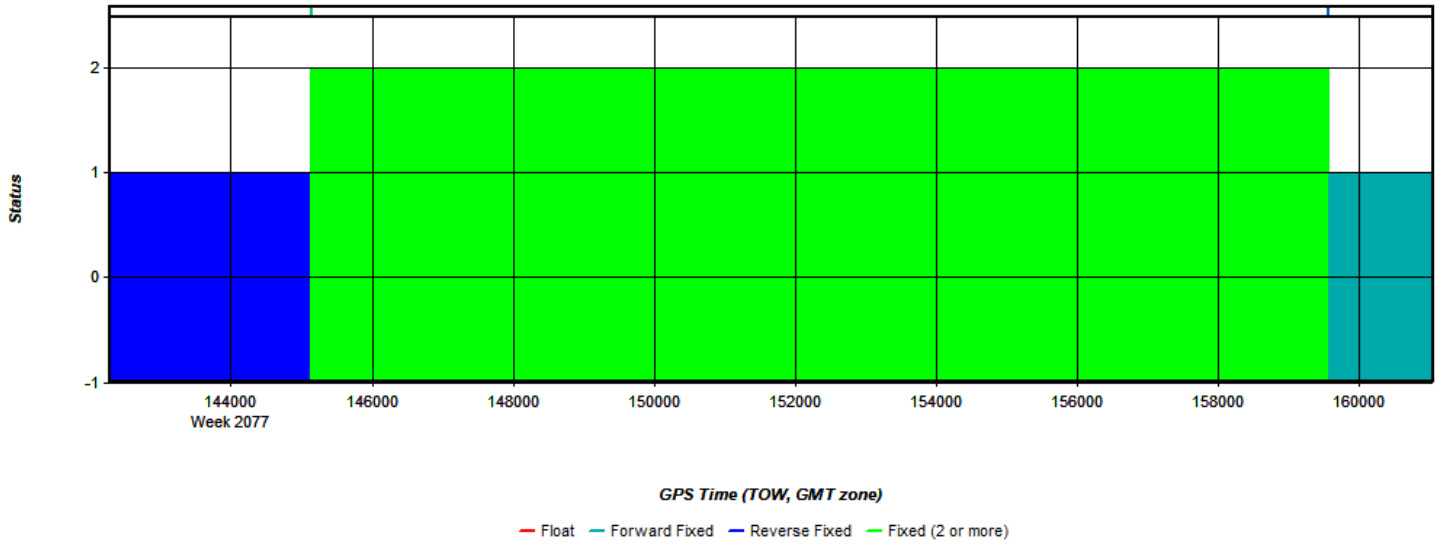


Figure 4: 20191028153001 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)

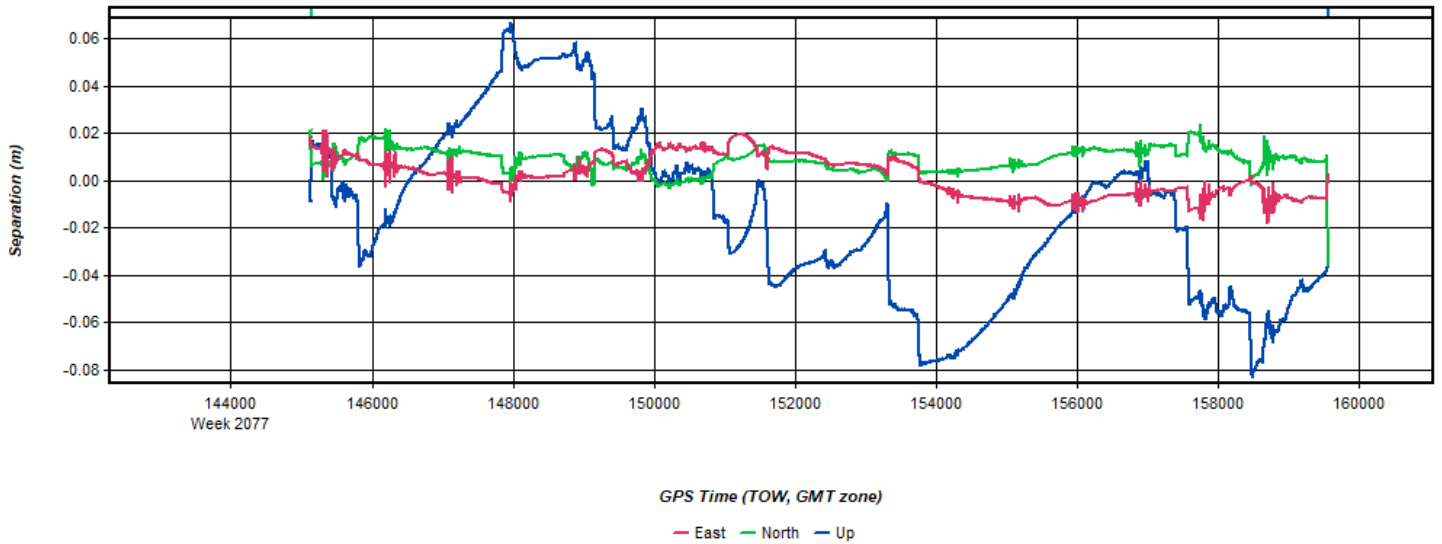
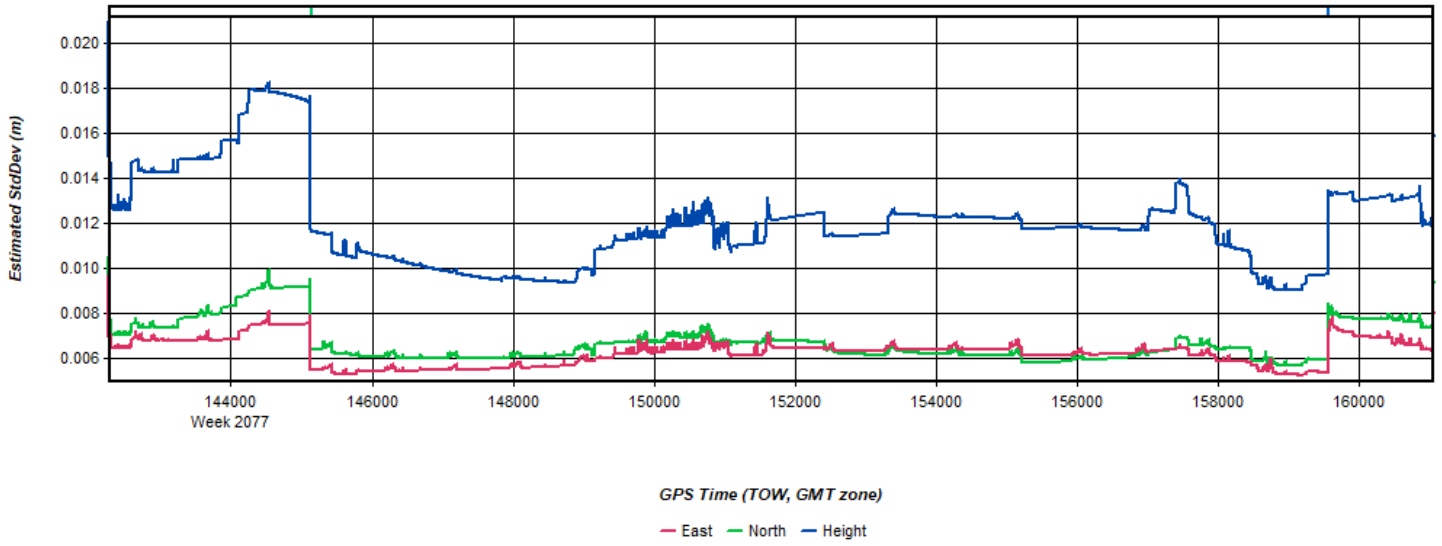


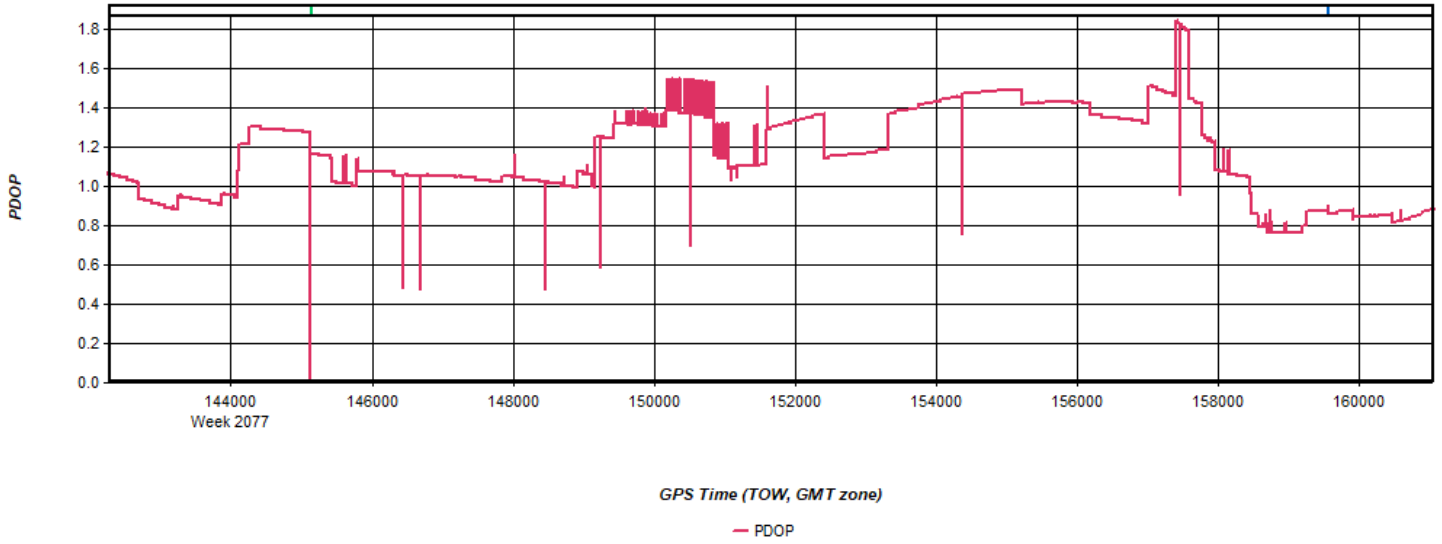
Figure 5: 20191028153001 [Smoothed TC Combined] - Estimated Position Accuracy Plot





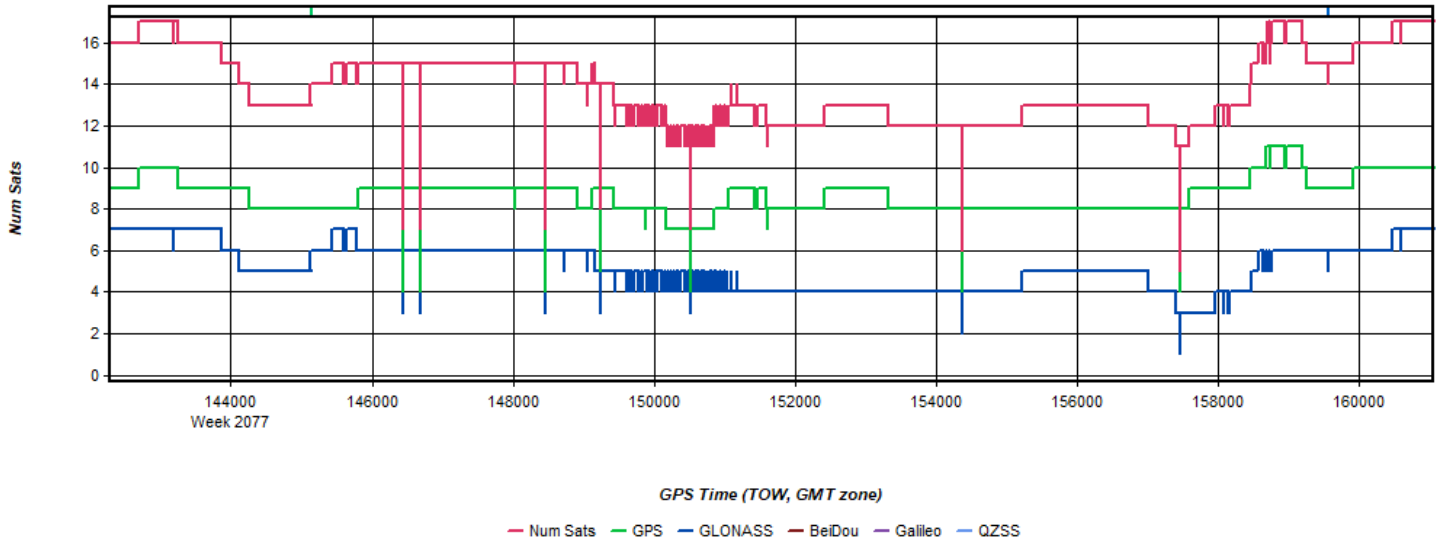
Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 6: 20191028153001 [Smoothed TC Combined] - PDOP Plot



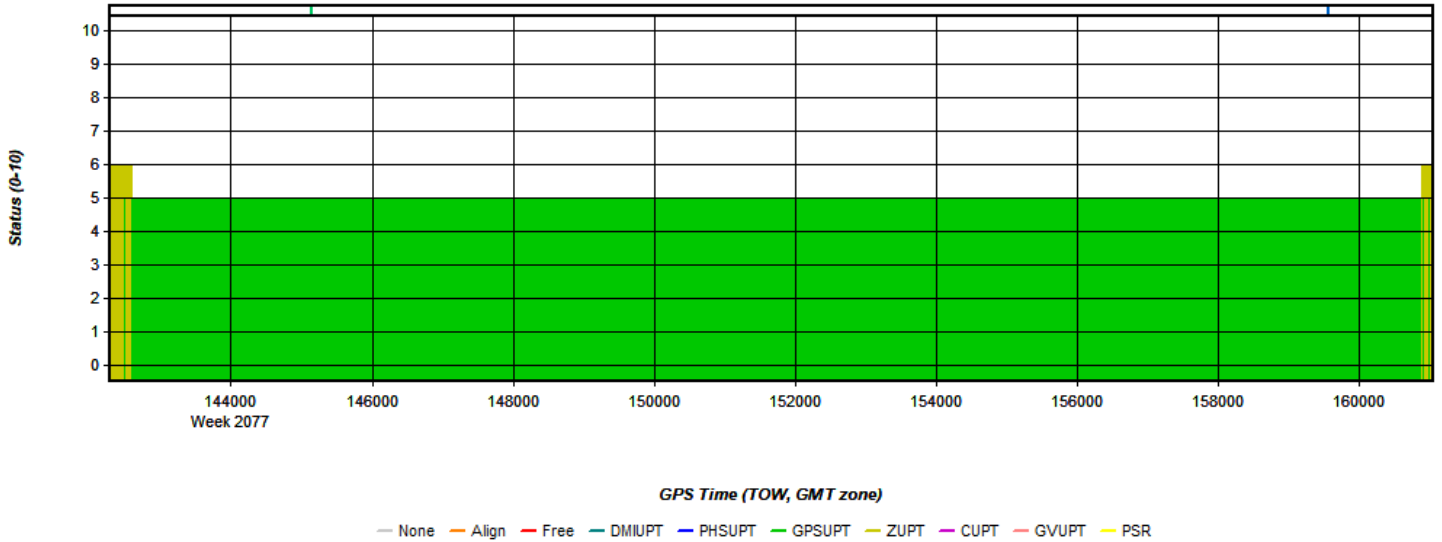
Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 7: 20191028153001 [Smoothed TC Combined] - Number of Satellites Line Plot



Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 8: 20191028153001 [Smoothed TC Combined] - Status flag for IMU processing



Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 9: 20191028153001 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot

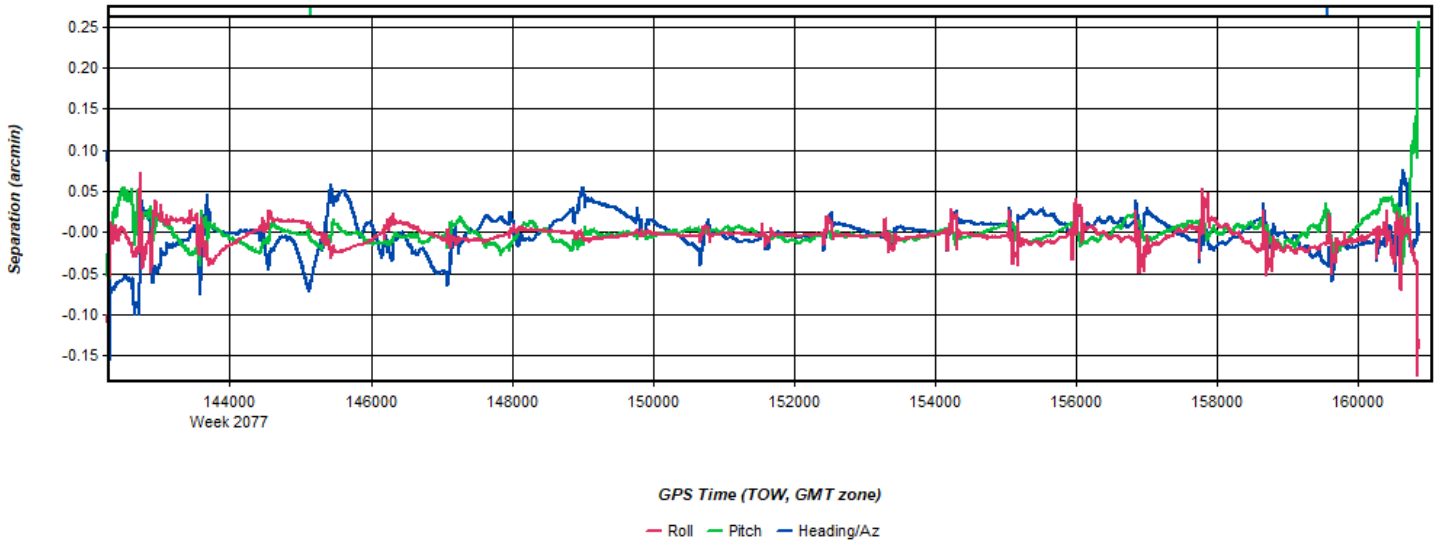


Figure 10: 20191028153001 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot

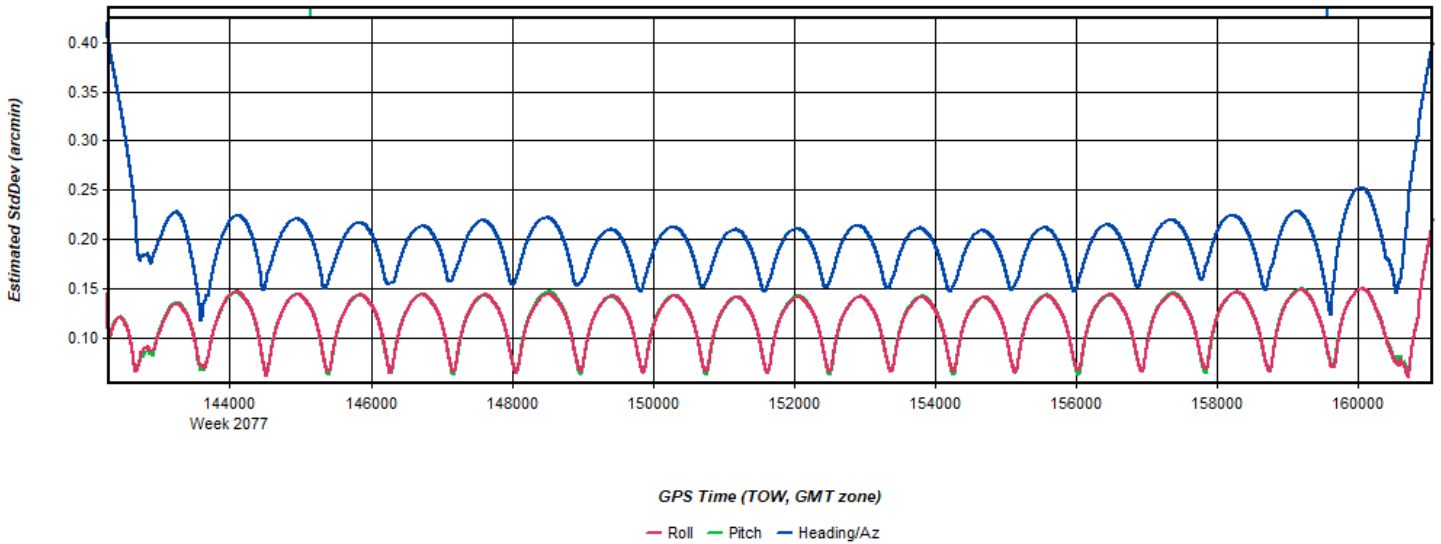
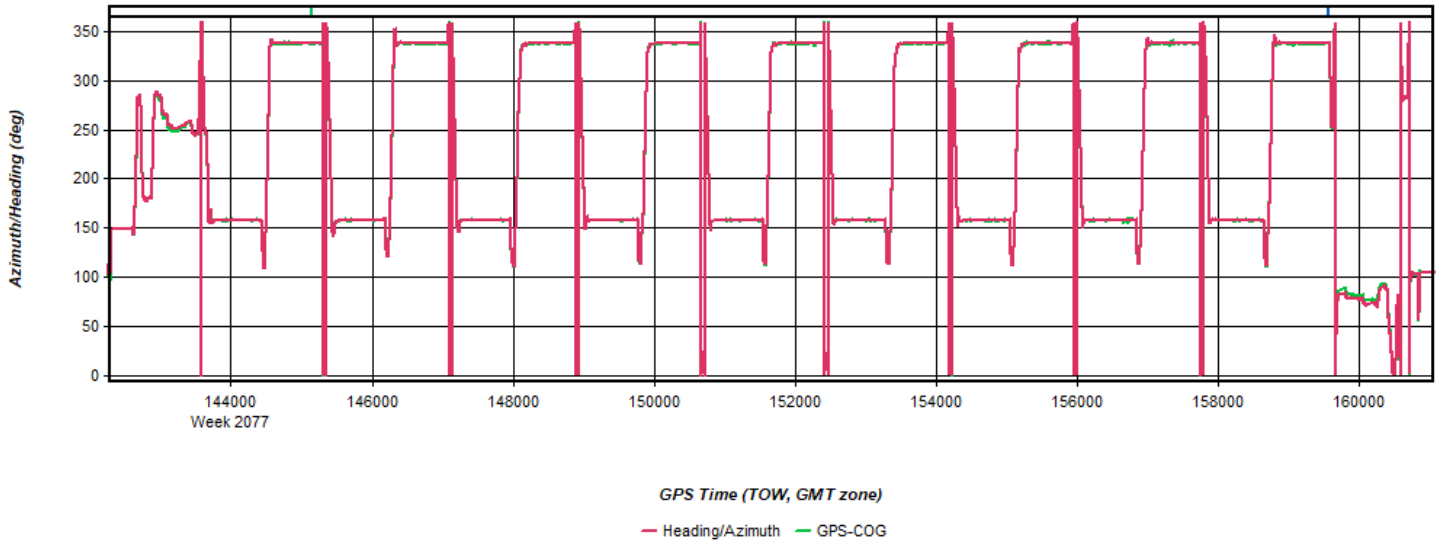
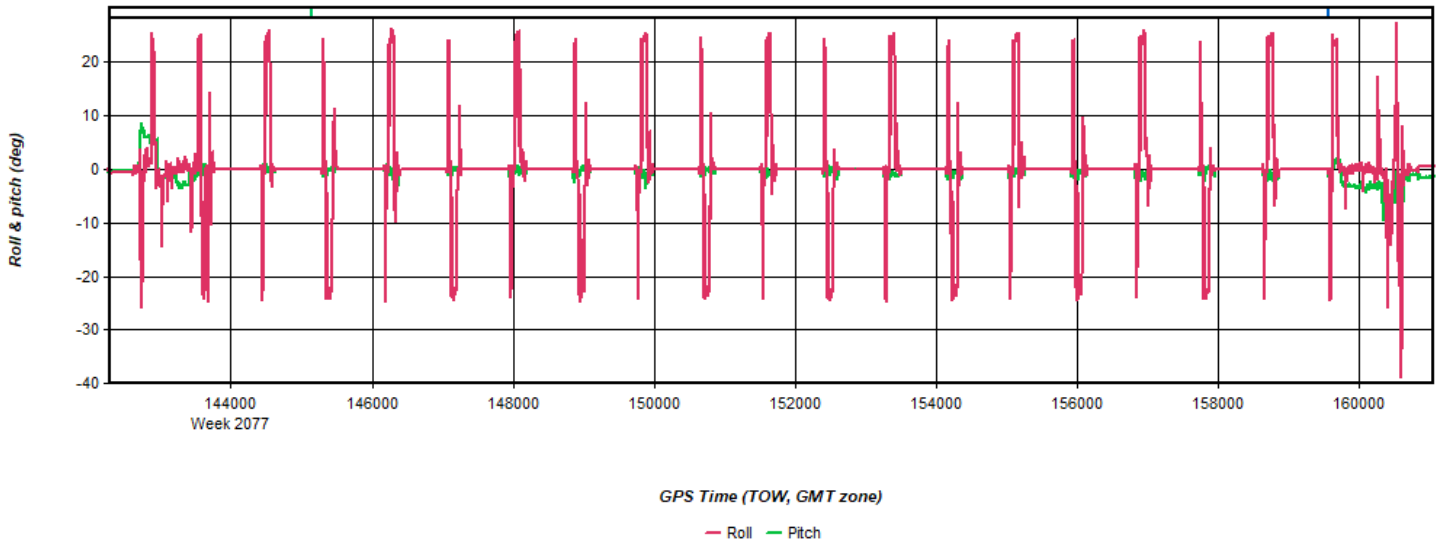


Figure 11: 20191028153001 [Smoothed TC Combined] - Azimuth Plot



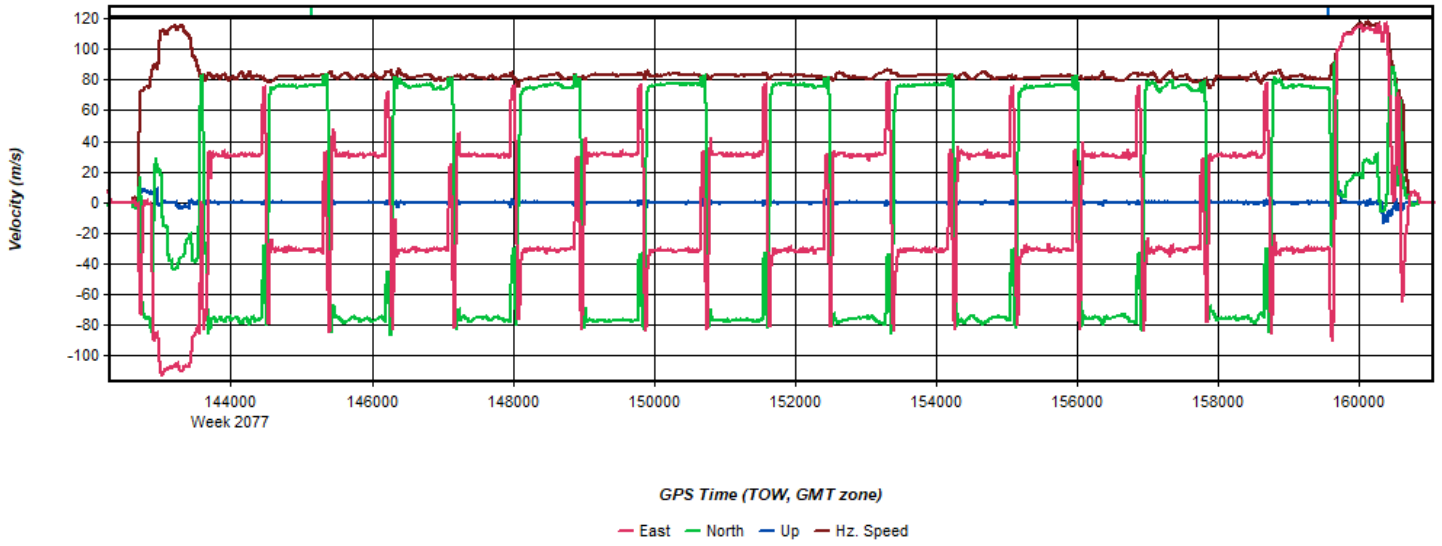
Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 12: 20191028153001 [Smoothed TC Combined] - Roll & Pitch Plot



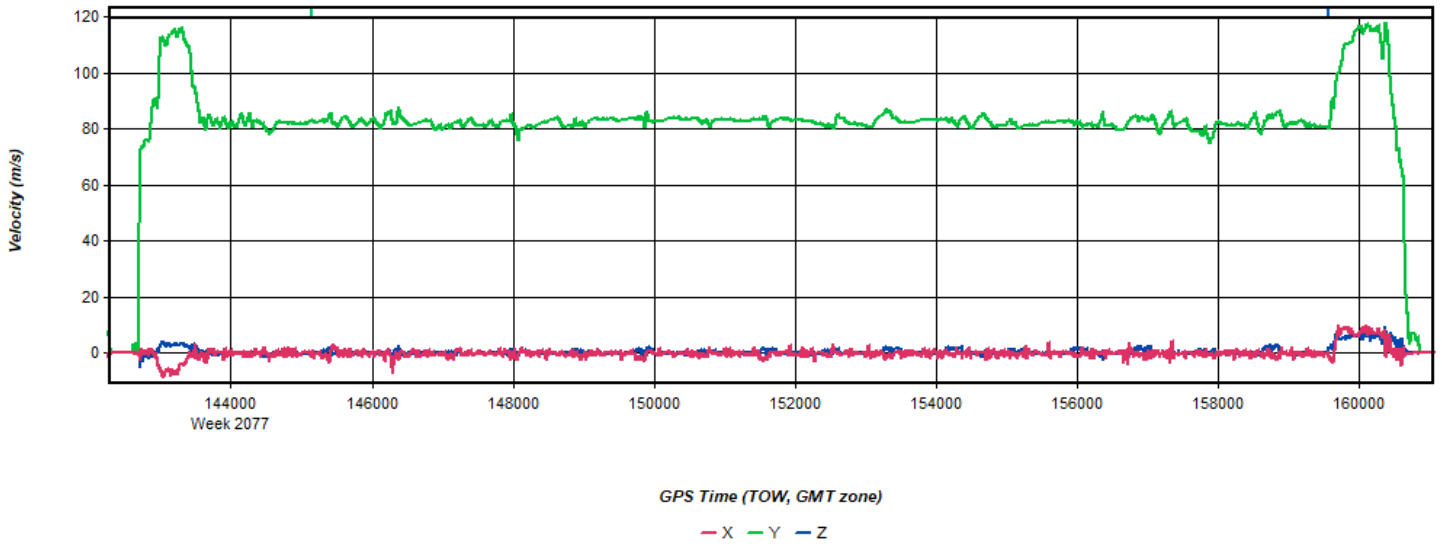
Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 13: 20191028153001 [Smoothed TC Combined] - Velocity Profile Plot



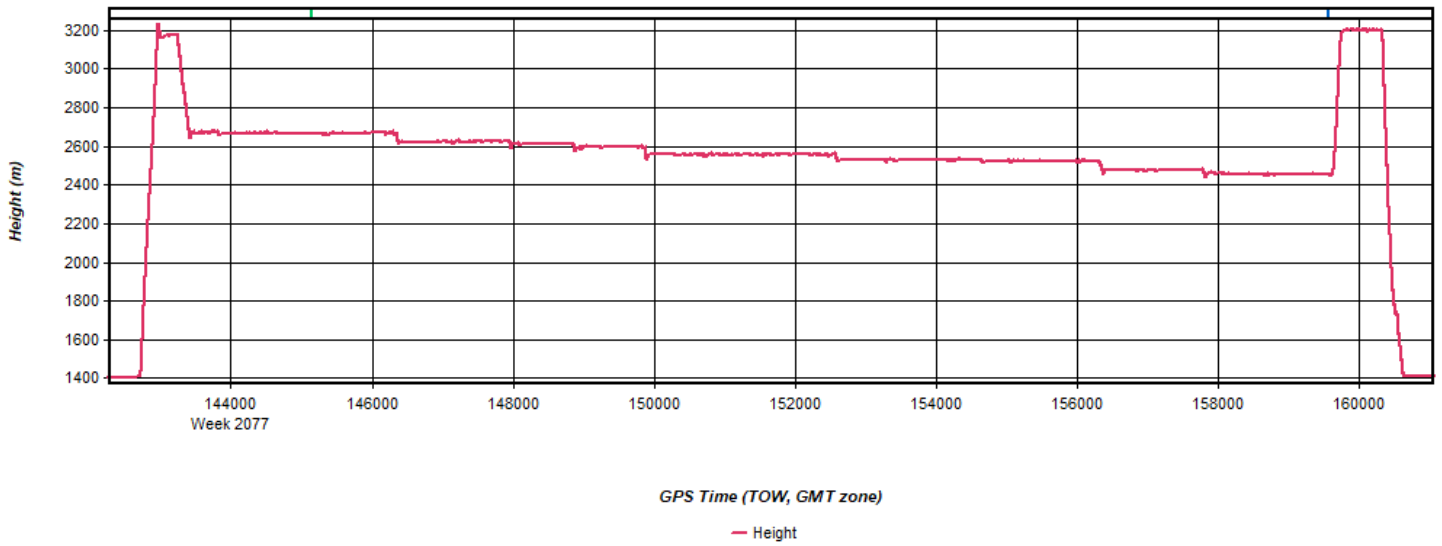
Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 14: 20191028153001 [Smoothed TC Combined] - Body Frame Velocity Plot



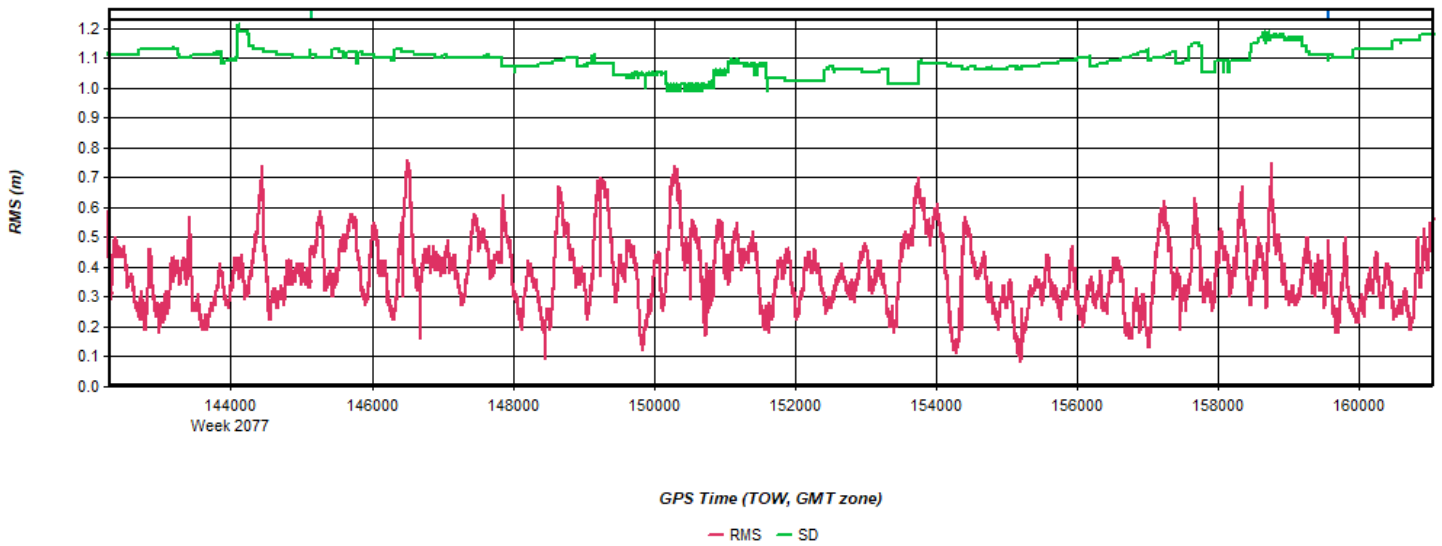
Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 15: 20191028153001 [Smoothed TC Combined] - Height Profile Plot



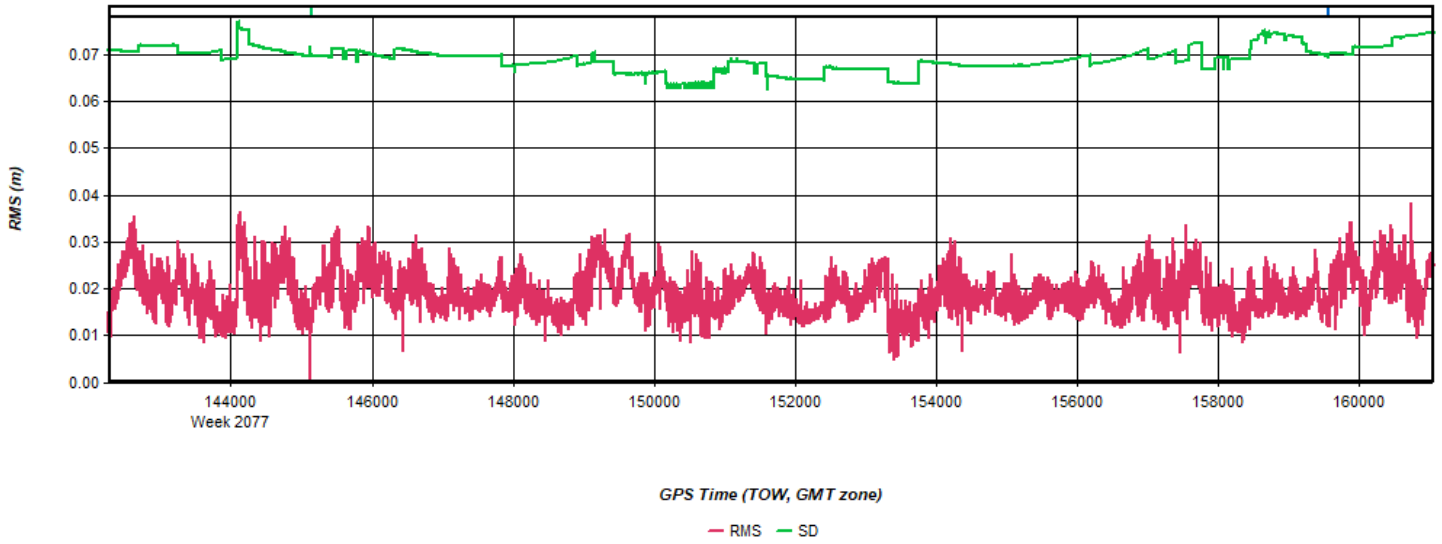
Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 16: 20191028153001 [Smoothed TC Combined] - C/A Code Residual RMS Plot



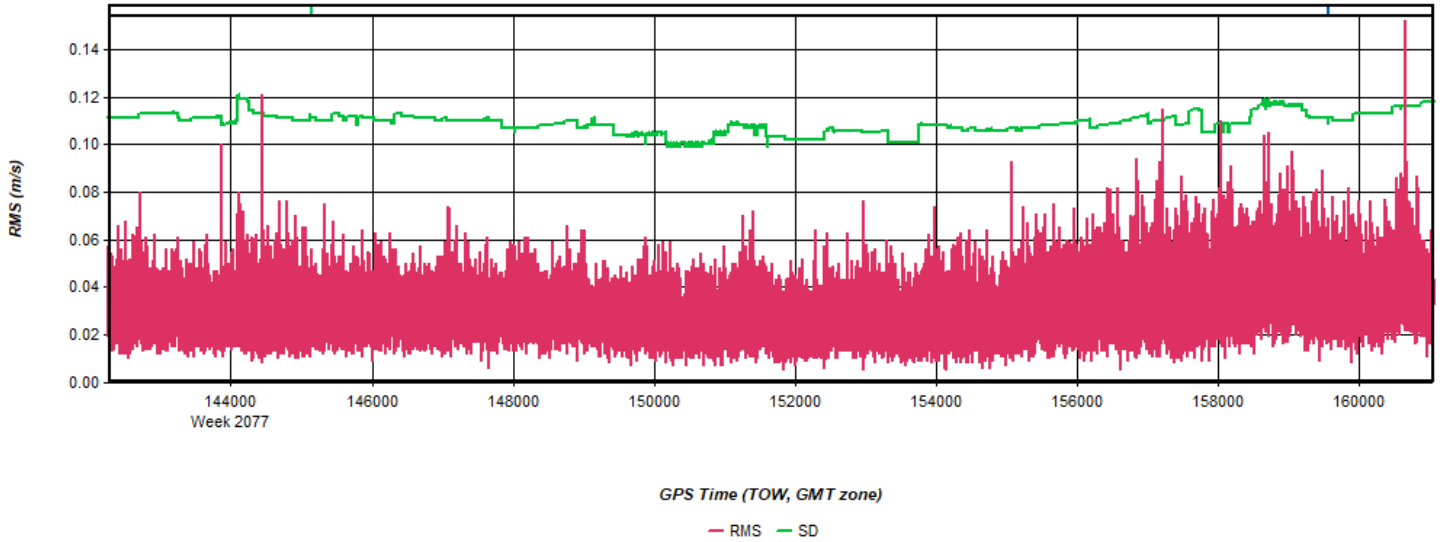
Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 17: 20191028153001 [Smoothed TC Combined] - Carrier Residual RMS Plot



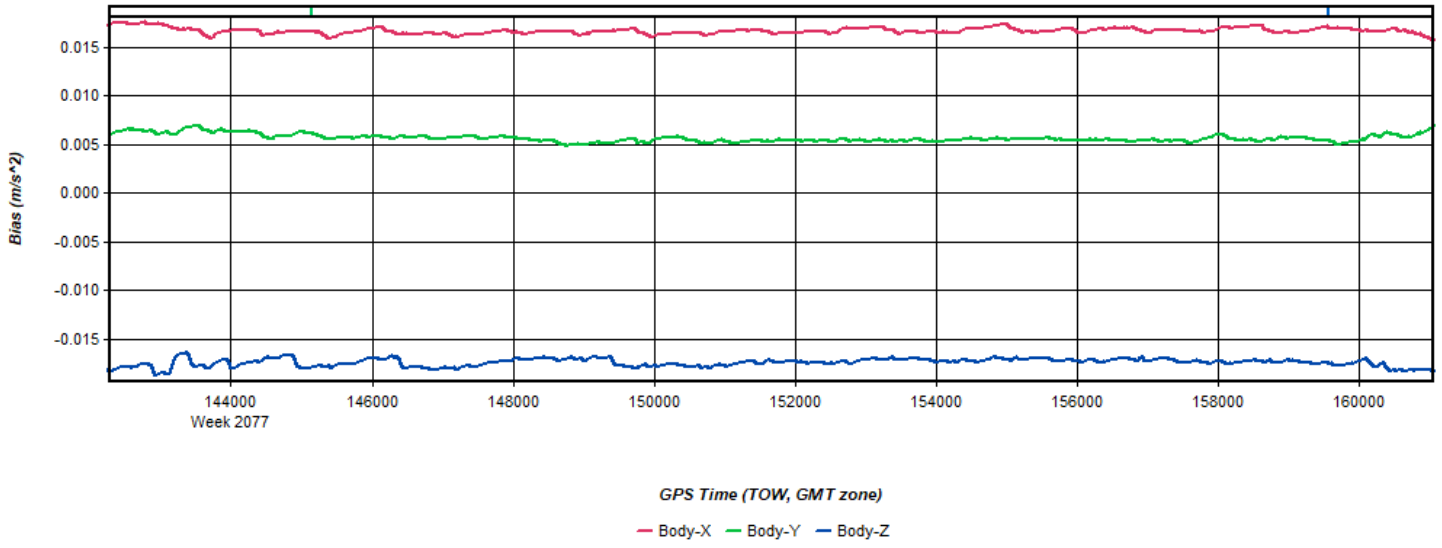
Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 18: 20191028153001 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



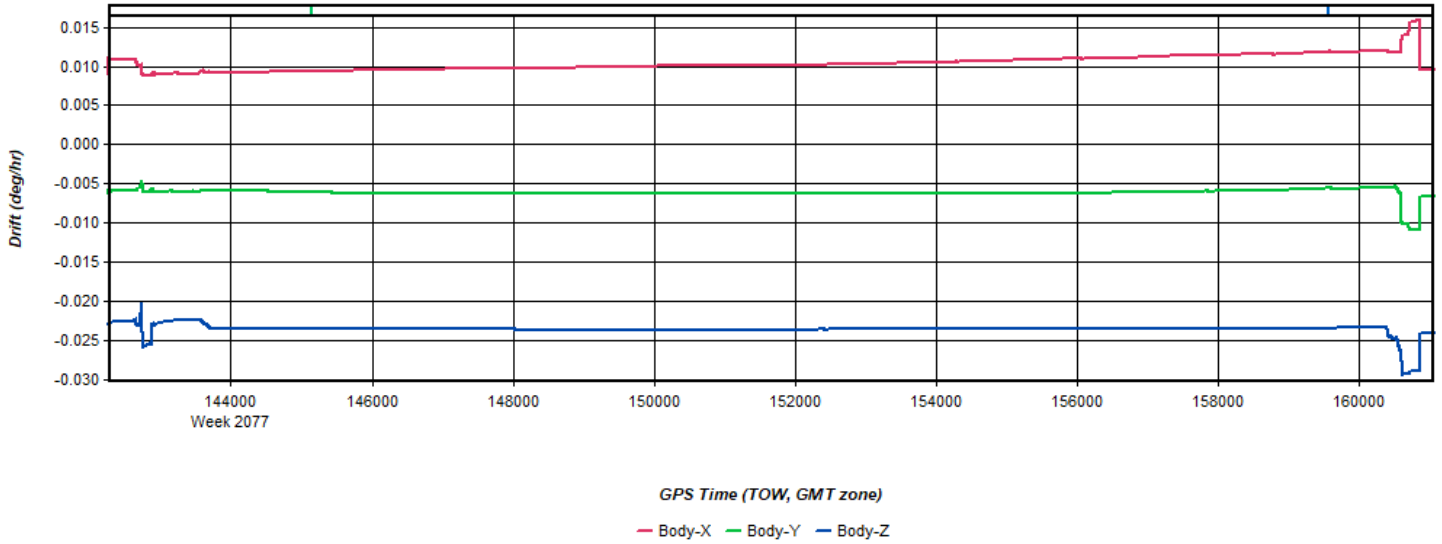
Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 19: 20191028153001 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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Figure 20: 20191028153001 [Smoothed TC Combined] - Gyro Drift Plot



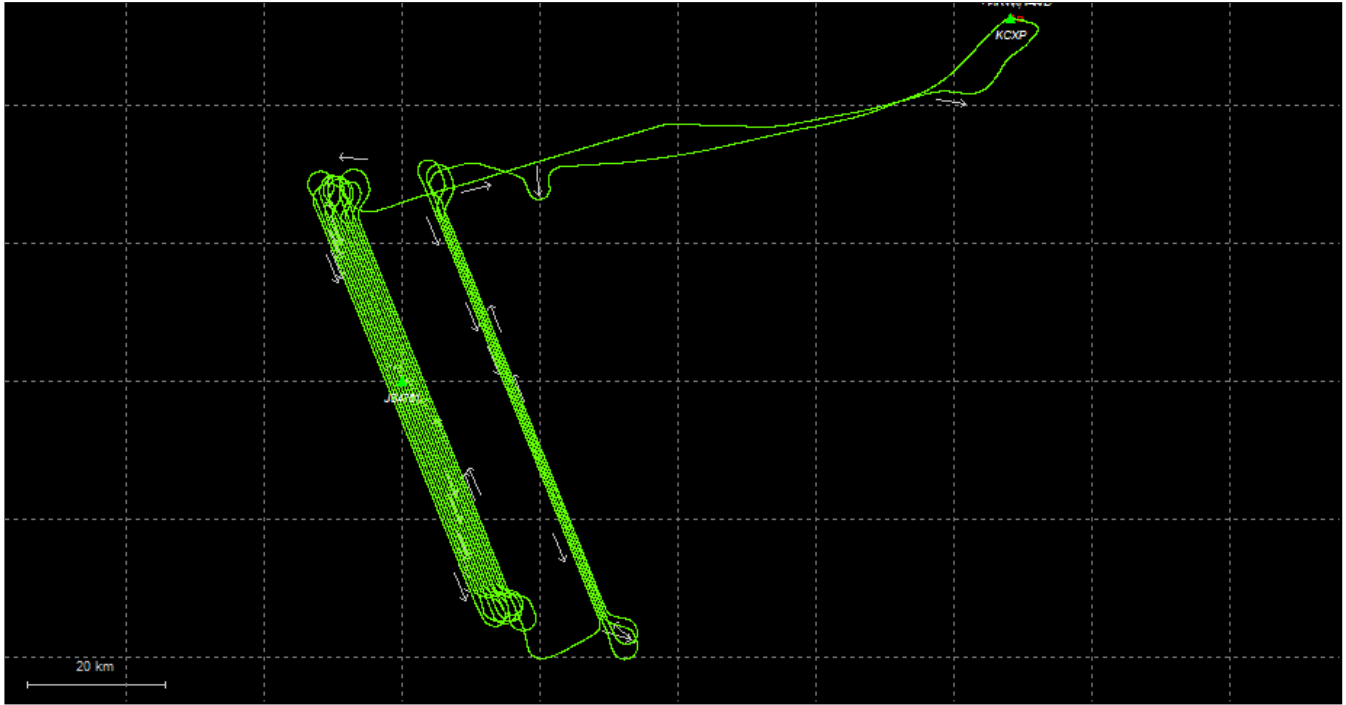
Process	20191028153001	by Unknown	on 10/31/2019	at 19:26:03
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# Output Results for 20191028210606

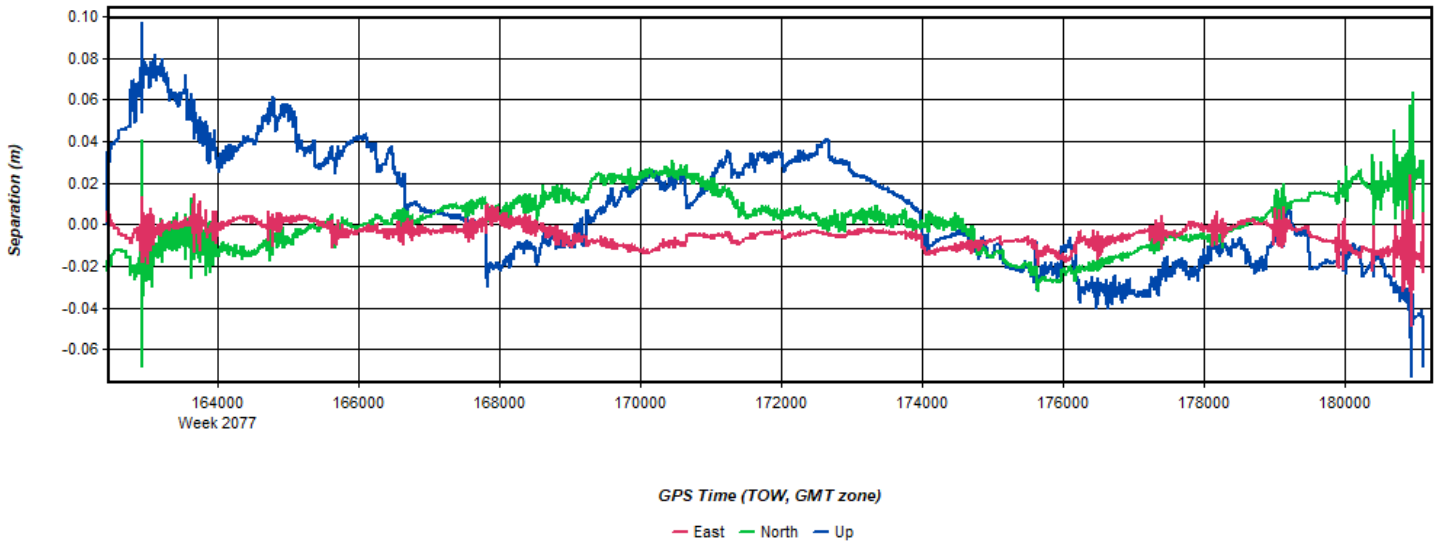
Inertial Explorer Version 8.80.2305  
11/01/2019

Figure 1: Smoothed TC Combined - Map



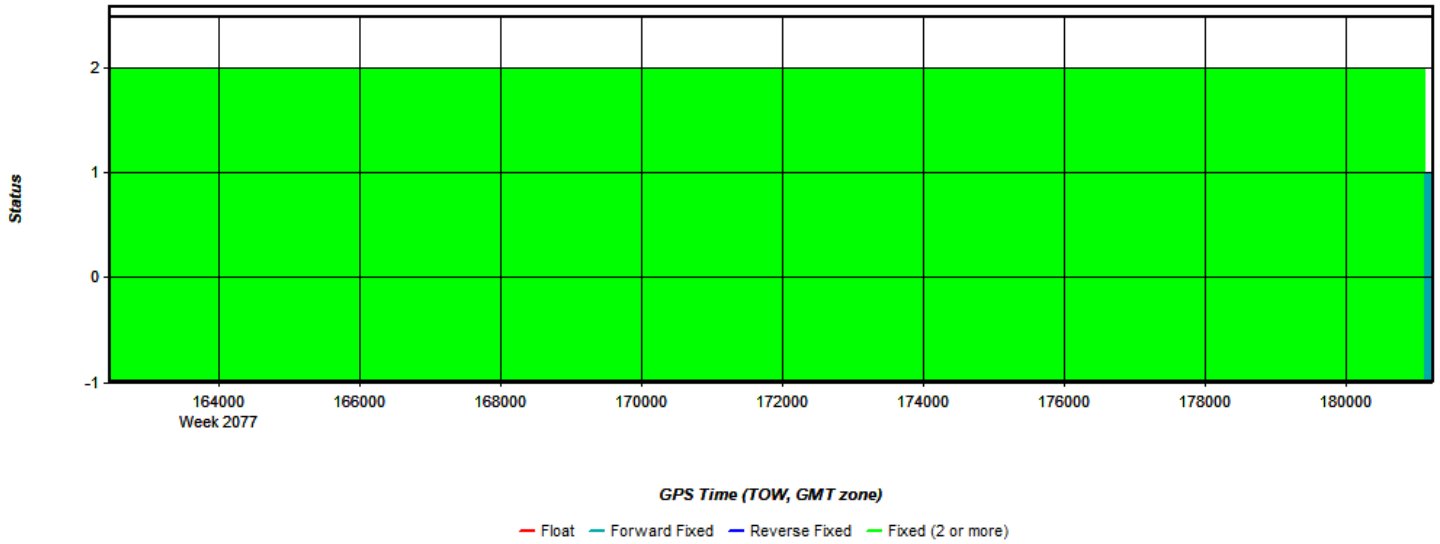
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 2: 20191028210606 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



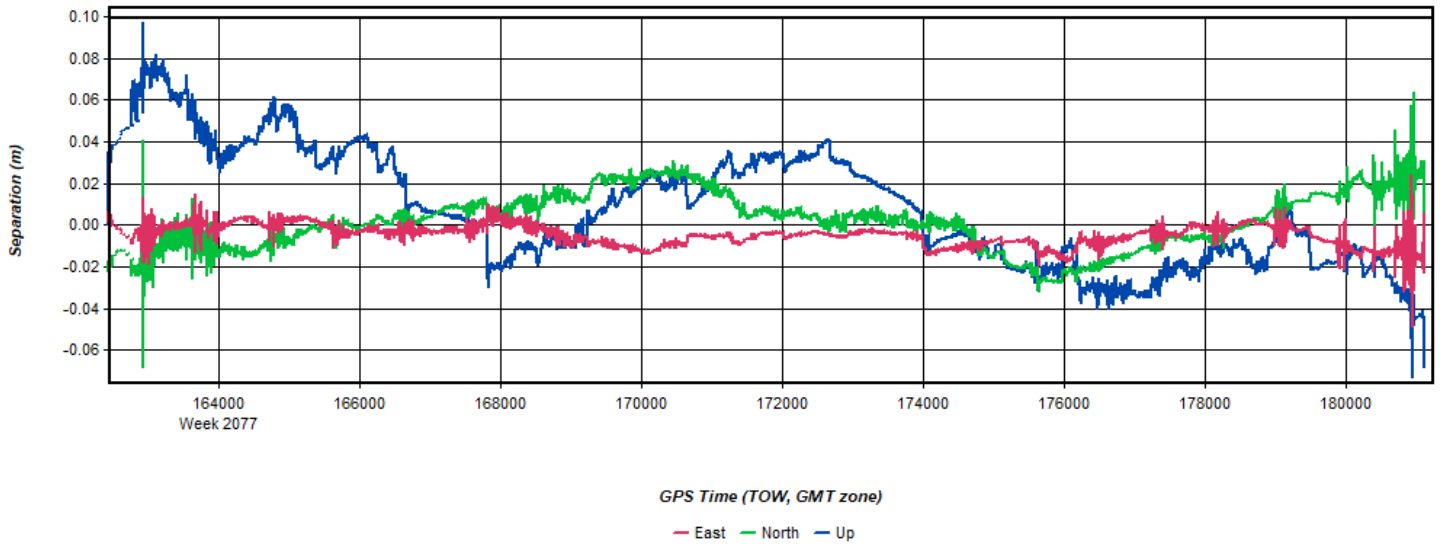
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 3: 20191028210606 [Smoothed TC Combined] - Float or Fixed Ambiguity



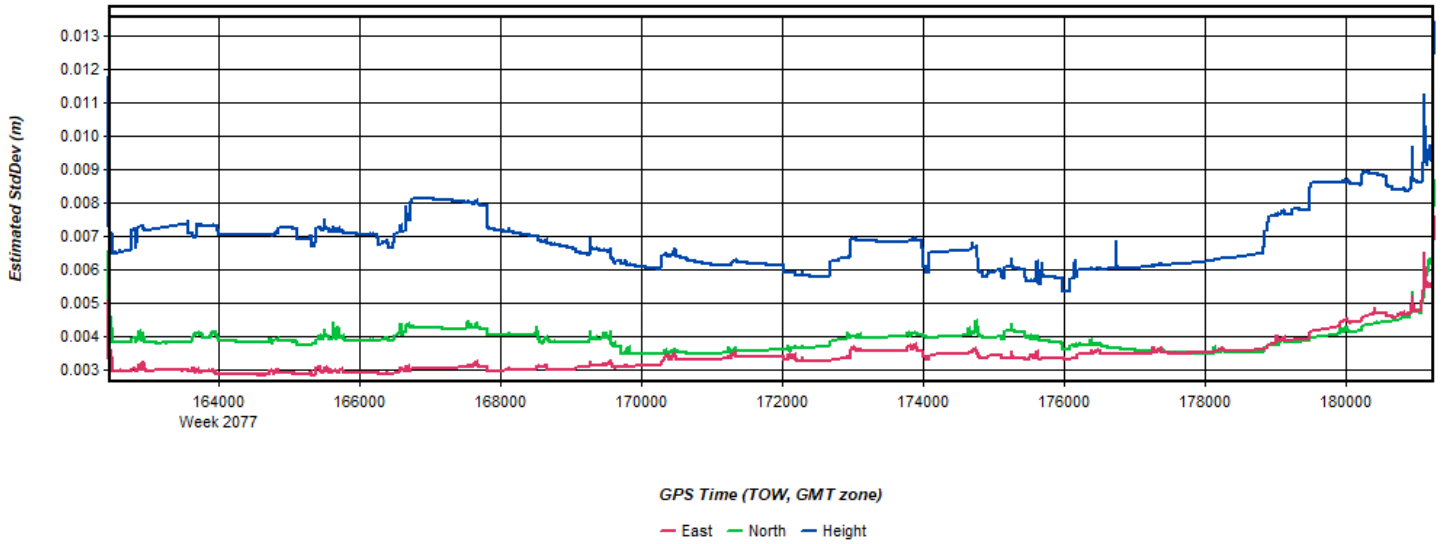
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 4: 20191028210606 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)



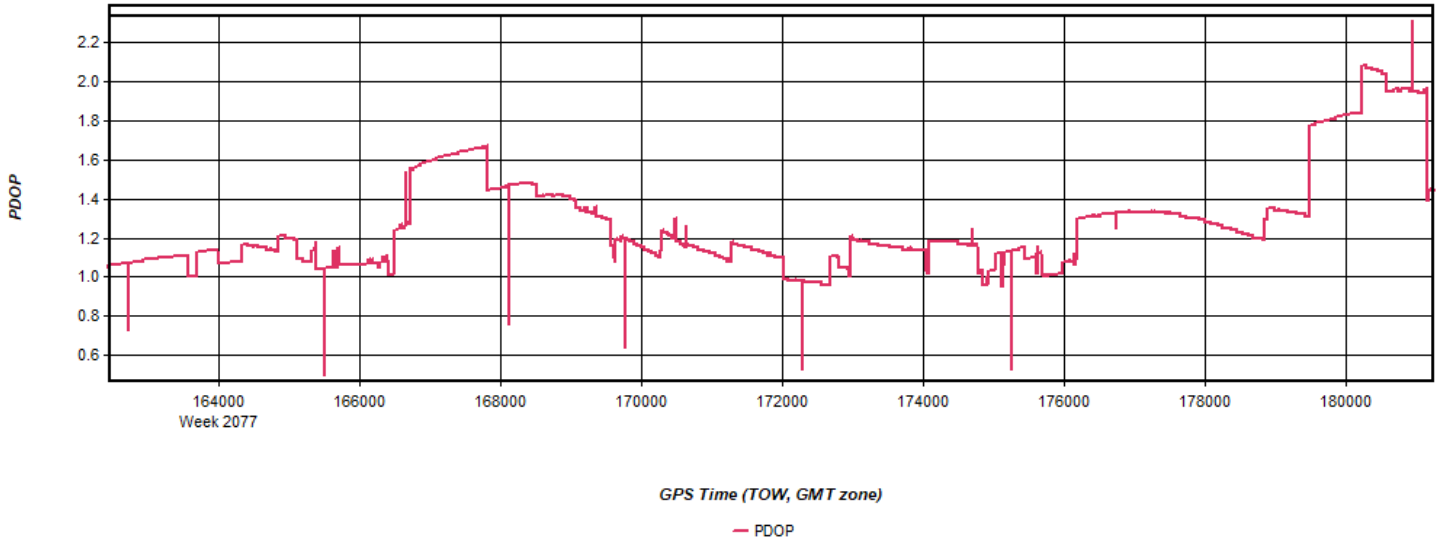
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 5: 20191028210606 [Smoothed TC Combined] - Estimated Position Accuracy Plot



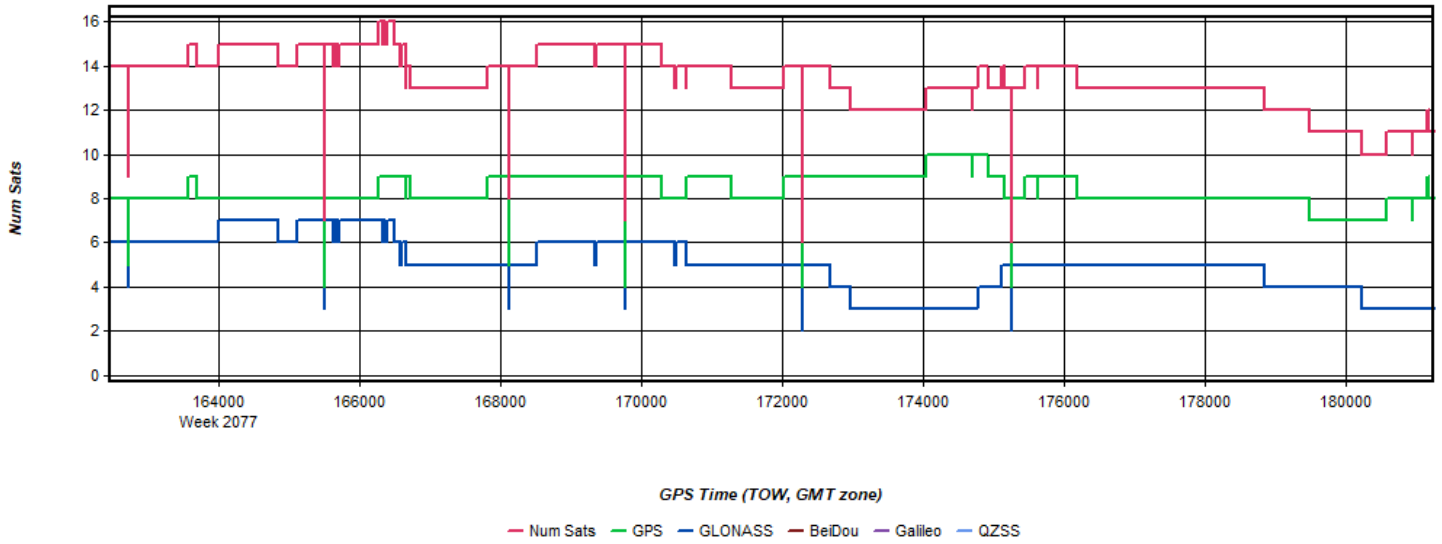
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 6: 20191028210606 [Smoothed TC Combined] - PDOP Plot



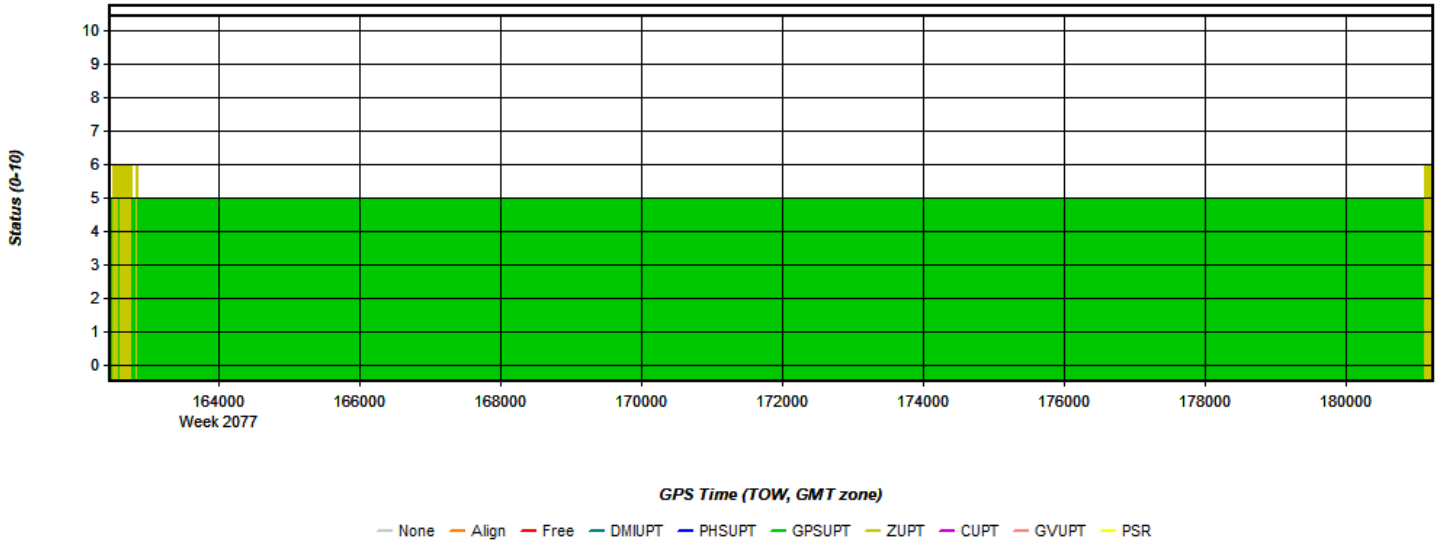
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 7: 20191028210606 [Smoothed TC Combined] - Number of Satellites Line Plot



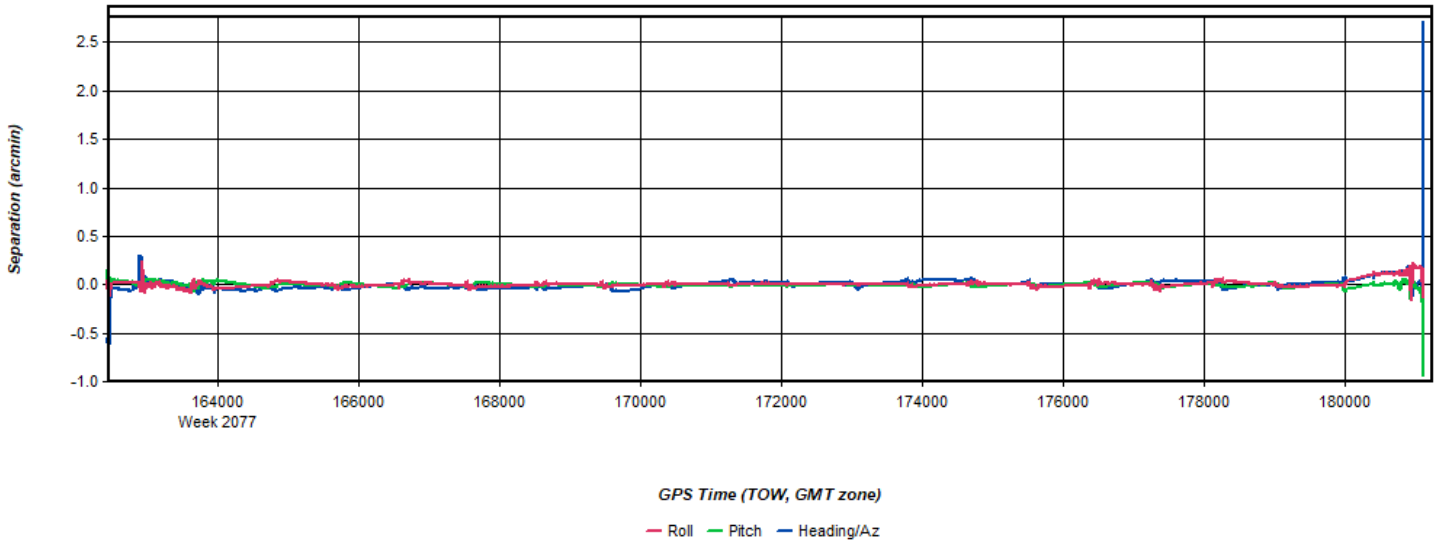
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 8: 20191028210606 [Smoothed TC Combined] - Status flag for IMU processing



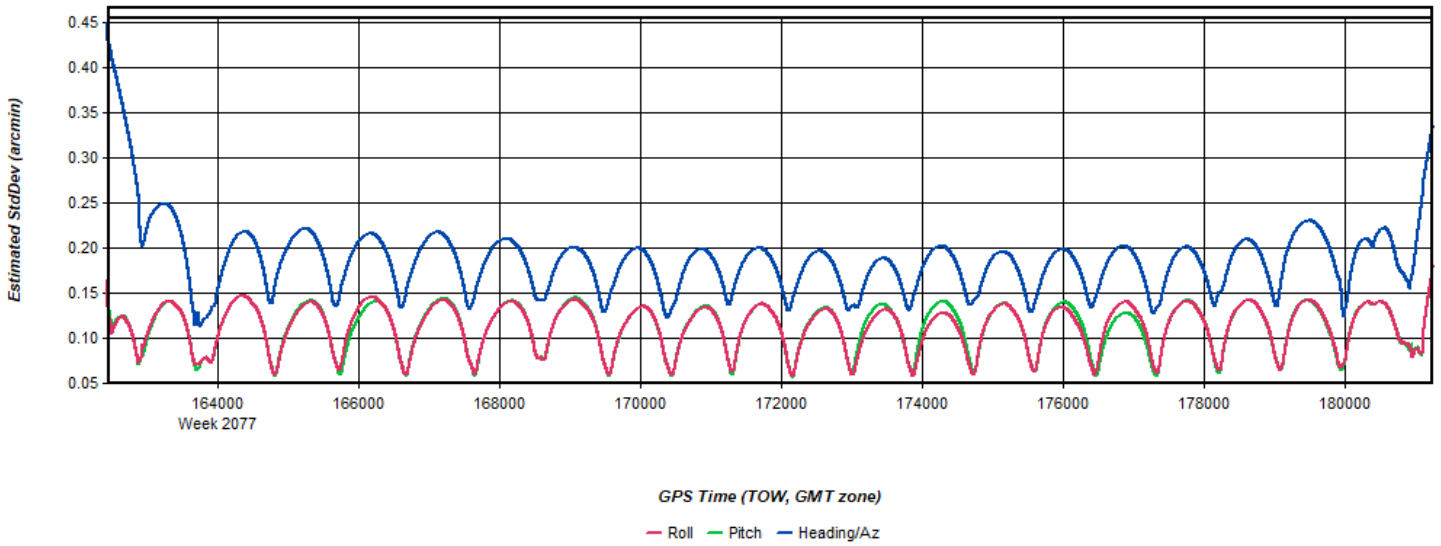
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 9: 20191028210606 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



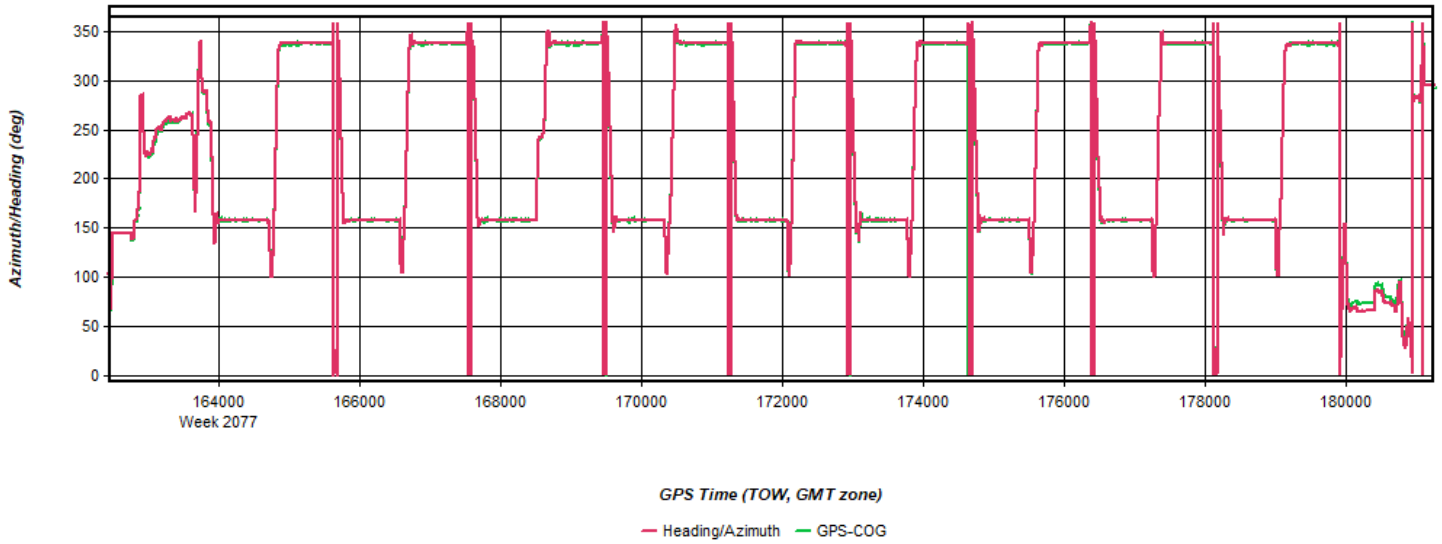
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 10: 20191028210606 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



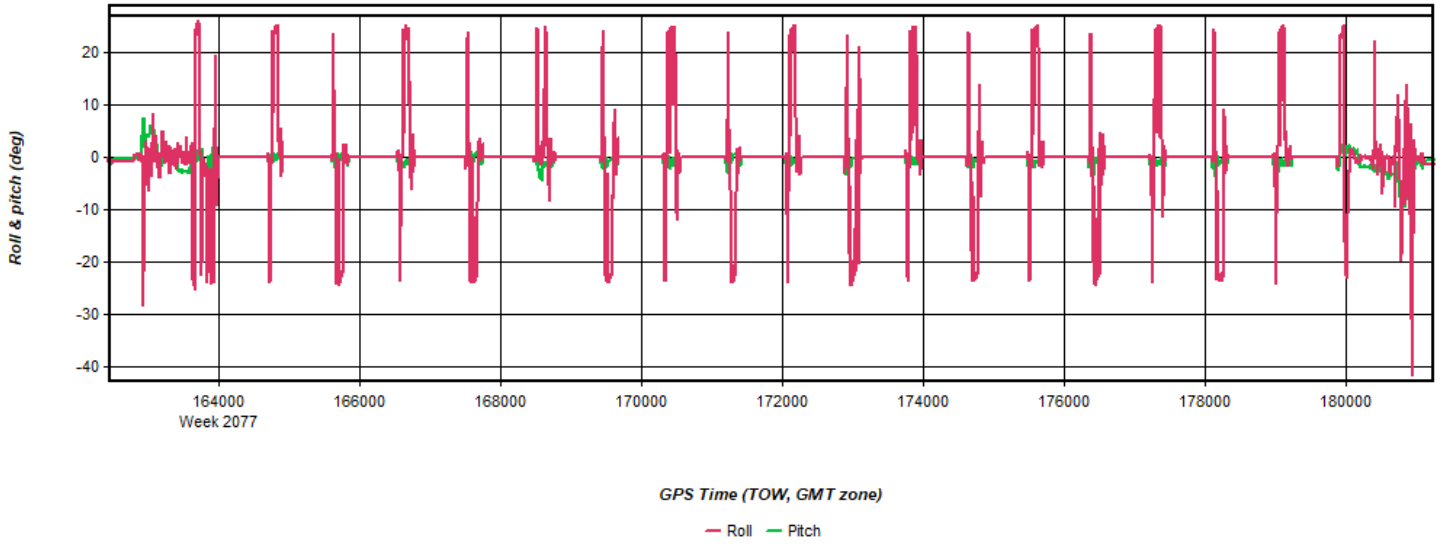
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 11: 20191028210606 [Smoothed TC Combined] - Azimuth Plot



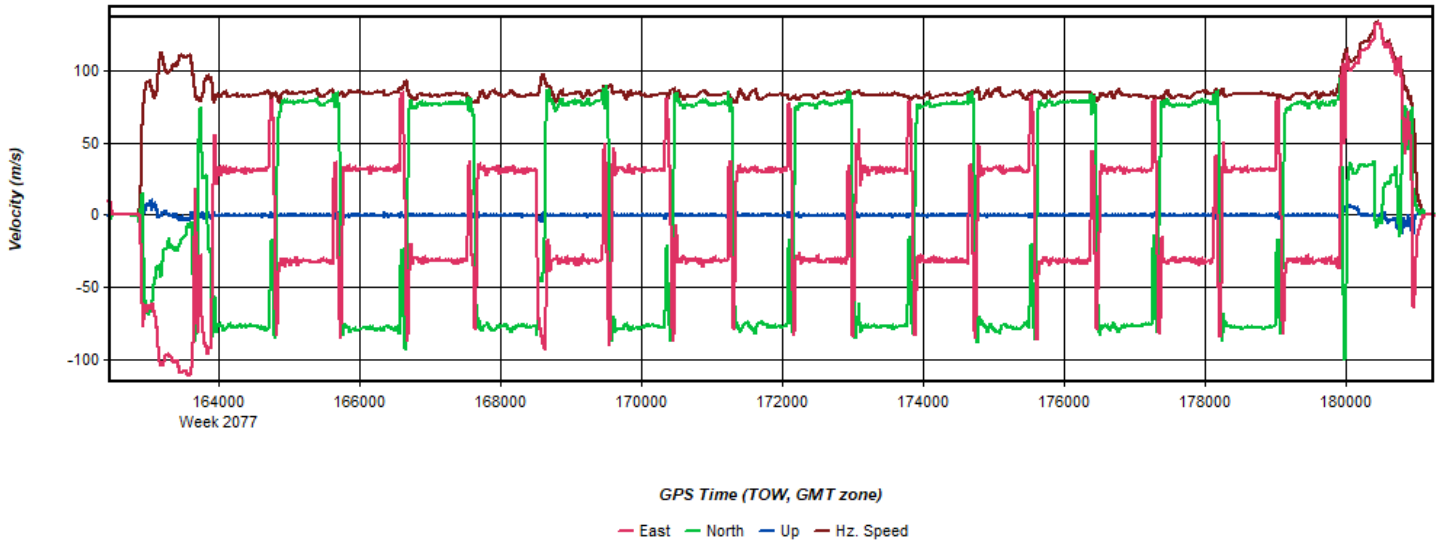
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 12: 20191028210606 [Smoothed TC Combined] - Roll & Pitch Plot



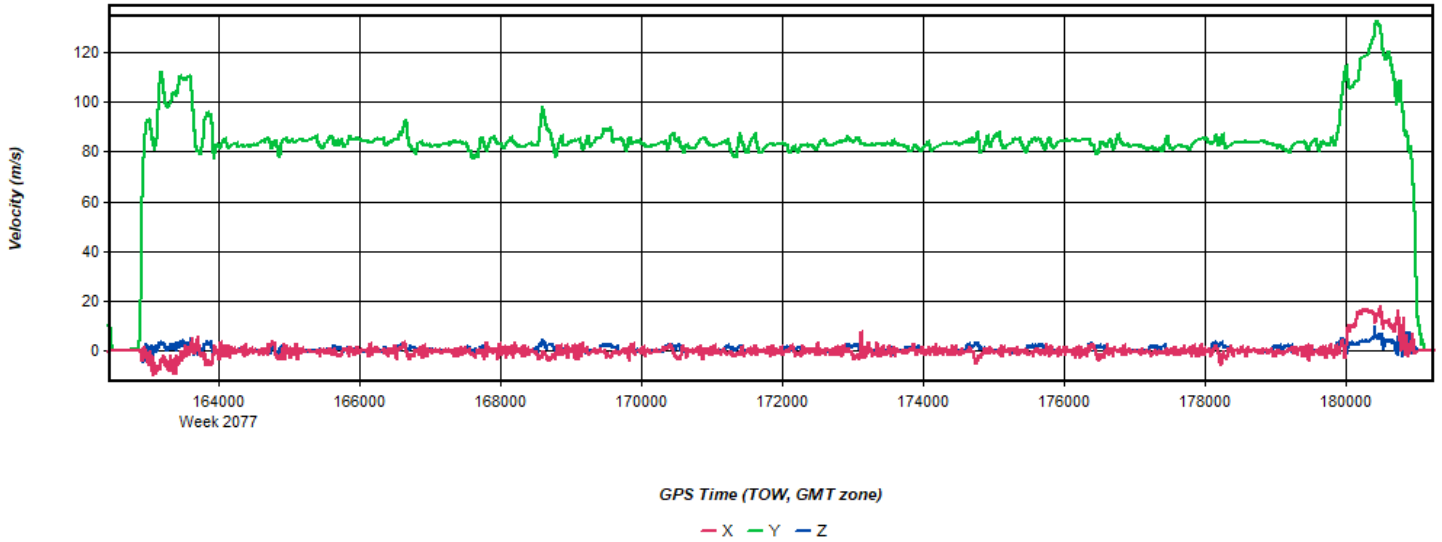
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 13: 20191028210606 [Smoothed TC Combined] - Velocity Profile Plot



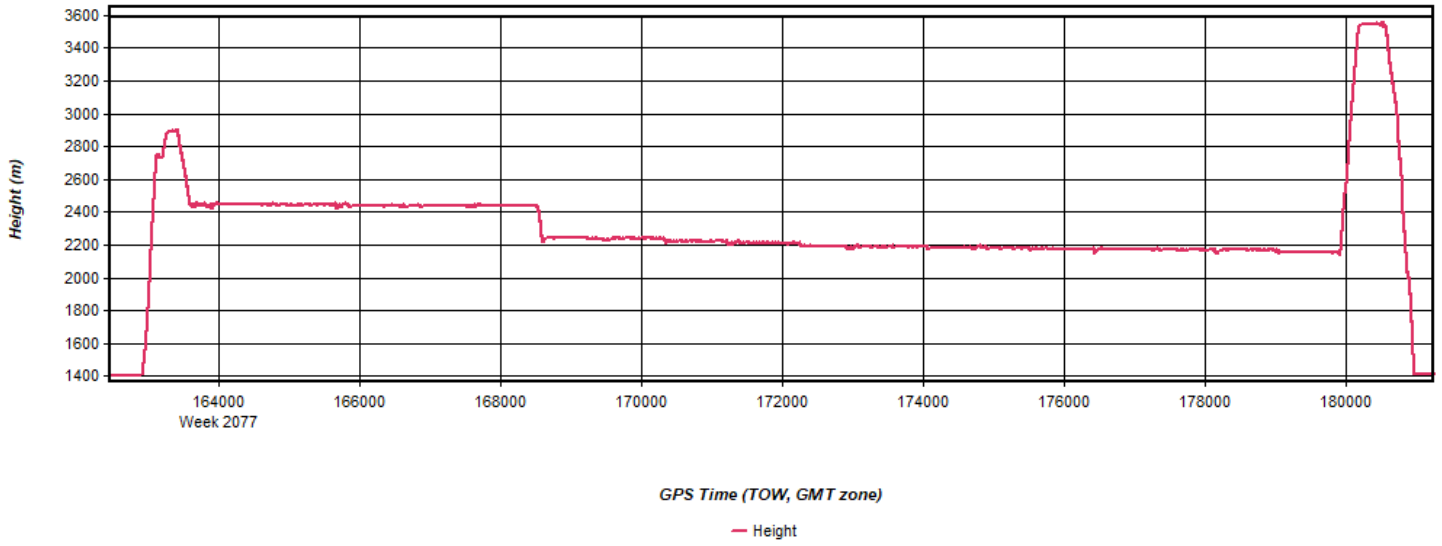
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 14: 20191028210606 [Smoothed TC Combined] - Body Frame Velocity Plot



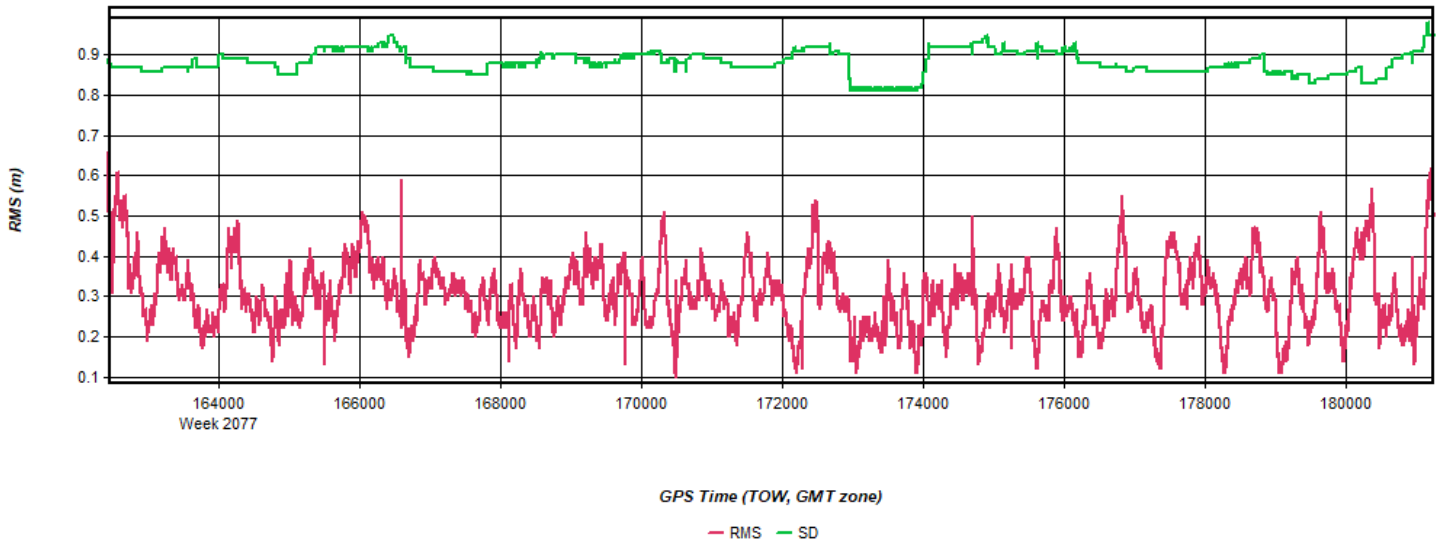
Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 15: 20191028210606 [Smoothed TC Combined] - Height Profile Plot



Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 16: 20191028210606 [Smoothed TC Combined] - C/A Code Residual RMS Plot



Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 17: 20191028210606 [Smoothed TC Combined] - Carrier Residual RMS Plot



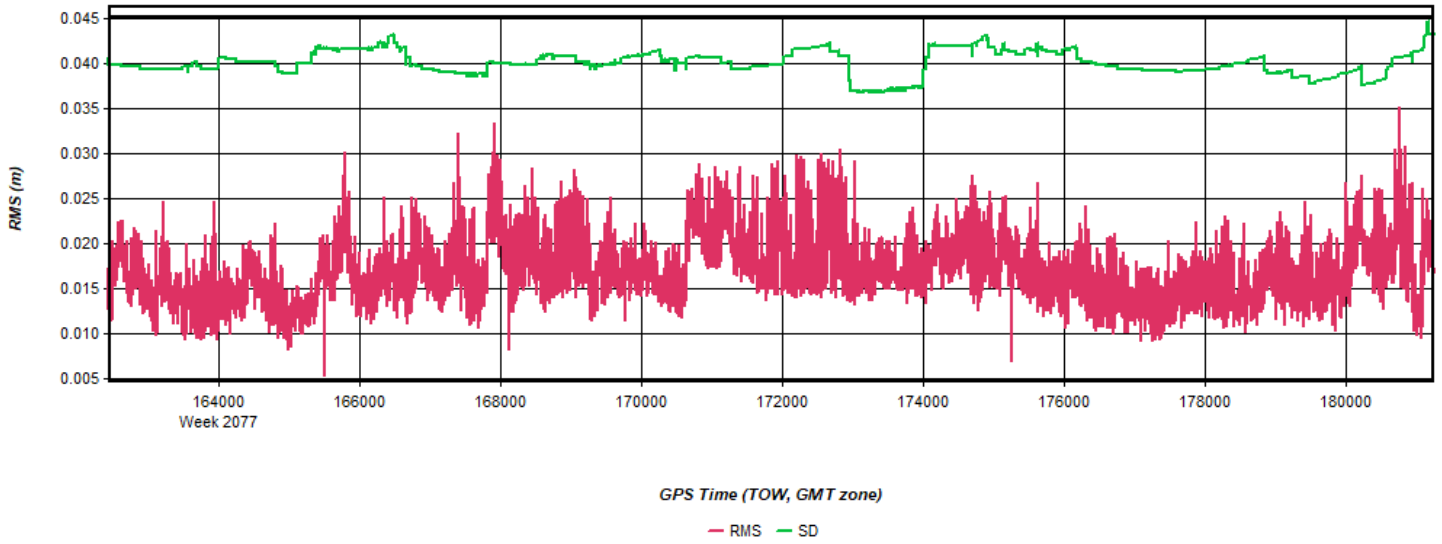


Figure 18: 20191028210606 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot

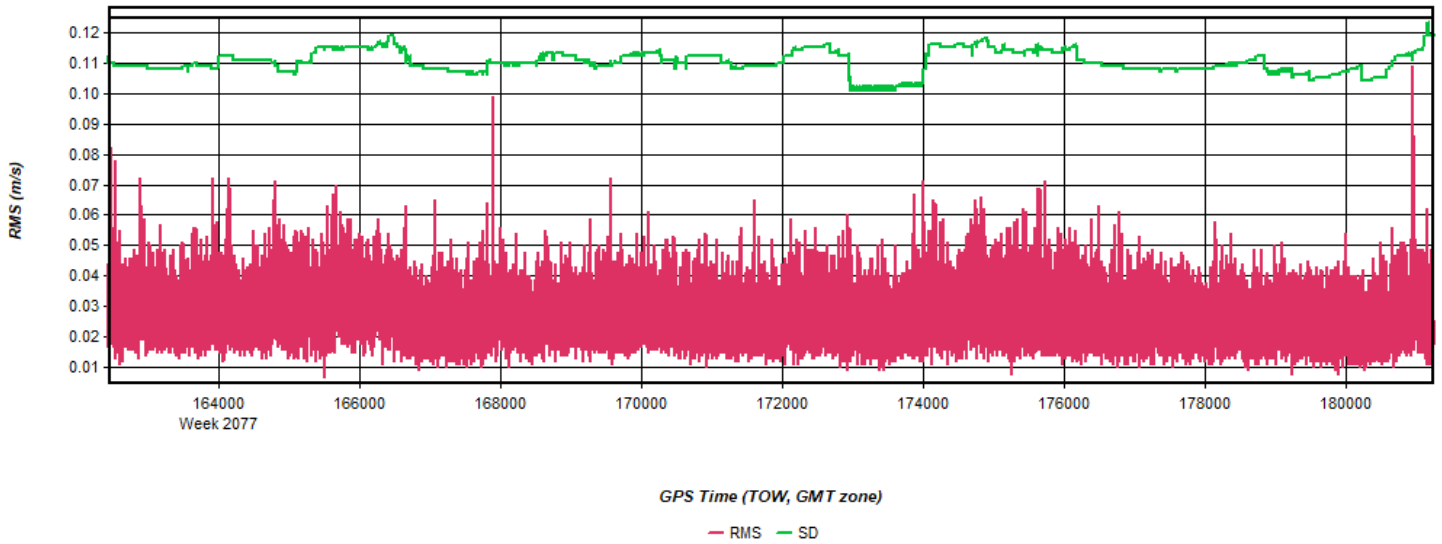
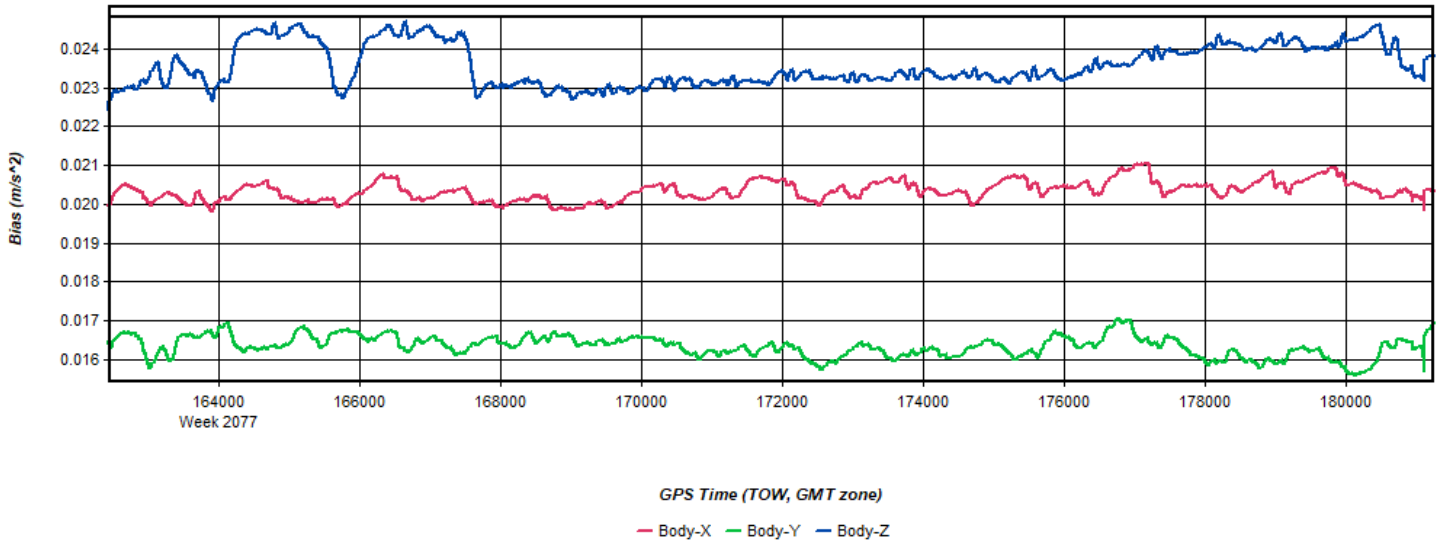
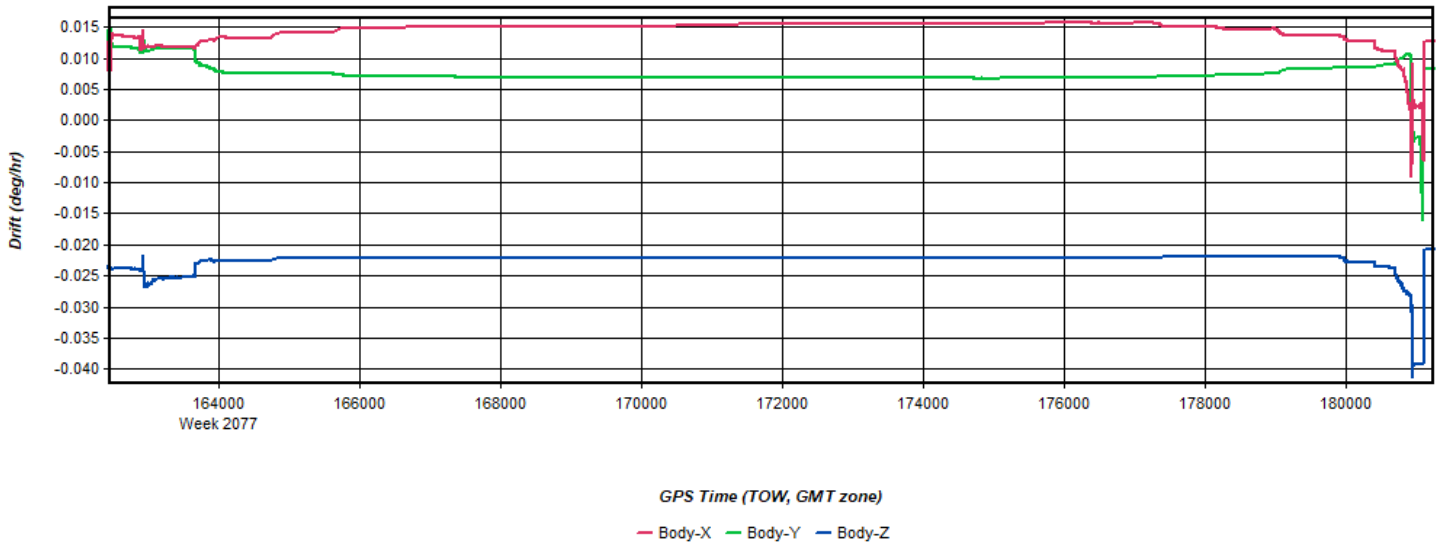


Figure 19: 20191028210606 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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Figure 20: 20191028210606 [Smoothed TC Combined] - Gyro Drift Plot

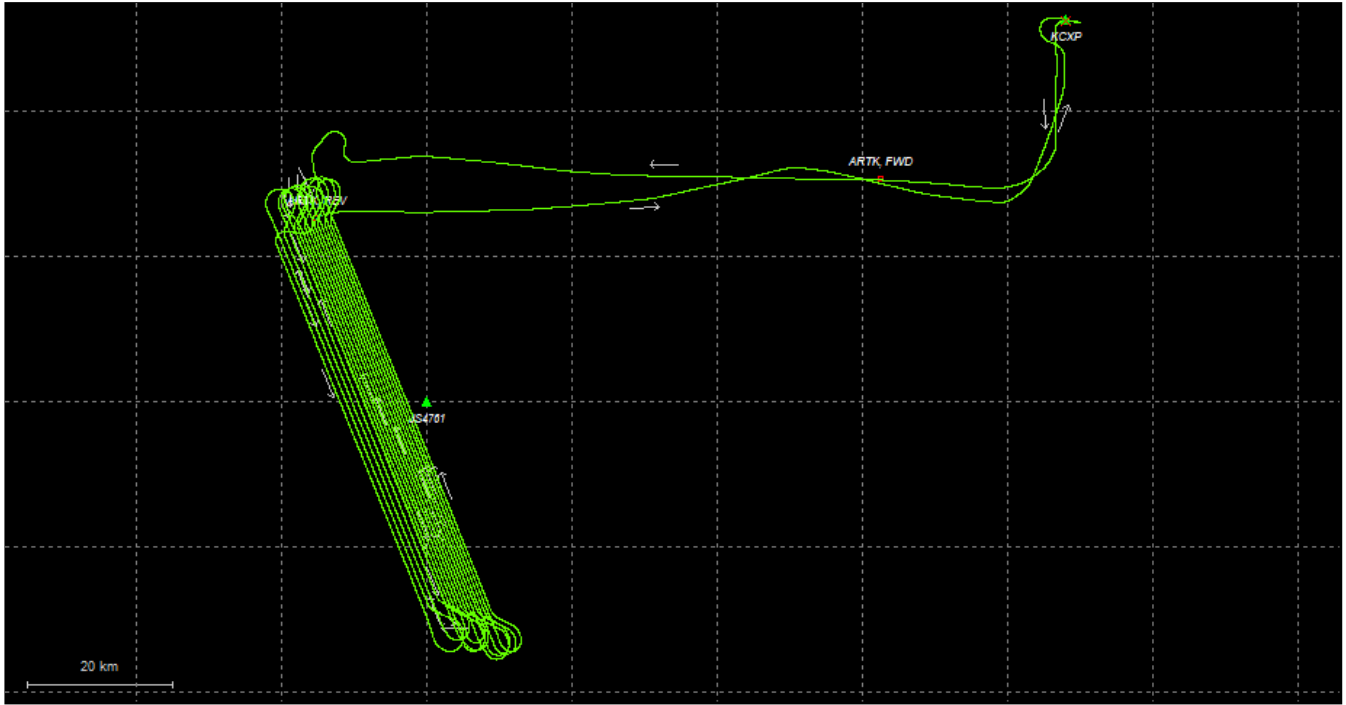


Process	20191028210606	by Unknown	on 10/31/2019	at 21:51:37
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# Output Results for 20191029150927

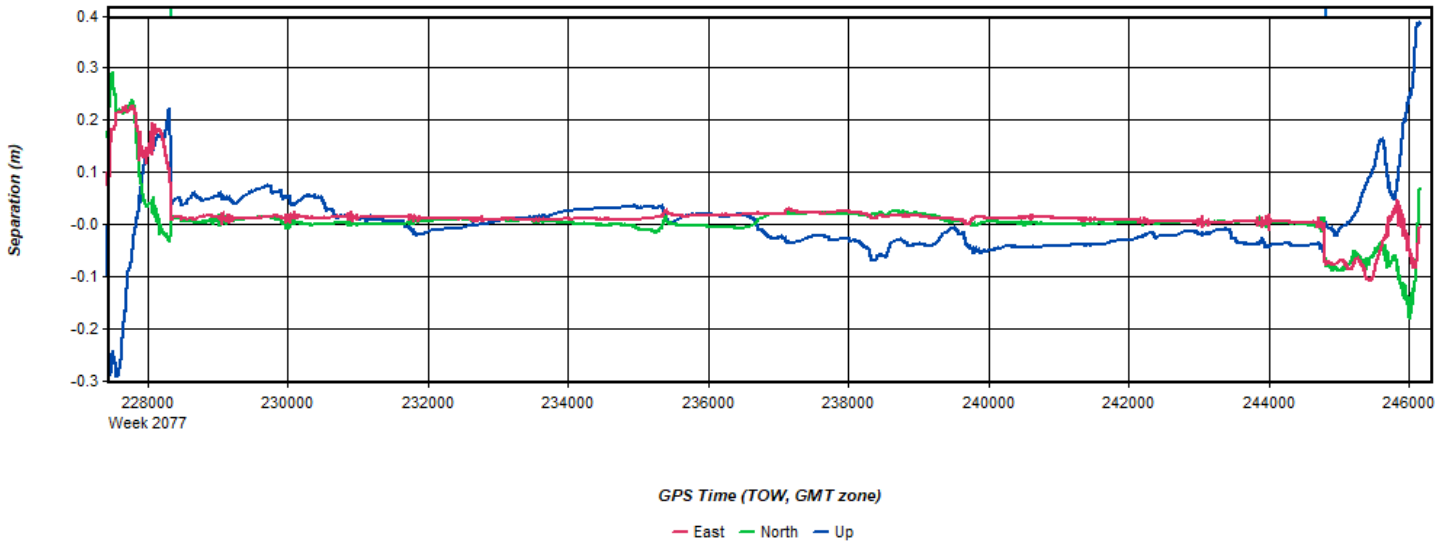
Inertial Explorer Version 8.80.2305  
11/01/2019

Figure 1: Smoothed TC Combined - Map



Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 2: 20191029150927 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 3: 20191029150927 [Smoothed TC Combined] - Float or Fixed Ambiguity

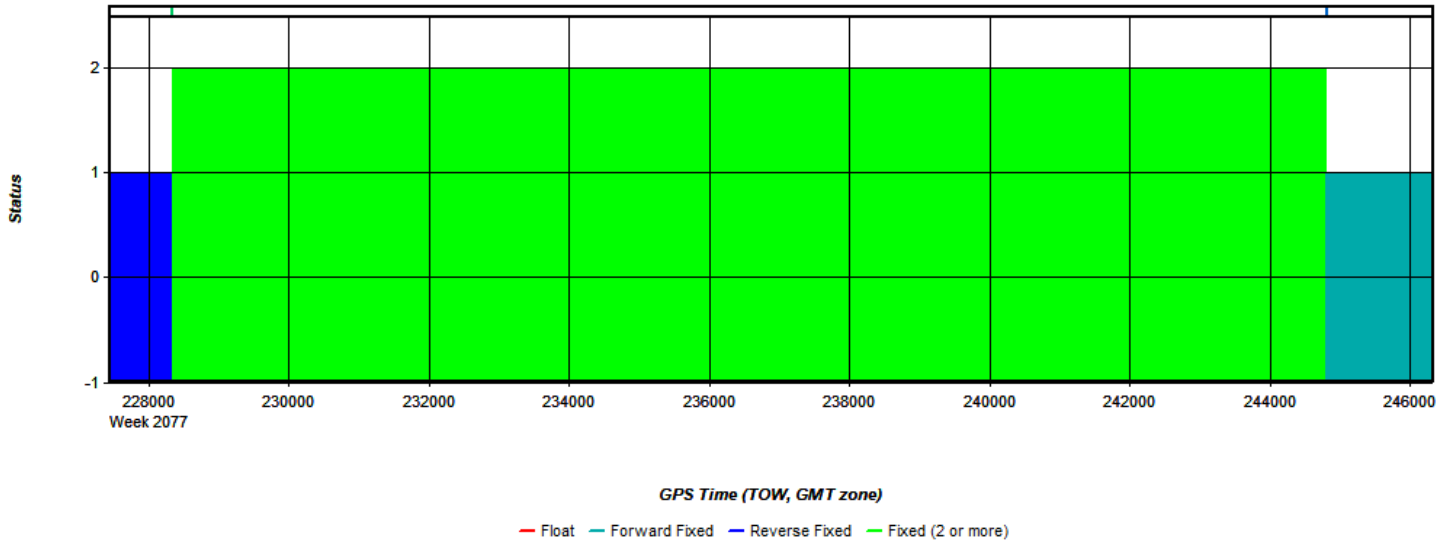


Figure 4: 20191029150927 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)

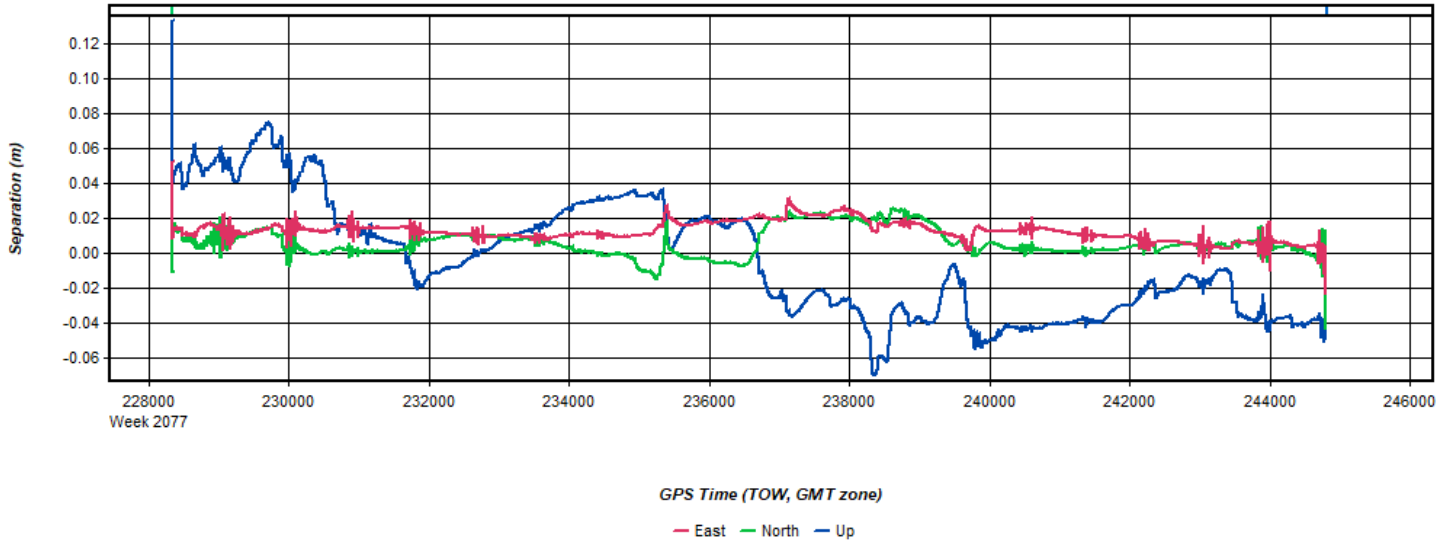
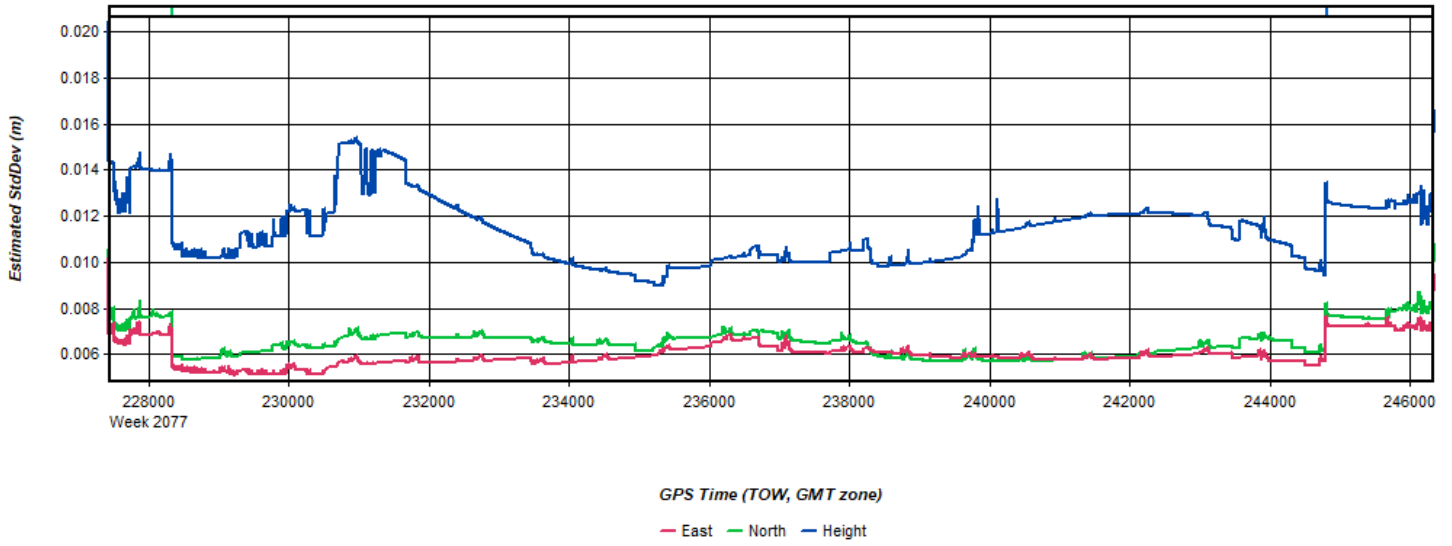
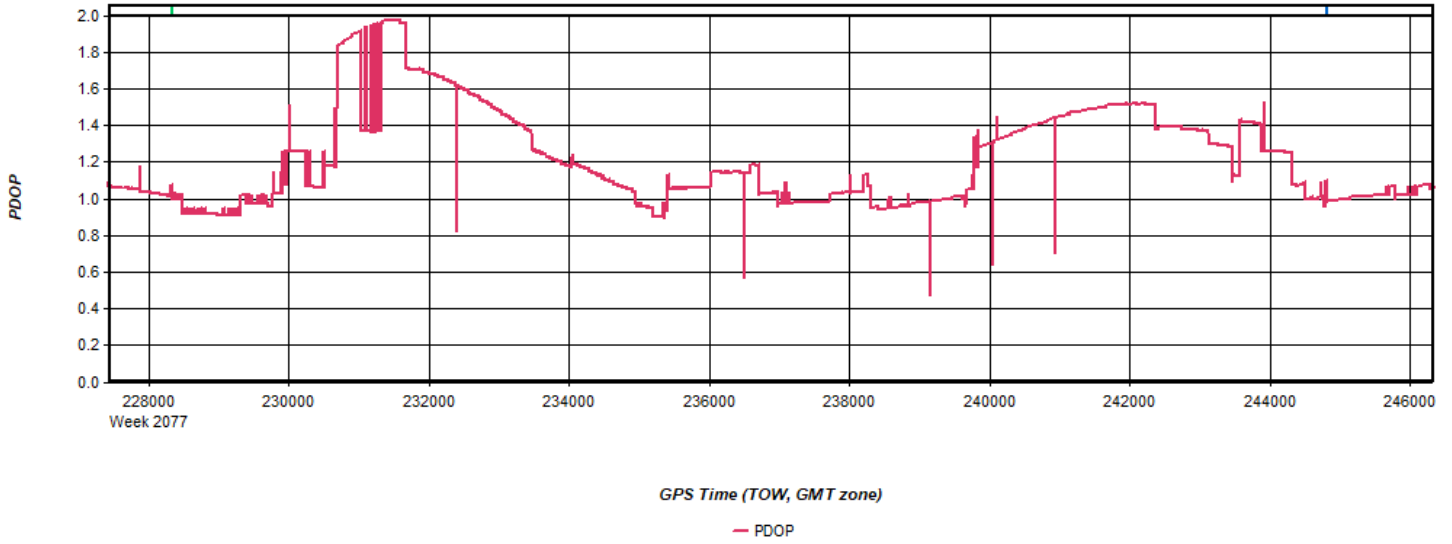


Figure 5: 20191029150927 [Smoothed TC Combined] - Estimated Position Accuracy Plot



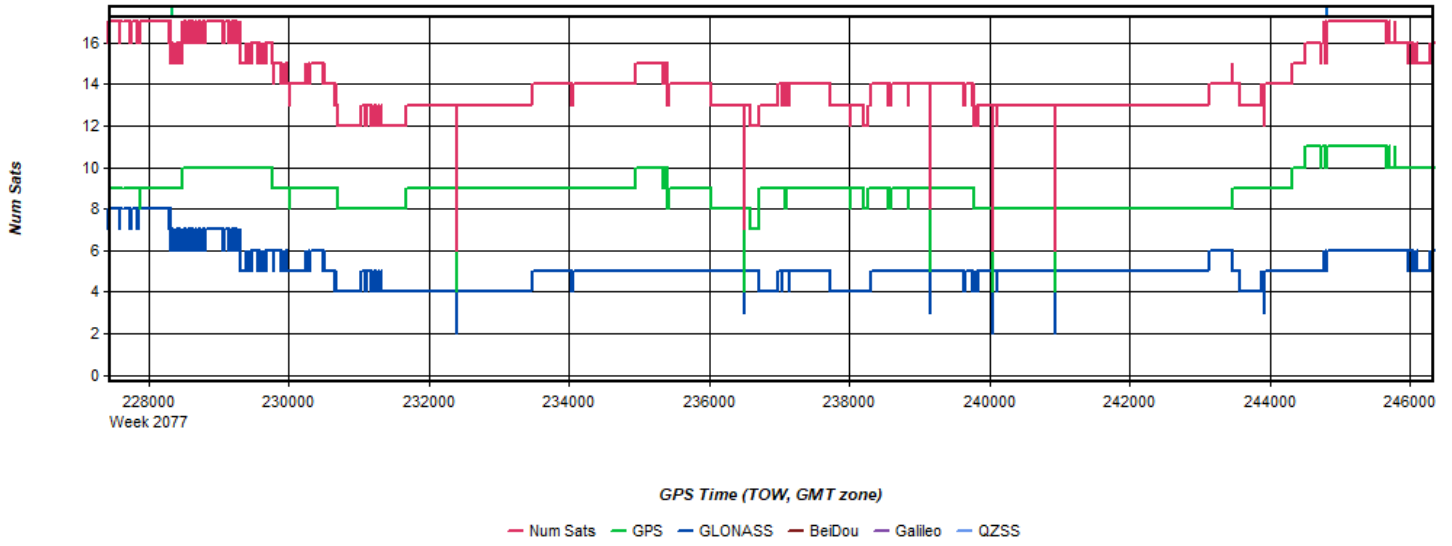
Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 6: 20191029150927 [Smoothed TC Combined] - PDOP Plot



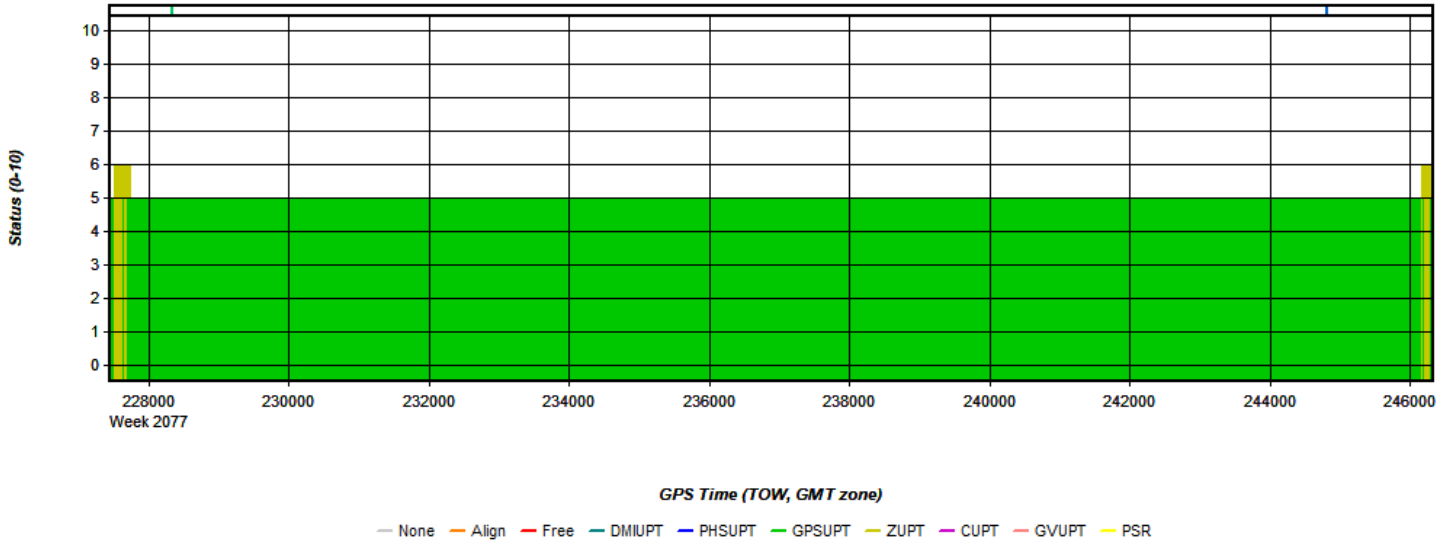
Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 7: 20191029150927 [Smoothed TC Combined] - Number of Satellites Line Plot



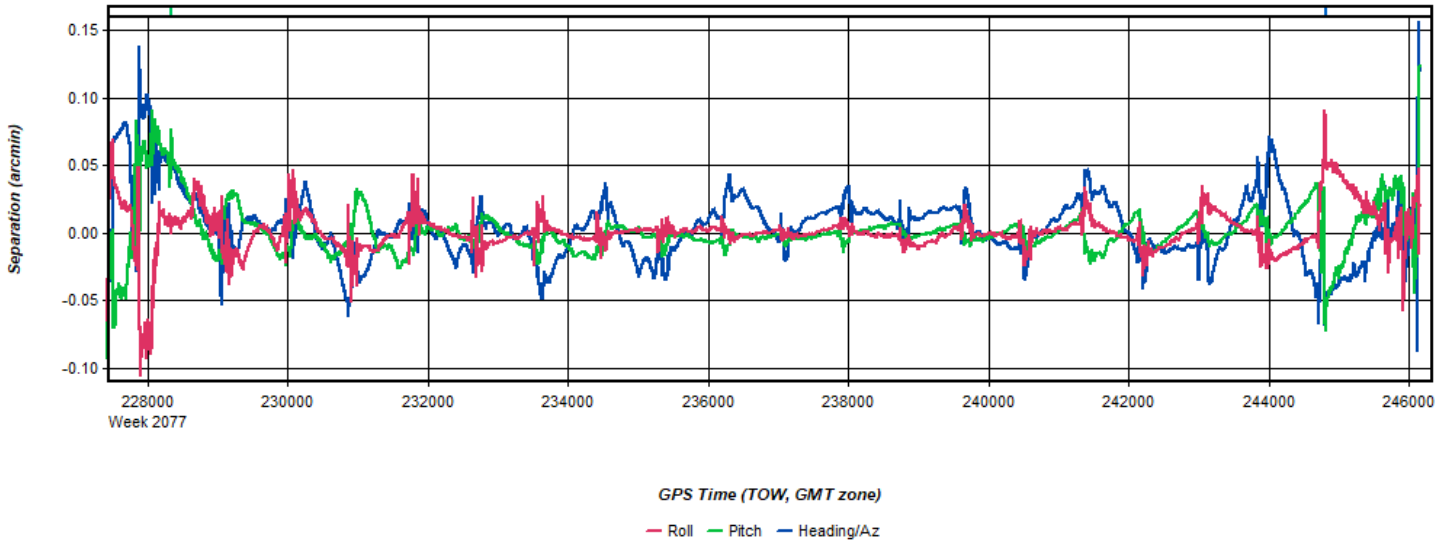
Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 8: 20191029150927 [Smoothed TC Combined] - Status flag for IMU processing



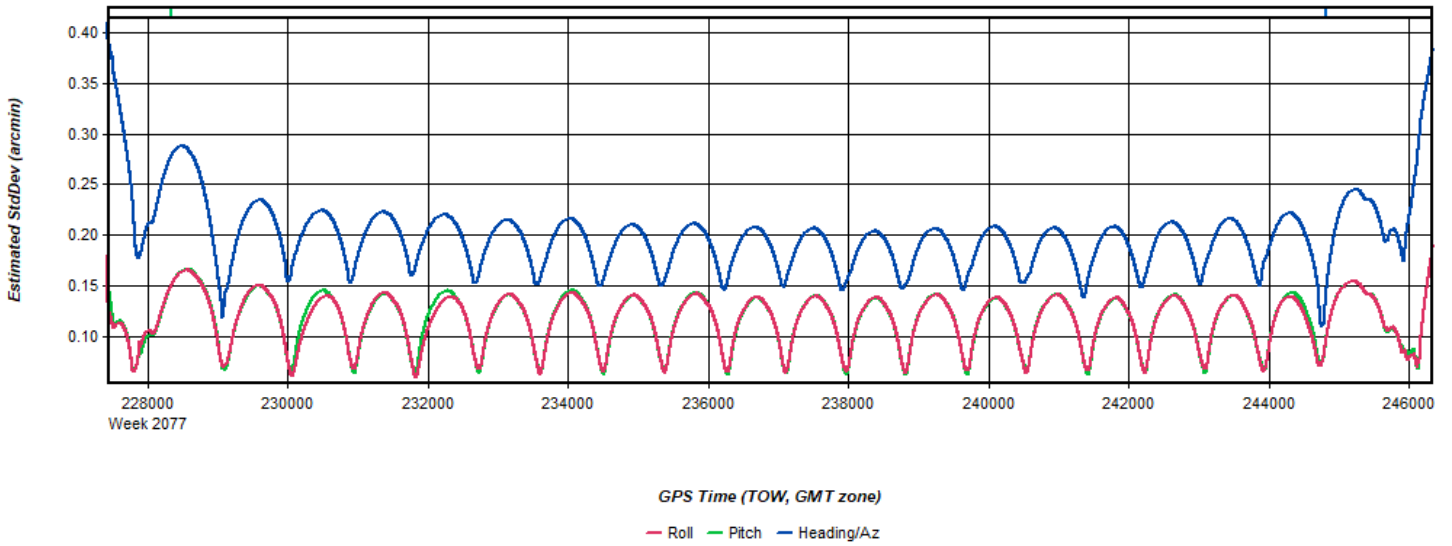
Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 9: 20191029150927 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



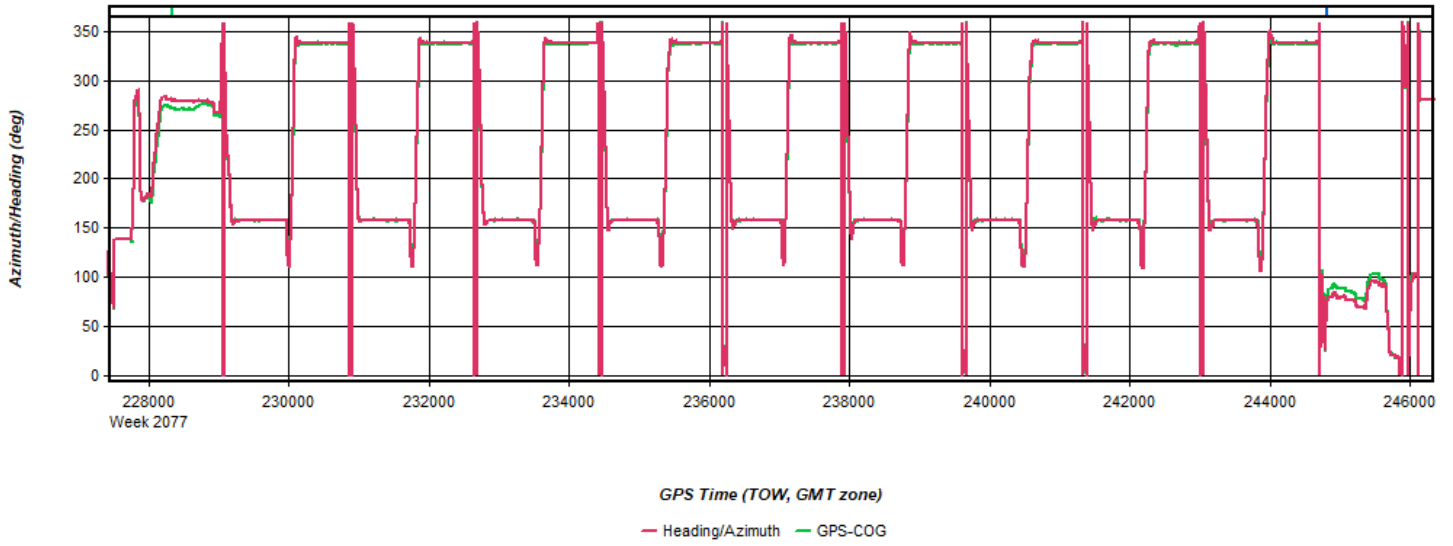
Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 10: 20191029150927 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



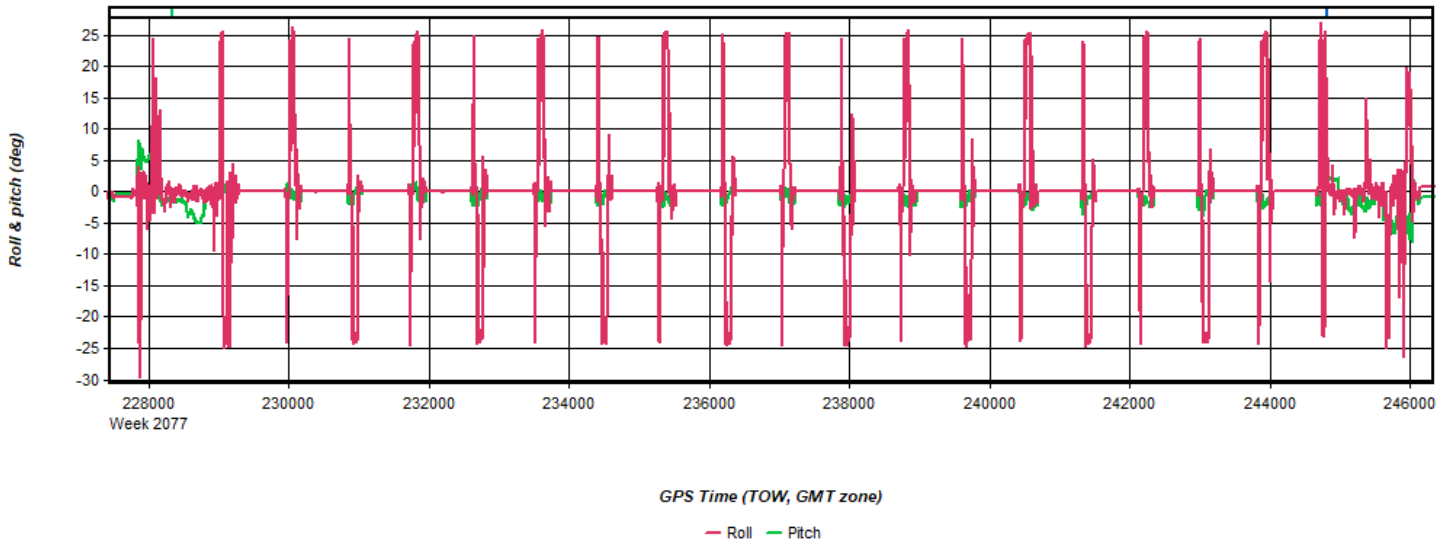
Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 11: 20191029150927 [Smoothed TC Combined] - Azimuth Plot



Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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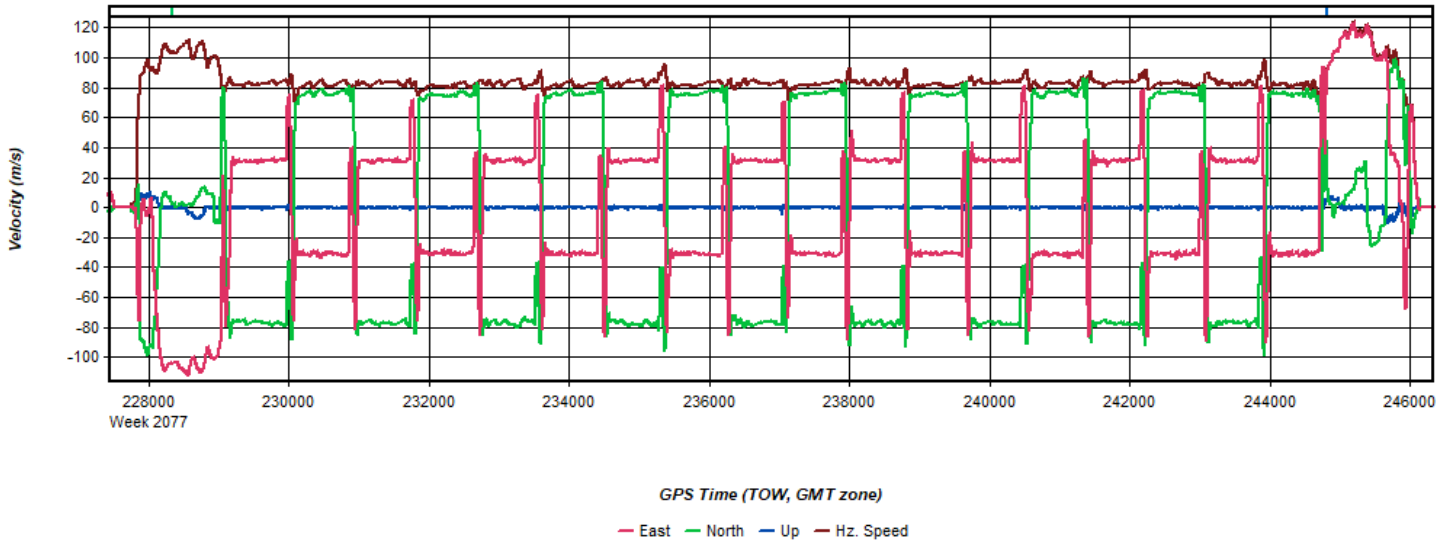
Figure 12: 20191029150927 [Smoothed TC Combined] - Roll & Pitch Plot



Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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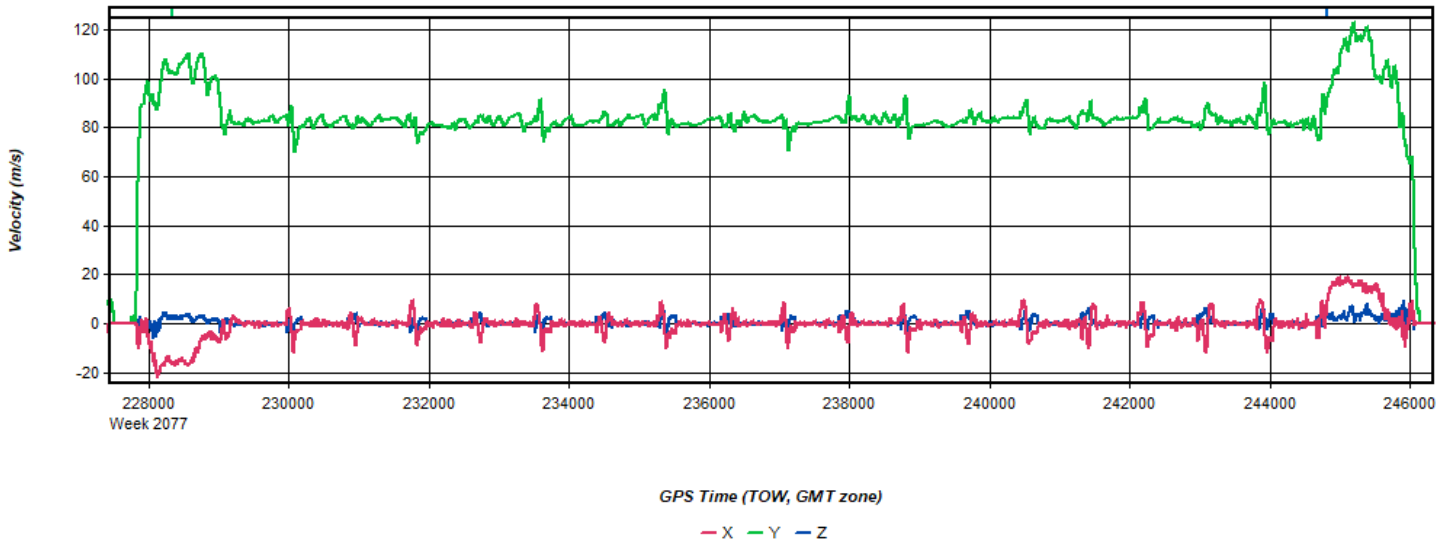
Figure 13: 20191029150927 [Smoothed TC Combined] - Velocity Profile Plot





Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 14: 20191029150927 [Smoothed TC Combined] - Body Frame Velocity Plot



Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 15: 20191029150927 [Smoothed TC Combined] - Height Profile Plot

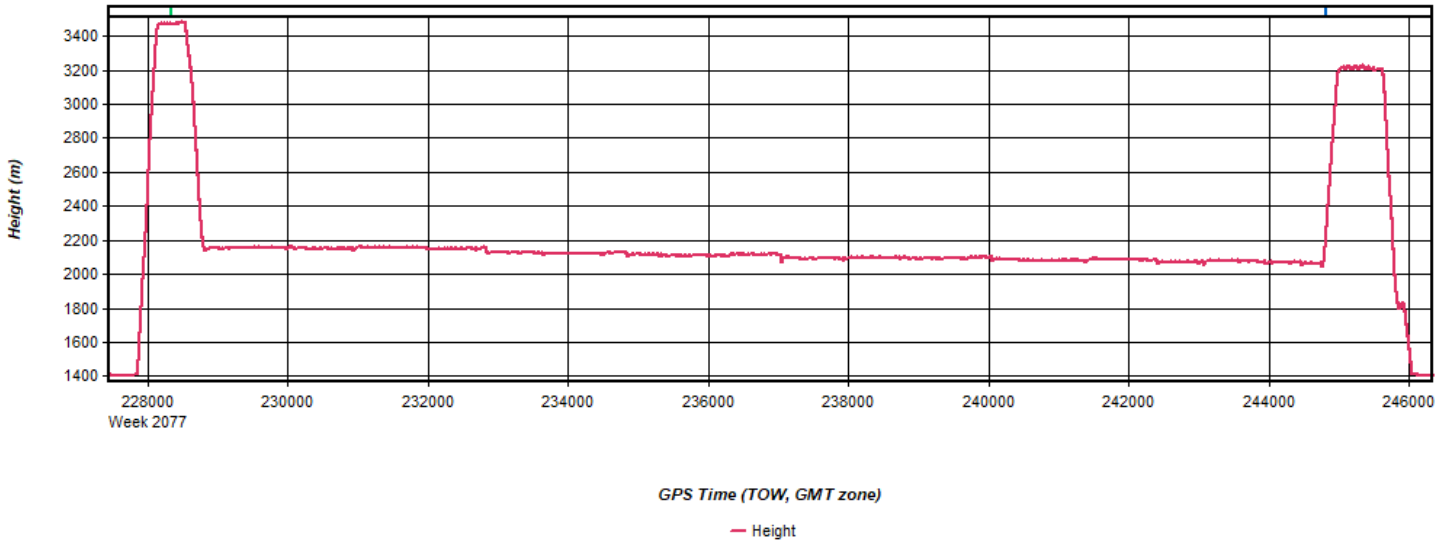


Figure 16: 20191029150927 [Smoothed TC Combined] - C/A Code Residual RMS Plot

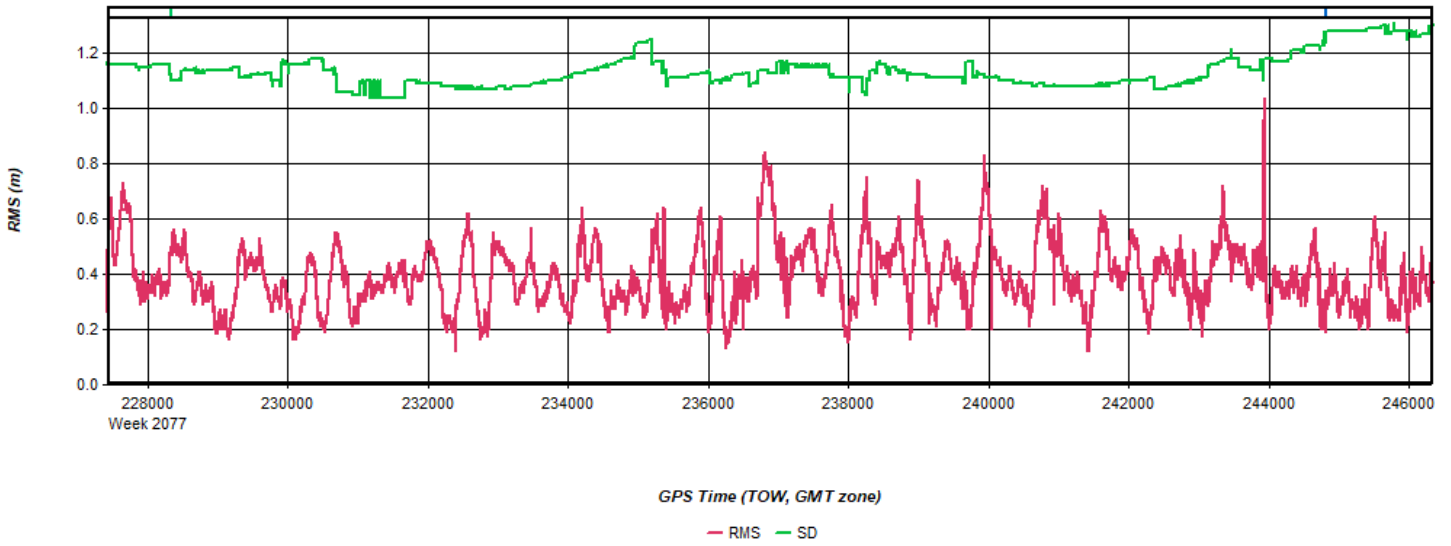
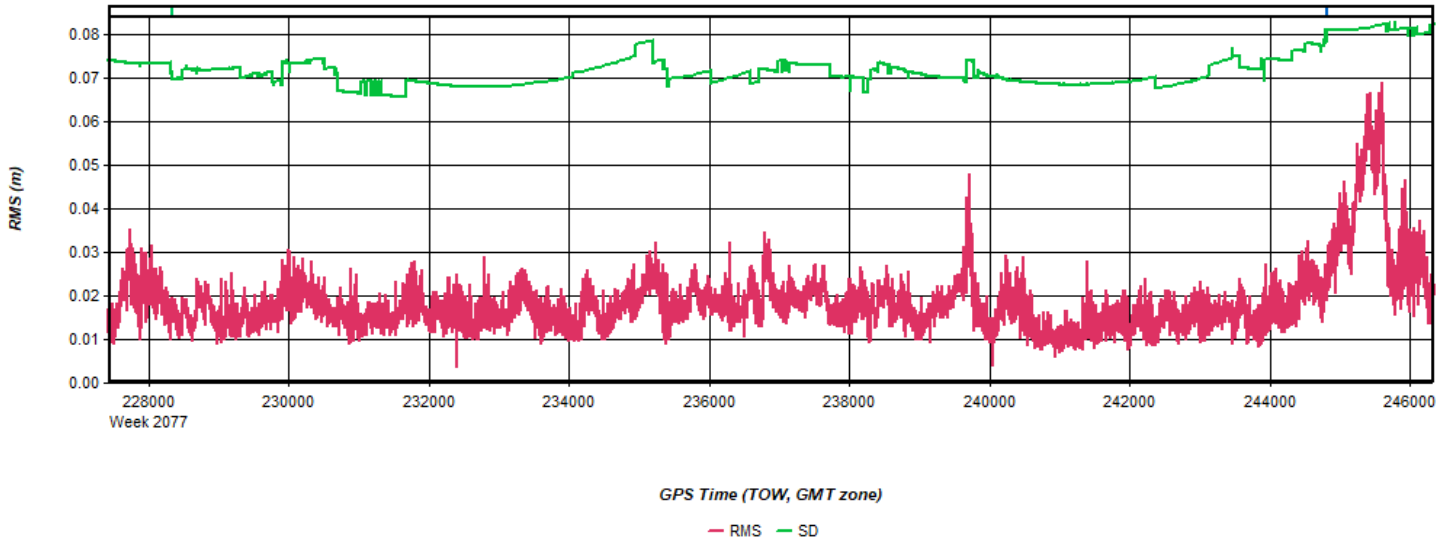
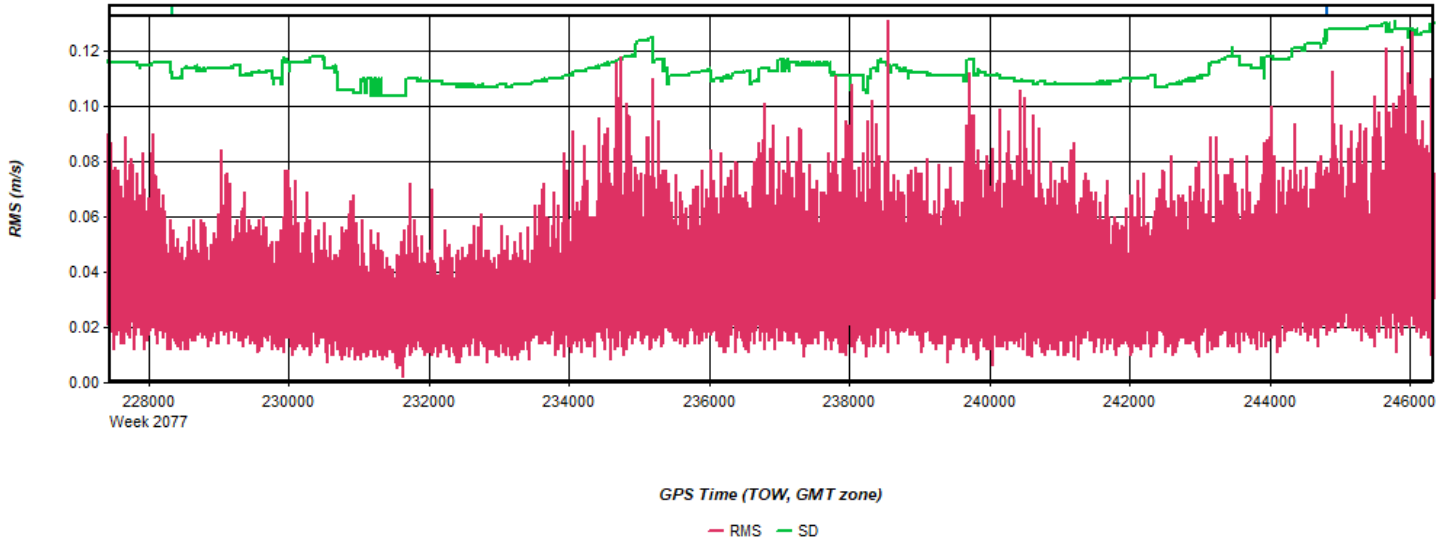


Figure 17: 20191029150927 [Smoothed TC Combined] - Carrier Residual RMS Plot



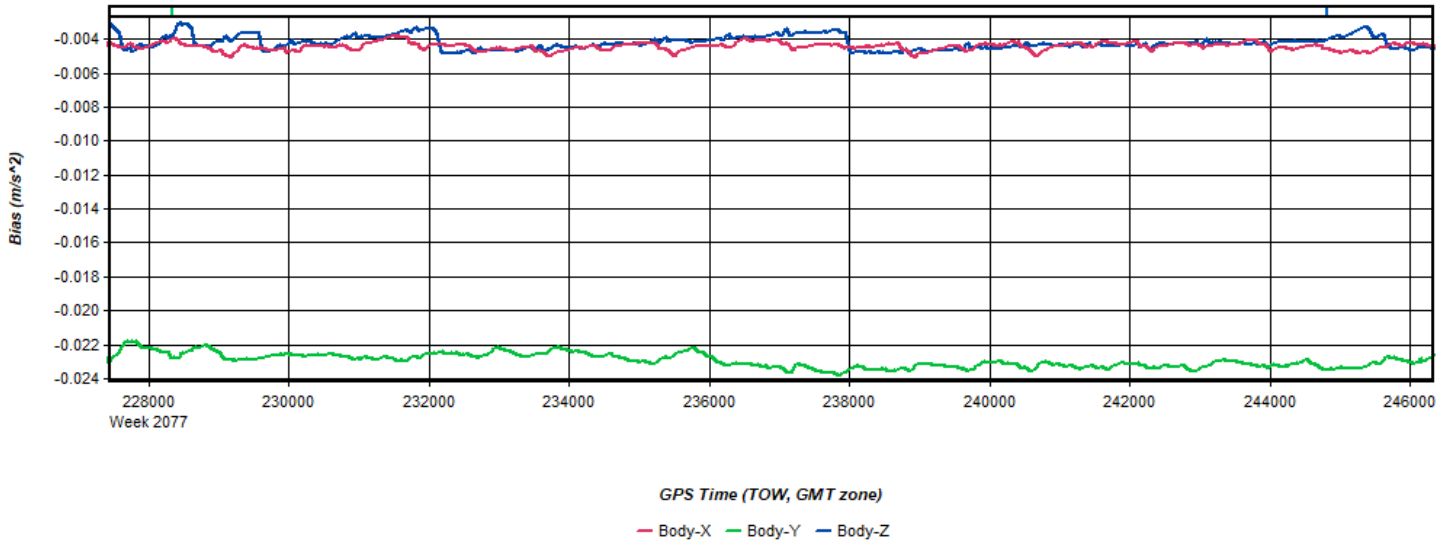
Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 18: 20191029150927 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



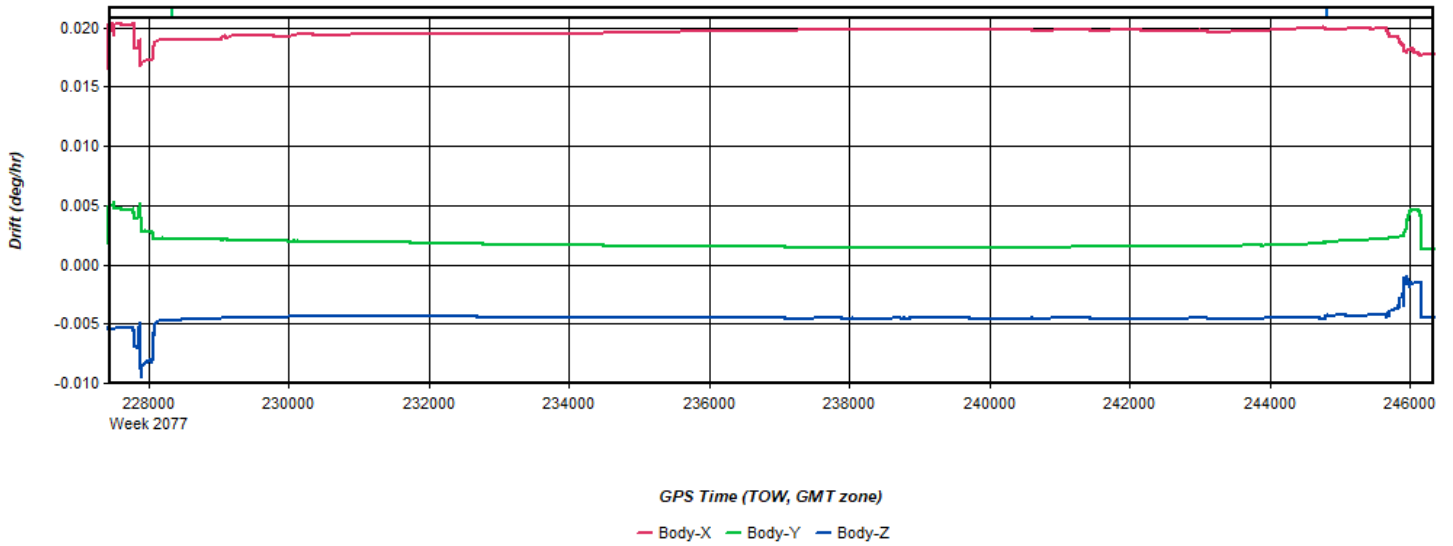
Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 19: 20191029150927 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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Figure 20: 20191029150927 [Smoothed TC Combined] - Gyro Drift Plot

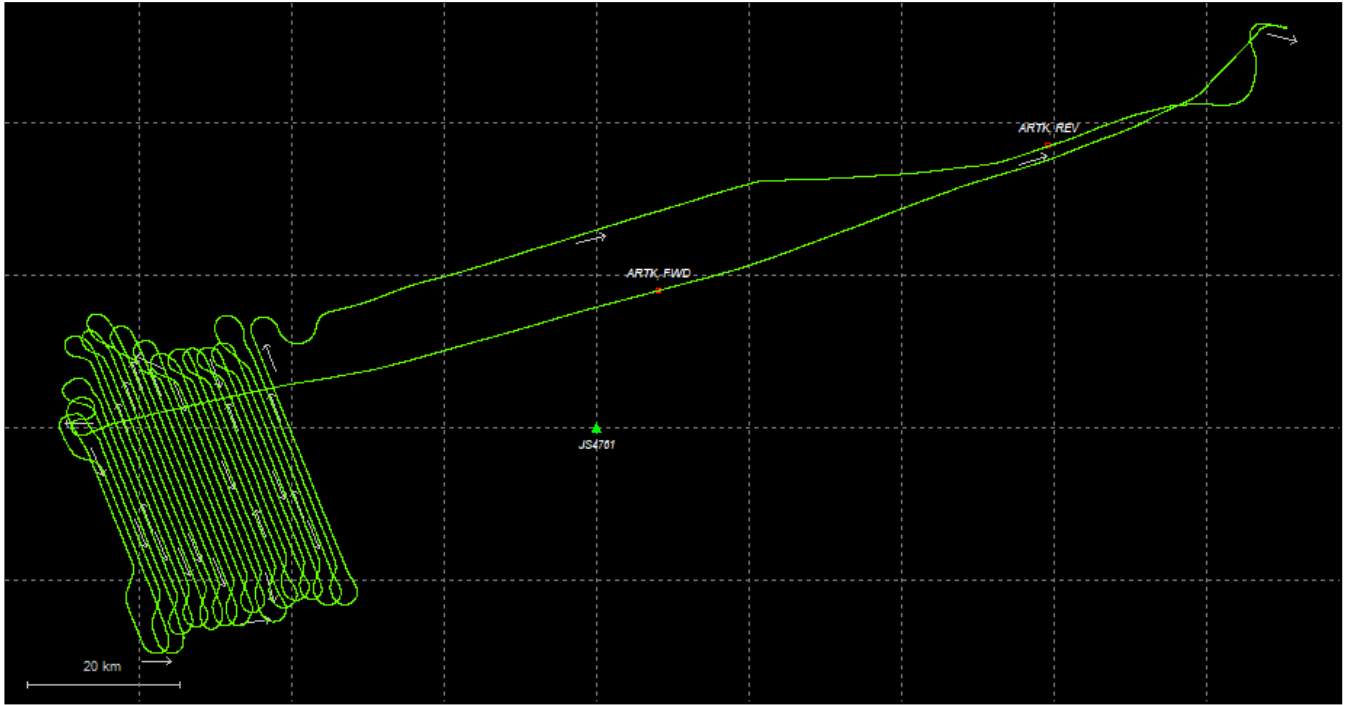


Process	20191029150927	by Unknown	on 11/1/2019	at 20:10:22
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# Output Results for 20191029205852

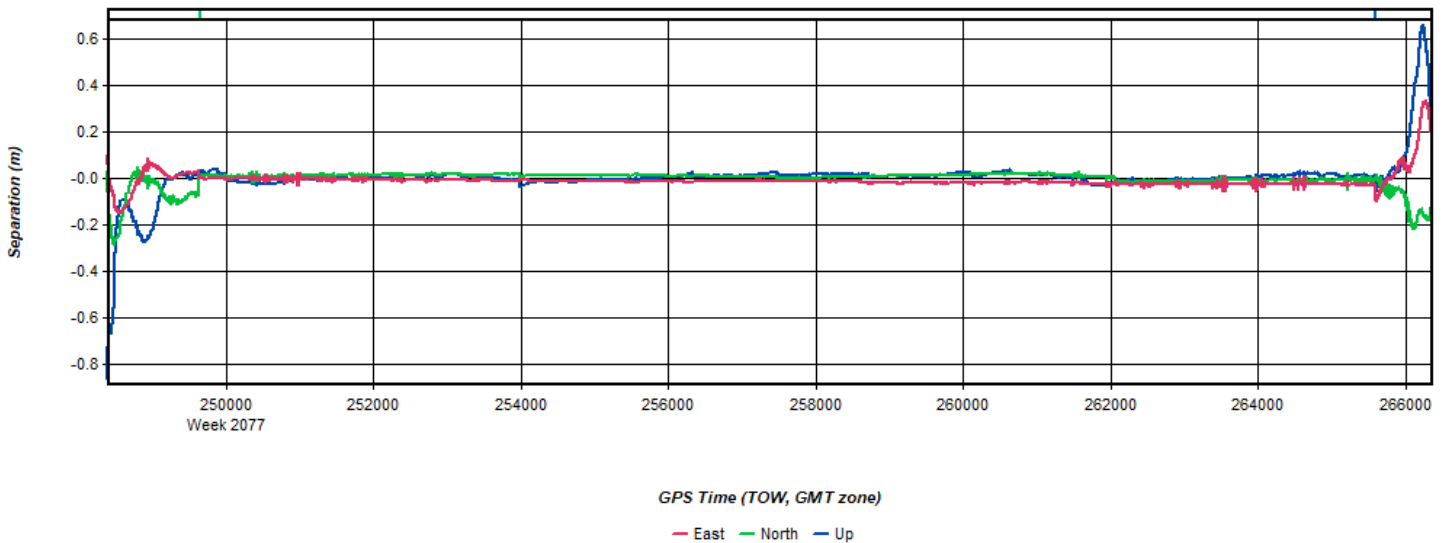
Inertial Explorer Version 8.80.2305  
11/01/2019

Figure 1: Smoothed TC Combined - Map



Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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Figure 2: 20191029205852 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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Figure 3: 20191029205852 [Smoothed TC Combined] - Float or Fixed Ambiguity

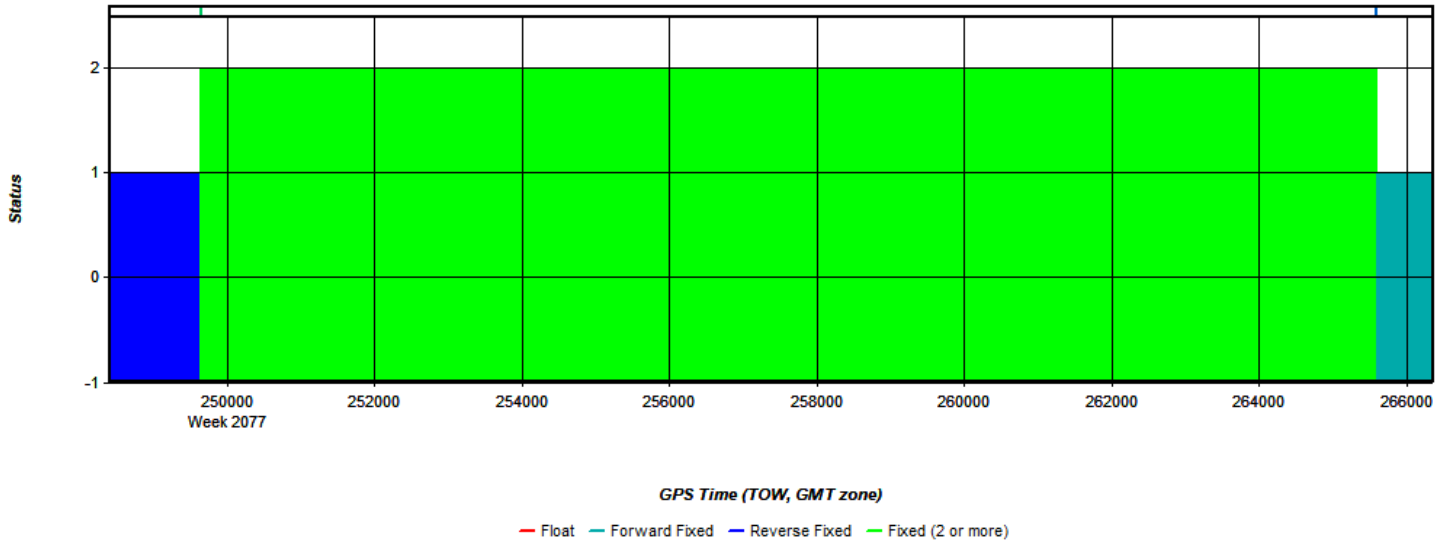


Figure 4: 20191029205852 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)

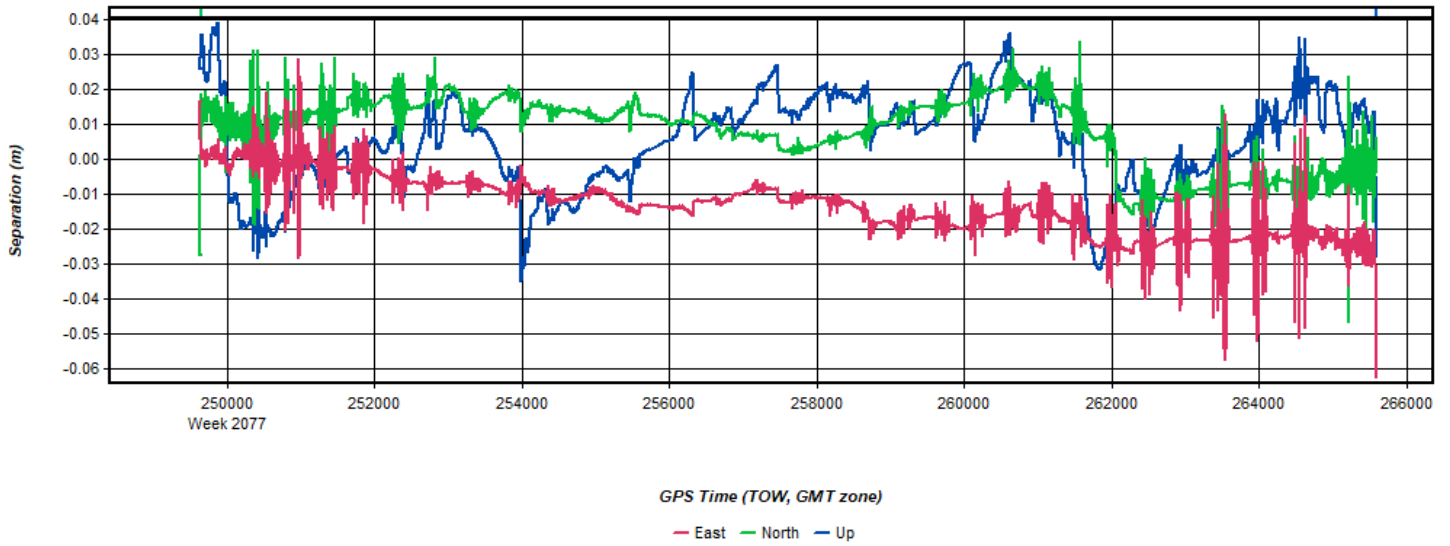
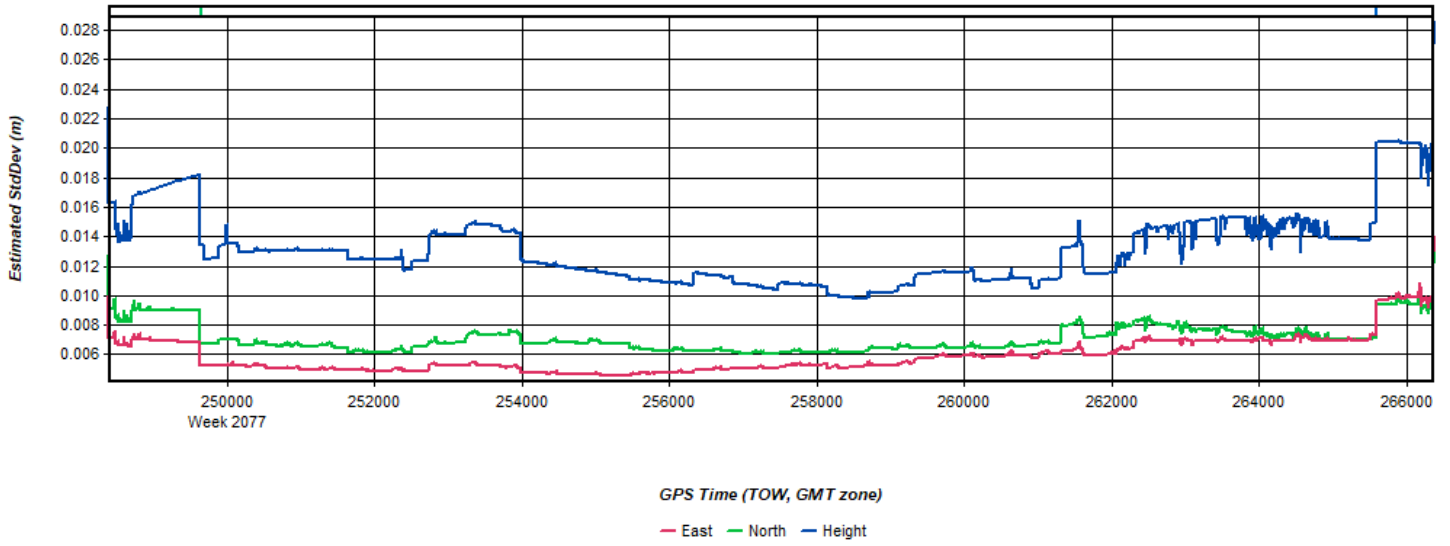
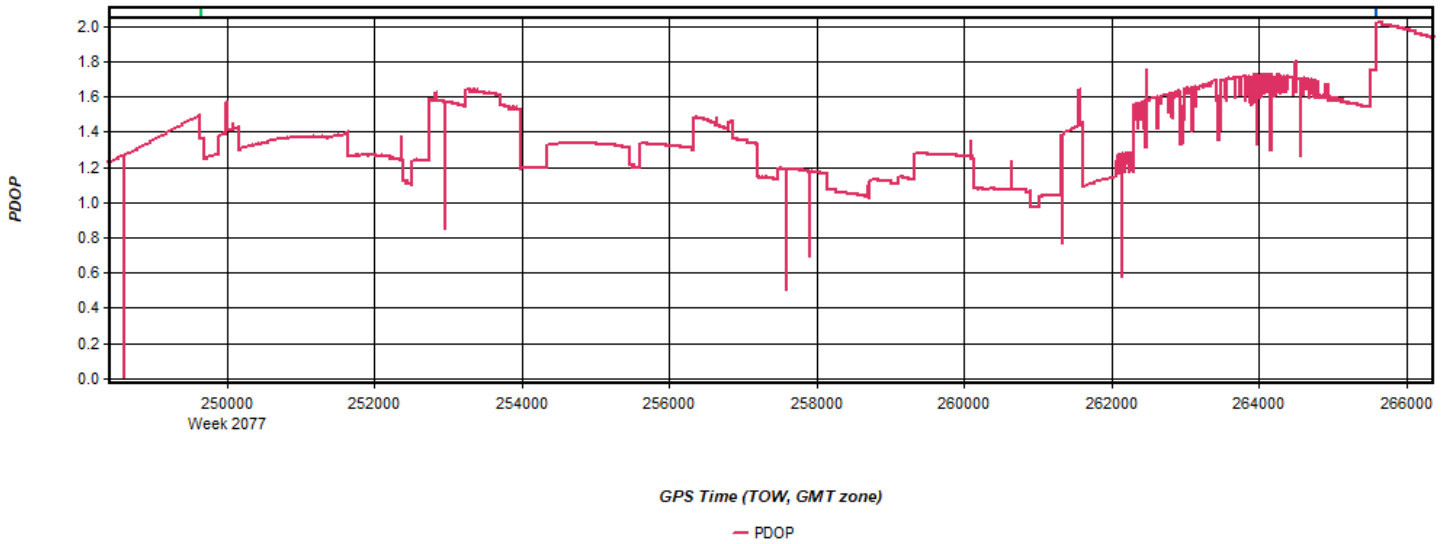


Figure 5: 20191029205852 [Smoothed TC Combined] - Estimated Position Accuracy Plot



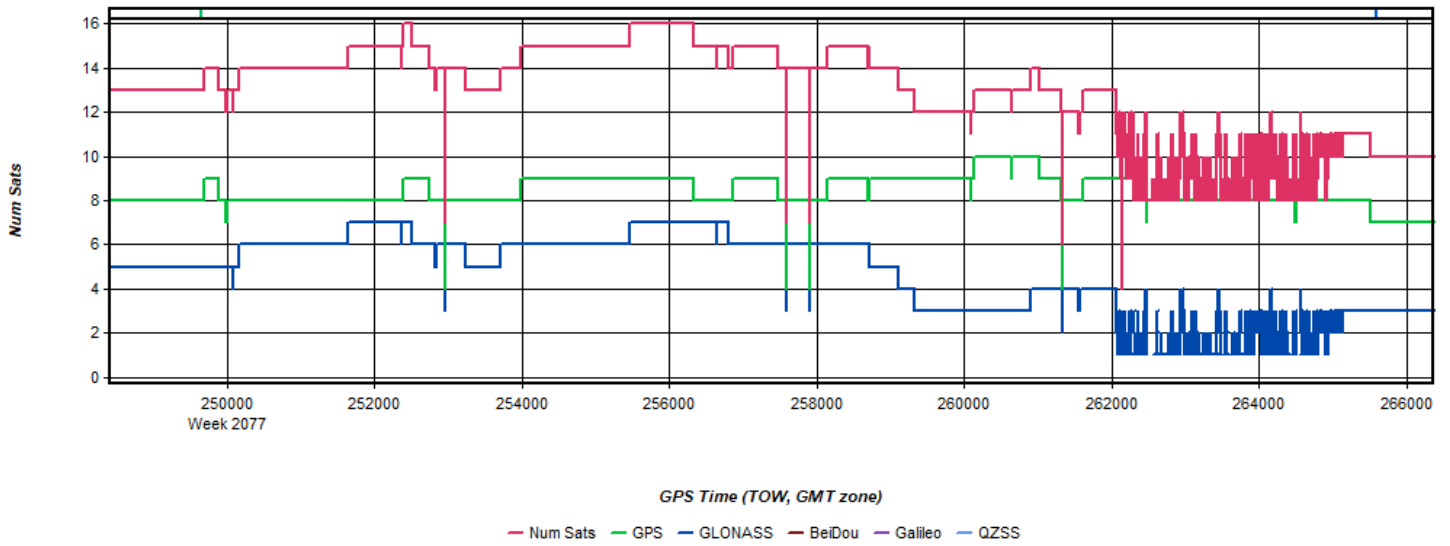
Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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Figure 6: 20191029205852 [Smoothed TC Combined] - PDOP Plot



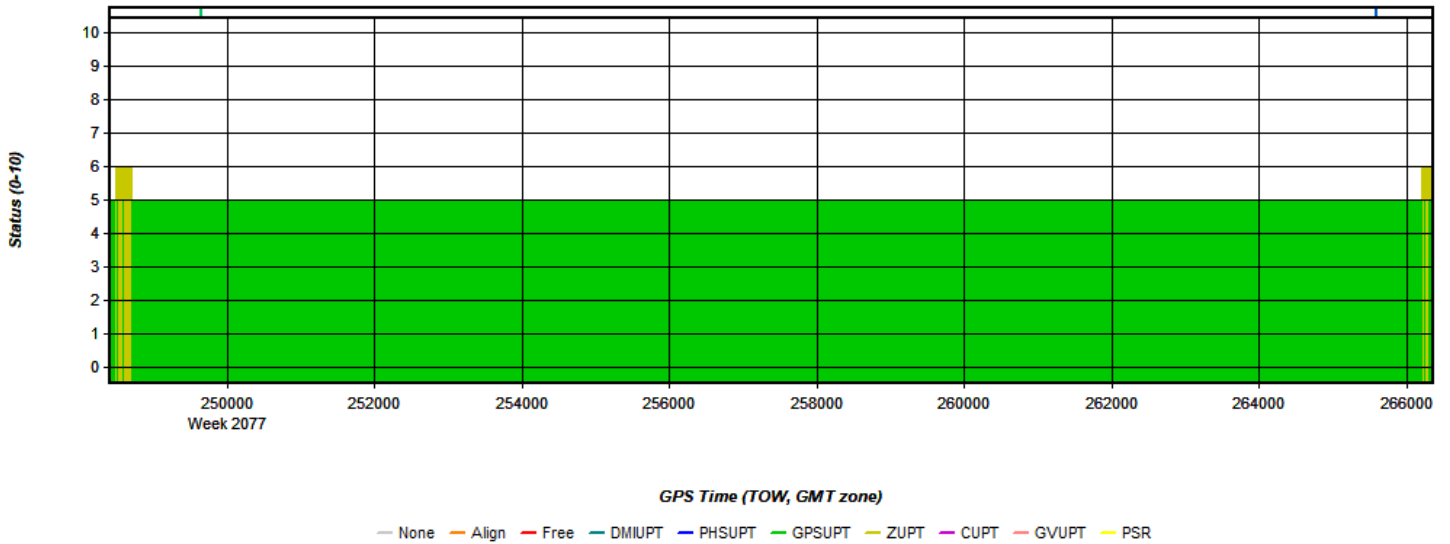
Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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Figure 7: 20191029205852 [Smoothed TC Combined] - Number of Satellites Line Plot



Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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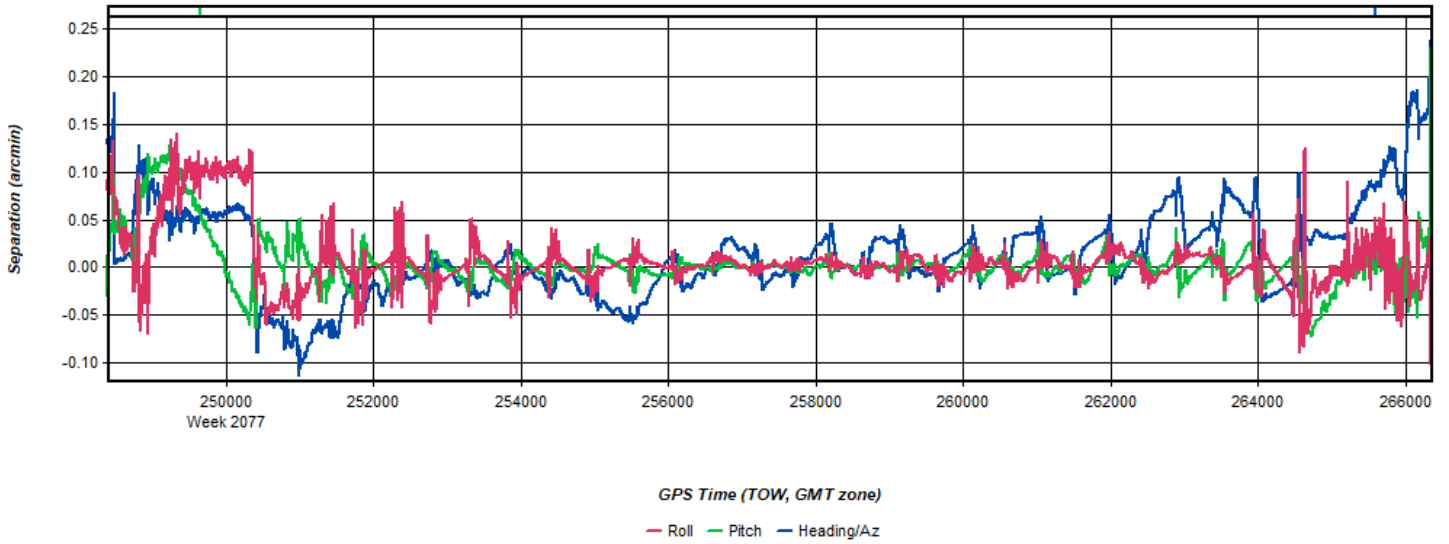
Figure 8: 20191029205852 [Smoothed TC Combined] - Status flag for IMU processing



Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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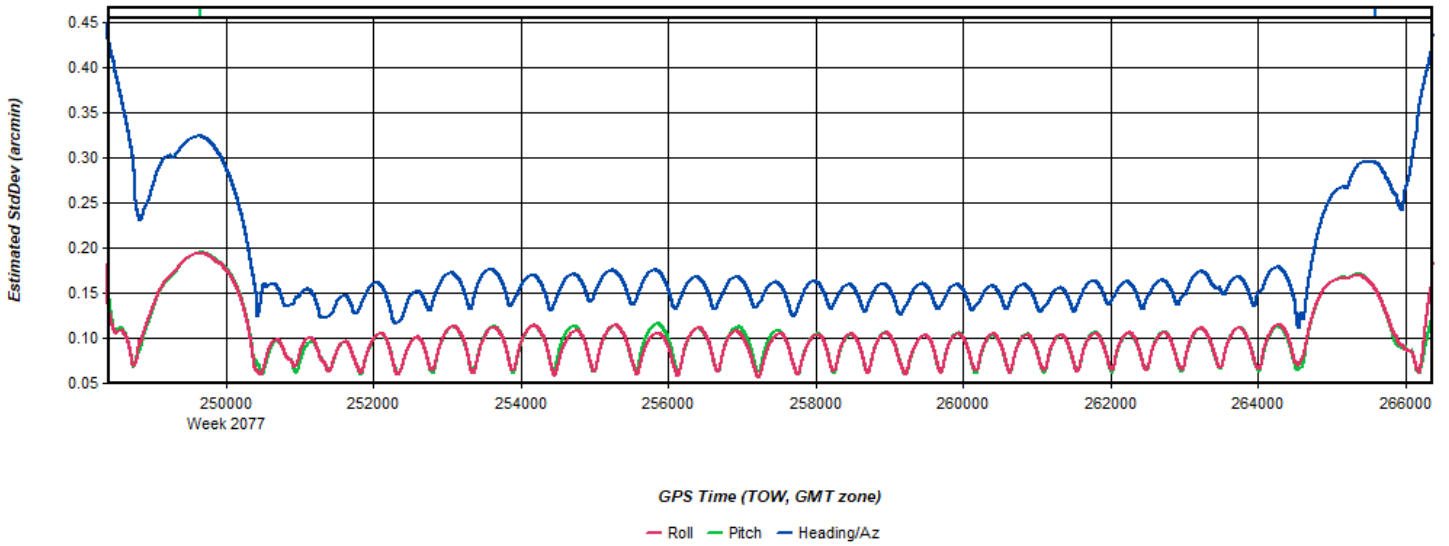
Figure 9: 20191029205852 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot





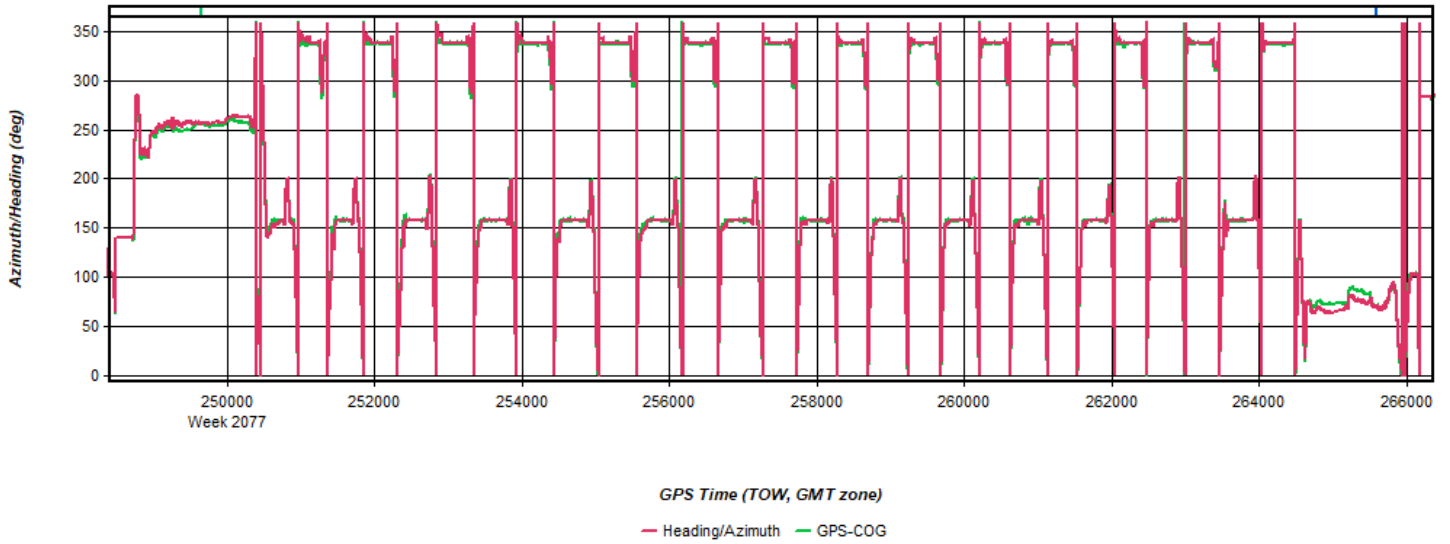
Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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**Figure 10: 20191029205852 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot**



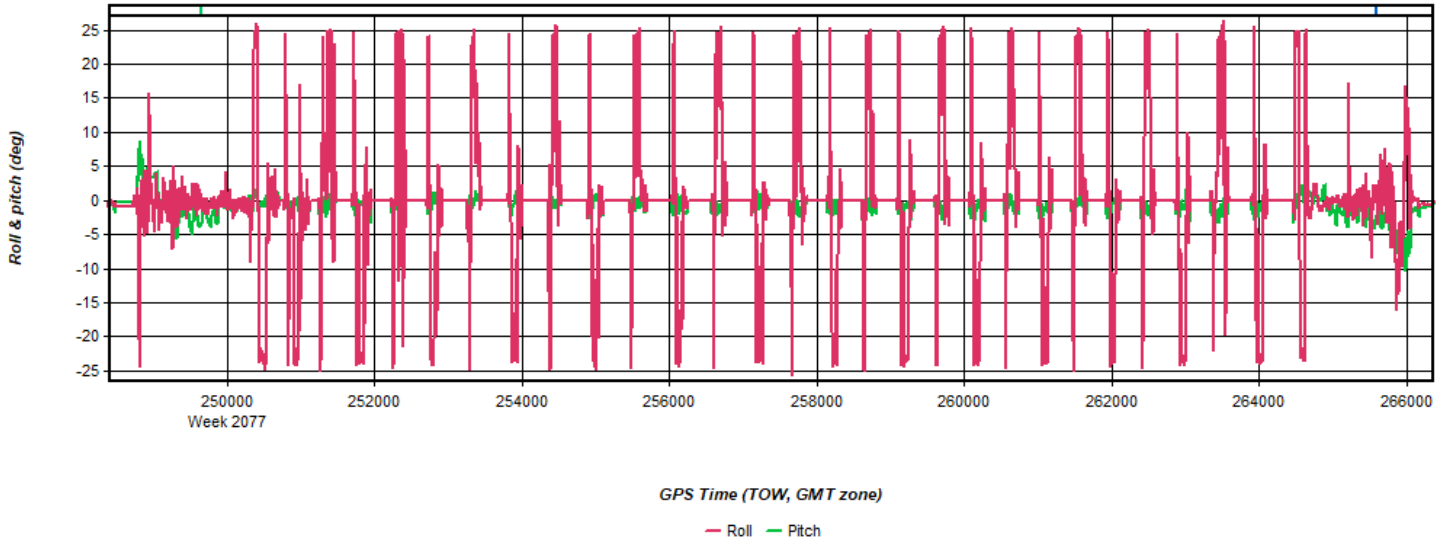
Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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**Figure 11: 20191029205852 [Smoothed TC Combined] - Azimuth Plot**



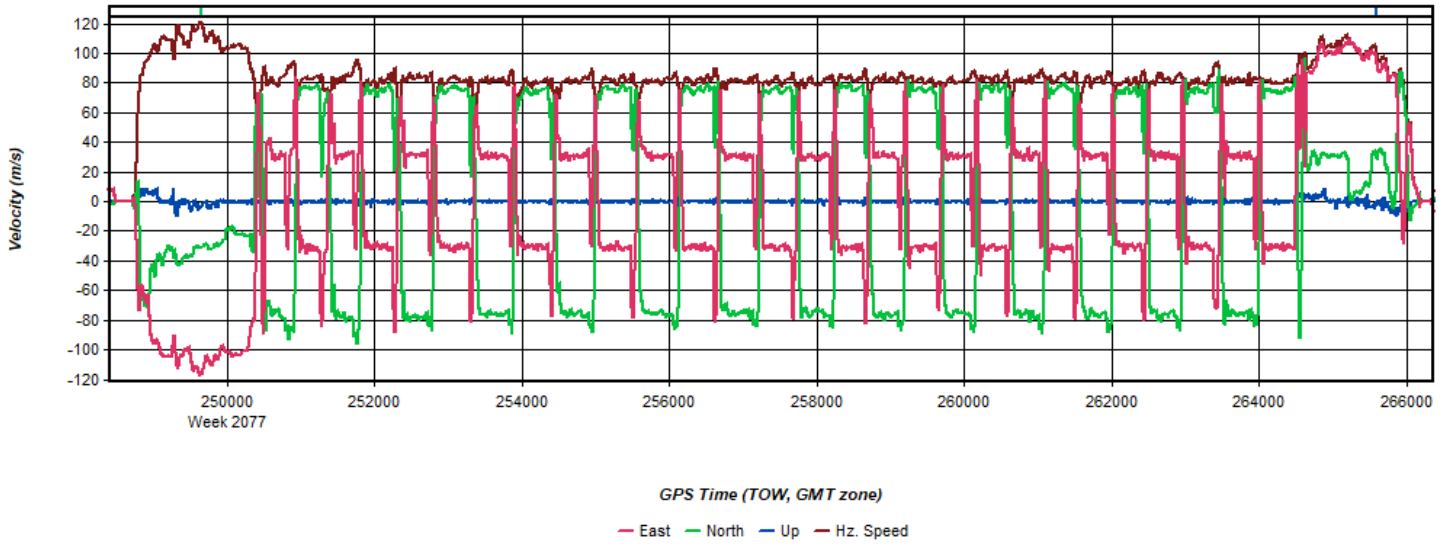
Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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Figure 12: 20191029205852 [Smoothed TC Combined] - Roll & Pitch Plot



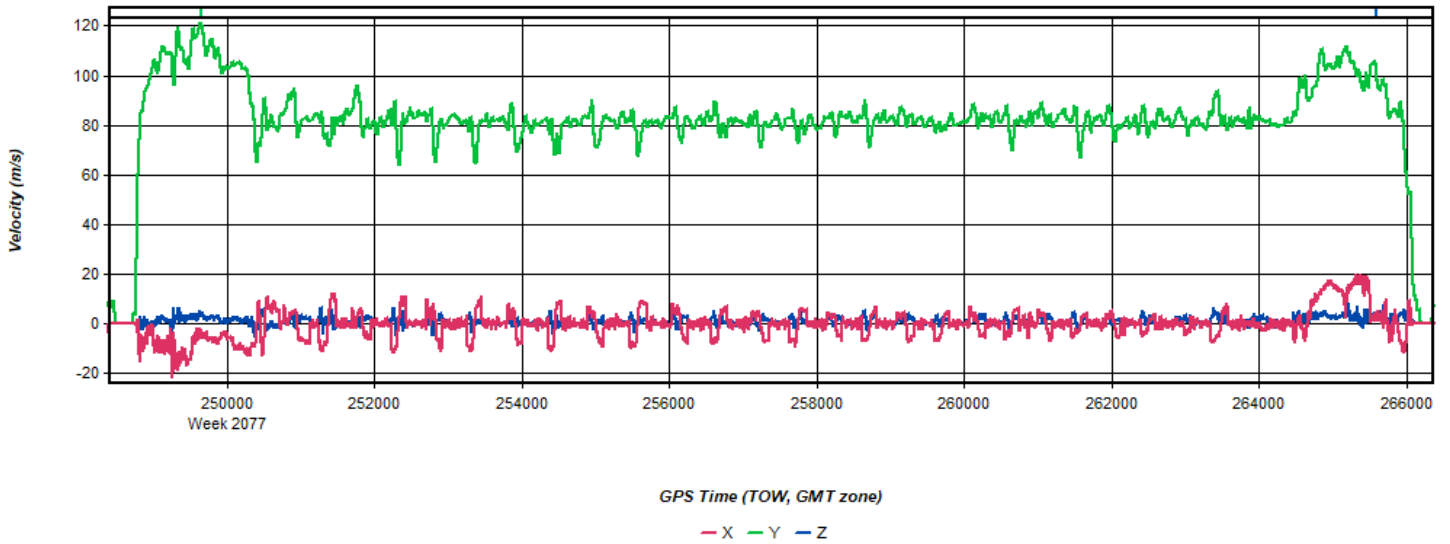
Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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Figure 13: 20191029205852 [Smoothed TC Combined] - Velocity Profile Plot



Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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Figure 14: 20191029205852 [Smoothed TC Combined] - Body Frame Velocity Plot



Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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Figure 15: 20191029205852 [Smoothed TC Combined] - Height Profile Plot

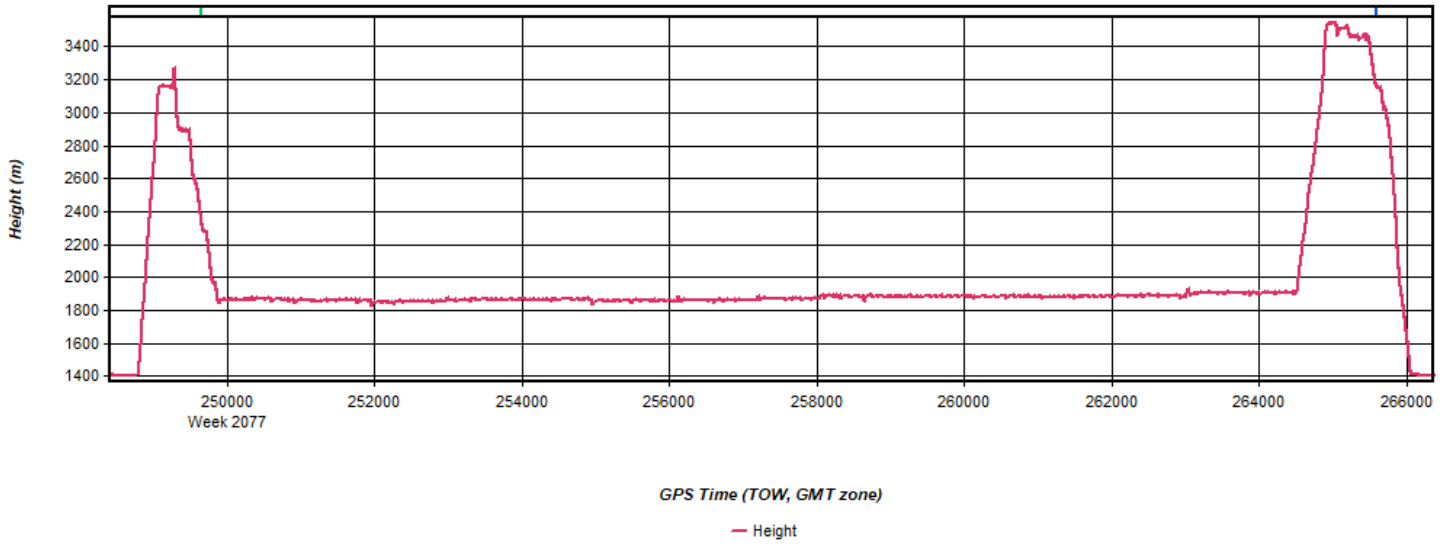


Figure 16: 20191029205852 [Smoothed TC Combined] - C/A Code Residual RMS Plot

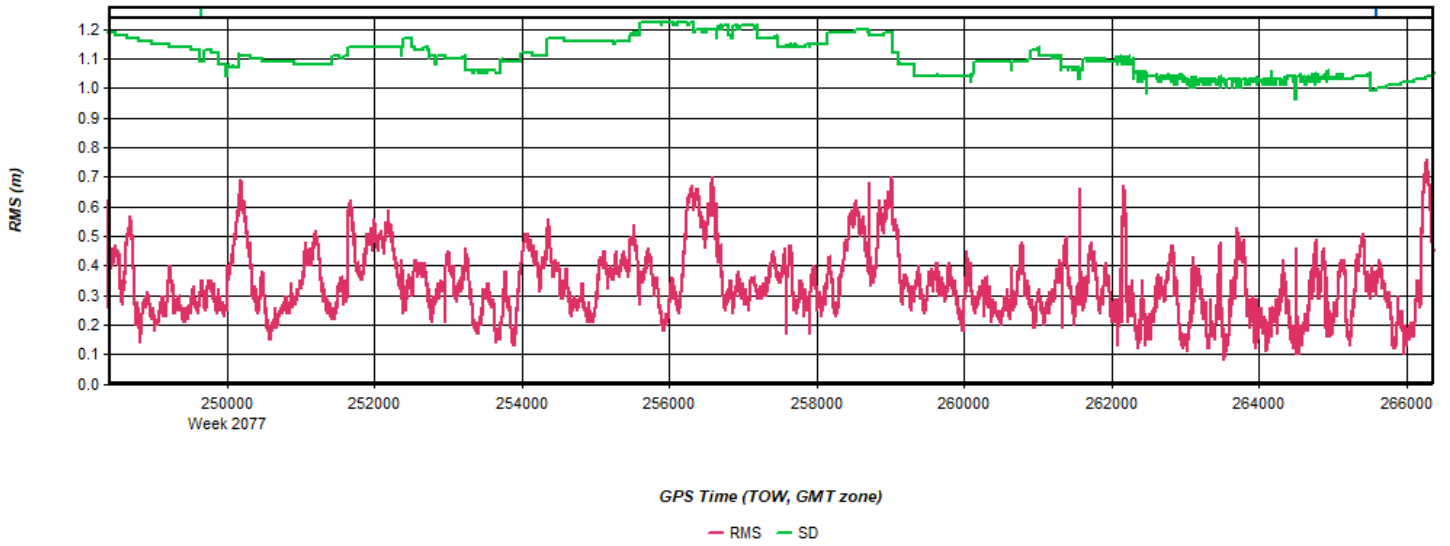


Figure 17: 20191029205852 [Smoothed TC Combined] - Carrier Residual RMS Plot

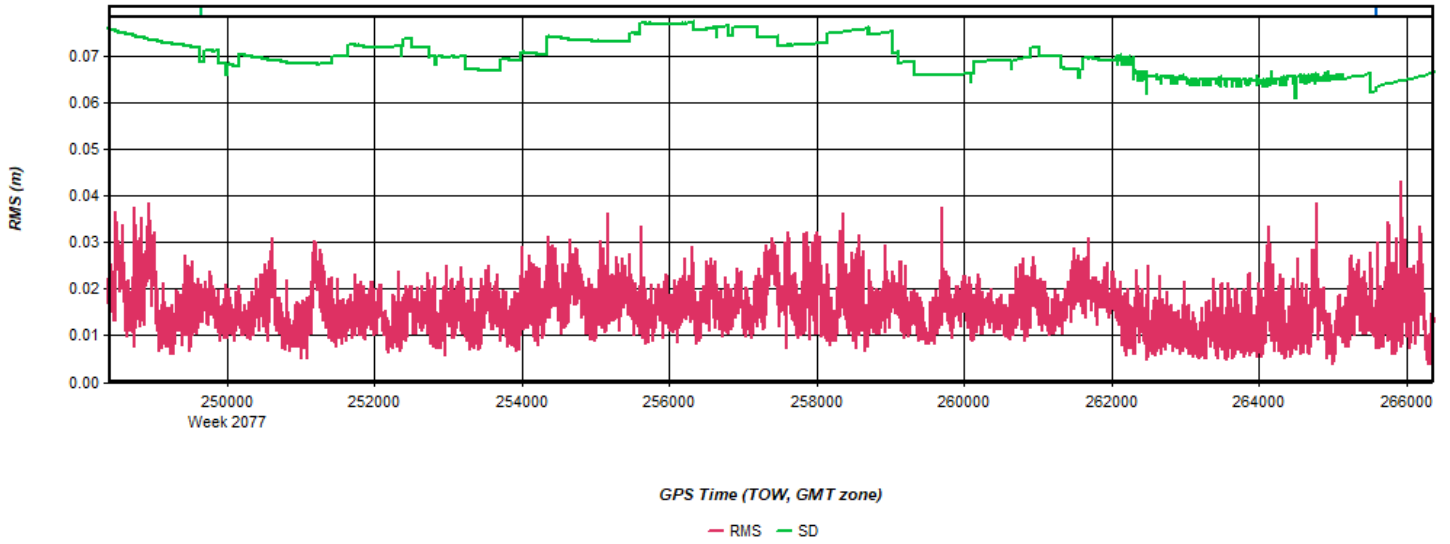


Figure 18: 20191029205852 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot

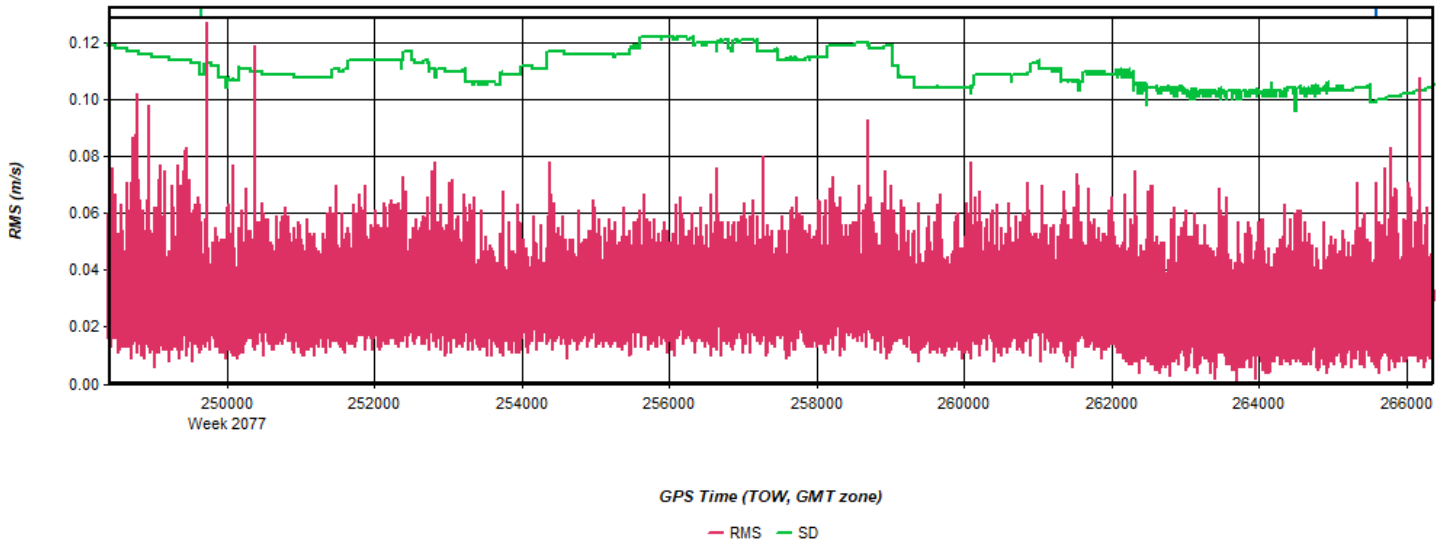
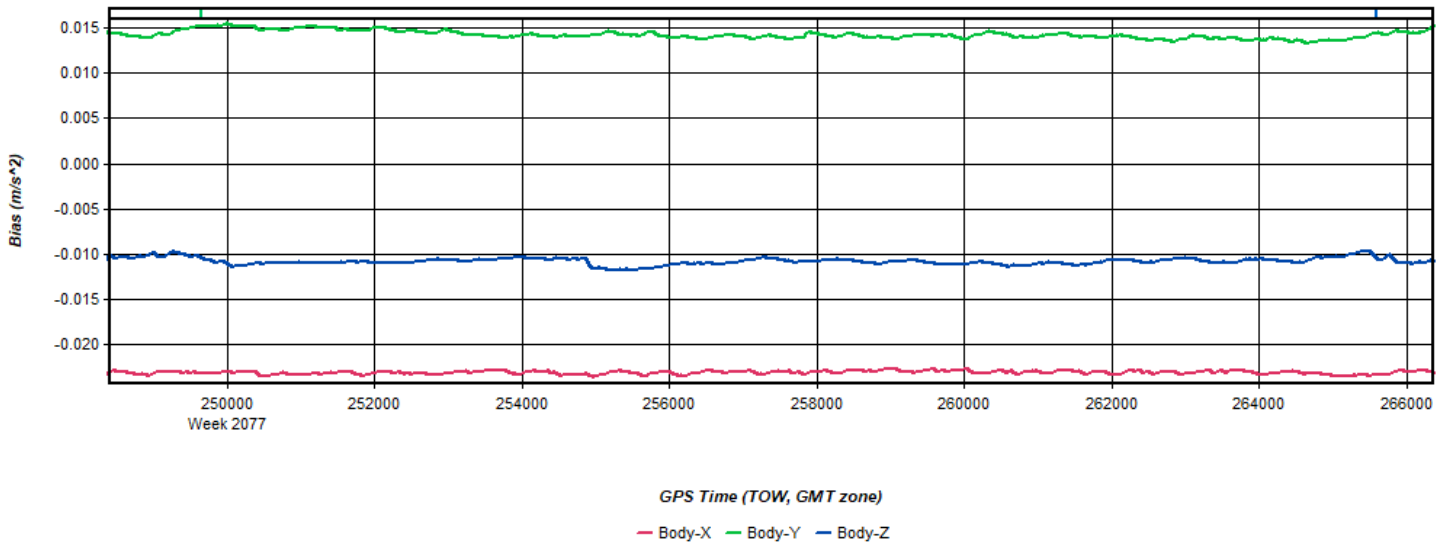
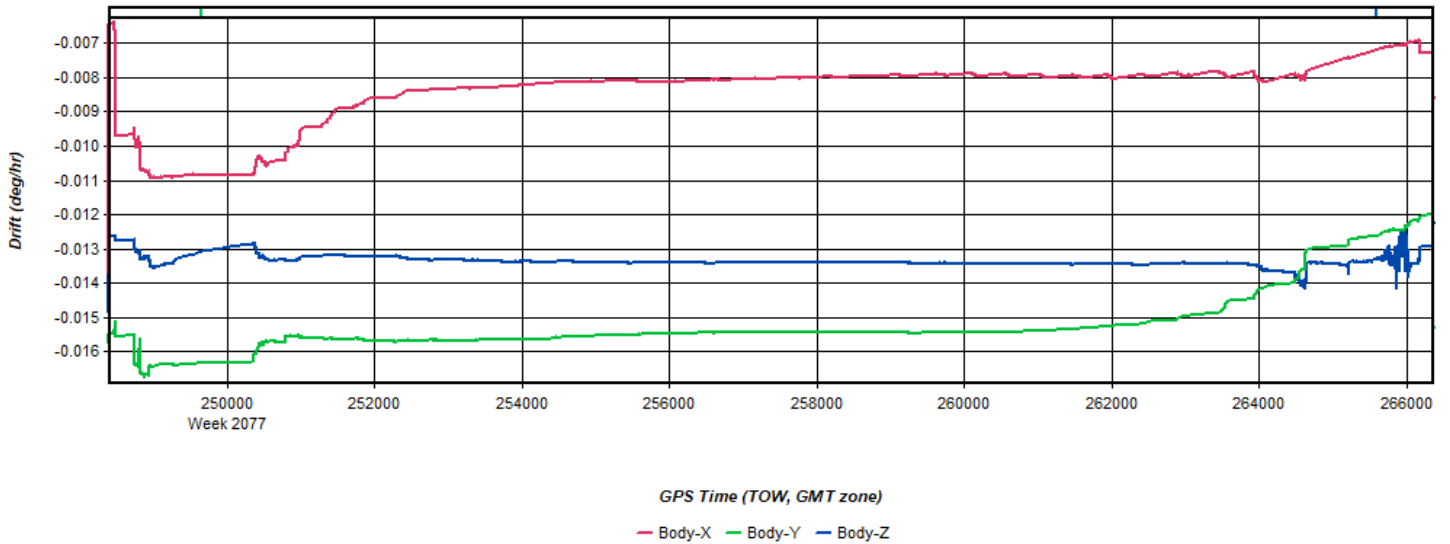


Figure 19: 20191029205852 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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Figure 20: 20191029205852 [Smoothed TC Combined] - Gyro Drift Plot

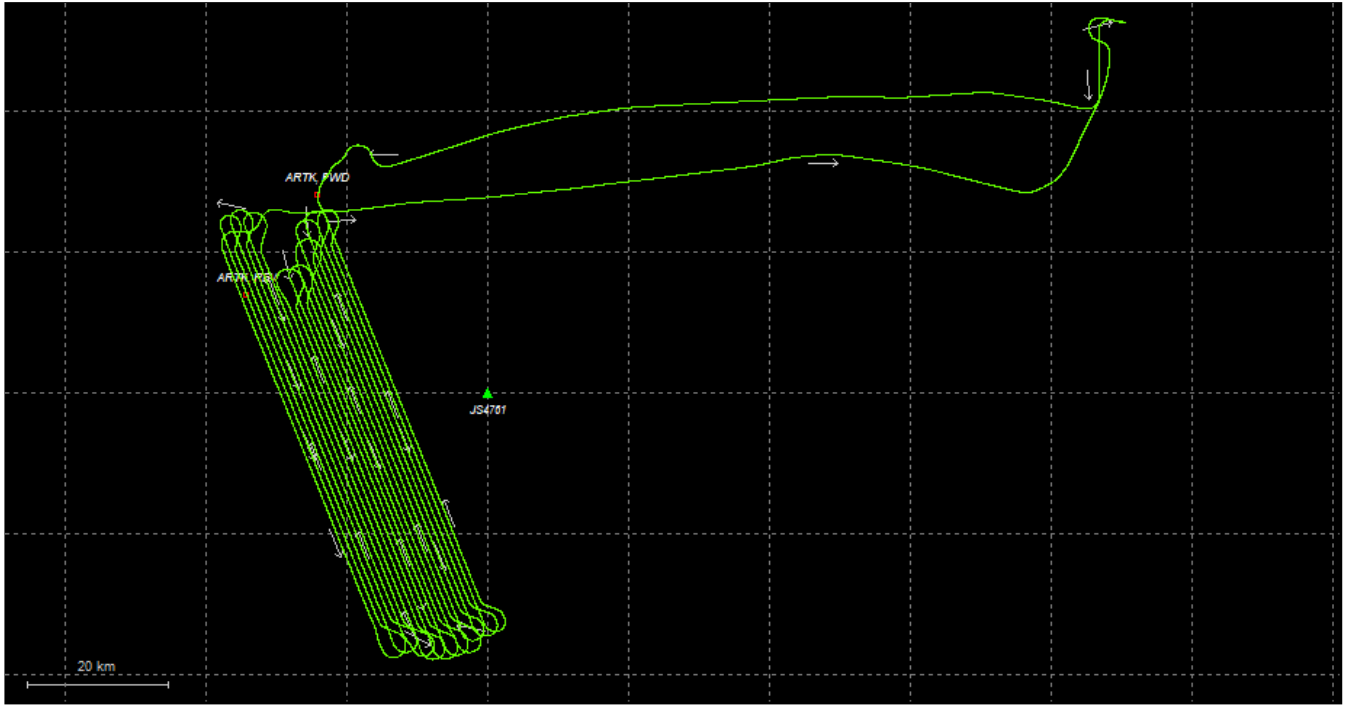


Process	20191029205852	by Unknown	on 11/1/2019	at 21:37:16
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# Output Results for 20191030154124

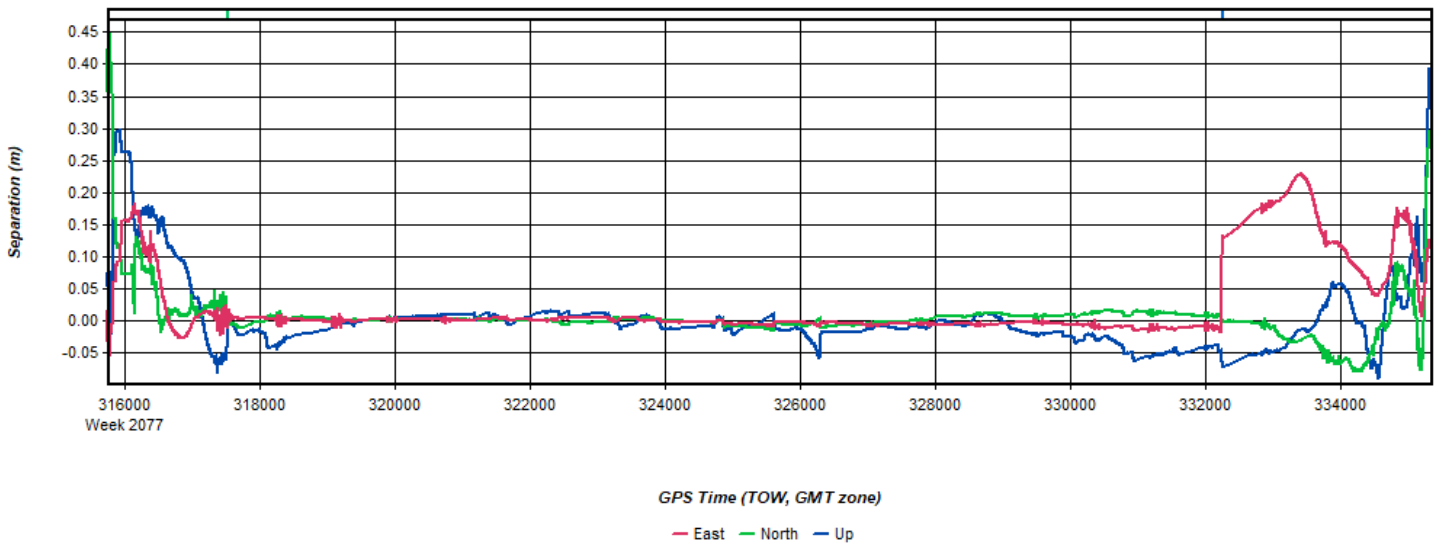
Inertial Explorer Version 8.80.2305  
11/01/2019

Figure 1: Smoothed TC Combined - Map



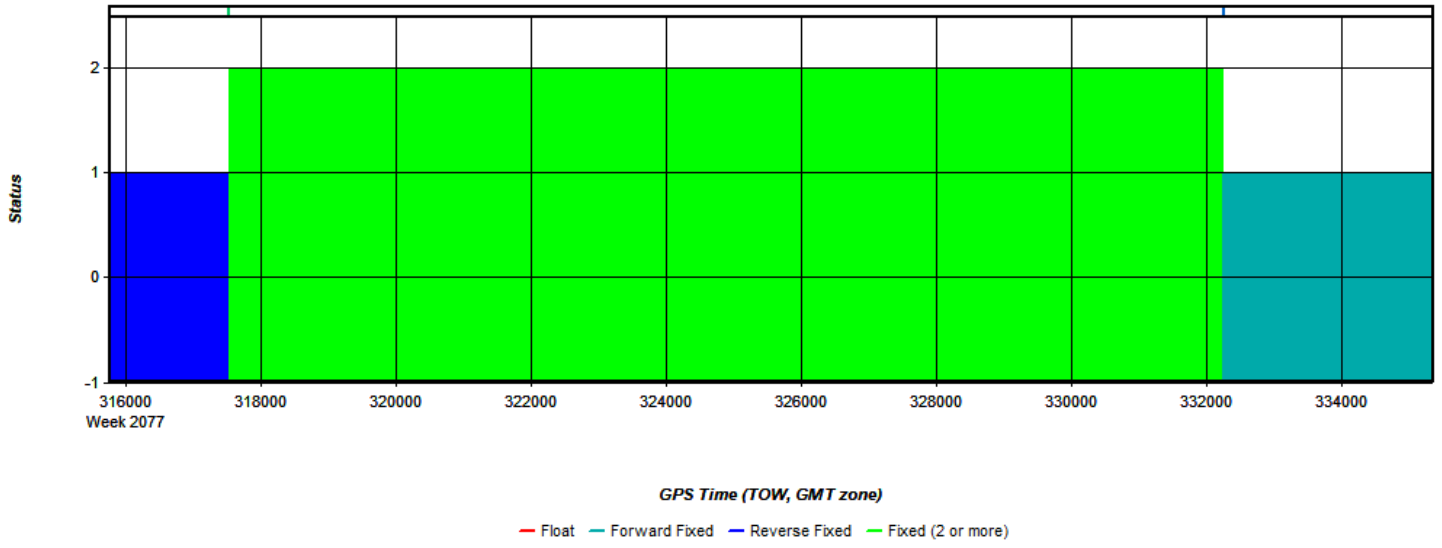
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 2: 20191030154124 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



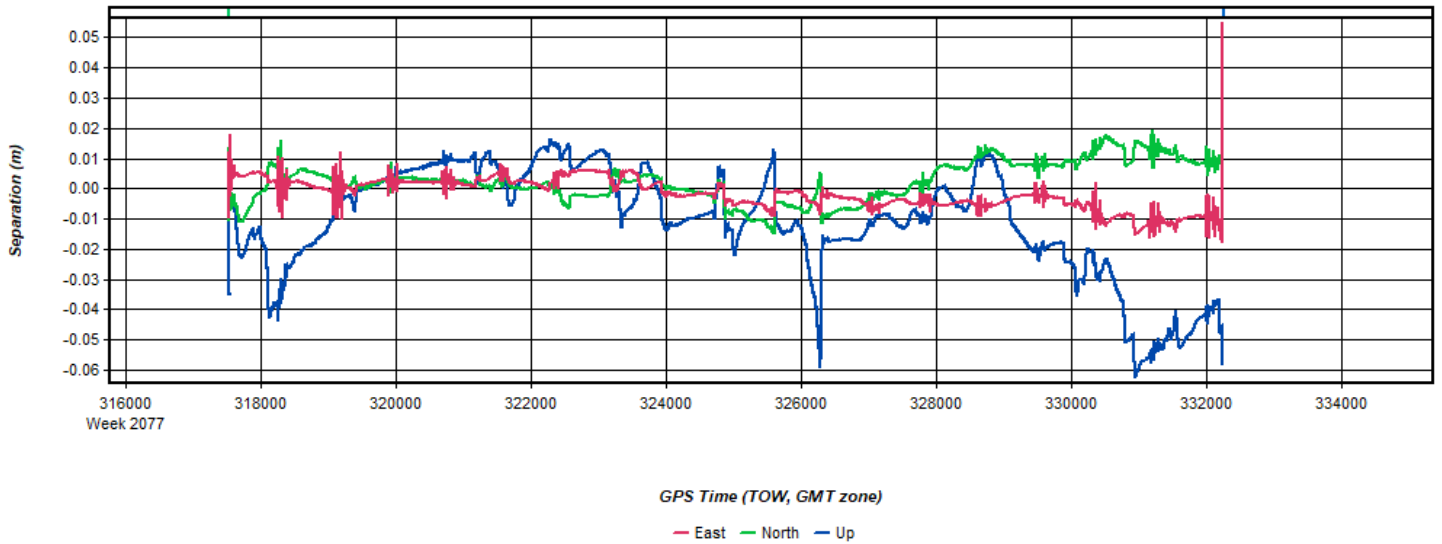
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 3: 20191030154124 [Smoothed TC Combined] - Float or Fixed Ambiguity



Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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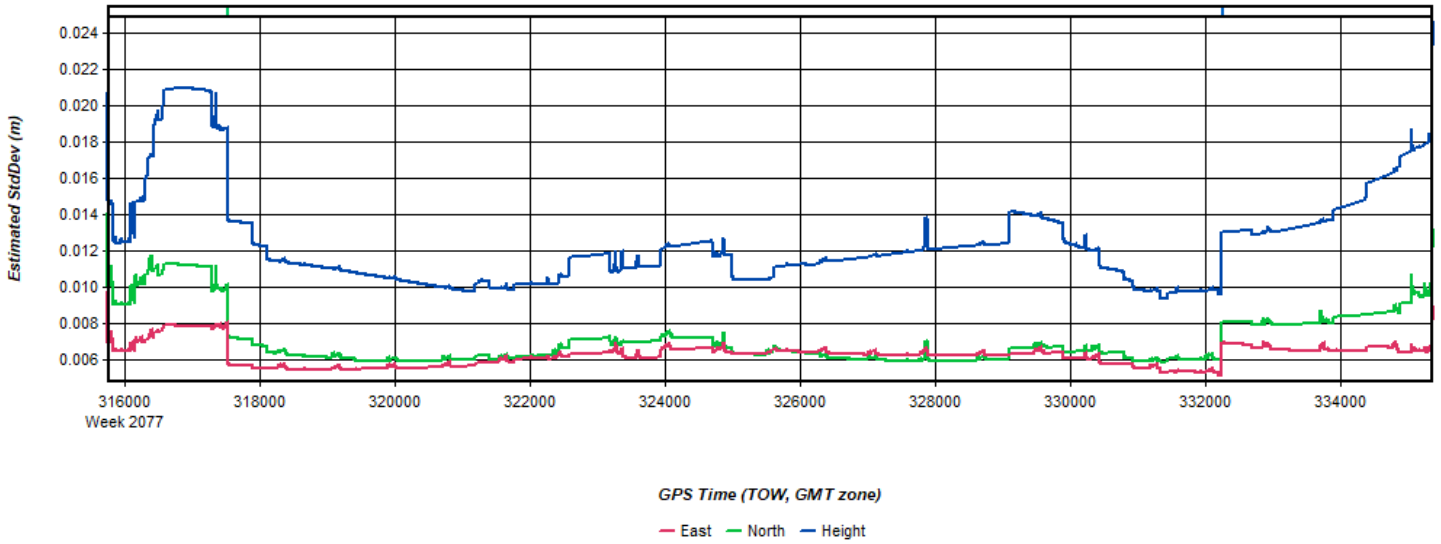
Figure 4: 20191030154124 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)



Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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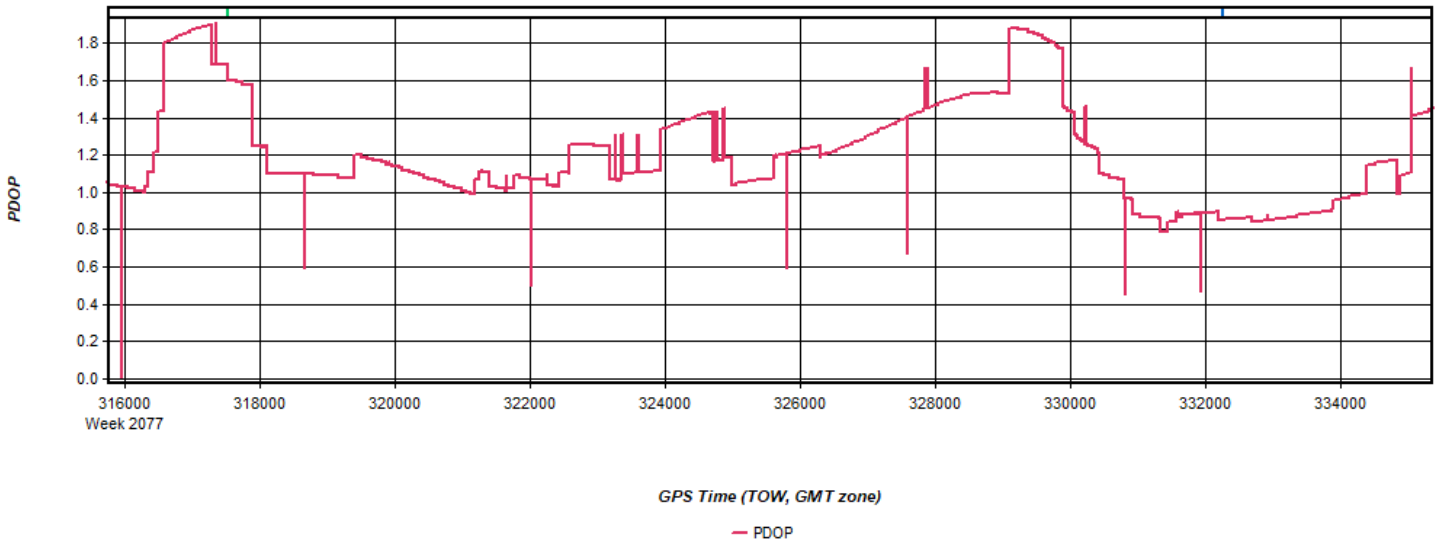
Figure 5: 20191030154124 [Smoothed TC Combined] - Estimated Position Accuracy Plot





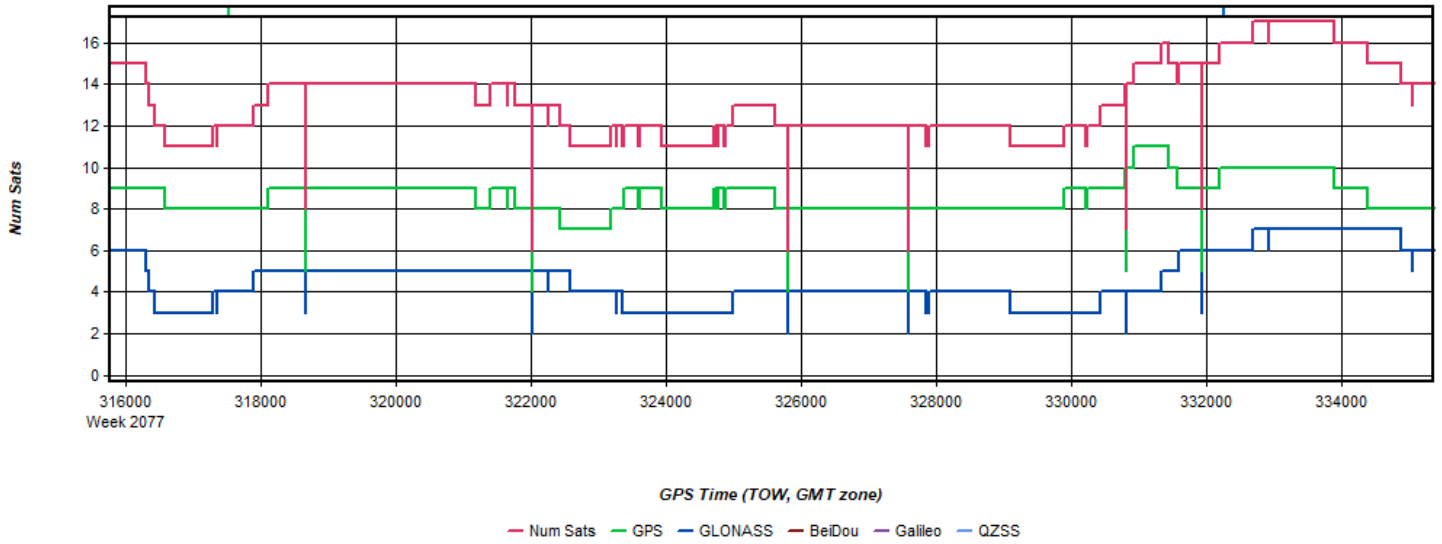
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 6: 20191030154124 [Smoothed TC Combined] - PDOP Plot



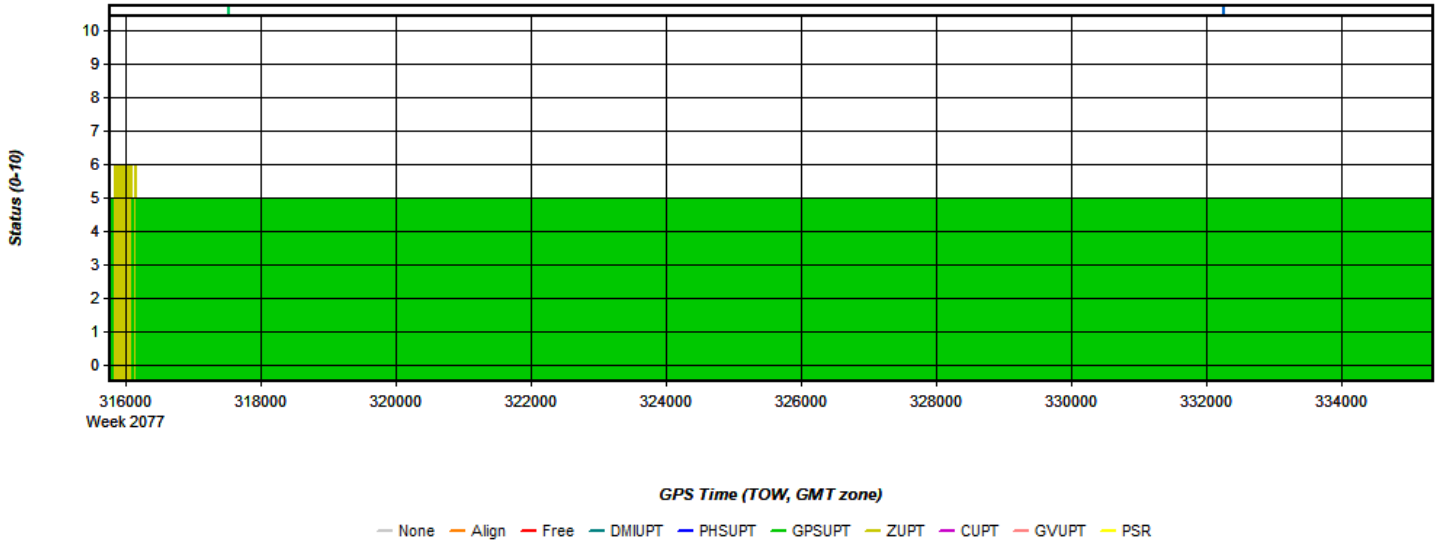
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 7: 20191030154124 [Smoothed TC Combined] - Number of Satellites Line Plot



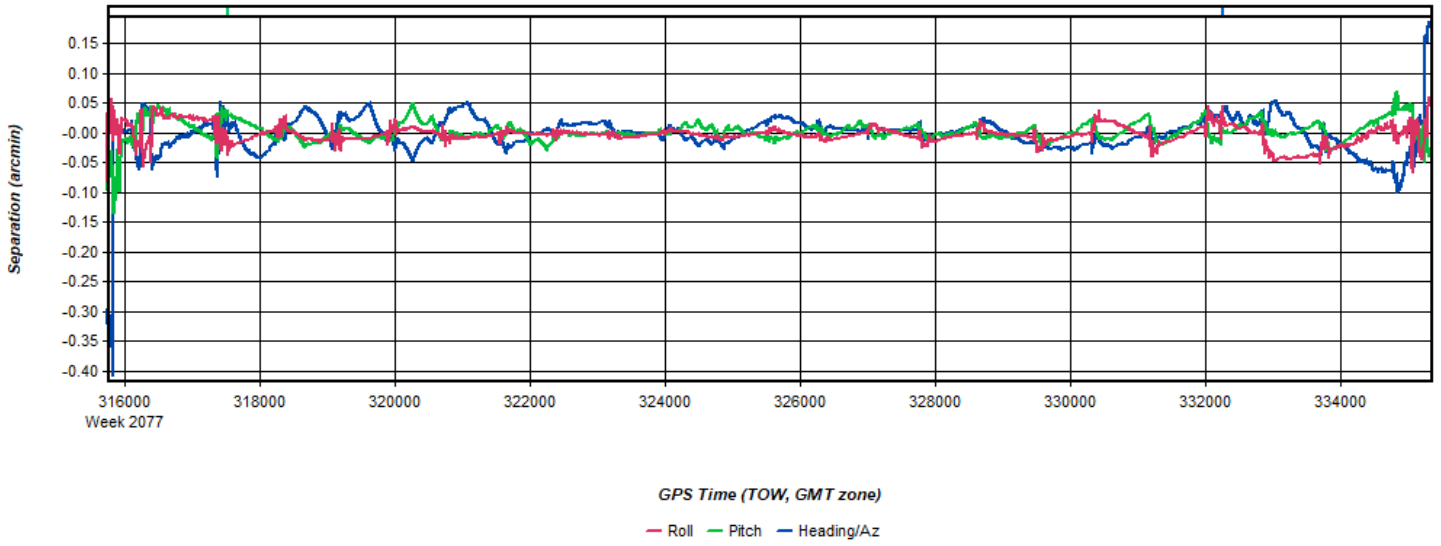
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 8: 20191030154124 [Smoothed TC Combined] - Status flag for IMU processing



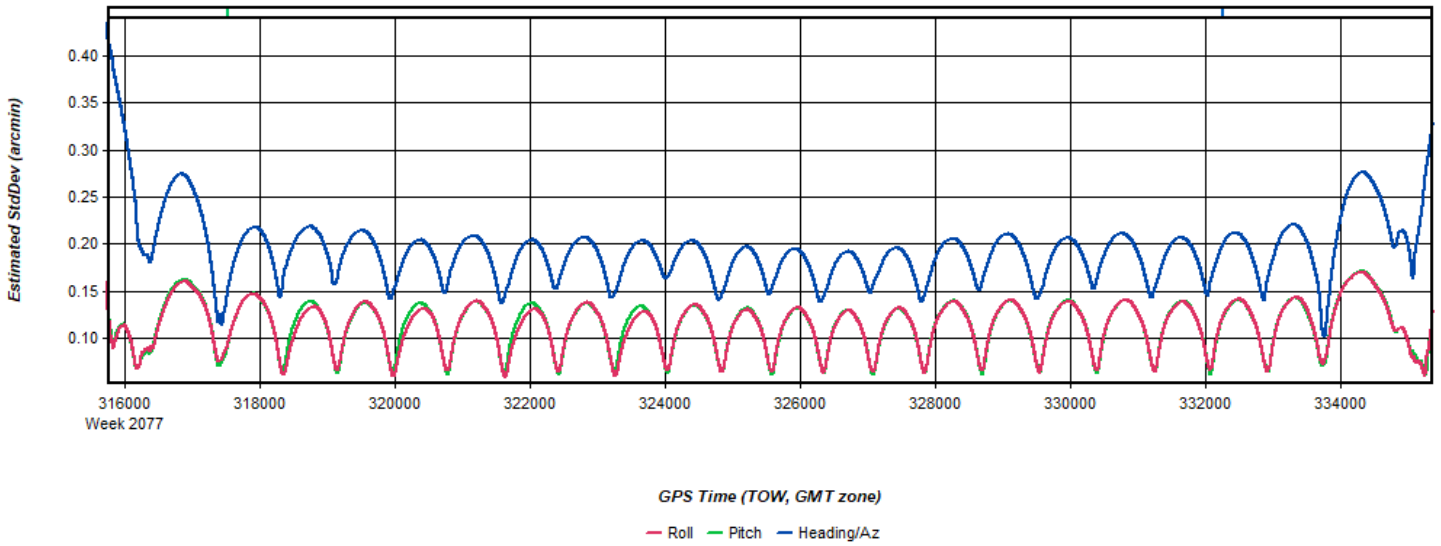
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 9: 20191030154124 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



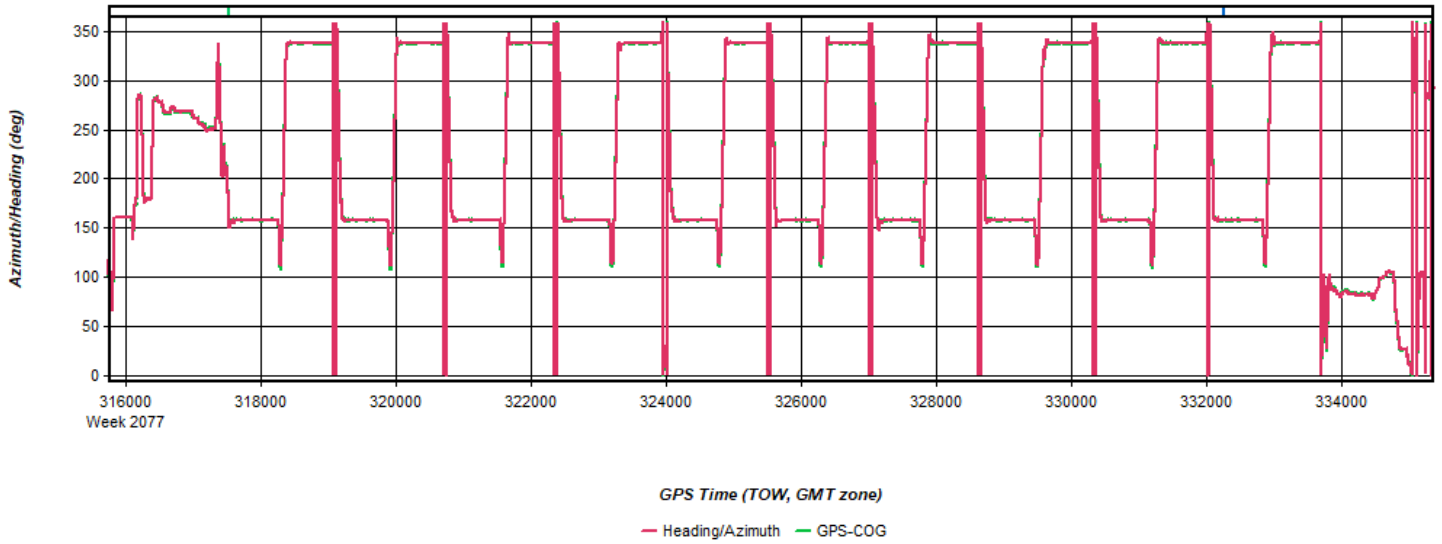
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 10: 20191030154124 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



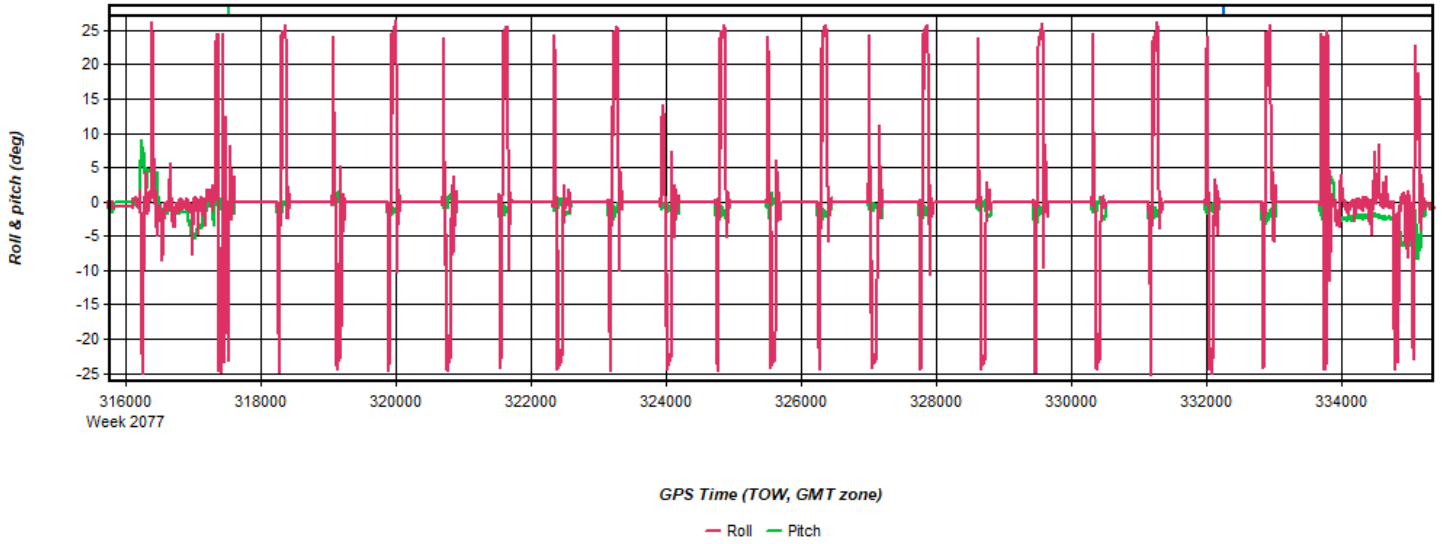
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 11: 20191030154124 [Smoothed TC Combined] - Azimuth Plot



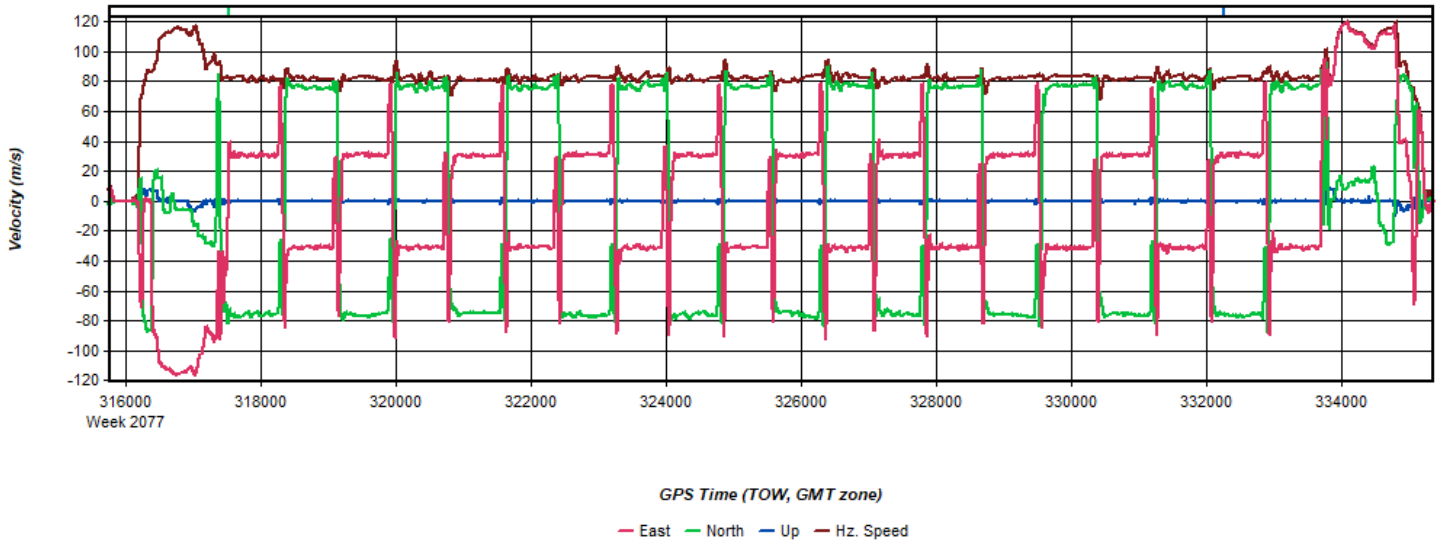
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 12: 20191030154124 [Smoothed TC Combined] - Roll & Pitch Plot



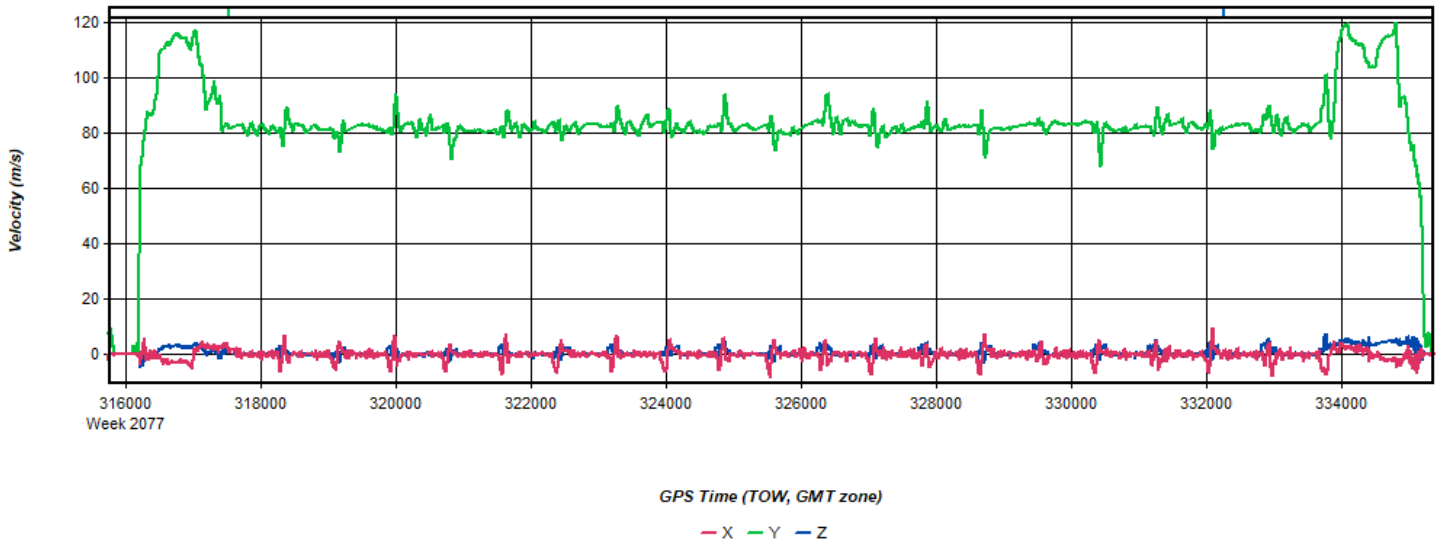
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 13: 20191030154124 [Smoothed TC Combined] - Velocity Profile Plot



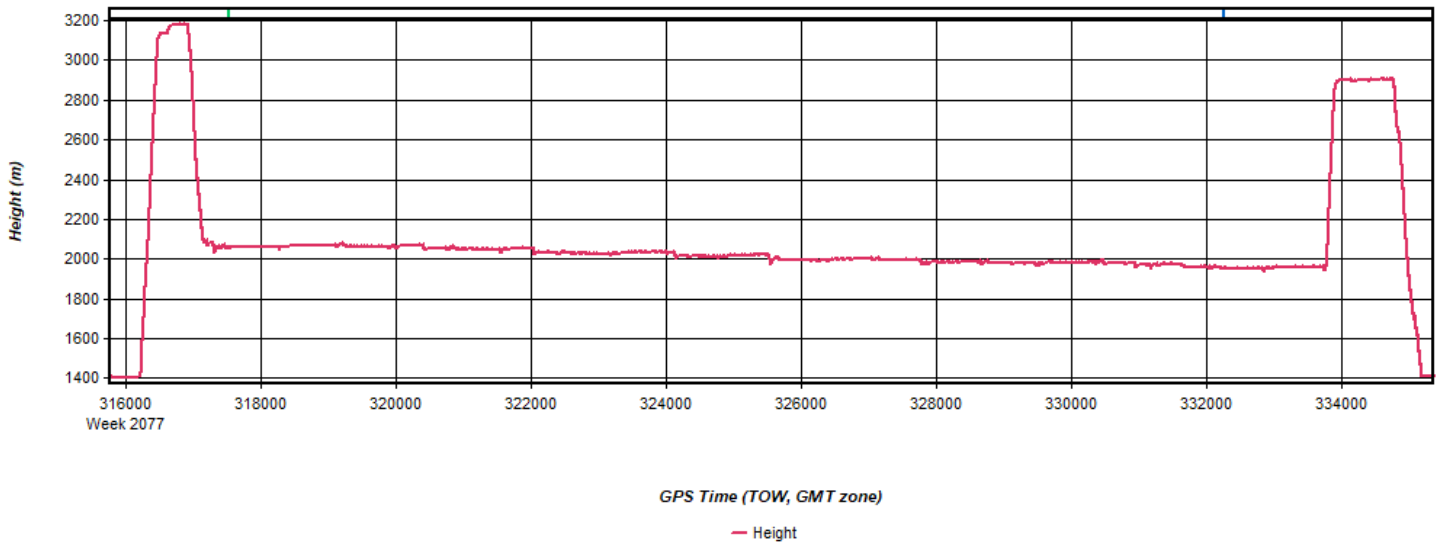
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 14: 20191030154124 [Smoothed TC Combined] - Body Frame Velocity Plot



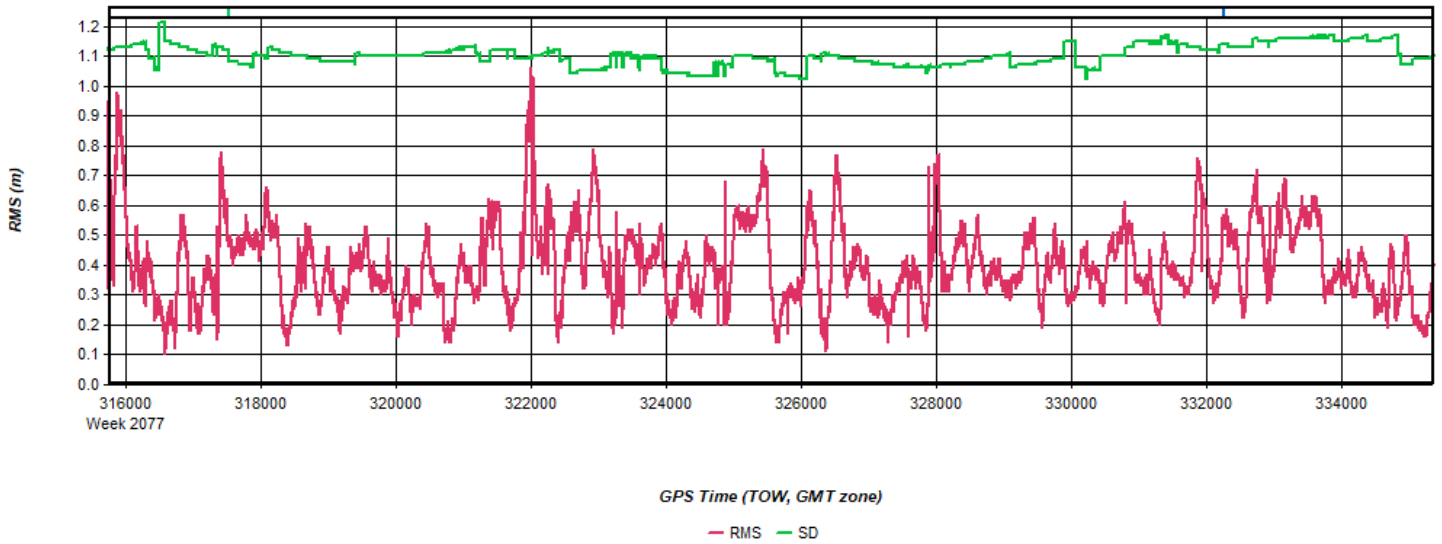
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 15: 20191030154124 [Smoothed TC Combined] - Height Profile Plot



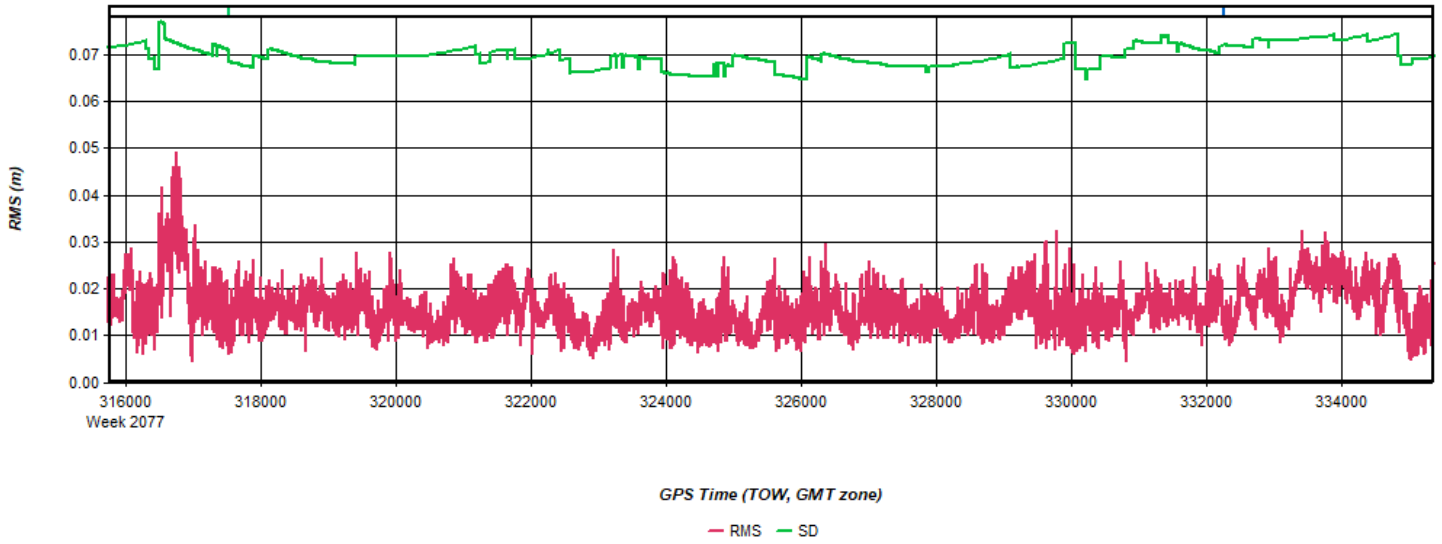
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 16: 20191030154124 [Smoothed TC Combined] - C/A Code Residual RMS Plot



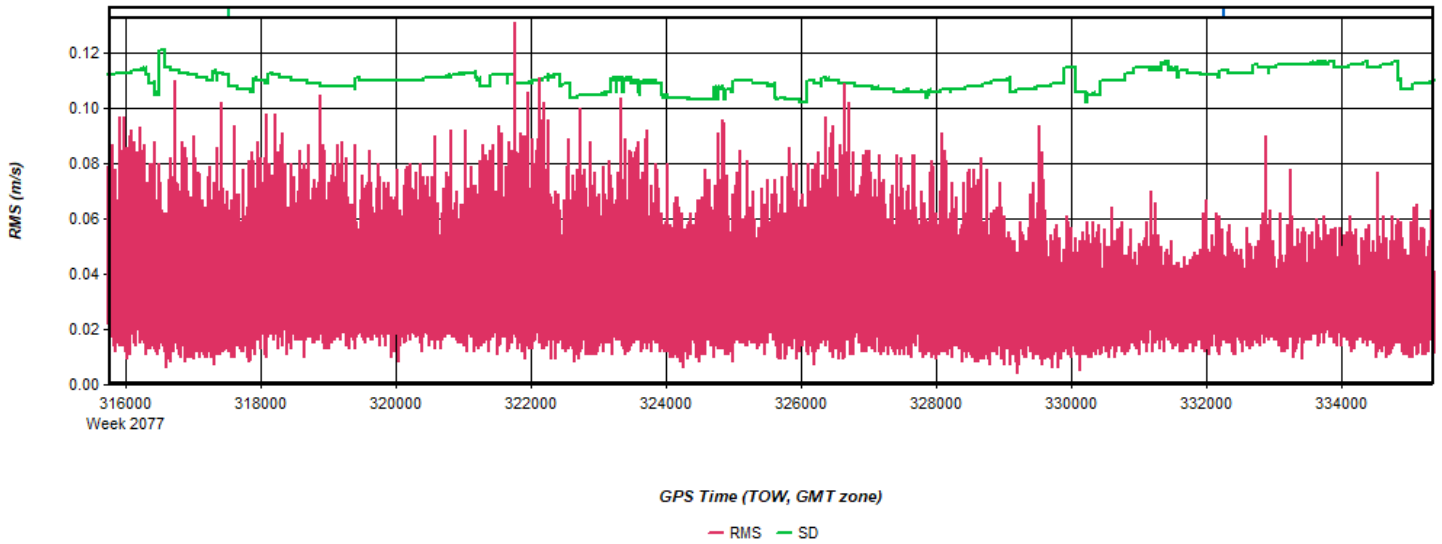
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 17: 20191030154124 [Smoothed TC Combined] - Carrier Residual RMS Plot



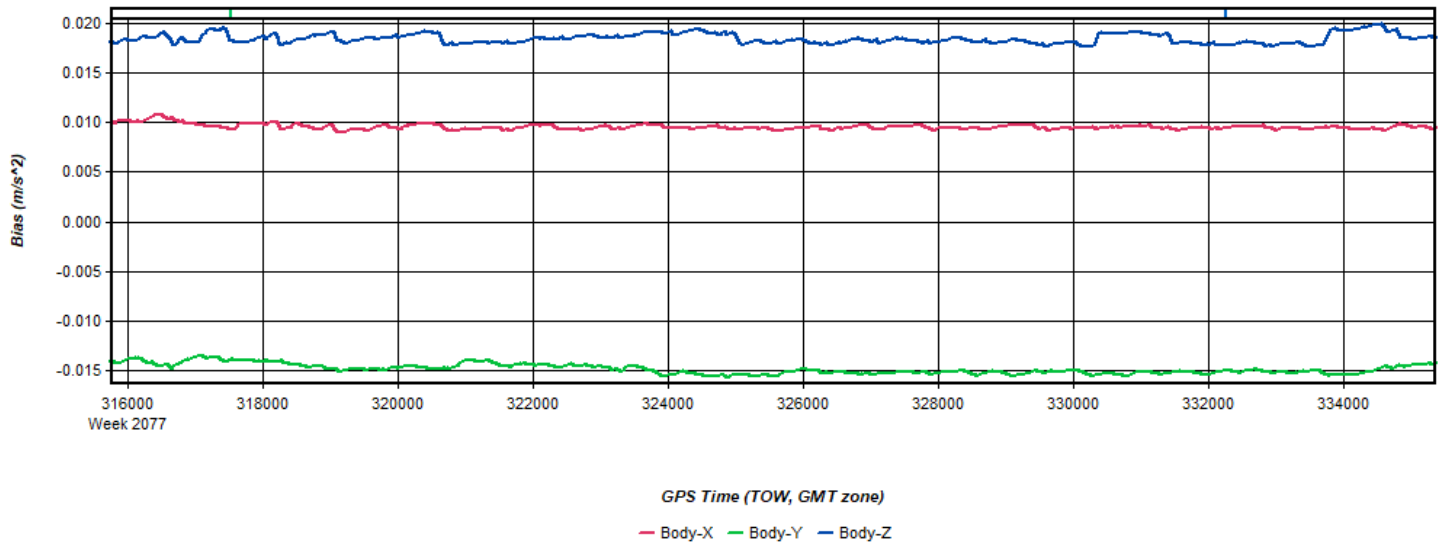
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 18: 20191030154124 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



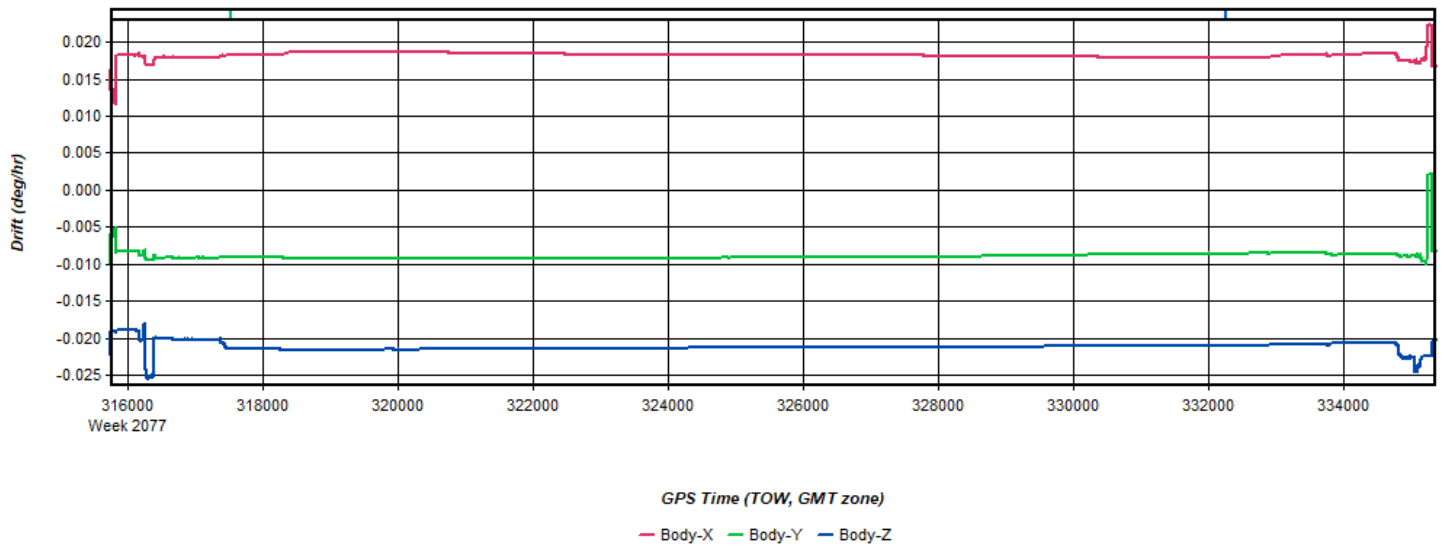
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 19: 20191030154124 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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Figure 20: 20191030154124 [Smoothed TC Combined] - Gyro Drift Plot



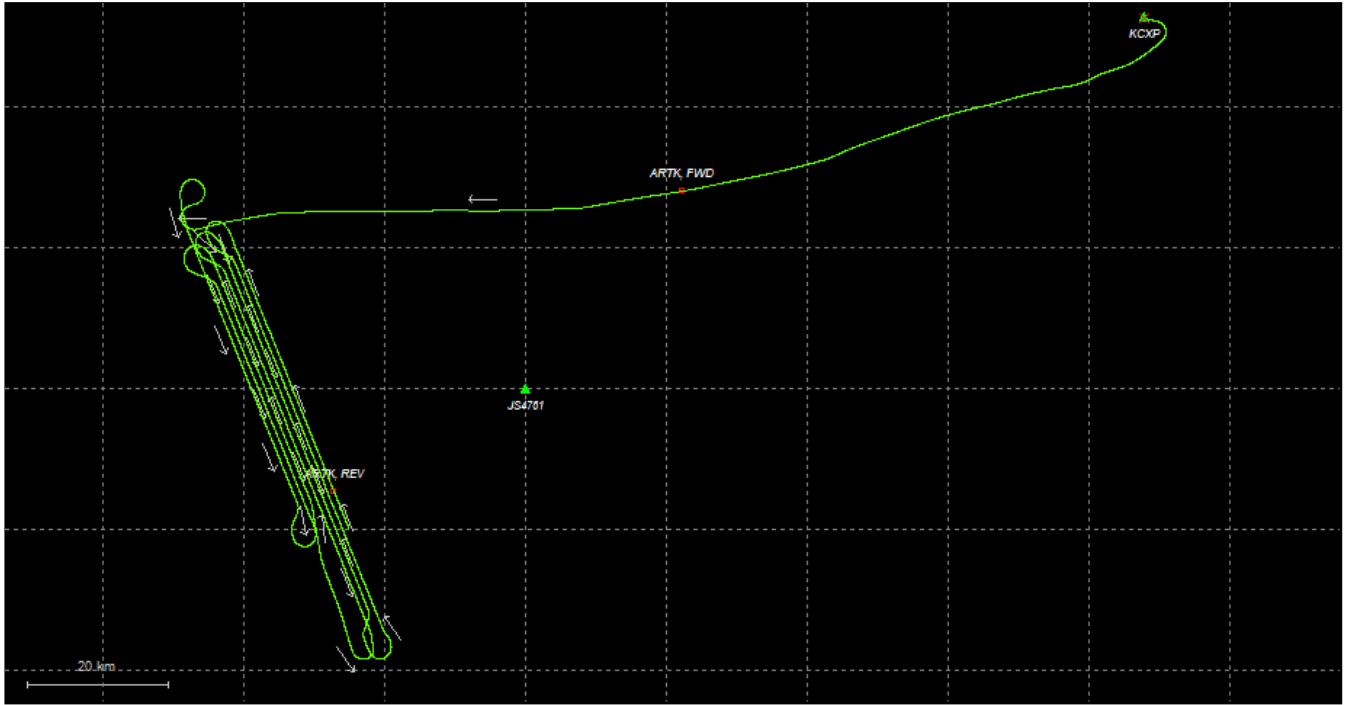
Process	20191030154124	by Unknown	on 11/1/2019	at 16:50:21
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# Output Results for 20191030214402

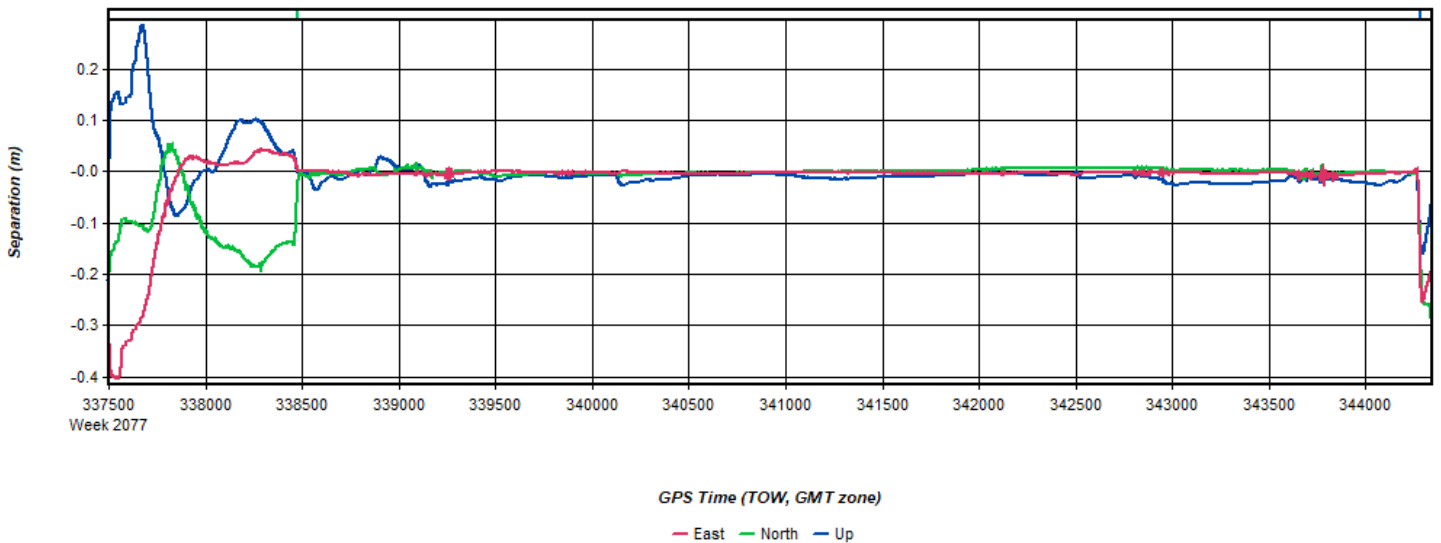
Inertial Explorer Version 8.80.2305  
11/01/2019

Figure 1: Smoothed TC Combined - Map



Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 2: 20191030214402 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 3: 20191030214402 [Smoothed TC Combined] - Float or Fixed Ambiguity

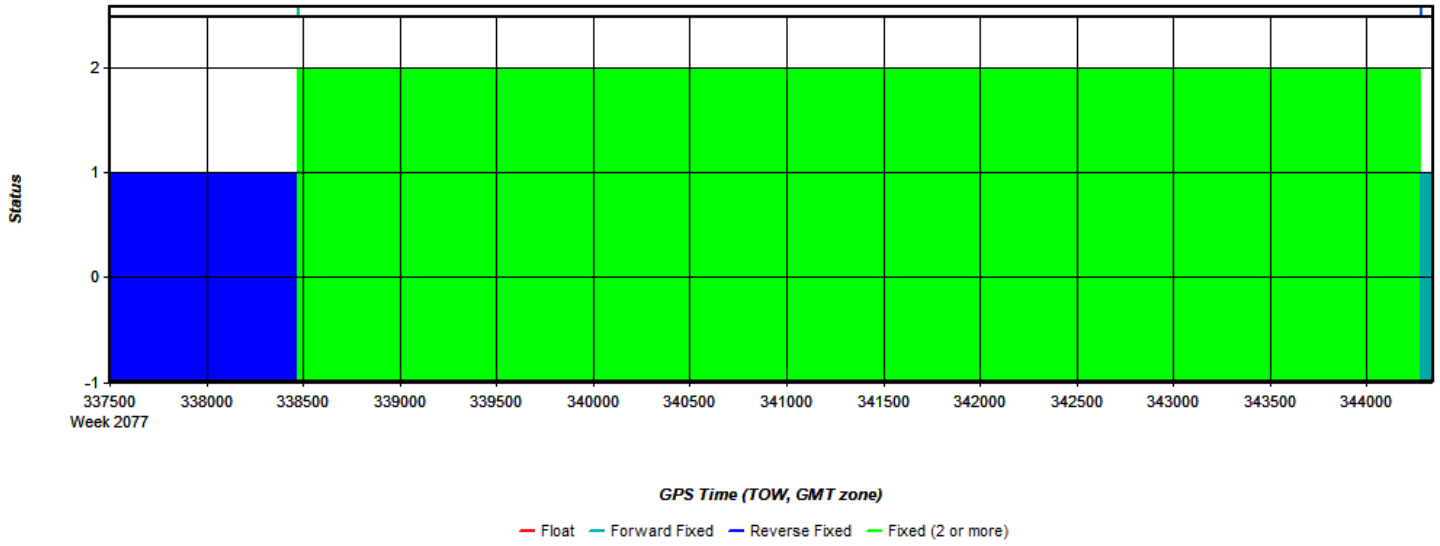


Figure 4: 20191030214402 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)

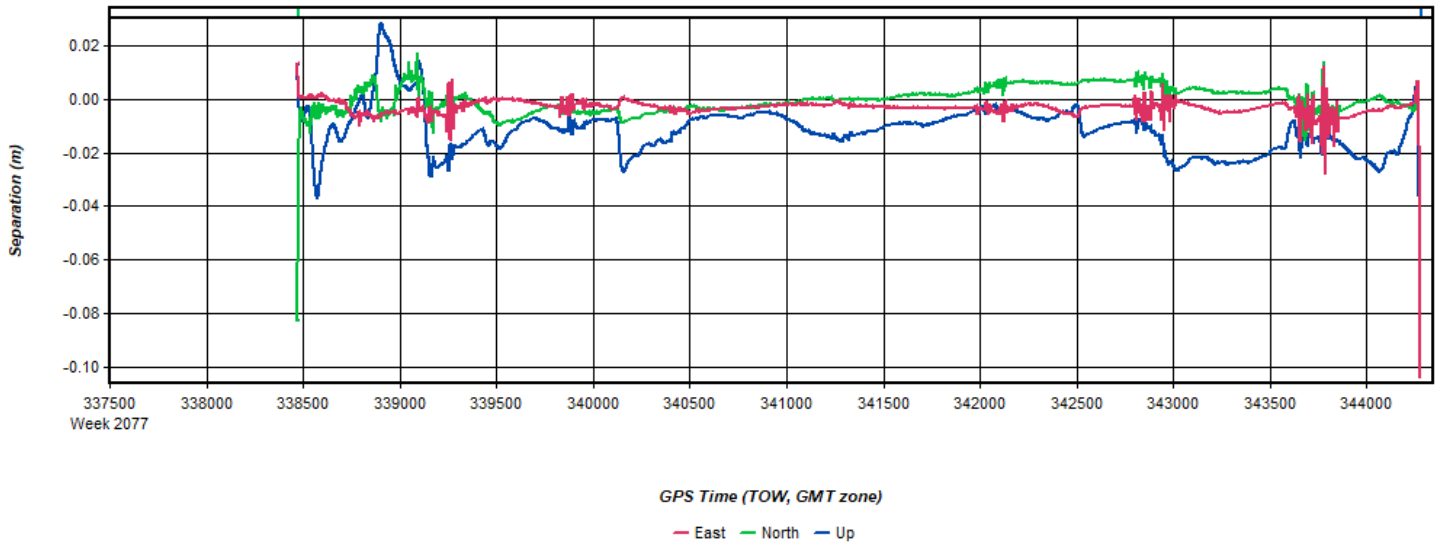
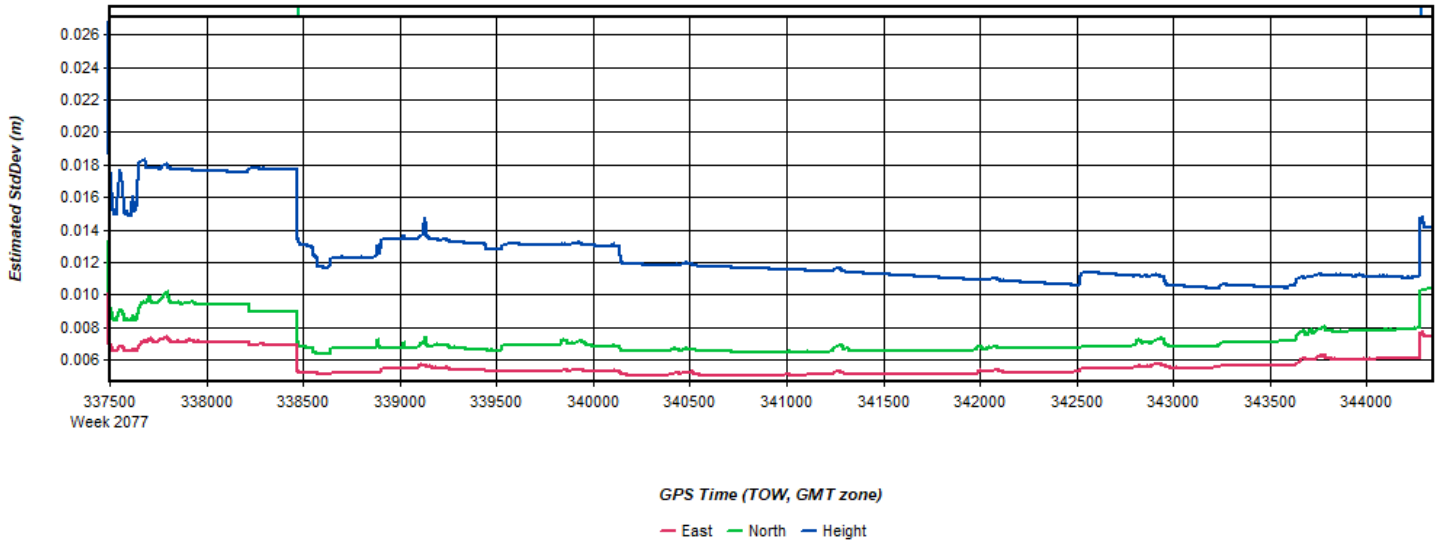
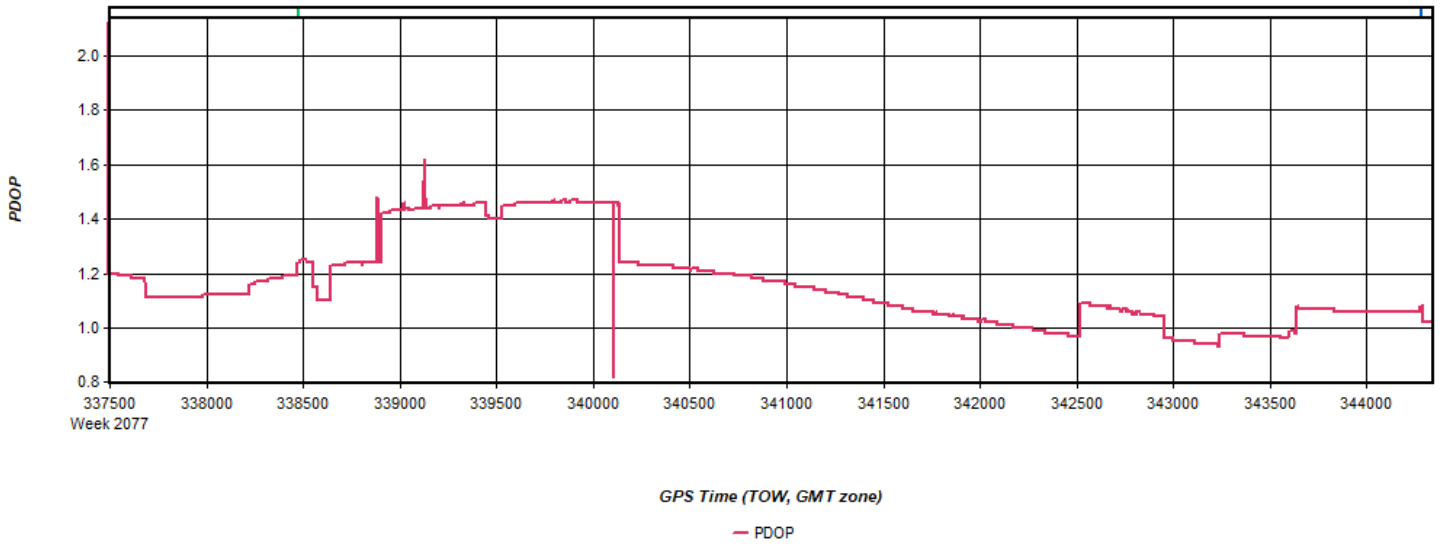


Figure 5: 20191030214402 [Smoothed TC Combined] - Estimated Position Accuracy Plot



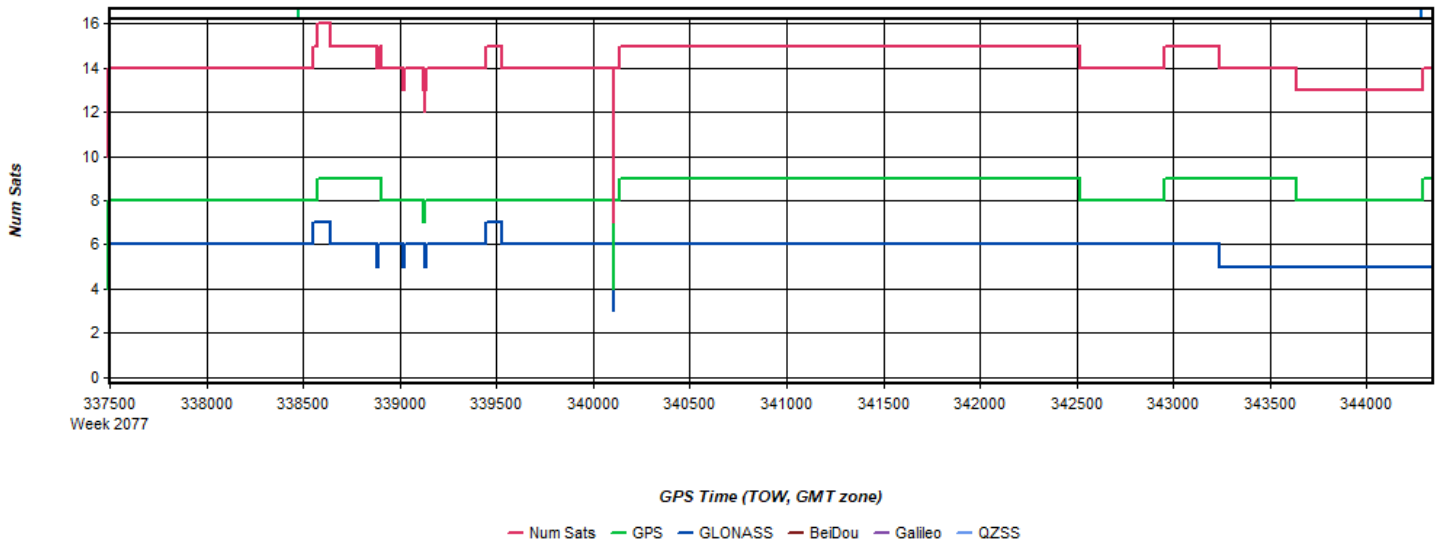
Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 6: 20191030214402 [Smoothed TC Combined] - PDOP Plot



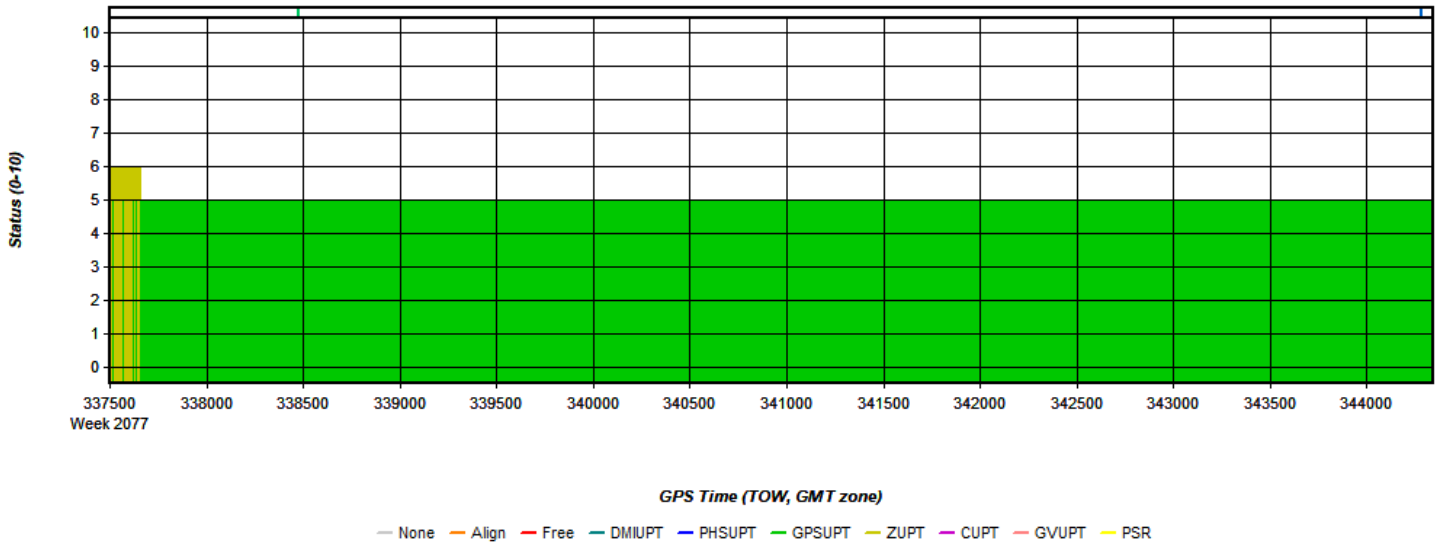
Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 7: 20191030214402 [Smoothed TC Combined] - Number of Satellites Line Plot



Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 8: 20191030214402 [Smoothed TC Combined] - Status flag for IMU processing



Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 9: 20191030214402 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot

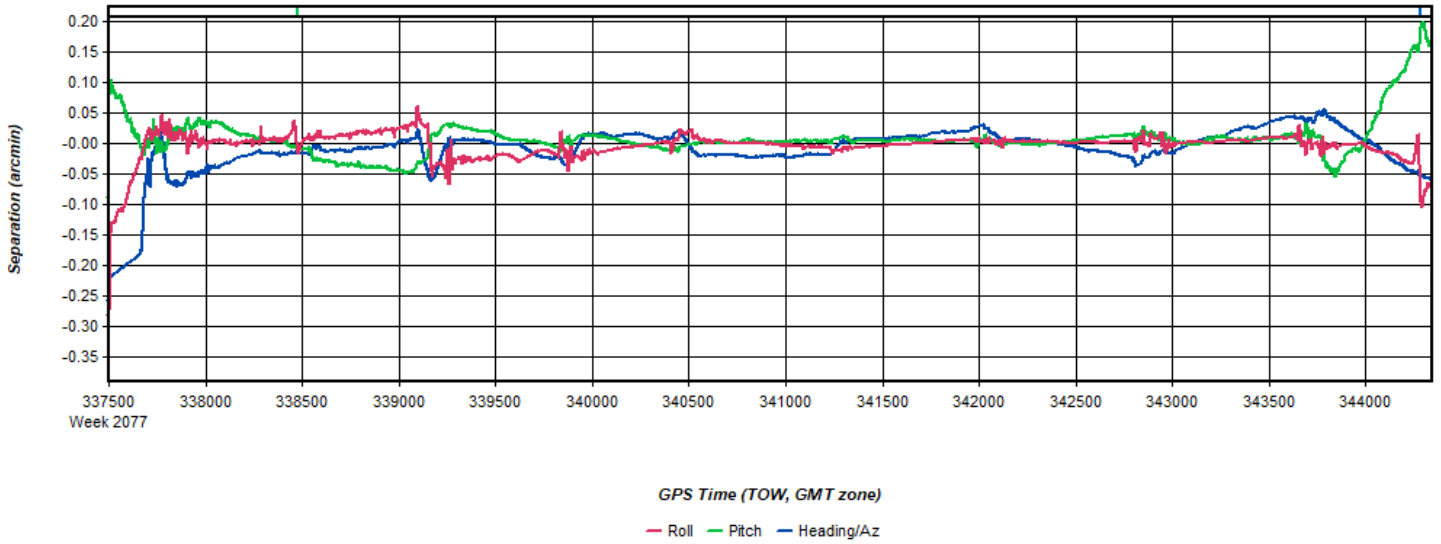


Figure 10: 20191030214402 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot

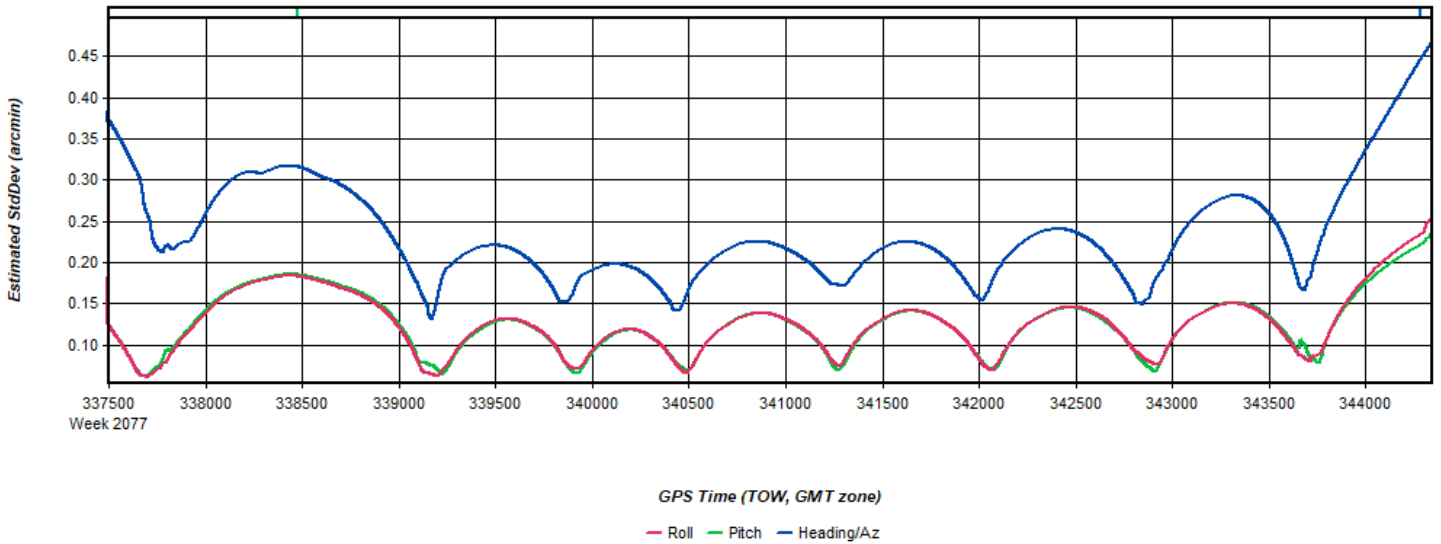
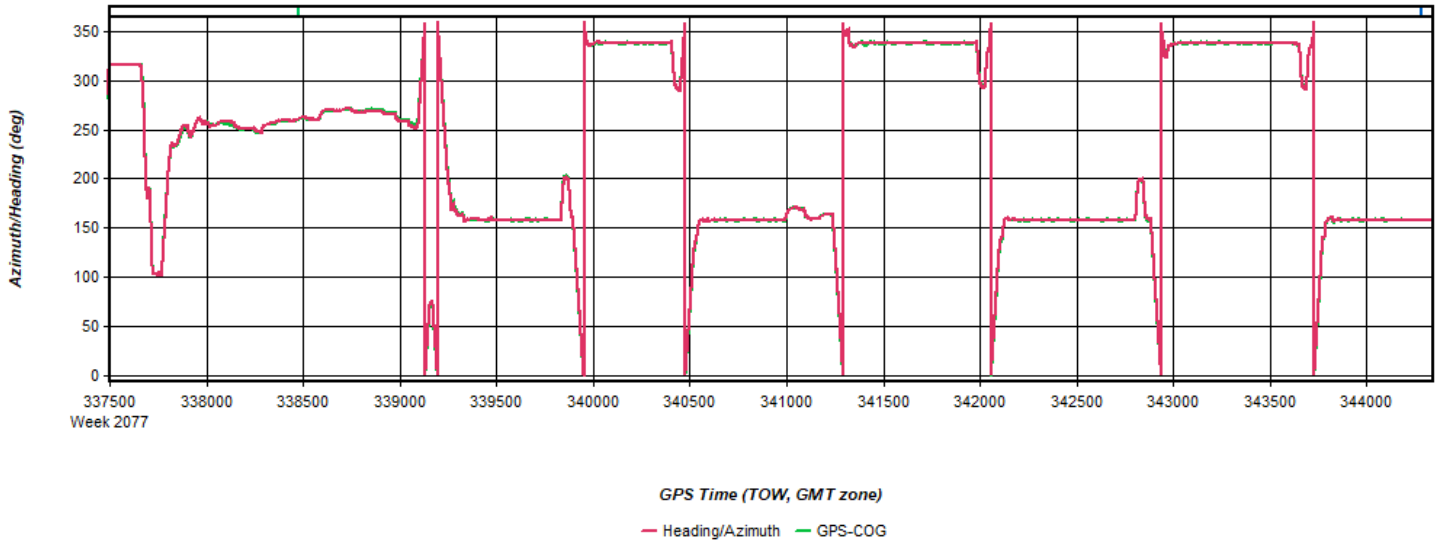
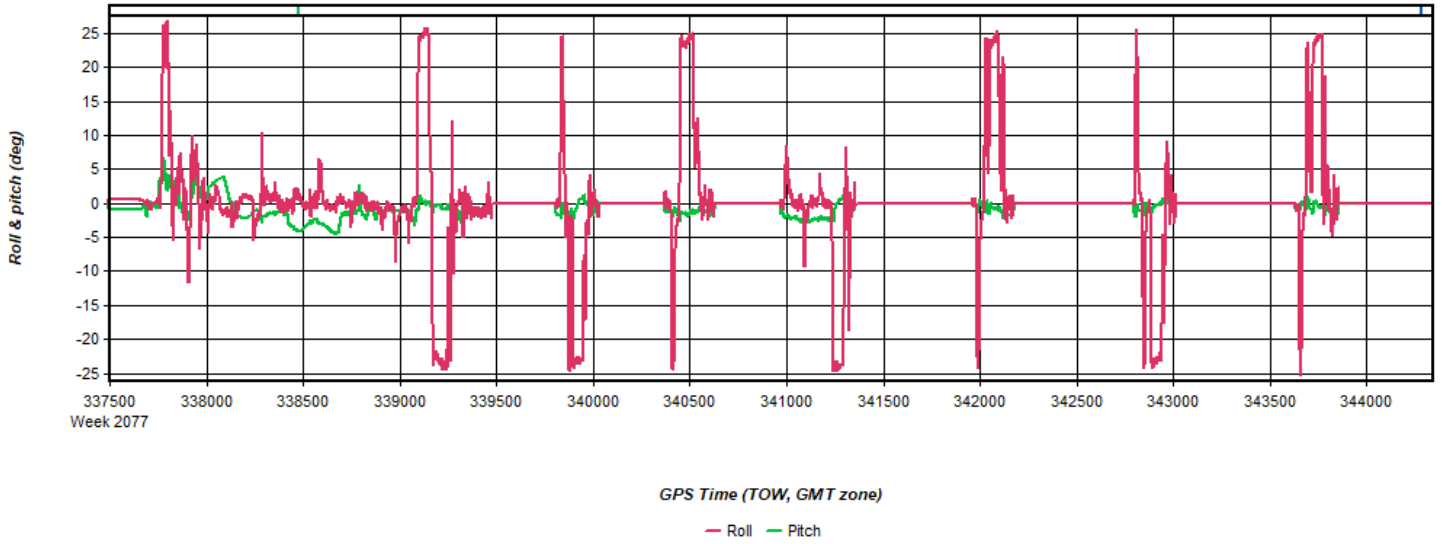


Figure 11: 20191030214402 [Smoothed TC Combined] - Azimuth Plot



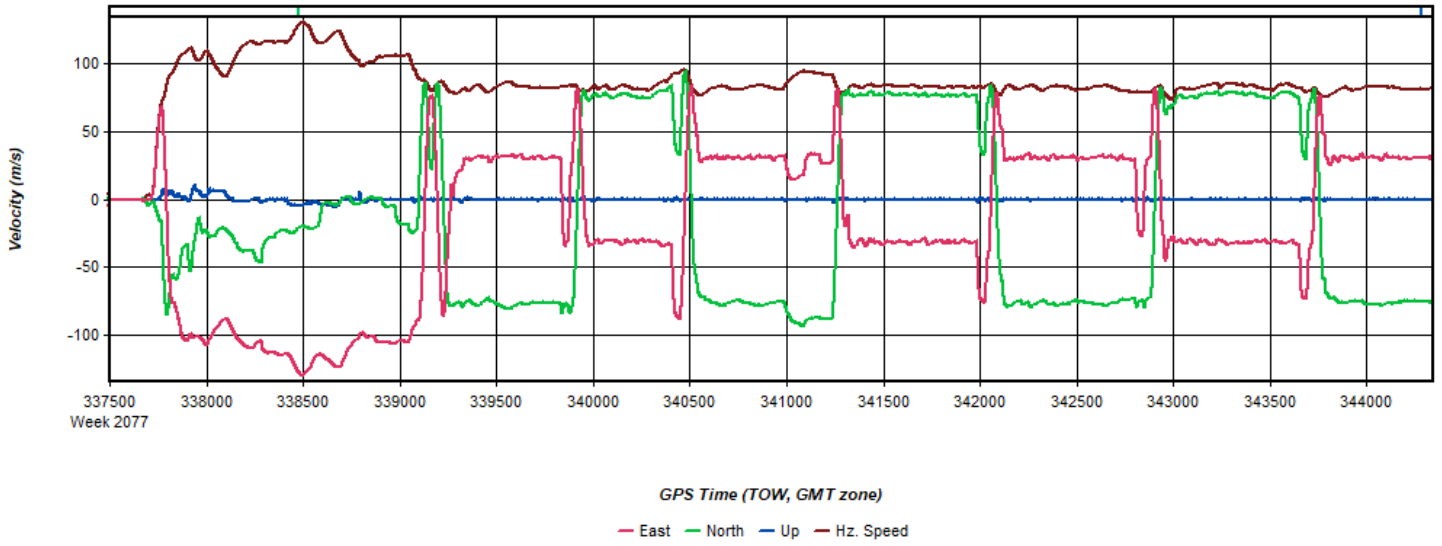
Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 12: 20191030214402 [Smoothed TC Combined] - Roll & Pitch Plot



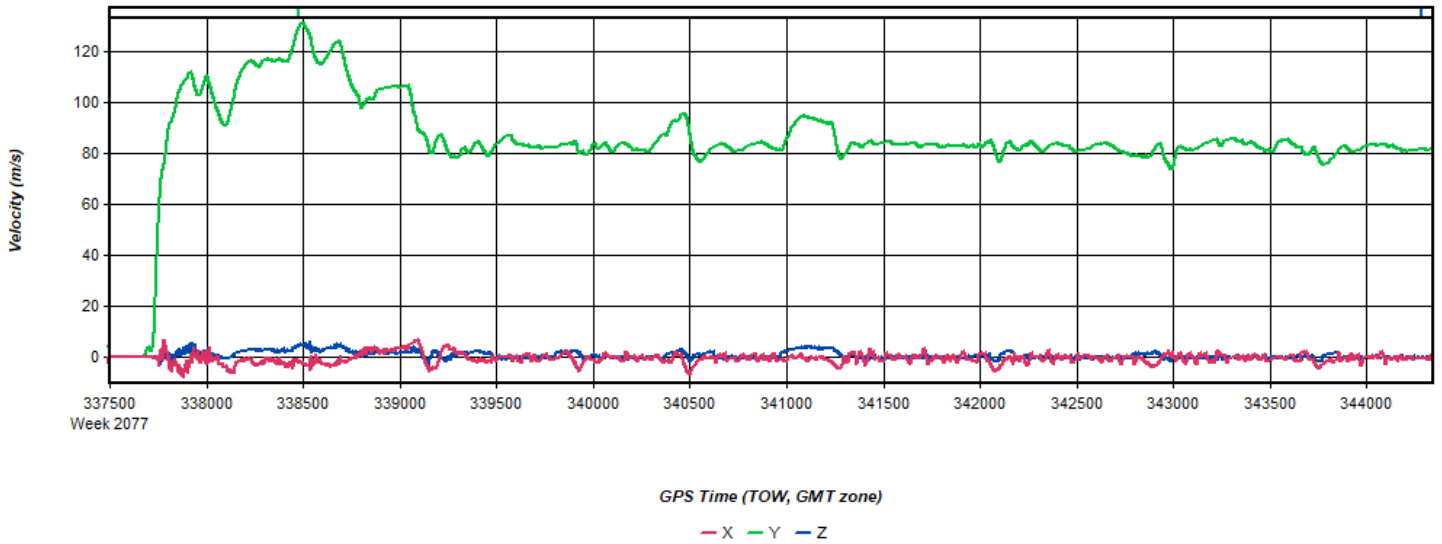
Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 13: 20191030214402 [Smoothed TC Combined] - Velocity Profile Plot



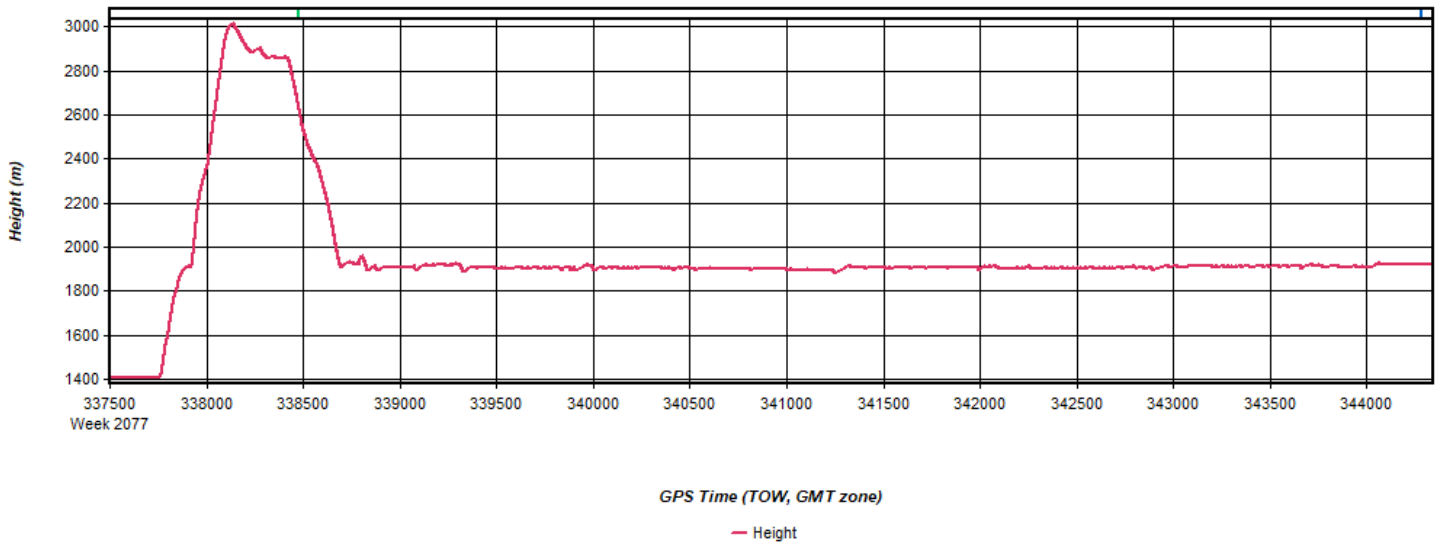
Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 14: 20191030214402 [Smoothed TC Combined] - Body Frame Velocity Plot



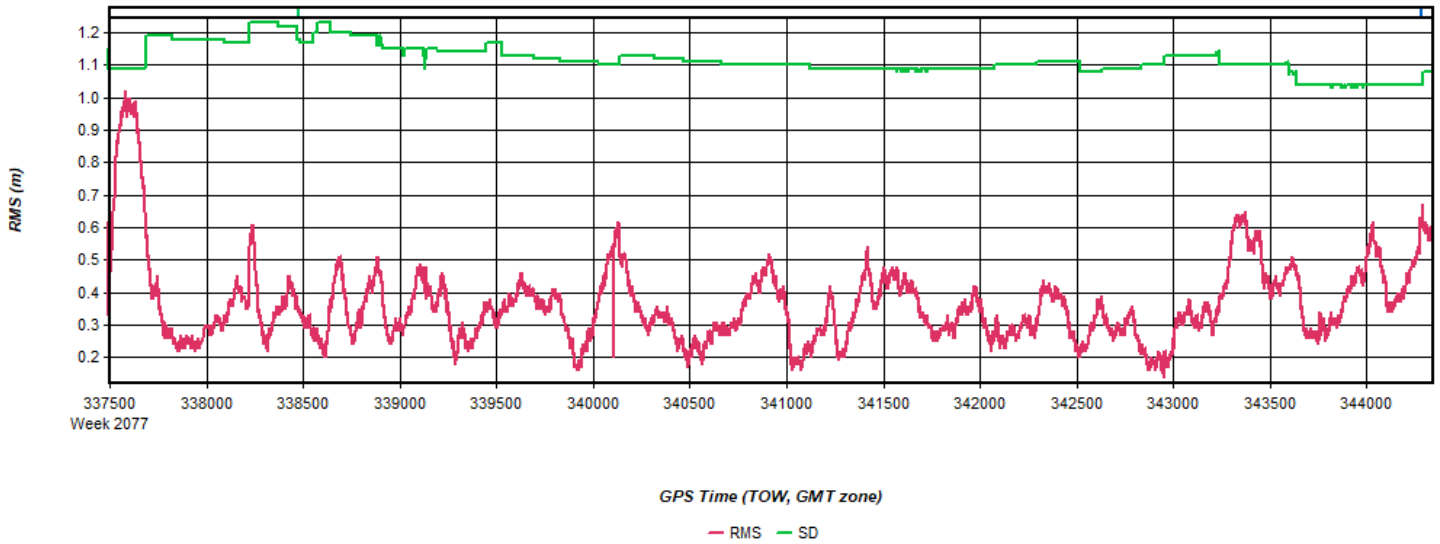
Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 15: 20191030214402 [Smoothed TC Combined] - Height Profile Plot



Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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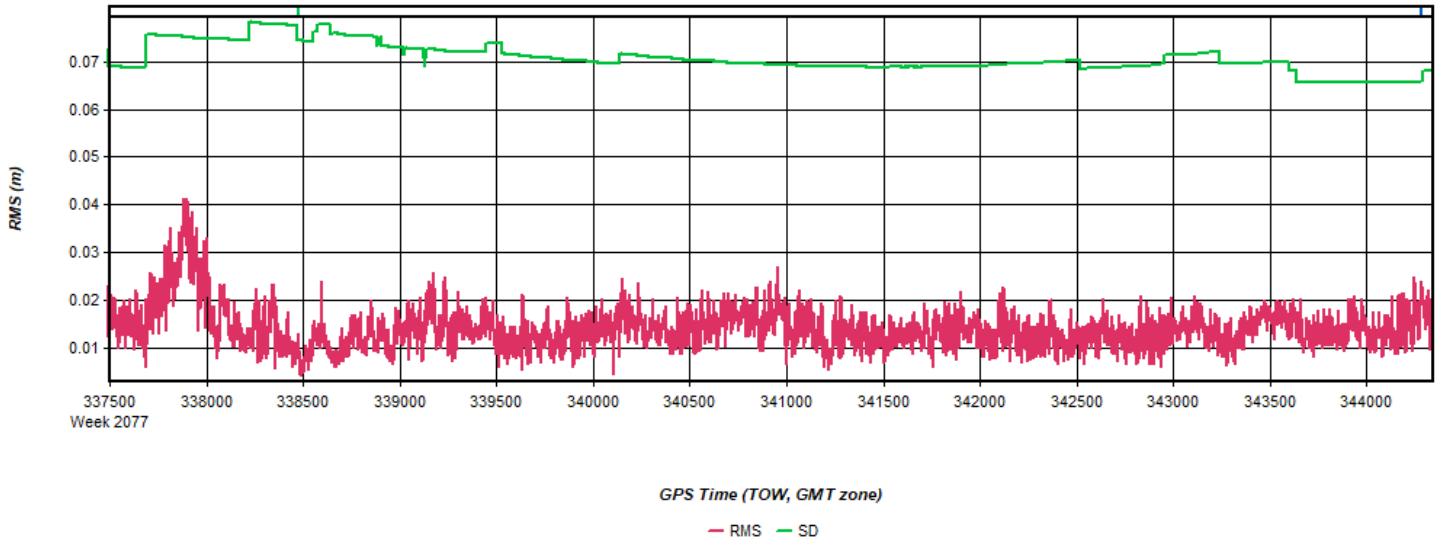
Figure 16: 20191030214402 [Smoothed TC Combined] - C/A Code Residual RMS Plot



Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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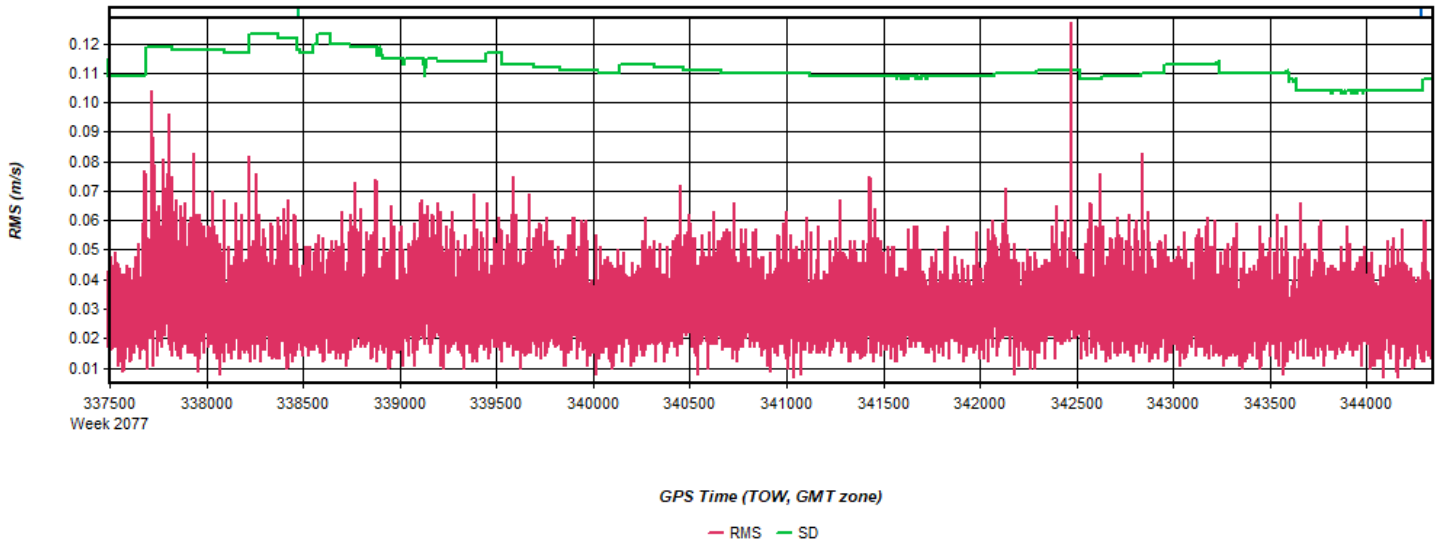
Figure 17: 20191030214402 [Smoothed TC Combined] - Carrier Residual RMS Plot





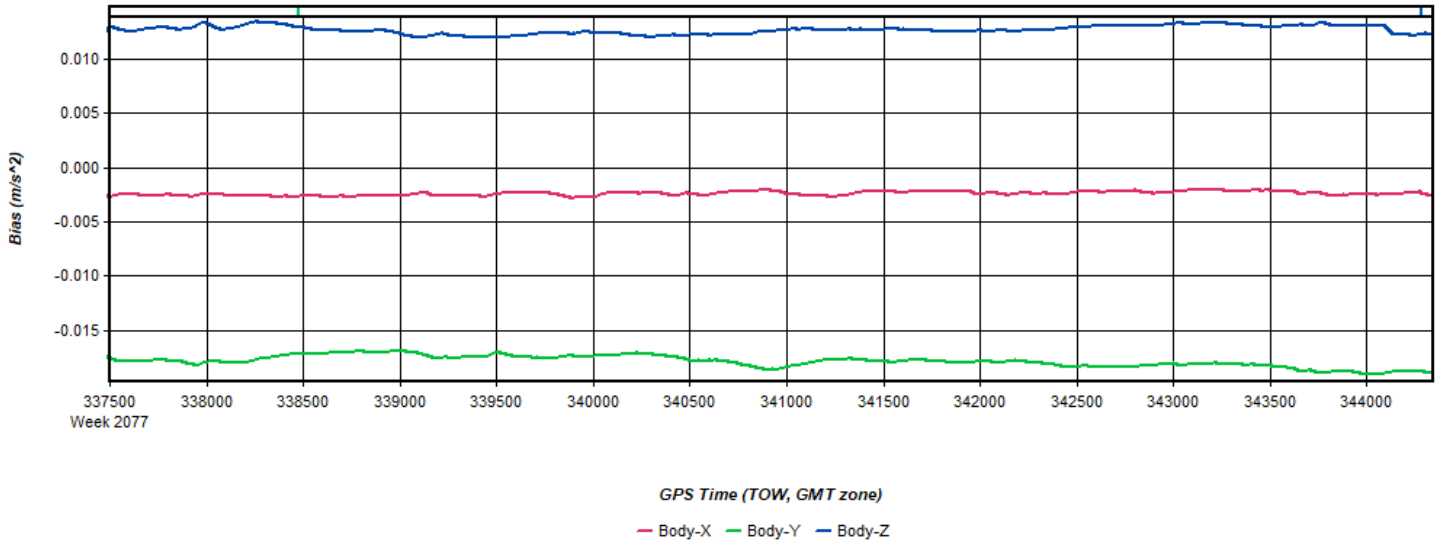
Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 18: 20191030214402 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



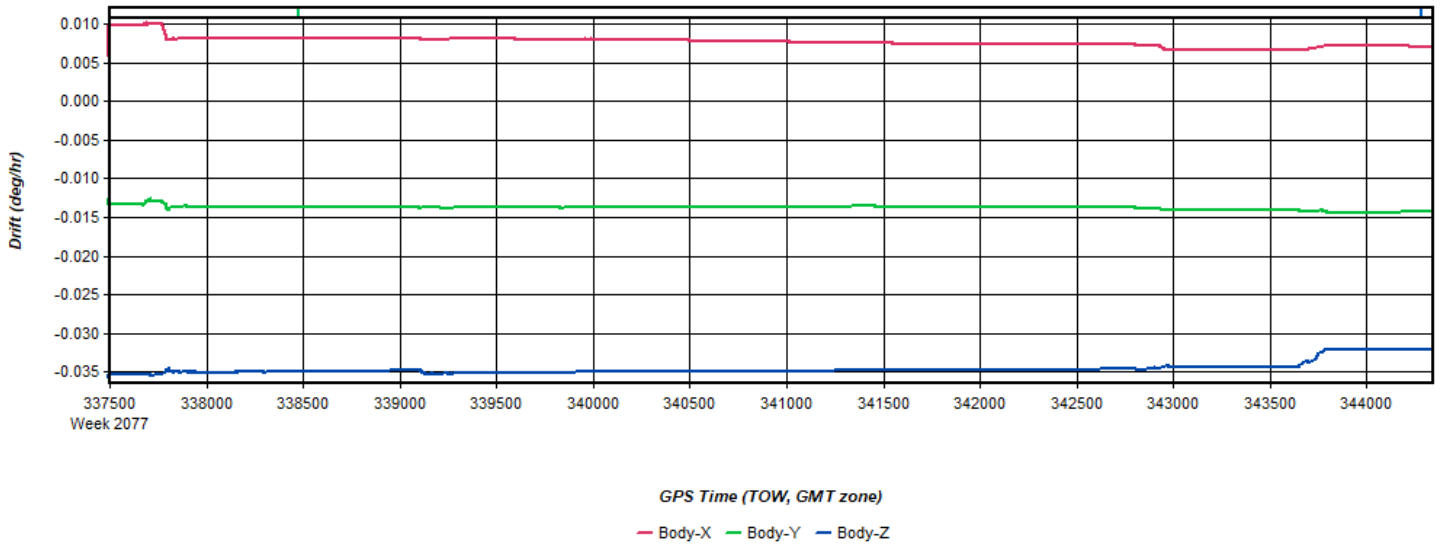
Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 19: 20191030214402 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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Figure 20: 20191030214402 [Smoothed TC Combined] - Gyro Drift Plot

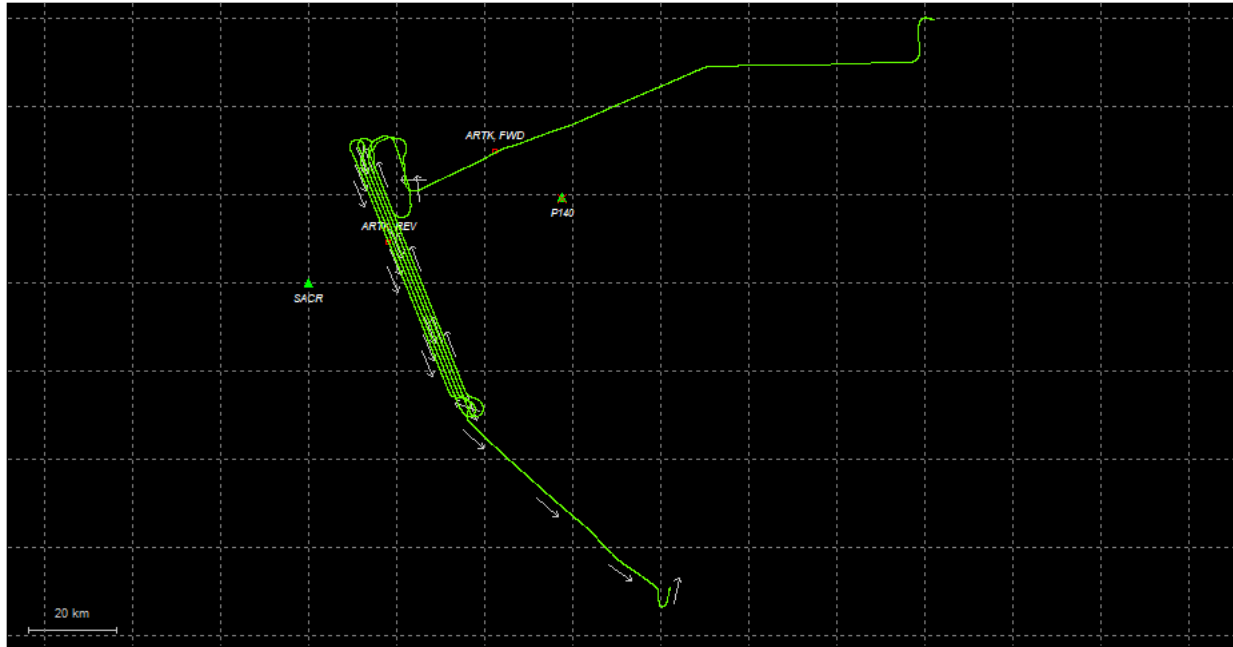


Process	20191030214402	by Unknown	on 11/1/2019	at 15:36:49
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# Output Results for 20191101181228

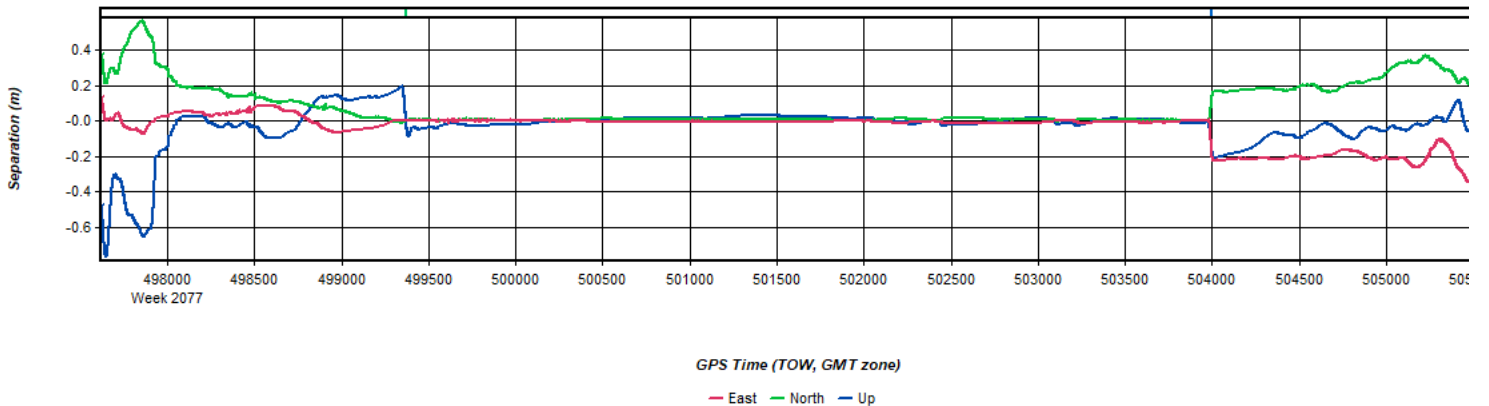
Inertial Explorer Version 8.80.2305  
11/08/2019

Figure 1: Smoothed TC Combined - Map



Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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Figure 2: 20191101181228 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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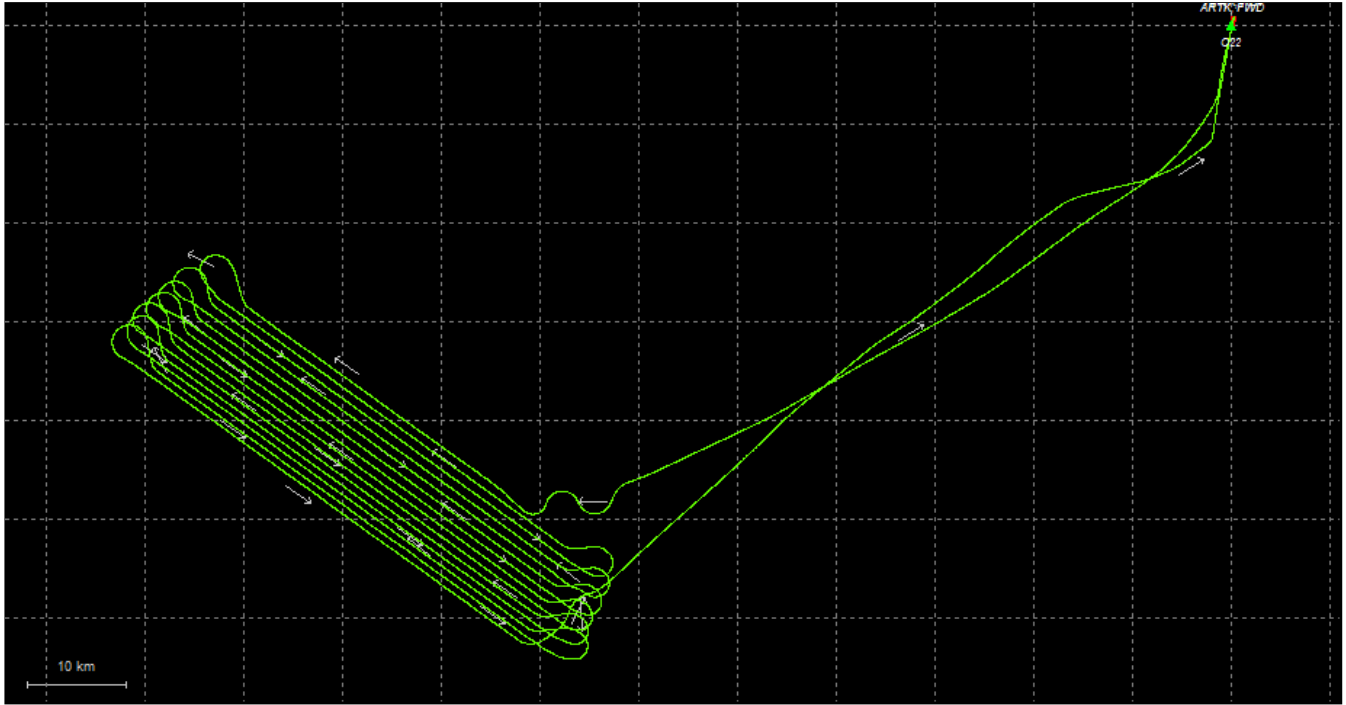
Object 20191101181228 [Smoothed TC Combined] - Float or Fixed Ambiguity failed--NULL bitmap handle

Figure 3: 20191101181228 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)

# Output Results for 20191101221927

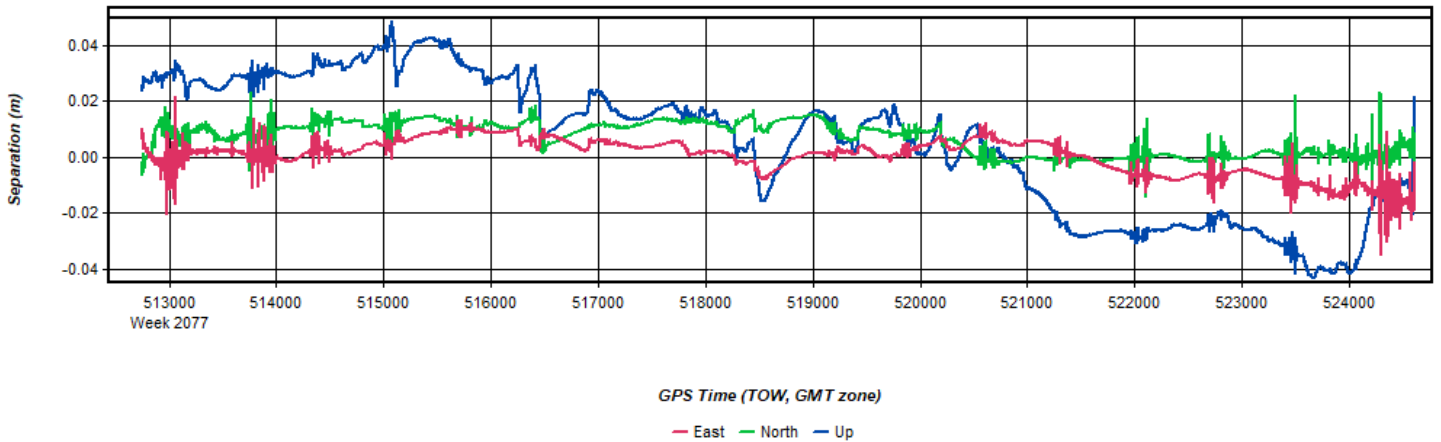
Inertial Explorer Version 8.80.2305  
11/04/2019

Figure 1: Smoothed TC Combined - Map



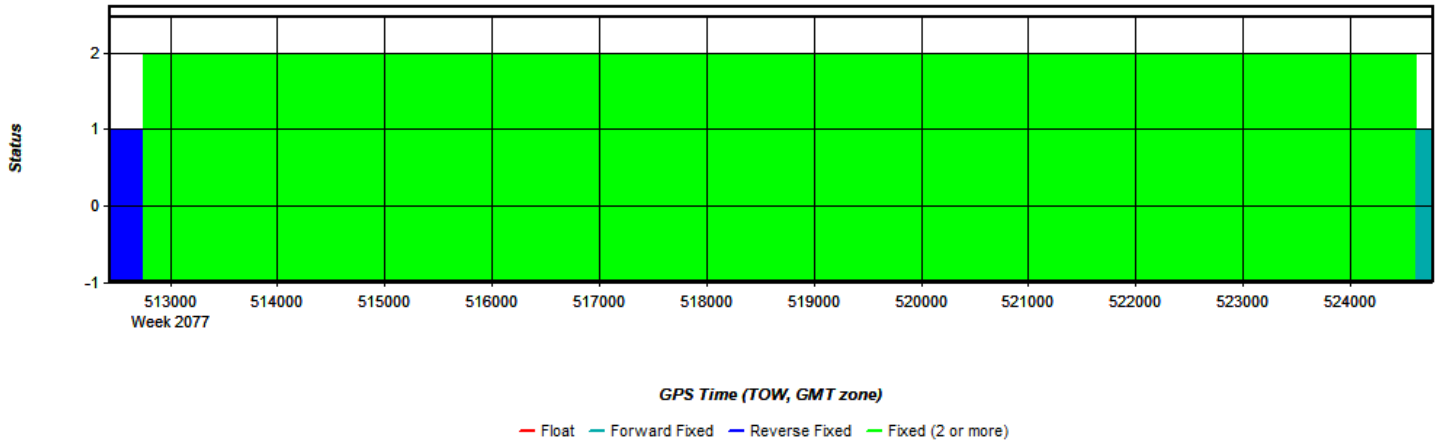
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 2: 20191101221927 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



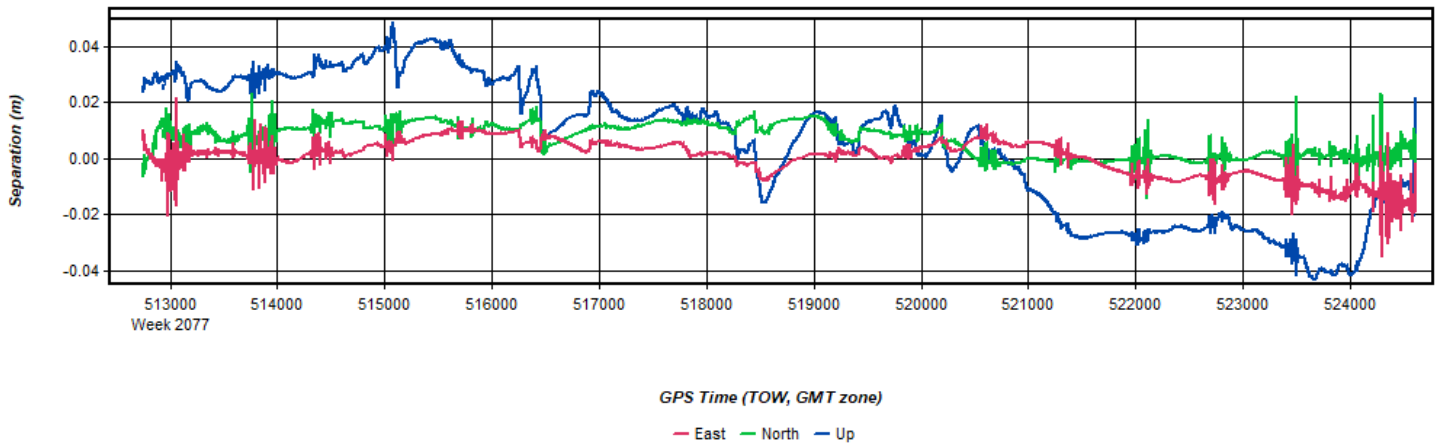
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 3: 20191101221927 [Smoothed TC Combined] - Float or Fixed Ambiguity



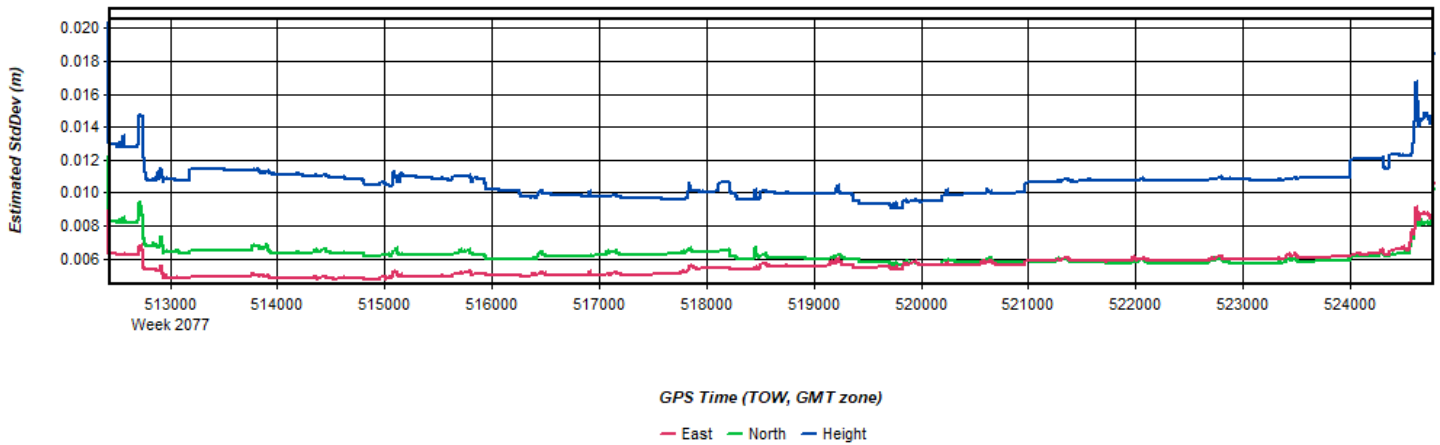
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 4: 20191101221927 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)



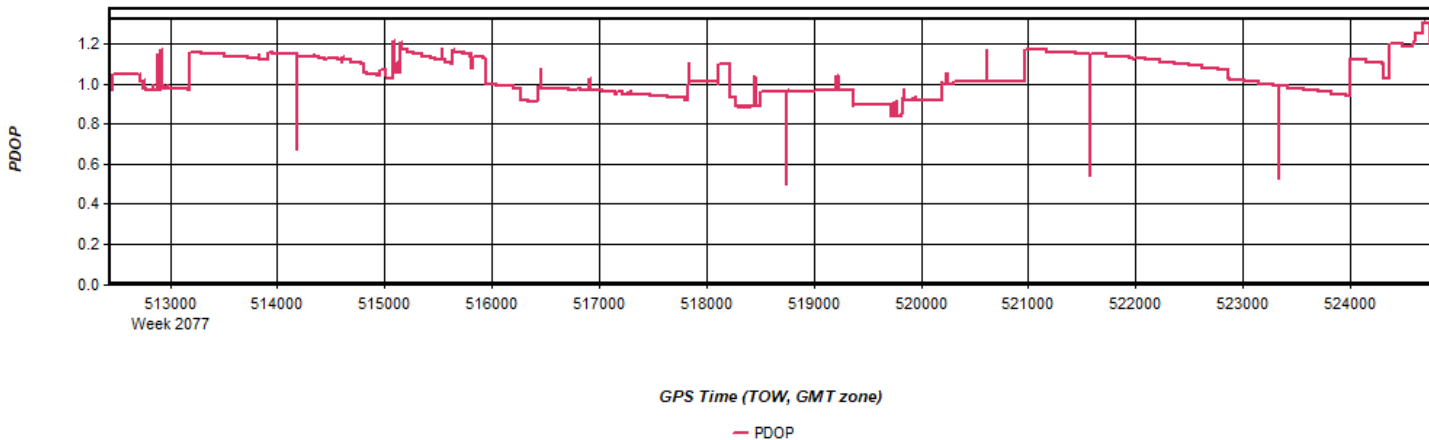
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 5: 20191101221927 [Smoothed TC Combined] - Estimated Position Accuracy Plot



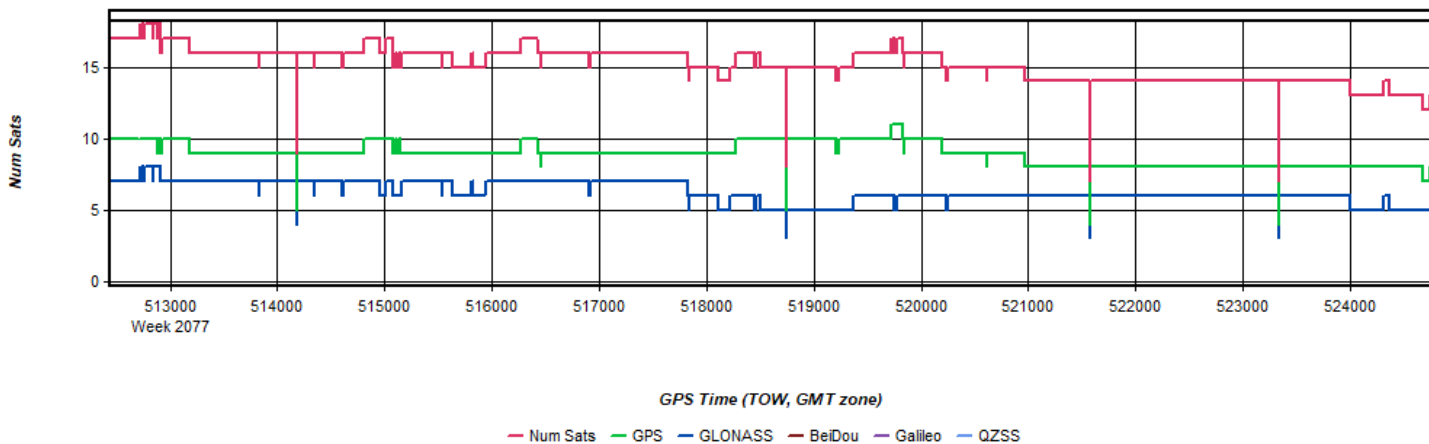
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 6: 20191101221927 [Smoothed TC Combined] - PDOP Plot



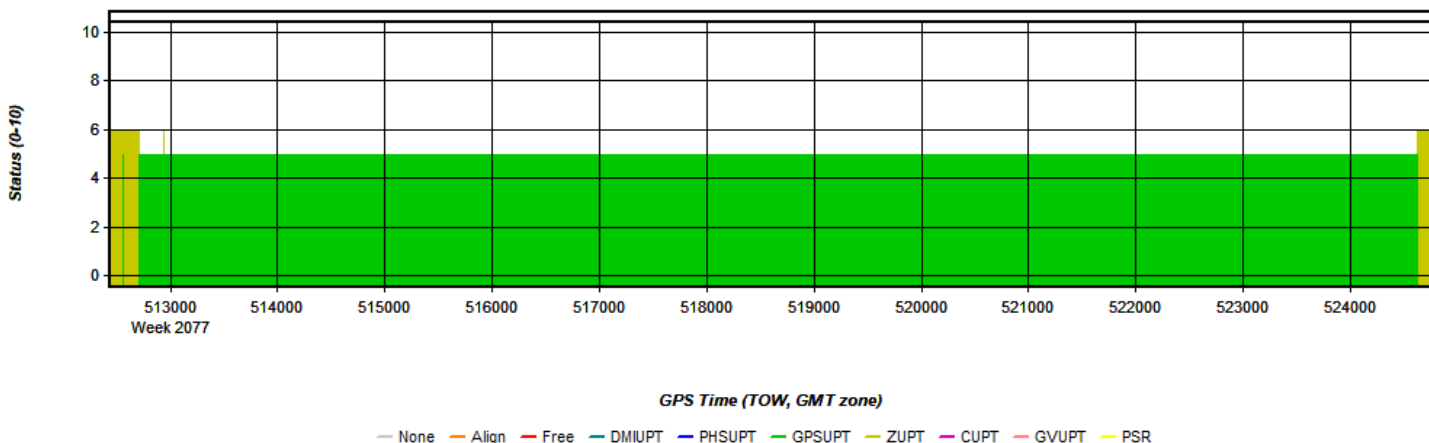
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 7: 20191101221927 [Smoothed TC Combined] - Number of Satellites Line Plot



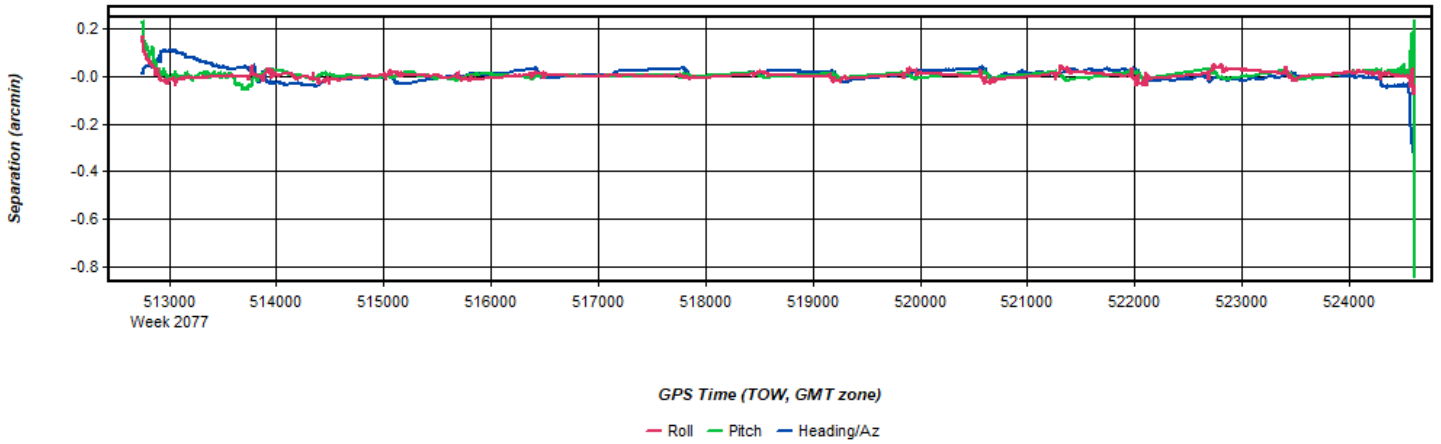
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 8: 20191101221927 [Smoothed TC Combined] - Status flag for IMU processing



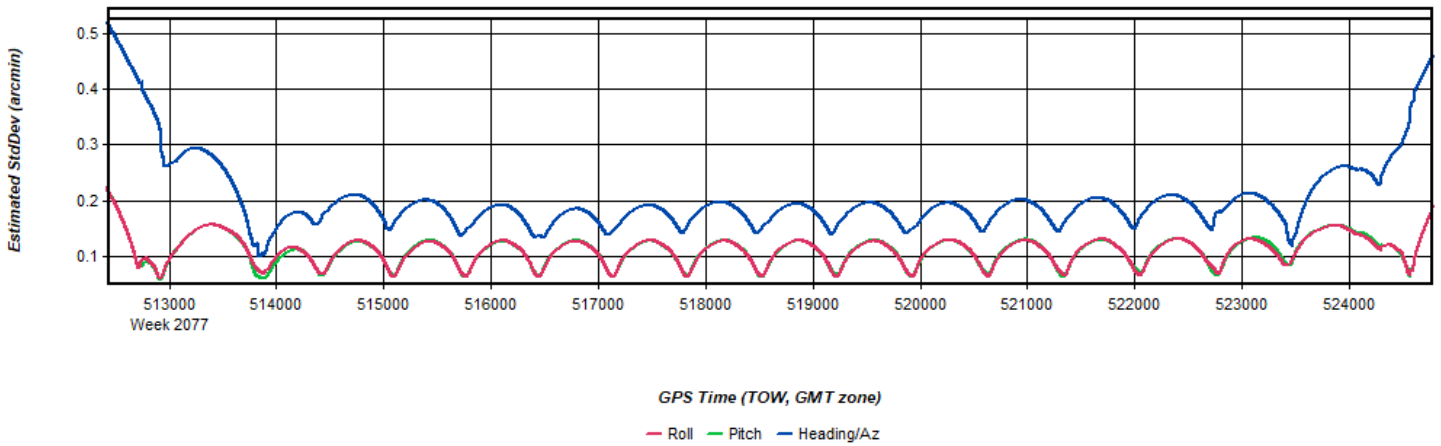
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 9: 20191101221927 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



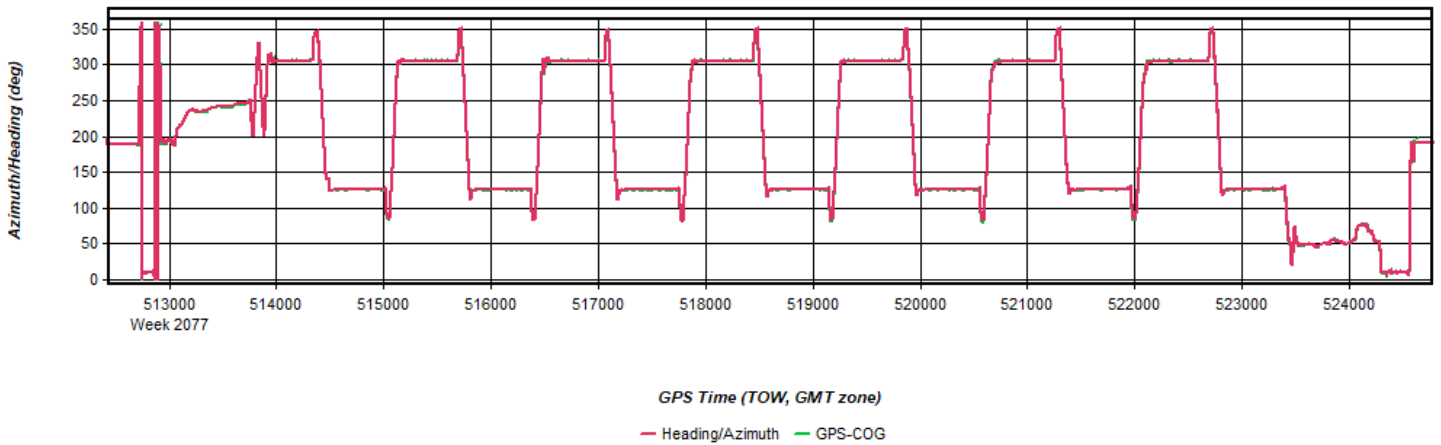
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 10: 20191101221927 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



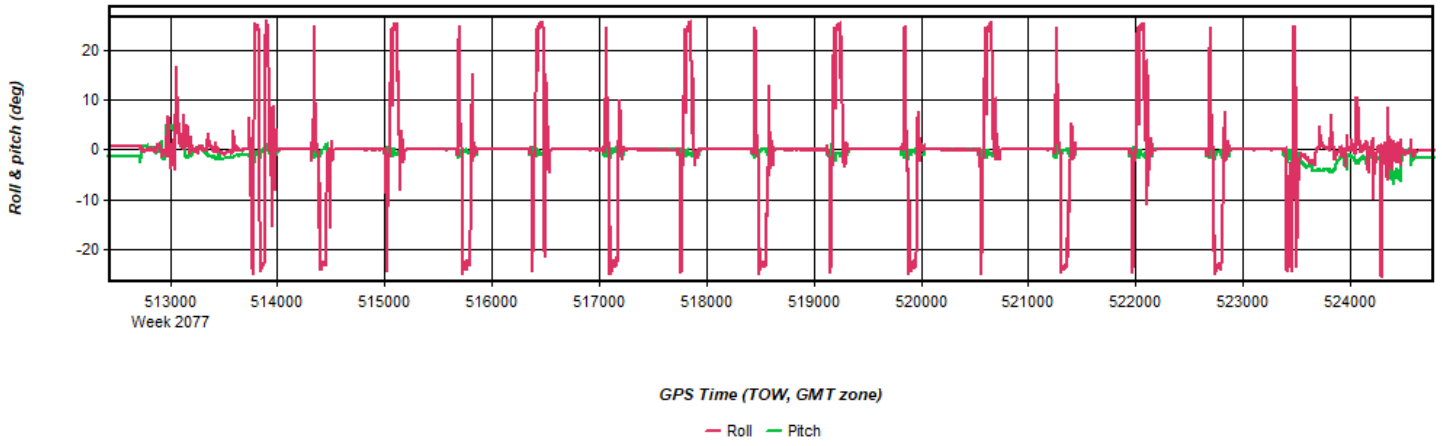
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 11: 20191101221927 [Smoothed TC Combined] - Azimuth Plot



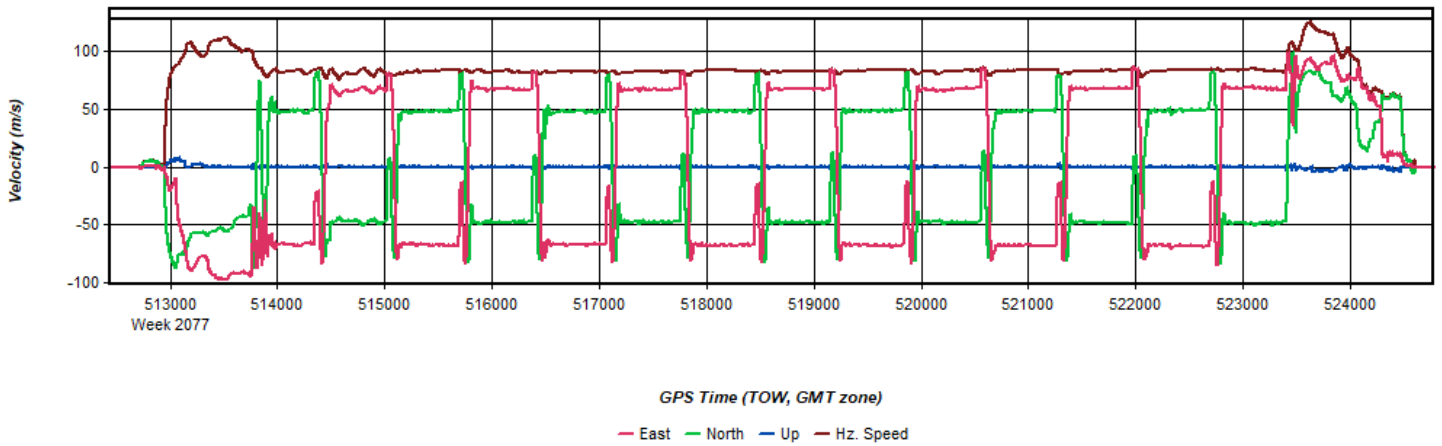
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 12: 20191101221927 [Smoothed TC Combined] - Roll & Pitch Plot



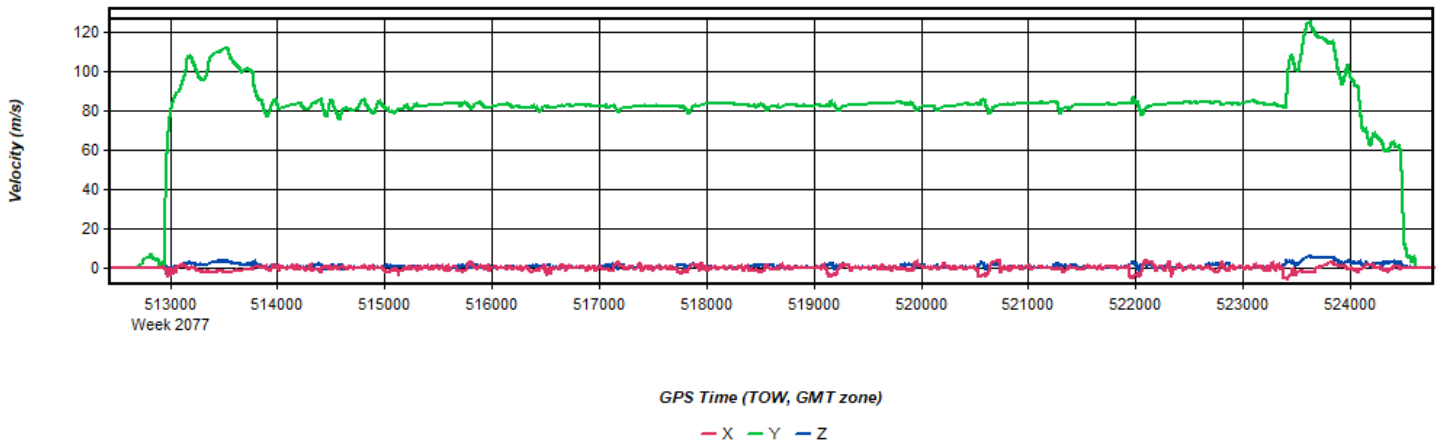
Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 13: 20191101221927 [Smoothed TC Combined] - Velocity Profile Plot



Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 14: 20191101221927 [Smoothed TC Combined] - Body Frame Velocity Plot



Process	20191101221927	by Unknown	on 11/4/2019	at 11:27:16
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Figure 15: 20191101221927 [Smoothed TC Combined] - Height Profile Plot



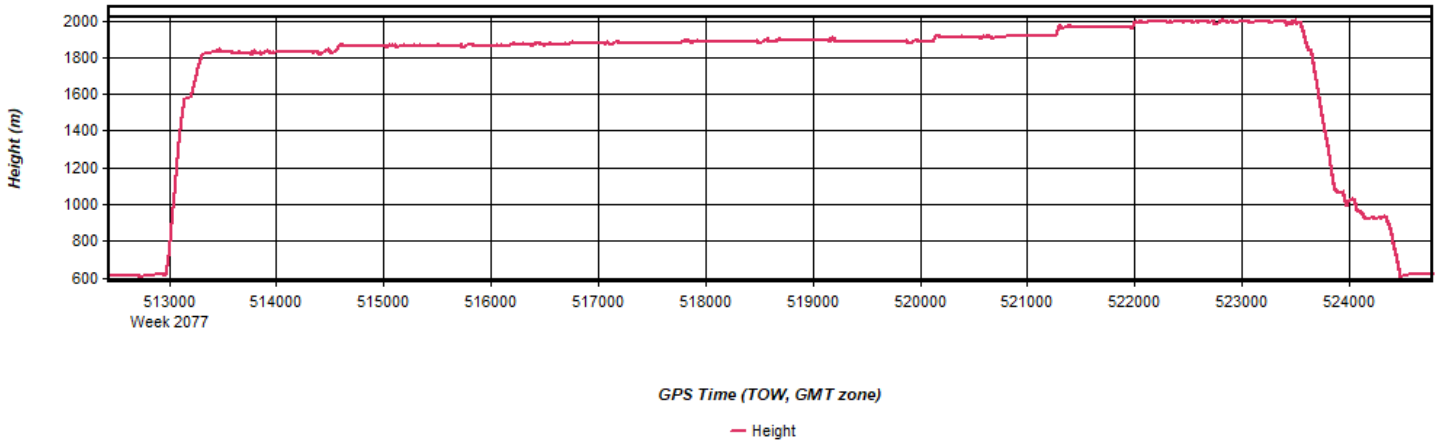


Figure 16: 20191101221927 [Smoothed TC Combined] - C/A Code Residual RMS Plot

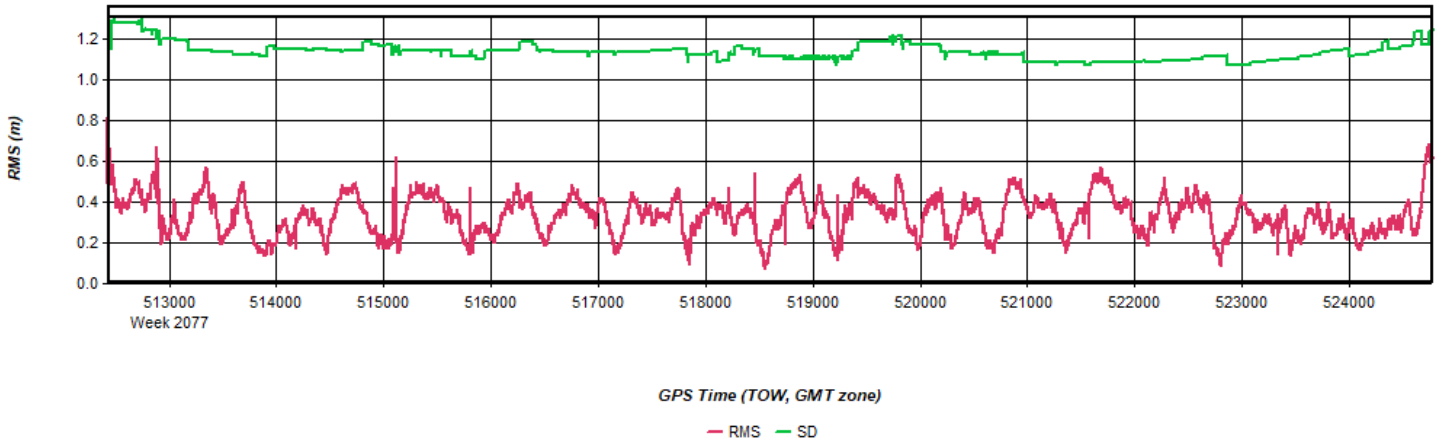


Figure 17: 20191101221927 [Smoothed TC Combined] - Carrier Residual RMS Plot

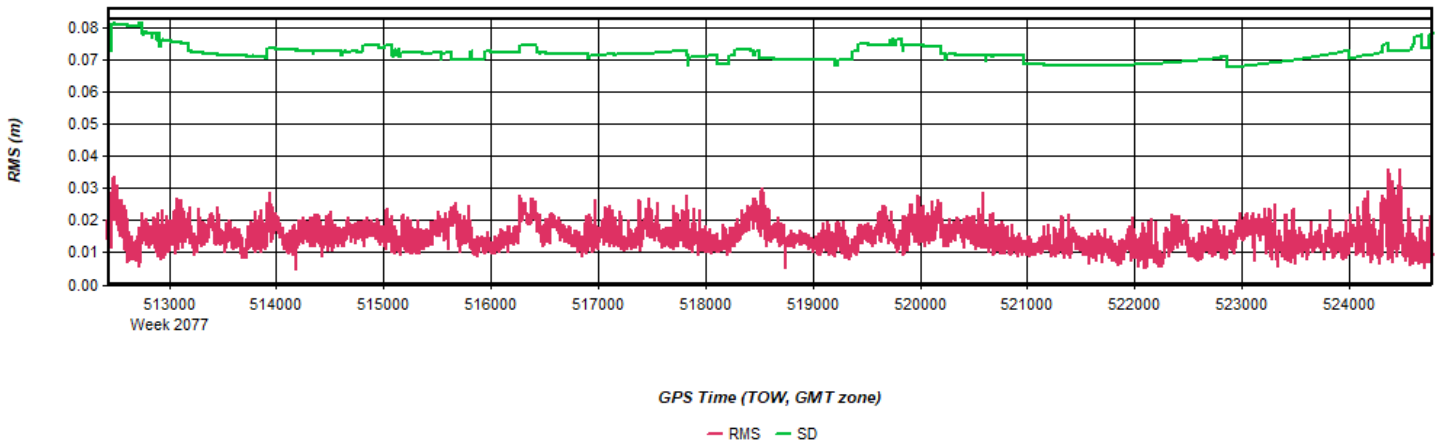


Figure 18: 20191101221927 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot

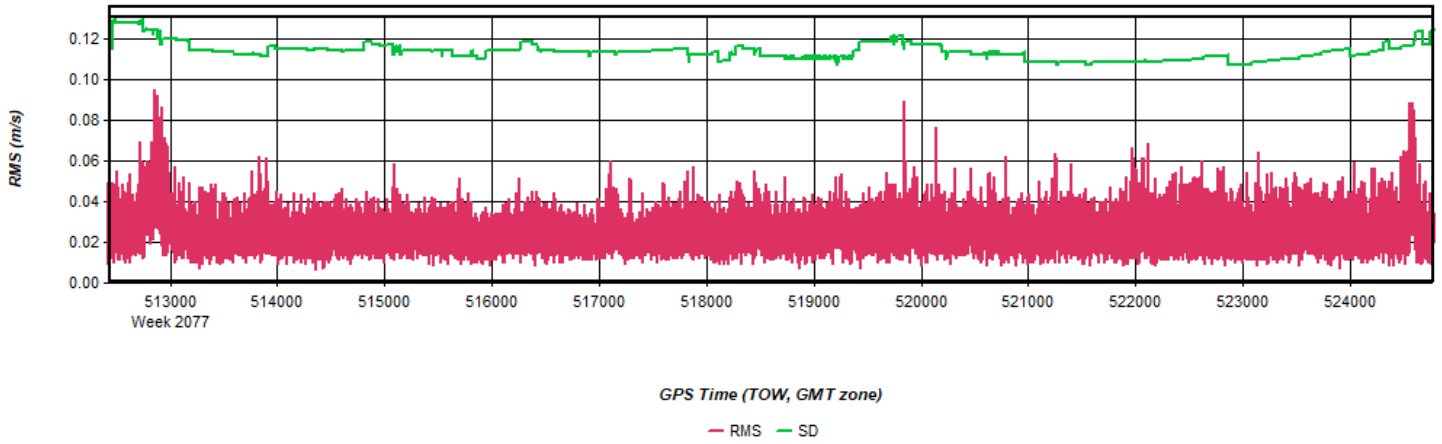


Figure 19: 20191101221927 [Smoothed TC Combined] - Accelerometer Bias Plot

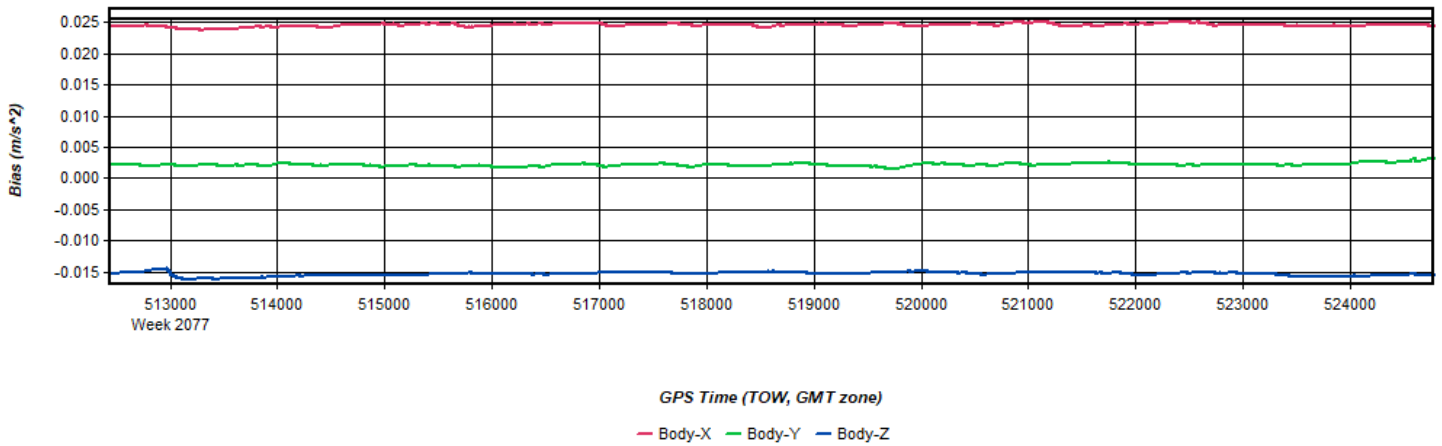
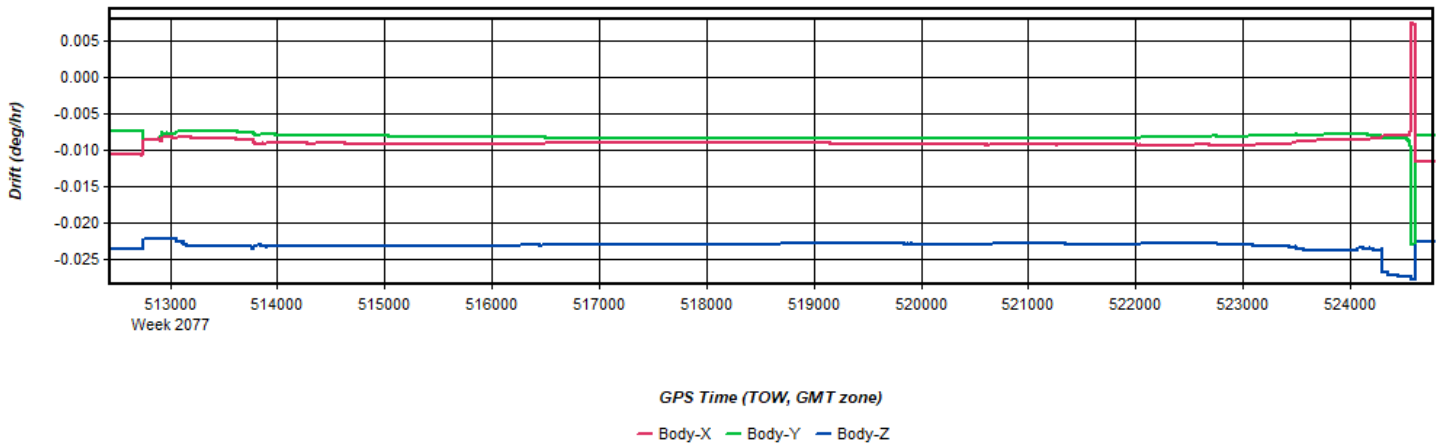


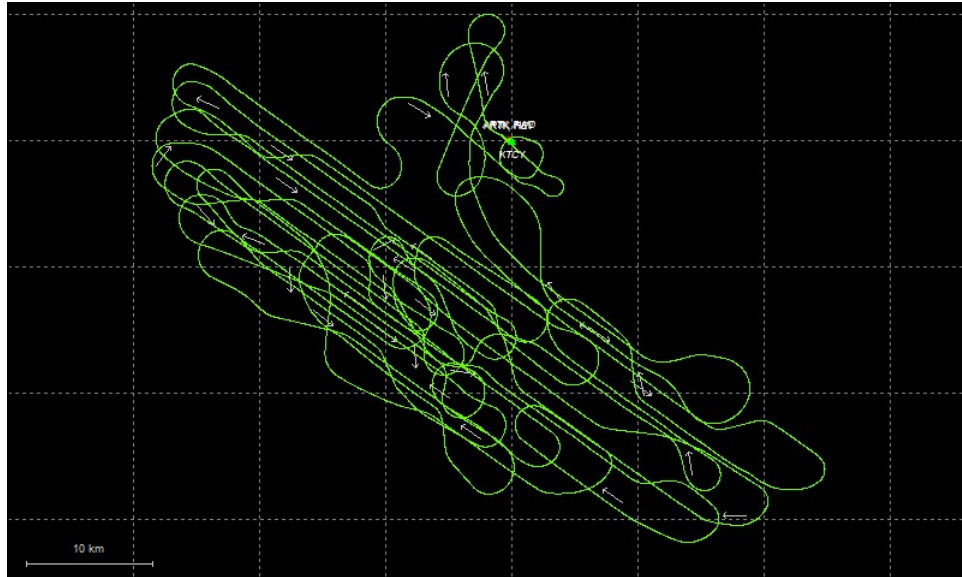
Figure 20: 20191101221927 [Smoothed TC Combined] - Gyro Drift Plot



# Output Results for 20200305165601

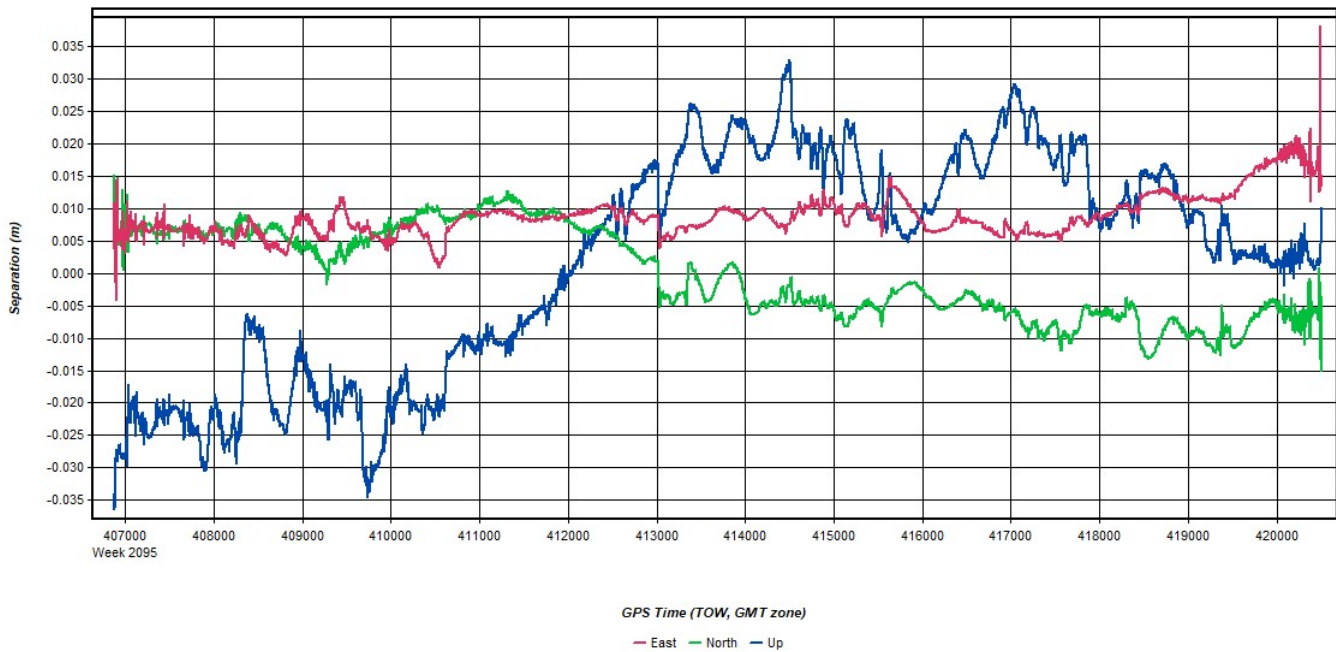
Inertial Explorer Version 8.80.2305  
03/07/2020

Figure 1: Smoothed TC Combined - Map



Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 2: 20200305165601 [Smoothed TC Combined] - Forward/Reverse or Combined Separation Plot



Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 3: 20200305165601 [Smoothed TC Combined] - Float or Fixed Ambiguity

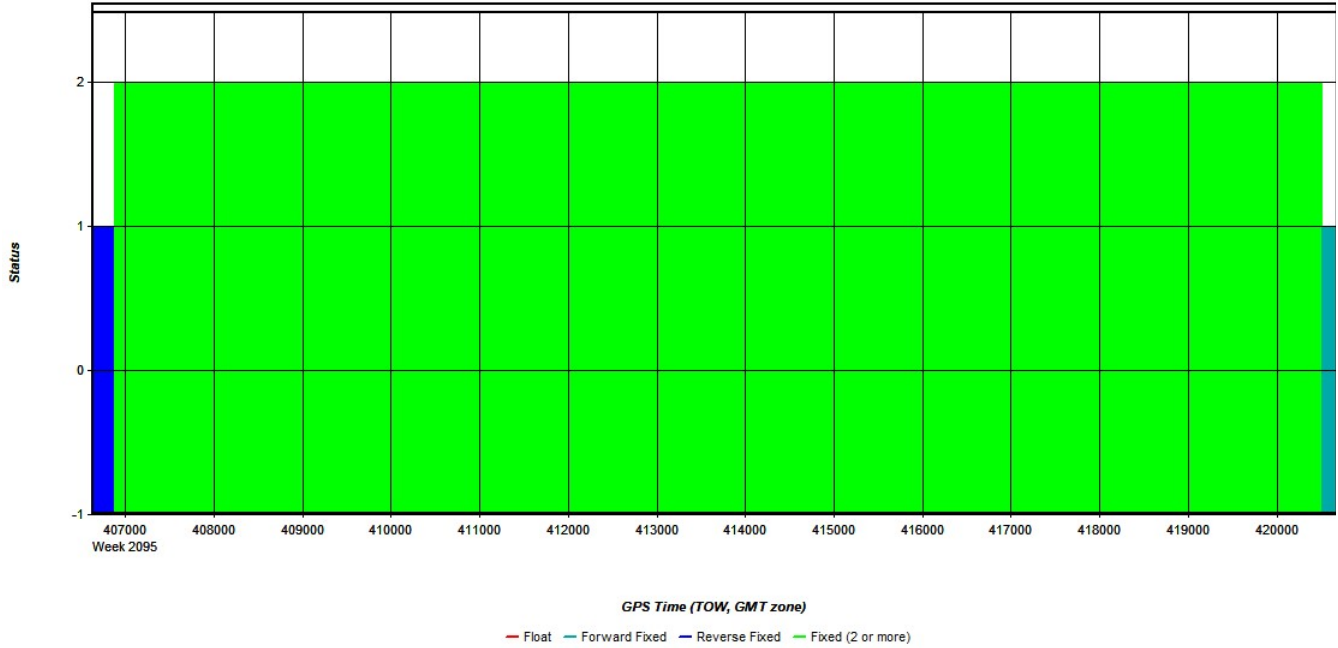
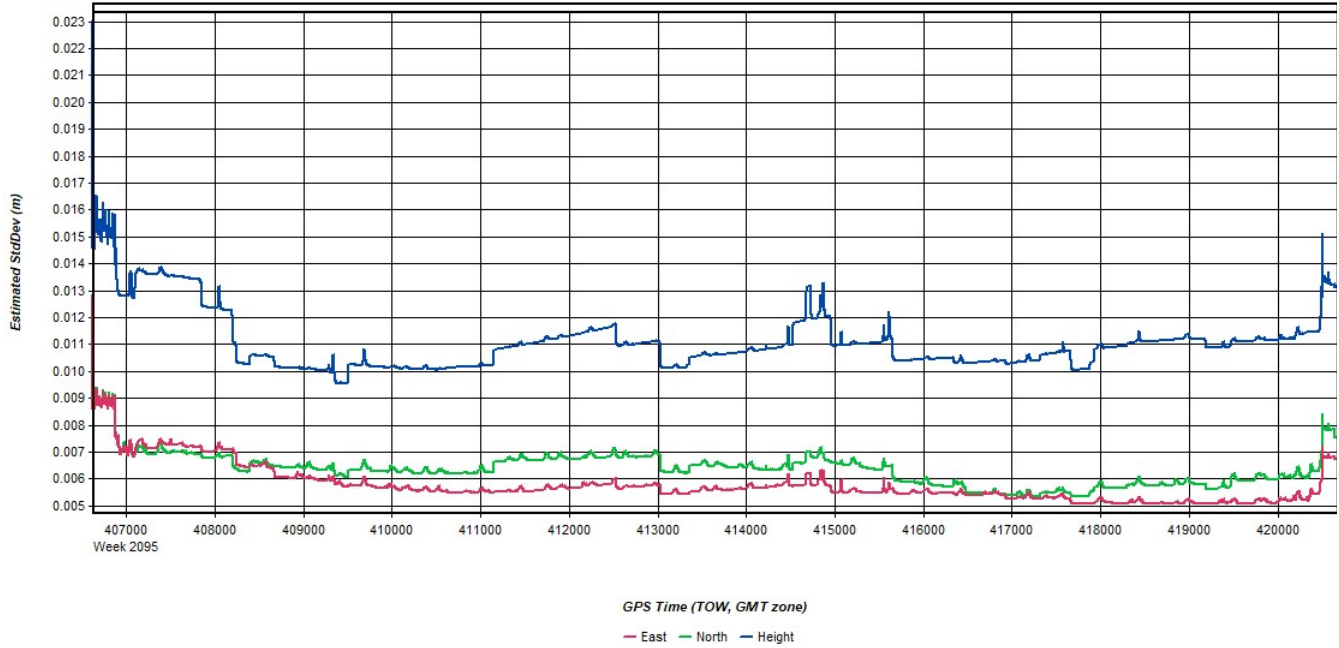


Figure 4: 20200305165601 [Smoothed TC Combined] - Forward/Reverse Separation Plot (Fixed)

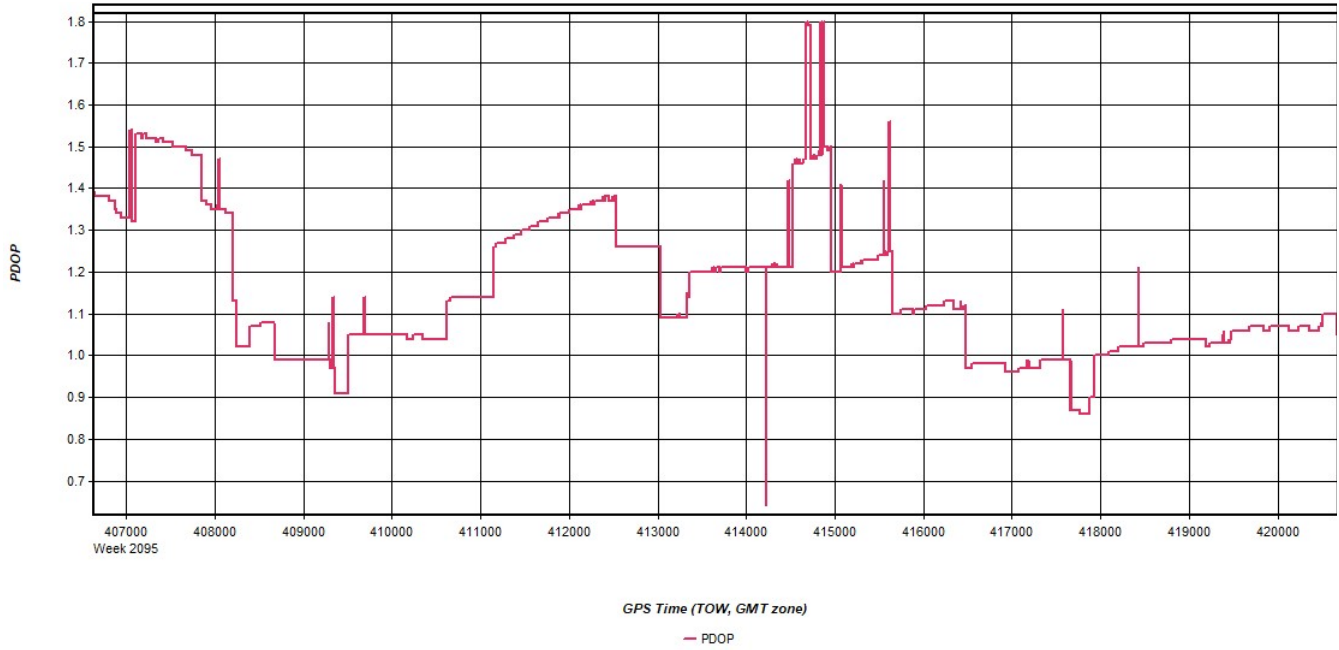


Figure 5: 20200305165601 [Smoothed TC Combined] - Estimated Position Accuracy Plot



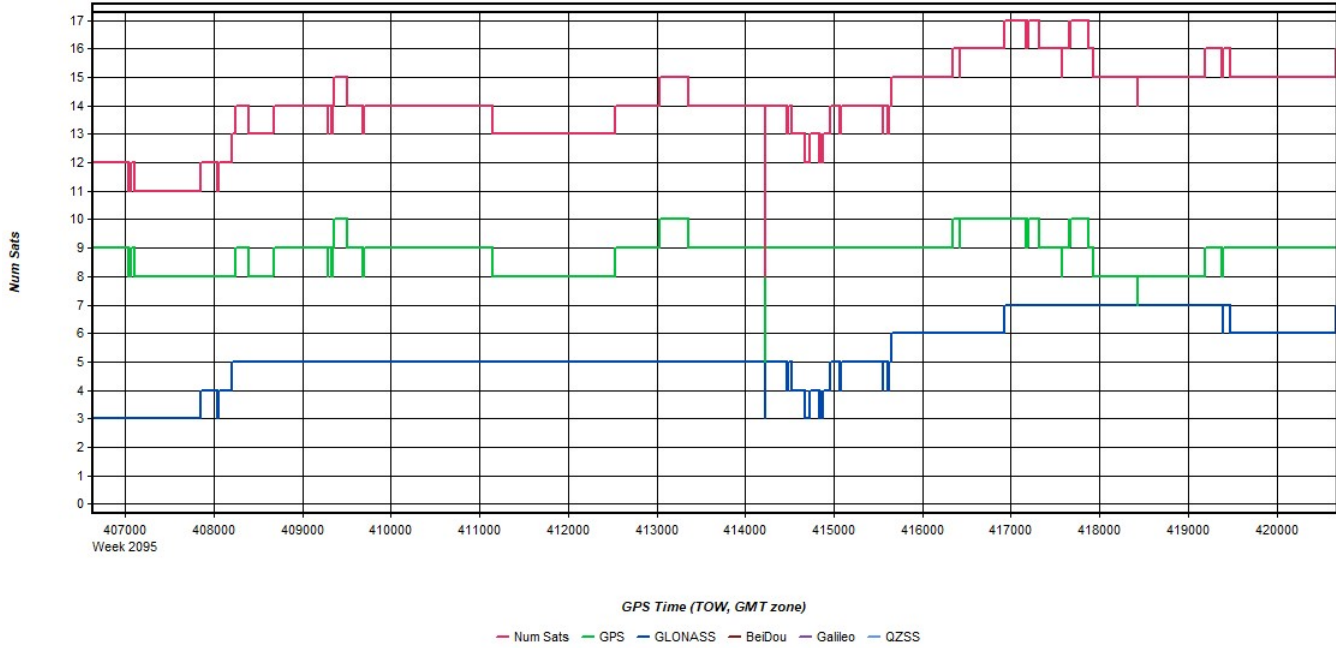
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 6: 20200305165601 [Smoothed TC Combined] - PDOP Plot



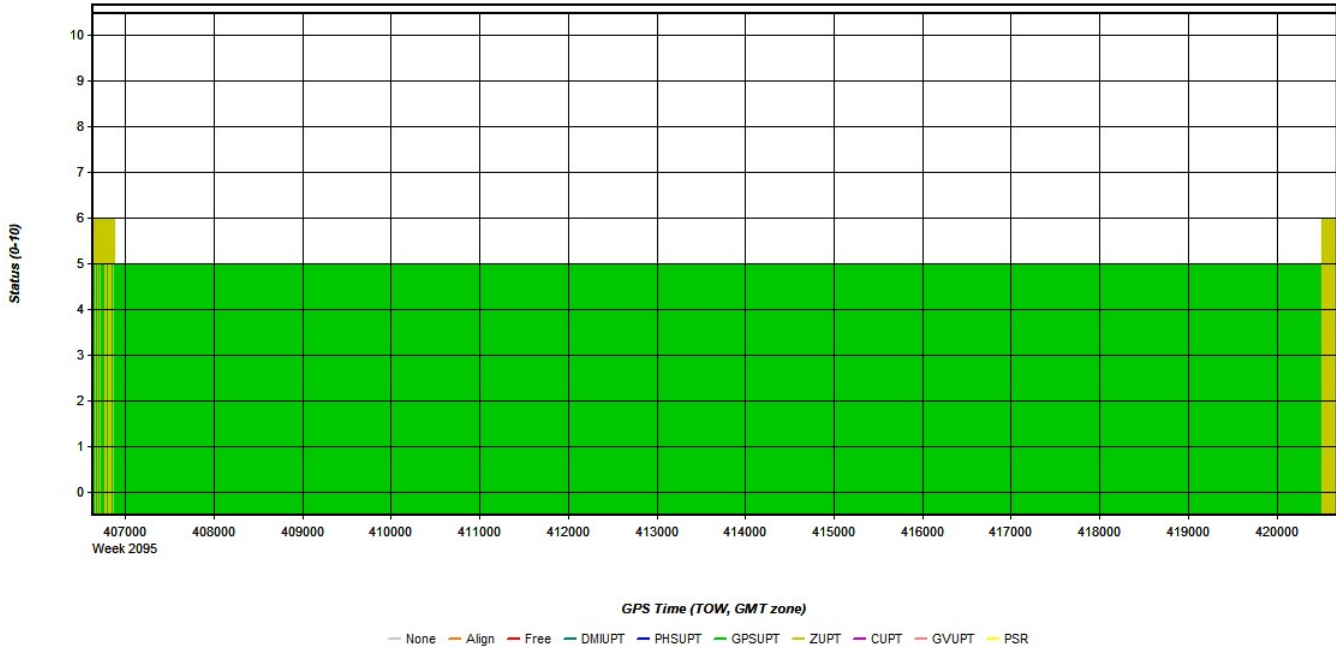
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 7: 20200305165601 [Smoothed TC Combined] - Number of Satellites Line Plot



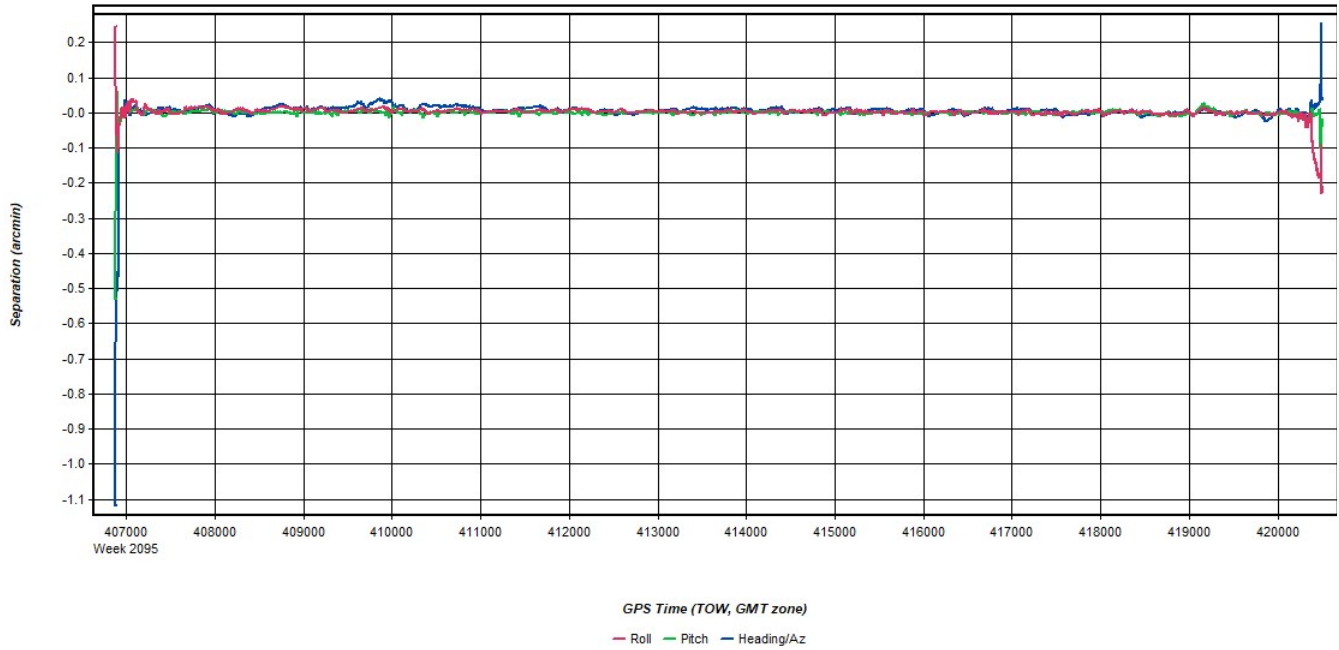
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 8: 20200305165601 [Smoothed TC Combined] - Status flag for IMU processing



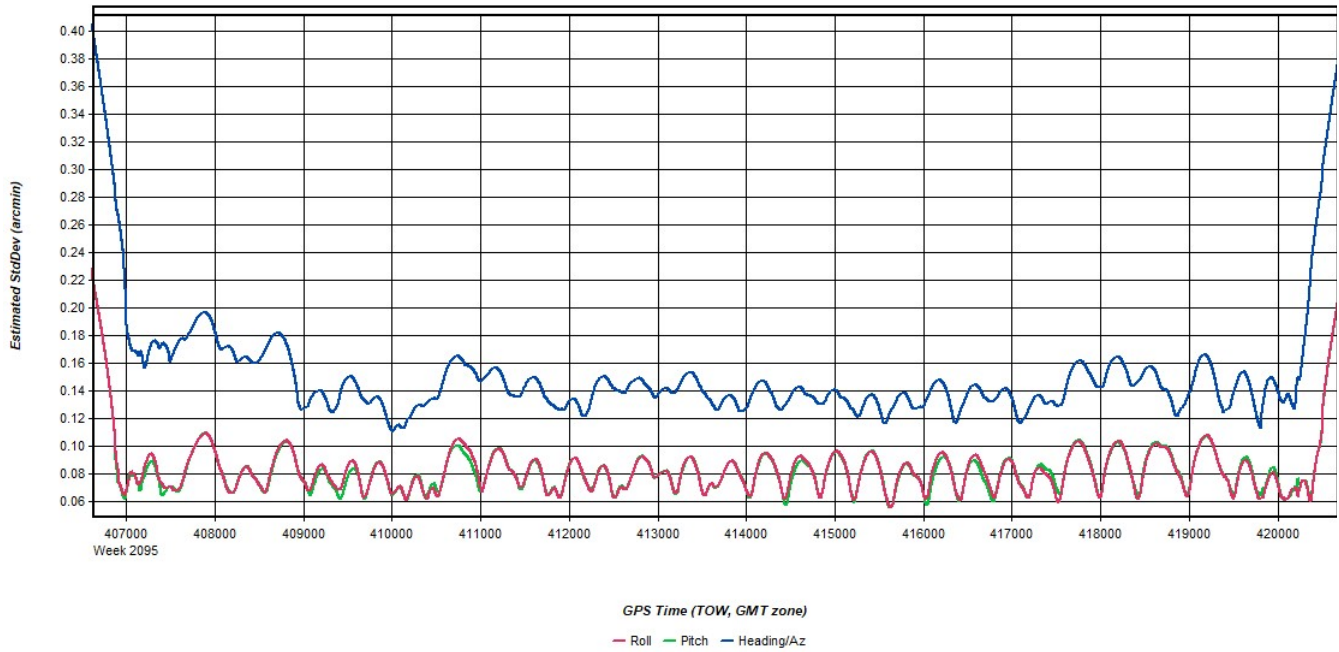
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 9: 20200305165601 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



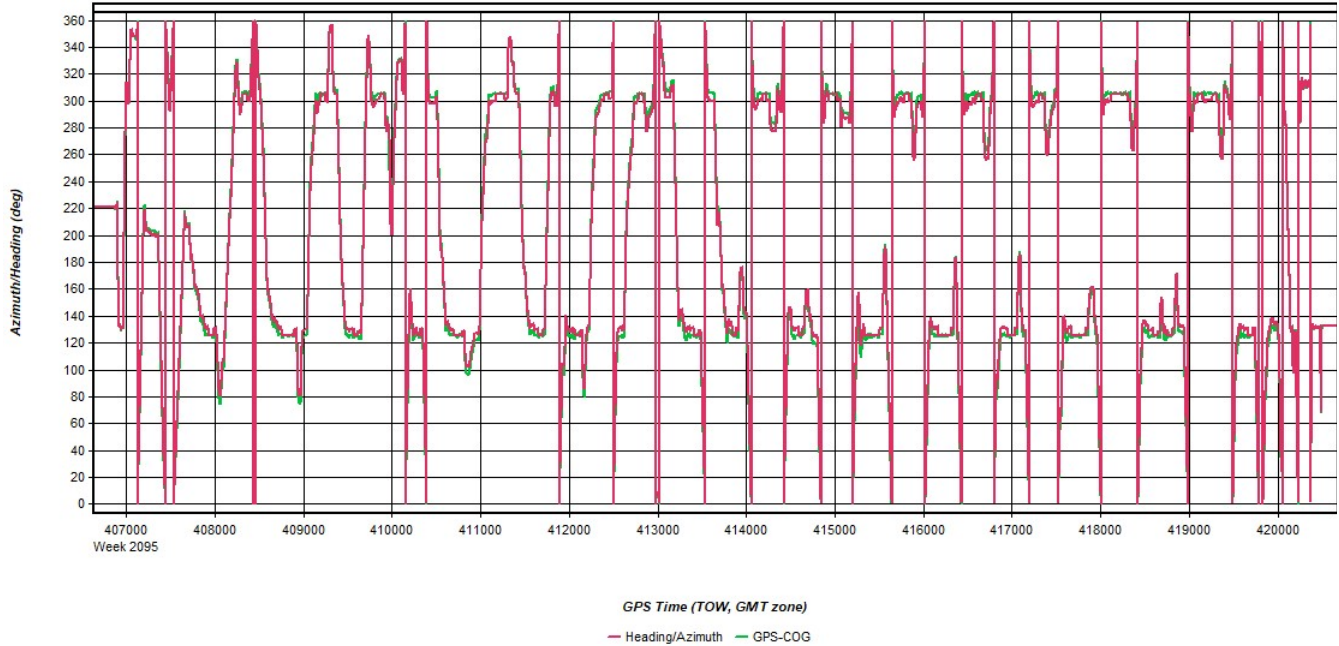
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 10: 20200305165601 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot



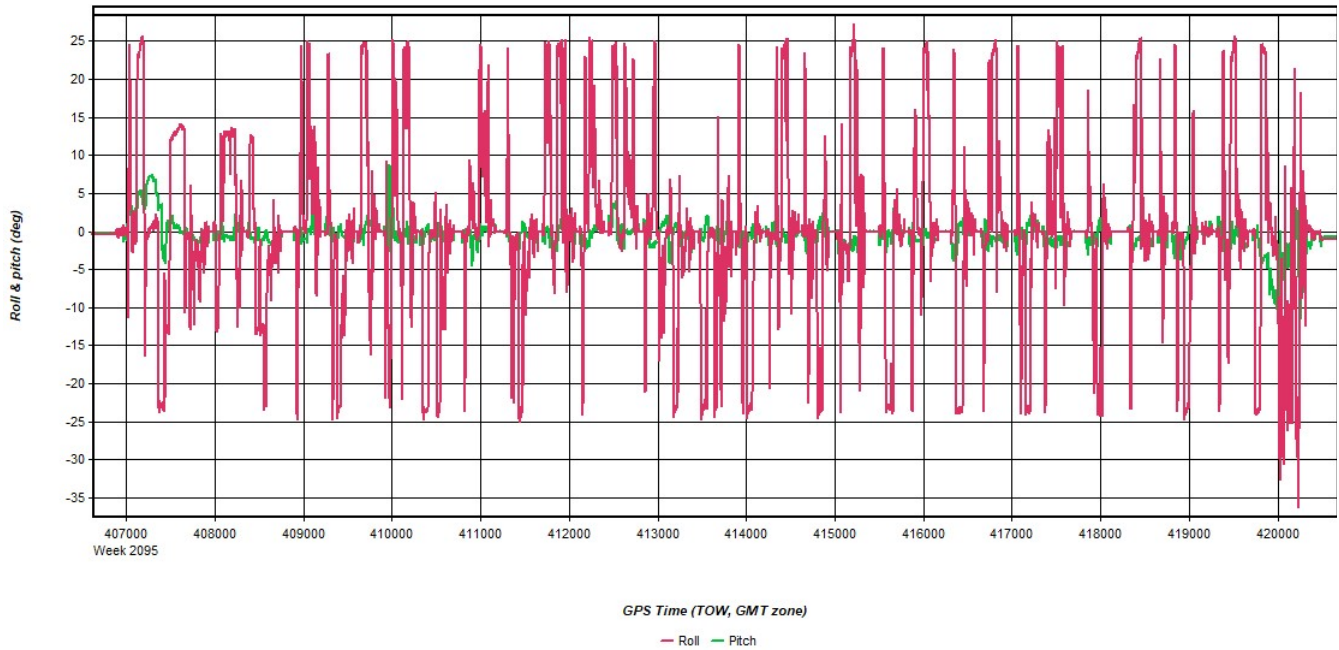
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 11: 20200305165601 [Smoothed TC Combined] - Azimuth Plot



Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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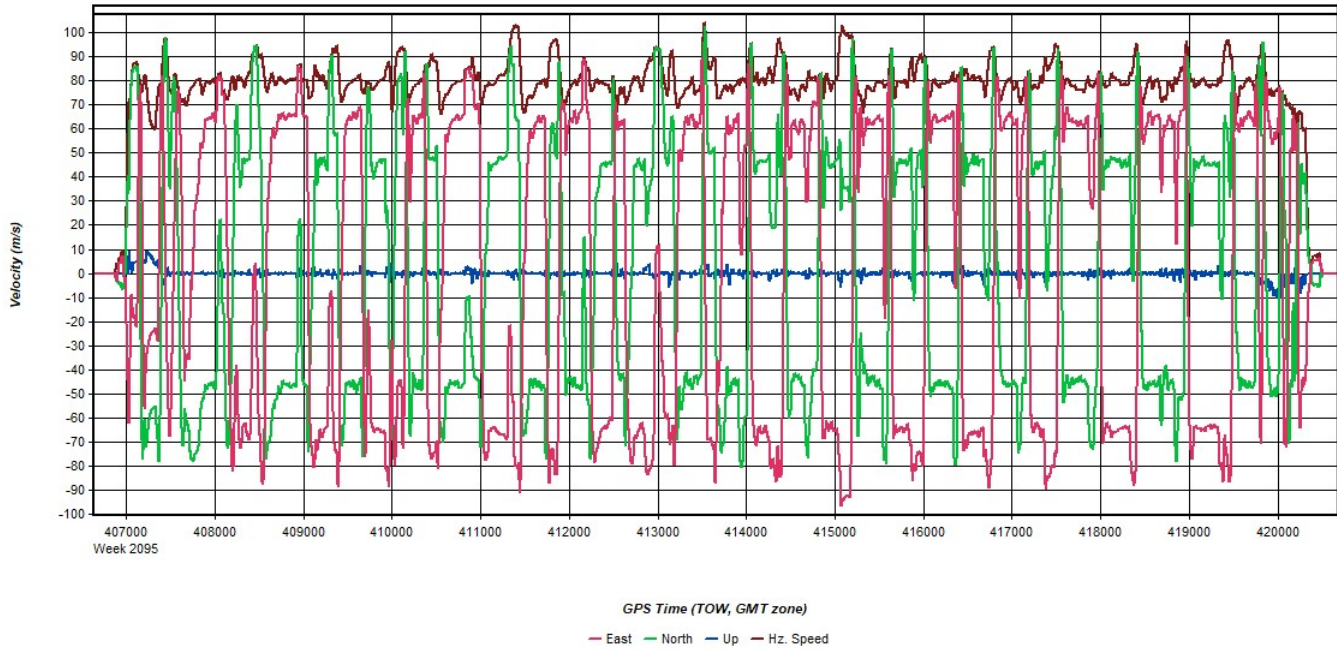
Figure 12: 20200305165601 [Smoothed TC Combined] - Roll & Pitch Plot



Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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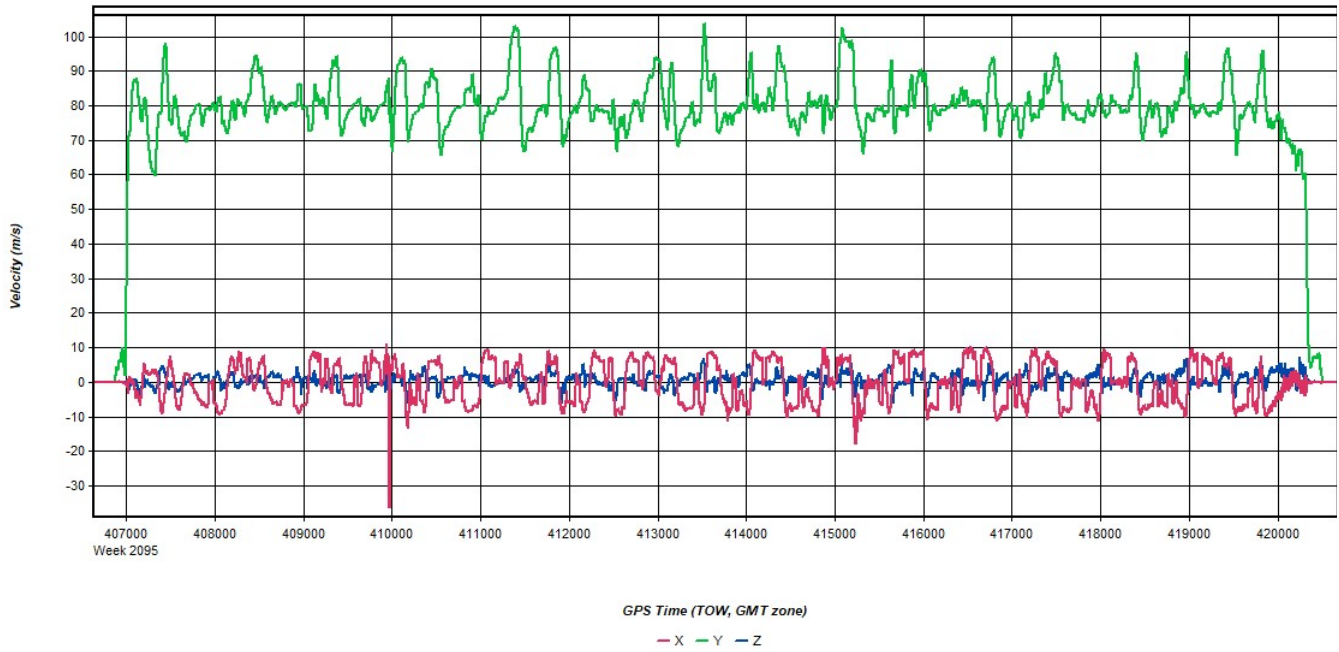


Figure 13: 20200305165601 [Smoothed TC Combined] - Velocity Profile Plot



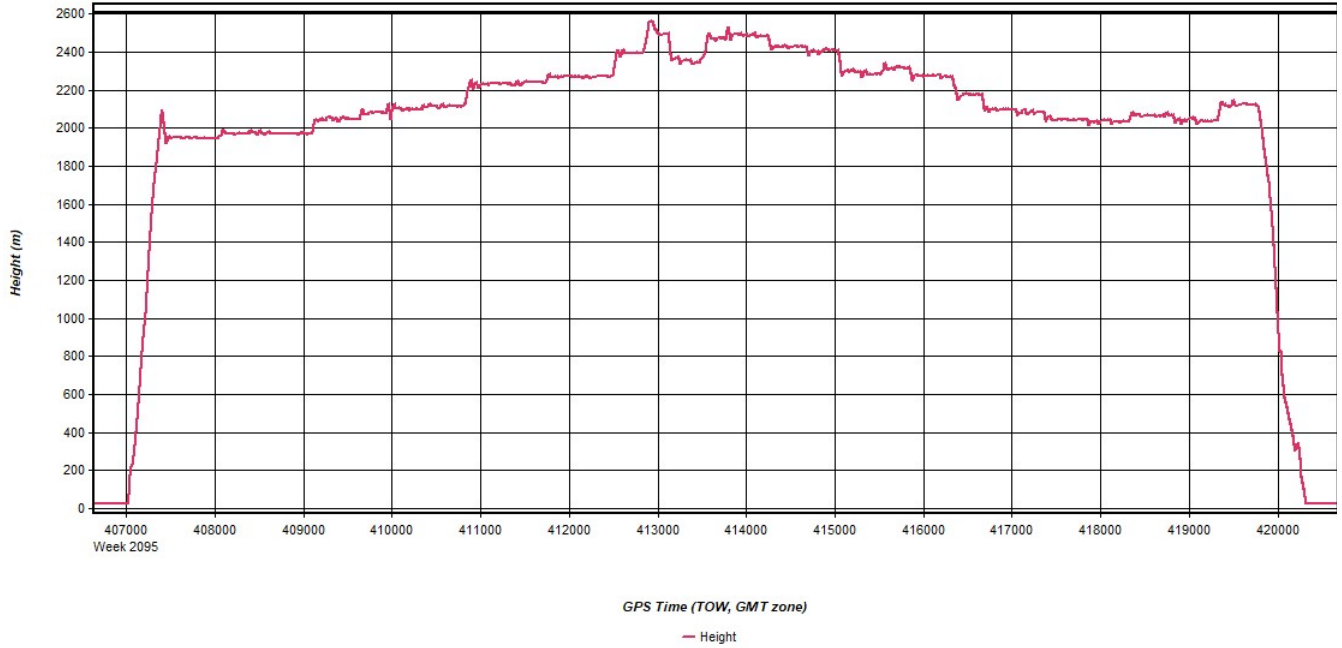
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 14: 20200305165601 [Smoothed TC Combined] - Body Frame Velocity Plot



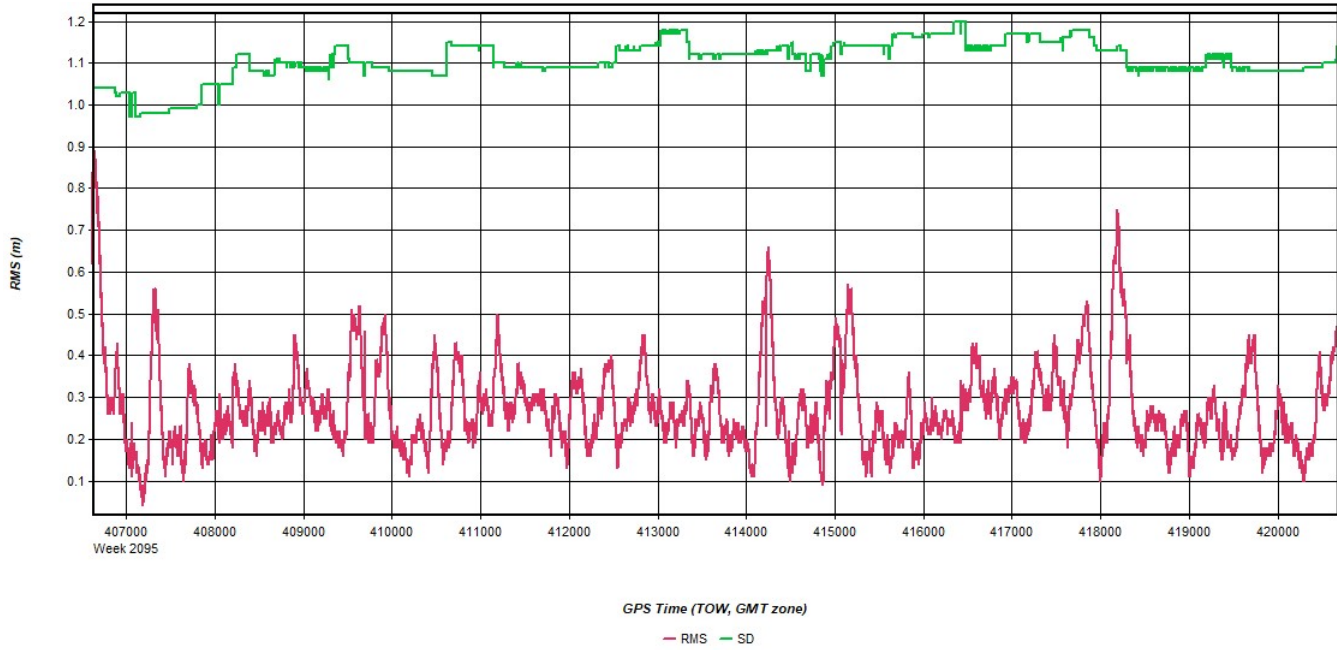
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 15: 20200305165601 [Smoothed TC Combined] - Height Profile Plot



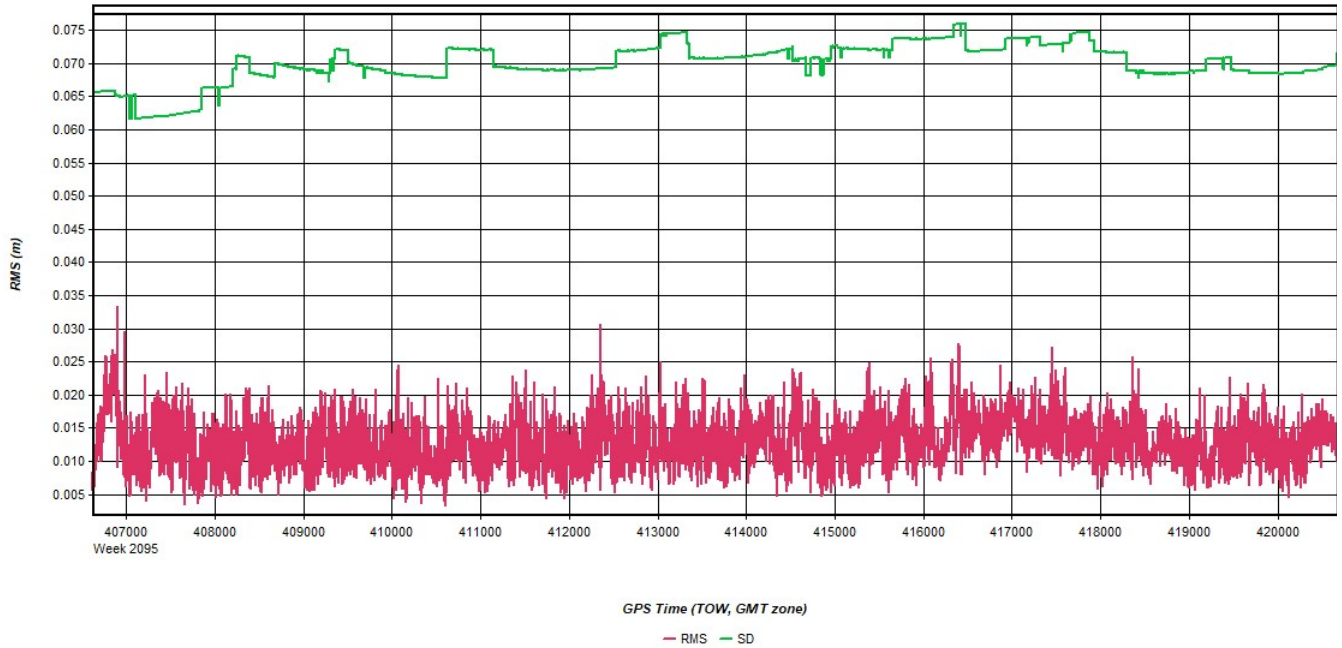
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 16: 20200305165601 [Smoothed TC Combined] - C/A Code Residual RMS Plot



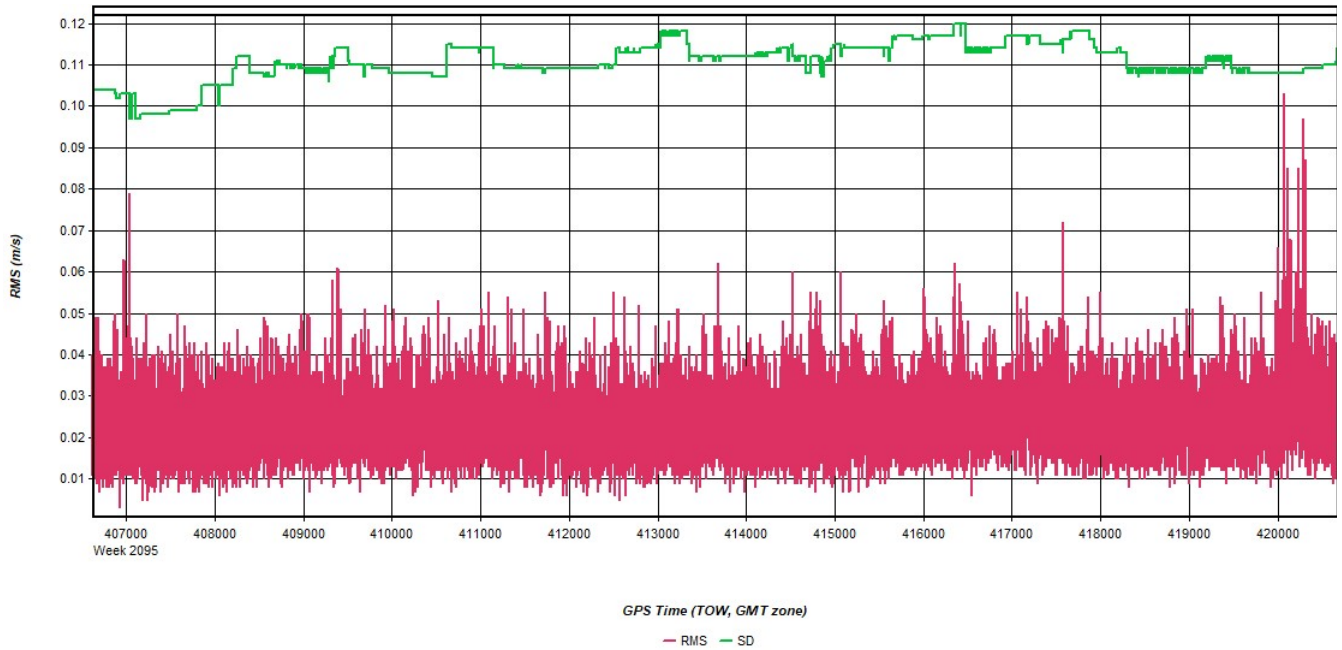
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 17: 20200305165601 [Smoothed TC Combined] - Carrier Residual RMS Plot



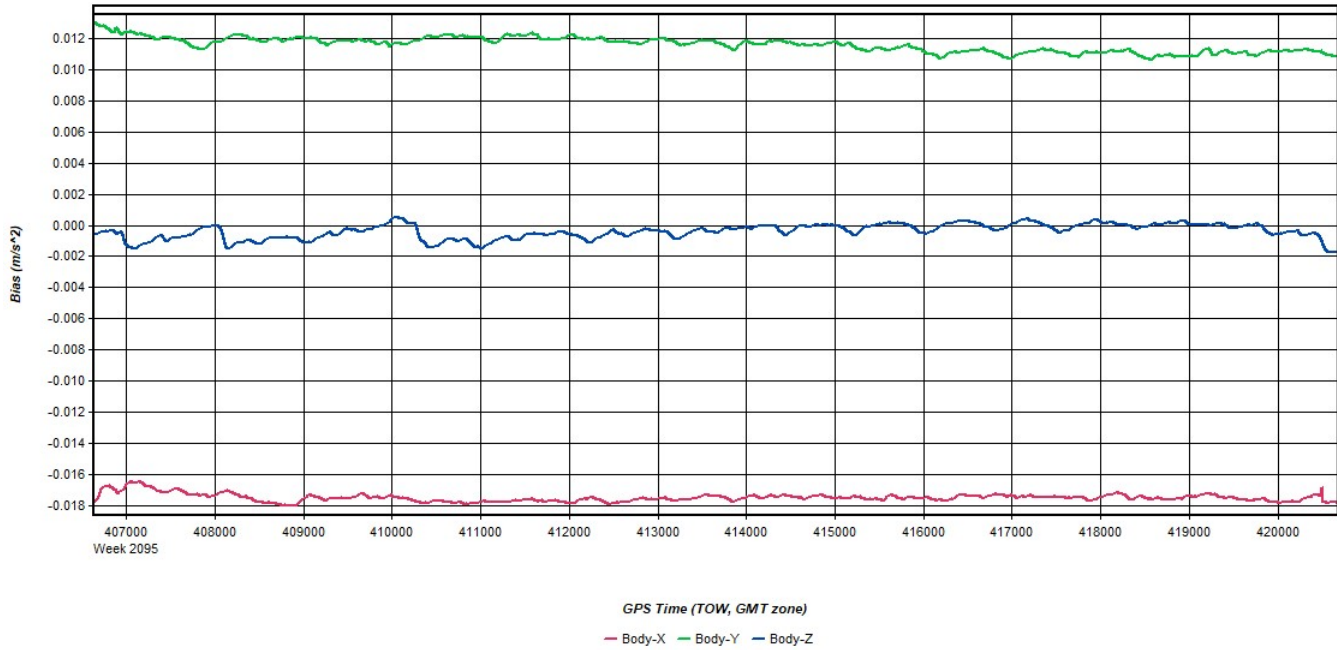
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 18: 20200305165601 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



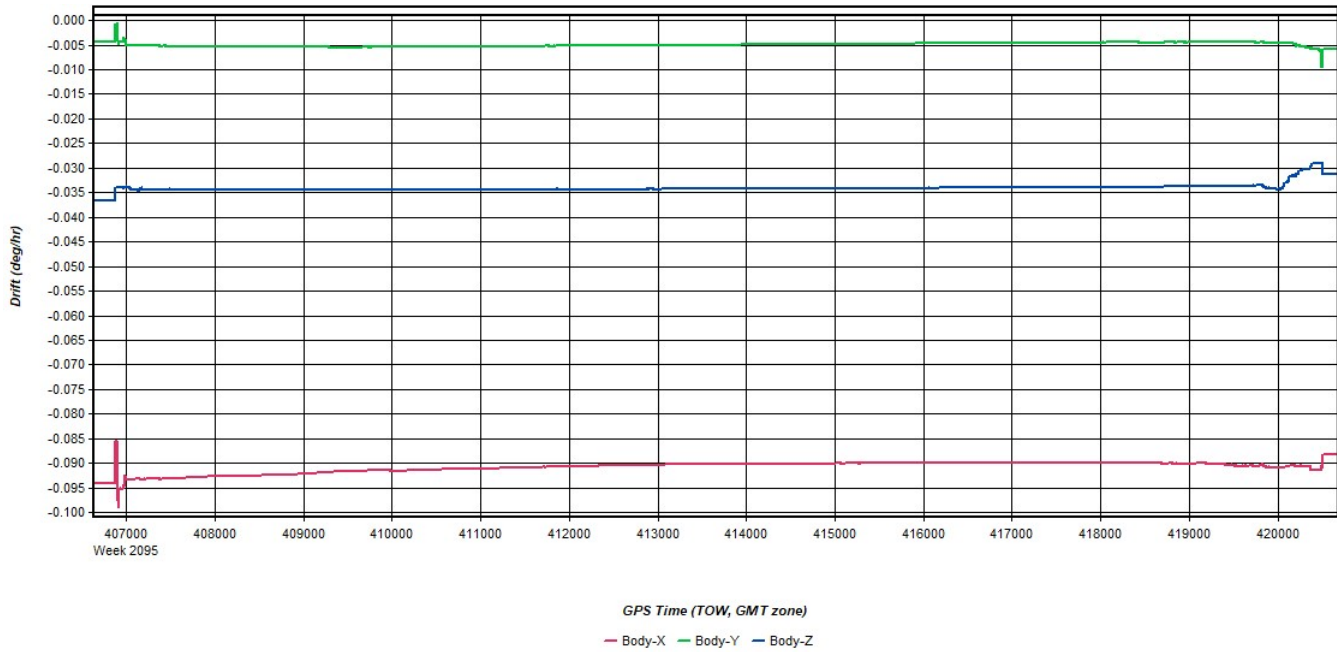
Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 19: 20200305165601 [Smoothed TC Combined] - Accelerometer Bias Plot

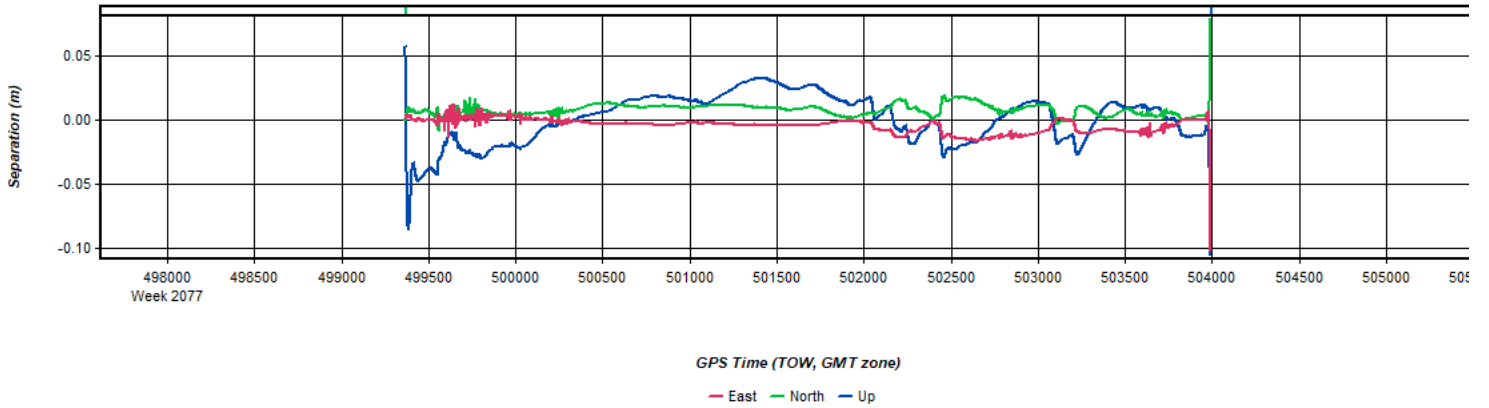


Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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Figure 20: 20200305165601 [Smoothed TC Combined] - Gyro Drift Plot

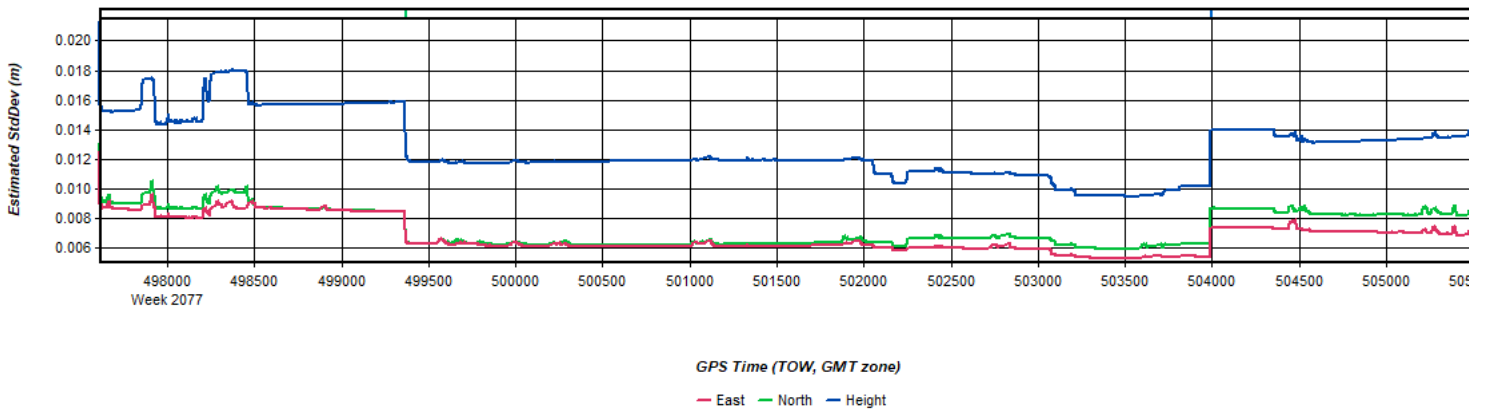


Process	20200305165601	by Unknown	on 3/7/2020	at 09:53:46
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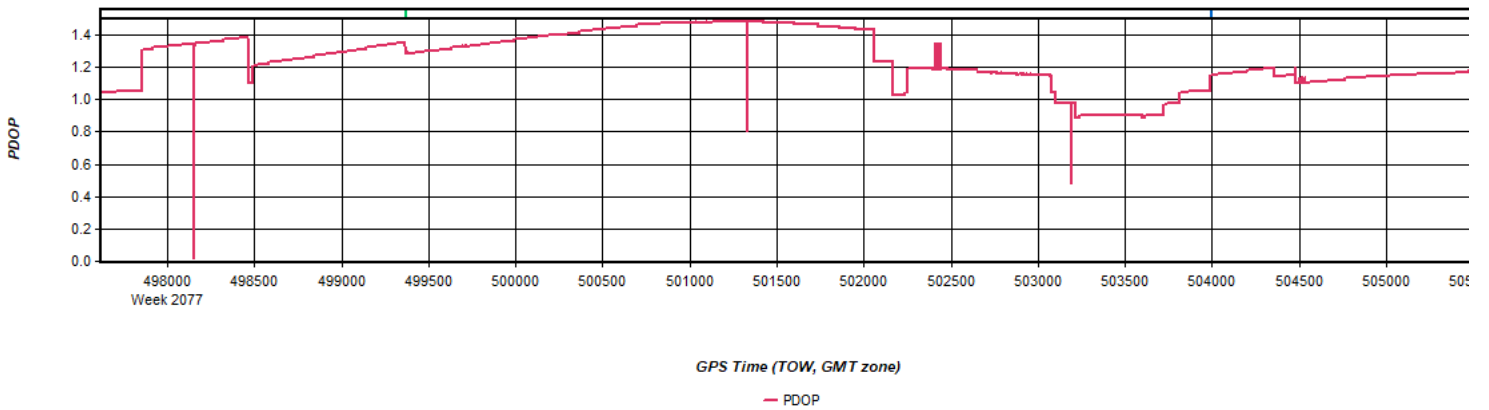
Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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Figure 4: 20191101181228 [Smoothed TC Combined] - Estimated Position Accuracy Plot



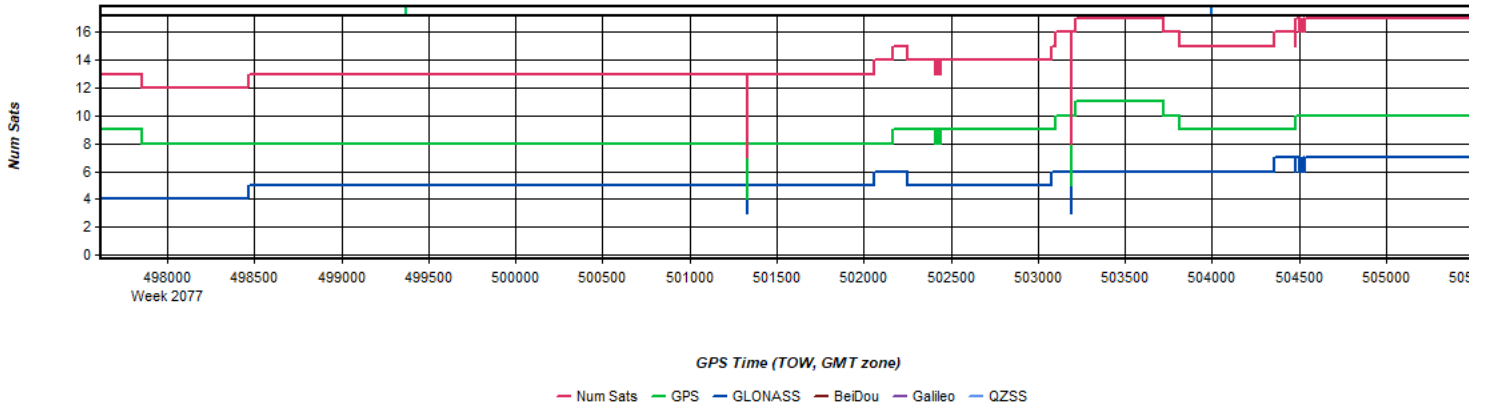
Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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Figure 5: 20191101181228 [Smoothed TC Combined] - PDOP Plot



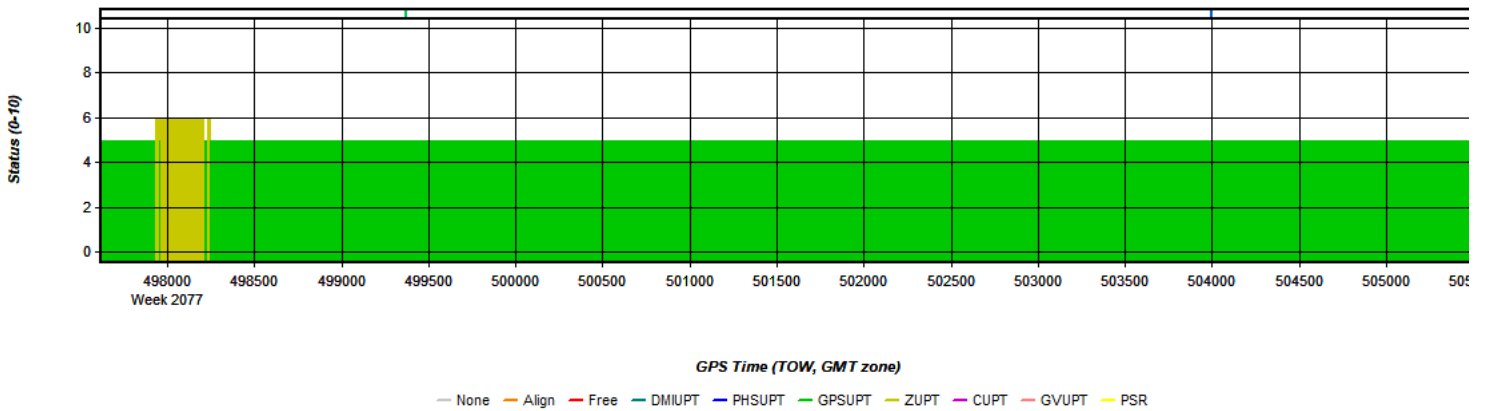
Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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Figure 6: 20191101181228 [Smoothed TC Combined] - Number of Satellites Line Plot



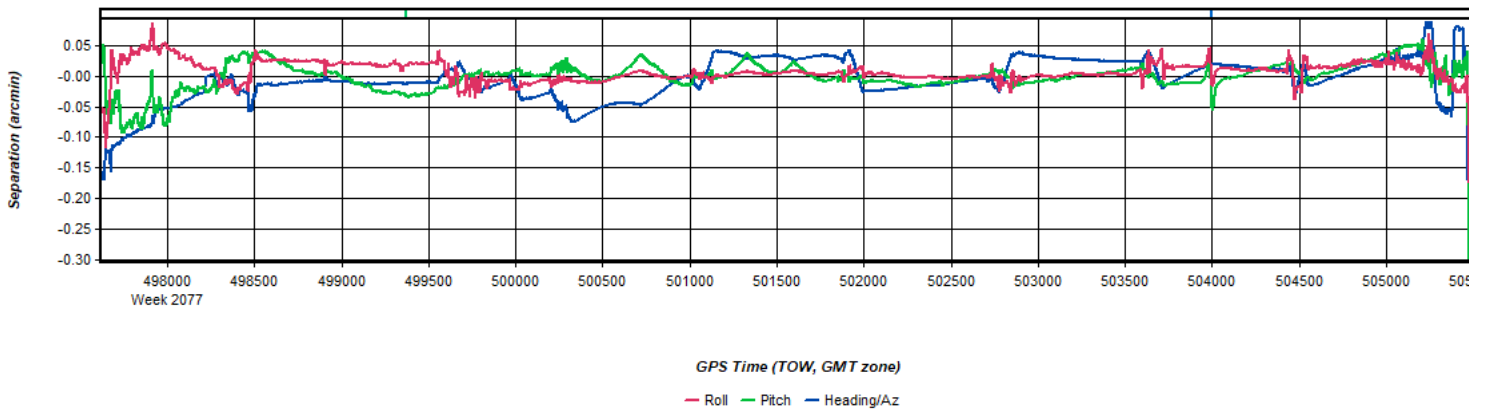
Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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Figure 7: 20191101181228 [Smoothed TC Combined] - Status flag for IMU processing



Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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Figure 8: 20191101181228 [Smoothed TC Combined] - Fwd/Rev Attitude Separation Plot



Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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Figure 9: 20191101181228 [Smoothed TC Combined] - Estimated Attitude Accuracy Plot

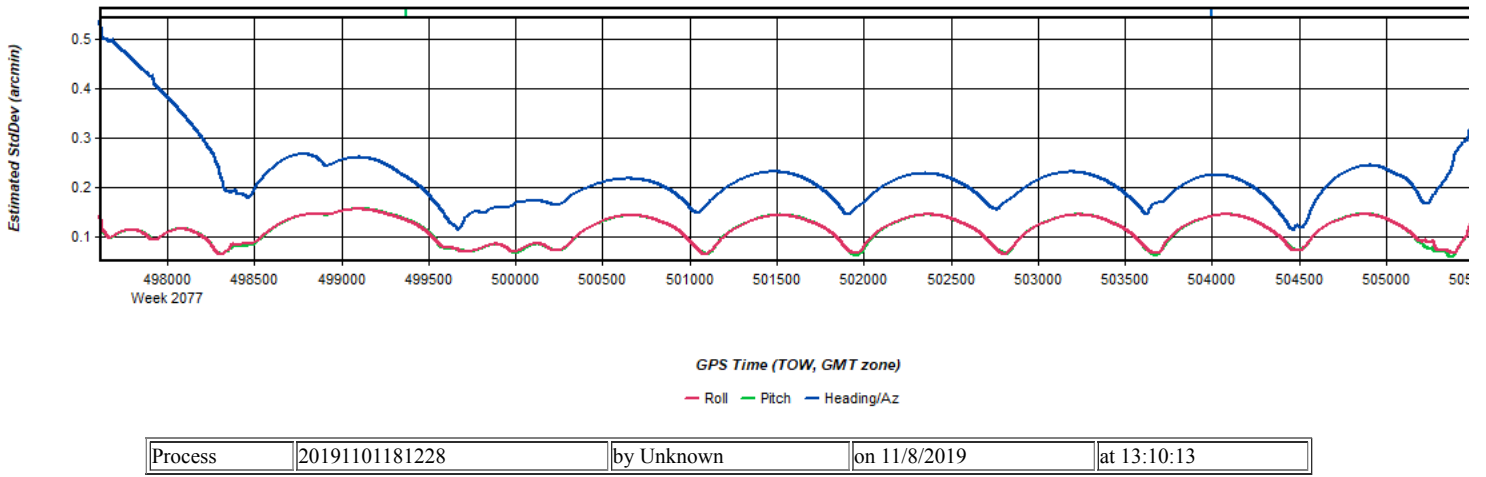


Figure 10: 20191101181228 [Smoothed TC Combined] - Azimuth Plot

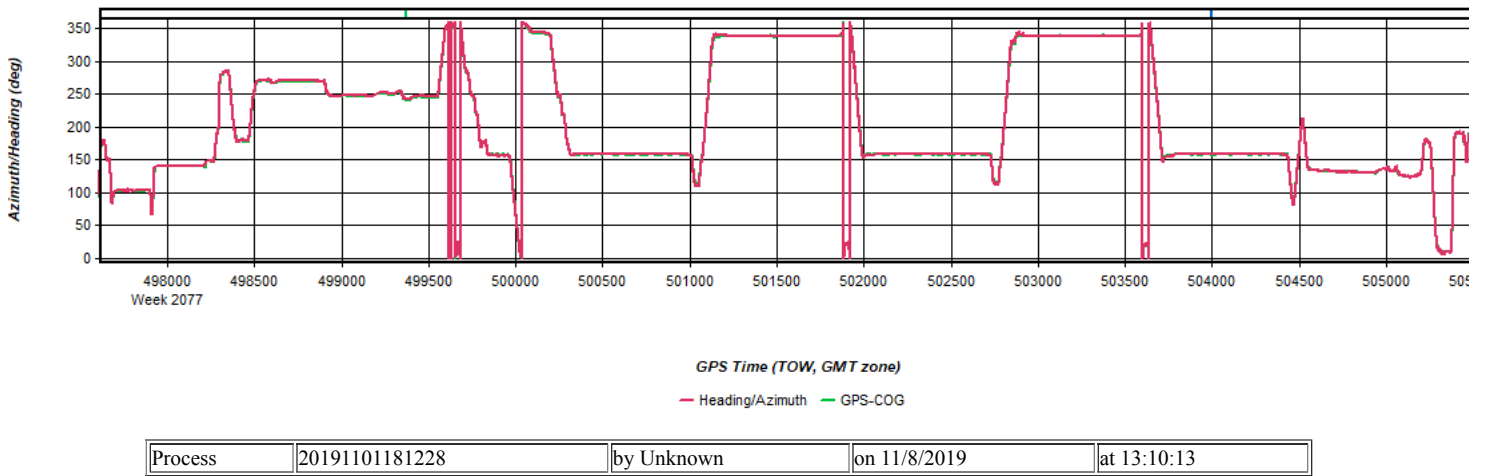


Figure 11: 20191101181228 [Smoothed TC Combined] - Roll & Pitch Plot

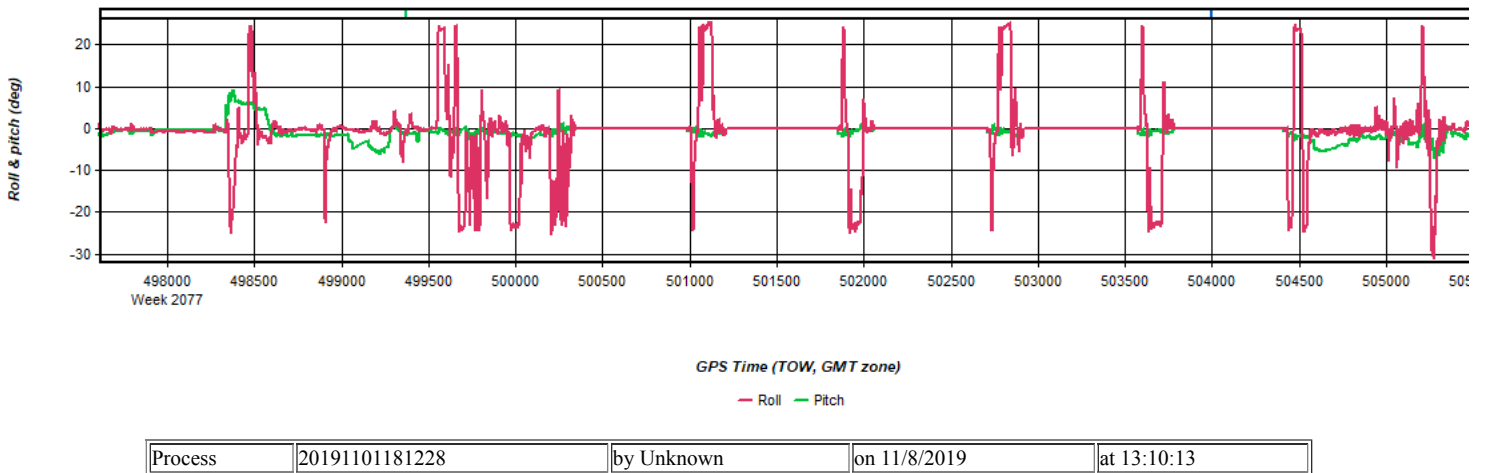


Figure 12: 20191101181228 [Smoothed TC Combined] - Velocity Profile Plot

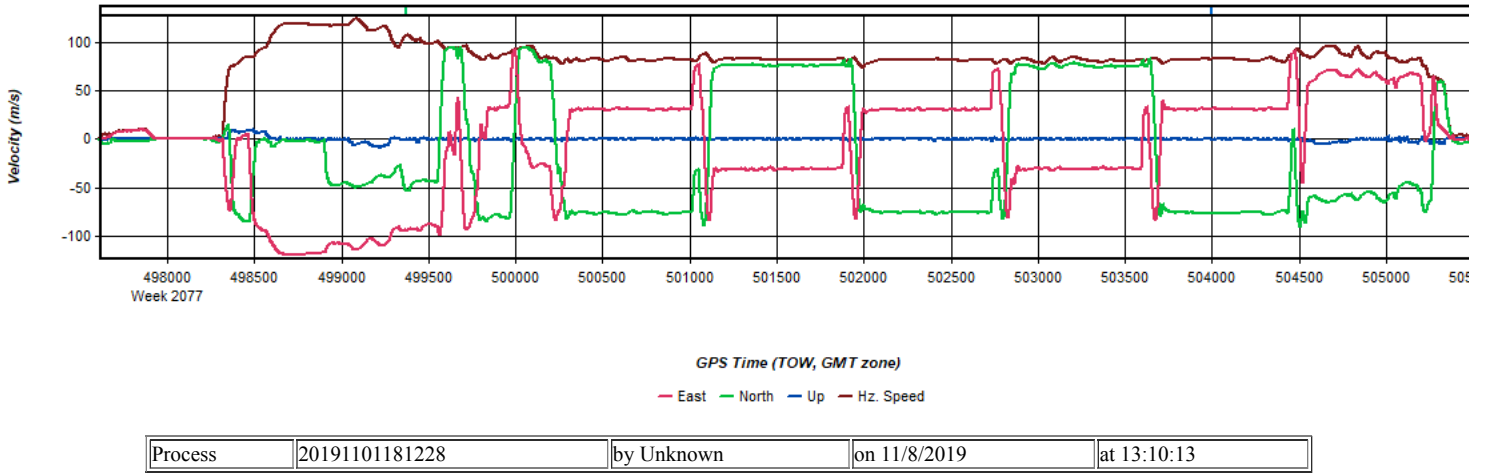


Figure 13: 20191101181228 [Smoothed TC Combined] - Body Frame Velocity Plot

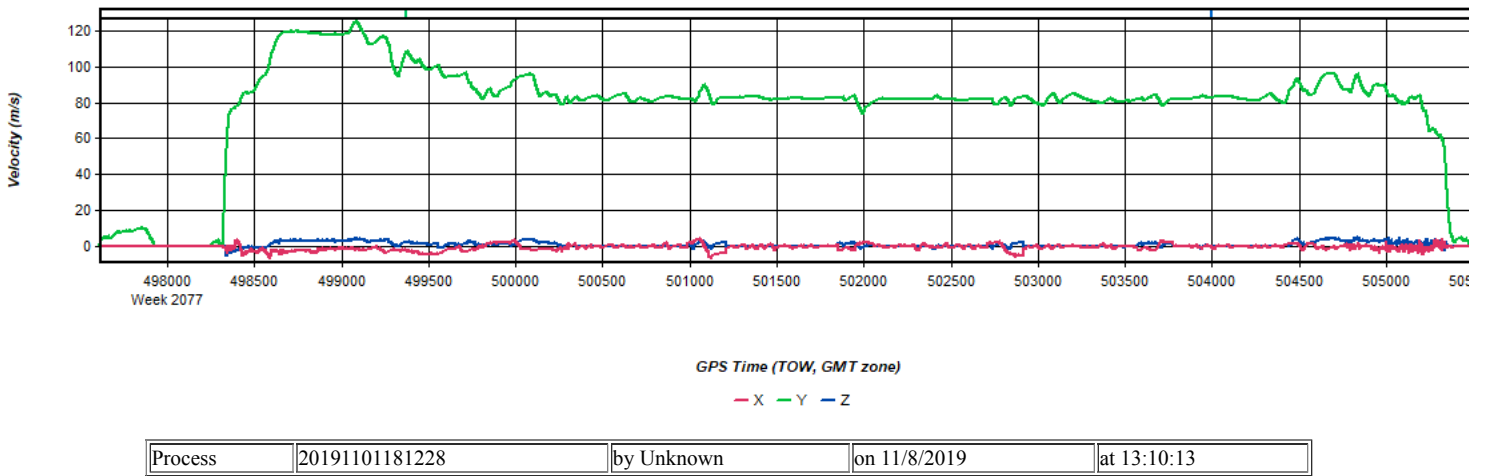


Figure 14: 20191101181228 [Smoothed TC Combined] - Height Profile Plot

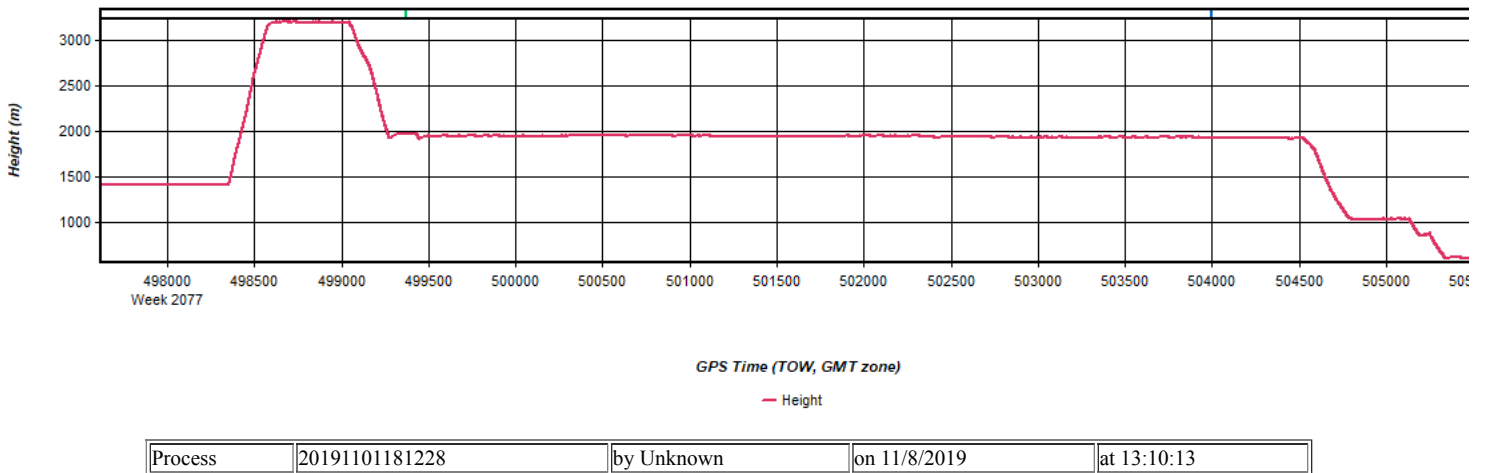
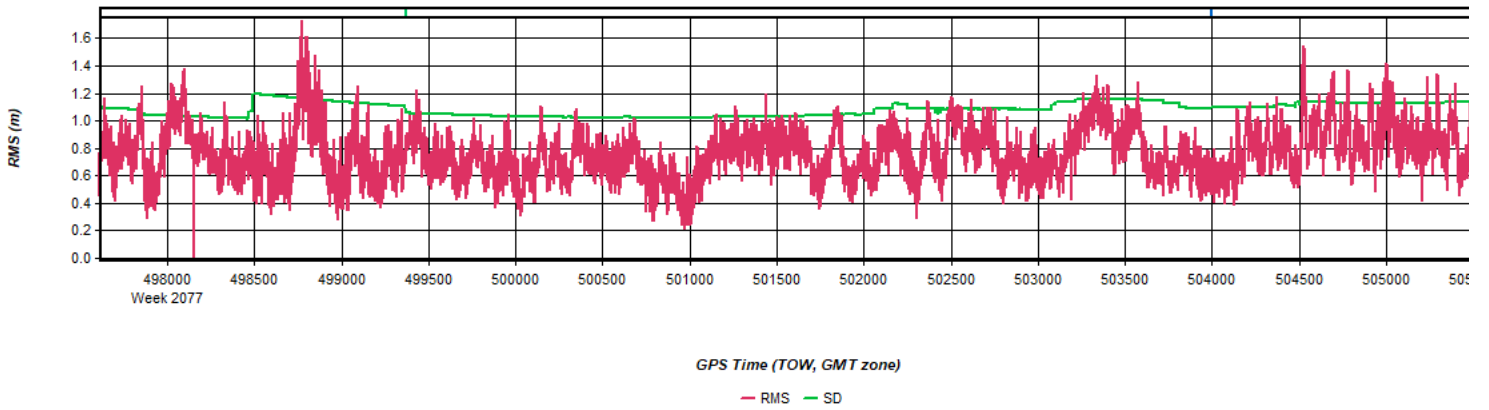


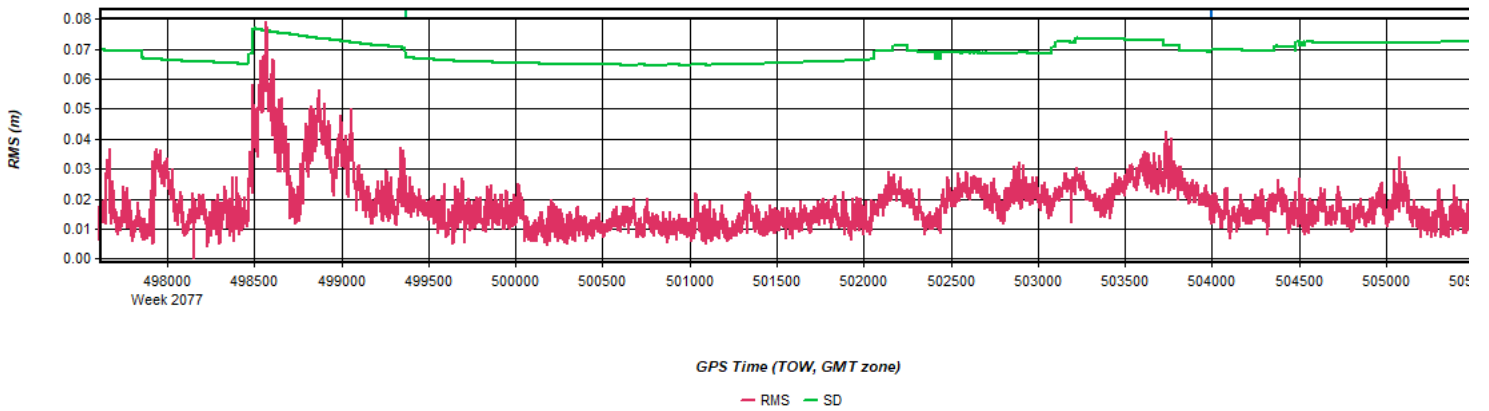
Figure 15: 20191101181228 [Smoothed TC Combined] - C/A Code Residual RMS Plot





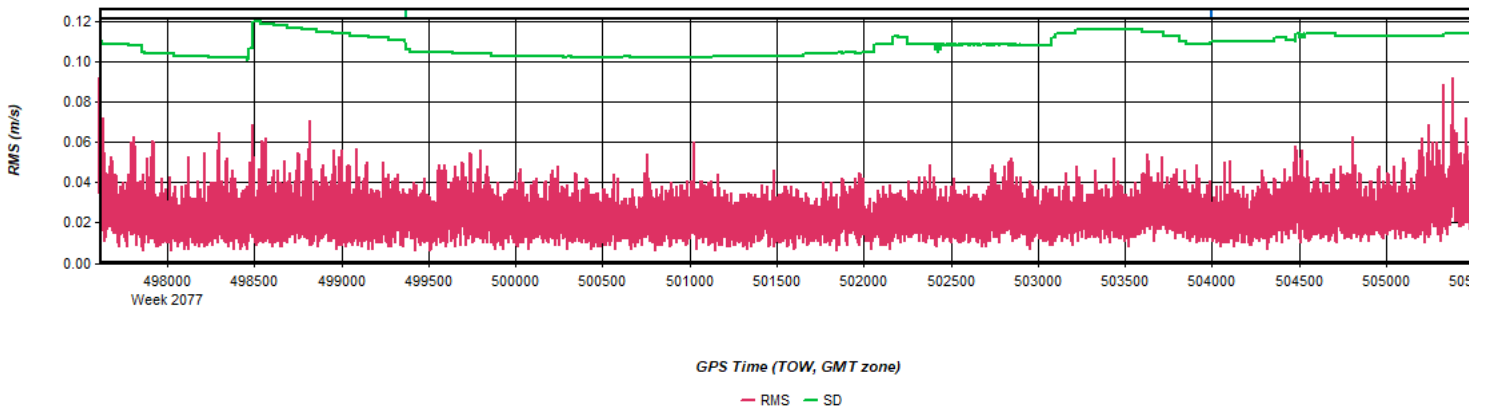
Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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Figure 16: 20191101181228 [Smoothed TC Combined] - Carrier Residual RMS Plot



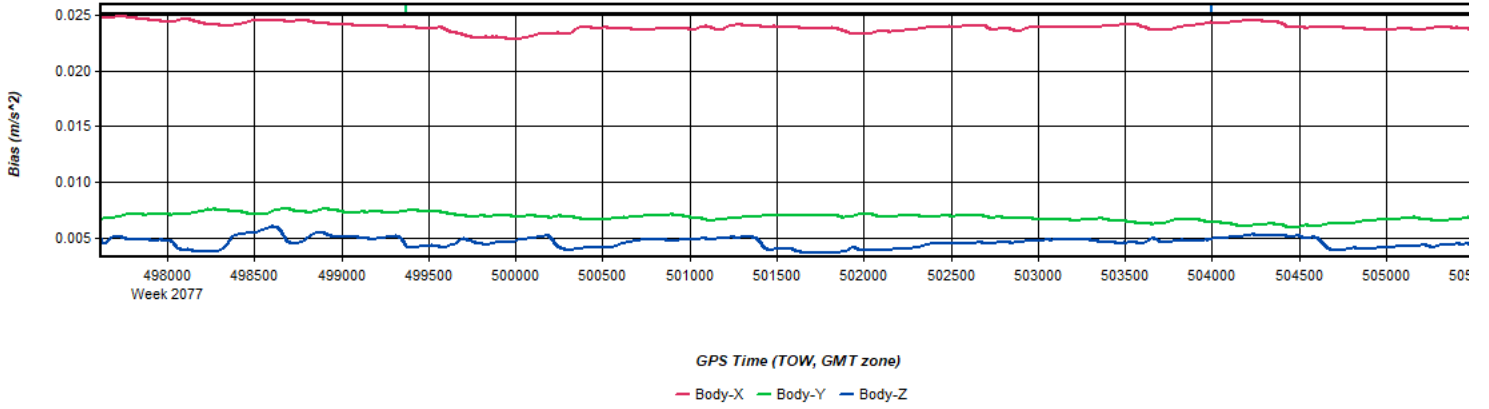
Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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Figure 17: 20191101181228 [Smoothed TC Combined] - L1 Doppler Residual RMS Plot



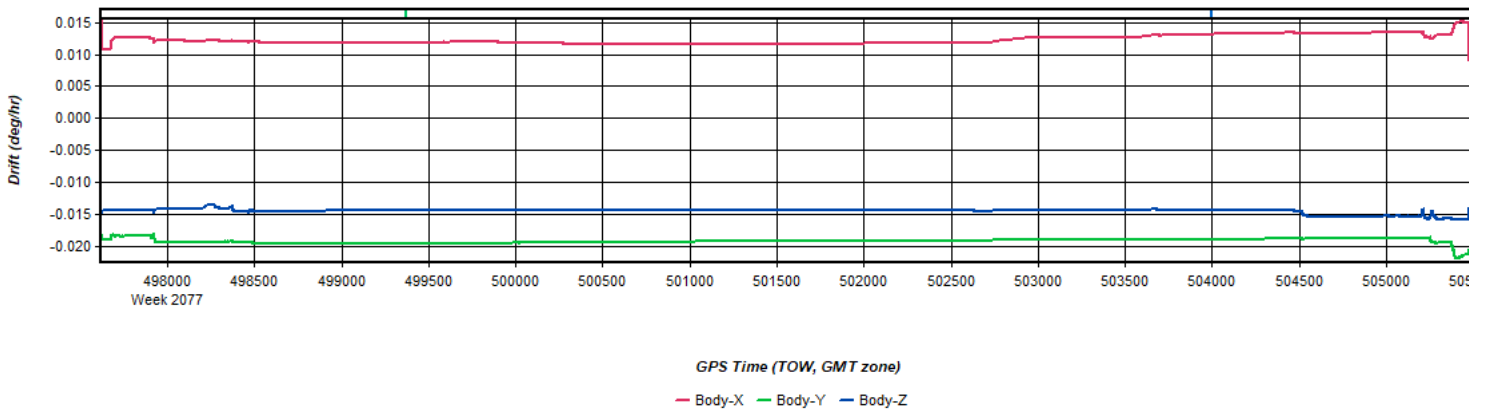
Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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Figure 18: 20191101181228 [Smoothed TC Combined] - Accelerometer Bias Plot



Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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Figure 19: 20191101181228 [Smoothed TC Combined] - Gyro Drift Plot



Process	20191101181228	by Unknown	on 11/8/2019	at 13:10:13
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