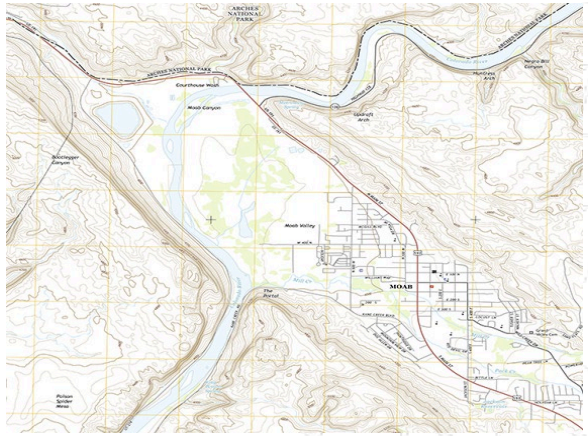
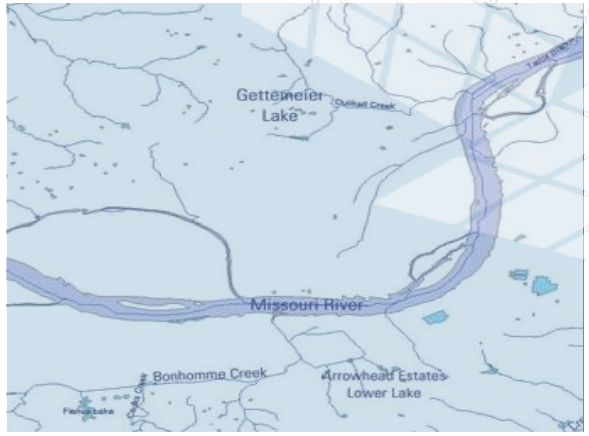
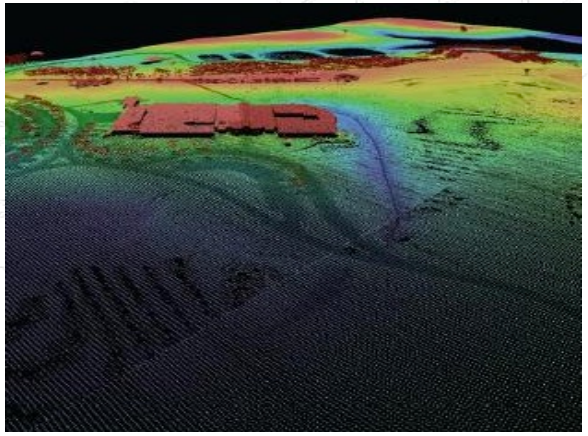
GPSC Technical Exchange







USGS science for a changing world

The National Map
Your Source for Topographic Information

Josh Nimetz
National Geospatial Program | National Geospatial Technical Operations Center
Virtual Web Conference
September 14, 2021

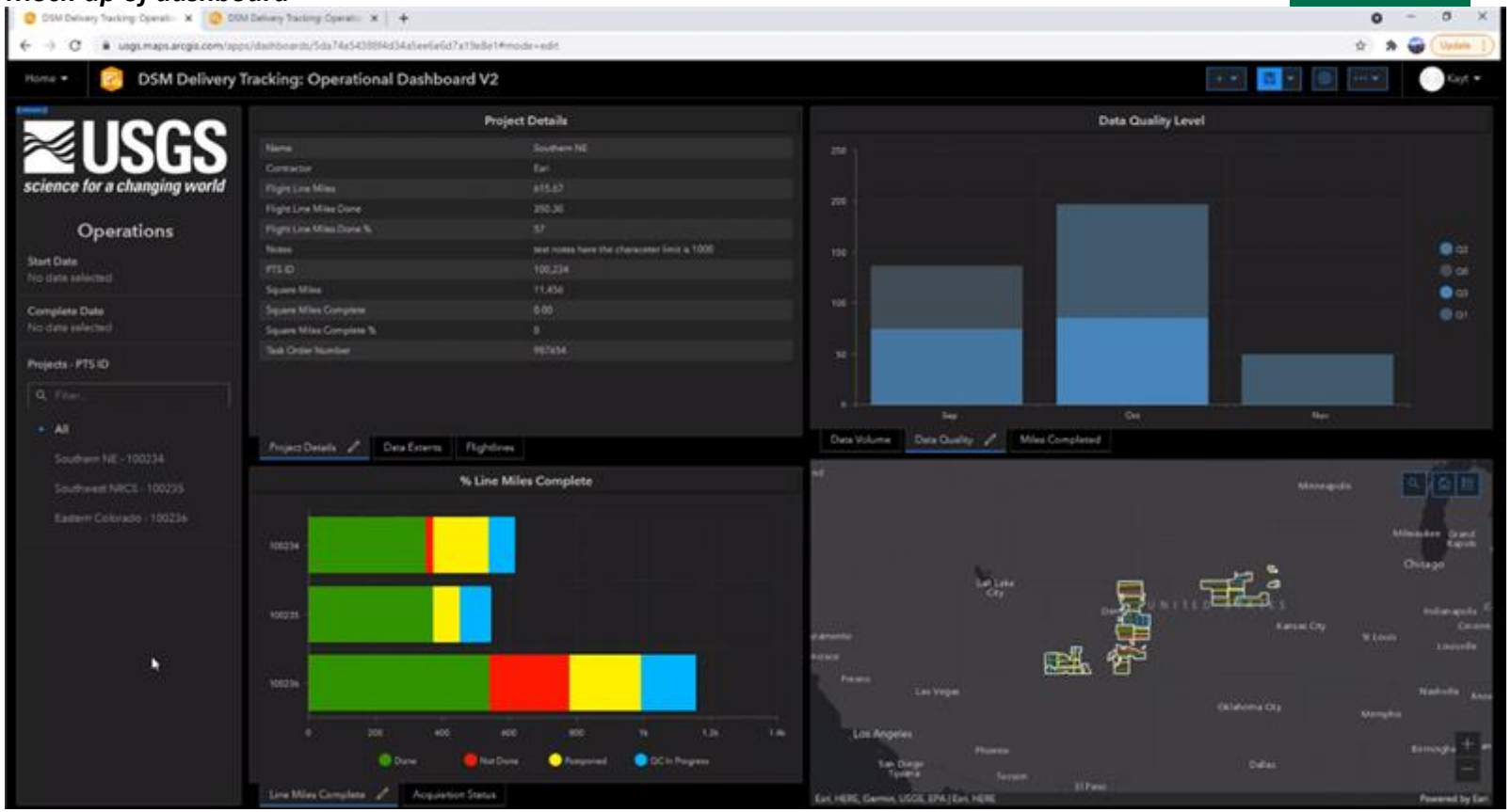
Topics for discussion

- Section 508 compliance
- Contractor acquisition and production tracking application
- The technical guidance template
- Decimal precision for 3DEP products
- Spec news – discussions underway regarding the following proposals
  - Consistent linear units of reference for x, y, and z
  - No more ‘Feeters’ projects (if approved by ESRB)
  - No metadata for metadata
  - Minor clarification to language about classification codes not being used to define overlap points
  - ASPRS “3 times better than…” language for checkpoints
- Open Q&A

Contractor Acquisition and Production Tracking Application

- Application will convey contractor status of acquisition and production for active 3DEP projects
- 3 primary features in ArcGIS Pro
  - DPA
  - Planned flight line vectors
  - Dissolve of tiles in production
- Application primarily needed to
  1. Convey data extent / quantity to be delivered to USGS
  2. Convey status of acquisition to interested stake holders

Mock-up of dashboard



Contractor Acquisition and Production Tracking Application

- USGS will provide basic rules for interfacing with this system
- We anticipate rules and best practices will change over time with experience
- Anticipated date for delivery of data should be conservative, but realistic
  - USGS will assume +/- 2 weeks of anticipated delivery date listed for data block

Primary attribution – Not Final!

Flightline Vector Feature Class			
Fields/Attribution	**Domain controlled values**	**Data Type**	**Description**
PTS_ID_Proj		Long Int	PTS ID of Project/Work Package - PTS is an internal project management system
Line_Miles		Long Int	Length of each line in native CRS (miles)
Acq_Status	Done	String	Acquisition done
	QC_IP		QC in progress
	Not_Done		Acquisition not done
Acq_Date		Date	Acquistion date
Delay	None	String	
	Delay-HW		Delay due to hardware malfunction
	Delay-Av		Delay due to aircraft
	Delay-Wthr		Delaty due to weather
	Delay-Env		Delay due to unfavorable ground conditions
	Re-Acquire		Lines need to be re-acquired due to data issues
Notes		String	Free text
Data Extents Polygon			
PTS_ID_Proj		Long Int	PTS ID of Project/Work Package - PTS is an internal project management system
Sq_Mi		Long Int	Surface area in native CRS (square miles)
Data_Volume		Long Int	Data volume of LAS in GB
Delivery Date		Date	Delivery date
Delivery Status	Anticipated	String	Delivery status
	Actual		
CRS EPSG		Int	Primary CRS for data
QL	QL3	Int	Lidar Quality Level
	QL2		
	QL1		
	QL0		
Notes		String	Free text - Example: two different hydro-treatment DEMs in one block of data

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GPSCTechnicalInquiries@usgs.gov

+ Tracking Technical Guidance

- Primary need is for USGS to understand when these changes will be implemented for each active task
- USGS needs confirmation of these changes to facilitate data validation
- This is an initial attempt at standardizing documentation
- Intended implementation can be noted by an 'X' or by a date for each item

DRAFT - Technical Guidance Confirmation - DRAFT

Follow-up to 3DEP Technical Exchange Meeting held on: July 13, 2021

Contractor: ABC

				Lidar Base Specification 2021 rev. A								Lidar Base Specification 2020 rev. A							
Active Task Name	Project PTS ID	Implementation Date	Notes	Clarification: Restrict use of the LAS Withheld bit flag	Clarification: LAS withheld bit flag proof of performance	Maximum Surface Height Rasters (now included with proof of performance revision)	Lidar Mapping Report	Clarification: Checkpoints within DPA	Checkpoint Photography Delivery Update	Swath Separation Imagery Update	Revise use of the Overlap Bit Flag	Update LAS reference to R15	Clarify unrestricted rights clause	Require photographs of checkpoints	Clarify class 0 and withheld flagging	Revise swath polygon requirements	Revise use of withheld flag	Vertical accuracy assessment using ground points	Swath Separation Images

Decimal Precision for 3DEP

- Deliberations underway to determine the following:
  - Appropriate scale factor (decimal precision) for airborne lidar data (0.01 or 0.001 or ??)
    - Variable by QL? Consistent regardless?
  - Appropriate decimal precision for surveyed ground truth coordinates supporting an airborne lidar project (0.01 or 0.001 or ??)
  - Appropriate decimal precision for statistical results such as RMSE or 95% CI for the airborne lidar data (0.01 or 0.001 or ??)
  - Should decimal precision remain the same for both meters and feet?

- We welcome your feedback and thoughts on this topic!

Walk-on Topics | Q&A

- Spec update proposals currently in discussion
  - Consistent linear units of reference for x, y, and z
  - No more ‘Feeters’ projects (if approved by ESRB)
  - No metadata for metadata
  - Minor clarification to language about classification codes not being used to define overlap points
  - ASPRS “3 times better than…” language for checkpoints