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## Project Information

Prepared By: DAS  
Project Name: CA\_USA\_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: CA\_USA\_Eldorado\_Tile\_Extent\_D2.shp

Number of Polys: 0

### Intensity:

Tile Index Attribute: Not Specified

Data Filename: Not Specified

### DEM:

Tile Index Attribute: Tile\_ID

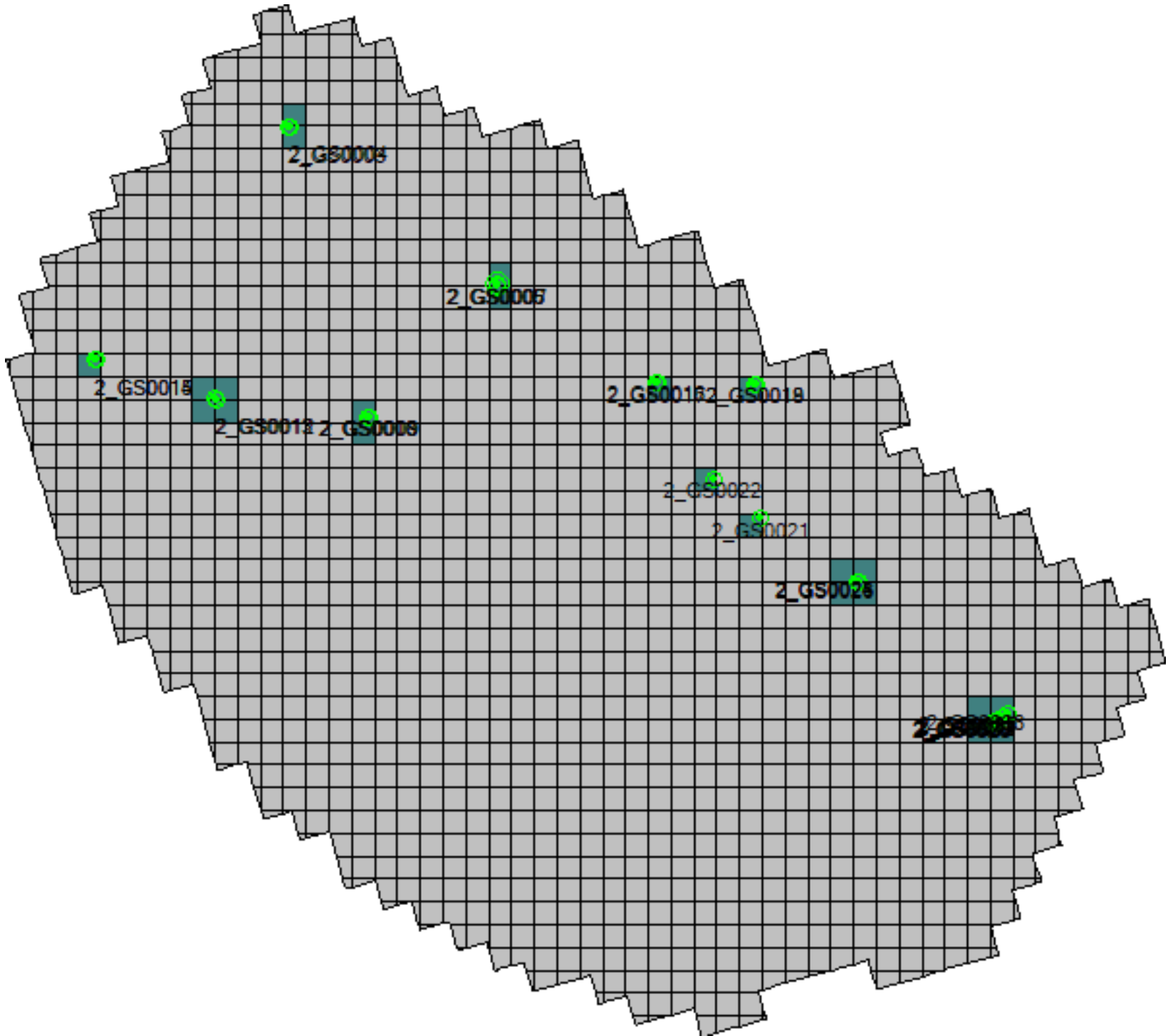
Data Filename: South\_DEM

### LAS:

Tile Index Attribute: Tile\_ID

Data Filename: South\_LAS\_SPC

## Tiled-Data Area



## LiDAR Accuracy Assessment Summary

LC Type	# Points	NVA	VVA	RMSE Z
LAS		95% Confidence	95 Percentile	
Bare Earth	14	0.285		0.145
Low Vegetation	7		0.570	0.404
Medium Vegetation	5		0.473	0.275
Urban Terrain	4	0.474		0.242
NVA Total:	18	0.336		0.172
VVA Total:	12		0.557	0.356
Total:	30			0.261
DEM		95% Confidence	95 Percentile	
Bare Earth	14	0.307		0.157
Low Vegetation	7		0.526	0.376
Medium Vegetation	5		0.523	0.305
Urban Terrain	4	0.484		0.247
NVA Total:	18	0.354		0.181
VVA Total:	12		0.523	0.348
Total:	30			0.261
			Units:	US Survey Feet

## Coordinates and Offsets of Analyzed Locations

	ID			Z1	Z DEM	Z LAS	
		Survey X	Survey Y				
			LC Type				ΔZ DEM
1)	<input checked="" type="checkbox"/>	<b>2_GS0006</b>					
		6718428.567	1642598.726	302.815	302.532	302.538	
				Bare Earth	-0.283	-0.277	
2)	<input checked="" type="checkbox"/>	<b>2_GS0007</b>					
		6718478.552	1642684.411	300.745	300.609	300.624	
				Bare Earth	-0.136	-0.121	
3)	<input checked="" type="checkbox"/>	<b>2_GS0009</b>					
		6704461.975	1628150.119	541.627	541.582	541.625	
				Bare Earth	-0.045	-0.002	
4)	<input checked="" type="checkbox"/>	<b>2_GS0010</b>					
		6704319.883	1628087.78	543.574	543.346	543.379	
				Bare Earth	-0.228	-0.195	
5)	<input checked="" type="checkbox"/>	<b>2_GS0012</b>					
		6687775.245	1630013.506	729.591	729.623	729.631	
				Bare Earth	0.032	0.04	
6)	<input checked="" type="checkbox"/>	<b>2_GS0014</b>					
		6674438.359	1634333.095	1601.834	1601.881	1601.853	
				Bare Earth	0.047	0.019	
7)	<input checked="" type="checkbox"/>	<b>2_GS0015</b>					
		6674343.33	1634340.47	1599.548	1599.451	1599.448	
				Bare Earth	-0.097	-0.1	

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"/>	2_GS0019					
		6746729.47	1631690.589	191.189	190.995	191.042	
				Bare Earth	-0.194	-0.147	
9)	<input checked="" type="checkbox"/>	2_GS0022					
		6742107.382	1621312.47	398.254	398.193	398.207	
				Bare Earth	-0.061	-0.047	
10)	<input checked="" type="checkbox"/>	2_GS0026					
		6758084.168	1609944.353	332.418	332.35	332.372	
				Bare Earth	-0.068	-0.046	
11)	<input checked="" type="checkbox"/>	2_GS0027					
		6773046.873	1594617.185	279.638	279.825	279.827	
				Bare Earth	0.187	0.189	
12)	<input checked="" type="checkbox"/>	2_GS0029					
		6773054.341	1594795.125	276.169	276.297	276.284	
				Bare Earth	0.128	0.115	
13)	<input checked="" type="checkbox"/>	2_GS0032					
		6773467.282	1594882.567	272.717	272.958	272.951	
				Bare Earth	0.241	0.234	
14)	<input checked="" type="checkbox"/>	2_GS0033					
		6773401.568	1594809.515	273.746	273.9	273.905	
				Bare Earth	0.154	0.159	

Coordinates and Offsets of Analyzed Locations (Continued)

		ID				
		Survey X	Survey Y	Z1	Z DEM	Z LAS
				LC Type	ΔZ DEM	ΔZ LAS
15)	<input checked="" type="checkbox"/>	<b>2_GS0003</b>				
		6695584.894	1659775.823	288.988	288.669	288.682
				Urban Terrain	-0.319	-0.306
16)	<input checked="" type="checkbox"/>	<b>2_GS0017</b>				
		6735933.477	1631868.734	264.804	264.55	264.559
				Urban Terrain	-0.254	-0.245
17)	<input checked="" type="checkbox"/>	<b>2_GS0021</b>				
		6747198.874	1616978.452	336.226	335.954	335.952
				Urban Terrain	-0.272	-0.274
18)	<input checked="" type="checkbox"/>	<b>2_GS0036</b>				
		6774531.454	1595567.855	259.885	259.827	259.815
				Urban Terrain	-0.058	-0.07
19)	<input checked="" type="checkbox"/>	<b>2_GS0004</b>				
		6695789.421	1659933.574	285.962	286.309	286.221
				Low Vegetation	0.347	0.259
20)	<input checked="" type="checkbox"/>	<b>2_GS0005</b>				
		6718354.922	1642519.512	304.323	304.254	304.016
				Low Vegetation	-0.069	-0.307
21)	<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				
		Survey X	Survey Y	Z1	Z DEM	Z LAS
				LC Type	ΔZ DEM	ΔZ LAS
22)	<input checked="" type="checkbox"/>	<b>2_GS0013</b>				
		6687576.522	1630084.968	730.902	731.199	731.103
				Low Vegetation	0.297	0.201
23)	<input checked="" type="checkbox"/>	<b>2_GS0018</b>				
		6746814.523	1631712.907	190.194	190.094	190.035
				Low Vegetation	-0.1	-0.159
24)	<input checked="" type="checkbox"/>	<b>2_GS0028</b>				
		6772976.9	1594758.569	277.614	278.104	278.141
				Low Vegetation	0.49	0.527
25)	<input checked="" type="checkbox"/>	<b>2_GS0030</b>				
		6773367.034	1594914.496	272.881	273.381	273.451
				Low Vegetation	0.5	0.57
26)	<input checked="" type="checkbox"/>	<b>2_GS0016</b>				
		6735997.207	1631937.963	262.436	262.268	262.282
				Medium Vegetation	-0.168	-0.154
27)	<input checked="" type="checkbox"/>	<b>2_GS0024</b>				
		6757910.532	1610062.95	338.977	339.059	339.036
				Medium Vegetation	0.082	0.059
28)	<input checked="" type="checkbox"/>	<b>2_GS0025</b>				
		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	
29)	<input checked="" type="checkbox"/>	2_GS0034					
		6773786.114	1595124.887	269.492	270.015	269.965	
				Medium Vegetation	0.523	0.473	
30)	<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: -0.306

Maximum DZ: 0.234

Mean DZ: -0.06

Mean Magnitude DZ: 0.379

Number Observations: 18

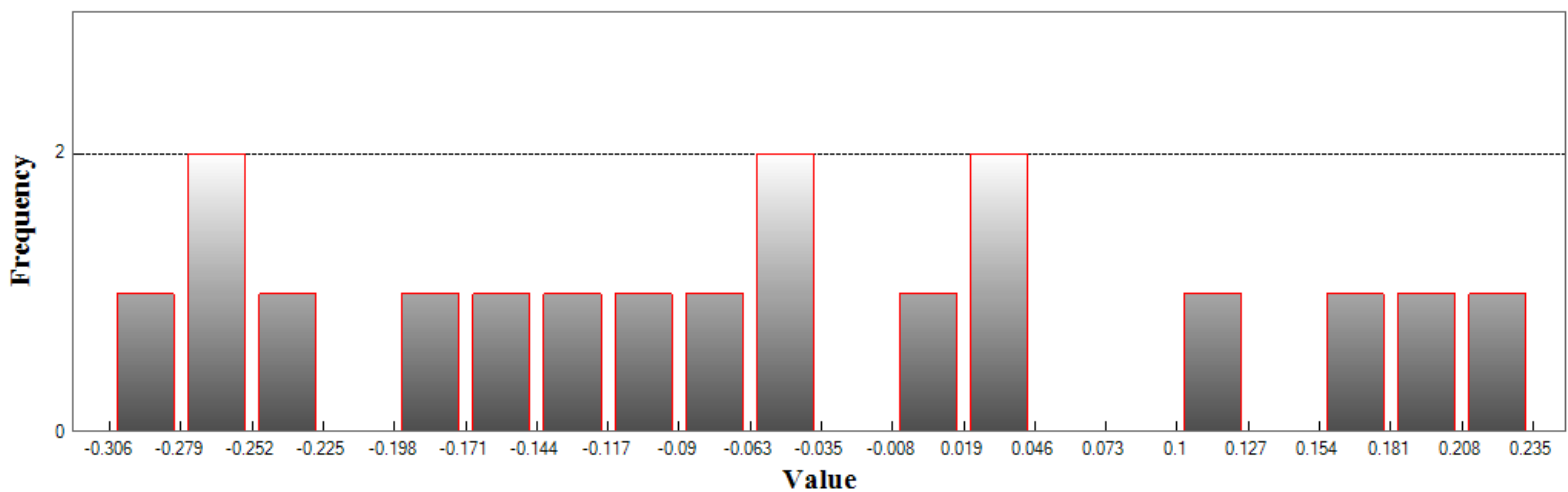
Standard Deviation DZ: 0.166

RMSE Z: 0.172

95% Confidence Level Z: 0.336

Units: US Survey Feet

# Histogram



Min: -0.306  
 Max: 0.234  
 Number Of Bins: 20  
 Bin Interval: 0.027

## LAS (Continued)

### Vegetated Vertical Accuracy

LandCover Type: Low Vegetation

Minimum DZ: -0.307

Maximum DZ: 0.57

Mean DZ: 0.235

Mean Magnitude DZ: 0.607

Number Observations: 7

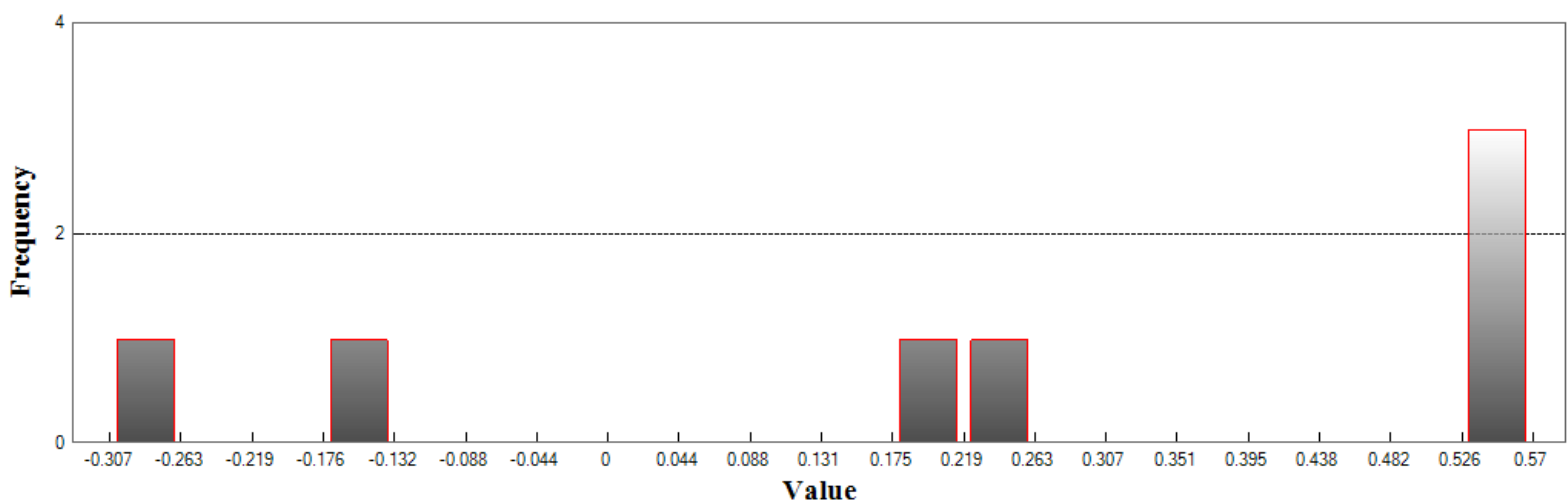
Standard Deviation DZ: 0.354

RMSE Z: 0.404

95th Percentile: 0.57

Units: US Survey Feet

## Histogram



Min: -0.307

Max: 0.57

Number Of Bins: 20

Bin Interval: 0.044

## LAS (Continued)

### Vegetated Vertical Accuracy

LandCover Type: Medium Vegetation

Minimum DZ: -0.154

Maximum DZ: 0.473

Mean DZ: 0.166

Mean Magnitude DZ: 0.477

Number Observations: 5

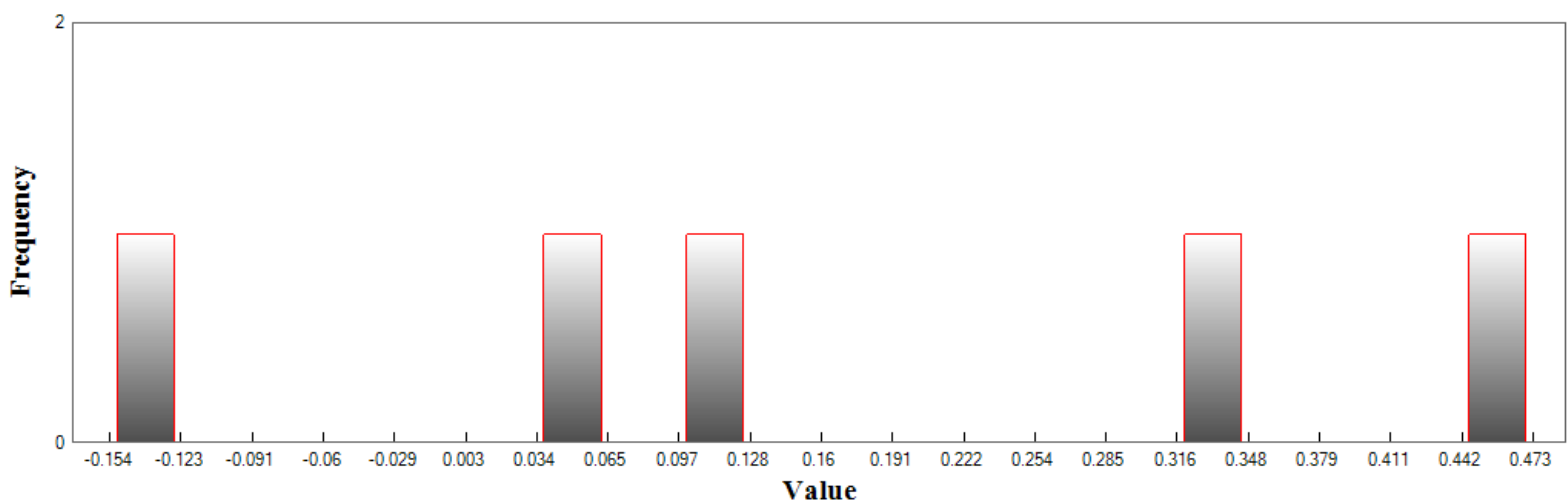
Standard Deviation DZ: 0.246

RMSE Z: 0.275

95th Percentile: 0.473

Units: US Survey Feet

## Histogram



Min: -0.154

Max: 0.473

Number Of Bins: 20

Bin Interval: 0.031

# DEM

**Nonvegetated Vertical Accuracy**

LandCover Type: Bare Earth, Urban Terrain

Minimum DZ: -0.319

Maximum DZ: 0.241

Mean DZ: -0.068

Mean Magnitude DZ: 0.395

Number Observations: 18

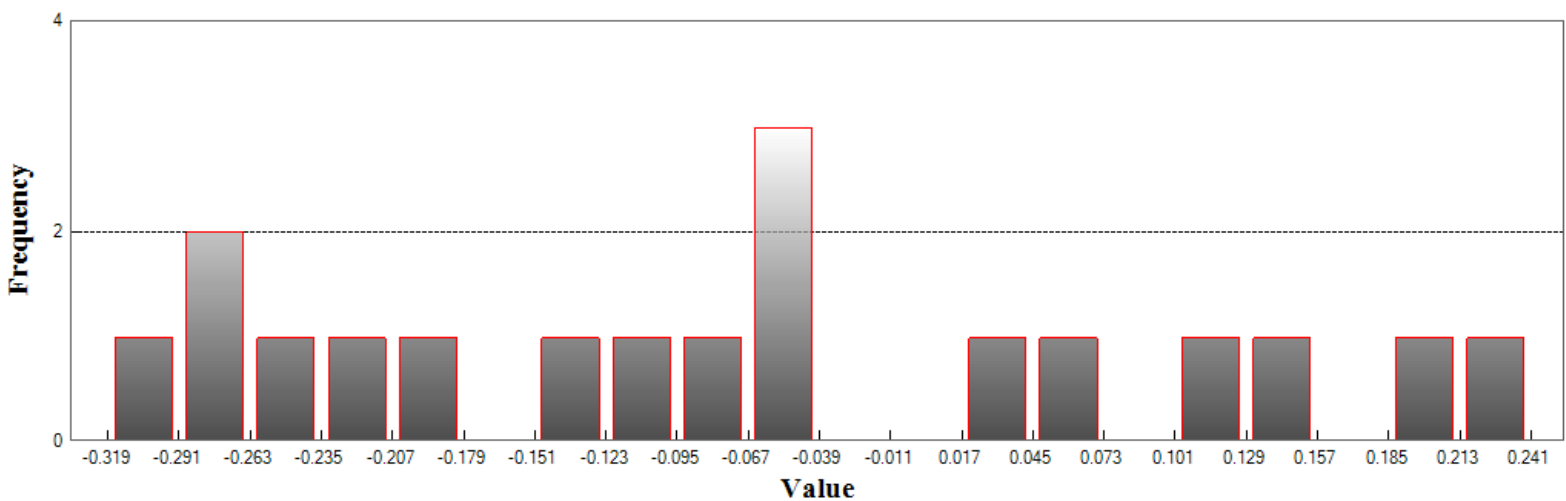
Standard Deviation DZ: 0.172

RMSE Z: 0.181

95% Confidence Level Z: 0.354

Units: US Survey Feet

# Histogram



Min: -0.319  
 Max: 0.241  
 Number Of Bins: 20  
 Bin Interval: 0.028

## DEM (Continued)

### Vegetated Vertical Accuracy

LandCover Type: Low Vegetation

Minimum DZ: -0.1

Maximum DZ: 0.526

Mean DZ: 0.284

Mean Magnitude DZ: 0.577

Number Observations: 7

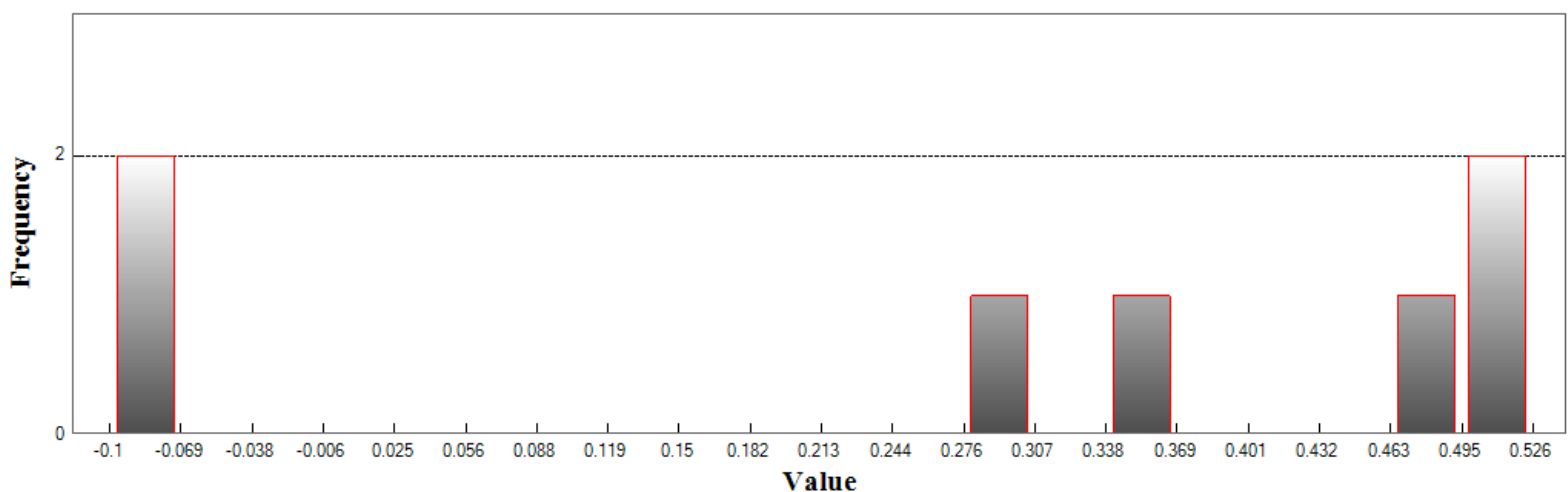
Standard Deviation DZ: 0.266

RMSE Z: 0.376

95th Percentile: 0.526

Units: US Survey Feet

## Histogram



Min: -0.1

Max: 0.526

Number Of Bins: 20

Bin Interval: 0.031

## DEM (Continued)

### Vegetated Vertical Accuracy

LandCover Type: Medium Vegetation

Minimum DZ: -0.168

Maximum DZ: 0.523

Mean DZ: 0.186

Mean Magnitude DZ: 0.503

Number Observations: 5

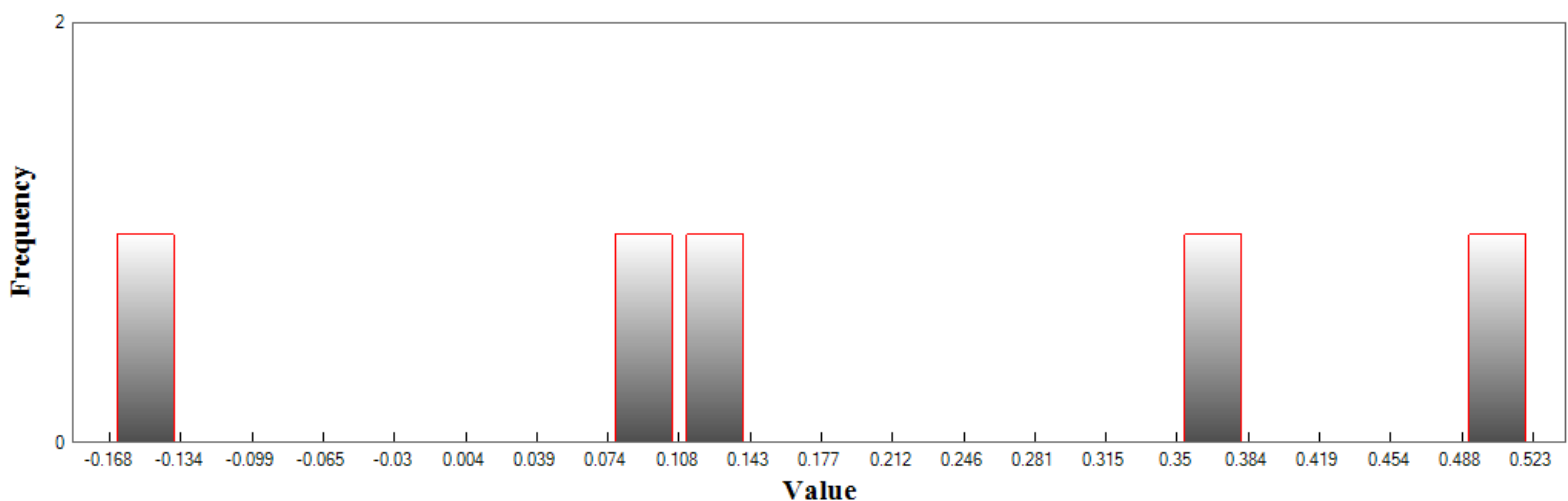
Standard Deviation DZ: 0.27

RMSE Z: 0.305

95th Percentile: 0.523

Units: US Survey Feet

## Histogram



Min: -0.168

Max: 0.523

Number Of Bins: 20

Bin Interval: 0.035