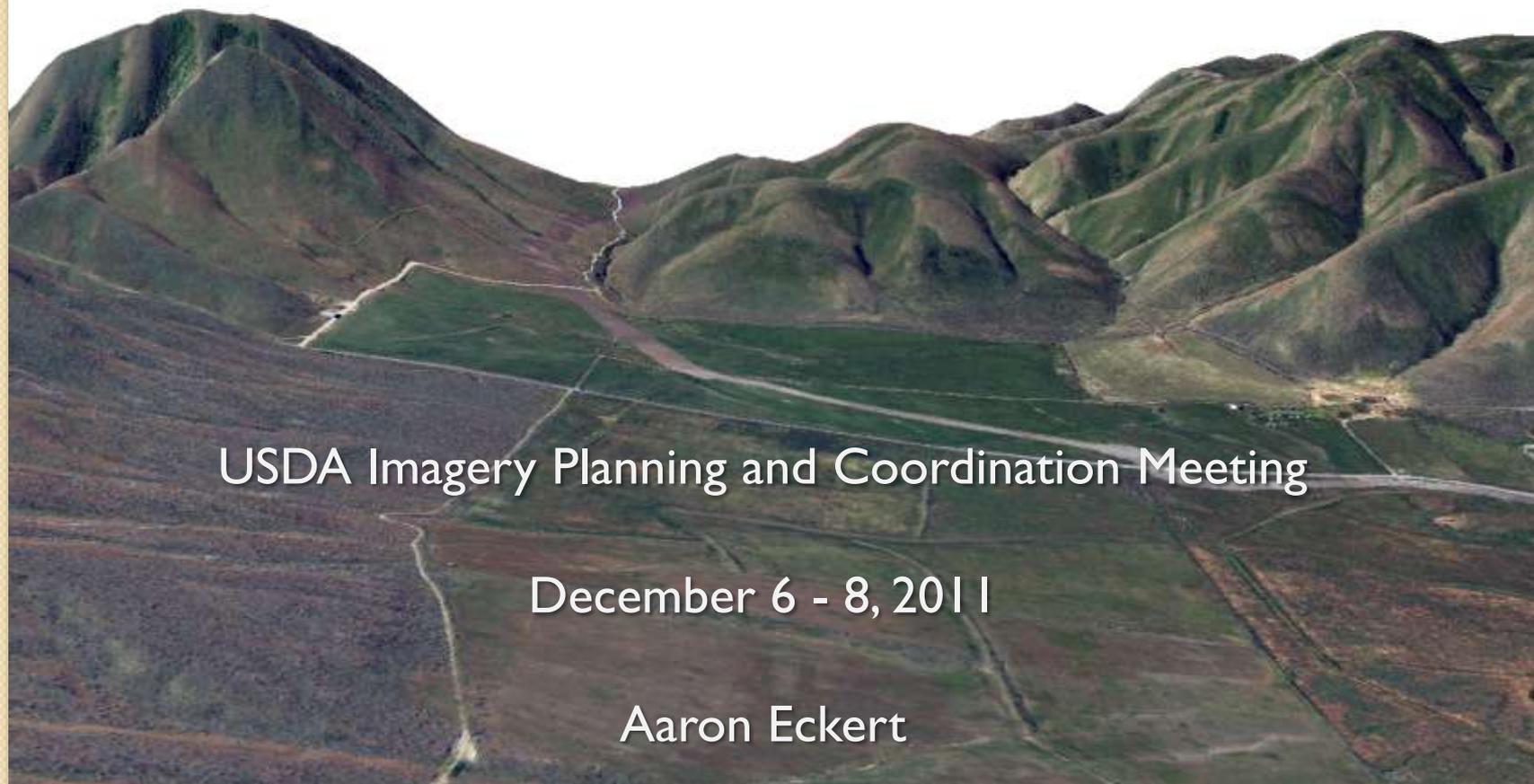


NAIP Horizontal Accuracy Specification



USDA Imagery Planning and Coordination Meeting

December 6 - 8, 2011

Aaron Eckert

Proposed Horizontal Accuracy Specification Change

- Current specification:

All DOQQ tiles shall have 95% of well-defined points tested fall within 6.0 meters of true ground.

- Proposed specification:

Horizontal accuracy will comply with NSSDA horizontal accuracy standards.

*“All DOQQ tiles shall **reflect a 95% confidence level** of the well-defined points tested fall within 6.0 meters of true ground.”*

Proposed Horizontal Accuracy Specification Change

2010 Louisiana Example

Actual tested: 1 of 468 GCP failed (~12m error)
 99.8% Acceptance Rate
 95% NSSDA = 2.99m (1.72m RSME)

Hypothetical: 2nd GCP failed (~70m error)
 99.6% Acceptance Rate
 95% NSSDA = 6.27m (3.63m RSME)

Reasons of Changing Horizontal Accuracy Standards

- Current specification allows for large offsets to be present within datasets
- Current specification cannot determine horizontal accuracy at a 95% confidence level

Mississippi 2009	
Total GCP	762
GCP Greater than 6 Meters	35
Percentage of GCP Outside the Contractual Tolerance	4.6%
Root Mean Square Error	4.5 meters
NSSDA Statistics: RMSE * 1.7308	7.3 Meters

2010 Horizontal Accuracy Results

STATE	OLD SPEC	95% NSSDA
AZ	99.0%	3.100
AR	99.4%	3.221
CA	98.5%	3.810
CT	100.0%	1.879
FL	100.0%	2.442
GA	99.2%	3.671
IL	99.6%	4.978
IN	99.3%	3.911
IA	99.5%	3.250
KS	99.0%	3.988
KY	99.0%	4.582
LA	99.8%	2.990
MA	100.0%	2.821
MI	97.3%	3.942
MN	99.8%	2.648

STATE	OLD SPEC	95% NSSDA
MS	99.2%	3.611
MO	99.6%	2.808
NE	98.6%	4.171
NV	98.0%	3.967
NJ	99.0%	3.180
NC	98.4%	4.186
ND	99.7%	2.166
OH	99.7%	2.574
OK	99.6%	3.466
PA	99.4%	2.827
RI	100.0%	0.919
SD	99.4%	3.536
TN	98.5%	3.811
TX	98.4%	4.941
WI	99.0%	4.138



Questions?

- **Current specification:**

All DOQQ tiles shall have 95% of well-defined points tested fall within 6.0 meters of true ground.

- **Proposed specification:**

Horizontal accuracy will comply with NSSDA horizontal accuracy standards:

*“All DOQQ tiles shall **reflect a 95% confidence level** of the well-defined points tested fall within 6.0 meters of true ground.”*