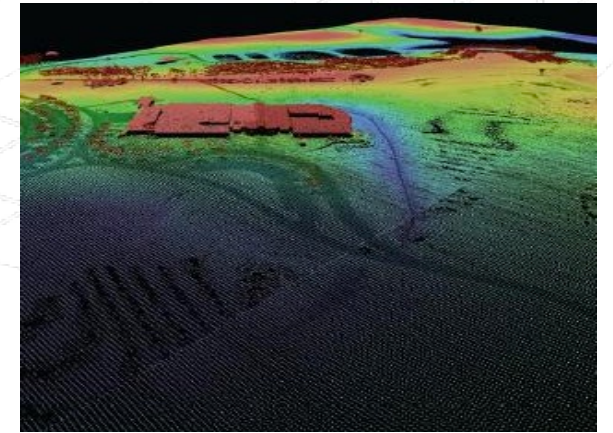
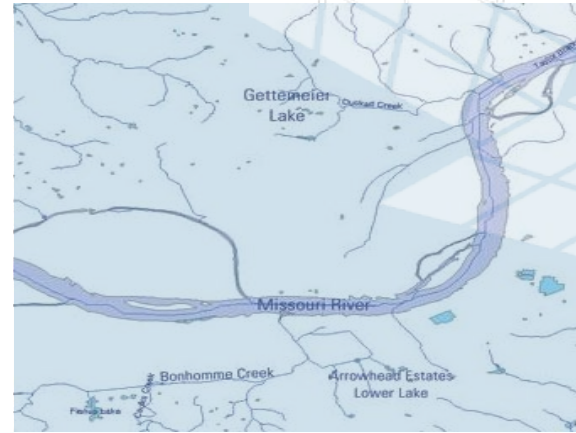
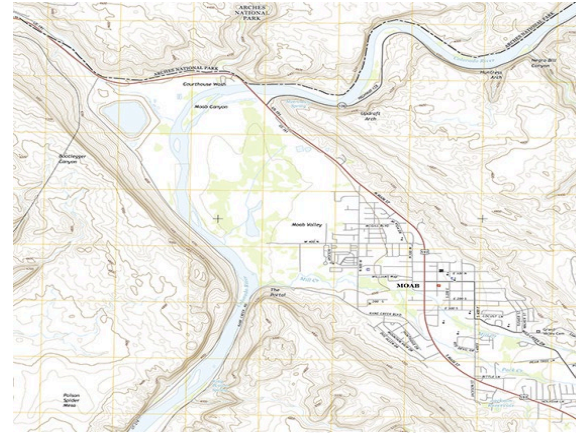




# GPSC Technical Exchange



Josh Nimetz

USGS | National Geospatial Technical Operations Center

Virtual Web Conference

September 13, 2022



# + Topics for discussion

- 3DEP Lidar Base Specification News
  - <https://www.usgs.gov/3dep/lidarspec>
- Swath Separation Imagery and Maximum Surface Height Raster Spatial Resolution – 2 x bare earth DEM GSD
- Adequate detection of above-ground features in point cloud
- Swath polygons
- Access to TEM materials – slides, recordings, etc.
  - [https://rockyweb.usgs.gov/outgoing/3DEP\\_TEM/](https://rockyweb.usgs.gov/outgoing/3DEP_TEM/)

# + Lidar Base Specification – Future Revisions

- Remember to review the LBS revisions page

- <https://www.usgs.gov/ngp-standards-and-specifications/lidar-base-specification-revision-status>

Revisions being considered for the Lidar Base Specification:

Short name of revision	Status	Last updated
<a href="#">Clarify Intensity Requirement</a>	Under review by ESRB	April 11, 2022
<a href="#">Number of Decimal Places</a>	Under review by ESRB	April 11, 2022
<a href="#">Withheld flag Proof of Performance Version Control</a>	Under review by ESRB	April 11, 2022
<a href="#">Report on Withheld flag Proof of Performance</a>	Under review by ESRB	April 11, 2022
<a href="#">Point Cloud Delivery in LAZ Format</a>	Under review by ESRB	April 11, 2022

- USGS has moved to a new listserv for email notifications

- No action required – current emails on file should be ported over to new system
  - If you're not on the list, you can sign-up here:

[https://public.govdelivery.com/accounts/USDOIGS/subscriber/new?topic\\_id=USDOIGS\\_17](https://public.govdelivery.com/accounts/USDOIGS/subscriber/new?topic_id=USDOIGS_17)

# + MSHR and SSI – Spatial Resolution

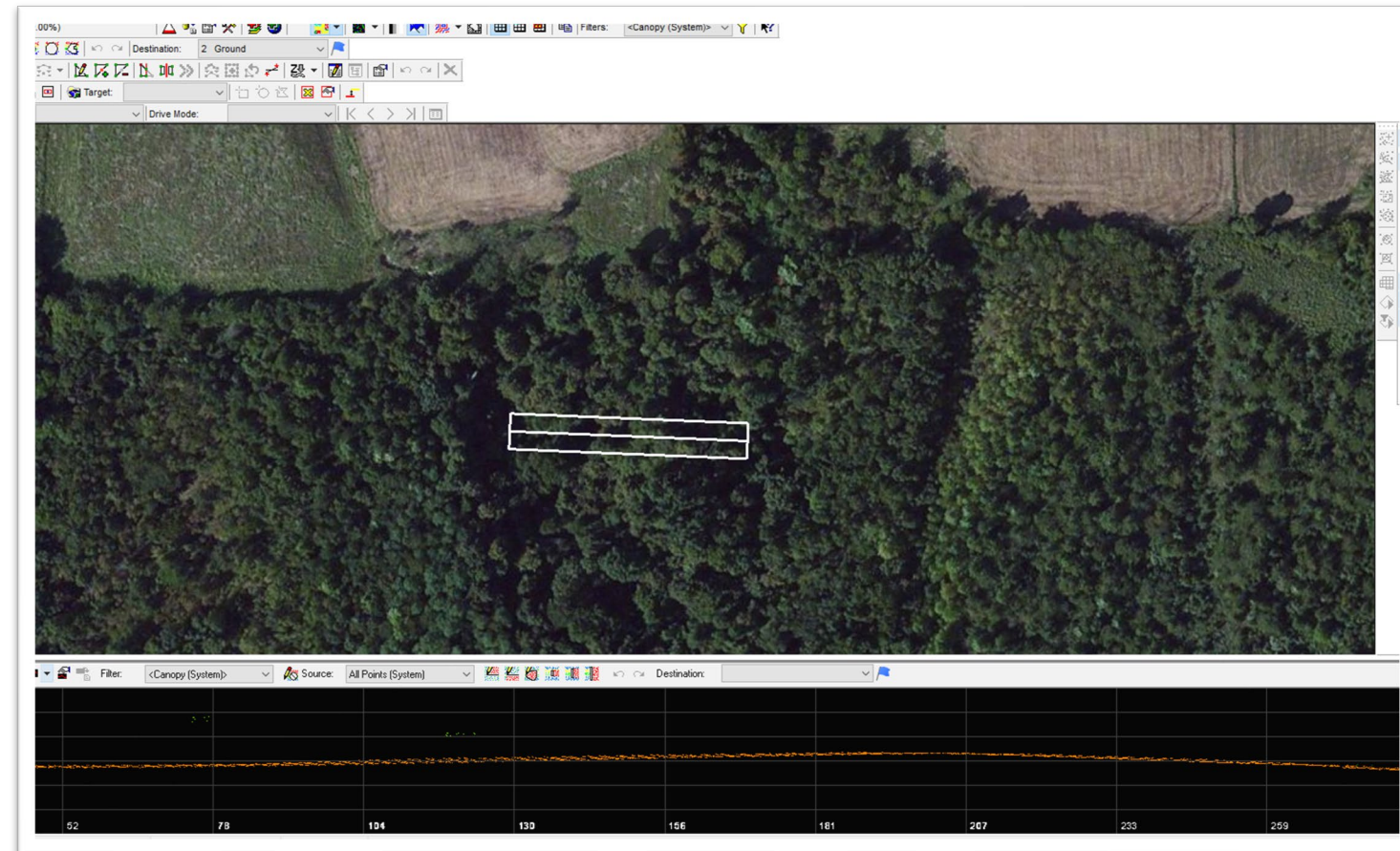
- USGS is now considering setting MSHR and SSI spatial resolution requirement to be equal to **2 \* bare earth DEM GSD**
  - You spoke up, we listened!
  - 2 \* bare earth DEM pixels should align with tile index in most (all?) cases
- Our intent is to make sure pixels are coarse enough to contain valid signal while still providing enough detail for analysis
  - Exceptions are for areas where voids are expected such as over open water
- In order to keep things simpler and consistent, we are leaning towards requiring the same pixel size for both ancillary products
- **What are your thoughts on this?**
  - **This has not yet been submitted to the ESRB for discussion**

# + Adequate detection of above-ground features in point cloud

- Current specification language is a bit vague about point cloud representing above-ground features
  - Future specifications will hopefully offer much-needed clarity
- However, USGS does have a reasonable expectation for lidar returns off above-ground features with respect to design density of the project\*

- **Missing vegetation** over large geographic extents due to improper sensor settings **is not okay**
- USGS expects 3DEP contractors to perform testing of sensor settings representative of project collection – and analyze results
- \* *above-ground features such as buildings and vegetation. Other infrastructure such as power transmission and distribution lines are task-order specific*

*Missing vegetation in project area due to aggressive flight planning/sensor settings*



[GPSCTechnicalInquiries@usgs.gov](mailto:GPSCTechnicalInquiries@usgs.gov)

# + Swath Polygons

- USGS needs spatial representation of swaths, with sufficient detail and attribution
- Specification language will likely be updated to offer clarification
- In this example, either polygons are currently acceptable:
  - **Red convex hull or**
  - **Blue polygon more closely representing swath extents**
  - **Blue polygon is preferred**





Thank You!  
Let's Talk...