DIGITAL MAPPING TECHNIQUES 2020

The following was presented at DMT'20
(June 8 - 10, 2020 - A Virtual Event)

The contents of this document are provisional

See Presentations and Proceedings
from the DMT Meetings (1997-2020)

http://ngmdb.usgs.gov/info/dmt/

Lidar Data Distribution at the Washington Geological Survey

Abby Gleason - Lidar Manager
(360) 902-1560
Abigail.Gleason@dnr.wa.gov

Lidar is an incredibly useful dataset – for geology and far beyond. The value is exponentially increased when lidar and derivative products are effectively distributed to users

Lidar in Washington

- Lidar collections extend back to 1996

- Over 270 lidar collections, average intake of 26 projects per year

- Mandated by Washington law to distribute publically

- Many solutions out there – WGS went with cloud storage and server configuration
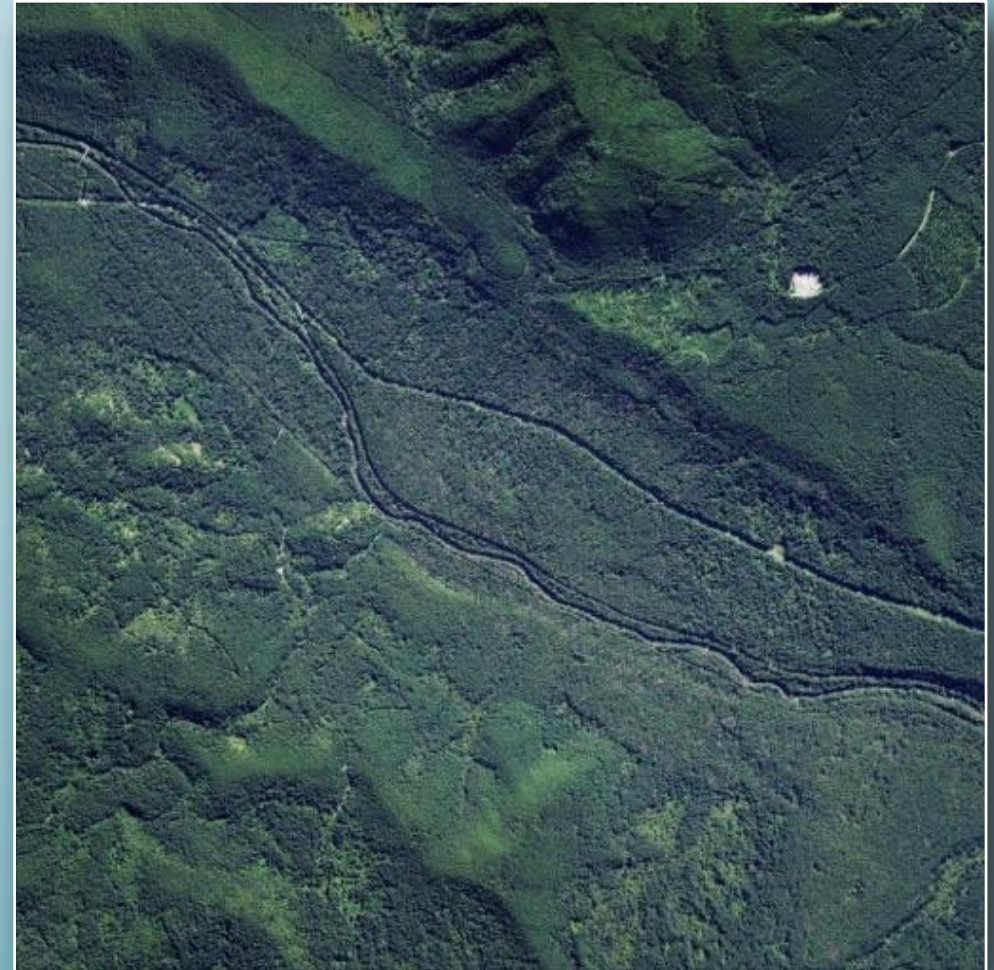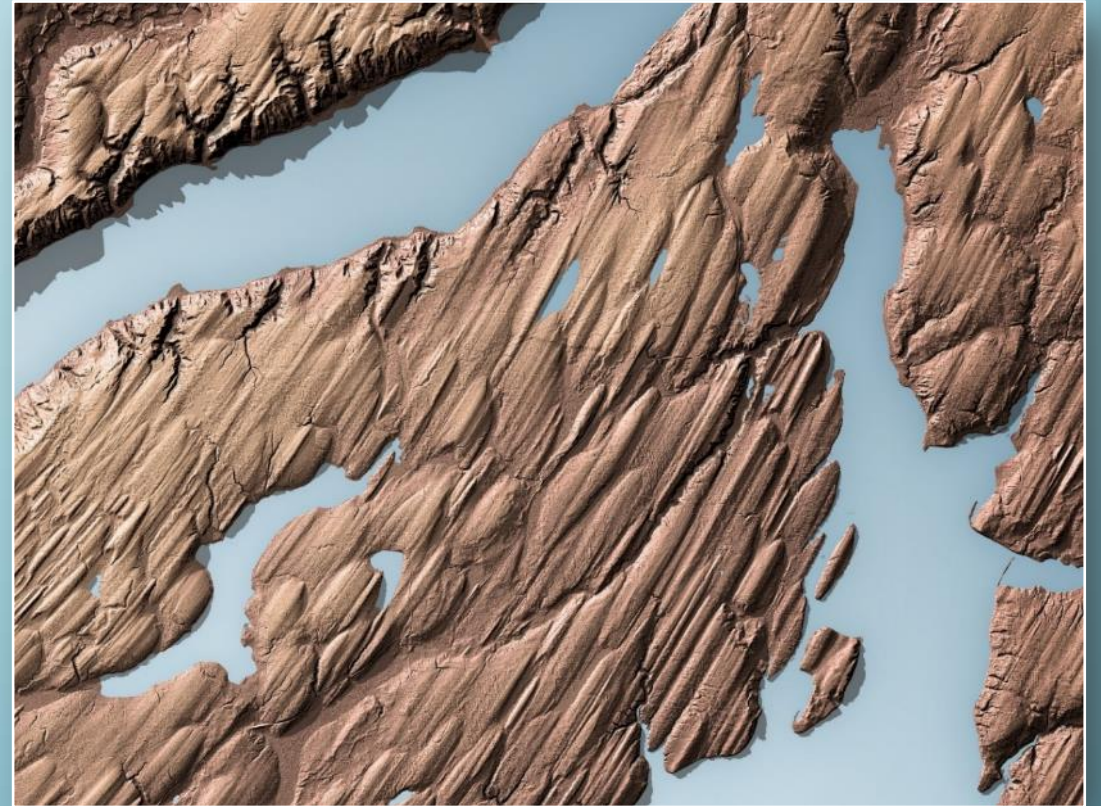

Cedar River, King County

Current Cloud Distribution

- WGS uses Amazon Web Services (AWS)

- Less expensive than originally anticipated, despite egress costs

- Reasonably secure

- Bandwidth to serve customers

- Flexible – could be expanded to include more derivative types

- Does take time to manage

Drumlins in Kitsap County, WA

Public Distribution, the Lidar Portal

- Focus on public download

- Point clouds (laz), DEMs, hillshades available

- Area of interest or project wide download options

- AWS cloud environment, 4 linux servers:
  - Web application server
  - Postgres database
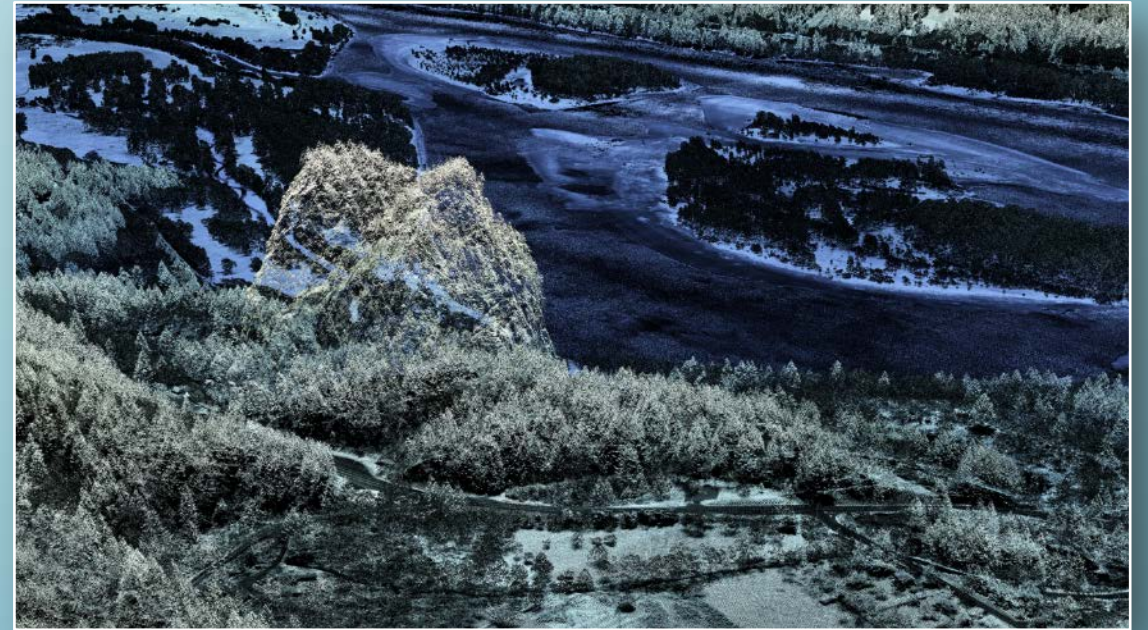 - Two instances of Arc Server
  - Load balancer

Visit http://lidarportal.dnr.wa.gov
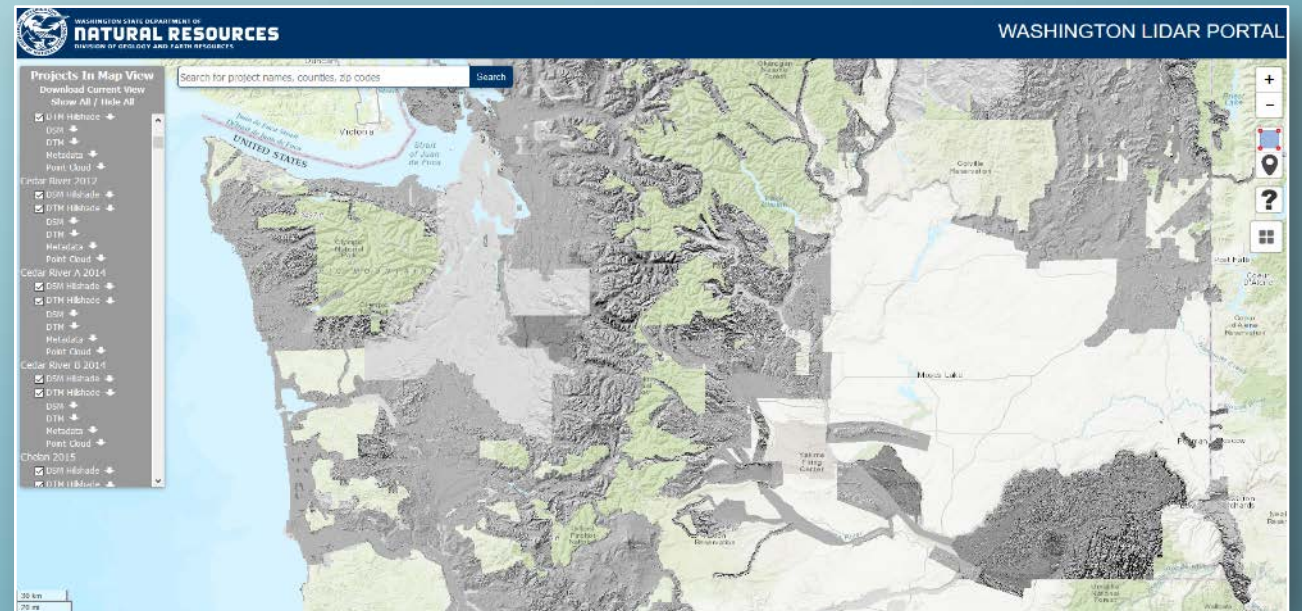
Evolution of the Washington Lidar Portal

- Moving to Javascript API

- Will add a few tool and options

- Moving download data to s3 storage to reduce costs further

Point cloud of Beacon Rock, Columbia Gorge

Future Considerations

- Users ask for expanded capabilities. In order to facilitate use and increase value, consider:
  - Distributing expanded set of deliverables (slope, canopy height, etc.)
  - State mosaics
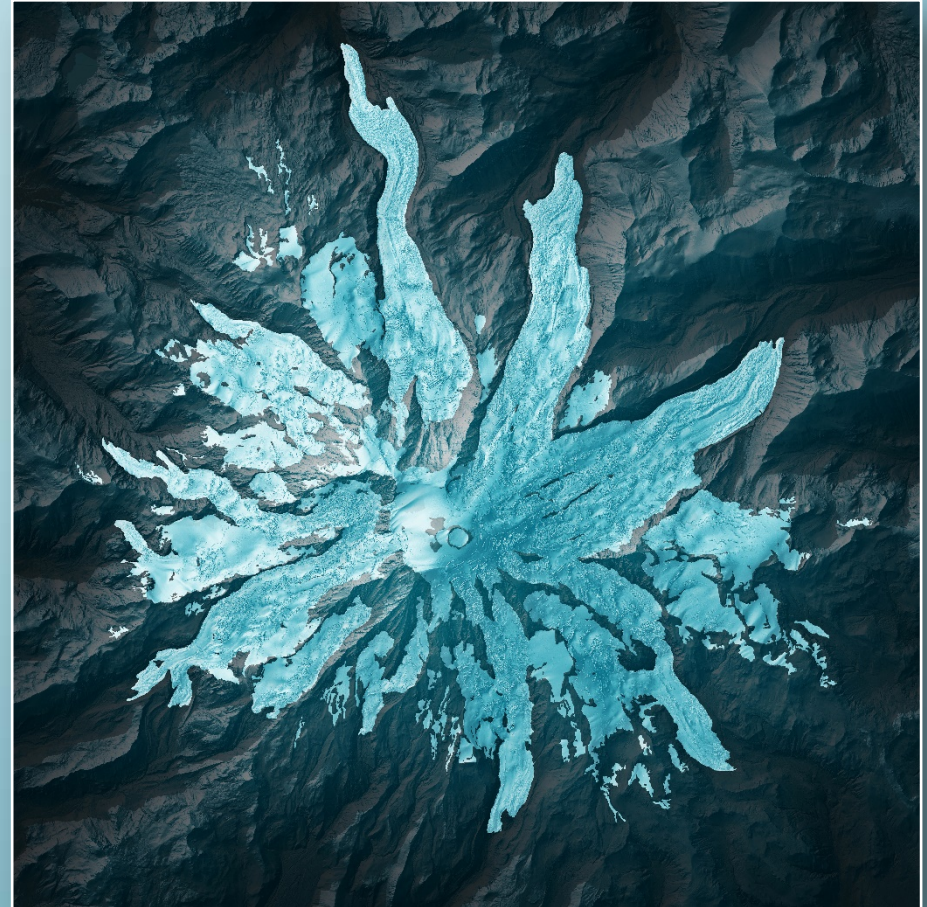 - Better download for large areas
  - On-the-fly projection change
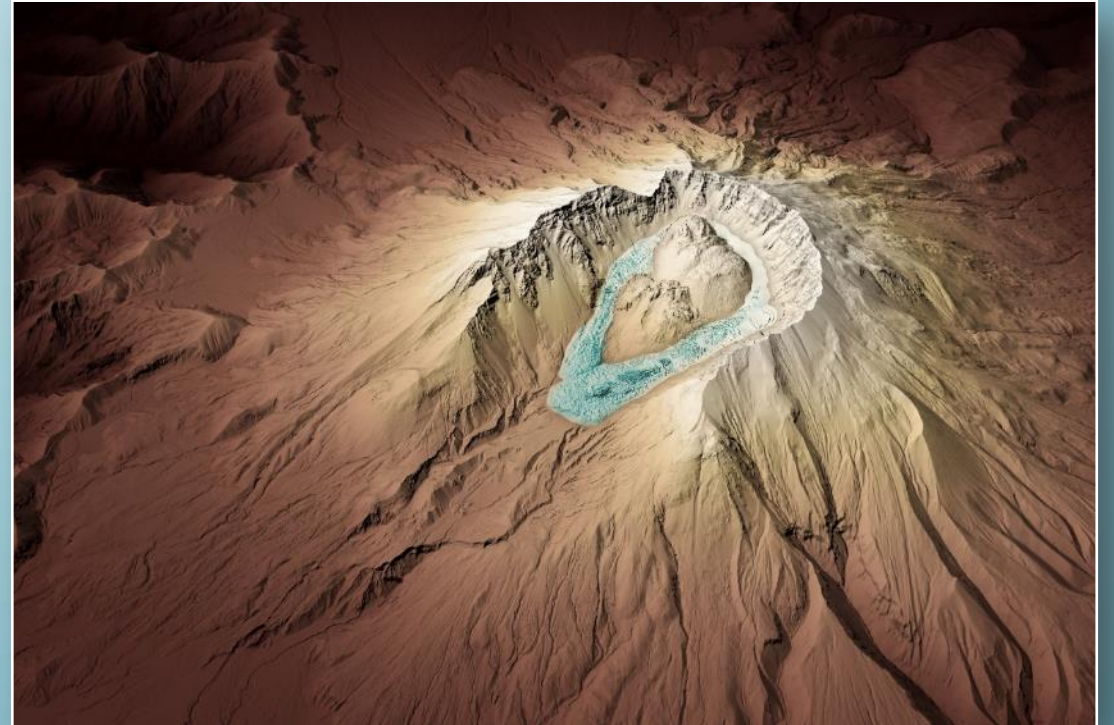
Mt. St. Helens

Beyond Lidar

Cloud storage and services can provide:

- Data archive

- Temporary processing capability or servers

- Distribution of large datasets to specific users (Drop Box, AWS, Google Drive)

- Collaboration on emergency response

Mt. Rainier glaciers

Summary

- Value of lidar data increases in the hands of users
- WGS working on finding effective and efficient methods to distribute a diverse lidar dataset
- Distribution of lidar derivatives becoming more important to reach more users
- Cloud storage and services can offer flexibility, creativity for collaboration and distribution

Waldron Island, San Juan County

Thank You!

Lidar resources and images at:

http://www.dnr.wa.gov/lidar