

USDA Imagery Updates and Collaboration Opportunities

Presented By:

Denise Miller, NRCS and

Dustin Wittwer, Forest Service



Alaska High Altitude Photography (AHAP)



https://nrcsgeoservices.sc.egov.usda.gov/arcgis/rest/services/ortho_imagery

Supported Interfaces: [REST](#) [SOAP](#) [Sitemap](#) [Geo Sitemap](#)

Anchorage, 8/8/1984

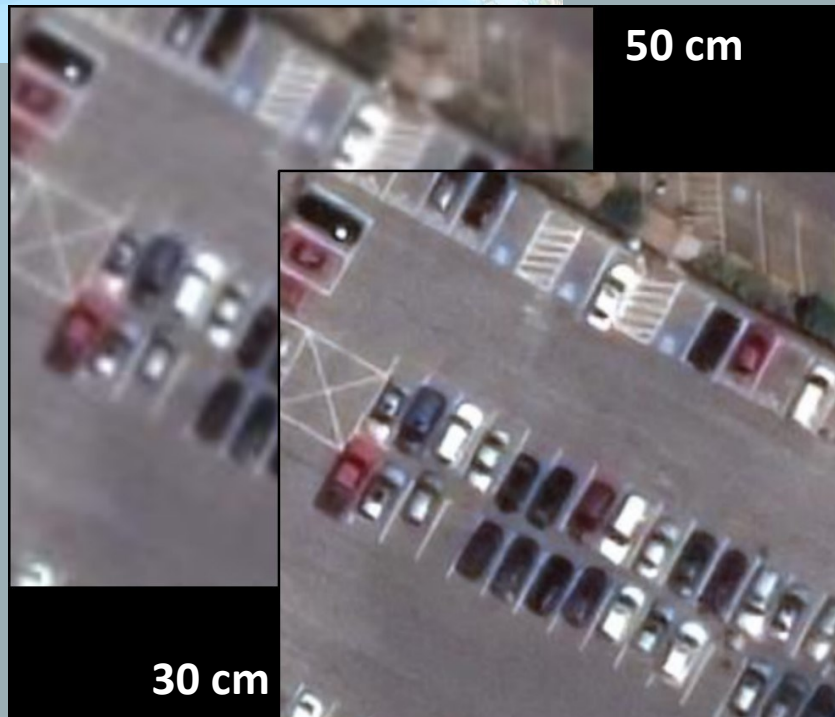
Change Detection Example using AHAP and Vivid



Alaska Maxar Vivid Refresh for 2023



- USDA and USGS contracted a 2023 refresh of the statewide Alaska Maxar Vivid Basemap

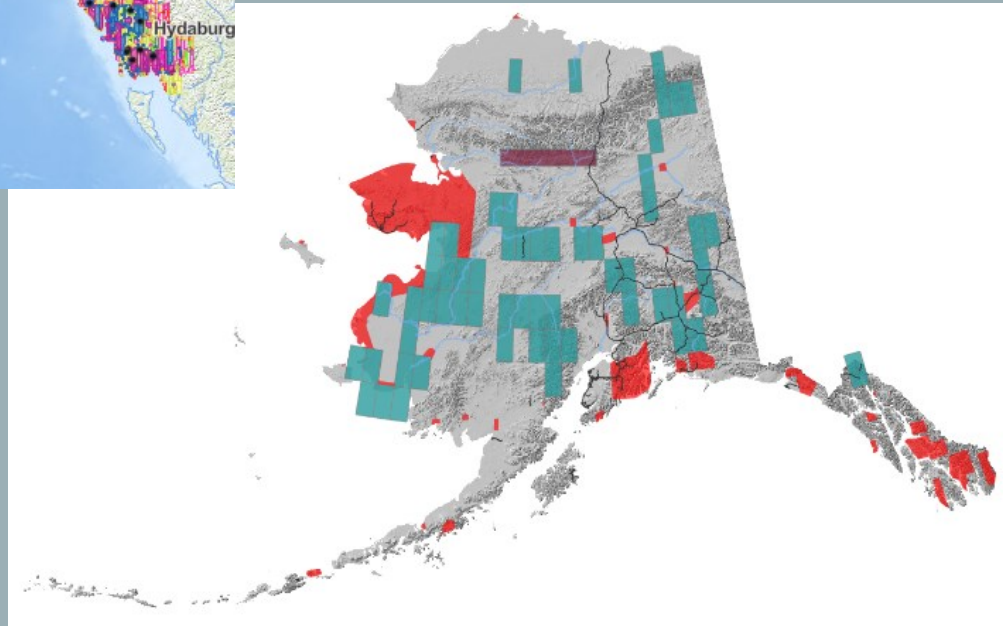
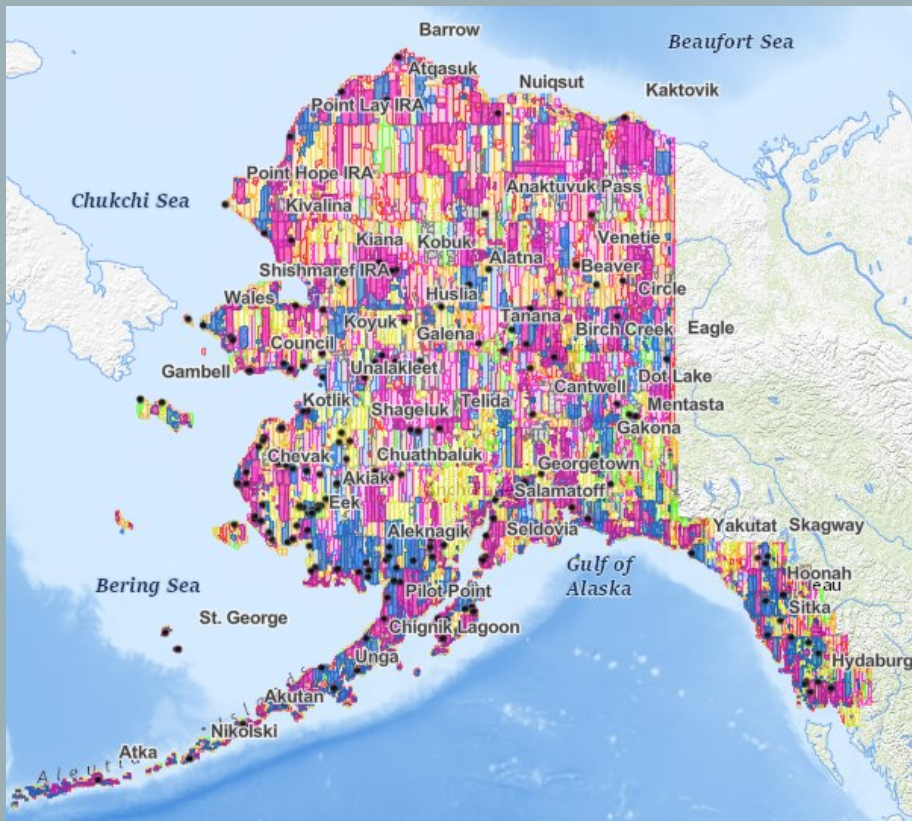


- Existing 2020 version - 50cm resolution
- New contract – 30cm, 4 band mosaic, enhanced end user license agreement
 - End User Agreement Licenses data to all Federal/State/Local/Tribal government, Universities, Non-Profit Organizations and cooperators
- Will include scenes from 2021-2023 acquisition seasons

<https://blog.maxar.com/leading-the-industry/2020/introducing-hd-see-more-do-more-with-high-definition-imagery>

Alaska High Resolution Imagery (OIM) Status

Fuchsia and Dark Blue, not represented in the dashboard table below, but are potential new image scenes (2021-2022) for the 2023 mosaic



Unique Scenes	5,016	Unique Features	7,696
Year	# of Unique Scenes	% of State	
2020	876	18%	
2019	964	23%	
2018	832	19%	
2017	381	6%	
2016	369	7%	
2015-2013	1,066	20%	
2012-2002	528	8%	

<https://blm-egis.maps.arcgis.com/apps/dashboards/a7588872b7e34e729fbee7274be8072>



Dashboard Credit: Bureau of Land Management

NFS, R10 - Orthoimagery Initiative

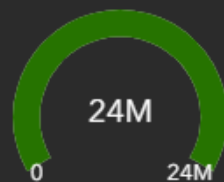
- NAIP like for NFS
- 4-Band, 30cm, includes stereo frames
- 24M Acres /more than 50% complete
- Key Partners: FPAC-Geo, NRCS and USGS



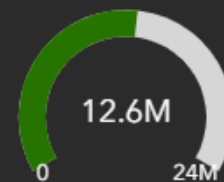
Acquisition Status by Project



Acres Funded



Acres Acquired & Delivered

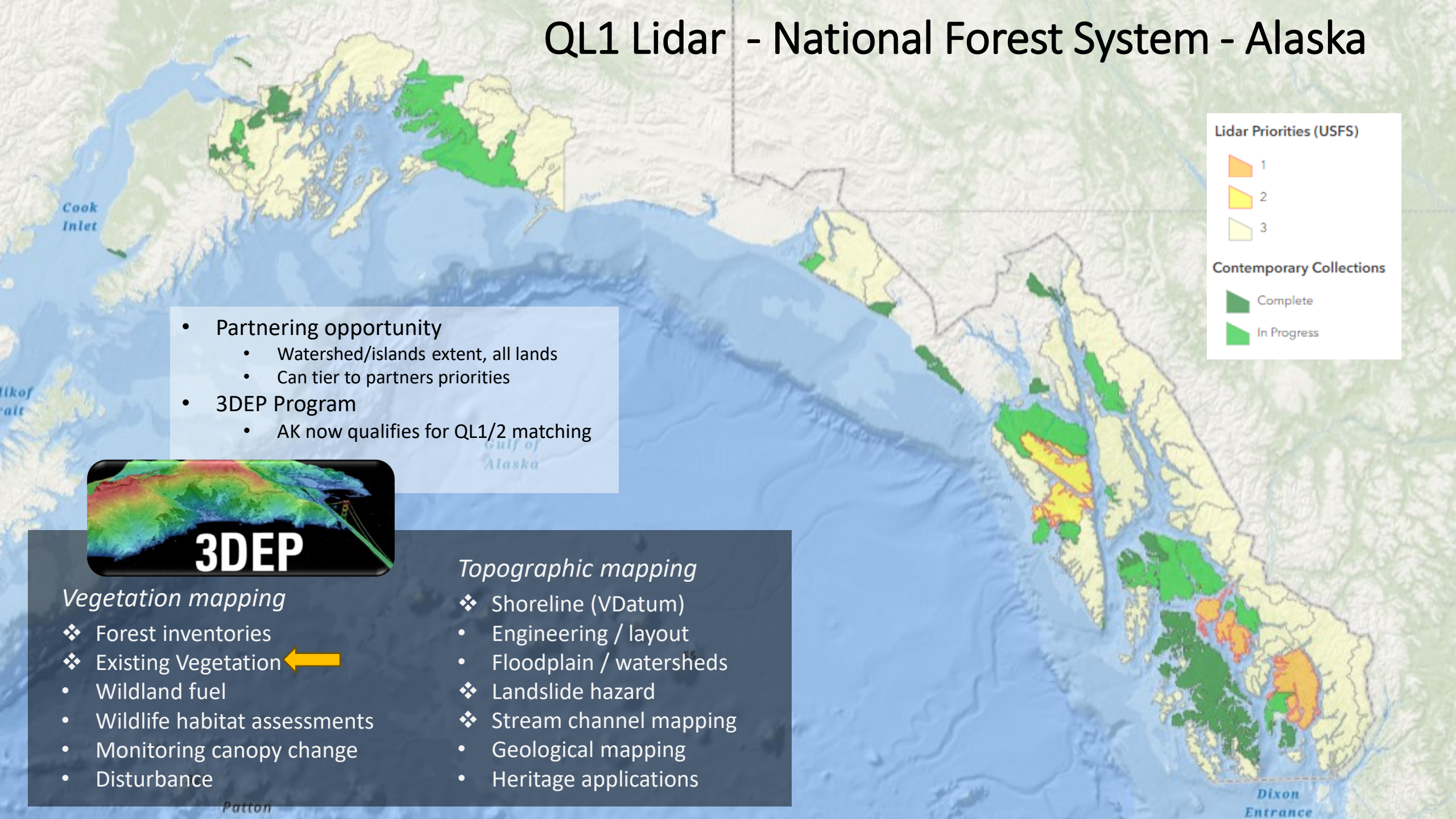


Historical Imagery

- Historical Imagery archive at FPAC (former Aerial Photo Field Photo Office)
- Destined for National Archives
- High Resolution Scanning underway, fully funded
- For Alaska -mostly NFS land, approximately 500 rolls, 100,000 frames (3.5M nationally)
- Single frame data that will need processed to orthoimagery
- e.g., Applications: submerged lands, pre statehood questions, change detection, ecological monitoring



QL1 Lidar - National Forest System - Alaska



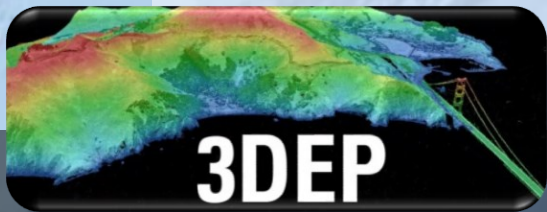
Lidar Priorities (USFS)

- 1
- 2
- 3

Contemporary Collections

- Complete
- In Progress

- Partnering opportunity
 - Watershed/islands extent, all lands
 - Can tier to partners priorities
- 3DEP Program
 - AK now qualifies for QL1/2 matching



Vegetation mapping

- ❖ Forest inventories
- ❖ Existing Vegetation ←
- Wildland fuel
- Wildlife habitat assessments
- Monitoring canopy change
- Disturbance

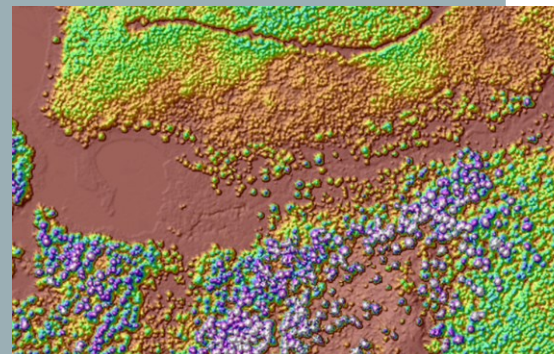
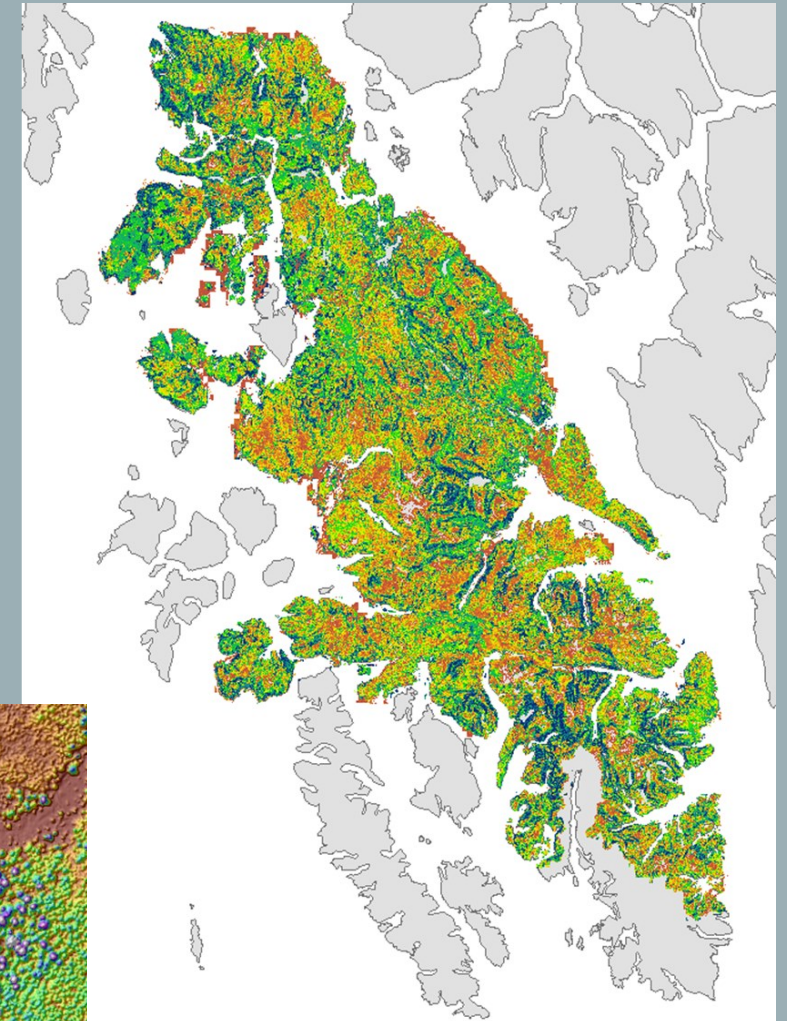
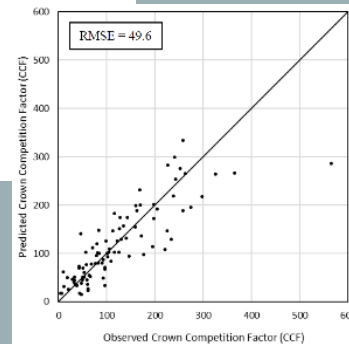
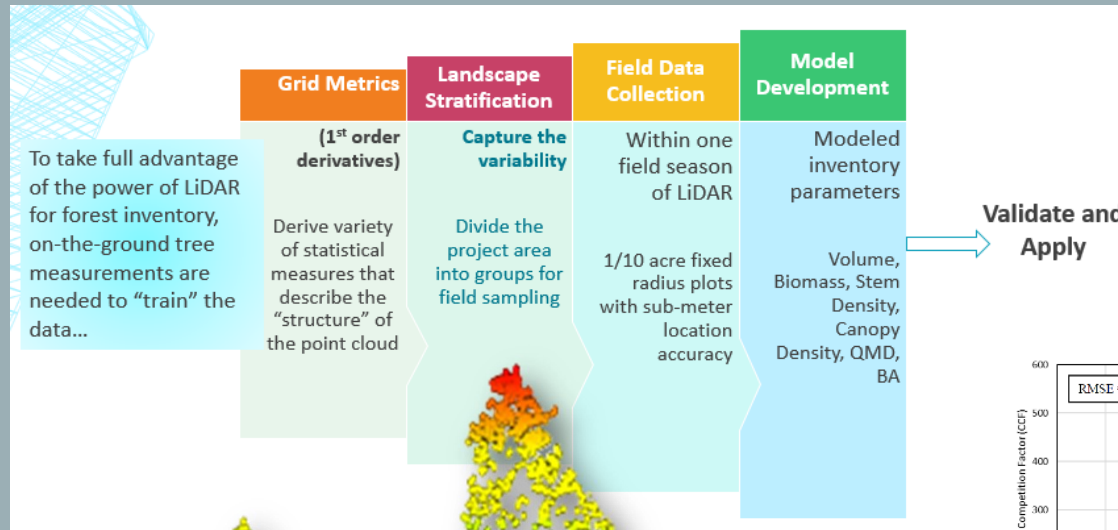
Topographic mapping

- ❖ Shoreline (VDatum)
- Engineering / layout
- Floodplain / watersheds
- ❖ Landslide hazard
- ❖ Stream channel mapping
- Geological mapping
- Heritage applications

Forest Metric Modeling From Lidar Point Clouds

Forest Inventory Metrics or 2nd order Metrics:

- Biomass, • Board feet, • Basal Area, • Stand Density Index, • Trees per acres, • Quadratic Mean Diameter, • Crown Competition Factor



- Integrated into Forest Service Vegetation Mapping Products
- Existing models for Prince of Wales I, Kake area, Hoonah area, Kenai Lake area

Questions?

Dustin T. Wittwer
USDA Forest Service (FS)
Alaska Region Remote Sensing Specialist
Dustin.Wittwer@usda.gov

Denise Miller
USDA National Resource Conservation Service (NRCS)
State GIS Coordinator
Denise.Miller@usda.gov

Lidar point cloud, profile view

