

Smart Communities need Smart Data

Alaska's Geospatial Infrastructure from a State Government perspective

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People · Systems · Data



2006-2012



www.alaskamapped.org

Alaska Statewide Digital Mapping Initiative

Primary goals:

1. Acquire new and better maps for Alaska, and
2. Make existing map products more easily available.

ALASKA
DEPARTMENT OF
COMMERCE,
COMMUNITY,
AND ECONOMIC
DEVELOPMENT

Alaska Department of
Military & Veterans Affairs



UNIVERSITY
of ALASKA
Many Traditions One Alaska

Alaska Department of
Natural Resources



Alaska Department of
Fish and Game



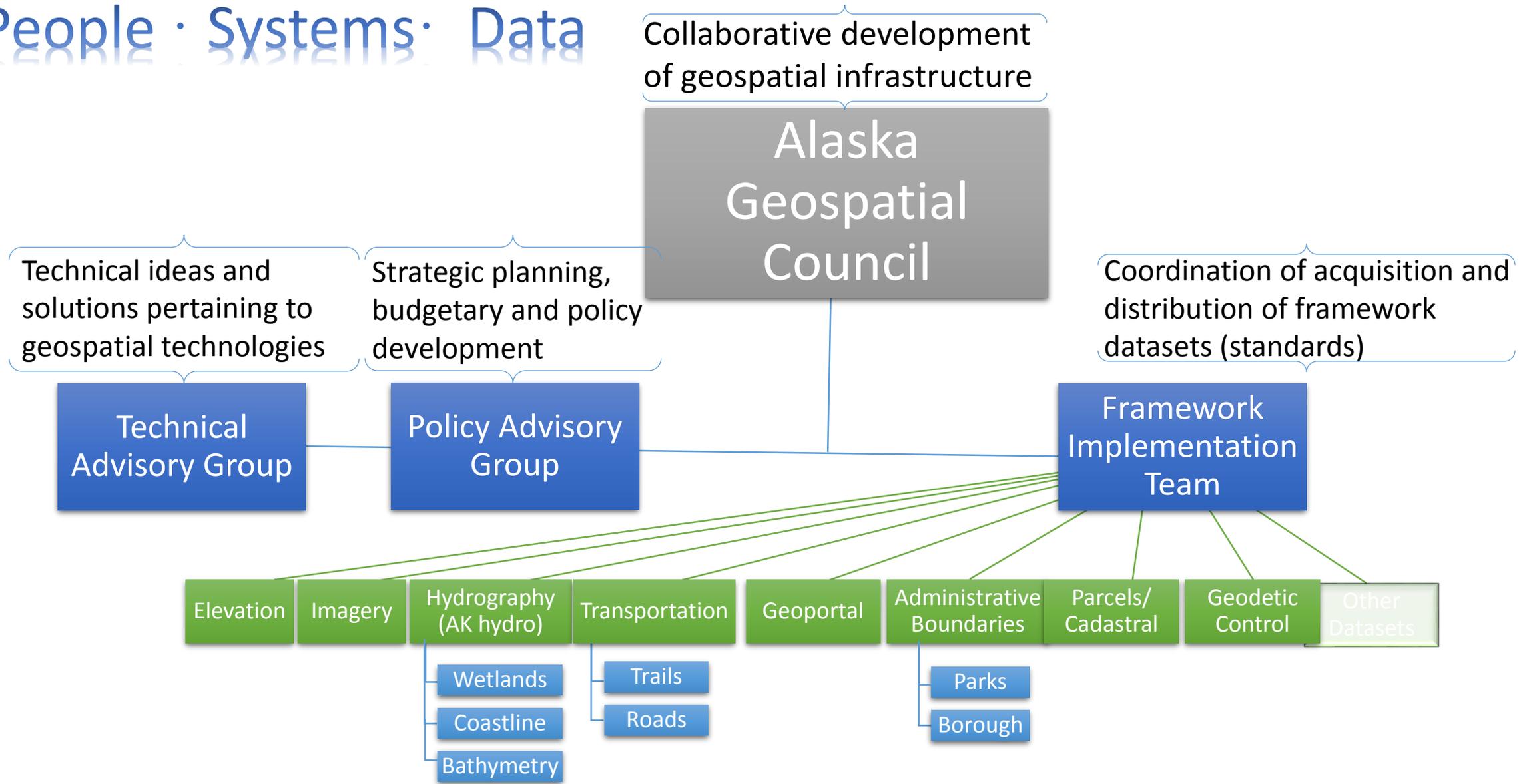
Alaska
DEC
Alaska Department of
Environmental Conservation



Alaska Department of
Transportation & Public Facilities



People · Systems · Data



Working Groups: make recommendations for data acquisition, maintenance and distribution to Alaska Geospatial Council; develop data standards and define data models. Additional groups or subgroups deployed as needed.

Alaska Geospatial Council

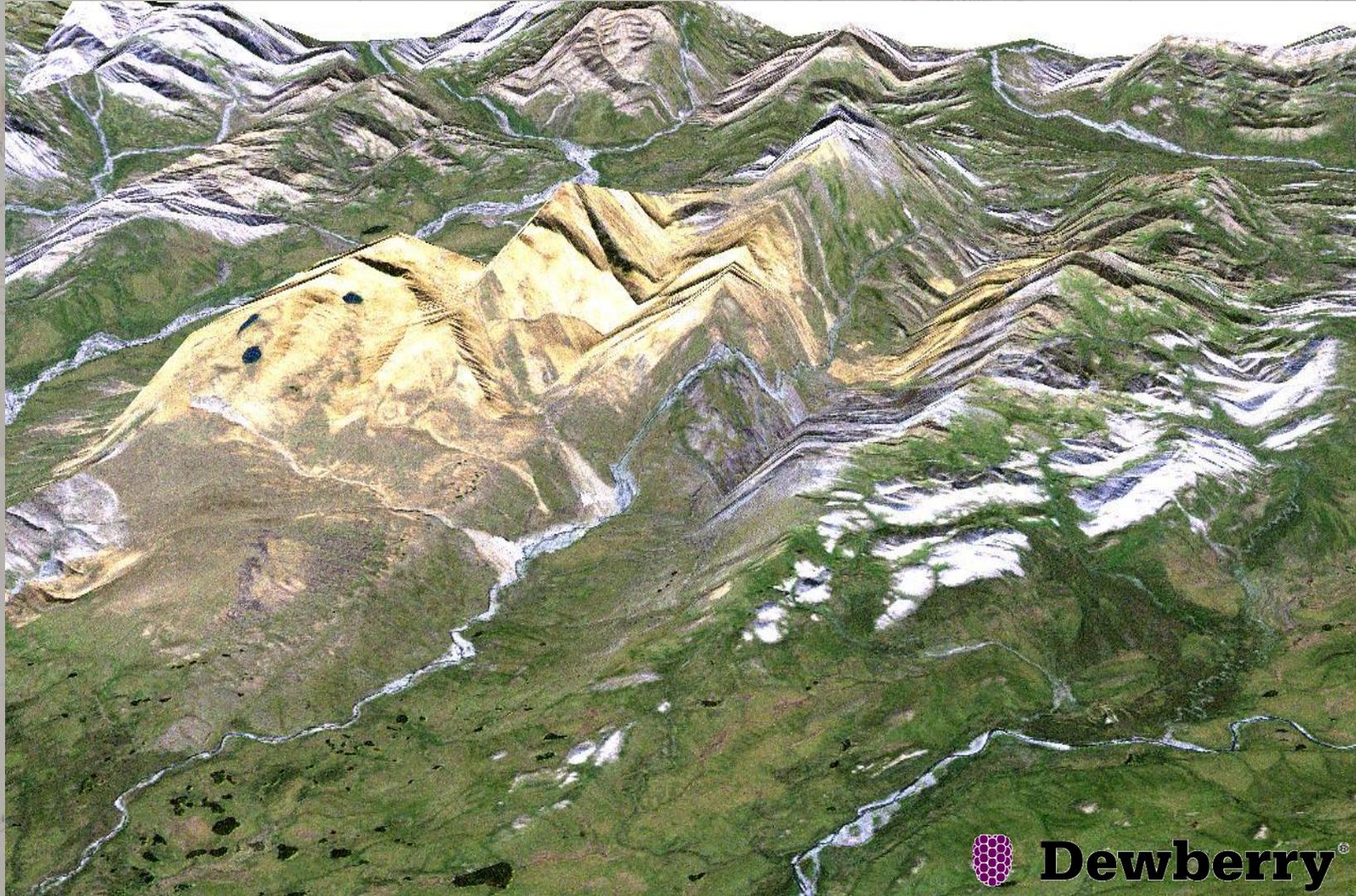
- State Government: (DNR, DOT, DMVA, DCCED, F&G, DEC)
 - *Missing DHSS, DPS*
- University: UAF Geophysical Institute
- Federal Government:
 - DOI: Michael Johnson, Alaska Liaison
 - NOAA: Amy Homan
 - NRCS: **Bob Jones***
 - Missing: FAA, USFS
- ANCSA: Mischa Elliamna
- AML: replacement for Paul Van Dyke needed

*Council annexation requested.

Alaska Mapping Executive Committee

- Chaired by Jennifer Gimbel (DOI) & Peter Potochney (Defense)
- Includes representatives from:
 - OMB
 - USACE
 - Dept. Ag
 - NGA
 - AK DNR
 - NPS
 - AK DOT
 - OSTP
 - NOAA
 - FAA
 - USFWS
 - USGS
 - USFS
 - BLM
 - EPA
 - US DOT
 - DHS

The Problem



Dewberry[®]

TOPOGRAPHIC RECONNAISSANCE MAP
OF
KATANUKA VALLEY AND ADJACENT REGIONS
ALASKA
Compiled by W.C. Mendenhall, Robert Muldrow, and
others, and U.S. Army expeditions
surveyed in 1898, 1899, and 1905

Scale 1:62,500
0 5 10 miles
Contour Interval approximately 250 feet
1906

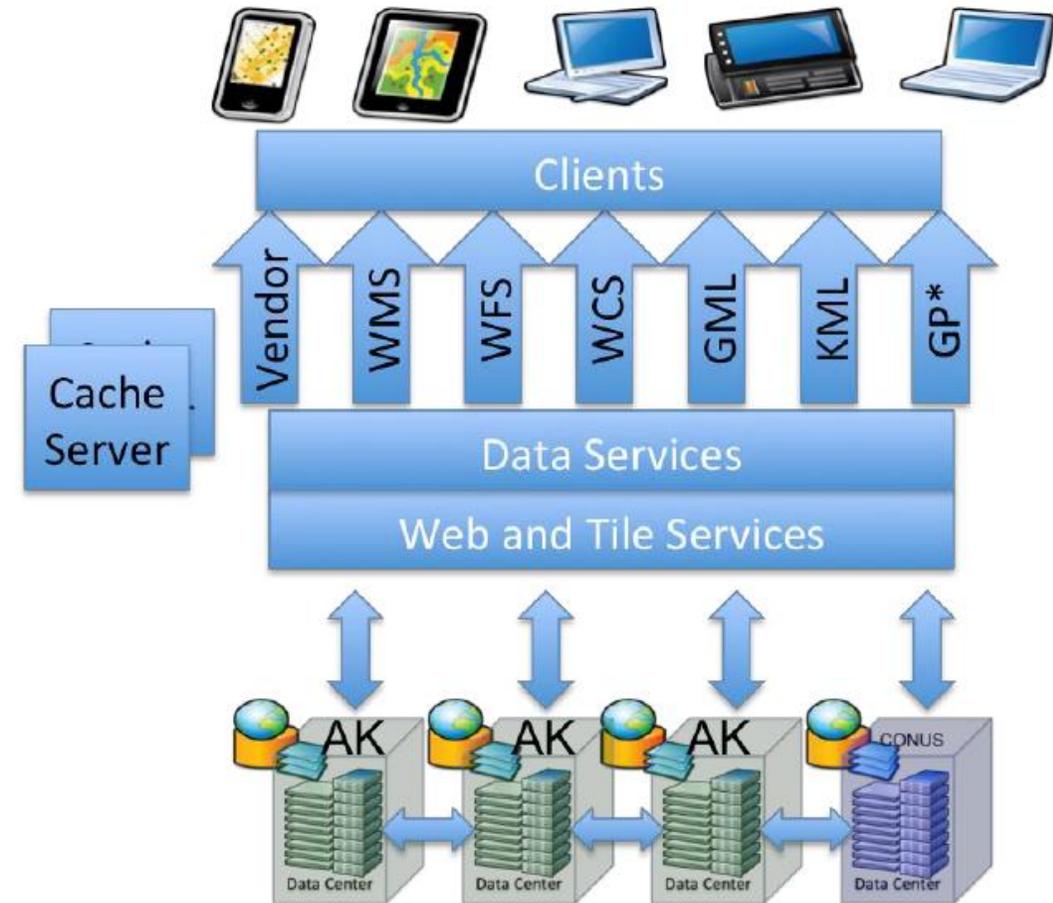
FRAMEWORK DATASET STORYMAP

<http://arcg.is/1Ua2N40>

State Geoportal

Requirements

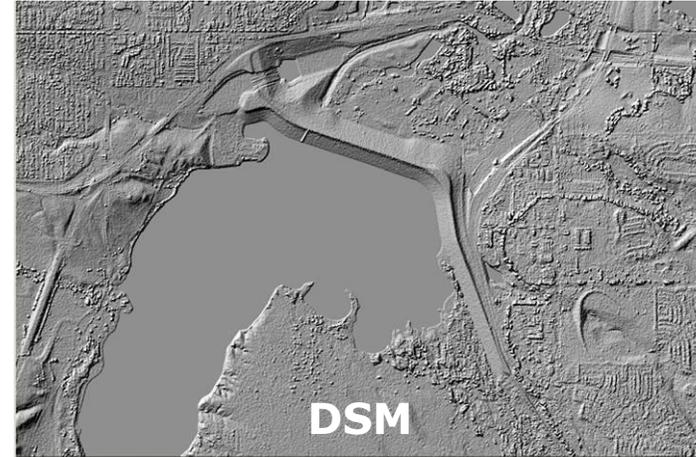
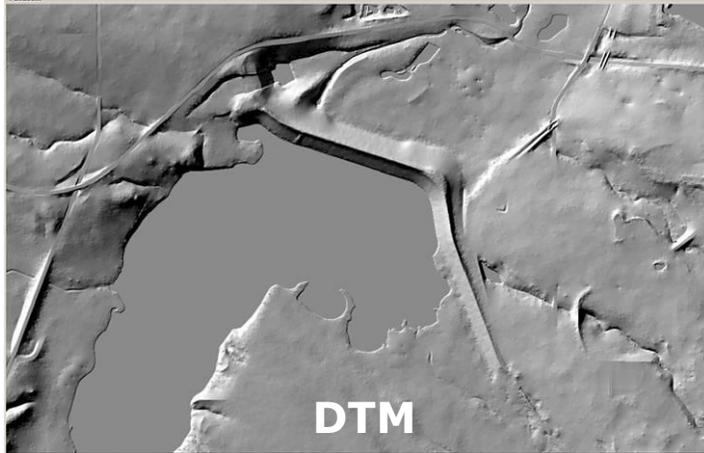
- Low bandwidth access*
- Map tile download*
- Clip, zip, ship*
- Non-ftp and non-http access*
- Committed funding*
- Metadata publication*
- Reference non-hosted data*
- Authentication for restricted data*
- Data access logs*
- Data collaboration tool*
- COOP capability*
- Data archiving and redundancy*



BONUS SLIDES!

Showing elevation and imagery products

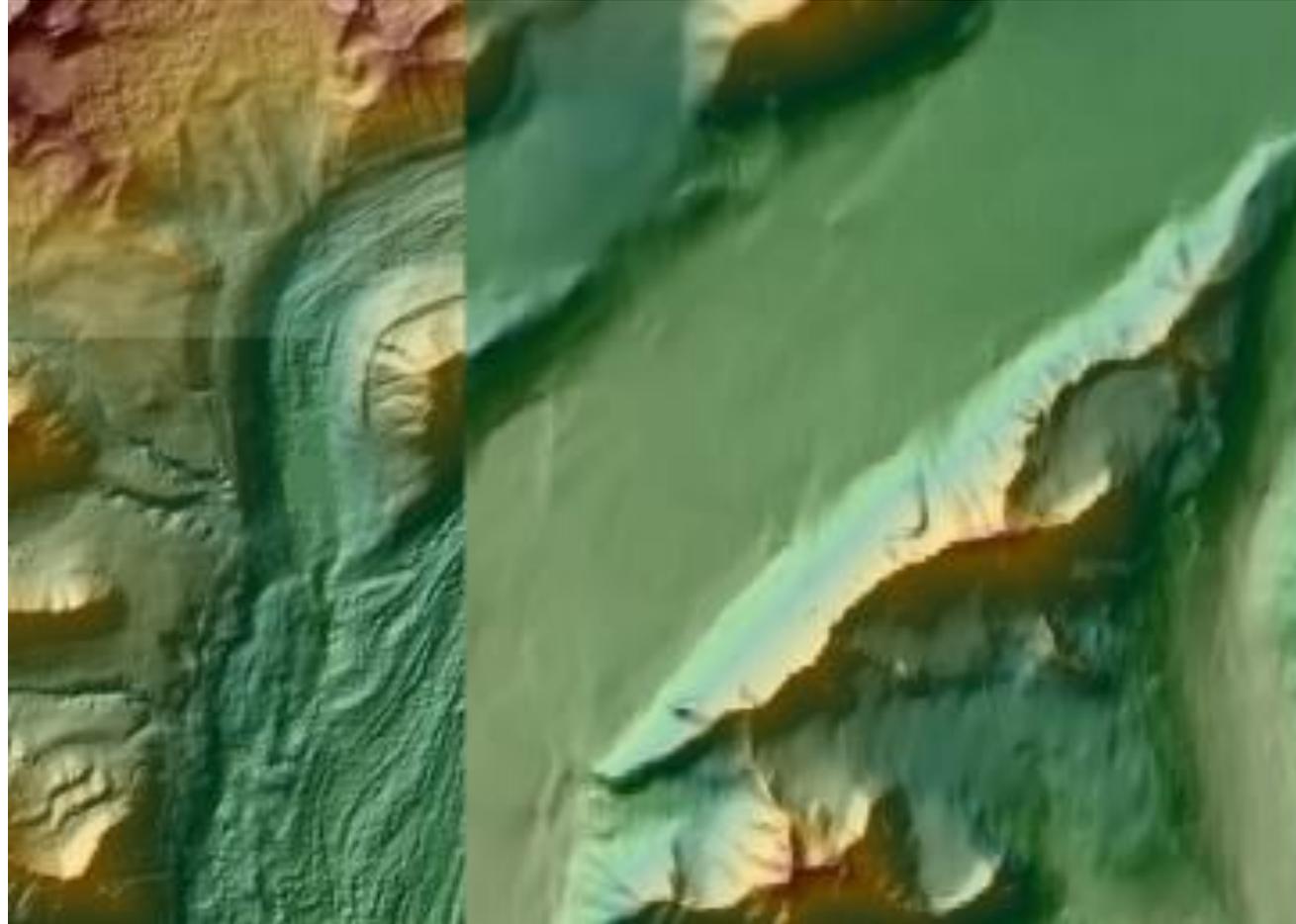
The Elevation Solution



- Three normal airborne IFSAR products
- Could register satellite imagery to ORI to improve positional accuracy with minimal GCPs

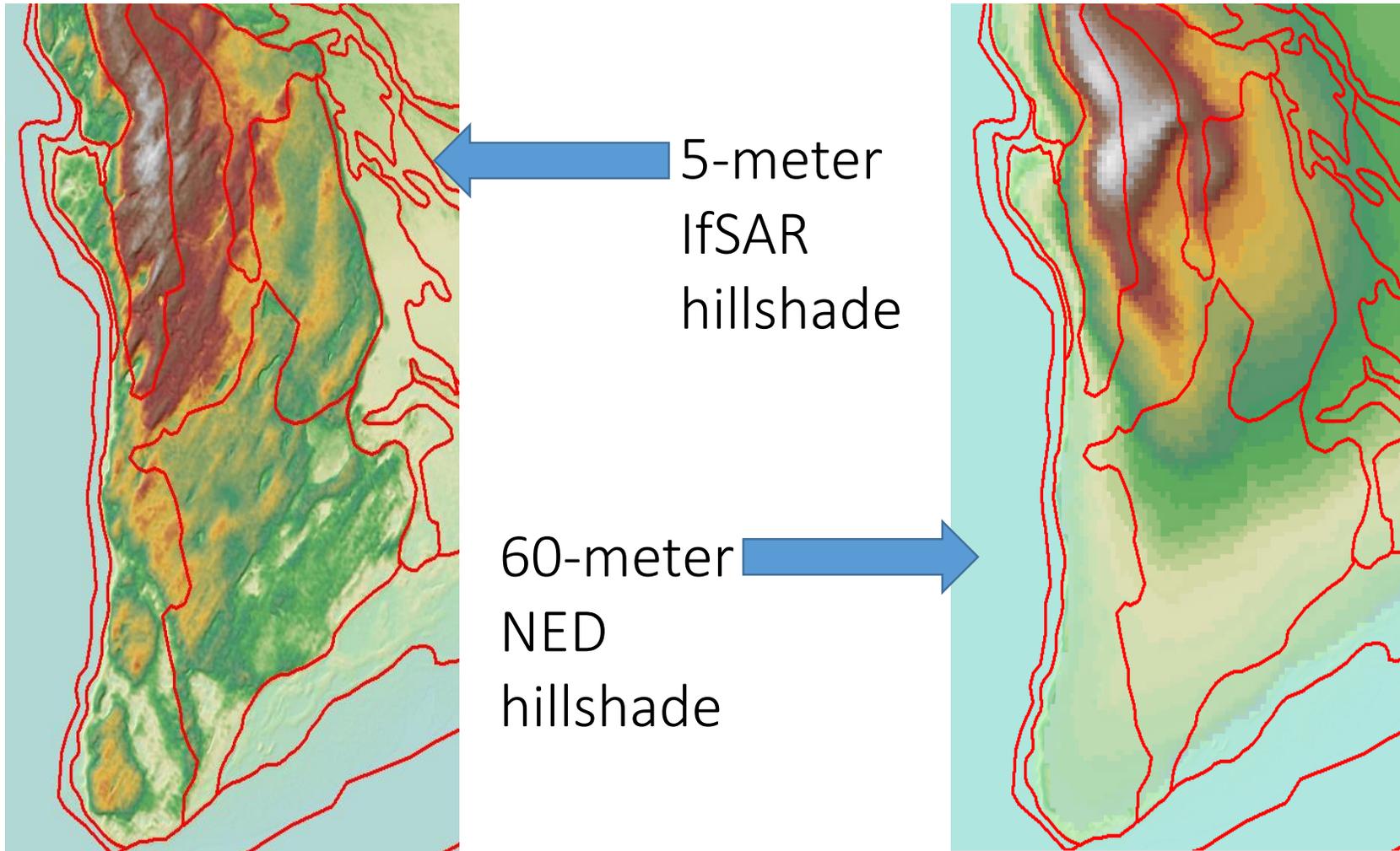


Resolution/content significantly better than the National Elevation Dataset (NED)



IFSAR (left) and NED (right)

Clearer delineation of coastlines and landforms



Elevation

- Completed to date: 70% statewide coverage 5-meter IfSAR
- Current Status: Additional 2016 acquisitions planned for NE & SW
- Planned Work: 3-year plan for completion
- Issues: Logistics for remote islands
- Estimated cost: \$23M to complete



Accessible at <http://maps.dggs.alaska.gov/>



Statewide Orthoimagery

Alaska Statewide Ortho-Imagery

The Statewide Digital Mapping Initiative (SDMI) satellite imagery map is the first consistent, high-resolution, high-accuracy digital basemap of Alaska. The project was funded in partnership between Department of Natural Resources, Fish & Wildlife Coastal Impact Assessment Program (CIAP), and the Geographic Information Network of Alaska (GINA) with help from multiple state and federal partners. The satellite imagery map establishes an imagery baseline for Alaska which will be maintained and updated under the direction of the Alaska Geospatial Council, the successor to the SDMI.

The Alaska Geospatial Council manages statewide framework datasets required for mapping, including imagery. To stay current and also to monitor changes in the landscape, imagery should be recollected every 3-5 years under the direction of the Alaska Geospatial Council.

The satellite imagery provides complete multispectral coverage of the state at 2.5-meter spatial resolution. This basemap has been licensed for use by State, Federal, Local Government, Tribal Non-Profit, and Academic use. The SPOT 5 satellite imagery used to create the ortho product is copyright (© CNES 2013, Distribution Spot Image S.A., France, SICORP, USA, all rights reserved) and includes scenes from 2009-2013.

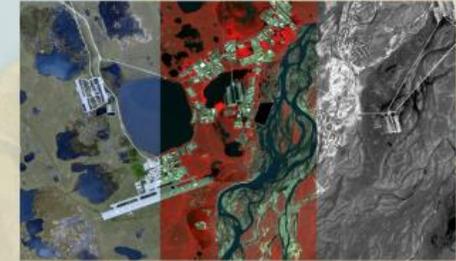


Geographic Information
Network of Alaska
www.gina.alaska.edu



<http://agc.dnr.alaska.gov>

<http://www.alaskamapped.org>



Example of the Alaska Statewide Ortho-Imagery products of the Deadhorse Airport on the North Slope of Alaska. The three image products, natural color, color-infrared, and panchromatic, shown above at 1:24,000 scale, clearly show infrastructure, roads, trails, vegetation, and hydrology.



Ortho-imagery Acquisition

August 2010 – December 2015

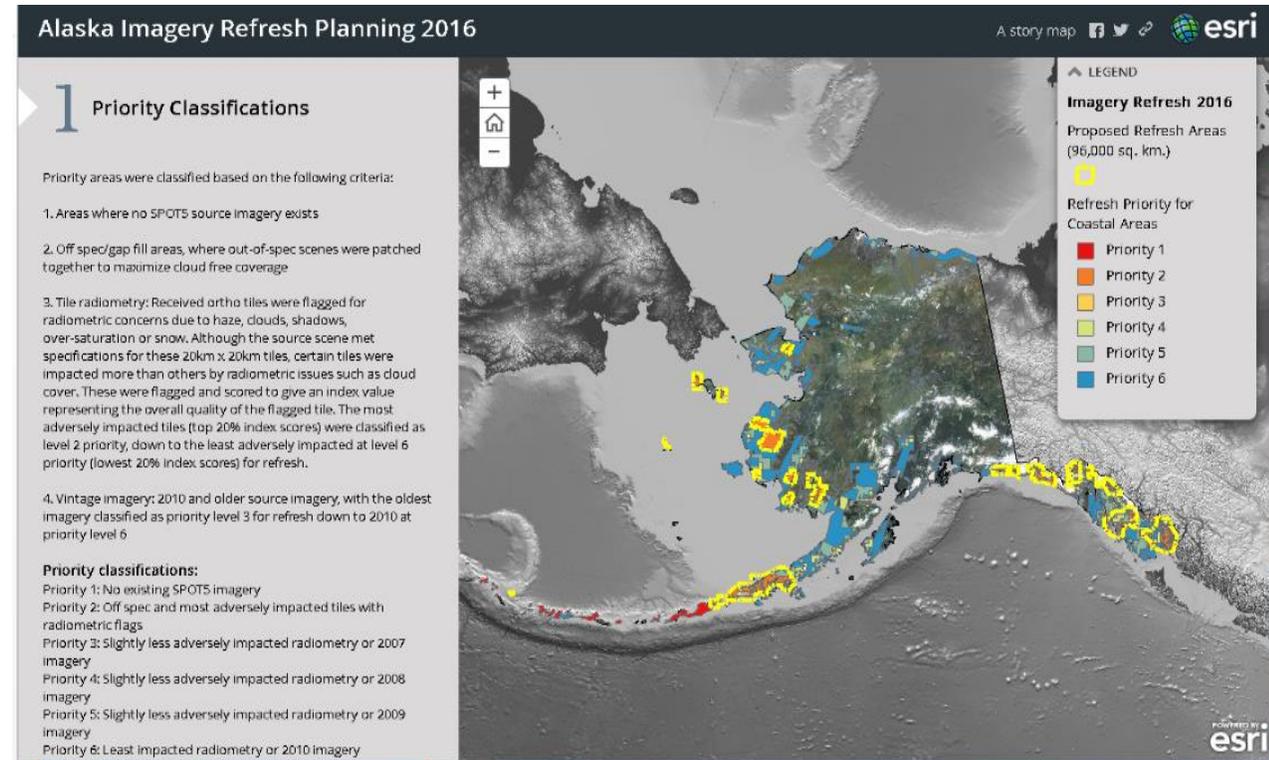
State contract #10-10-062



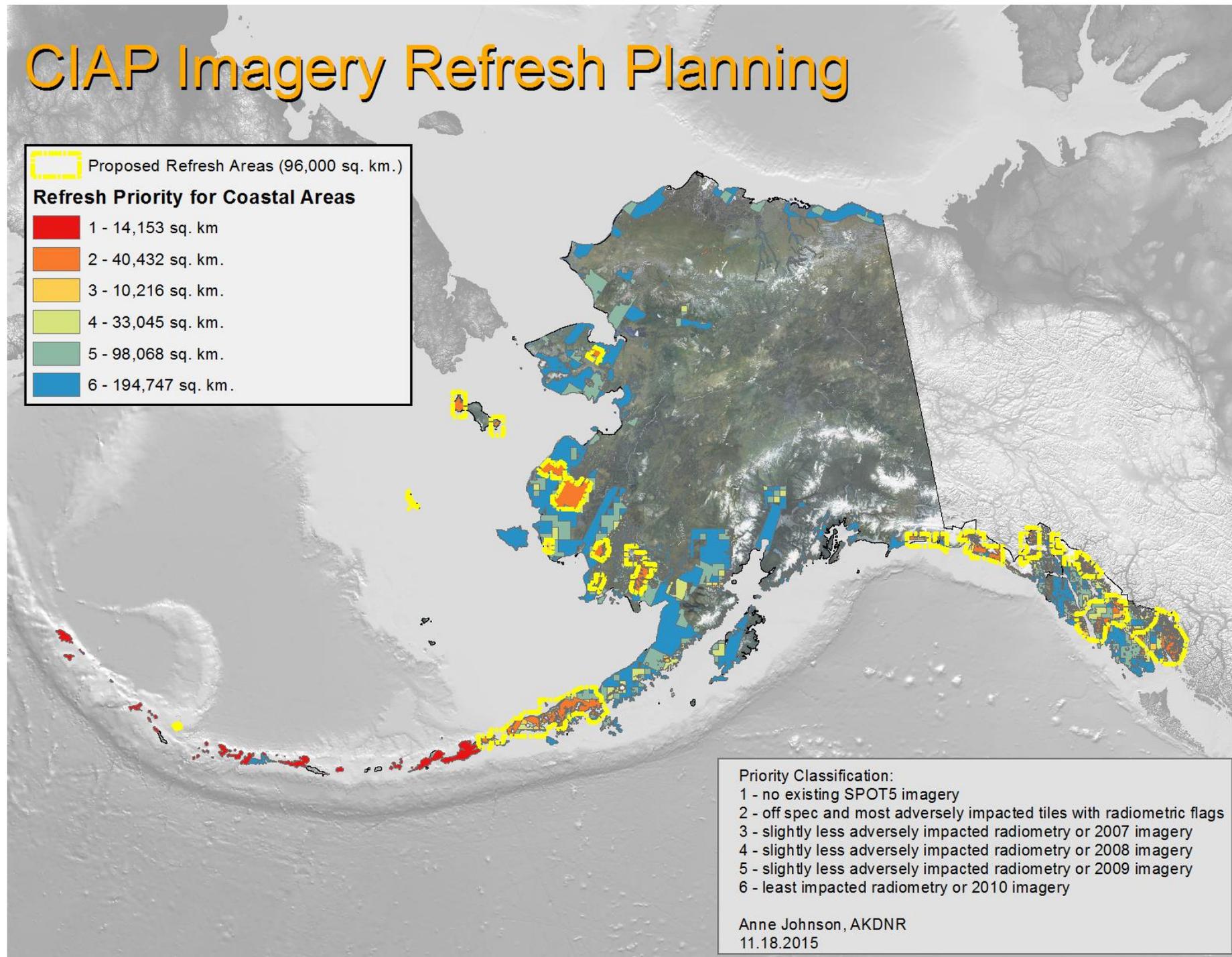
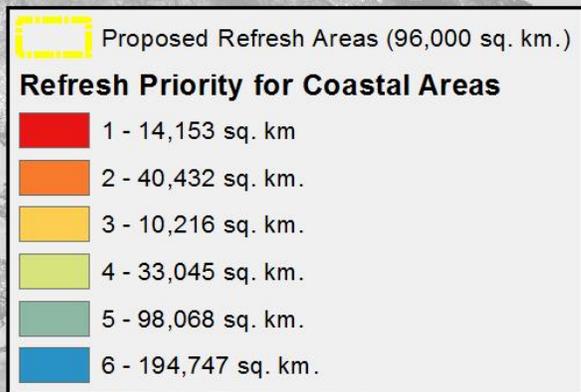
Golovin, southwest
Alaska.
Landsat 15-meter
imagery vs. 2.5-meter
orthoimage.

Orthoimagery

- Completed to date: 99% statewide coverage 2.5-meter orthoimagery
- Current Status: 96,000 km² new 1.5-meter imagery; uplift of Glacier Bay and Katmai National Park Service 0.5-meter imagery
- Planned Work: University QA/QC, ingest & distribution of new imagery
- Issues: Support for web mapping services and data distribution after 12.31.2016; continued refresh
- Estimated cost: \$2M annual for fully funded program (3-year refresh)



CIAP Imagery Refresh Planning



Priority Classification:

- 1 - no existing SPOT5 imagery
- 2 - off spec and most adversely impacted tiles with radiometric flags
- 3 - slightly less adversely impacted radiometry or 2007 imagery
- 4 - slightly less adversely impacted radiometry or 2008 imagery
- 5 - slightly less adversely impacted radiometry or 2009 imagery
- 6 - least impacted radiometry or 2010 imagery

Anne Johnson, AKDNR
11.18.2015