

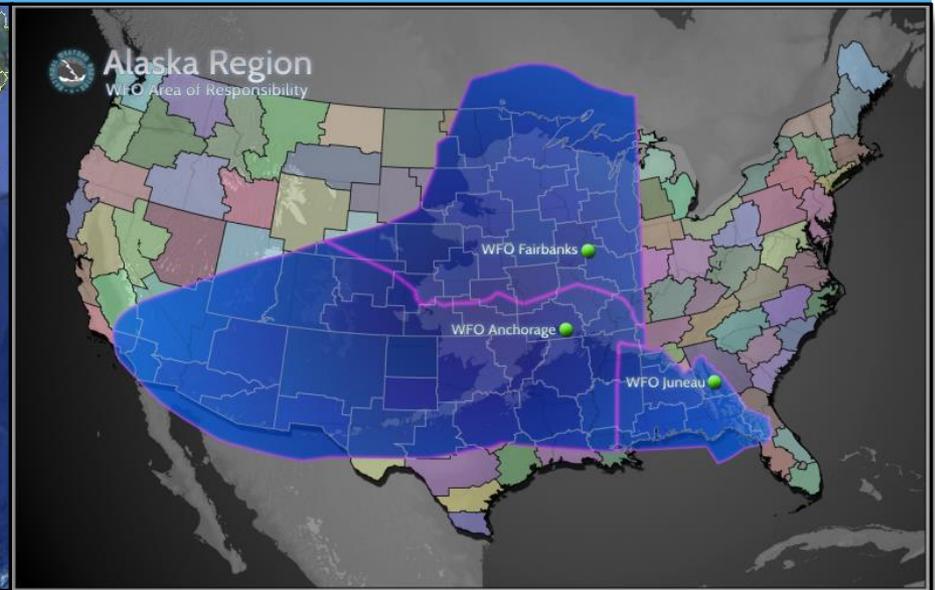
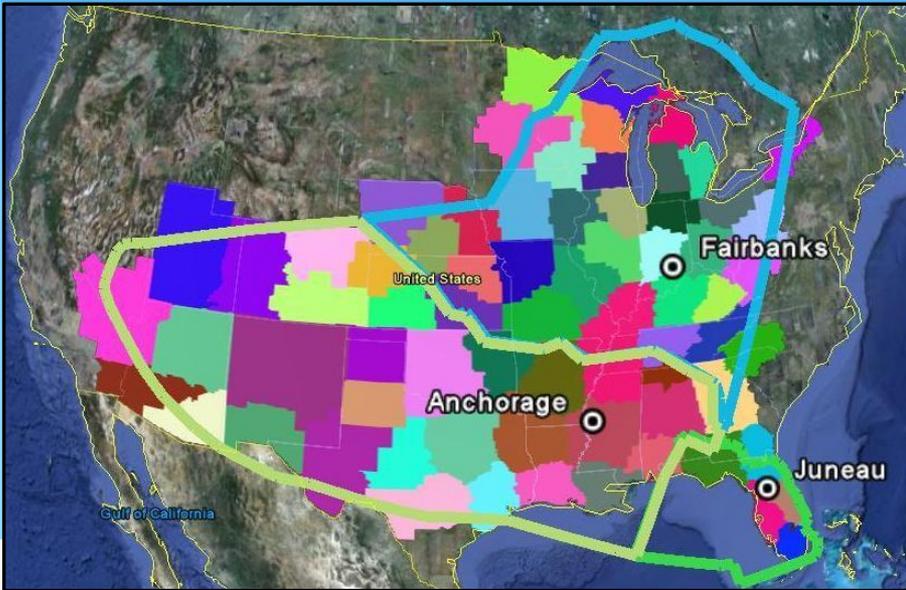


American Meteorological Society

Town Hall Session

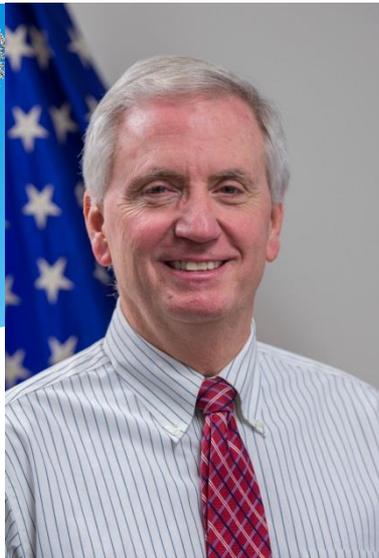
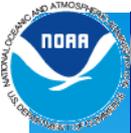
Advances in OCONUS Satellite Applications Enabled by the Current and New Generation of Polar-orbiting and Geostationary Environmental Satellites

-- An Alaska Perspective --



These maps are to scale

Carven A Scott
Chief, ESSD
NWS Alaska Region



Short Bio



Carven A Scott

Carven has been the Chief of the Environmental and Scientific Services Division (ESSD), NWS Alaska Region in Anchorage since March of 2007. Prior to his current position Carven served in a variety of positions in the NWS:

- Science and Operations Officer (SOO), WFO Anchorage (1993-2007)
- Regional Computer Manager/Scientific Programmer, Alaska Region Headquarters (1990-1993)
- Underground Nuclear Test Briefer/Research Meteorologist/Programmer, Weather Service Nuclear Support Office, NV (1985-1990)
- Intern/Forecaster, WSFO Great Falls, MT (1979-1985)

Flight Analyst, Delta Airlines (1978-1979)

Carven also served in the military over 30 years, recently retiring as a Captain in the Navy Reserve. During his last tour, Carven was the Commanding Officer of the METOC Reserve Headquarters unit, the senior METOC Reserve Advisor to Commander, Naval Meteorology and Oceanography Command as well as the Oceanography Liaison to Commander of the Information Dominance Corps Reserve Command.

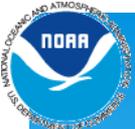


An Alaska Perspective

Alaska Challenges

- High Wind (14 hurricane force storms/year)
- Ice Storms
- Volcanic Ash
- High Wind and Open Water (storm surge)
- Extreme Cold and High Pressure
- Blizzards
- Heavy Snow
- Space Weather
- Tsunami
- Flooding
 - Ice Jam/Breakup
 - Coastal Storm Surge
 - Coastal Erosion
- Wild Fire
- Sea Ice
 - Resupply
 - Access
- Latitudinally challenged
- Gloom of Night

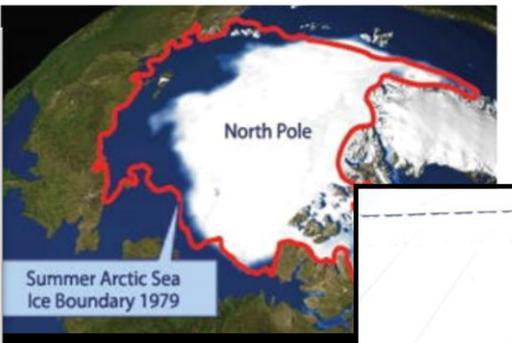




An Alaska Perspective

Alaska Challenges

- Most of the weather phenomena are not, of course, unique to Alaska
- However, impacts of the phenomena are intensified by data gaps, the length of storm season, darkness, remoteness, supply chain management issues, & complex topography
- 93% of Alaska lives on, or near water
- No roads, rivers are highways



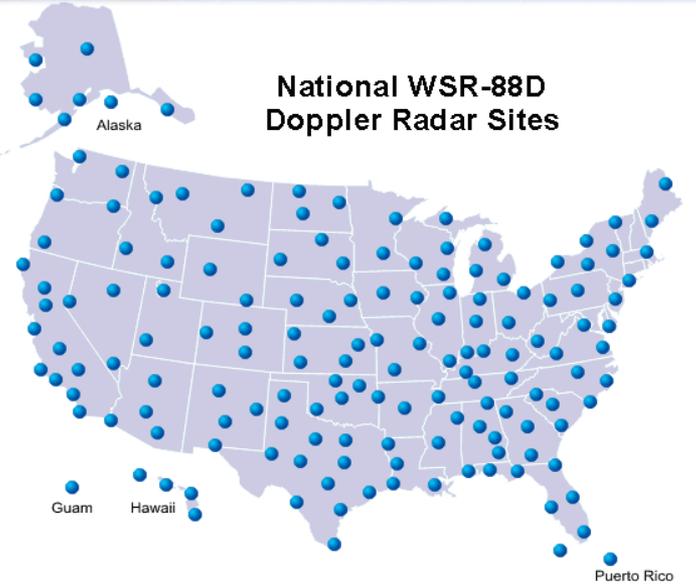
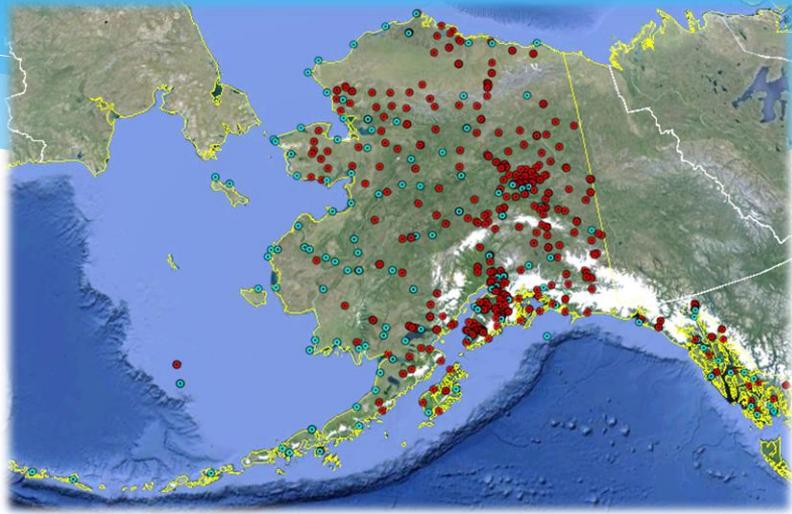
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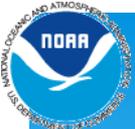


An Alaska Perspective

Alaska Challenges - Observations

- Surface Obs: ASOS (44), Handars/MAWS/LARC (57)
- Doppler Radars (7 - FAA owned and maintained)
- Upper Air Soundings (13), Wind Profilers (3)
- River Gages (155)
- Seismic Stations (15)
- Water Level Stations (6)
- HF Radios (7)

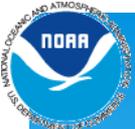




An Alaska Perspective Satellites

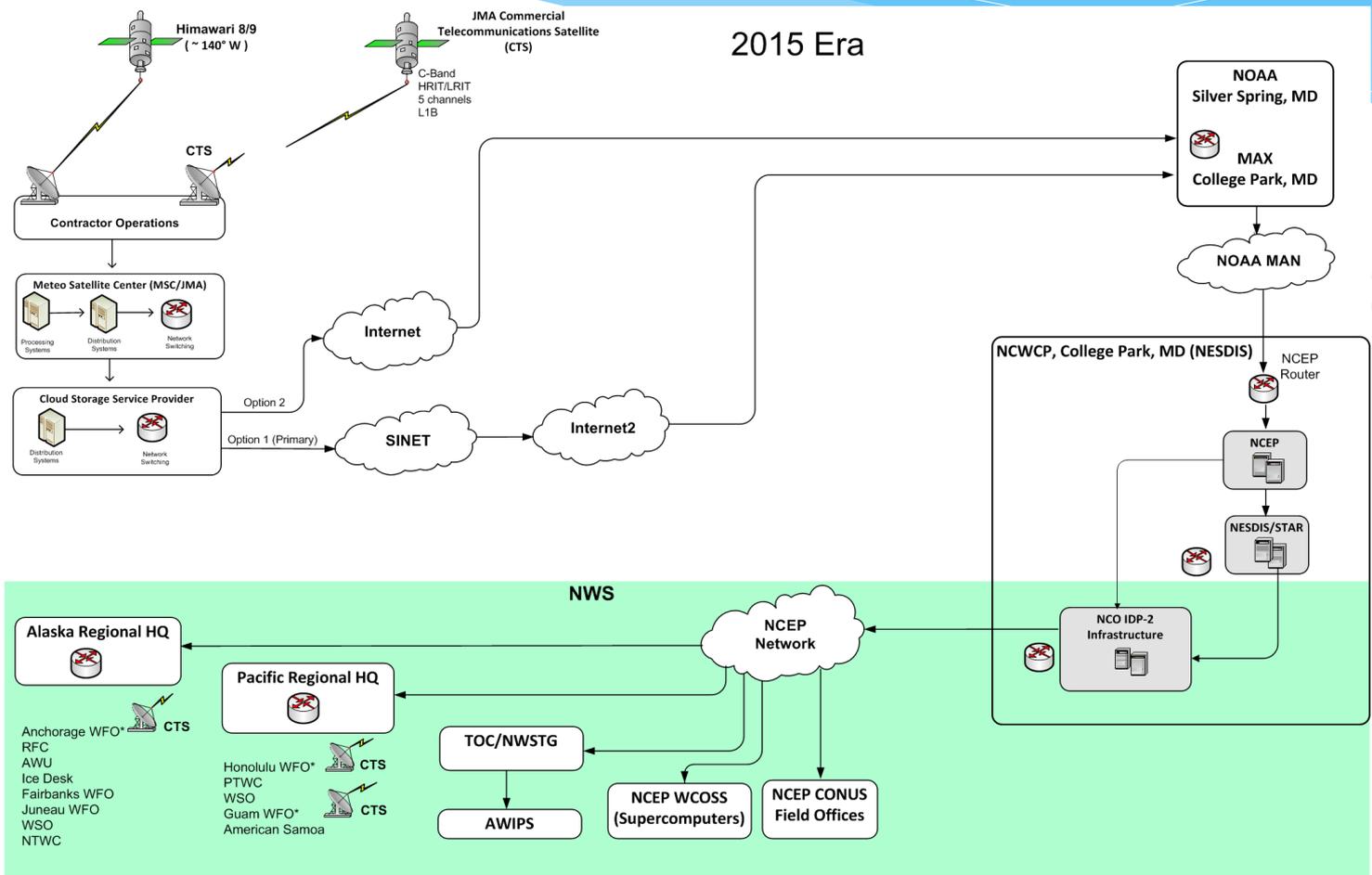
- LEO
 - NOAA POES (16, 18, and 19)
 - S-NPP → **JPSS**
 - DMSP (15-18)
 - MODIS (Aqua/Terra)
 - METOP-B (ASCAT)
 - JASON-2, CRYOSAT 2, and SARAL / ALTIKA
 - WindSAT
 - RADARSAT 2
 - Sentinel 1
 - **G-COM (ALOS)**
 - **SMAP**
- GEO
 - GOES-W (15) → **GOES-R**
 - MTSAT2 → (**Himawari 8**)



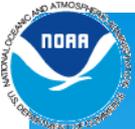


An Alaska Perspective

Himawari-8



A Assets
012

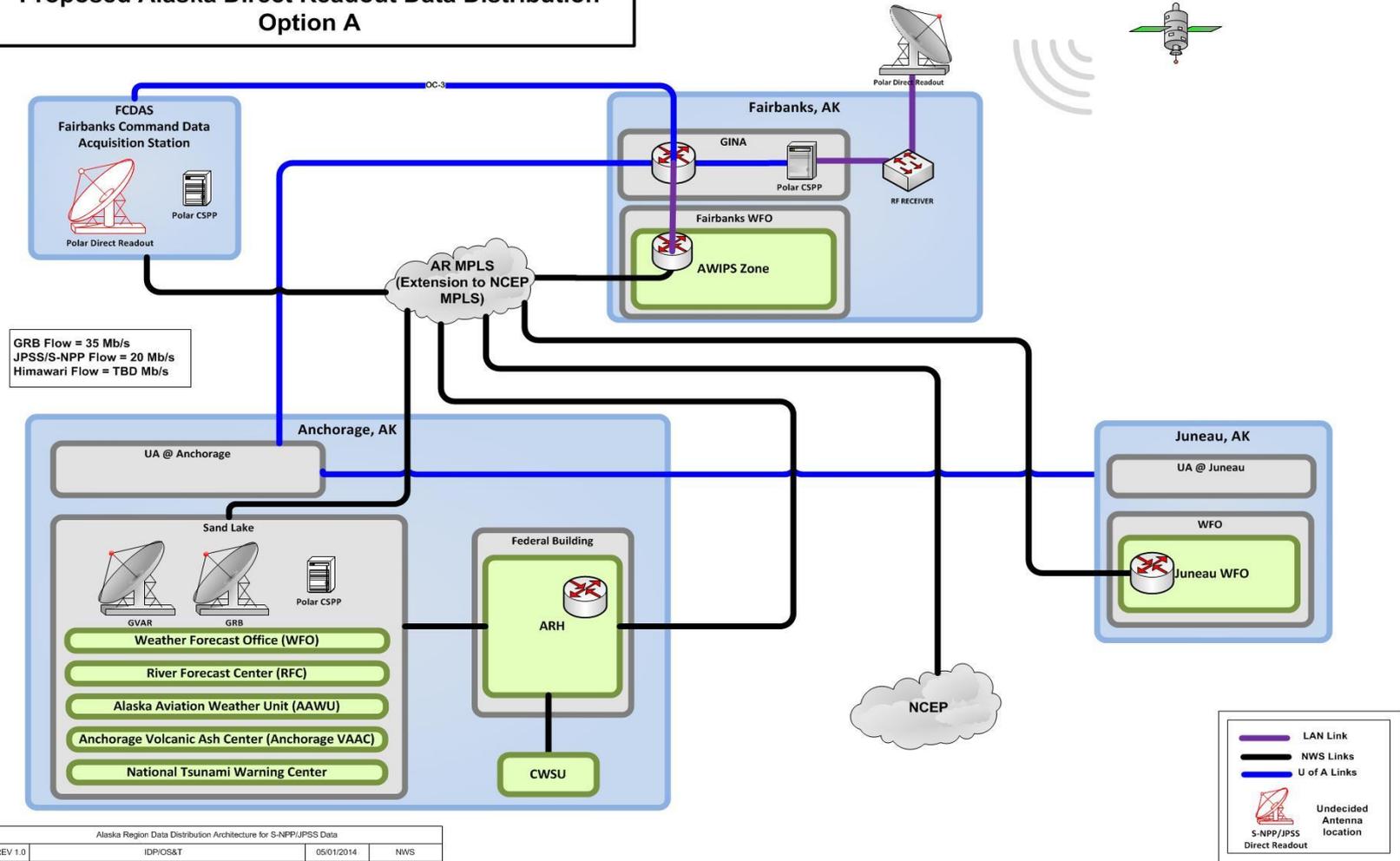
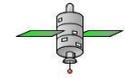


An Alaska Perspective

Direct Broadcast

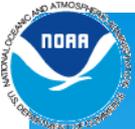
Proposed Alaska Direct Readout Data Distribution Option A

S-NPP/JPSS/AQUA/METOP



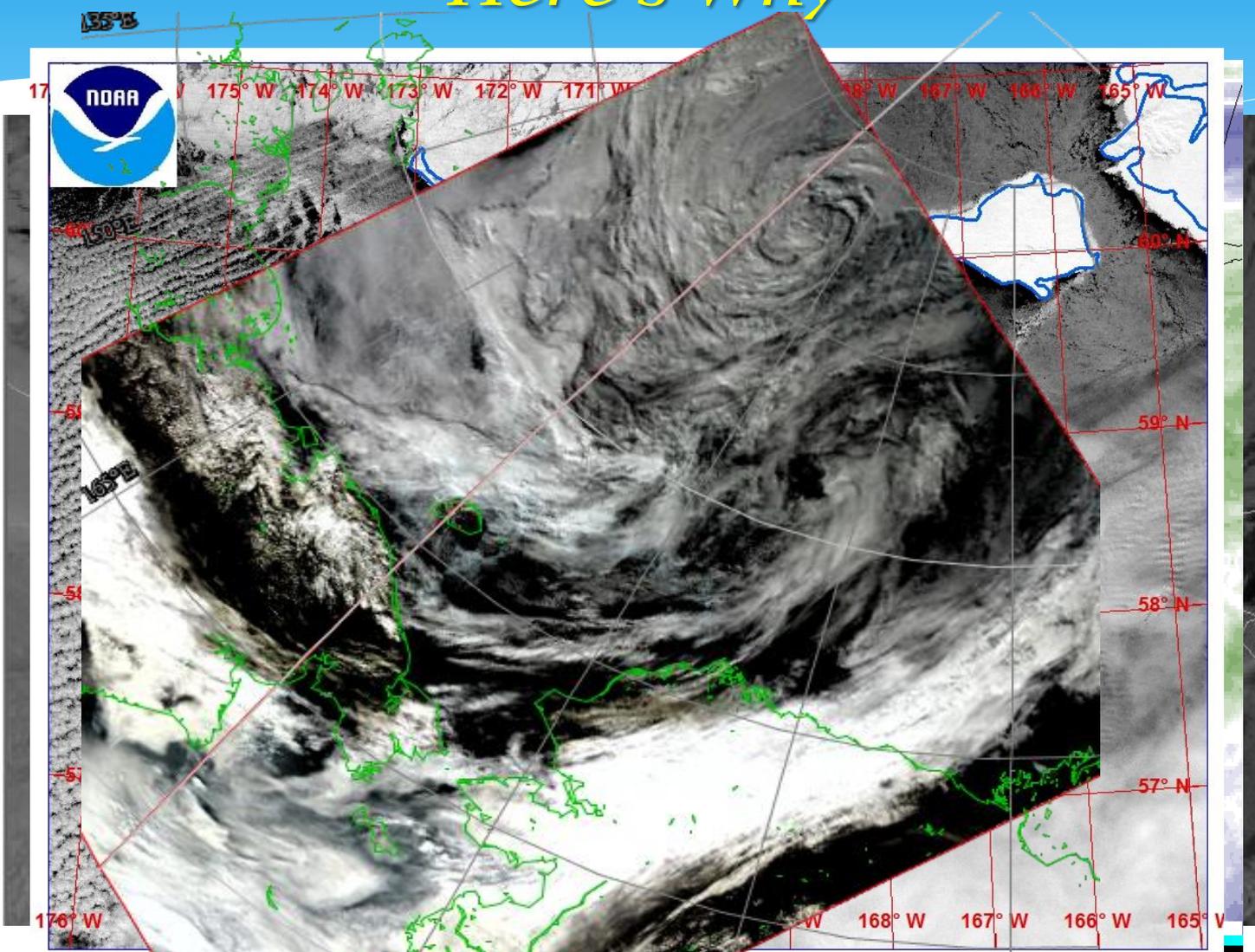
GRB Flow = 35 Mb/s
JPSS/S-NPP Flow = 20 Mb/s
Himawari Flow = TBD Mb/s

Alaska Region Data Distribution Architecture for S-NPP/JPSS Data			
REV 1.0	IDP/CS&T	05/01/2014	NWS

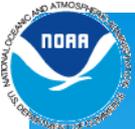


An Alaska Perspective

Here's Why



AA Assets
2012



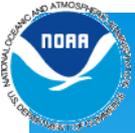
An Alaska Perspective

WHY?

THE PAPER SAYS
FAIRWEATHER
GET YOUR
SHOES SHINED



" NOAA's National Weather Service provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community. "



An Alaska Perspective *In Conclusion...*



COUGHLIN'S LAW

All things end badly. Otherwise, they wouldn't end, would they?

by MotivatedPhotos.com

- Observational density is an order of magnitude less (or worse) than CONUS
- Satellite imagery is mission critical to NWS Alaska operations, both LEO and GEO
- GEO is very helpful even in the high latitudes...H8 & GOES-R!
- LEO - especially for the latitudinally challenged (DNB-NCC and sounding data!)
- Direct Broadcast!!