



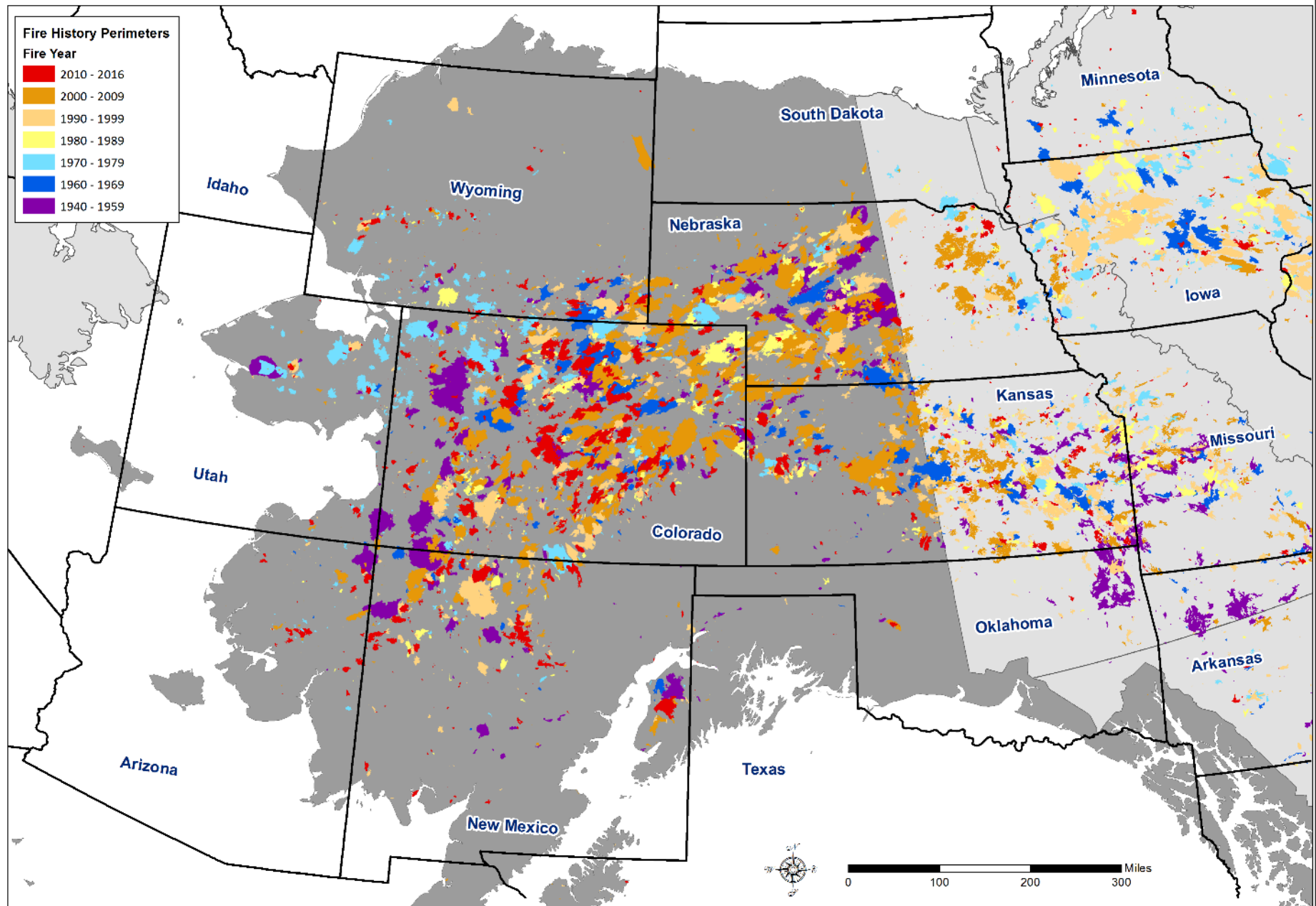
Alaska Fire Science Consortium  
Alaska Fire Service

# Remotely Sensed Data for Alaska

Current Uses of Remote Sensing for Wildland Fire in High Latitudes



# Alaska / Canada Fire History 1940-2016 and U.S. Mainland



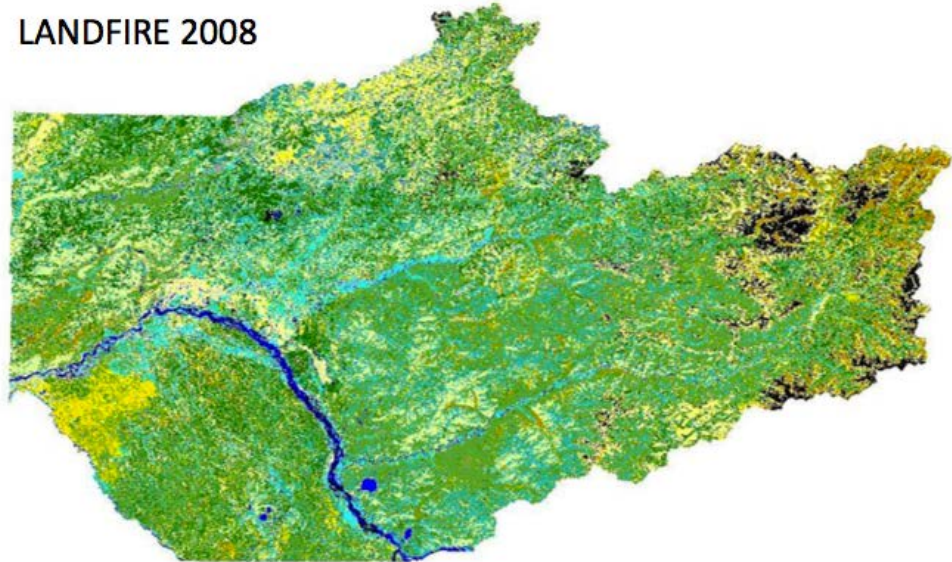
# Land Cover Classifications

A moving target that will benefit from higher frequency updates and more accurate data.

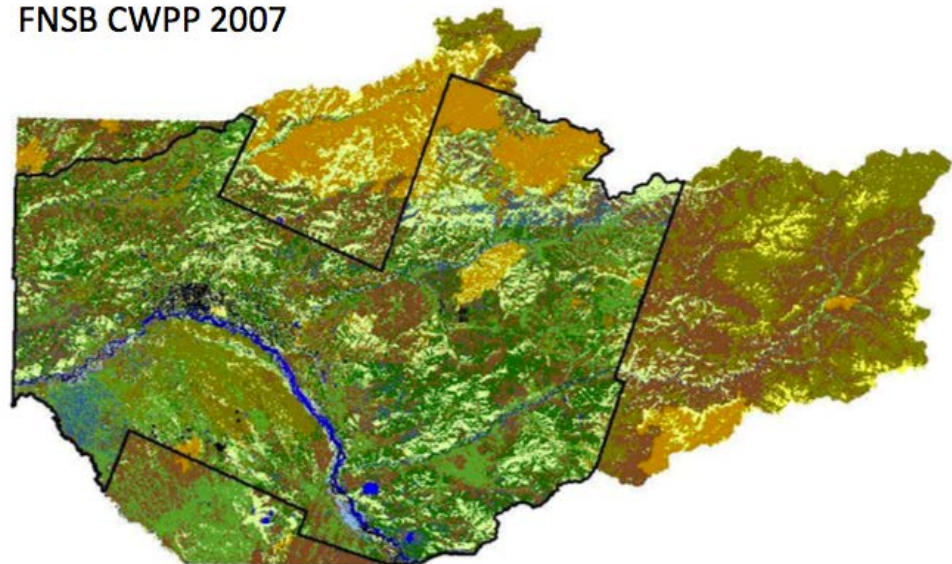
## Fairbanks North Star Borough Community Wildfire Protection Plan

- Fuels Mapping with SPOT (inside black line) and Landsat
- corresponding LANDFIRE classification

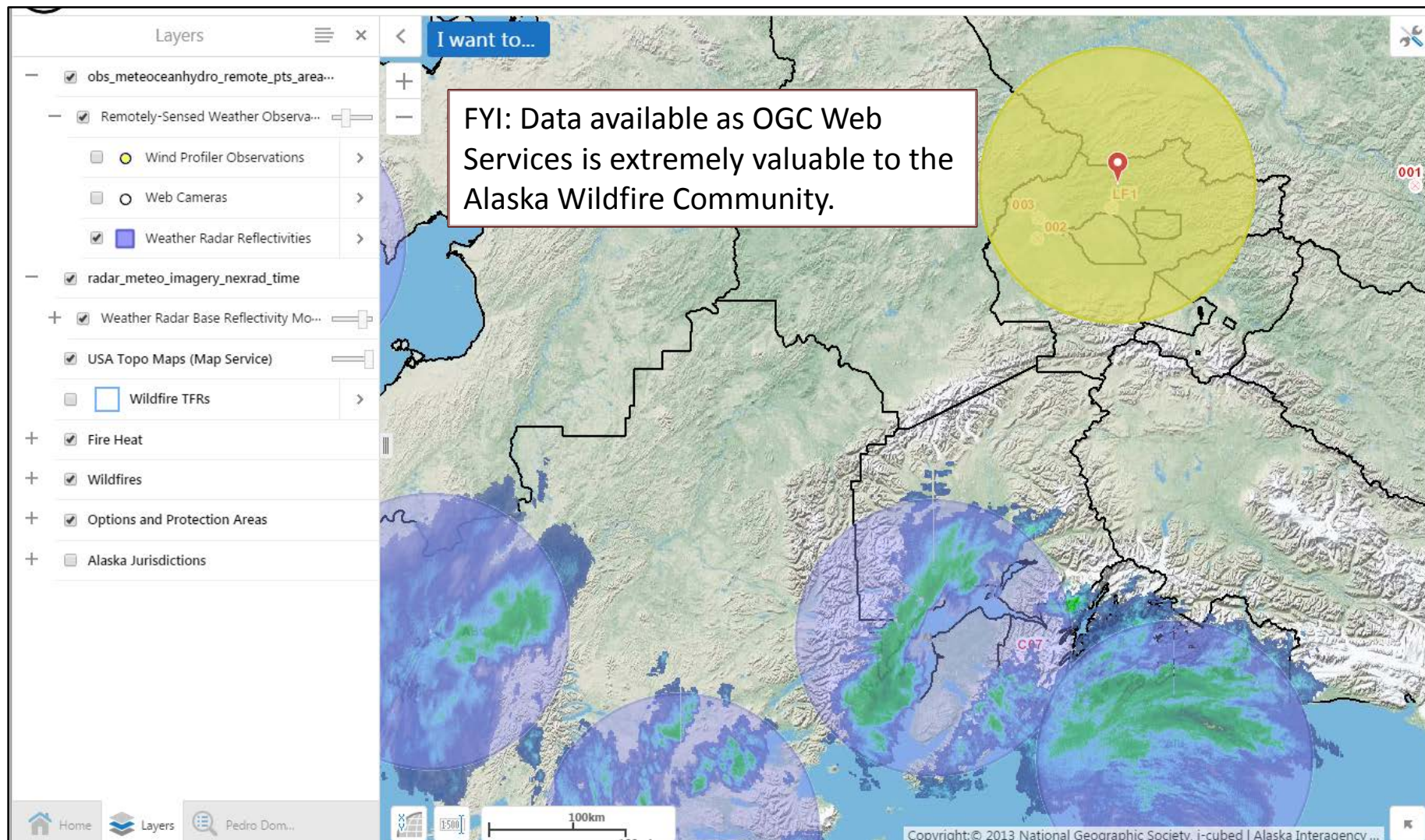
LANDFIRE 2008



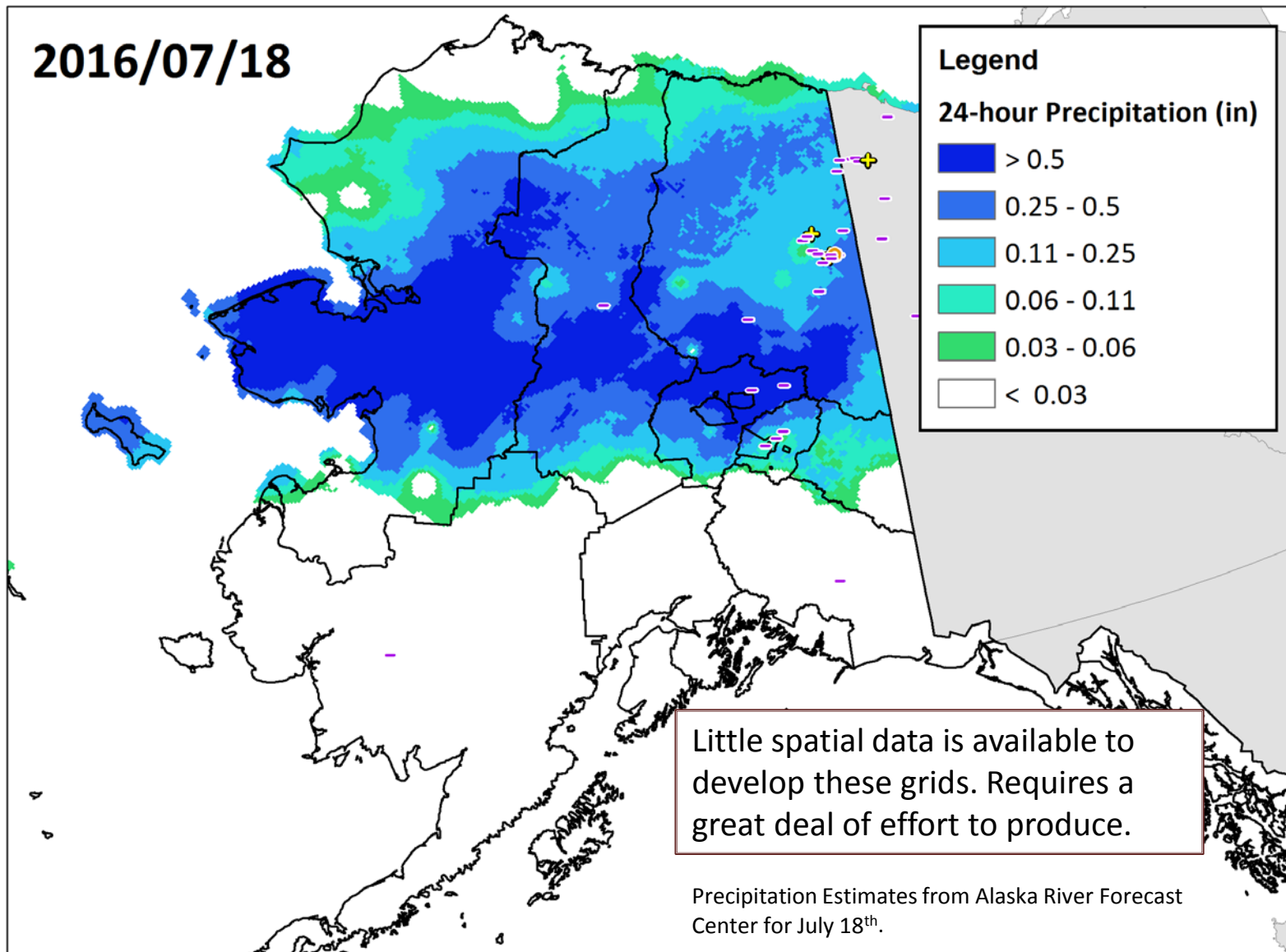
FNSB CWPP 2007



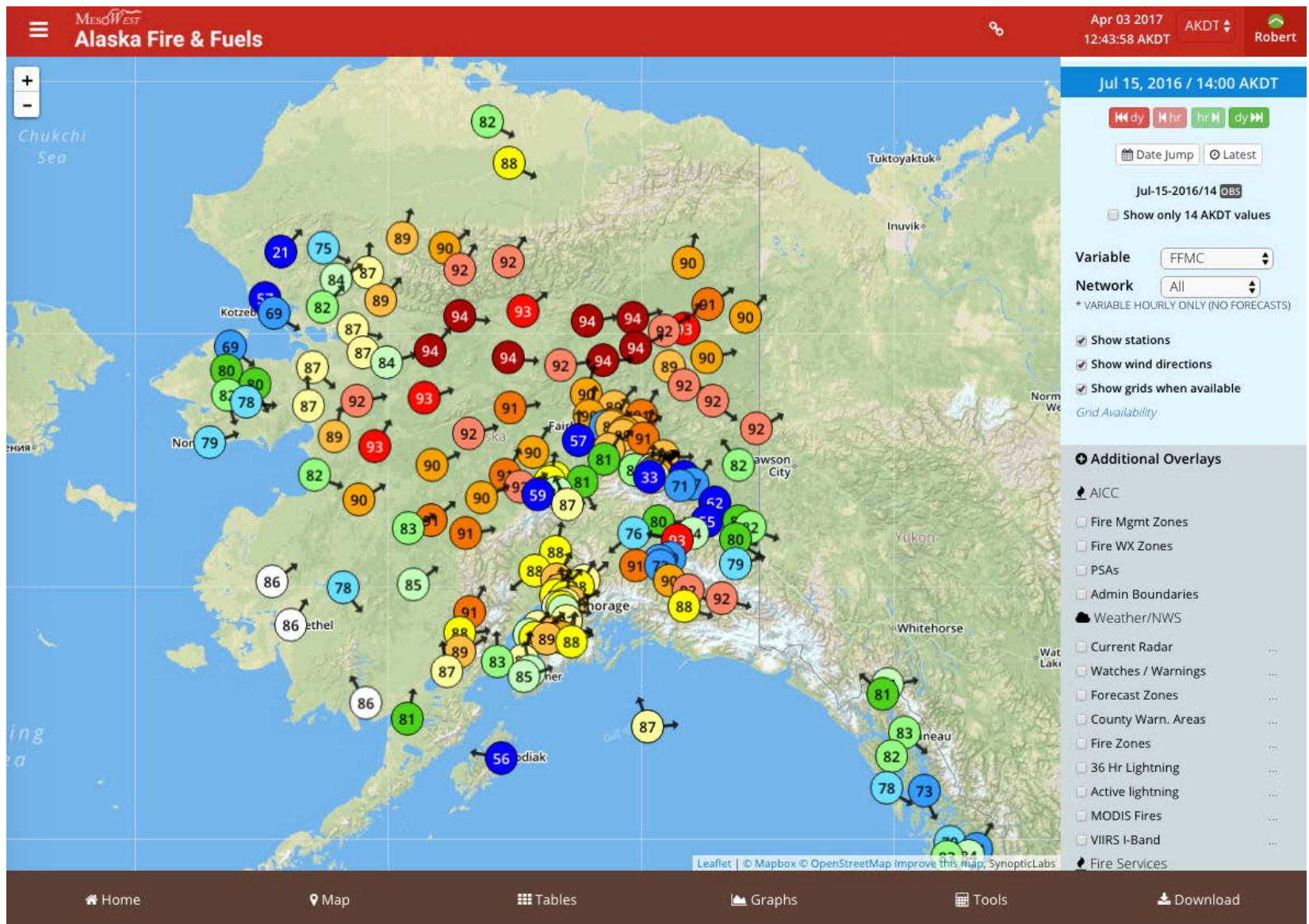
# Remotely-sensed Weather Data



# Temperature and Precipitation Data



# MesoWest AK Fire & Fuels



# FWI Start Date in MesoWest AK Fire & Fuels

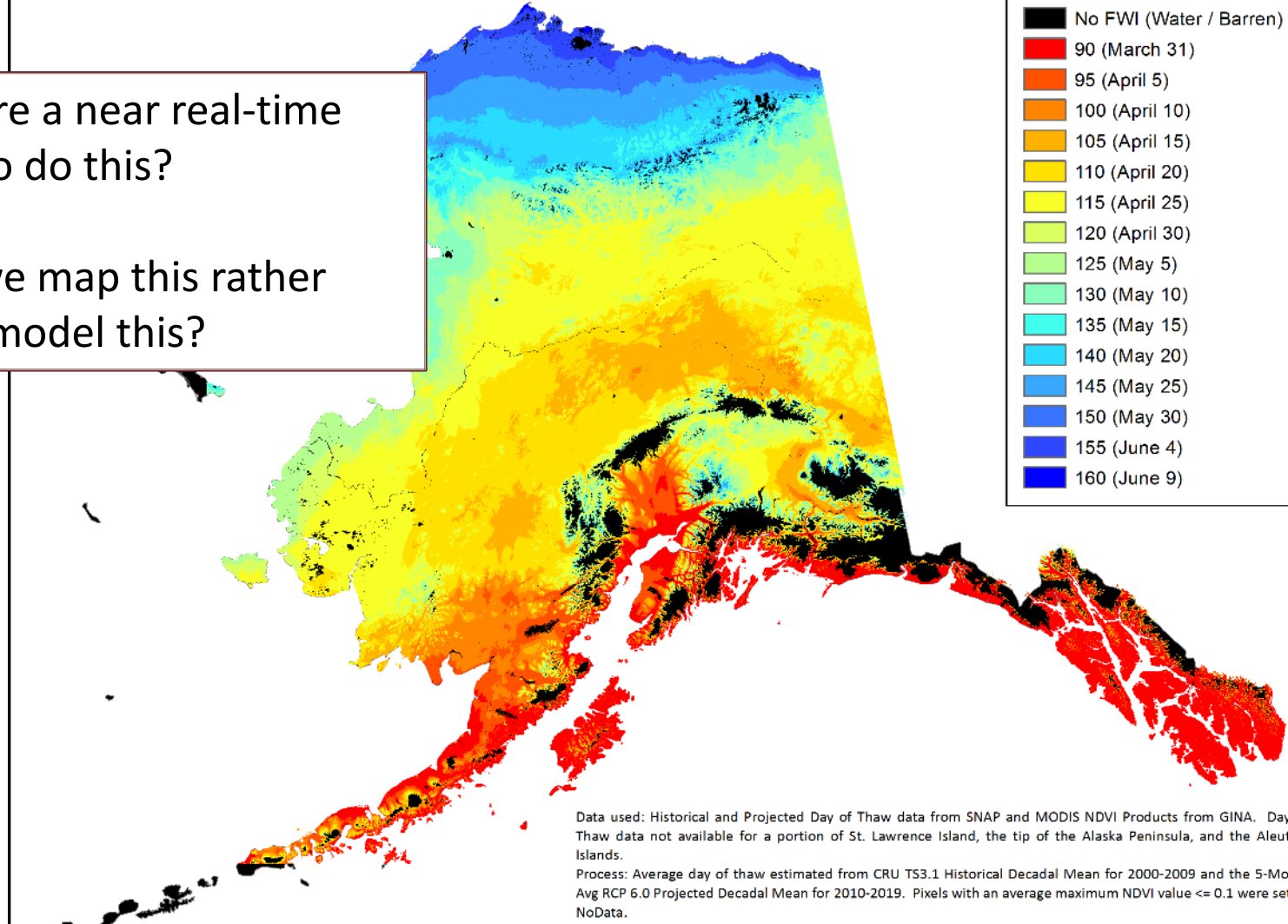
Estimated FWI Calculation Start Day (Julian Date)  
Based on Historical and Projected Day of Thaw

Is there a near real-time  
way to do this?

Can we map this rather  
than model this?

## FWI Start Day

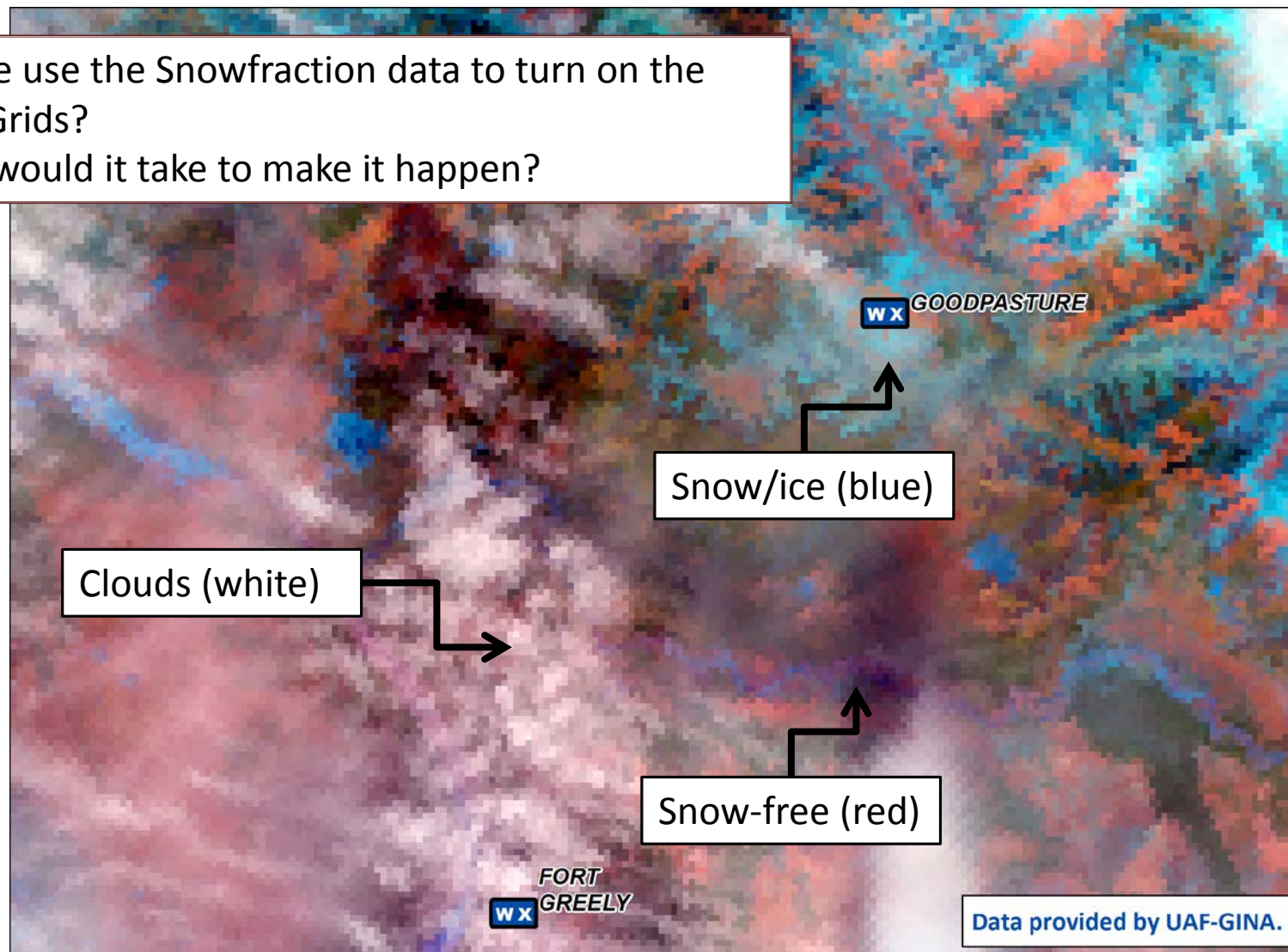
- No FWI (Water / Barren)
- 90 (March 31)
- 95 (April 5)
- 100 (April 10)
- 105 (April 15)
- 110 (April 20)
- 115 (April 25)
- 120 (April 30)
- 125 (May 5)
- 130 (May 10)
- 135 (May 15)
- 140 (May 20)
- 145 (May 25)
- 150 (May 30)
- 155 (June 4)
- 160 (June 9)



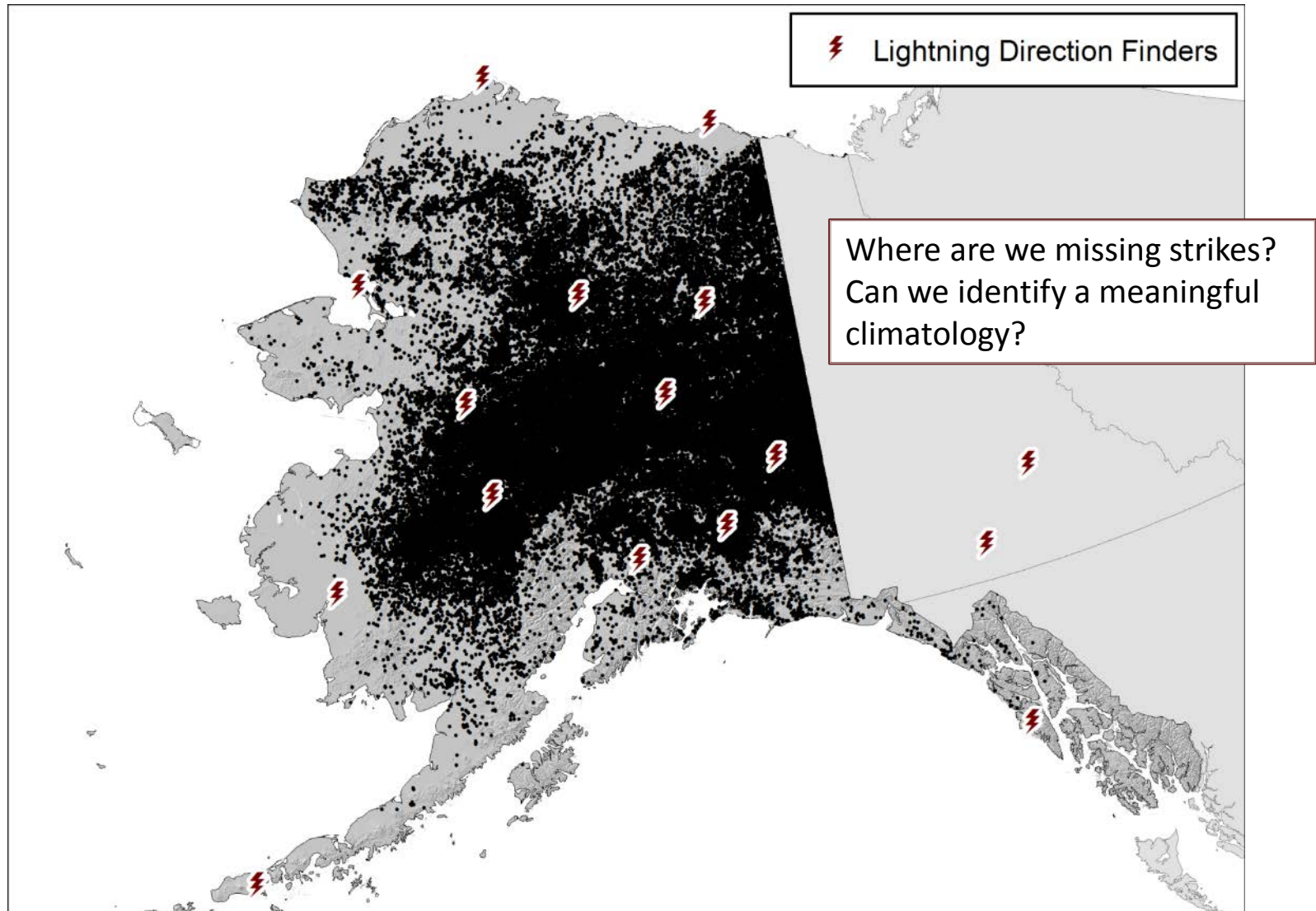
Data used: Historical and Projected Day of Thaw data from SNAP and MODIS NDVI Products from GINA. Day of Thaw data not available for a portion of St. Lawrence Island, the tip of the Alaska Peninsula, and the Aleutian Islands.  
Process: Average day of thaw estimated from CRU TS3.1 Historical Decadal Mean for 2000-2009 and the 5-Model Avg RCP 6.0 Projected Decadal Mean for 2010-2019. Pixels with an average maximum NDVI value  $\leq 0.1$  were set to NoData.

# MesoWest AK Fire & Fuels

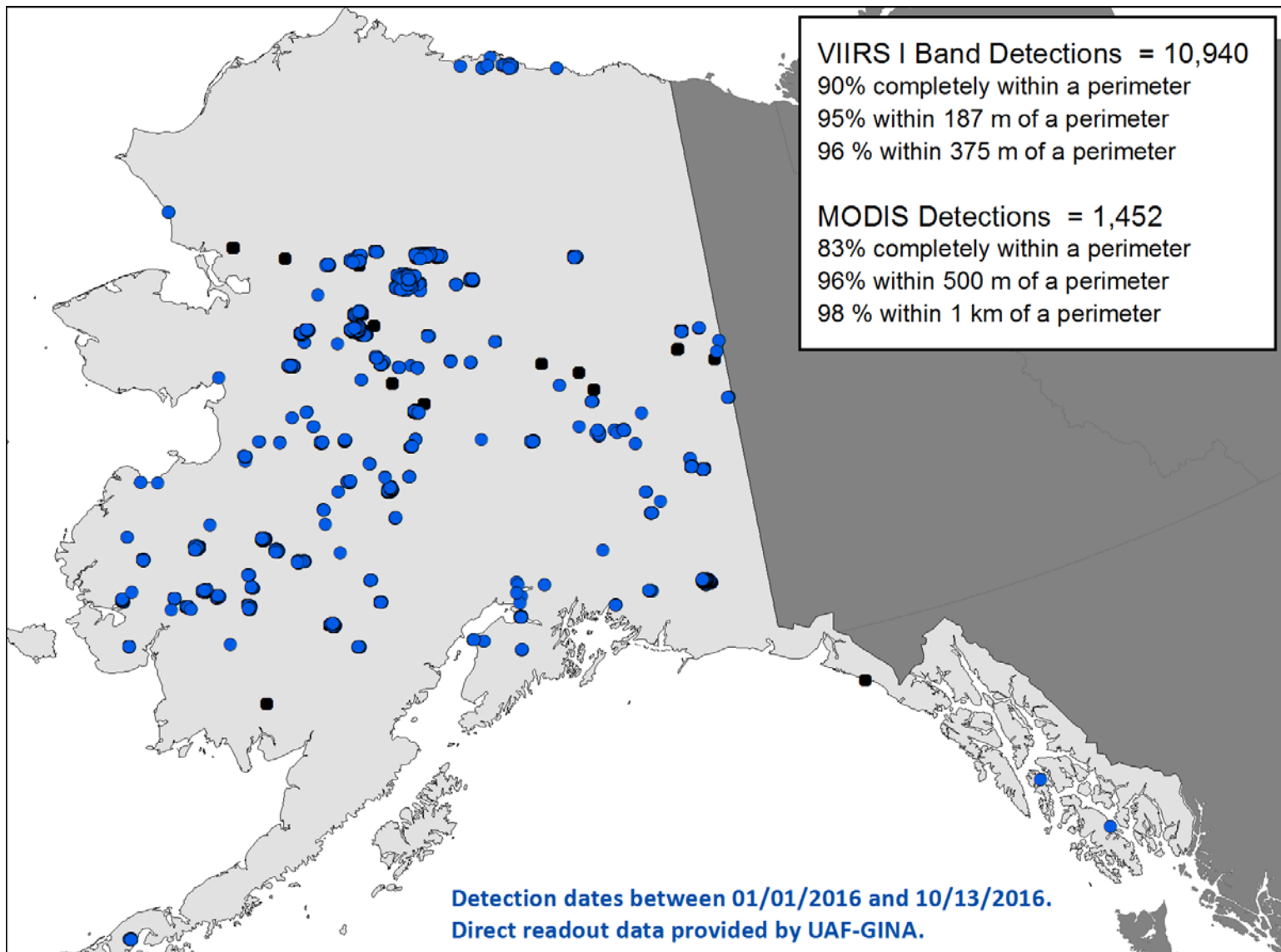
Can we use the Snowfraction data to turn on the AKFF Grids?  
What would it take to make it happen?



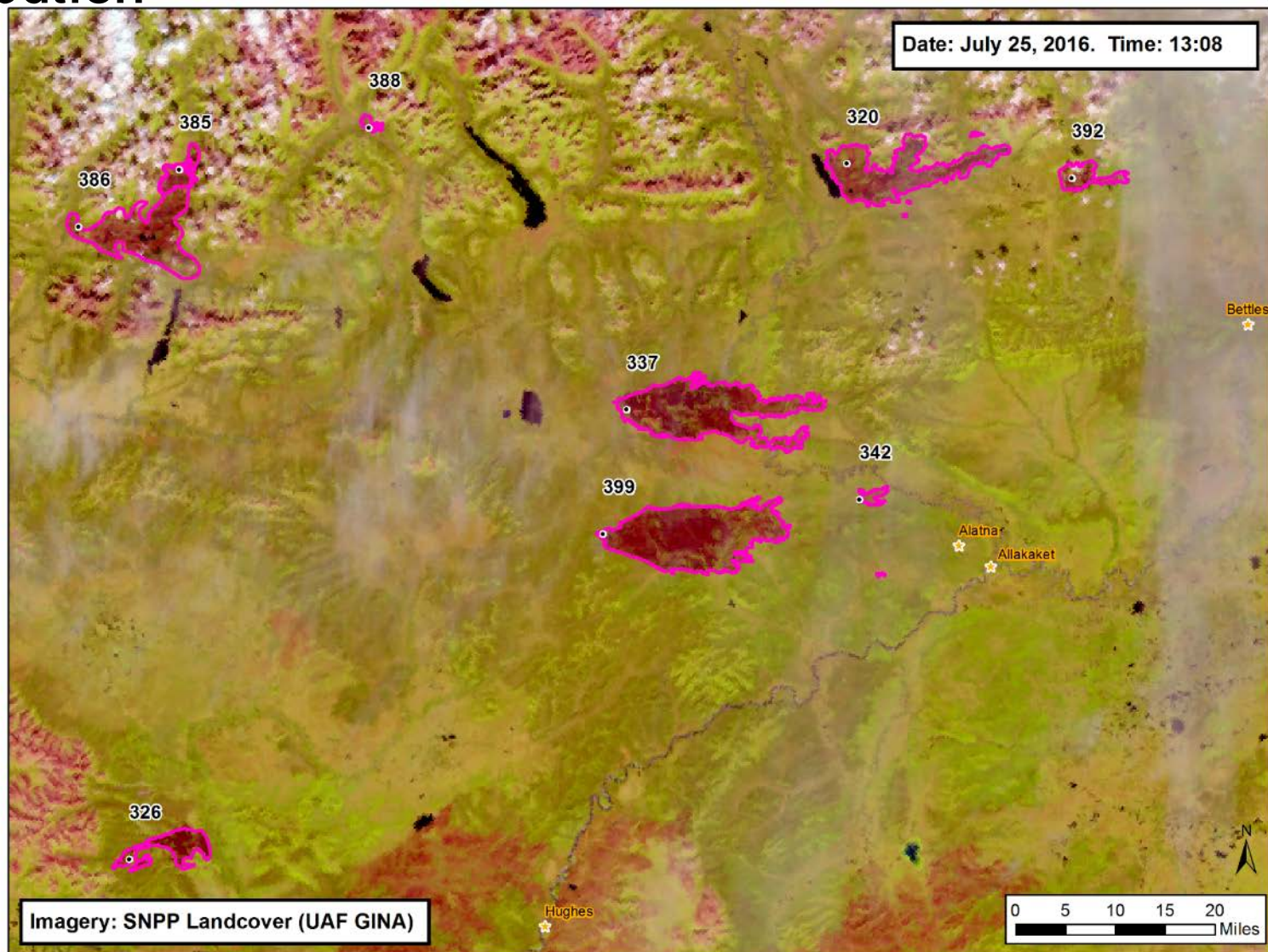
# Lightning Detection Network



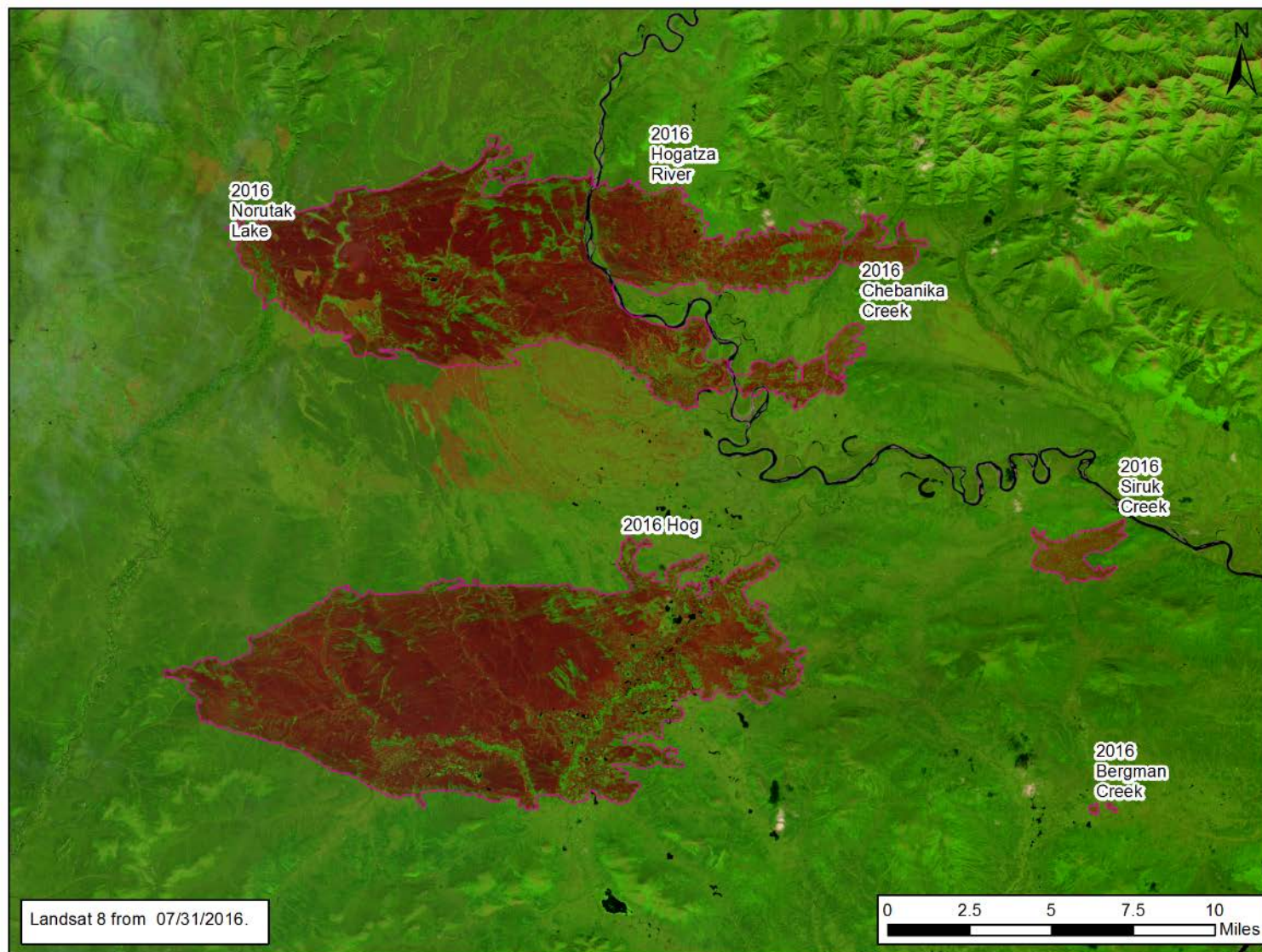
# Fire Detection: VIIRS / MODIS



# VIIRS Imagery for Near Real-time Fire Activity and Smoke Distribution



# Landsat imagery





# Contact Information

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