# Examples of Forest Service Operational Use of MODIS and VIIRS

Everett Hinkley
USDA Forest Service Geospatial Management Office (GMO)
National Remote Sensing Program Manager

Brad Quayle
USDA Forest Service Geospatial Technology and Applications Center (GTAC)
Disturbance Assessment and Services Program Lead

MODIS-VIIRS Science Team Meeting
May 4, 2023

# National Forest System Lands

- National Forest System lands include:
  - 193 million acres
  - 155 National Forests
  - 20 National Grasslands
- NFS Lands cover 8.5% of the US land area (roughly the size of Texas)
- Maintain and improve the health, diversity, and productivity of the nation's forests and grasslands



Guide to Your National Forests Map - https://www.fs.usda.gov/sites/default/files/GuideMap-2020.pdf

# State, Private & Tribal Forest Lands

- Provide technical and financial assistance to sustain the nation's forests & grasslands

- Protect and restore forest lands and protect communities

- Major program activities include:
  - Wildfire management
  - Forest health protection
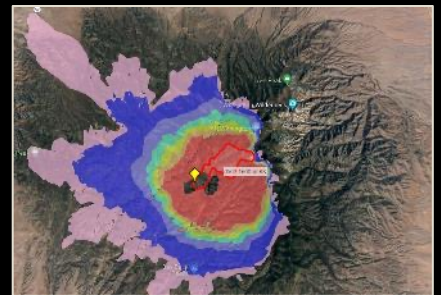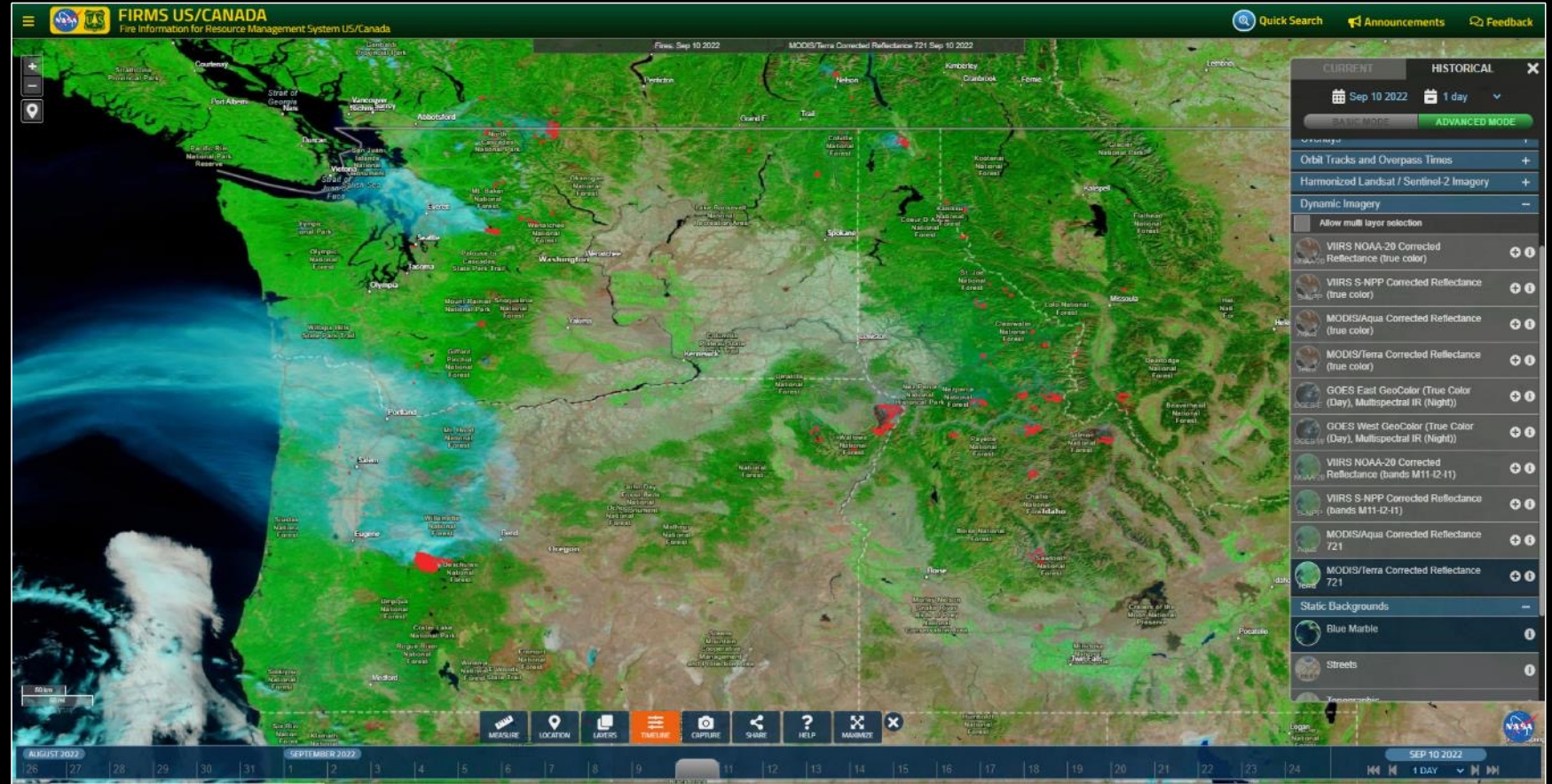  - Cooperative forestry
  - Conservation education

# Wildland Fire Management

**Objectives:**

- Comprehensive fire detection and monitoring for US and Canada

- Leverage low latency MODIS/VIIRS land and atmosphere products from NASA LANCE and direct readout

- 24/7/365 coverage

**Outcomes:**

- Increase situational awareness

- Inform strategic planning and response

- Focus tactical scale mapping assets
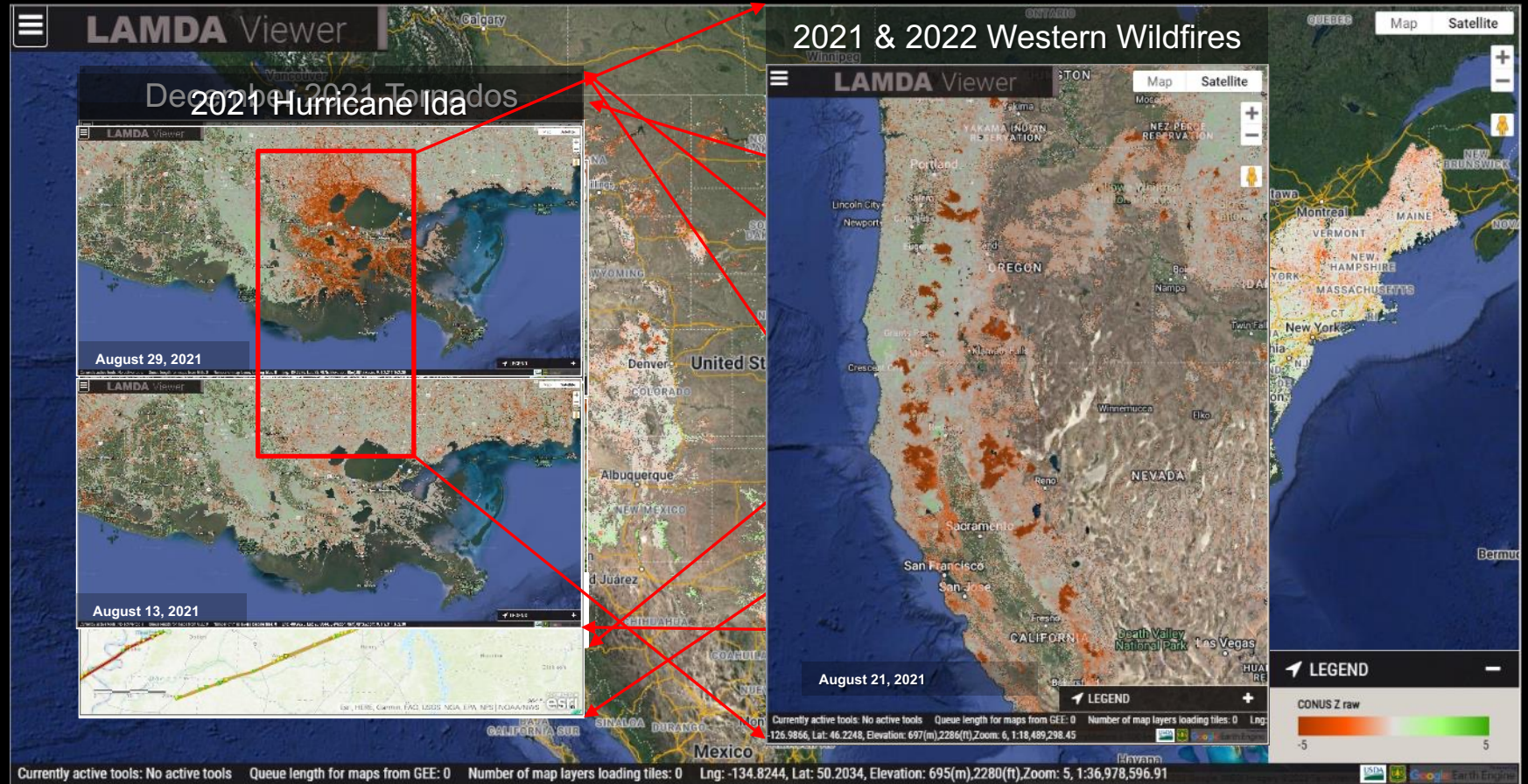
- Key input data for fire DSS applications

# Forest Health Protection

**Objectives:**

- Detect forest disturbance and mortality events throughout the US
  - Biotic and abiotic events
- Leverage MODIS surface reflectance data and cloud computing/analytics
- Monitor throughout the growing season

**Outcomes:**

- Focus higher resolution analyses
- Inform timing and location of aerial surveys
- Increase safety of FS staff
- Inform strategic planning and response to catastrophic events

# Forest Service Takeaways/Needs

- Continue NASA/Forest Service collaborations
- Maintain continuity of MODIS-like observations
- Continue availability of low latency imagery and data products from LANCE and direct readout
- NASA cloud-based computing and analytics

Thanks!