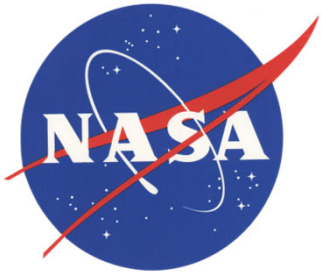# NASA RECOVER 2.0
Post-fire Decision Support System

Keith T. Weber, GISP (PI), ISU GIS TReC

Brad Quayle (Co-PI), USDA Forest Service GTAC

ROAR

Today's Itinerary

- 1:00 pm Introductions and Overview
- 1:15 pm Presentation: What is the NASA RECOVER DSS
- 1:30 pm Demo
- 1:45 pm Q&A
- 2:00 pm Hands-On Exercise
- 2:40 pm Q&A/Discussion
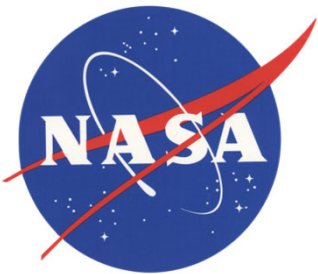- 2:50 pm Evaluation
- 3:00 pm END

What is RECOVER 2.0?

- A Cloud-based, Smart-Map platform for Post-wildfire recovery management AND long-term monitoring

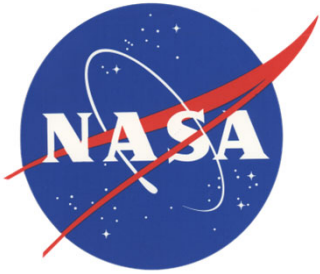- Like the original RECOVER, 2.0 remains a Customer-driven, Customer-centric* Decision Support System (DSS)

* Our "customers" are agency/organizational wildfire and land managers at the USDA Forest Service, DOI BLM, NPS, NWS, as well as state agencies

RECOVER 2.0

- Made possible by a grant from NASA Earth Sciences Wildland Fire Management Program
  - David S. Green, PhD, Program Manager

Enhancements Provided by RECOVER

- Rapid data acquisition

- Cross-organizational collaboration
    - (breaking down silos)

- Common Operational Picture (uniform geospatial context)

Meet the RECOVER 2.0 Team

- Keith T. Weber[1]
- Brad Quayle[2]
- Craig Baker[2]
- Ali Reiner[2]
- Cole Rosner[1]
- Austin Thompson[1]
- Madison Hatch[1]

1- Idaho State University GIS Training and Research Center (GIS TReC)
2 – USDA Forest Service Geospatial Technology and Applications Center (GTAC)

ROAR

Data Architecture

- Covers the Western US

- Esri ArcGIS Online (AGOL) Cloud

- Uses existing, authoritative data as web services

- Provides data packages
  - Vector and raster data

GIS Base Layers

- RECOVER currently provides
  - 29 Base Layers automatically clipped to the fire extent[1] (envelope)

VECTOR DATA (fGDB)	RASTER DATA
Geology	Relative Ecosystem Resilience/Resistance
Habitat	
Historic/past fires	LANDFIRE BPS
Landslide Potential	LANDFIRE EVC
NHD Rivers and Streams	LANDFIRE EVT
NHD Surface water bodies	LANDFIRE FVT
WBD Watershed Boundaries	Elevation
Post-wildfire debris flow models	Aspect
State boundaries	Slope (Degree)
County boundaries	Slope (Percent)
PLSS	Steep Slopes >30%
Roads	Precipitation forecast
SMA	Weather satellite imagery
Soils STATSGO	
Soils gSSURGO	
Wilderness Status	

1- fire extent + 5km rectangular buffer
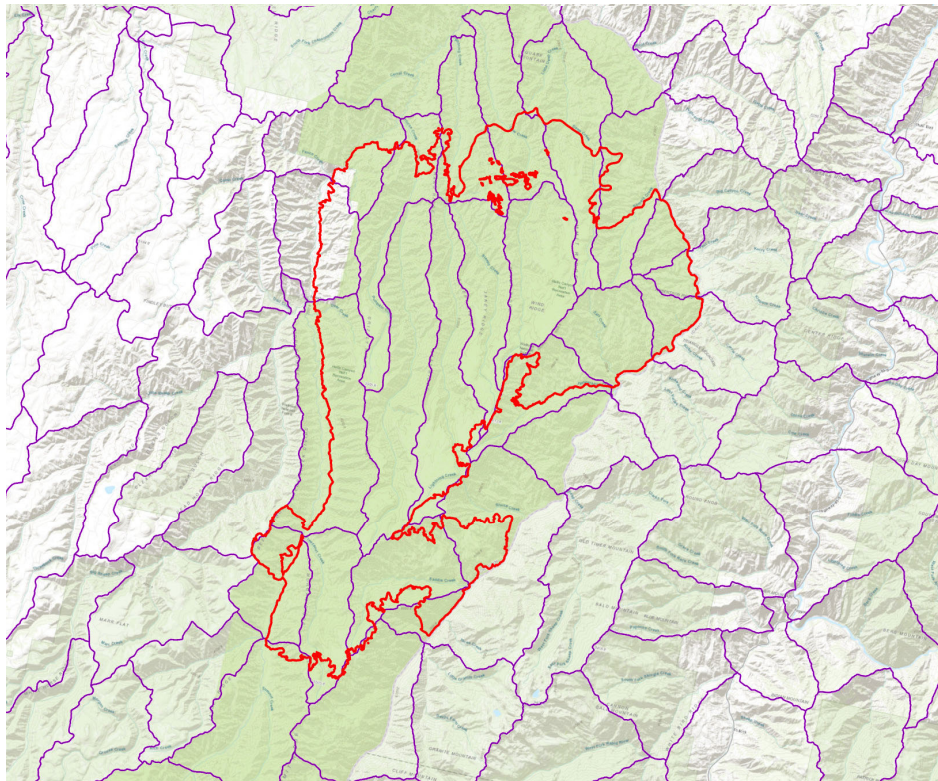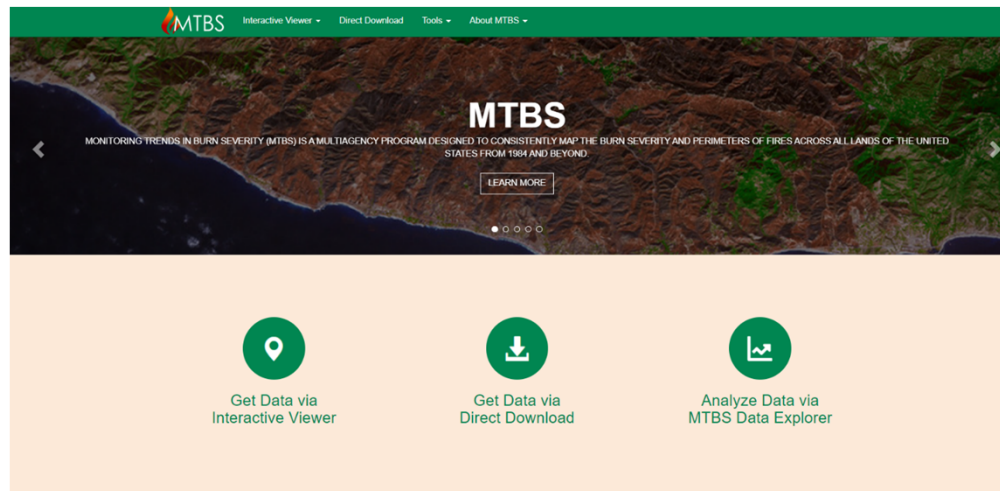
Update Coming!

- An alternative approach to defining the clipping extent

Plus...

- Fire severity layers dNBR (MTBS)
- Long-term monitoring data (proposed)

Other Spatial Data

- To suggest additional layers please let us know
  - webekeit@isu.edu
  - brad.quayle@usda.gov

RECOVER's Large Fire Trigger

- Process automation using our **Large Fire Trigger** makes RECOVER 2.0 fast
  - Server monitors WFIGS wildfires from NIFC
  - Wildfires greater than 1,000 acres are processed automatically
  - These same wildfires will be refreshed (updated) as they change
  - Output data package (ZIP)
  - Quick and easy download from RECOVER's dashboard

RECOVER 2.0 Workflow

- A wildfire has occurred
- Visit the RECOVER dashboard
  - Select the fire from the RECOVER Quick List
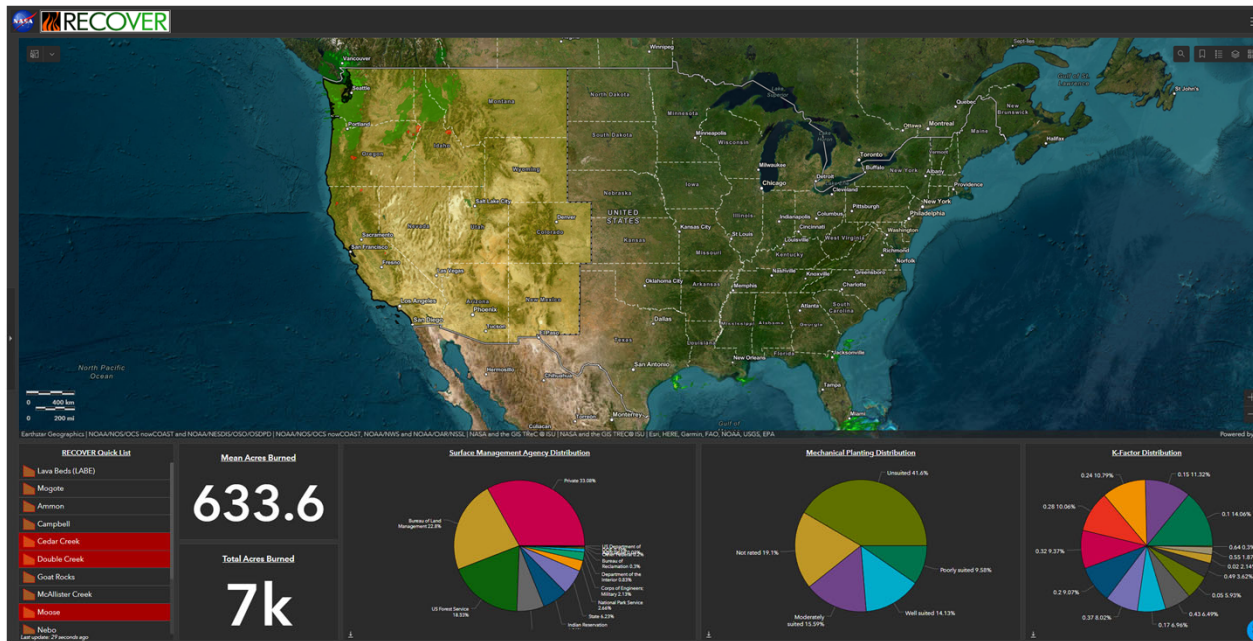
What if...

- A fire AOI is not shown in the dashboard?
  - We have new geoprocessing models to run SUBMITTED fires
- I have other data to add for a specific fire?
  - This is under construction but already possible
- In these special circumstances, just Contact us! Using the RECOVER web page at

https://giscenter.isu.edu/research/Techpg/nasa_RECOVER2/index.htm

Still Under Construction...

- Summary reports/improved Dashboard widgets
- Long-term vegetation monitoring post-fire (Regeneration Index RI)

Time for a Demo!

- But first, are there any questions regarding RECOVER 2.0 concepts?

Visit the RECOVER 2.0 webpage at
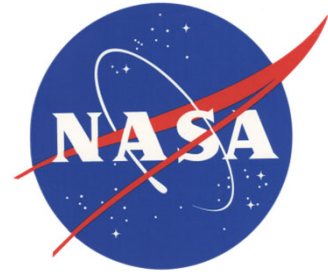https://giscenter.isu.edu/research/Techpg/NASA_RECOVER2/

Questions & Discussion?

webekeit@isu.edu