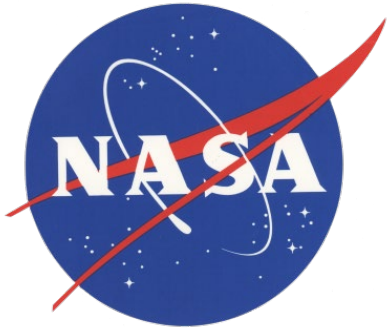
NASA RECOVER 2.0
Post-fire Decision Support System



Keith T. Weber, GISP (PI), ISU GIS TReC
Brad Quayle (Co-PI), USDA Forest Service GTAC

Importance of Maps in Disaster Response

- AKA “Preaching to the choir”
- Fire Managers and Land Managers need to know:
  - Where “things” are (structures, infrastructure, and people)
  - Where “things” used to be (pre-disaster landscape)
  - What was the effect of the event (fire severity)
  - Maps *can* show these “things”
  - Smart maps show these things + provide actionable information

RECOVER (beta)

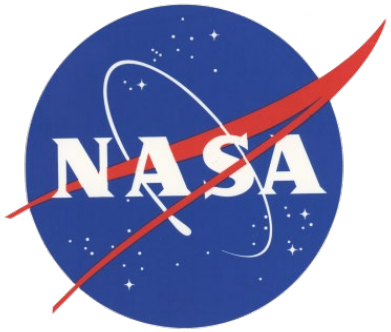
- 2012-2019
- 103 wildland fires
- 11 western states
- 16 different federal & state agencies

Enhancements Provided by RECOVER

- Rapid data acquisition
- Cross-organizational collaboration
  - (breaking down silos)
- Common Operational Picture (uniform geospatial context)

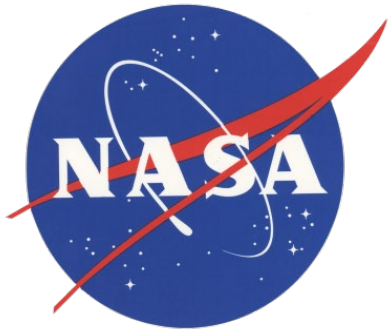
What is RECOVER 2.0?

- A Cloud-based, Smart-Map for Post-wildfire recovery planning and monitoring
- It 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, 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

Meet the RECOVER 2.0 Team

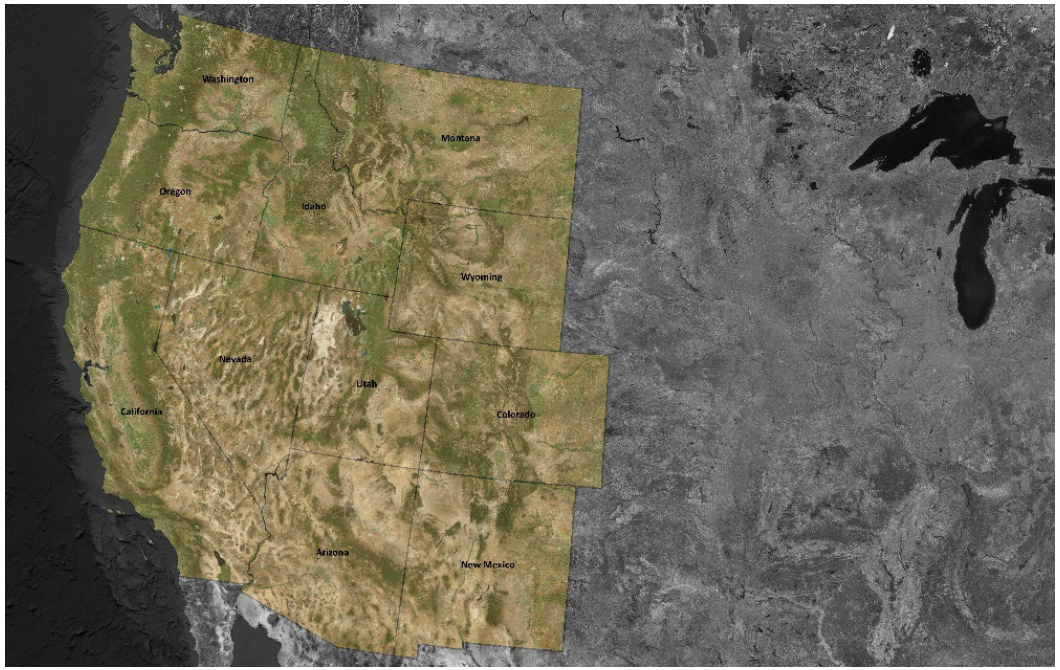
- Keith T. Weber[1]
- Brad Quayle[2]
- Craig Baker[2]
- Ali Reiner[2]
- Kindra Blair[1]
- Austin Thompson[1]

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

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

Data Architecture

- RECOVER covers the Western US
- Esri ArcGIS Online Cloud
- Leveraging existing, authoritative data streams
- Data packages/File Geodatabase
  - Vector and raster data
  - Automated Map Services



GIS Base Layers

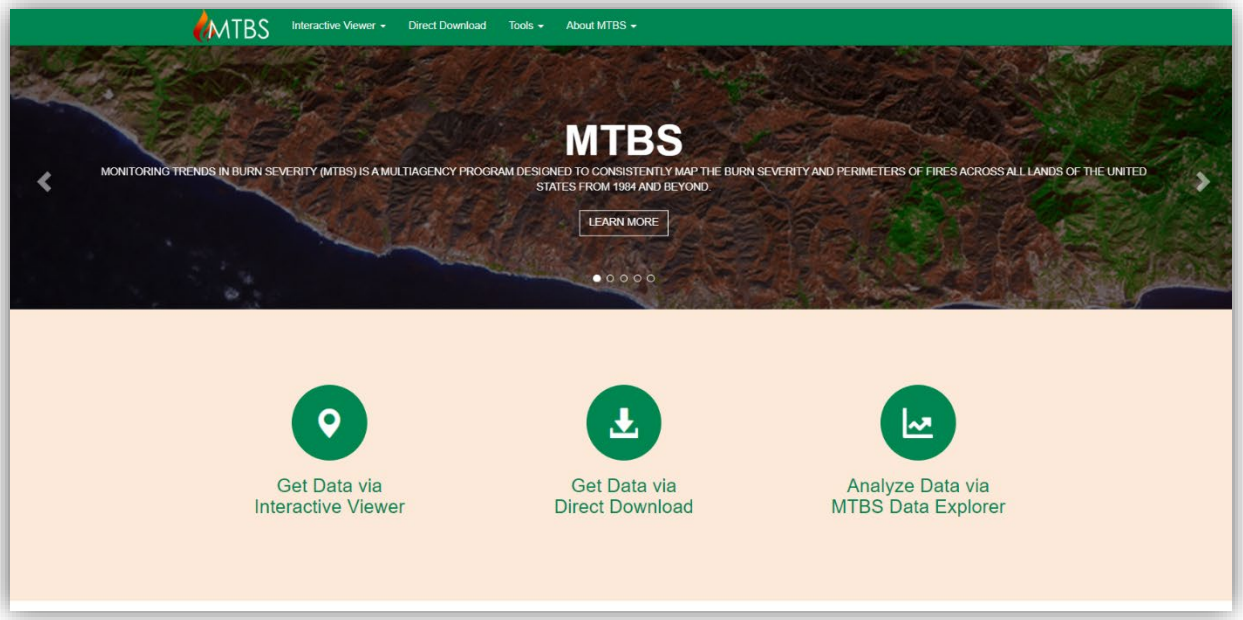
- RECOVER will provide (proposed)
  - 24 base layers automatically clipped to the fire extent (envelope)
  - Summary reports

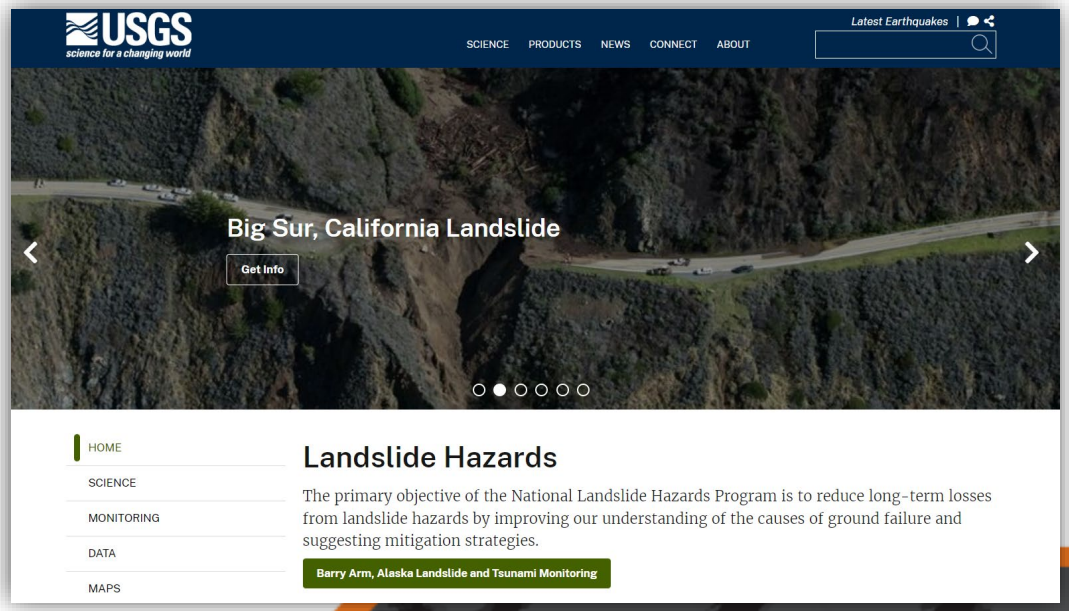
VECTOR DATA (fGDB)
Geology
Habitat
Historic/past fires
LandslidePotential
NHD
PLSS
Roads
SMA
soils_STATSGO
soils_gSSURGO
WBD
Wetlands
Wilderness Status

RASTER DATA
Landfire BPS
Landfire EVC
Landfire EVT
Historic fire frequency
Elevation
Aspect
Slope_DEG
Slope_PCT
Hillshade
Precipitation forecast
Weather satellite imagery

Plus…

- RECOVER will provide (proposed)
  - Fire severity layers (MTBS)
  - Landslide/Debris flow Hazard (USGS)





Other Spatial Data

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

Making RECOVER Even Faster

- Pre-emptive automation processing using our **Large Fire Trigger** automates data package development and updating
  - ArcGIS Python scripting
  - Output data package shared to AGOL
  - Quick and easy download from RECOVER's dashboard

Progress!

- Hired a graduate student (Austin Thompson)
- Opened a search for a **GIS Web Programmer/Analyst**
- A complete **Data Refresh** is underway
- Development of a new RECOVER dashboard is in progress
- Plan to be ready for use by summer 2023
- Hand-off to GTAC

https://isu.csod.com/ux/ats/careersite/5/home/requisition/1771?c=isu

Want to be one of the first to know?

- Email us to be added to our early adopter's listserv
  - webekeit@isu.edu
  - brad.quayle@usda.gov

Questions?

webekeit@isu.edu

RECOVER is a NASA Applied Sciences sponsored project. K. T. Weber (PI), J. Schnase (Co-PI) and M. Carroll (Co-PI), Goddard Space Flight Center