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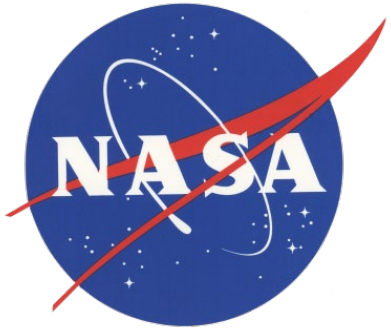
NASA RECOVER 2.0 Post-fire Decision Support System



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

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

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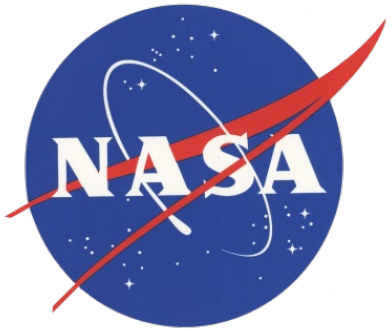
What is RECOVER 2.0?

- A Cloud-based platform for Post-wildfire management and long-term monitoring
- RECOVER 2.0 is 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, and county emergency managers

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Enhancements Provided by RECOVER

- Rapid spatial data acquisition specific to post-wildfire events
- Cross-organizational collaboration
  - RECOVER breaks down silos
- Common Operational Picture (uniform spatial context)

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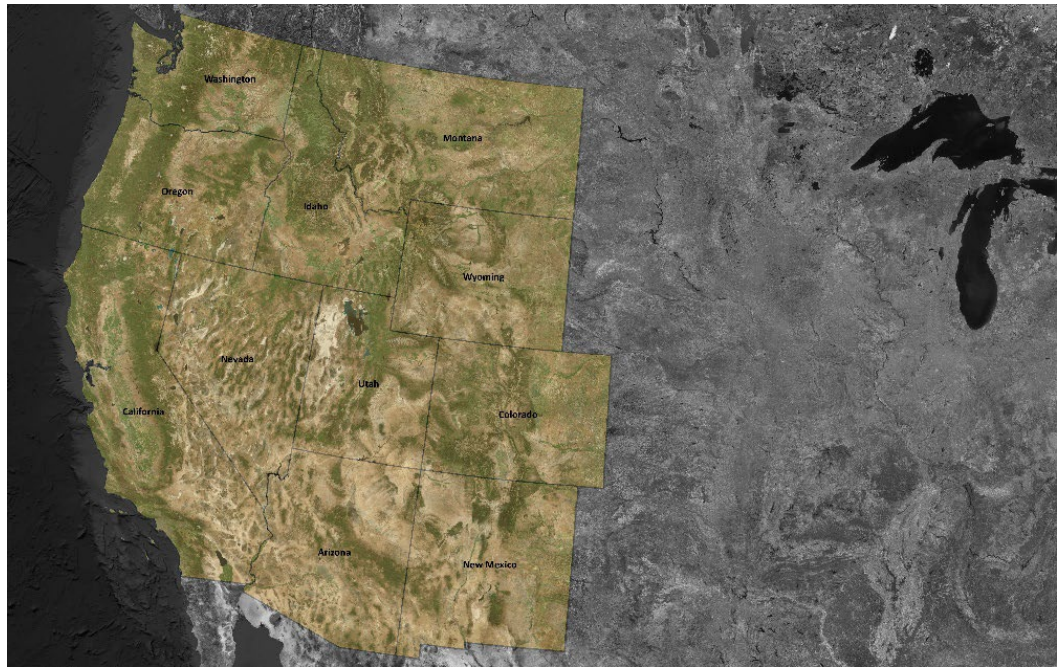
Data Architecture

- **Base Layers** with wall-to-wall coverage across the Western USA (*n* = 37)
- Use of authoritative data
- Automated processing using our **Large Fire Trigger**
- Delivers **RECOVER Data Packages**
- Leverages Esri's ArcGIS Online (AGOL) cloud and Portal



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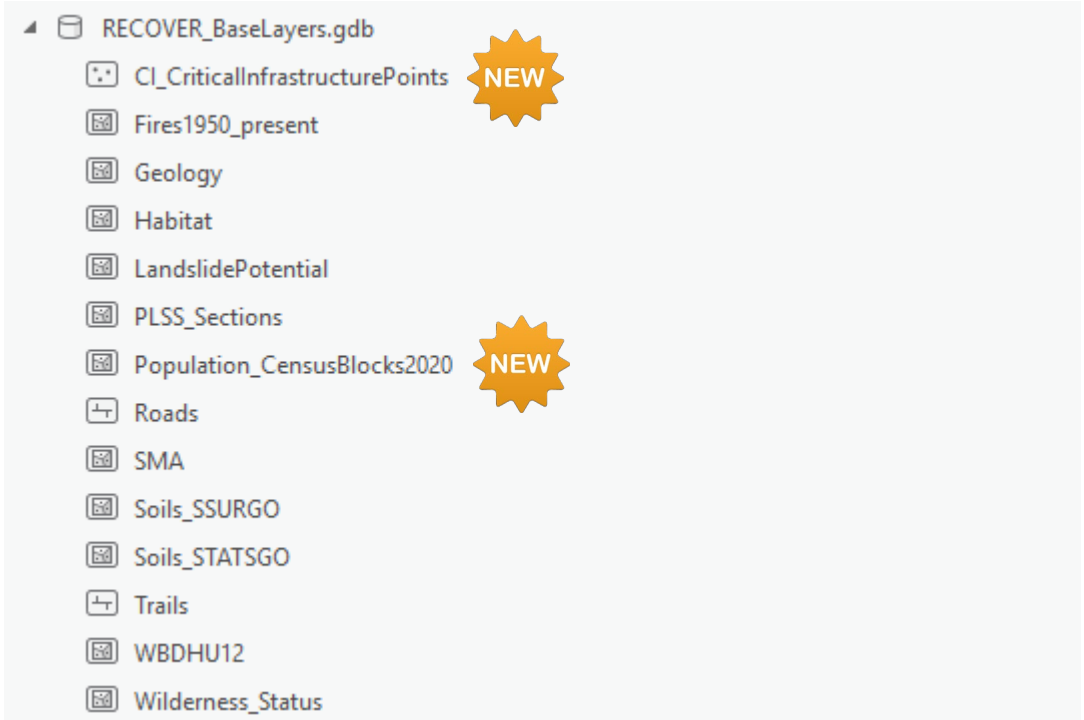
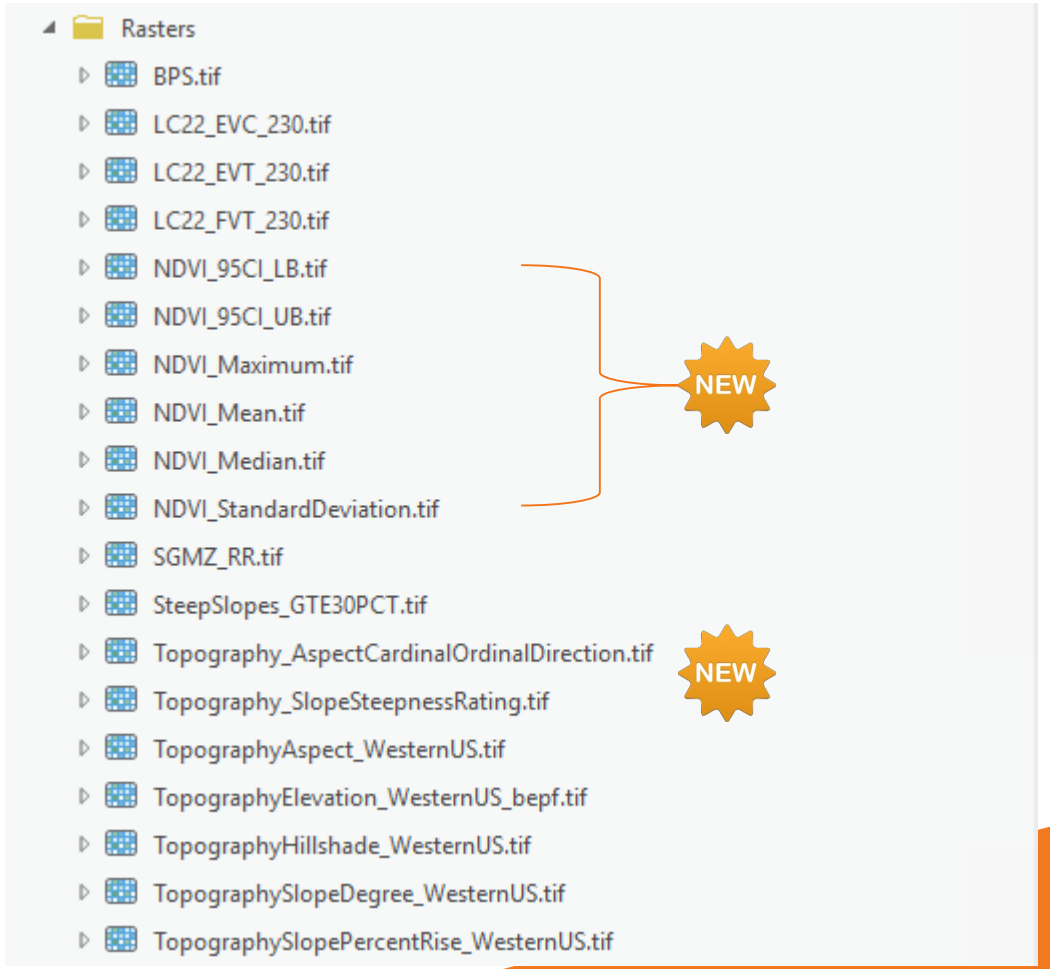
RECOVER Base Layers

- Updated SSURGO base layer including Hydrologic Soil Group data (in support of request from USACE)



Plus four additional web service streams provided in Layer files (LYRX)



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Plus

- Automated **Executive Summary Reports** for each fire
- Long-term post-fire monitoring using NASA satellite imagery
  - ✓ Step one: Develop a decade long baseline NDVI from Landsat imagery (over 18,000 scenes processed)
  - ✓ Step two: Create a multi-dimensional image service of these data This service can be used in a web map or in the desktop
  - ✓ Step three: Develop an web interface and tutorial to determine baseline conditions within a fire area
  - Step four: Automate collection of current NDVI imagery for the fire area to compare to the long-term trend

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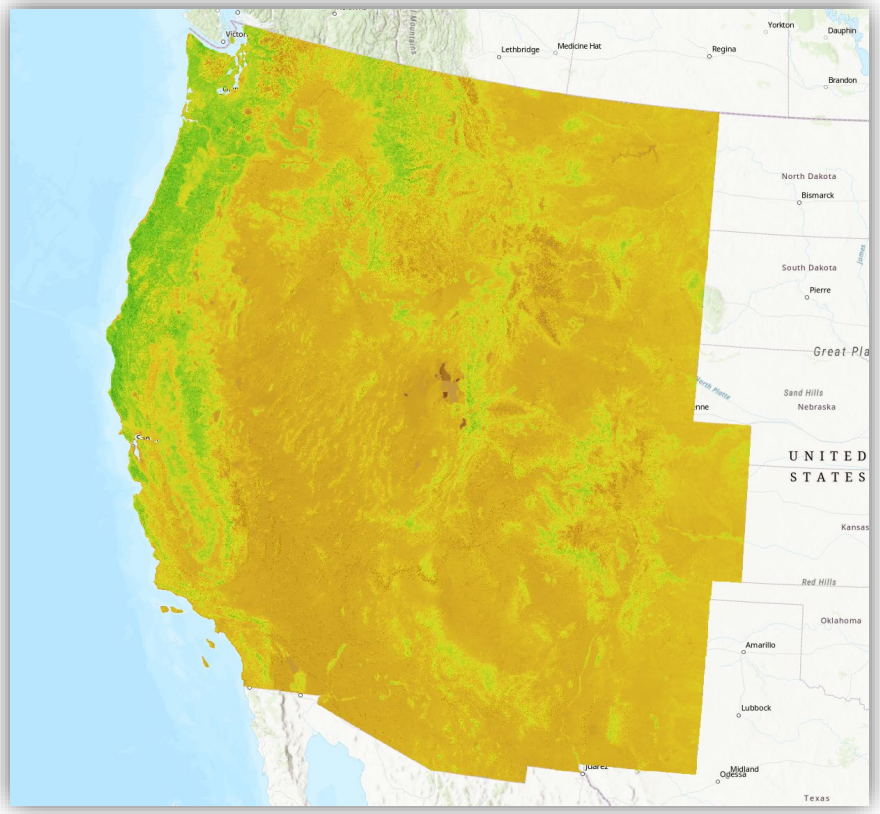
More About the NDVI Baseline

- Provides you with mean, **median**, minimum, maximum, standard deviation, and both upper and lower bound 95% CI data layers



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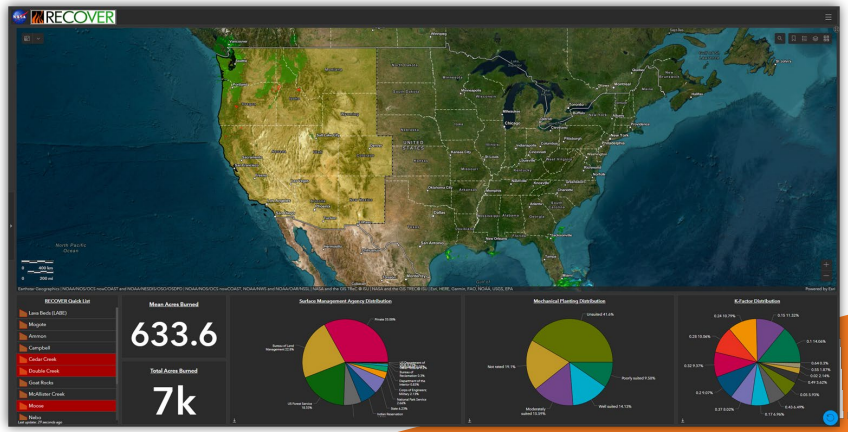
Using RECOVER

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

Web Page

Experience Builder

Dashboard



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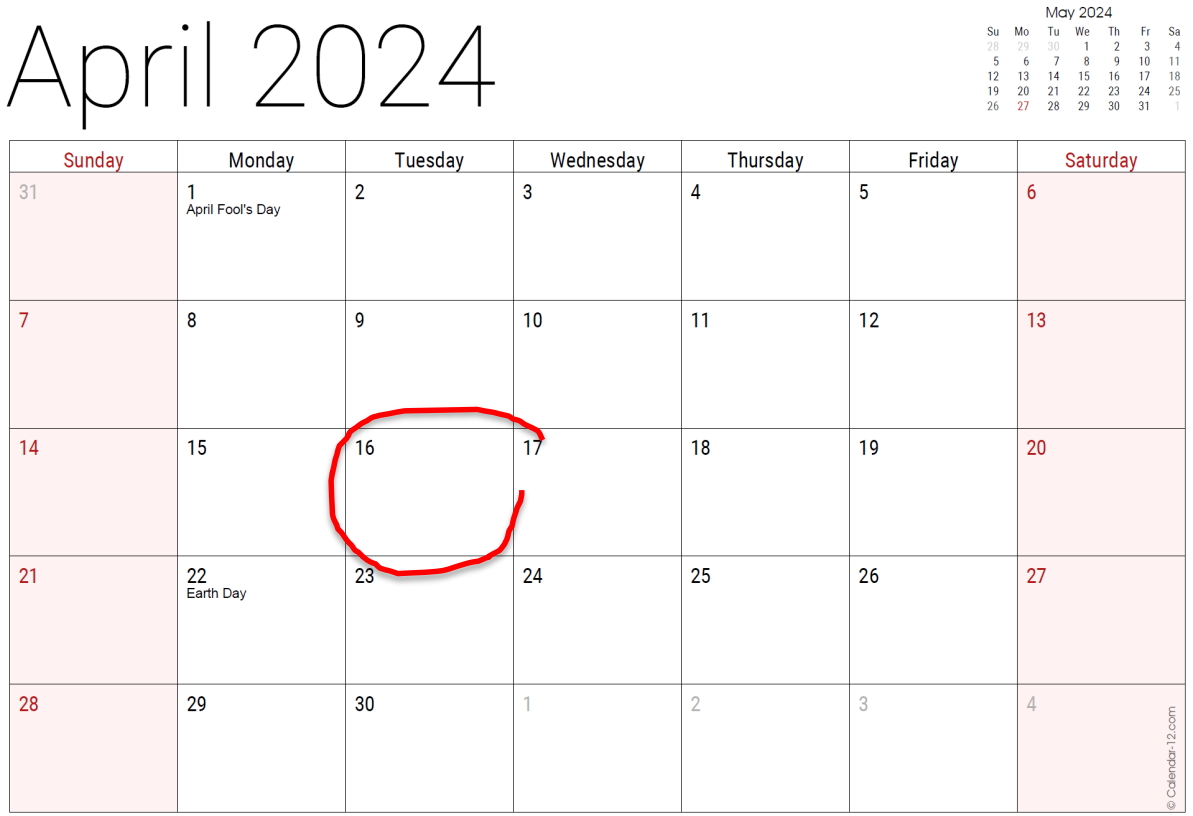
Save the Date

- Free RECOVER webinar/workshop
  - Hands-on exercise/tutorial



April 2024

May 2024

Su	Mo	Tu	We	Th	Fr	Sa
28	29	30	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31	1 April Fool's Day	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22 Earth Day	23	24	25	26	27
28	29	30	1	2	3	4

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Questions?

- Meet the RECOVER Team
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2 – USDA Forest Service Geospatial Technology and Applications Center (GTAC)

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