RECOVER

- RECOVER: Rehabilitation Capability Convergence for Ecosystem Recovery
- Keith T Weber (PI), John Schnase (Co-I), Mark Carroll (Co-I), and Maggie Wooten (GSFC), Kindra Serr, Ryan Goldsby, and Ryan Howerton (ISU GIS TReC)
- Partners: USDI BLM, Idaho Department of Lands, Idaho Transportation Department, and NPS (and growing)

RECOVER

- Project Summary:
  - Customer-driven, Customer-centric*
  - Decision Support System (DSS)
    - Rapid assembly of site-specific data
    - Delivered in a customized GIS analysis environment
    - Wildfire focus
    - Reduces/eliminates data acquisition demands
    - Provides a better informed decision process
- Earth Observations applied:
  - MODIS NDVI
  - MODIS FPAR
  - Landsat
  - SMAP (future)

Applied Sciences Program

RECOVER

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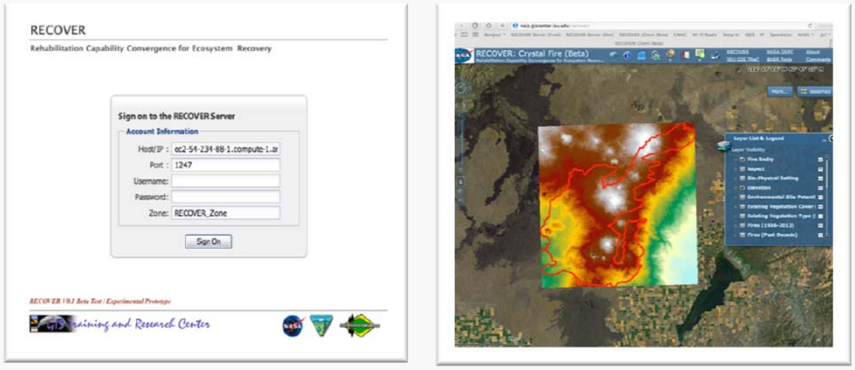
Wildland Fire Program
ACTIVE PROJECT

Purpose and Objective

- RECOVER brings together in a single application all the information needed for Emergency Stabilization and Rehabilitation (ESR) and Burned Area Emergency Response (BAER) post-wildfire rehabilitation planning and long-term ecosystem recovery monitoring.
- RECOVER's major system components include the RECOVER Server (a cloud-based data management system that automatically aggregates site-specific data from a distributed collection of web services) and RECOVER Clients (desktop and mobile decision support applications that integrate information about fire severity and intensity with other data to help plan rehabilitation strategies).

Societal Benefit Area(s): Disasters, Ecosystems
Geographic Focus: Western USA
Targeted End-Users: Federal and state land management agencies



User interface for the RECOVER Server (left) and RECOVER Client web map (right)

Approach

The RECOVER team will continue maturing the RECOVER Server and Client and increase cloud-based services as appropriate. The project is planned to grow to include all western states. This will be achieved by establishing new collaborators and targeted end-users at the US Forest Service (USFS) and US Geological Survey (USGS); engaging the DEVELOP and ARSET programs; and increasing our use of NASA GSFC's High-Performance Science Cloud resources and staff to facilitate ARL advancement and operational deployment of RECOVER capabilities.

Key Milestones

Milestone Statement	Date
Extend base RECOVER datasets to cover the western US	04/15
Develop new relationships with USFS and USGS collaborators	06/15
Respond to at least one (1) 2015 wildfires using RECOVER	10/15

ARL_{Start} = 1 **$ARL_{Most\ Recent}$ = 6** **ARL_{Goal} = 9**

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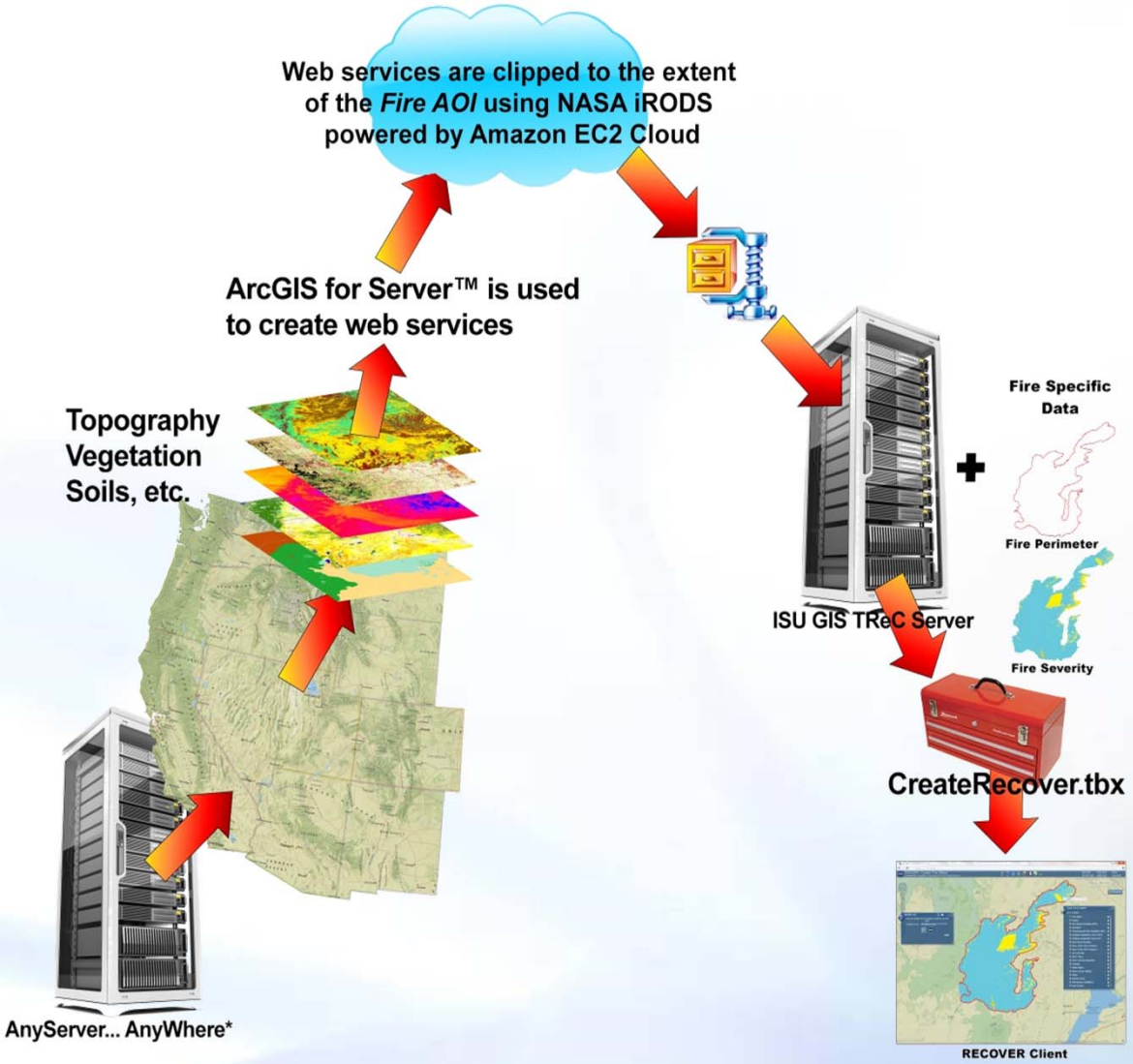
As of:
5-Feb-15



- RECOVER produces web services from *authoritative* sources

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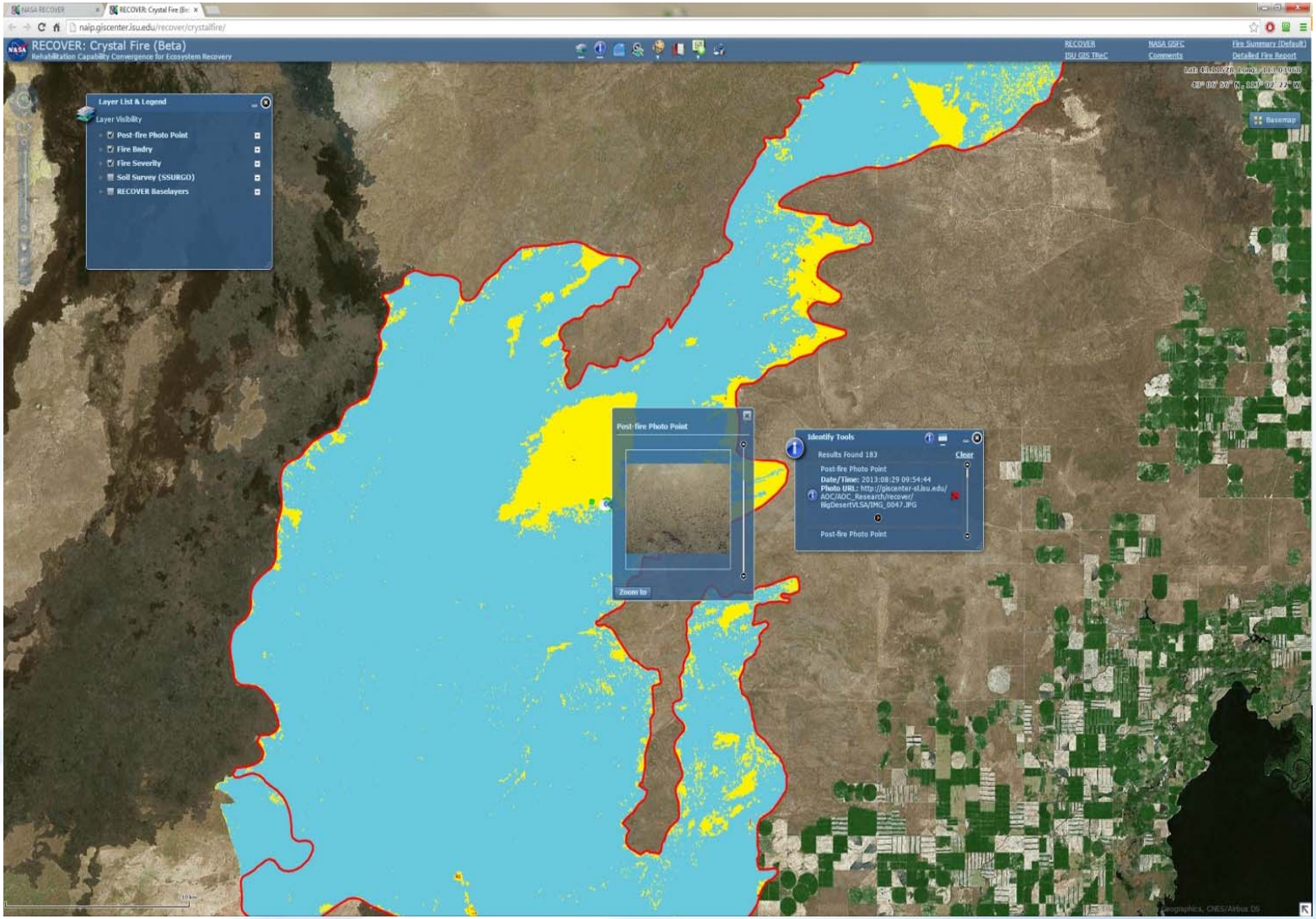
As of:
5-Feb-15

- A web-browser is the only user-requirement



- RECOVER integrates a real-time service into the web map

FireLines

- Aerial Hazard - Solid Red line
- Air Tanker Foam
- Air Tanker Retardant
- Completed Dozer Line
- Completed Line
- Completed Line Break
- Explosive Line
- Fire Spread Prediction
- Hand Line - Solid black line
- Heat Line (IRIN)
- Helitanker Foam
- Helitanker Water
- Other
- Planned Fire Break
- Planned Fire Line
- Planned Secondary Line
- Plow Line
- Proposed Dozer Line
- Ridge / Geographic Feature
- Uncontrolled Fire Edge
- Unknown

AssignmentBreaks

- Sector
- Division
- Branch
- Zone

FirePoints

- Aerial Hazard
- Airstrip or Airport
- Camp
- Drop Point
- Fire Origin
- Fire Station
- First Aid Station
- Heat Source
- Heat Source - Outside of Line
- Helibase
- Helispot
- Hot Spot
- IR Downlink
- Incident Base
- Incident Command Post
- Lookout
- Miscellaneous
- Mobil Weather Unit
- Mud Pit
- Repeater
- Retardant Pickup
- Saftey Zone
- Spot Fire
- Staging Area
- Telephone
- Unknown
- Water Source
- Wind Speed

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ANDROID APP ON Google play

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As of:
5-Feb-15

- We will…
  - Operationalize the RECOVER DSS (currently beta)
  - Expand the spatial coverage area to include the entire Western US
  - Include new partner agencies
- Incorporate new data products:
  - SMAP
  - Research results from NASA DEVELOP

PI Assessment

As of:
5-Feb-15

Summary of Challenges; Problems; Objective Analysis

Broad end-user/agency use, adoption, or buy-in

Summary of Positive Progress

URISA ESIG Award

NIFC NBAER meeting Feb 4th looks promising (BLM, NPS, BIA, USFS)

Real-time integration

Speed/performance improvements through process automation with Python

Increased cloud resource use… initial testing with Leaflet looks promising

Overall Assessment

RECOVER is a great project, a success story of team work and dedication

Concluding Comments

As of:
5-Feb-15

- Thank you for your support
- Questions?
- Visit the RECOVER project website:

http://giscenter.isu.edu/research/Techpg/nasa_RECOVER/