

Evaluating the Socioeconomic Impacts of Rapid Assembly and Geospatial Data in Wildfire Emergency Response Planning

A Case Study using the NASA RECOVER Decision Support System (DSS)

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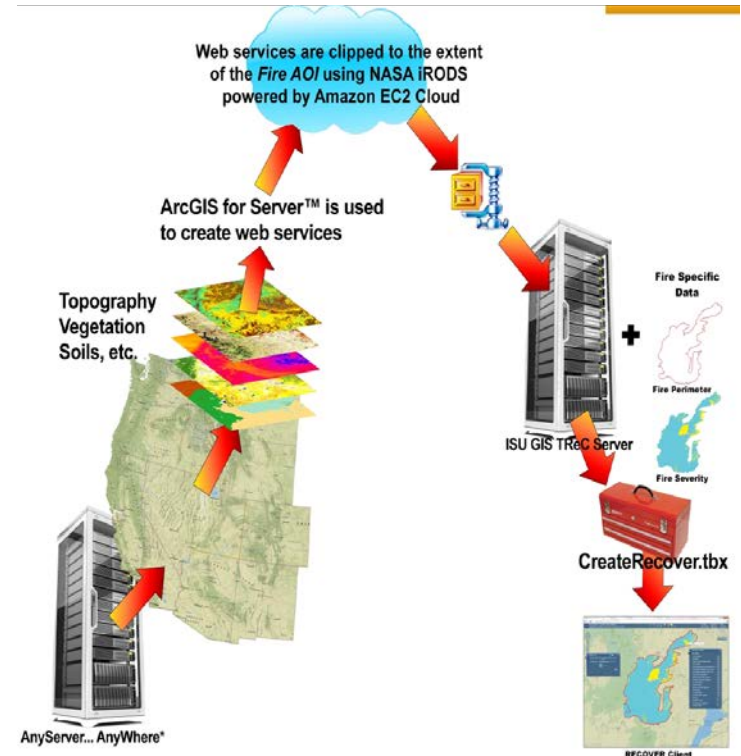
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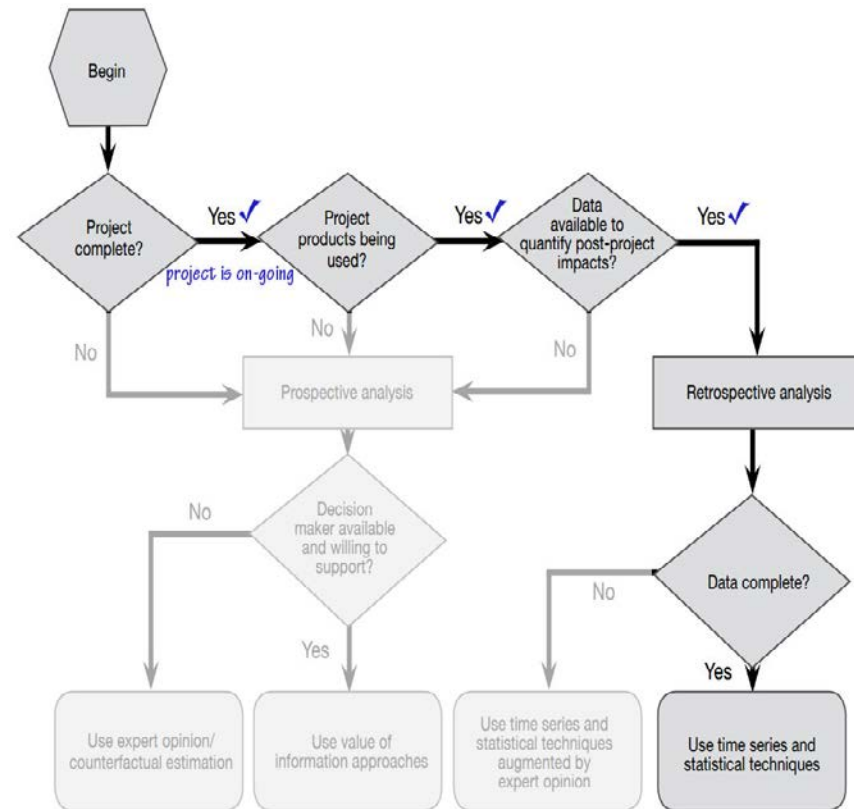
Background: NASA RECOVER DSS

- Designed as post-wildfire DSS
 - Rapid assembly of site-specific data
 - Delivered in customized GIS analysis environment
- Extensive use of earth observing satellite system imagery & derived products (NDVI, dNBR, LANDFIRE, etc.)



Approach

- Statistical analysis
 - RECOVER has been used to assist in rehabilitation planning for 33 wildfires.
 - Structured stakeholder interviews of RECOVER users.
- Direct benefits
 - Quantify time saved in wildfire rehabilitation planning
 - Monetize the results of RECOVER's use
- Indirect benefits
 - Value of better-informed decisions



Tier – 1 Users: Land Management Agencies



- Stakeholders:
 - Bureau of Land Management
 - Forest Service
 - Idaho Department of Lands

Tier – 2 Users: Non-Land Management Agencies

- Stakeholders:
 - Bureau of Reclamation
 - National Oceanic and Atmospheric Administration
 - Idaho Fish and Game
 - Department of Transportation



Preliminary Results

- To date, four Tier–1 interviews conducted
 - Results:
 - Time- and cost-savings for decision makers and support staff in developing ES&R and BAER plans:
 - Time saved: up to 40hrs of staff time per fire
 - Cost saved: up to \$3K in staff time per fire
 - Value of better-informed decisions:
 - \$500K was saved on the “Henry’s Creek” fire by using RECOVER DSS

Future Direction

- Several stakeholder interviews upcoming
 - IDL
 - CalDOT
 - BLM
- Upon completion of interviews:
 - Quantify proximate benefits
 - Conduct qualitative analysis
 - Describe value of information
 - Characterize ultimate benefits



Future Direction Cont'd



- Prospective analysis question:
 - Increase in wildfire frequency
 - Number of land managers remains the same
 - Will dependence on geospatial data and satellite imagery increase?

Suggestions or Questions



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

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