RECOVER

Keith T. Weber[1], GISP

John Schnase[2], Mark Carroll[2], Roger Gill[2], Kindra Blair[1], and Maggie Wooten[2]

1- ISU GIS TReC
2- NASA Goddard Space Flight Center

GIS Training and Research Center
Pocatello, Idaho
http://giscenter.isu.edu

Idaho State
UNIVERSITY

What is RECOVER?

- Customer-driven, Customer-centric*

- Secure, Decision Support System (DSS)
  - Rapid assembly of site-specific data
  - Delivered in customized GIS analysis environment
  - Wildfire focus

* Our "customer" is anyone with wildfire management responsibilities (BLM, NPS, USFS, State Lands, DOT's, NGO's, etc.)

Idaho State
UNIVERSITY

Data Architecture

- RECOVER covers the Western US
- Esri ArcGIS
  - File Geodatabase
  - Vector and raster data
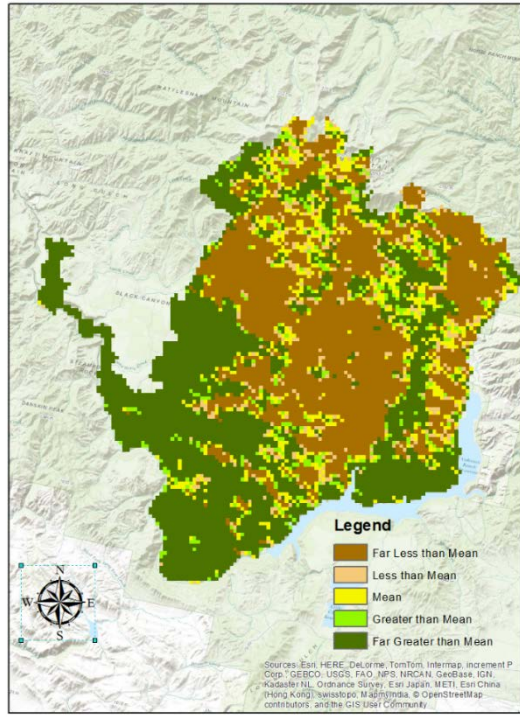 - Automated Map Services

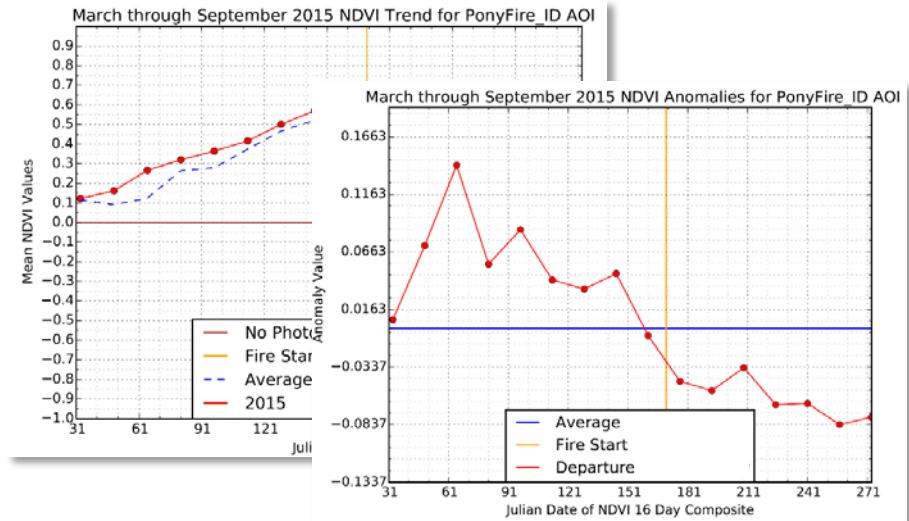# Additional data requests

- Fire-affected Vegetation (dNBR)

- Debris-flow probability

- NDVI vegetation anomaly
    - 16-day MODIS NDVI-composite imagery
    - Long-term average NDVI (2001-present)
    - Current fire season compared against long-term trend

Idaho State UNIVERSITY

NDVI Anomaly Data

Map layer

Charts

Idaho State
UNIVERSITY

More than Maps

To Date…

- The RECOVER DSS has been used for **33** wildfires and assisted with the Ft. McMurray, Alberta, Canada wildfire

- These 33 wildfires burned 1.7 million acres

Idaho State
UNIVERSITY

The Future of Fire

- Cumulative Severity Rating forecast

From Flannigan et al., 2013
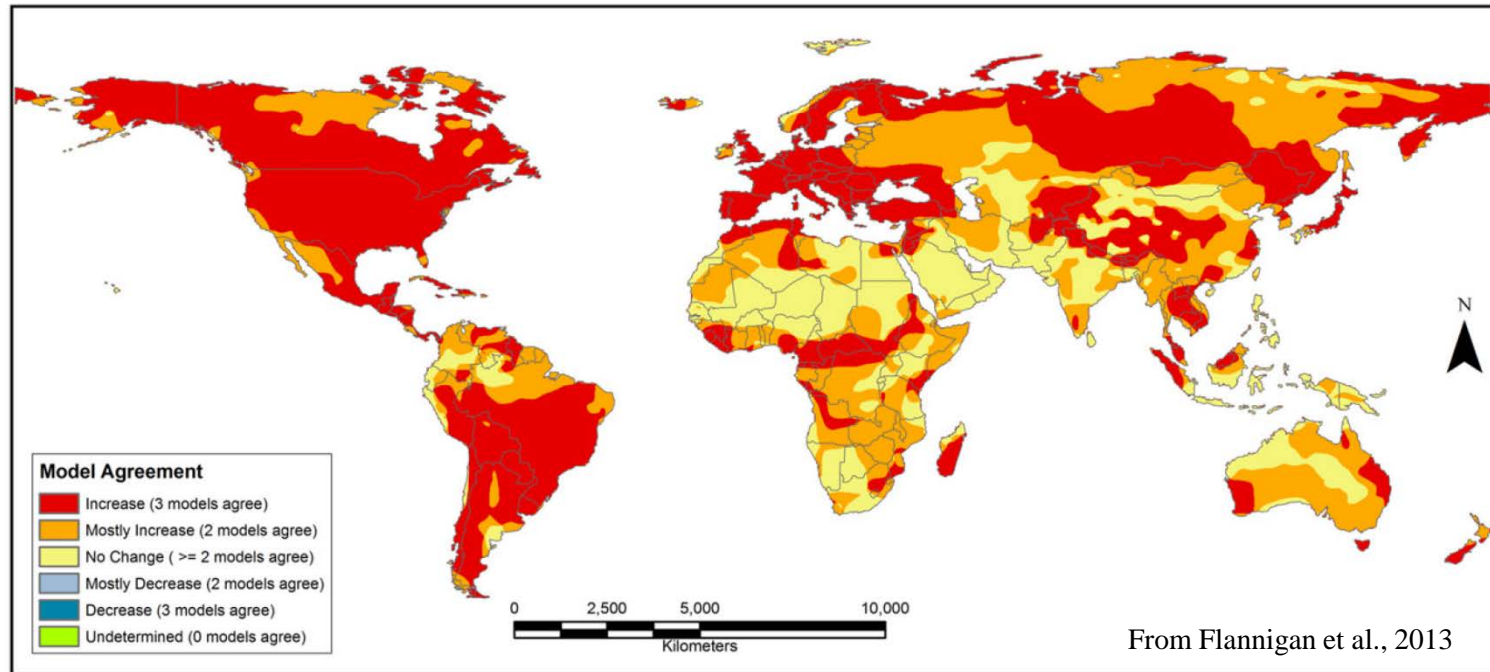
Fig. 3. Composite CSR anomaly map for the A2 scenario 2041–2050 relative to the 1971–2000 base period.

Idaho State
UNIVERSITY

Current Picture

Fire Frequency Per Year

$y = 147.19e^{0.0325x}$
$R^2 = 0.7372$

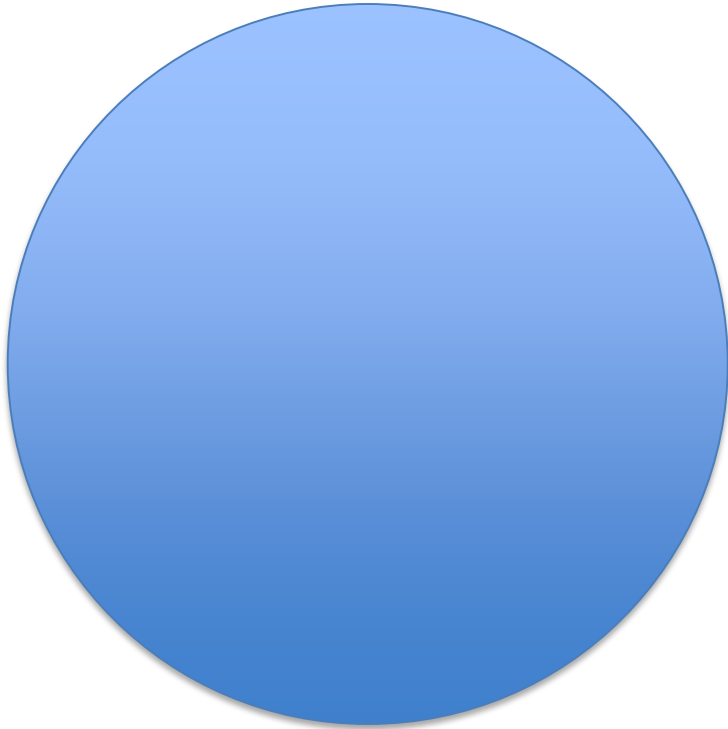# A Need for RECOVER?
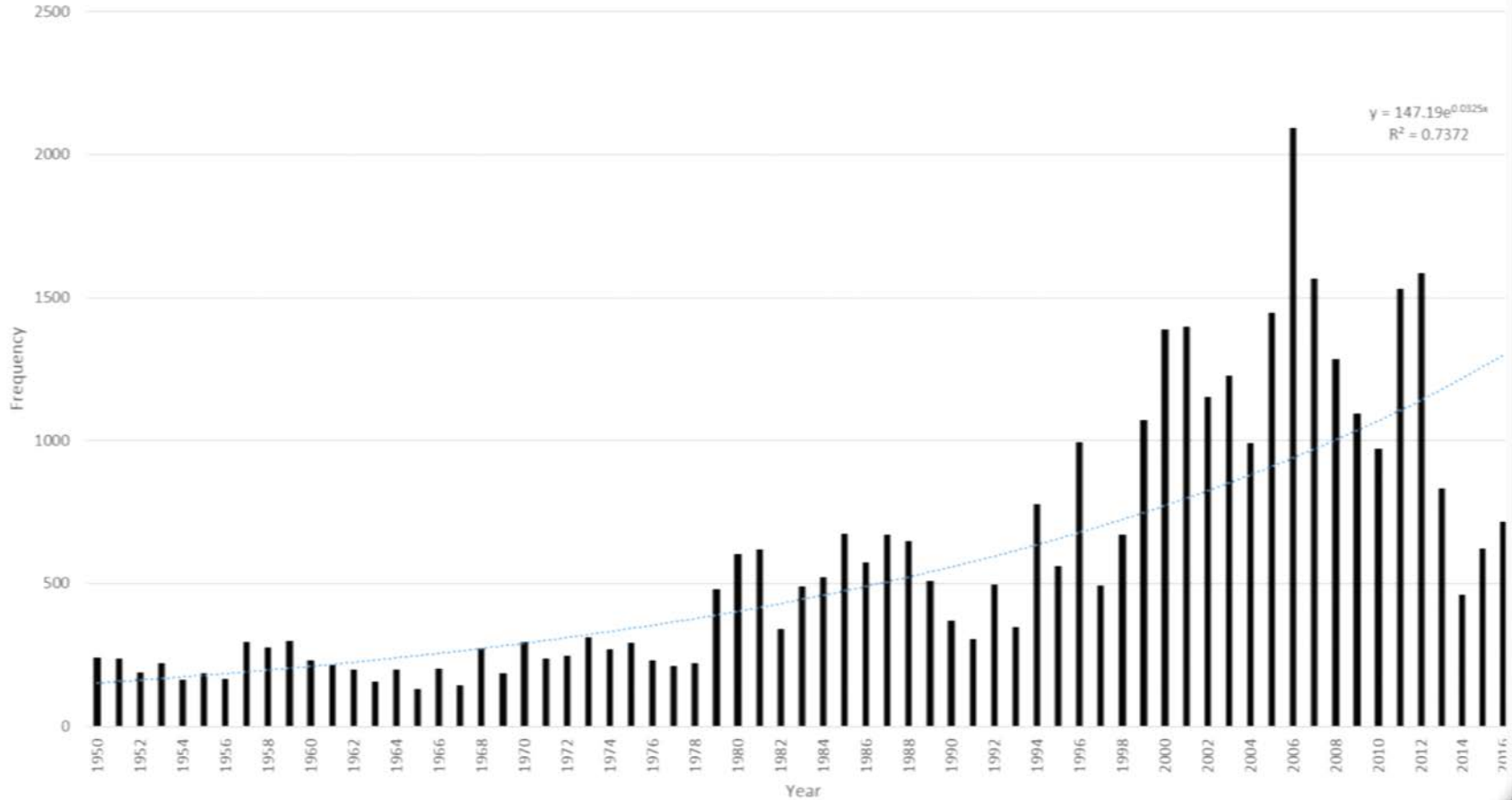
Acres Burned per Year
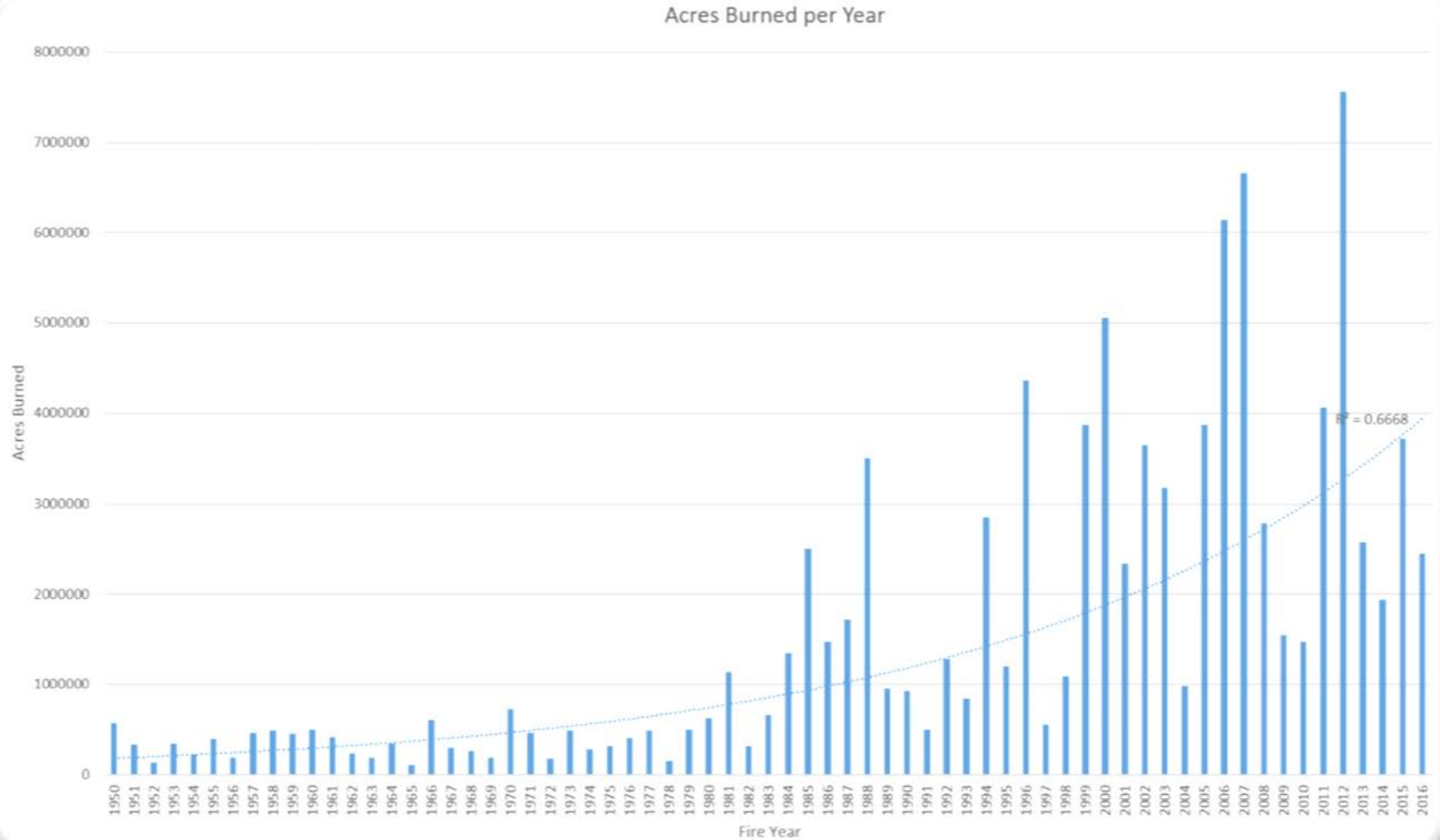
The Capability

Our Future

- Improvements to IT Infrastructure
  - ISU's new dedicated Research Data Center
  - 10 Gbps network connectivity instead of 1 Gbps

Idaho State
UNIVERSITY

Our Future (cont'd)

- In approx. 5 months, NASA funding for RECOVER will end

Idaho State
UNIVERSITY

To Continue…

- Very minimal and basic budget of $50,000 annually
  - Can be split by BLM, NIFC, and IDL
  - How to slice the pie?

Idaho State
U N I V E R S I T Y

Questions?

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

Idaho State
UNIVERSITY