Role of Regional Integrated Sciences and Assessments (RISA) Centers in Translation of Information from Research to Operations

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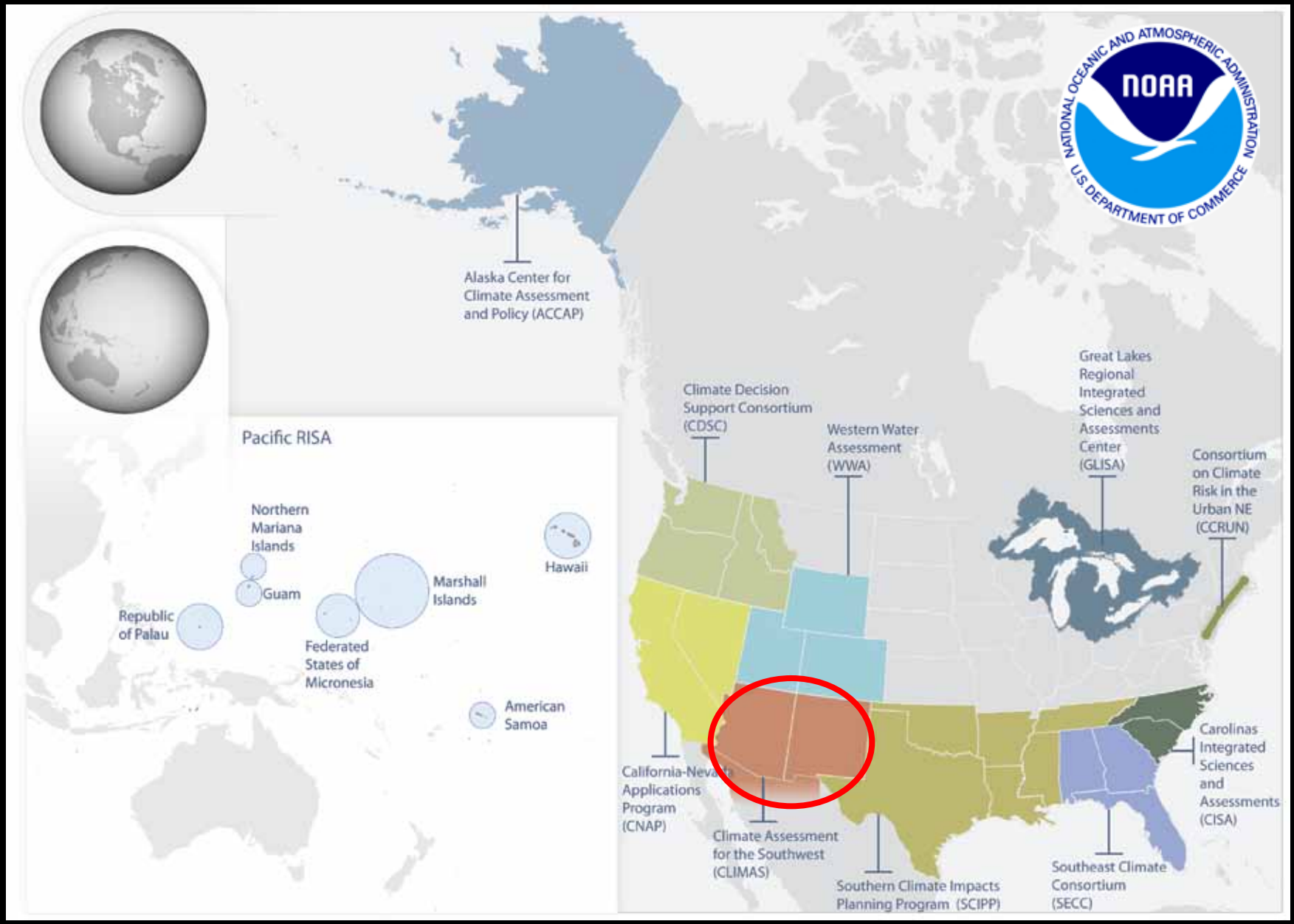
Border-Area Water Management Remote Sensing Workshop
San Diego, CA
June 9, 2011

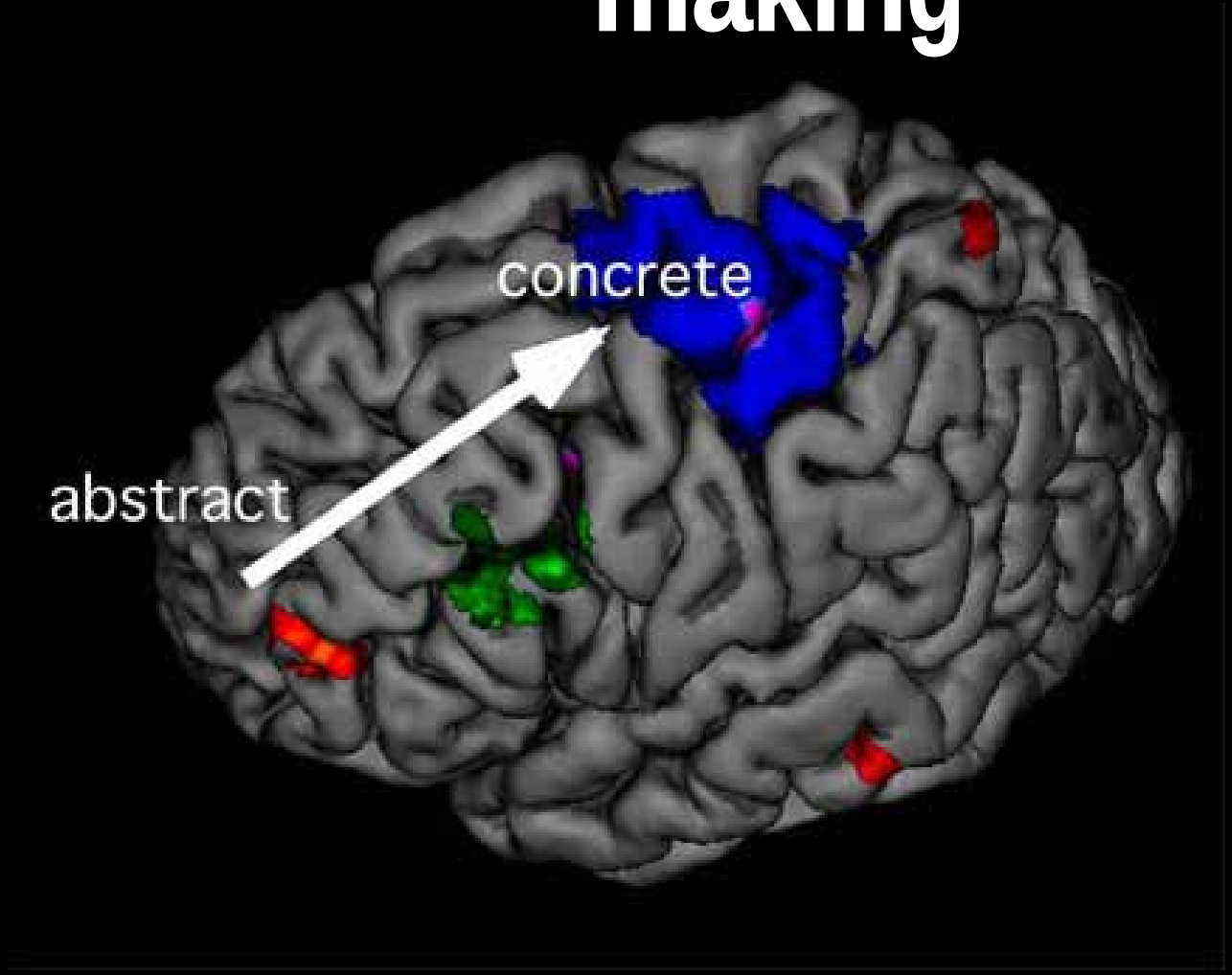
Regional Integrated Sciences and Assessments (RISA)



CLIMAS

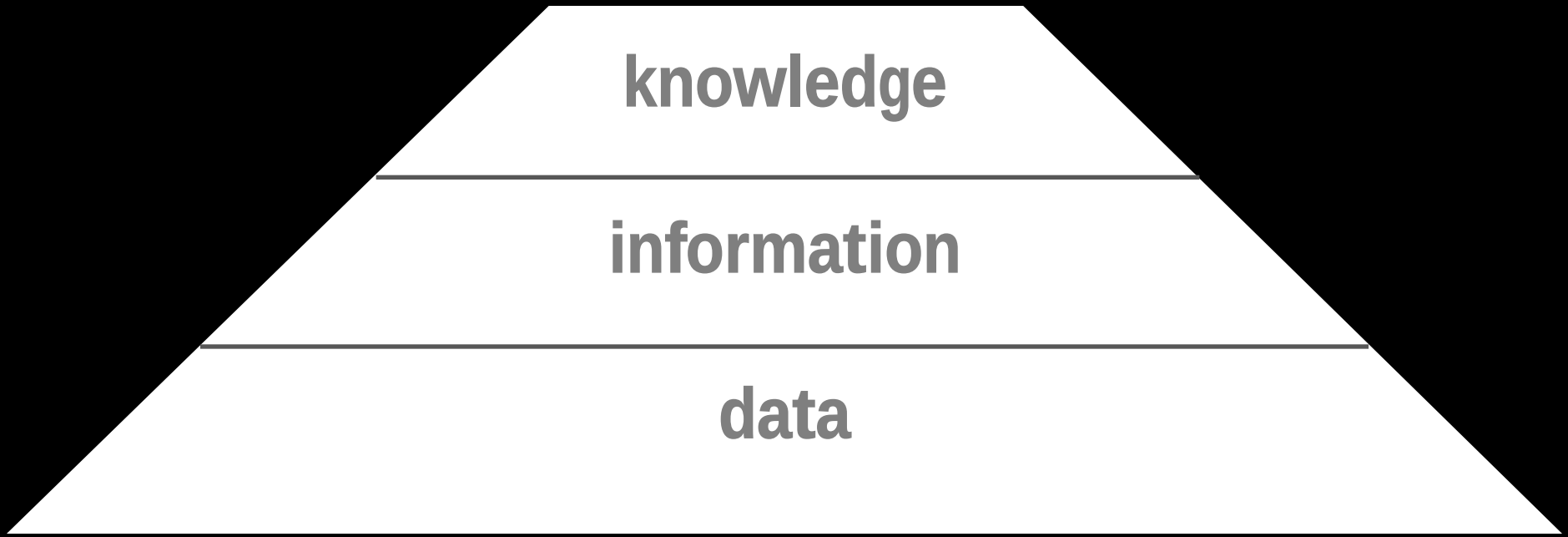
Climate Assessment for the Southwest

connect science to decision making



Brain graphic from: http://news.brown.edu/files/article_images/brain1.jpg

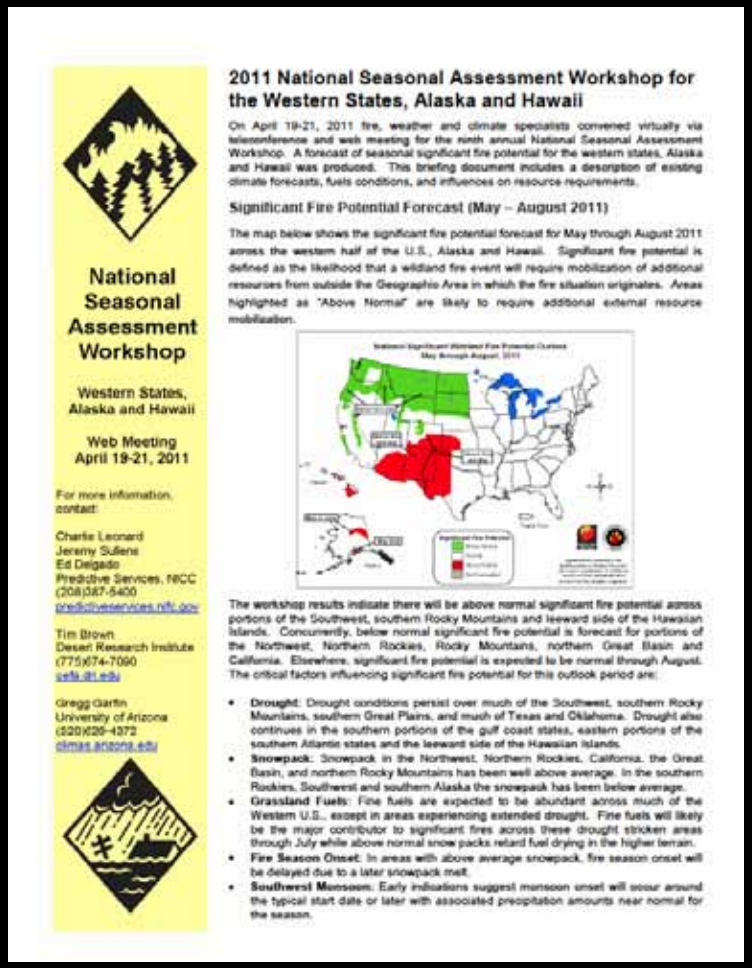
translating data into knowledge



Based on: Ackoff, R. L., "From Data to Wisdom", Journal of Applies Systems Analysis, Volume 16, 1989 p 3-9.

example 1:
integration of climate science
into
fire management

Significant Fire Potential Forecasts/ National Seasonal Assessment Workshops



National Seasonal Assessment Workshop

Western States, Alaska and Hawaii

Web Meeting
April 19-21, 2011

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2011 National Seasonal Assessment Workshop for the Western States, Alaska and Hawaii

On April 19-21, 2011 fire, weather and climate specialists convened virtually via teleconference and web meeting for the ninth annual National Seasonal Assessment Workshop. A forecast of seasonal significant fire potential for the western states, Alaska and Hawaii was produced. This briefing document includes a description of existing climate forecasts, fuels conditions, and influences on resource requirements.

Significant Fire Potential Forecast (May – August 2011)

The map below shows the significant fire potential forecast for May through August 2011 across the western half of the U.S., Alaska and Hawaii. Significant fire potential is defined as the likelihood that a wildland fire event will require mobilization of additional resources from outside the Geographic Area in which the fire situation originates. Areas highlighted as "Above Normal" are likely to require additional external resource mobilization.

The workshop results indicate there will be above normal significant fire potential across portions of the Southwest, southern Rocky Mountains and leeward side of the Hawaiian Islands. Concurrently, below normal significant fire potential is forecast for portions of the Northwest, Northern Rockies, Rocky Mountains, northern Great Basin and California. Elsewhere, significant fire potential is expected to be normal through August. The critical factors influencing significant fire potential for this outlook period are:

- **Drought:** Drought conditions persist over much of the Southwest, southern Rocky Mountains, southern Great Plains, and much of Texas and Oklahoma. Drought also continues in the southern portions of the gulf coast states, eastern portions of the southern Atlantic states and the leeward side of the Hawaiian Islands.
- **Snowpack:** Snowpack in the Northwest, Northern Rockies, California, the Great Basin, and northern Rocky Mountains has been well above average. In the southern Rockies, Southwest and southern Alaska the snowpack has been below average.
- **Grassland Fuels:** Fine fuels are expected to be abundant across much of the Western U.S., except in areas experiencing extended drought. Fine fuels will likely be the major contributor to significant fires across these drought stricken areas through July while above normal snow packs retard fuel drying in the higher terrain.
- **Fire Season Onset:** In areas with above average snowpack, fire season onset will be delayed due to a later snowpack melt.
- **Southwest Monsoon:** Early indications suggest monsoon onset will occur around the typical start date or later with associated precipitation amounts near normal for the season.

motivation:

improve information available to fire management decision makers for allocation resources

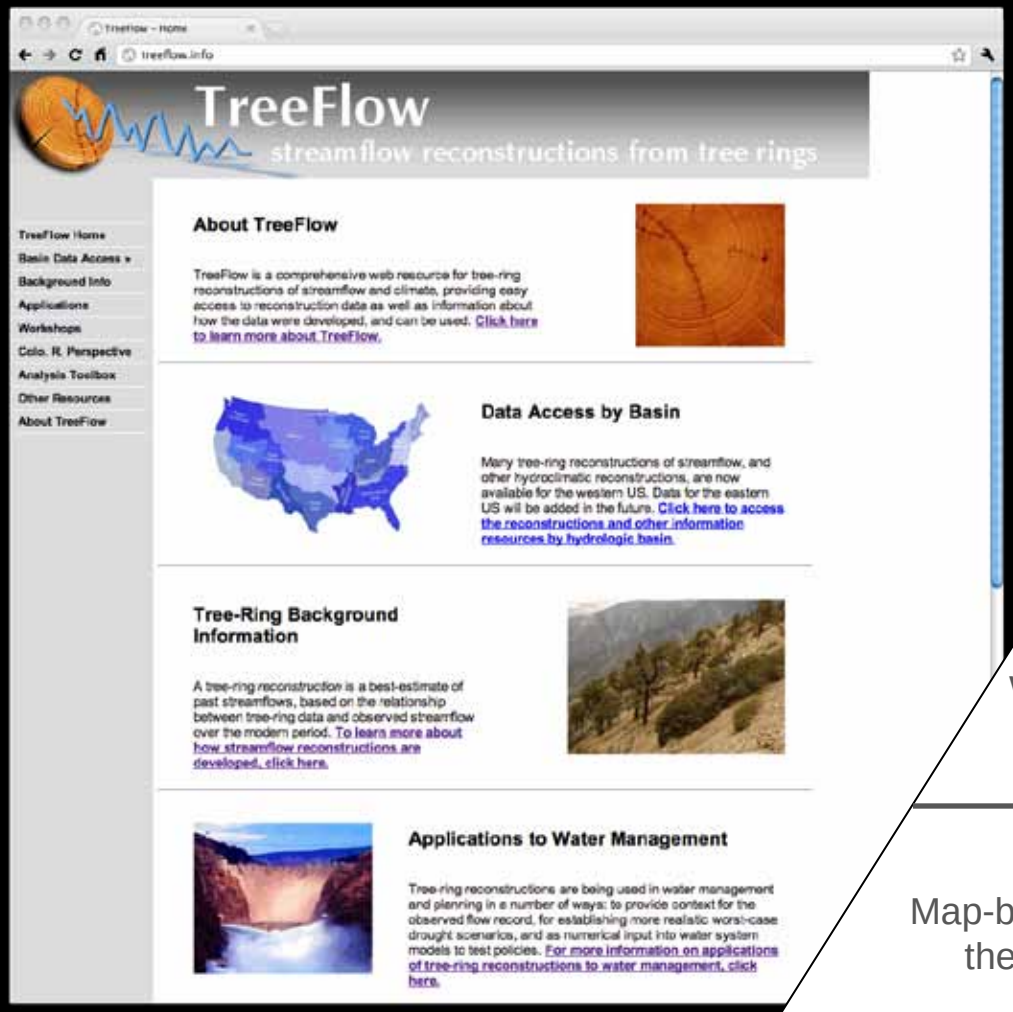
improved knowledge?

recent research* reveals that climate information, and specifically the Significant Fire Potential Forecast***, is now a heavily used product in the pre-fire season (when substantial resource allocation decisions are being made)***

*Owen, G., J. McLeod, C. Kolden, D.B. Ferguson, T.J. Brown. In prep. *Predictive Forecasting in Wildland Fire Management: A Social Network Analysis of the Southwest*.

example 2:
integration of paleoclimate science into water management

paleo science for water management



applications

How water managers can & do use tree-ring reconstructions

information

What are tree-ring reconstructions? How are they developed? How can they be used?

data

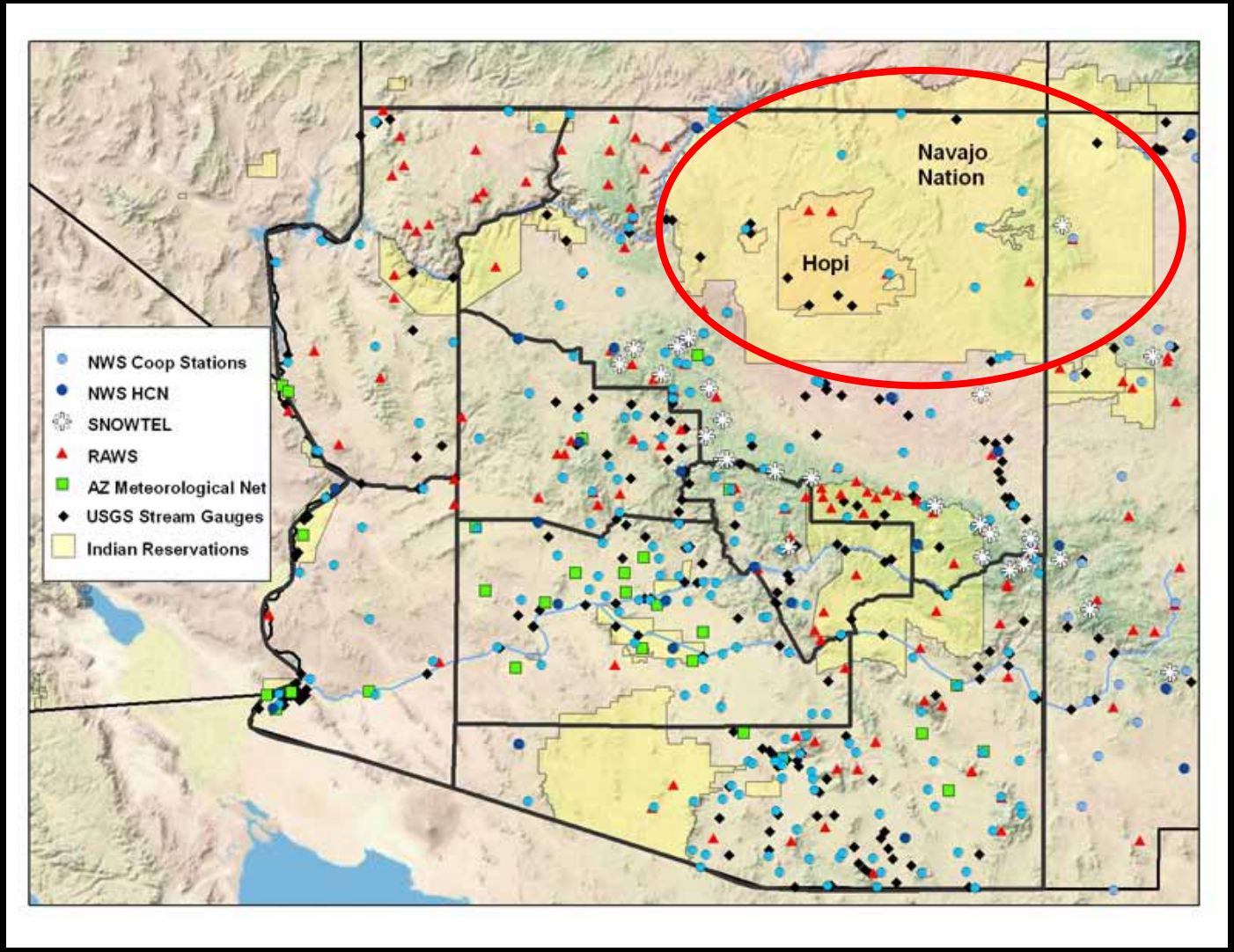
Map-based access to reconstruction data for each of the major hydrologic basins in the western US

www.treeflow.info

example 3:
synthesizing data and information to improve drought monitoring and (ultimately) policy

Tribal DRI MAP:

Tribal Drought Information for Monitoring, Assessment, and Planning



a large landscape that's not well monitored for drought

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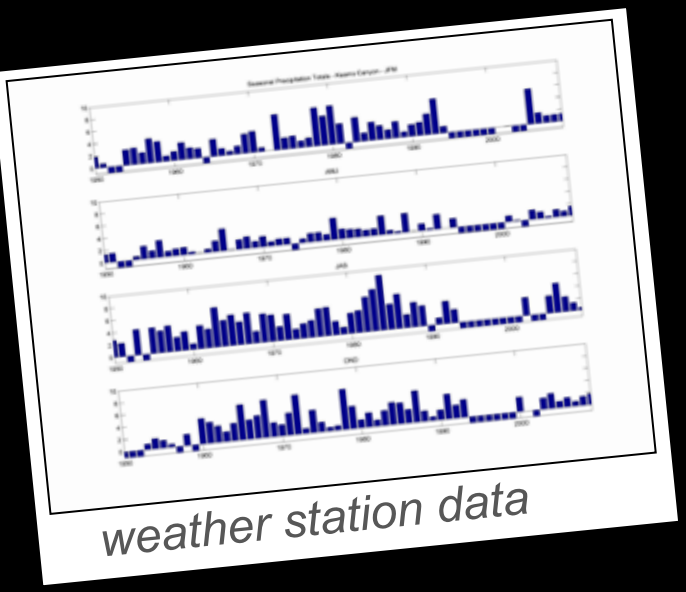
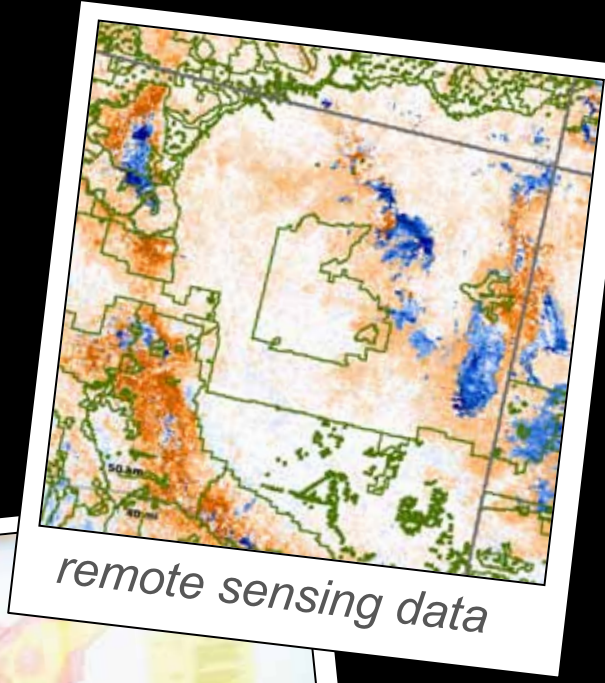
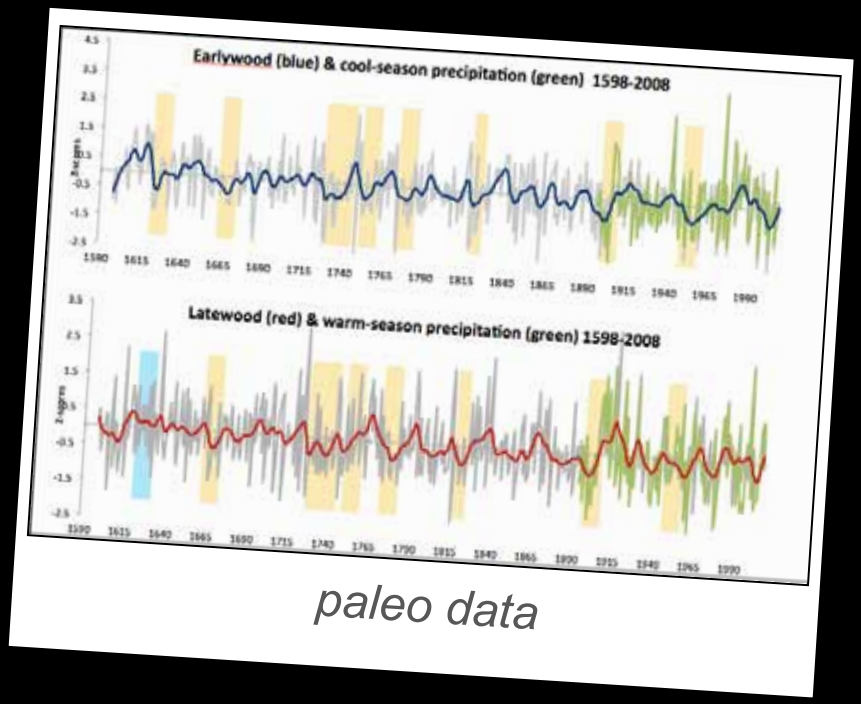
synthesizing data and information



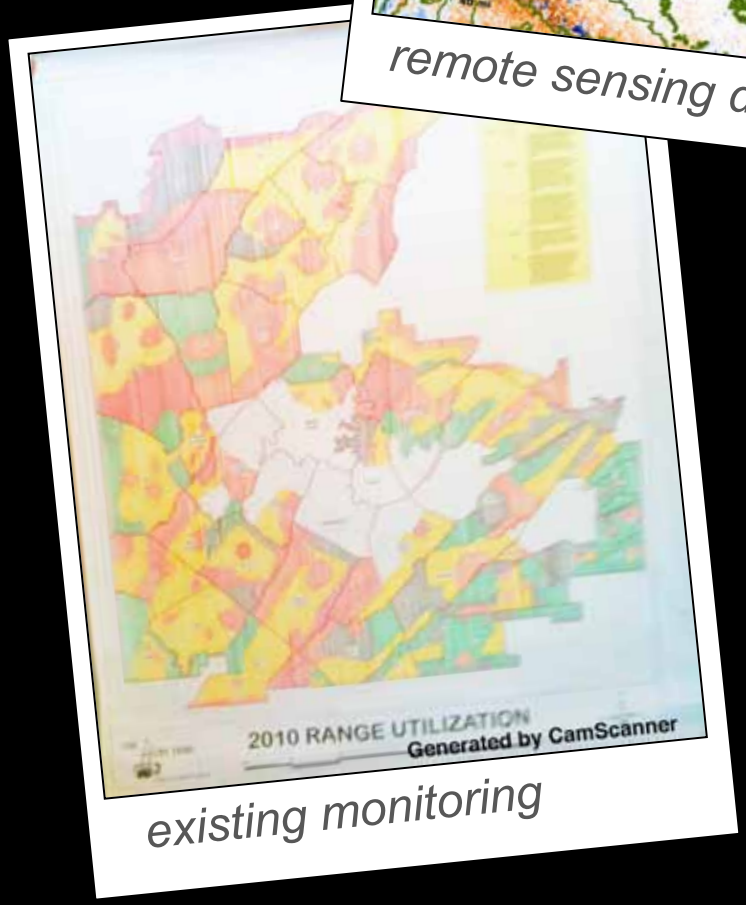
weather station data



remote sensing data

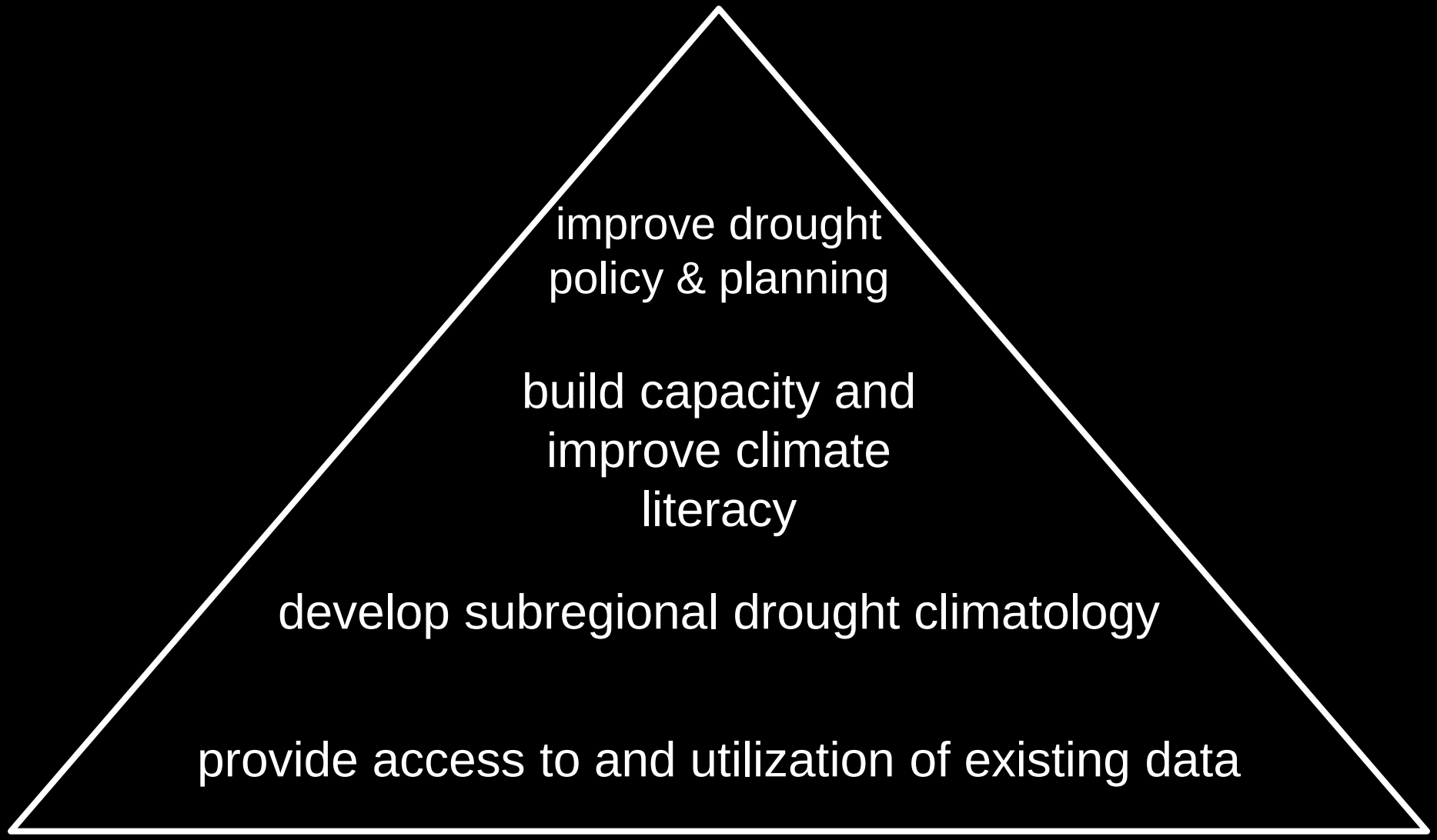


paleo data



existing monitoring

DrI-MAP project outcomes



translation of information from research to operations

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Proactive engagement is required.

A dynamic and flexible organization is required.

Binder, Lara Whitely, et al. 2009. RISA 2020: A RISA community vision for future Regional Integrated Sciences and Assessments (RISA) efforts to match advances in climate impacts science with the needs of resource managers and planners. Washington, DC: NOAA Climate Program Office.

thank you

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remote sensing as an operational drought monitoring tool?

http://droughtview.arid.arizona.edu/