

Western Water Applications Office

**Presentation to the Western States
Water Council**

**R. Friedl and S. Granger
NASA WWAO**



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WWAO – NASA's Western Water Applications Office

A local western office helping to inform water decisions with NASA data

What is the WWAO?

A new initiative from NASA's Earth Science Division, Applied Sciences Program to support Western US water management to put NASA data to work in making decisions.

What Does the WWAO Do?

- Connect stakeholders with NASA scientists, technology, tools, and data.
- Develop custom solutions through applications projects.
- Assist application transition into operational state.

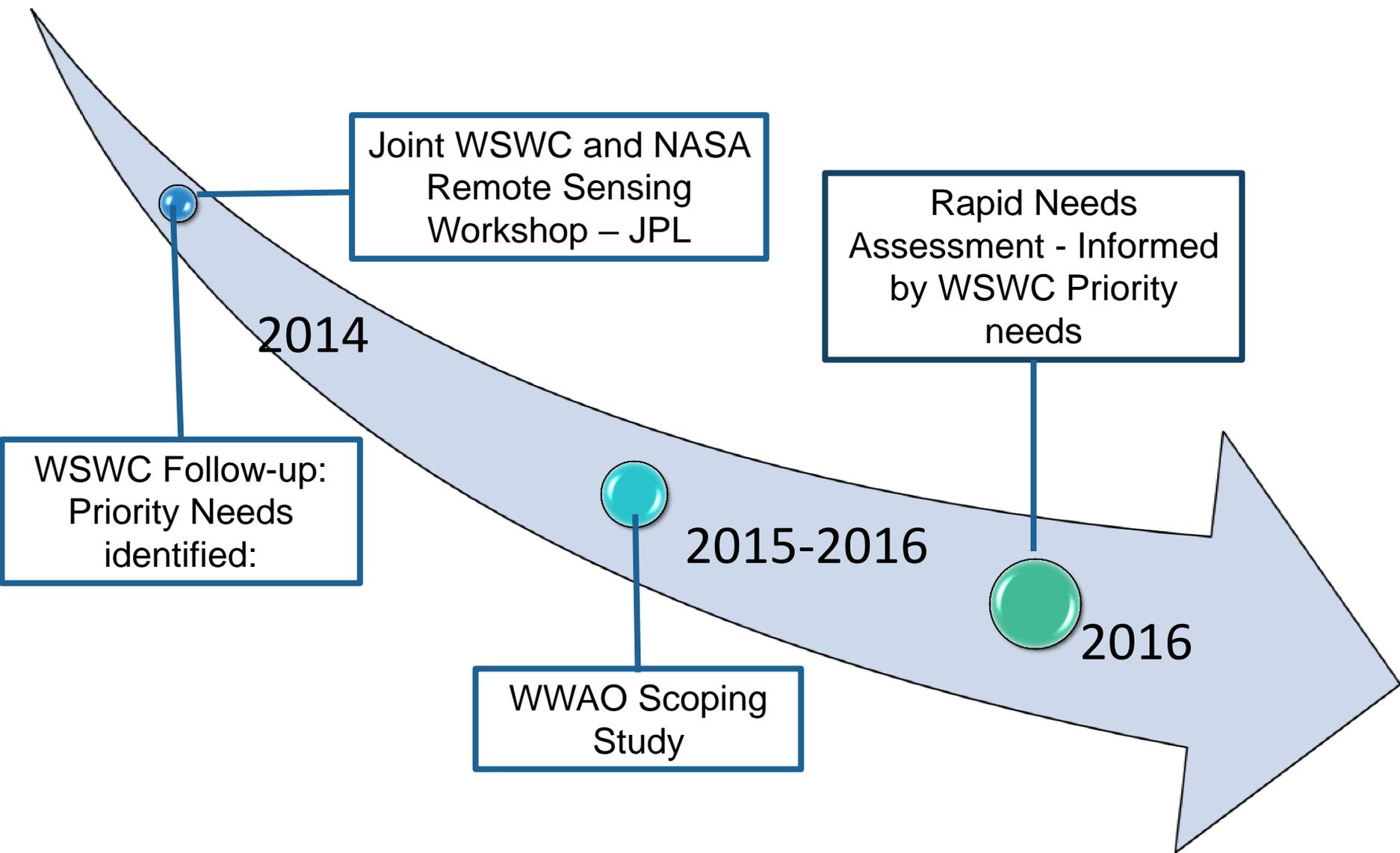
Why the NASA-WWAO?

- Apply NASA's wealth of science, remote sensing data and expertise.
- Leverage decades of investment in science and technology.
- Develop and maintain lasting relationships with stakeholders.





Building an understanding of water resources needs





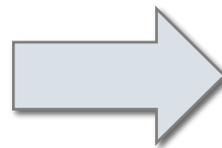
Understanding Water Decision-Maker Needs

Conducted internal and external reviews of water needs

- Initial assessment highlighted the need to consider cross-cutting water issues (e.g. policy, climate)
- Should be strategic in targeting basins for specific projects

Future Market Survey

- Initial pilot study to focus on Colorado River Basin. Contract in place for consultant to conduct survey. Survey seeks to better characterize public and private decision-makers in terms of primary responsibilities, key decisions, annual revenue and revenue sources and operating budgets,

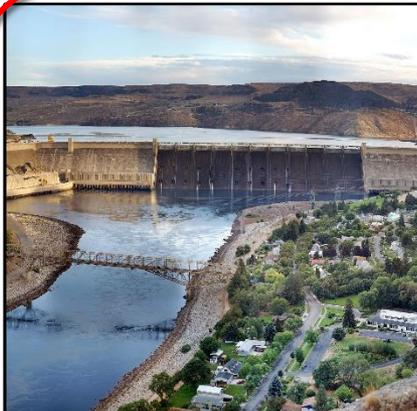




Organizing needs into five groups

Early Focus

Future



Water Supply and Availability



Consumptive Use



Water Quality



Water Infrastructure

Cross-cutting

- Technical and sociological challenges
 - Making use of emerging and contemporary information sources.
 - “Connecting the Dots” – Integration with traditional data sources and decision making processes.
- Climate change and Extremes

Harnessing NASA Capabilities for Stakeholder Needs

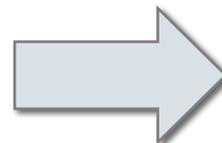
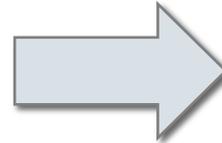
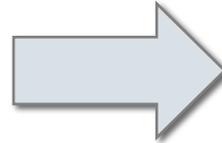
Early wins

Projects that advance NASA-ASP WR efforts funded and underway:

1. Integrate Airborne Snow Observatory results into an operational run-off model (T. Painter, JPL)
2. Scale the successful fallowed land mapping project to NV and WA(F. Melton, Ames Research Center)

Future Projects: Capabilities Working Group

- Multi--center working group to maintain awareness of the technical, scientific, applications capabilities relevant for western water needs.
- Deep reach into a broad range of NASA capabilities.
- Inform proposal opportunities and WWAO project development.





Related example of matching capabilities with needs

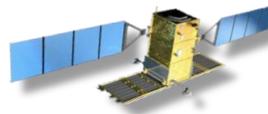
ALOS-2



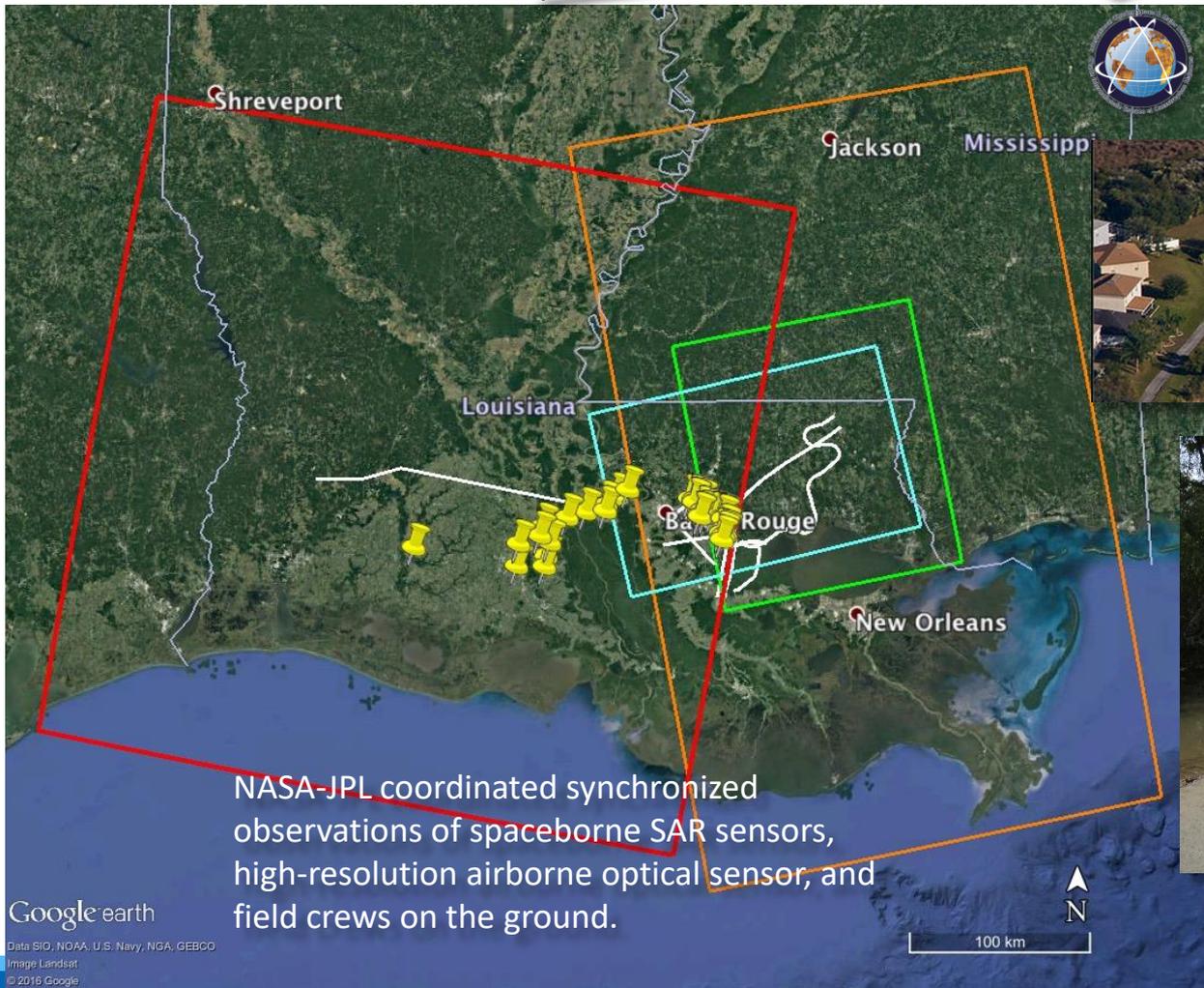
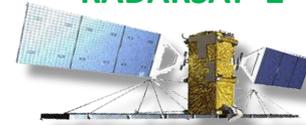
Sentinel-1A



COSMO-SkyMed



RADARSAT-2



NASA-JPL coordinated synchronized observations of spaceborne SAR sensors, high-resolution airborne optical sensor, and field crews on the ground.

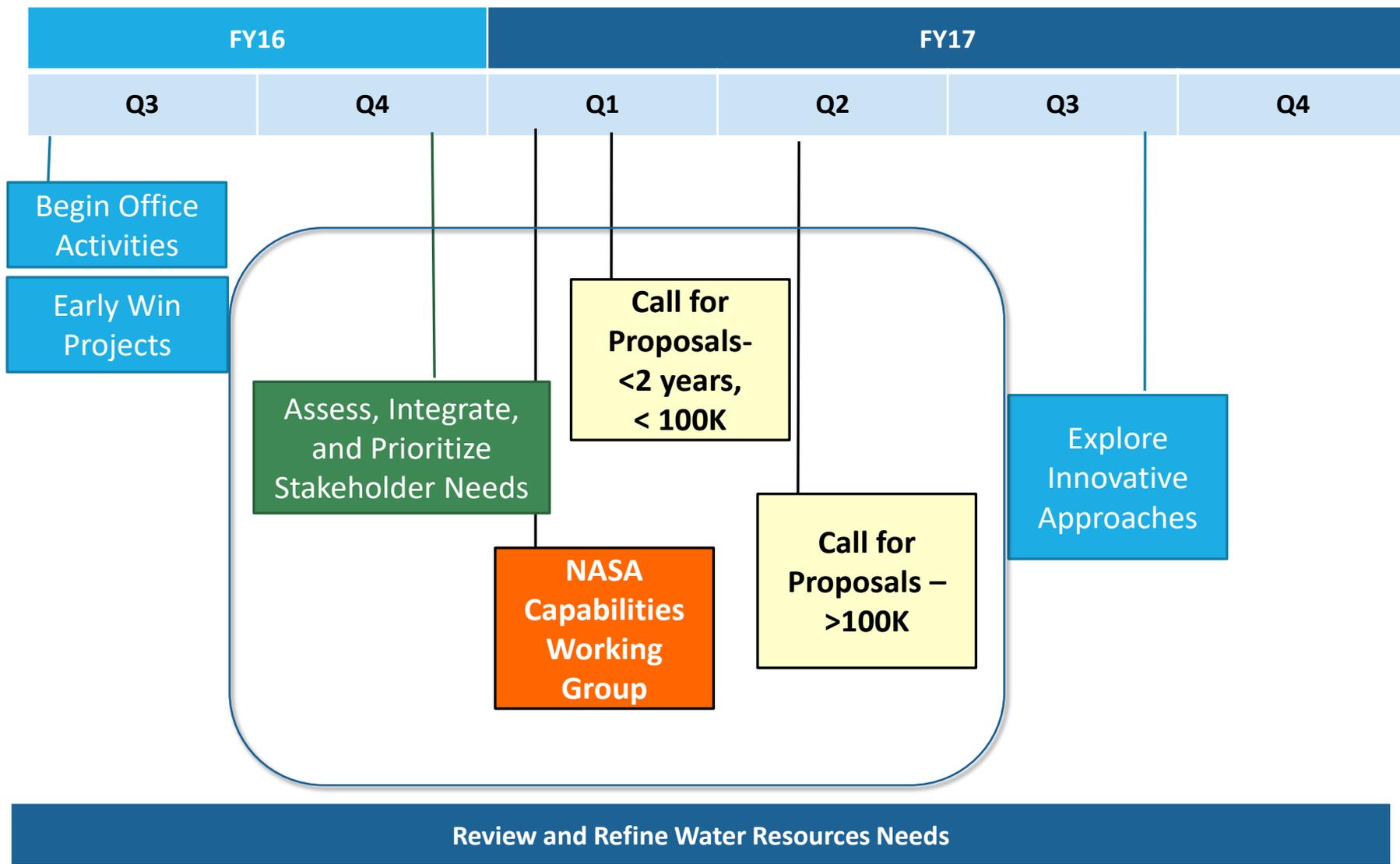


FEMA





Plans for the coming year





Final Comments

- WWAO represents increased NASA commitment to regional support of Western water issues
 - Enhanced engagement with local and regional needs.
 - Better ability to work w/ stakeholders at all levels, including regional, state, and municipal agencies.
- Developing innovative approaches to identify and quickly fund projects that have potential for high impact.
- Office is open and embarking on critical activities, such as the Needs Assessment and Capabilities Identification
- Looking forward to continuing our dialogue with WSWC