

Local Groundwater Assistance (AB 303) Grant Funding Opportunities

Presented to: SCGA Board



January 13, 2010

Outline

Background

- Previous grant: Data Management System
- Hydrologic Model

Current Proposal

Future Proposals

**Policy
Decisions**

**Technical
Studies**

Hydrologic Model

HDMS

Monitoring and Data Collection

Hydrologic Data Management System

- ✓ \$250,000 AB303 grant to SCGA, FY '07-'08
- ✓ Comprehensive data compilation, consolidation, and quality control
- ✓ Comprehensive Update of Data Management System
- ✓ Improved access to data
- ✓ Improved data analysis tools
- ✓ Improved ability to quantify progress towards BMOs

Hydrologic Data Management System

- ✔ GIS enabled web-based database system
- ✔ Centralized database (single data source)
- ✔ User interface for data entry and admin
- ✔ Web tools to publish to IWRIS (statewide database)
- ✔ Local control of access to published data
- ✔ Automated groundwater monitoring reporting (SB 6)

Hydrologic Data Management System

IWRIS Integrated Water Resources Information System
PUBLIC BETA

Account | Help | Comments | Logout

Layers Legend Quick Start

- SCGA
 - SCGA Remediation Operation
 - SCGA Groundwater Production
 - SCGA Groundwater Quality
 - SCGA Surface Water Quality
 - SCGA Groundwater Level
 - SacGSM Rainfall Stations
- Database
- Base Map
- Images

0 79mi

SCGA Groundwater Production is now the Active Layer

Scale: 1:2,712,118
Active Layer: SCGA Groundwater Production

Select A County SCGA Local Database

Refresh Map Auto Refresh

Hydrologic Data Management System

IWRIS Integrated Water Resources Information System
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SCGA Groundwater Production is now the Active Layer

Scale: 1:125,453
Active Layer: SCGA Groundwater Production

Select A County SCGA Local Database

Refresh Map Auto Refresh

The screenshot displays a web-based GIS interface. The main map area shows a topographic map of a region with numerous yellow and dark red circular markers representing groundwater production data. A toolbar on the left contains various navigation and analysis tools such as Zoom In, Zoom Out, Identify, and Measure. A legend on the right lists several data layers, with 'SCGA Groundwater Production' and 'SCGA Groundwater Quality' currently checked. The interface includes a header with the system name and version, user navigation links, and a footer with scale information and active layer details.

Hydrologic Data Management System

| Sacramento Central Groundwater Authority | | |
|--|--|--|
| Station Name | CITIZENS UTILITY MONTAZU WELL 44 ! PERFT changed from 228 to 221 | |
| Station Type | Groundwater Production | |
| Agency | California America Water - Rosemont | |
| Latitude | 38.5514 °N | |
| Longitude | -121.364 °W | |
| Links to Other Data: ? | | |
| N/A | | |

Search Station:

Map Sat Hyb Ter

POWERED BY Google

Map data ©2009 Google [Terms of Use](#)

| Site Data Selection ? | | |
|---------------------------------------|------------------------|---|
| Select | Time Series Category | Available Data Types |
| <input checked="" type="radio"/> | Groundwater Production | Groundwater Production <input type="button" value="v"/> |

Plot Selected Time Series

Export to Excel

CSV

[+ Neighborhood Data Selection \[?\]\(#\)](#)


Hydrologic Data Management System

Search: [Go](#)


SCGA | **Sacramento County Groundwater Authority**
Hydrologic Database

Logged in as **System Administrator** [Home](#) | [Logout](#)


Administrator Home




Account Manager



Database Manager



Model Manager



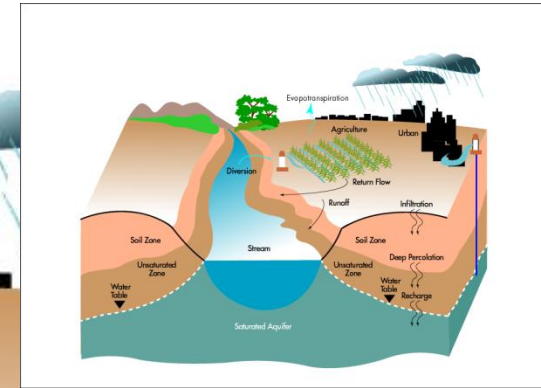
Publish Manager

Database Manager

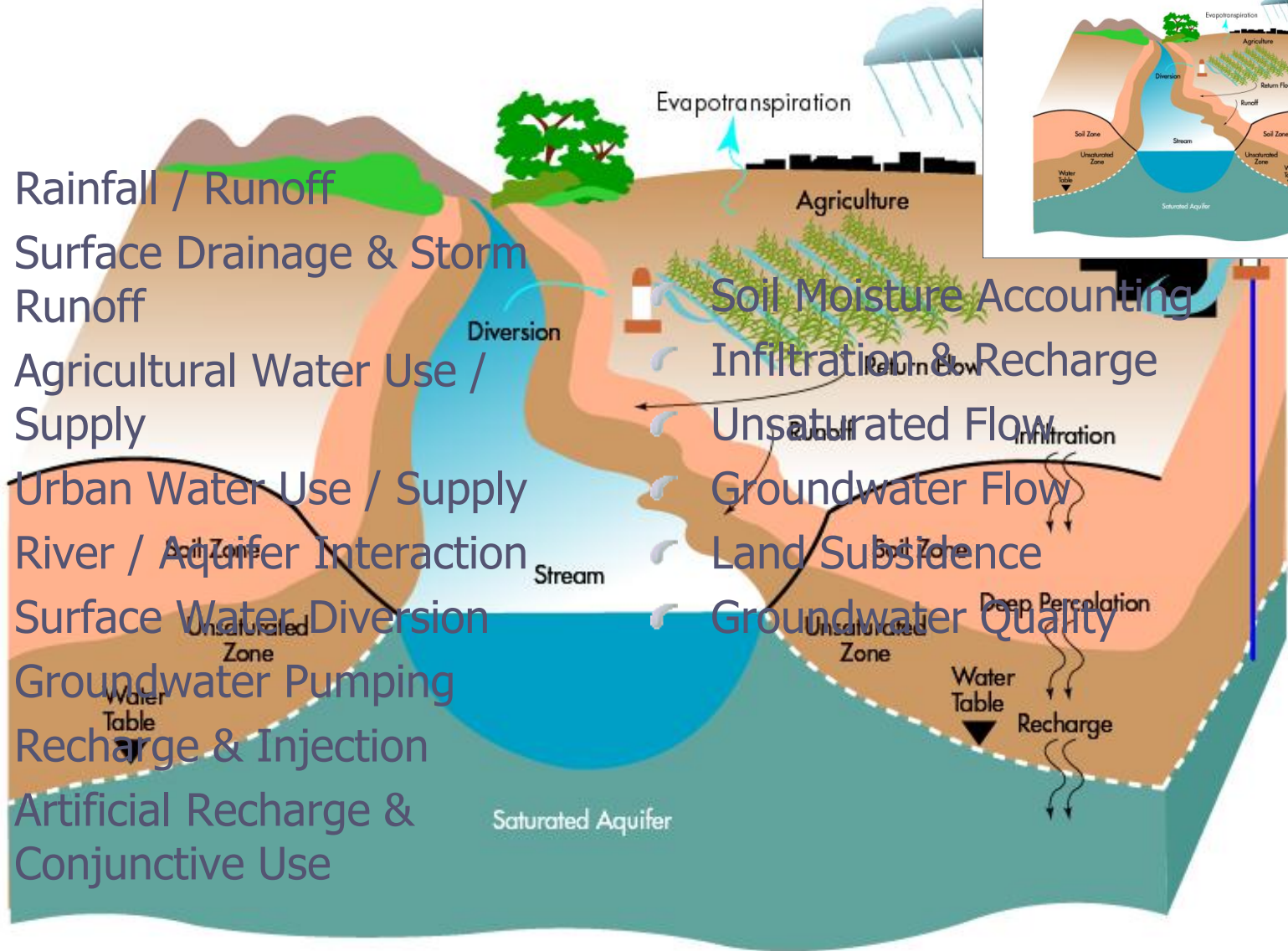
Click on the Database Manager icon to:

1. Enter New Data
2. Validate entered data
3. Import data using templates
4. View data

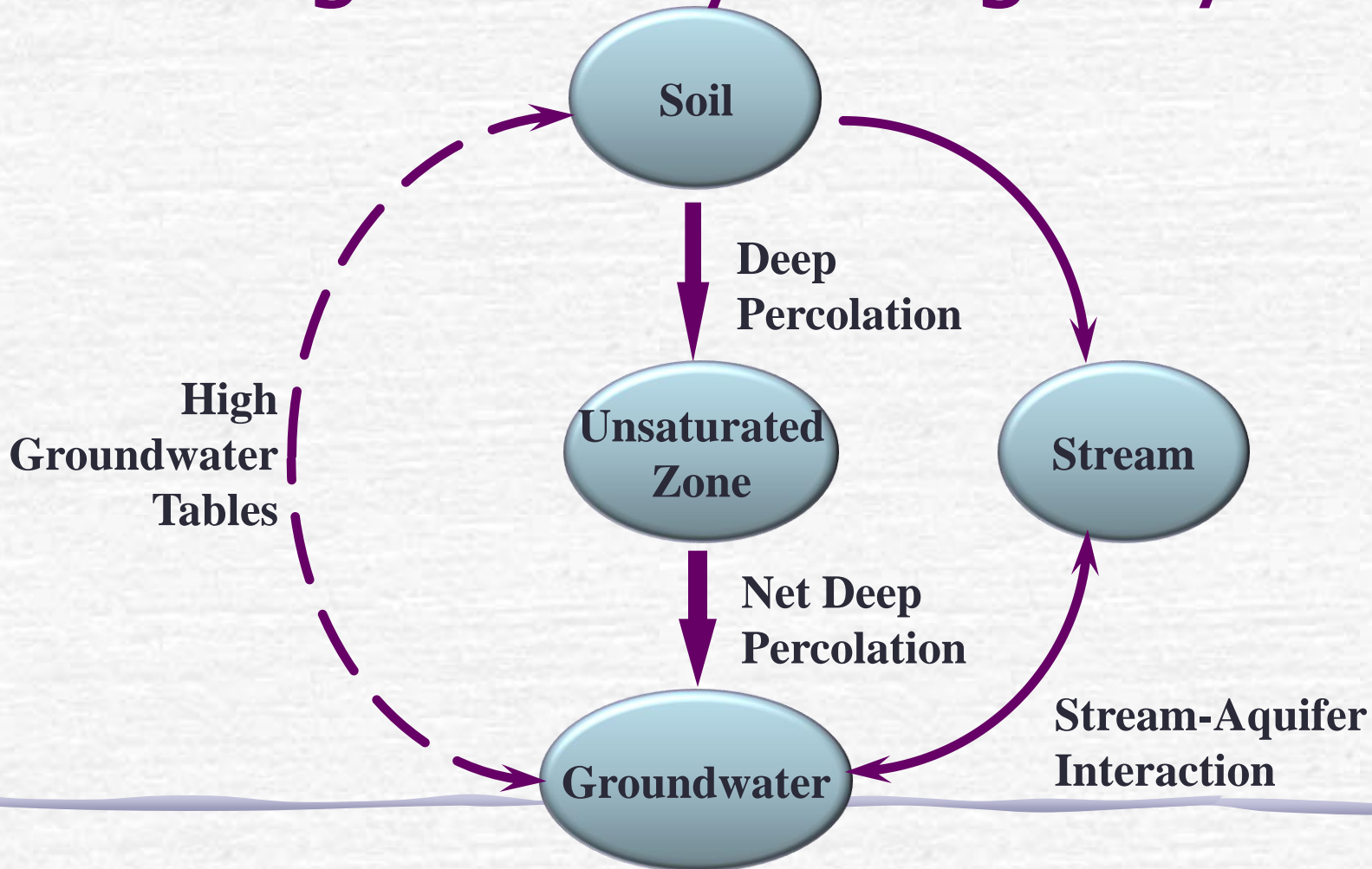
Integrated Hydrologic System



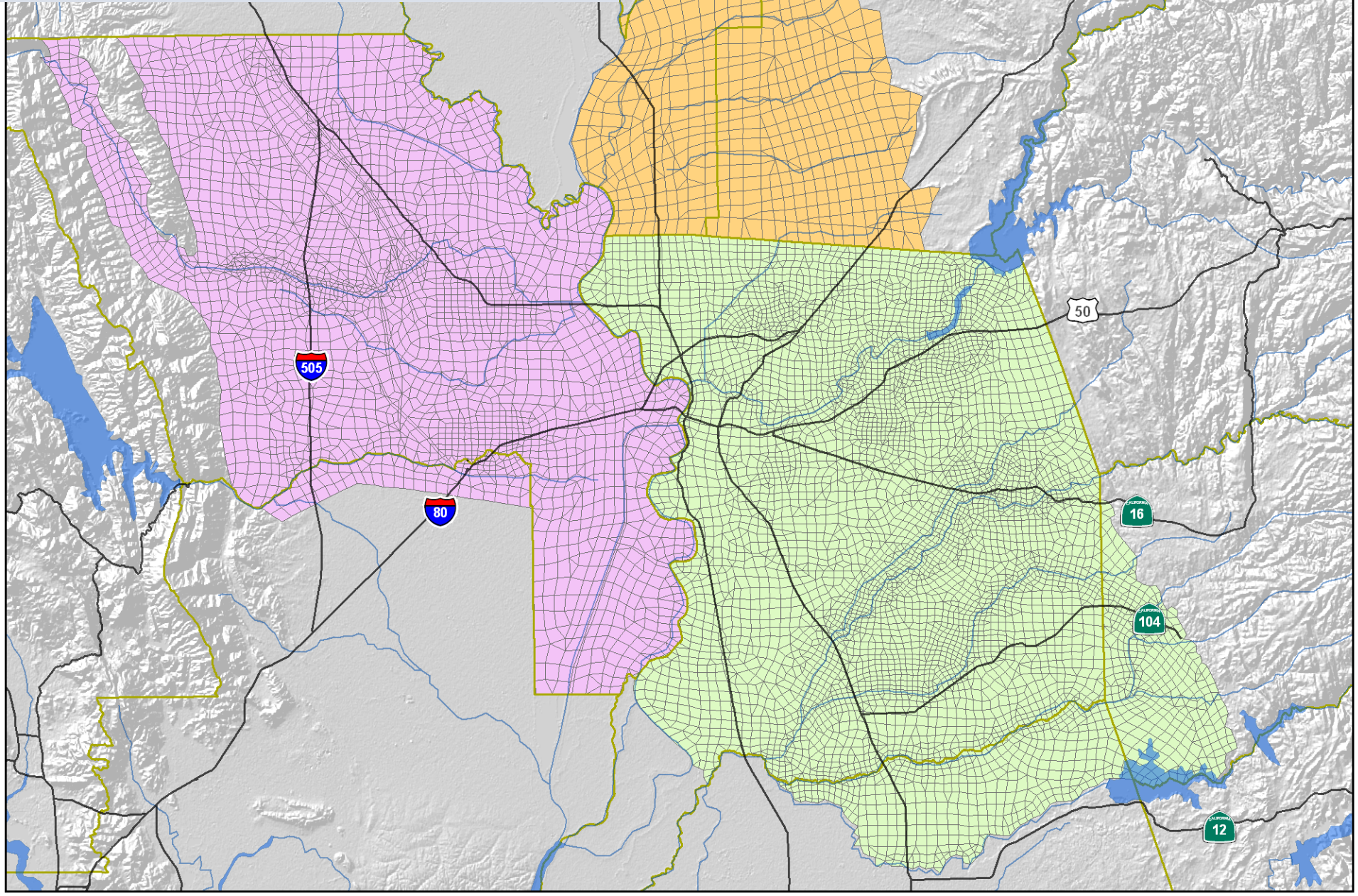
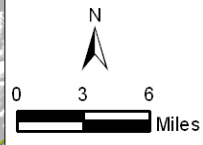
- ☛ Rainfall / Runoff
- ☛ Surface Drainage & Storm Runoff
- ☛ Agricultural Water Use / Supply
- ☛ Urban Water Use / Supply
- ☛ River / Aquifer Interaction
- ☛ Surface Water Diversion
- ☛ Groundwater Pumping
- ☛ Recharge & Injection
- ☛ Artificial Recharge & Conjunctive Use
- ☛ Soil Moisture Accounting
- ☛ Infiltration & Recharge
- ☛ Unsaturated Flow
- ☛ Groundwater Flow
- ☛ Land Subsidence
- ☛ Groundwater Quality



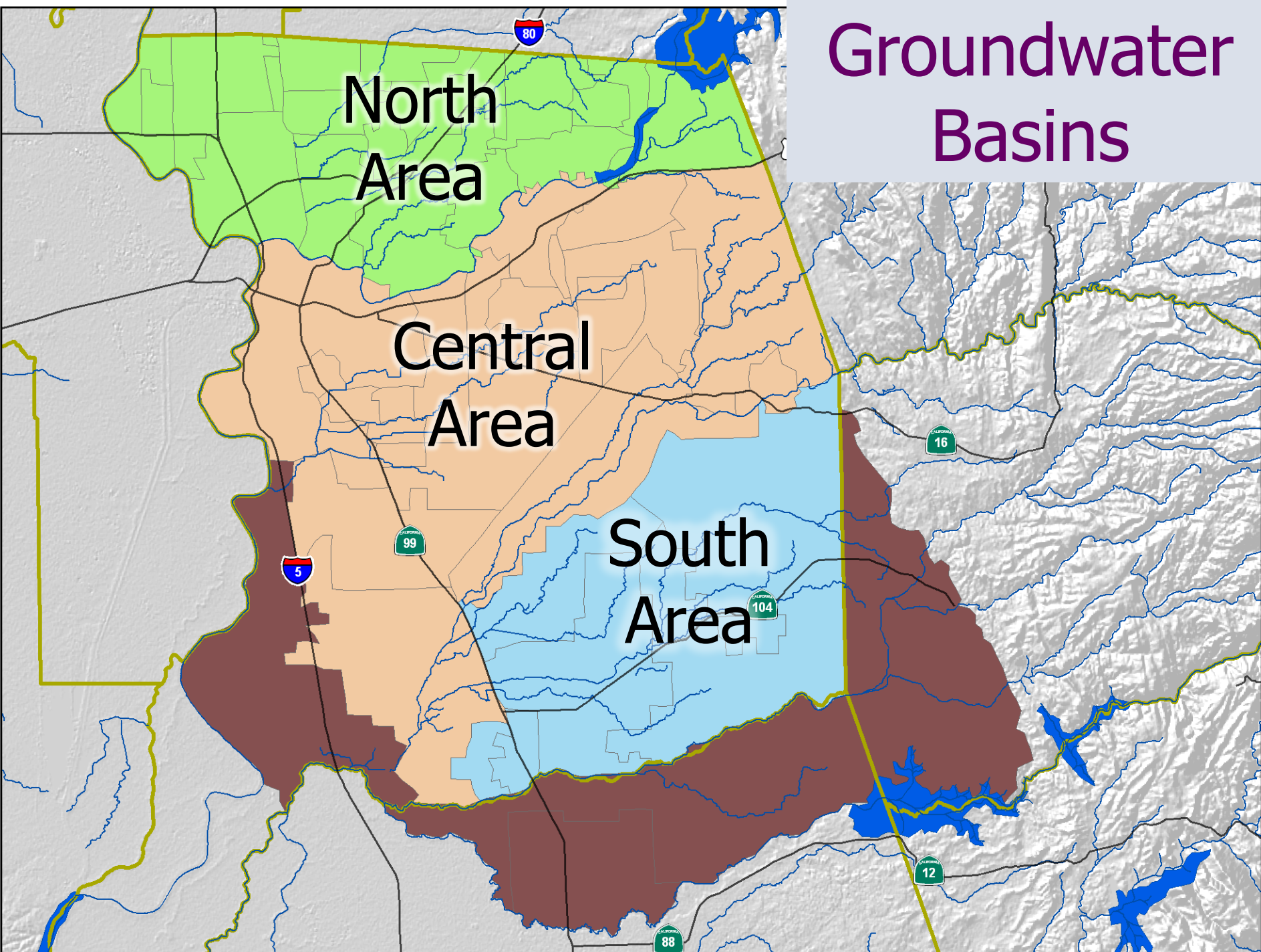
Integrated Hydrologic System



Regional Models



Groundwater Basins



Sac IGSM Evolution

| Year | Study | Year | Study |
|-------------|---|-------------|--------------------------------------|
| 1992 | City IGSM | 2000 | ARBCA Studies |
| 1993 | County IGSM | 2002 | Aerojet Analysis |
| 1996 | ARWRI | 2004 | Zone 40 WSMP Update |
| 1996 | Northridge CU Study | 2005 | NCMWC Impacts Assessment |
| 1996 | Rio Linda WS Analysis | 2005 | Rio Del Oro Impacts Study |
| 1996 | Hydrology Update | 2007 | Sutter Measure M Impact Study |
| 1996 | Water Forum | 2007 | Sun Creek Development |
| 1999 | Sunrise Douglas WS Analysis | 2008 | Model Comprehensive Update |
| 1999 | Zone 40 (N. Vineyard Well Field) | 2009 | TNC Study |

2008 SacIGSM Model Comprehensive Update

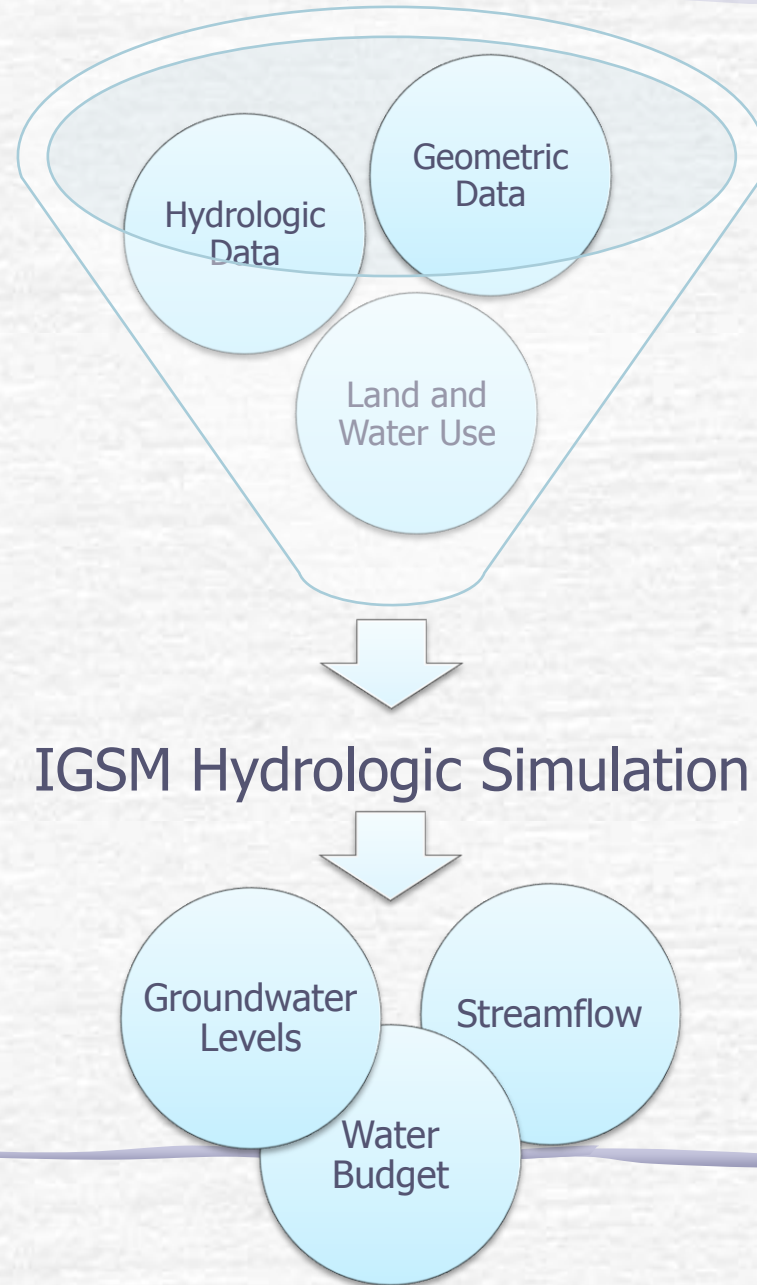
Complete overhaul of model

- Model boundaries
- Geographic resolution
- Time period
- Land and water use data
- Water supply facilities
- Geology
- Others

Funded by

- DWR
- SCWA
- SGA
- SSCAWA
- TNC

IGSM Data Overview



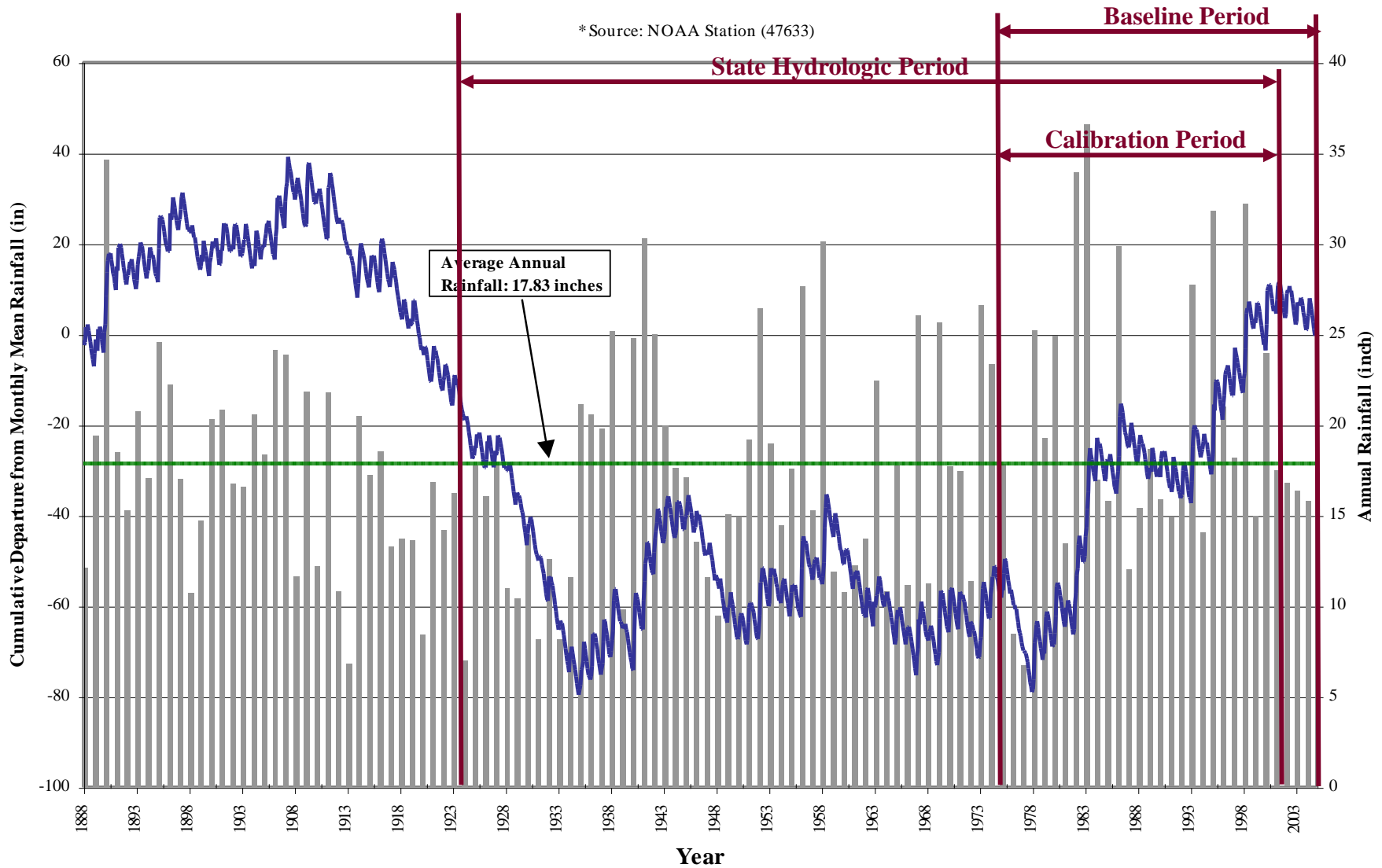
Major Data Items

- ✓ 1922-2004 Hydrologic Period
- ✓ 5 Land Use Surveys and 14 Crop Types
- ✓ Daily Hydrologic Record
- ✓ Monthly ET Records
- ✓ Agricultural Pumping Estimates
- ✓ Approximately 500 Purveyor wells
- ✓ American, Sacramento, and Cosumnes River and their interaction with groundwater

Long-Term Rainfall Trends

Historical Precipitation for Sacramento WSO*

* Source: NOAA Station (47633)



**Policy
Decisions**

**Technical
Studies**

Hydrologic Model

HDMS

Monitoring and Data Collection

Data Gaps

- Agricultural production
- Agricultural-residential production
- Water quality
- Water levels
- Aquifer properties
- Subsidence data

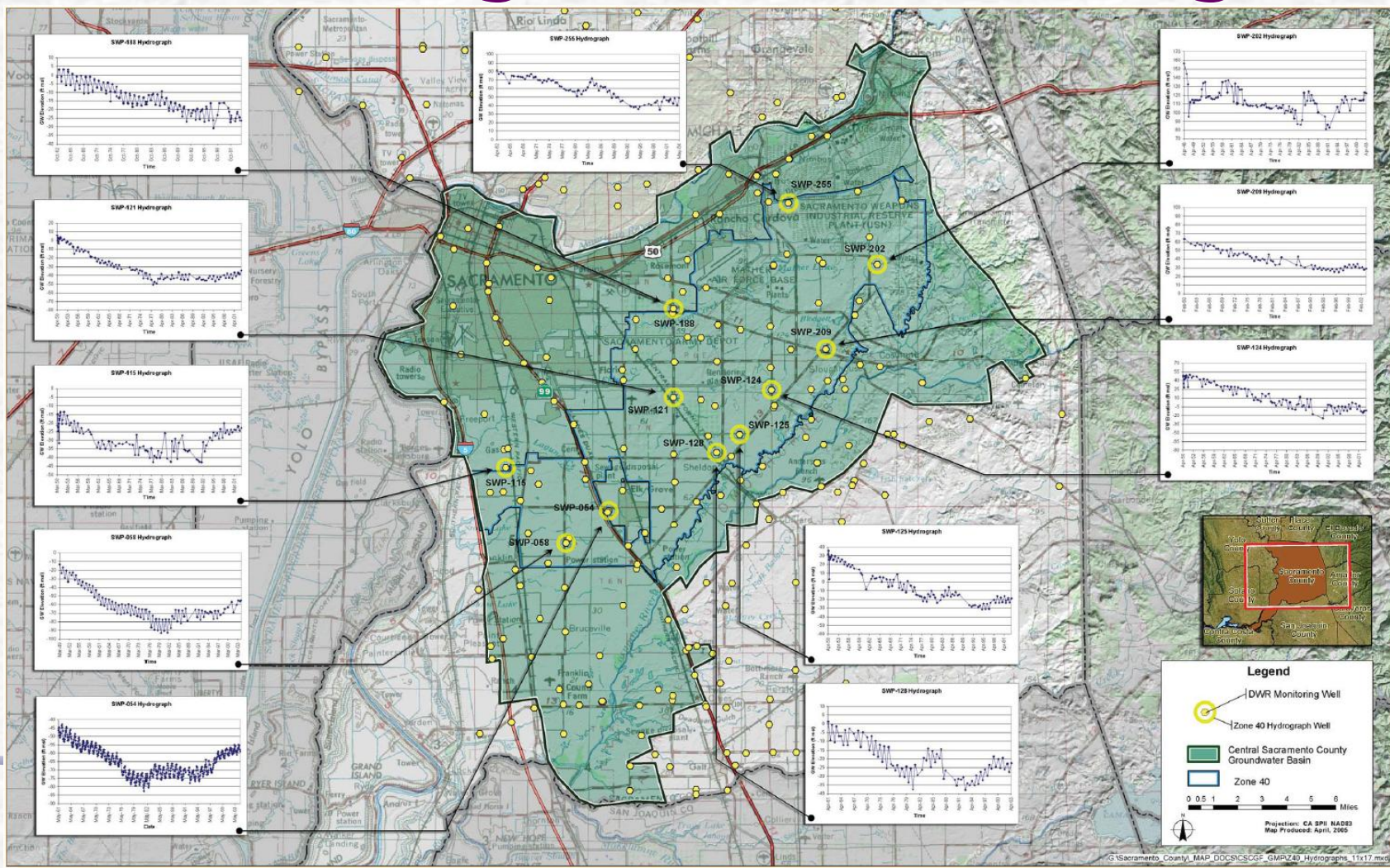
Proposed Project for Funding

- ✓ Improved Monitoring / Filling of Data Gaps
 - Develop Monitoring Plan
 - Locate / install multi-completion monitoring well(s)
 - Perform aquifer tests: new / existing wells
 - Water quality testing – rural areas / deep aquifer
 - Install transducers: new / existing wells
- ✓ New data for HDMS & hydrologic model
- ✓ Support future management decisions

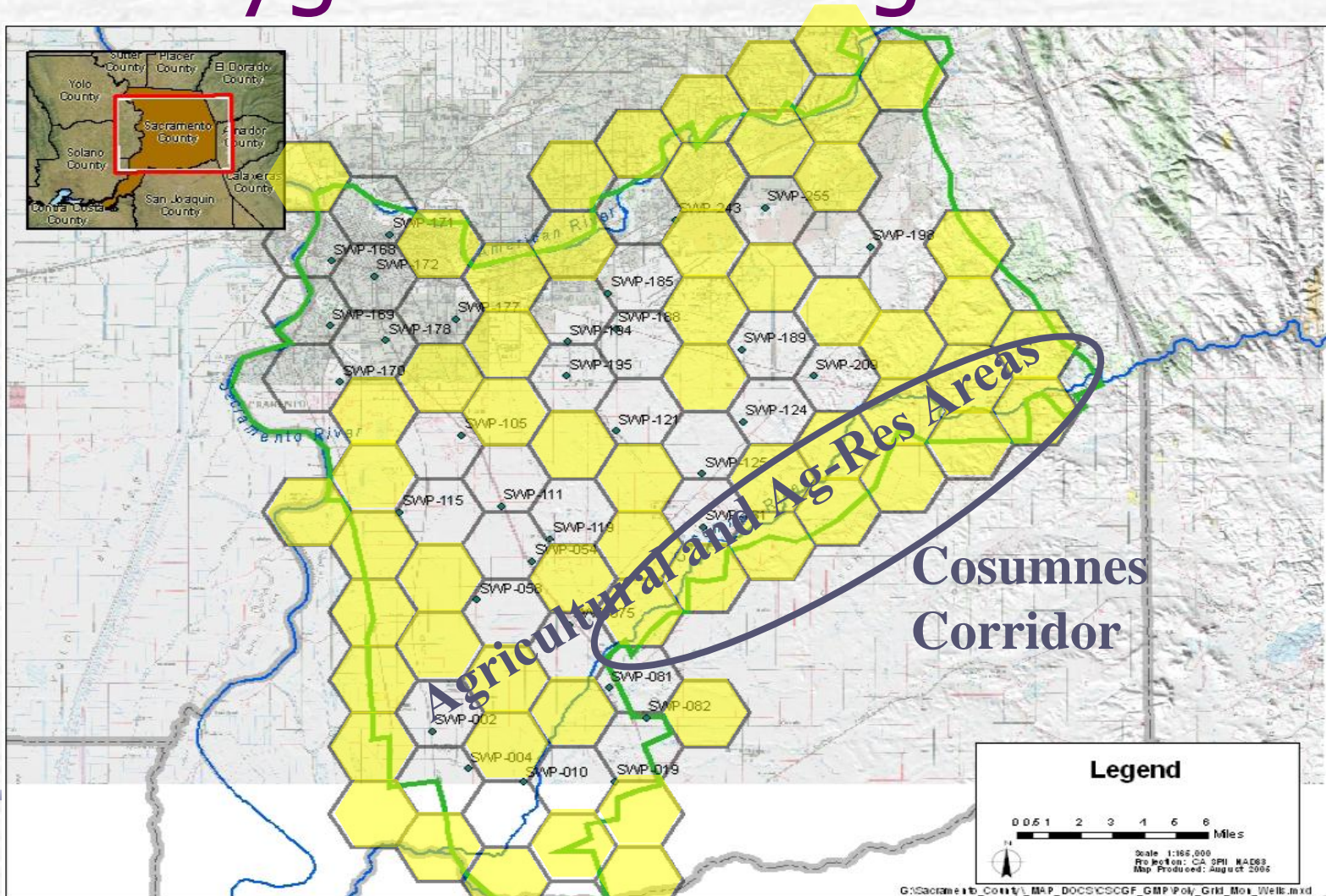
Groundwater Monitoring Plan

- ✓ Quality and Levels
- ✓ Location
- ✓ Frequency
- ✓ Responsible Monitoring Entity
- ✓ Existing Period of Record

Existing GWL Monitoring



Polygon Well Assignments



Future Projects

- Recharge feasibility study
- Subsidence study – InSAR
- Stream-aquifer interaction studies
- Others

The slide features a light blue background with a subtle grid pattern. At the top and bottom, there are decorative horizontal bands with wavy, water-like patterns in a slightly darker shade of blue. The word "Questions?" is centered in the upper half of the slide.

Questions?