# Who should govern?: (De)centralization and perceptions of water management strategies

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MILES Managing Idaho's Landscapes for Ecosystem Services

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## Introduction

- Groundwater management is an increasingly pressing issue as aquifers are depleted
- In 2015, members of the Surface Water Coalition (SWC) and the Idaho Groundwater Appropriators (IGWA) signed a settlement agreement to replenish the Eastern Snake Plain Aquifer, requiring groundwater pumpers to reduce their pumping by an average of 12.9%

## Literature: Water Governance

- This project connects theories from water governance literature with "on the ground" water governance strategies
- Water governance refers to the features and processes of rules, rule-making, norms and the entities involved in decision-making
  - Addresses distributions of authority, legitimacy, knowledge production
- Polycentric governance:
  - System of independent decision-making centers, each with their own authority
- Prior appropriation, or "first in time, first in right" is an essential legal and mental framework among farmers in Idaho
- Ongoing debates about who has the authority and legitimacy to govern water resources

## Methods

- Conducted semi-structured interviews with water managers at federal, state, and local levels
- Used thematic content analysis to analyze interviews

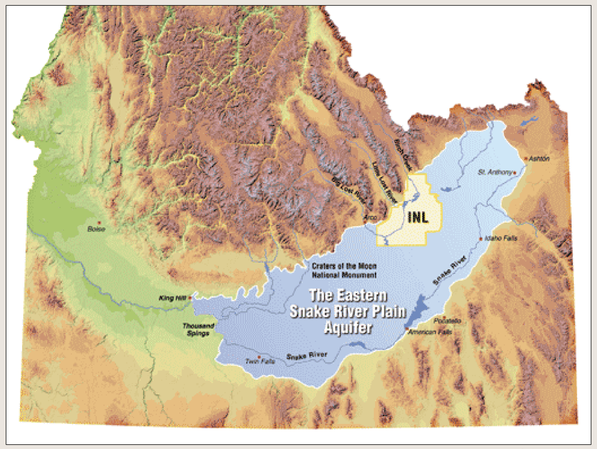
## Research Questions

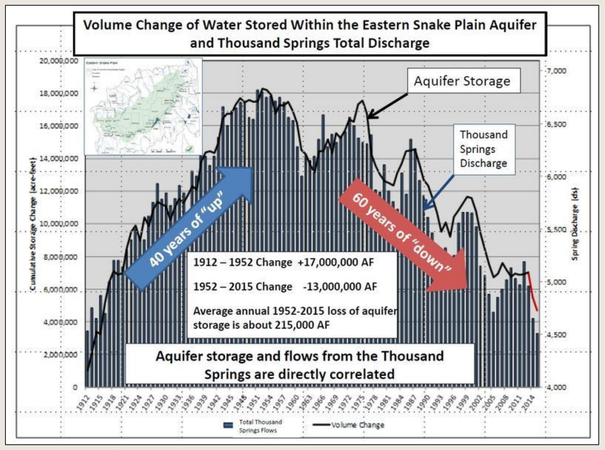
What does the 2015 settlement agreement reveal about how governance arrangements influence:

a. Distribution of authority
b. Distribution of water and scarcity

## The Eastern Snake Plain Aquifer (ESPA)

- There are approximately 2.1 million irrigated acres on the ESPA
  - 871,000 acres irrigated using surface water
  - 889,000 acres irrigated using groundwater
- Groundwater and surface water are hydrologically connected through the ESPA in Idaho
- Hydrological modeling, in combination with spring flow at Thousand Springs, indicates that the levels of the ESPA have been declining since the 1950s
- The ESPA is separated into eight groundwater districts, each of which is managed locally

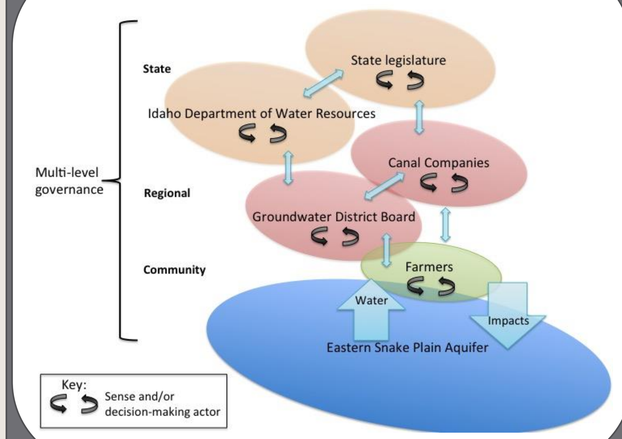



Images courtesy of the Idaho Department of Water Resources

## Themes Identified from Interviews

| | State | Groundwater District |
|---|---|---|
| **Scientific authority** | • IDWR provides scientific and technical data to groundwater districts to help in decision-making | • Groundwater districts often hire hydrological consultants to help them figure out how to make local decisions<br>  • Hydrological consultants provide additional advice and information that may lead to agreement with or skepticism of IDWR models |
| **Management authority** | • Scientific and technical knowledge from IDWR was used to develop the yearly methodology order (led to curtailment orders)<br>• This scientific and technical knowledge helped convince stakeholders to sign the 2015 settlement agreement | • Groundwater districts create local implementation plans<br>• Constantly trying to honor prior appropriation while also honoring the terms of the 2015 settlement agreement<br>• Making a "good faith effort" even when districts don't like the settlement agreement |
| **Distribution of water and scarcity** | • State was responsible for determining which groundwater districts had the highest obligation to the aquifer | • Individual groundwater districts often don't agree with the state's assessment of obligation<br>• Groundwater districts determine how to distribute water and scarcity within their district |




## Preliminary Results

- While the 2015 settlement agreement provides the opportunity for polycentric governance, interviews with water managers indicate that:
  - Distribution of authority is still largely concentrated at the state level
  - This concentration of power at the state level affects the distribution of water and scarcity such that groundwater district board members see the agreement as a violation of prior appropriation

## Next Steps:

- Finish interviews with farmers and water managers in each groundwater district
- Deploy survey instrument
- Upcoming presentations:
  - The National Groundwater Foundation Conference in Boise
  - The American Anthropological Association meeting in Washington, D.C.
- Workshops with local stakeholders

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