Cultivating interstate conversation & collaboration: April 2018 Ogallala Summit

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10.25.2018
Western States Water Council
Water Resources Committee Meeting

OgallalaWater.org
OPTIMIZING WATER USE TO SUSTAIN FOOD SYSTEMS

Ogallala Summit: Why? Who?

Goals?

1. Encourage info exchange on "what's working"
2. Build cross-state relationships
3. Identify collaborative opportunities within & across state lines

Organizers:

Kansas Water Office
Multi-state planning team
Ogallala Water CAP

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About the Ogallala Water project

- USDA-NIFA funded ”Coordinated Agriculture Project” (2016-2020)
- Team of ~70 people: faculty, post-docs and students
- Based at 9 institutions in 6 of 8 Ogallala region states
- Informed by an Advisory Board

Project focus areas:

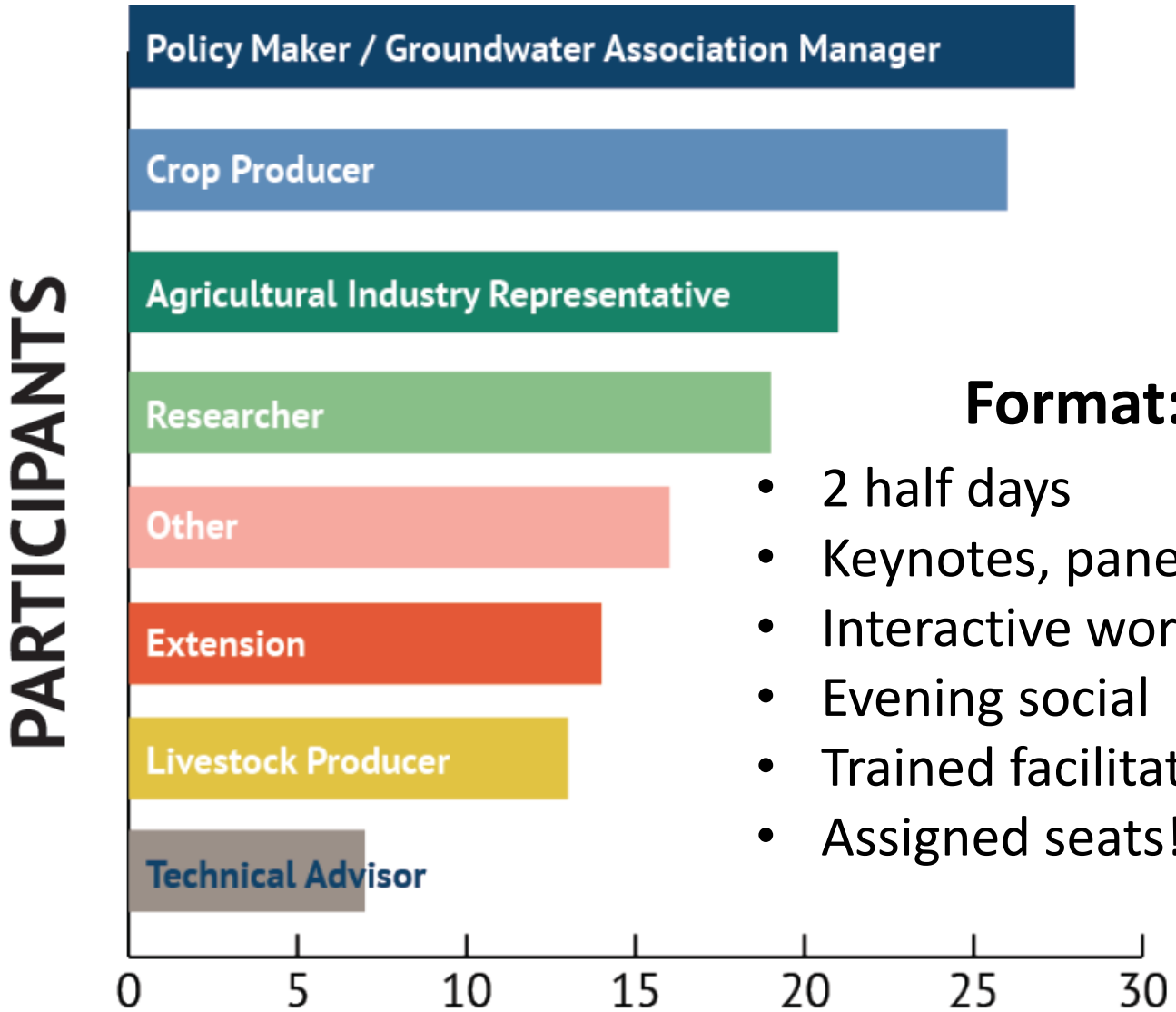
1. **Integrated Modeling** (crop + hydrology + economic decisions + climate)

2. **Field research:** Irrigation mgmt & tech, Crop mgmt, Soils, Transition to dryland

3. **Sociology and economics**

4. **Outreach**

210 participants from all 8 Ogallala states



Format:

- 2 half days
- Keynotes, panels
- Interactive workshops
- Evening social
- Trained facilitators/note takers
- Assigned seats!

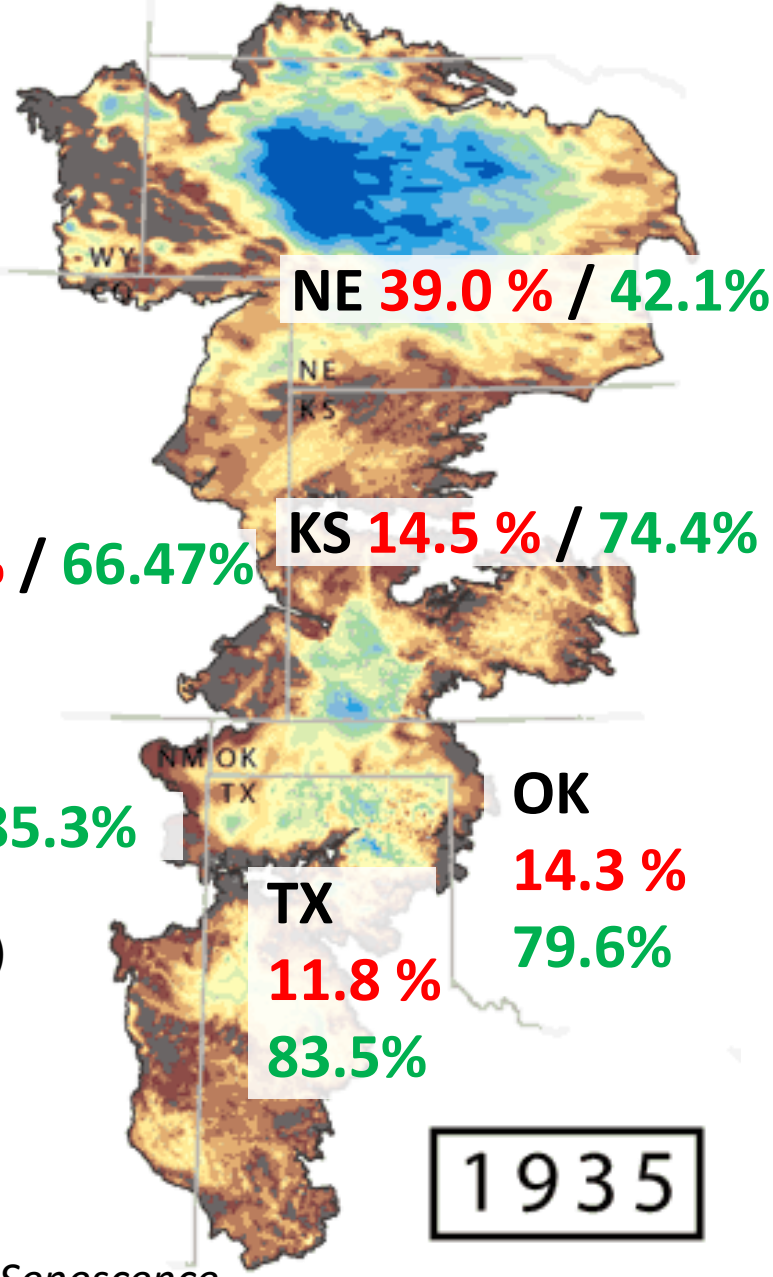
Factors motivating people to attend

- We have a good understanding of the aquifer's decline
- Acting is better than reacting
- Effective management examples (policy & ag practice) exist

How to accelerate adaptation and adoption of practices/policies to benefit producers, communities, & the aquifer?

"Relationships are how we solve problems and take on challenges, and goodness knows we have some challenges when it comes to water."
- Jackie McClaskey, Kansas Secretary of Agriculture

"How serious of a problem is groundwater decline?"



Generally not serious

Generally serious

Ogallala Water 6-state survey data: M. Sanderson (KSU)
Survey fielded Feb 2018 in 6 states
1226 completed/7712 mailed out: 15.9% response

Ogallala Saturated Thickness Snapshots GIF
Data from E. Haacker (UNL) et al. Water Level Declines in the High Plains Aquifer: Predevelopment to Resource Senescence
https://doi.org/10.1111/gwat.12350

Multi-state concerns…and hopes

Concerns	Hopes
Need to slow aquifer decline; prevent contraction of regional economy	Prevent depletion; extend viable use of aquifer as long as possible
Impact on ag communities if pumping is no longer economical	Avoid avoidable disaster- make viable transition pathways visible
Avoid outside intervention (state/Federal)	Increased effective local leadership on water planning & management
Conservation and management shifts are costly	Conservation and management shifts save money, water, time
What good is my effort if others don't also engage similarly?	Local shifts in practice affect water locally. Prioritizing ROI (rather than yield) can benefit producers' bottom lines
Need more focus on water quality	Water use + N are linked: increase education & visibility of input use efficient practices

"Groundwater should be conserved today so that future generations in my area can enjoy the benefits I have experienced (6-state survey response)":
85.6 % generally agree

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Key Barrier:
People are resistant to change

Most people do not save more groundwater because…	Generally disagree	Generally agree
…it would decrease their production.	2.7%	85.6%
…they do not want to change their irrigation practices	12.9%	64.7%
…it takes too much effort to conserve groundwater.	48.7%	21.1%
…if they do not pump the water, someone else will.	21.9%	48.6%
…they are self-interested/greedy	16.6%	52.3%

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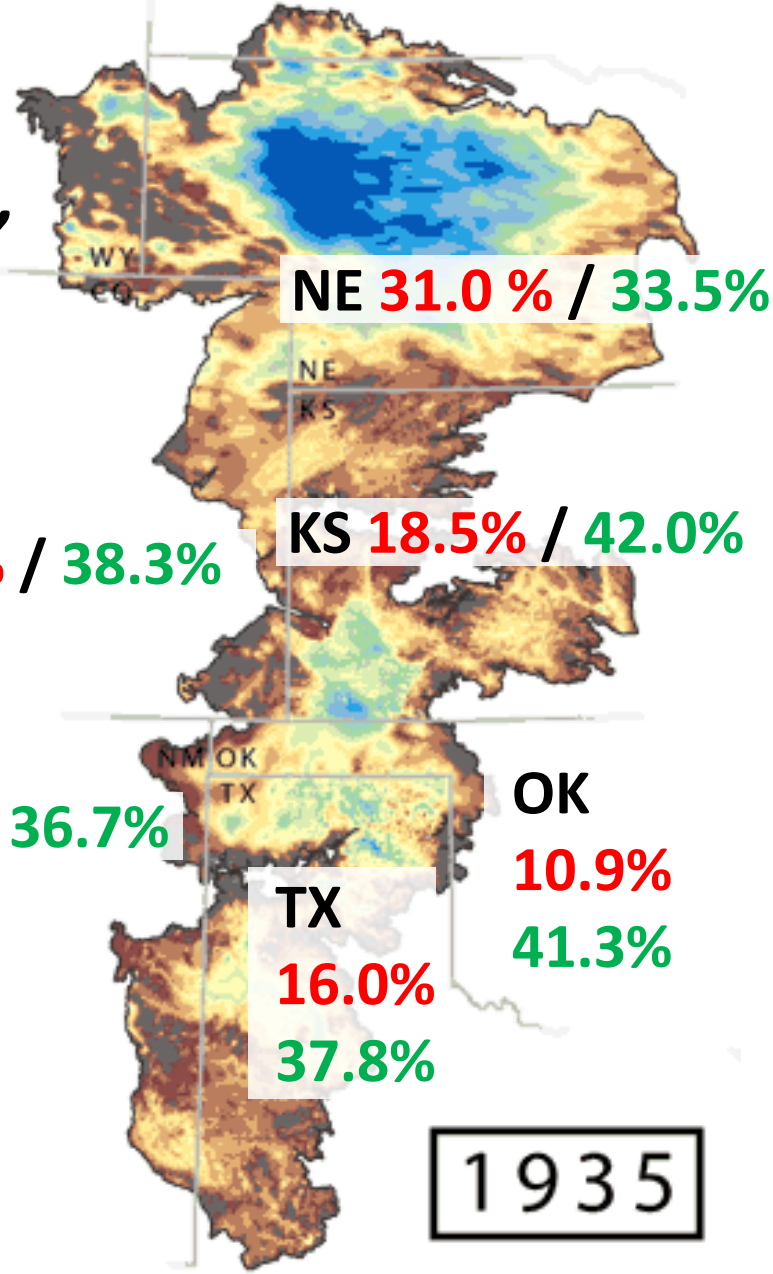
Data: M. Sanderson (KSU)

"Most people do not save more groundwater because water use regulations are not strict enough."



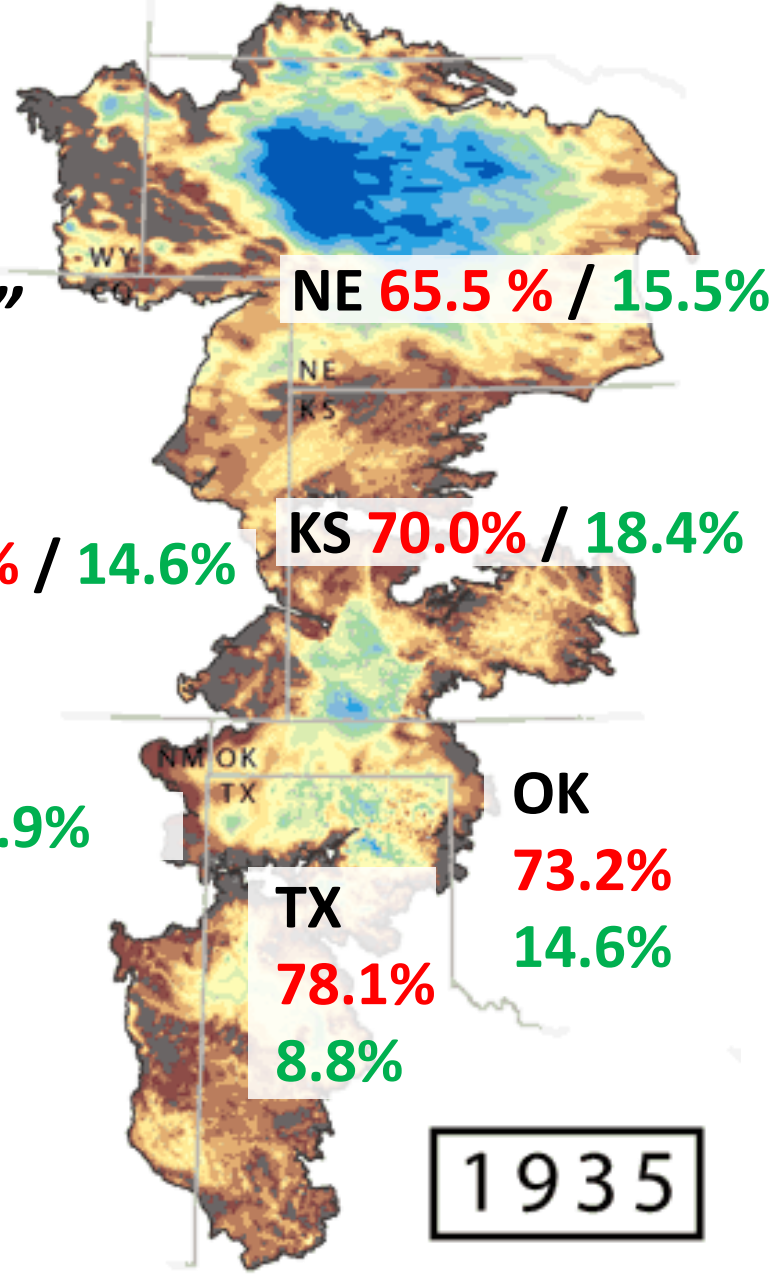
Generally disagree
Generally agree

> *"How do you make someone change?*
> *Set a groundwater production limit*
> *and hold their feet to the fire.*
> *And, show them that it pencils out."*
> ***-Summit participant***

Survey data: M. Sanderson (KSU)

"How certain are you that you could reduce groundwater use beyond what you are using now?"

Probably cannot do
Probably can do



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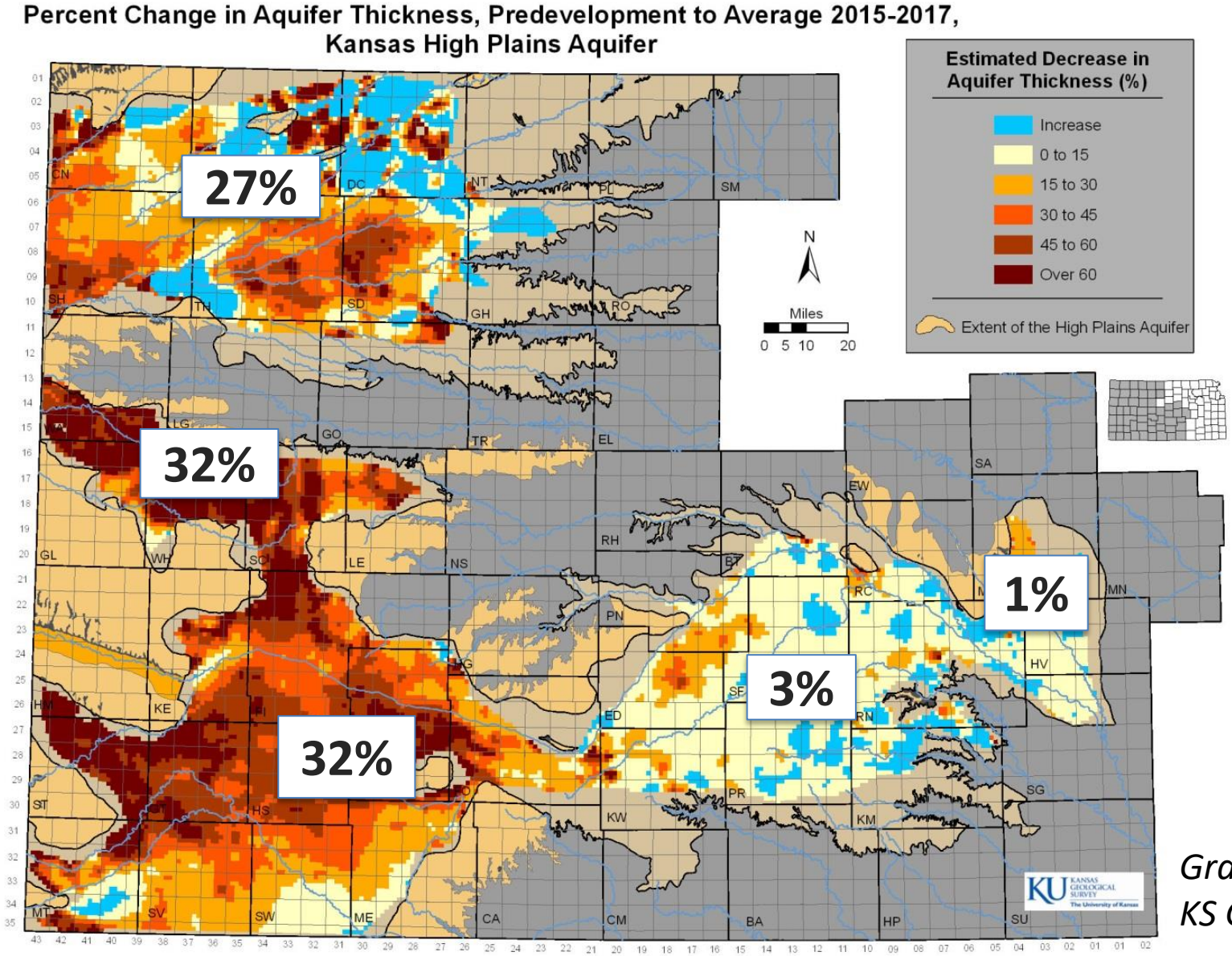
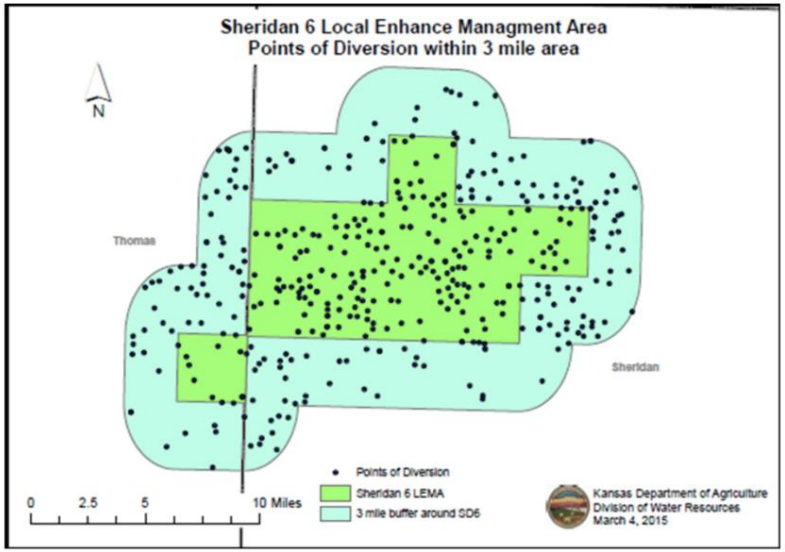
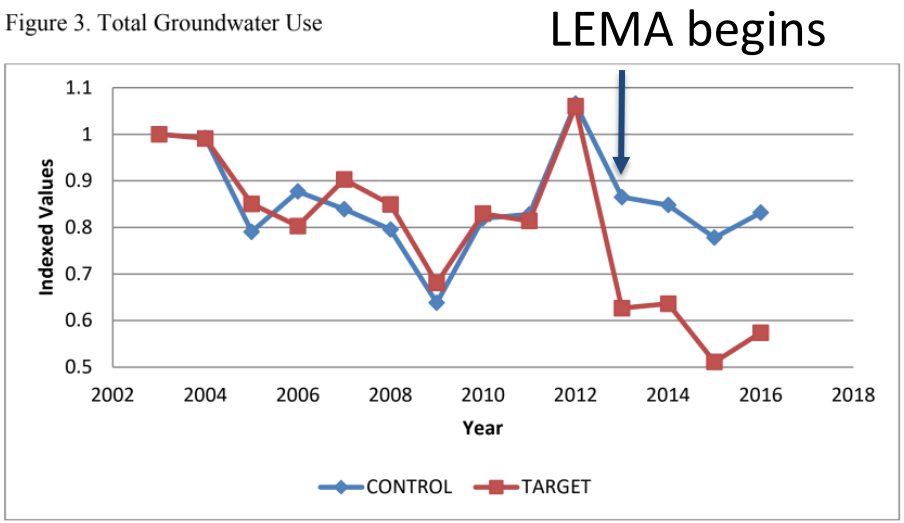


Graphic:
KS Geological Survey

"Heavy use of the Ogallala aquifer has led to significant depletions.
If we do nothing we know where we're going to end up." ***-Jim Butler, KGS***

Sheridan 6
Local Enhanced Management Area (LEMA) study





- 26% decrease in groundwater use in LEMA target area relative to the control area
- Water use decrease=shifts in irrigated acreage of corn, alfalfa, grain sorghum, soy, wheat, mixed crops and mgmt
- No net negative impact on cash flow

Liebsch & Golden, 2017

Overcoming barriers, leveraging opportunities (1/3)

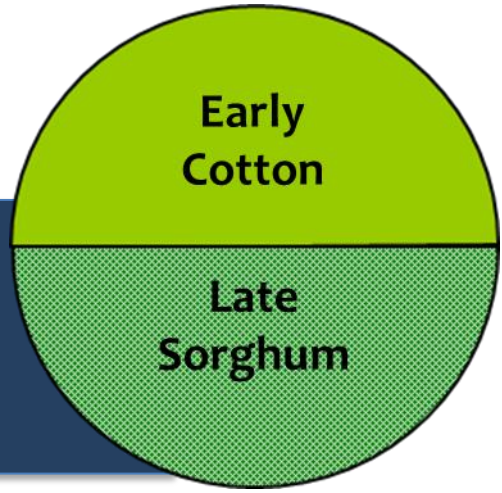
Key Barrier: People are resistant to change

"People are wary until new methods and equipment are proven"
– Summit participant

- Recognize & reward producer conservation leaders
- Publicize multiple viable pathways (no "one size fits all" approach)
- Having data & field-scale examples is essential

Overcoming barriers, Leveraging opportunities (2/3)

Key Barrier:
Make tech adoption & other management practices affordable



Split pivot scenario: Common in SHP; of interest to NHP

- **Incentivize** ag water management that increases conservation, incl. tech integration
  [Farm Bill? NRCS OAI$ ends in 2018]

- For the Ogallala/High Plains region:
  prioritize maximization of **return on inputs used** (rather than yields) *[Water, N, seed, pest control, etc.]*

- **Dynamic** (deficit, managed, not stat **irrigation scheduling** can save time, water, money

Overcoming barriers, leveraging opportunities (3/3)

Key Barrier:
More visibility, education & support is needed for effective water management & conservation

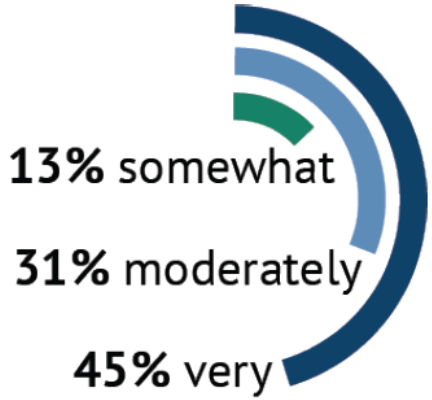
- More stakeholder education re: the value of water
- Training for ag lenders, crop consultants, absentee owners
- Expand/replicate programs that emphasize peer-to-peer exchange, interstate/interdisciplinary research
- Tech alone "will not save us": improved ag water management needs ***practice*** supported by ***policy***

"As soil health declines, we cover many of those mistakes with water. As soil health improves, water holding capacity improves."
– Summit producer panelist R.N. Hopper (TX)

What's next? Summit action items
Continue conversation/momentum

- Create & support opportunities for regional/interstate exchange
- Cooperate to boost visibility of this "critical infrastructure region"
- Develop/improve a common regional vocabulary/glossary
- Leverage Summit participant expertise, experience & connections
- Oct 2018: 6 month follow-up re: personal commitments
- Share Summit findings. Report available at: http://ogallalawater.org/2018-ogallala-aquifer-summit/

Based on what they heard and learned, how likely were participants to make a change...



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What's next? Summit action items

Expand, adapt, replicate good programs

The Master IRRIGATOR

NORTH PLAINS GROUNDWATER Conservation District

- 4-day intensive education program on crop/irrigation management
- Locally adapted curriculum & NRCS EQIP cost-share "carrot"
- 9/20/18: Multi-state meeting: 7 states (CO, KS, NE, NM, MN, OK, TX)
- Outcome: each state (or districts) interested in pursuing the development of a program in their state (or within districts)
- Multi-state Working Group will develop/shop proposal(s) to support these programs

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What's next?
Expand, adapt, replicate good programs

KANSAS YOUTH WATER ADVOCATES

16 year old Grace Roth (Southwest Kansas FFA) passionately advocated for greater Ogallala region water conservation at the Summit

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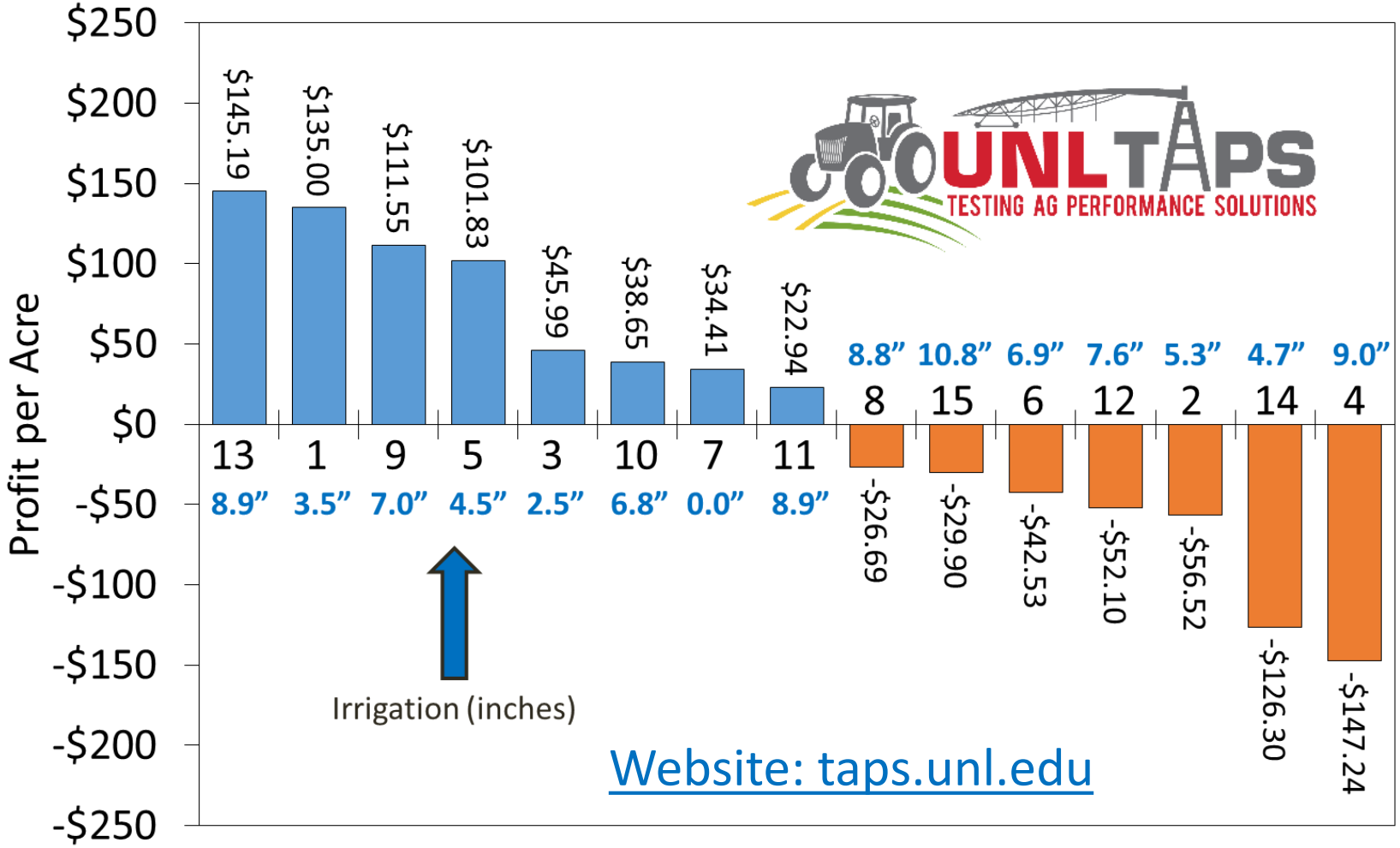
What's next?

Expand, adapt, replicate good programs



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Graph: D. Rudnick, M. Stockton, C. Burr, R. Werle

Nebraska Growers

Non-Profit Organizations

Nebraska Corn Board
The Nature Conservancy
Platte River Recovery Implementation Program
Nebraska Water Balance Alliance
OgallalaWater.org — Optimizing Water Use to Sustain Food Systems
AQUA MART

UNL TAPS — Testing Ag Performance Solutions

Improving Input Use Efficiency & Farm Profitability

Regulatory Agencies

Twin Platte Natural Resources District
Central — Nebraska Public Power and Irrigation District
Lower Republican Natural Resources District
Upper Republican NRD
Tri Basin Natural Resources District
Middle Republican Natural Resource District

Industry

SureFire Ag Systems
servi tech
Farm Credit Services of America
PLAINS Equipment Group
AgValley
WARD Laboratories, Inc. — Ag Testing - Consulting
AGRI-INJECT
LI-COR
AirScout — The Proactive Crop Management Tool
Martin Planter Attachments
THE CLIMATE CORPORATION
AquaSpy
FarmersEdge
divirod — Measure · Manage · Thrive
Simplot
Iowa-Nebraska Equipment Dealers Association
LINDSAY Corporation
Precision Planting

USDA — United States Department of Agriculture

National Institute of Food and Agriculture

Water for Food — Daugherty Global Institute at the University of Nebraska

Source: D. Rudnick (UNL)

What's next?
A 2nd Ogallala Summit (early 2020)

- In Colorado
- Will include an Ag Expo
- Plan to add focus re: educating ag lenders, crop advisors, absentee landowners, etc.
- Want to get involved?

High level state support & leadership is essential!

Photo credit: J. Latzke, High Plains Journal

"We've been working on issues that years ago we thought were unsolvable, but what we do [today] is about the next generation, and preserving the small communities they grow up in. Without cooperation, we will not get there."
-Colorado Ag Commissioner Don Brown

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Quarterly newsletter sign-up: Ogallalawater.org

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USDA United States Department of Agriculture National Institute of Food and Agriculture

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