Building Resilience to a Changing Climate:

A Technical Training in Water Sector Utility Decision Support

WUCA
Water Utility Climate Alliance

Using Communication Best Practices to Engage Audiences & Address Institutional Barriers

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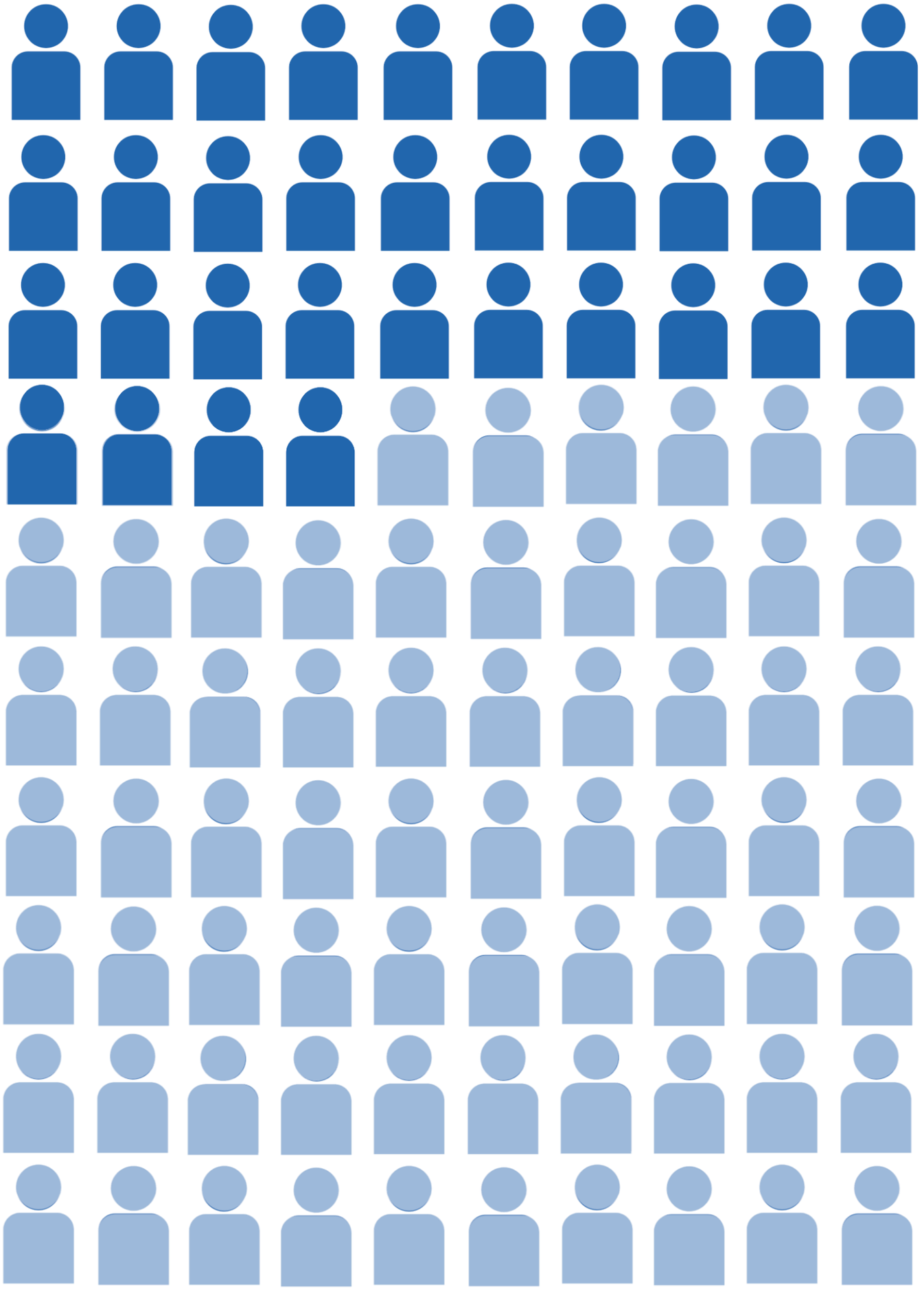
34%

adults in Texas discuss climate change at least occasionally

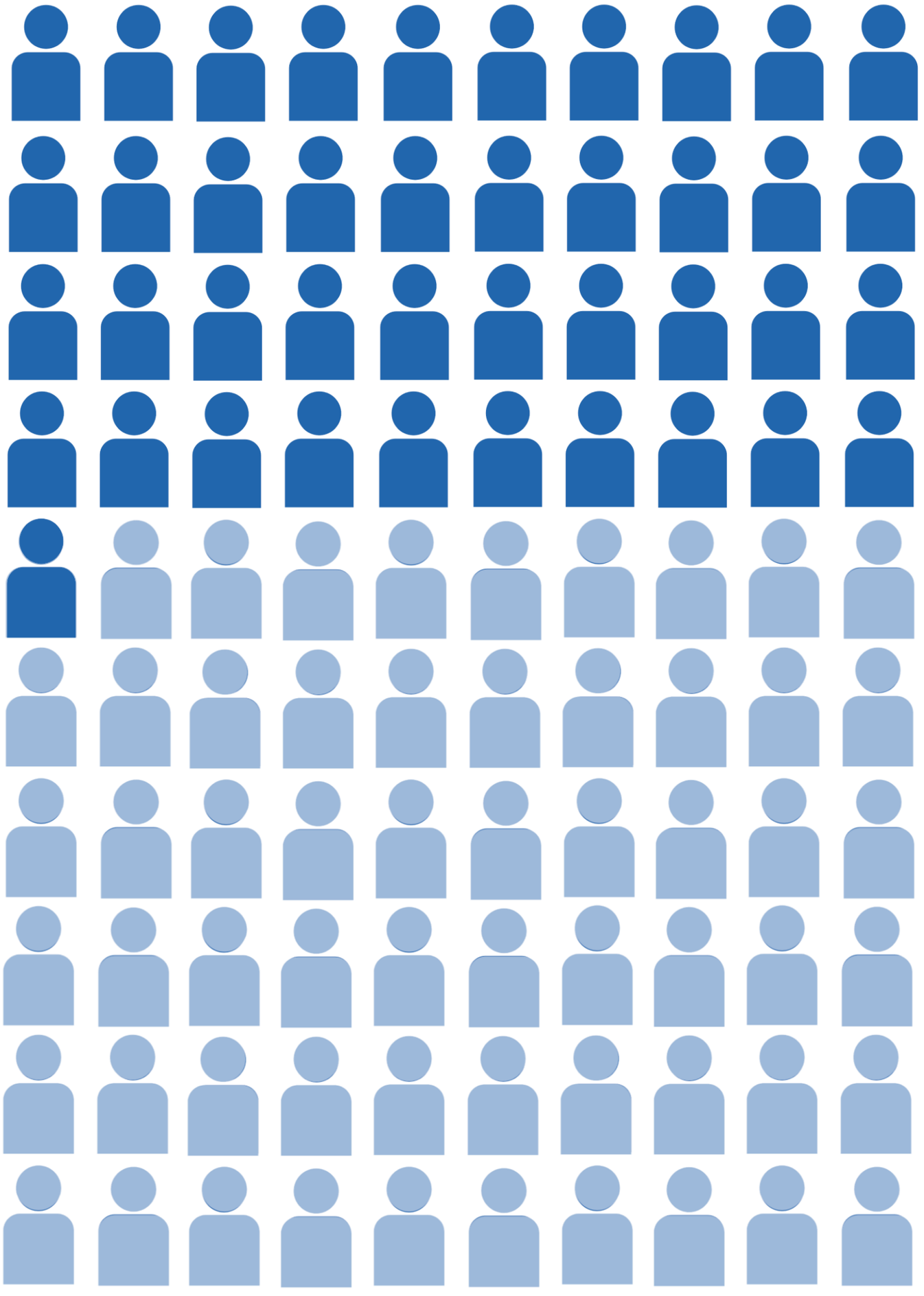


Yale Climate Opinion Maps, 2018

41%

adults in <u>Travis Co.</u>

<u>Texas</u> discuss climate change at least occasionally

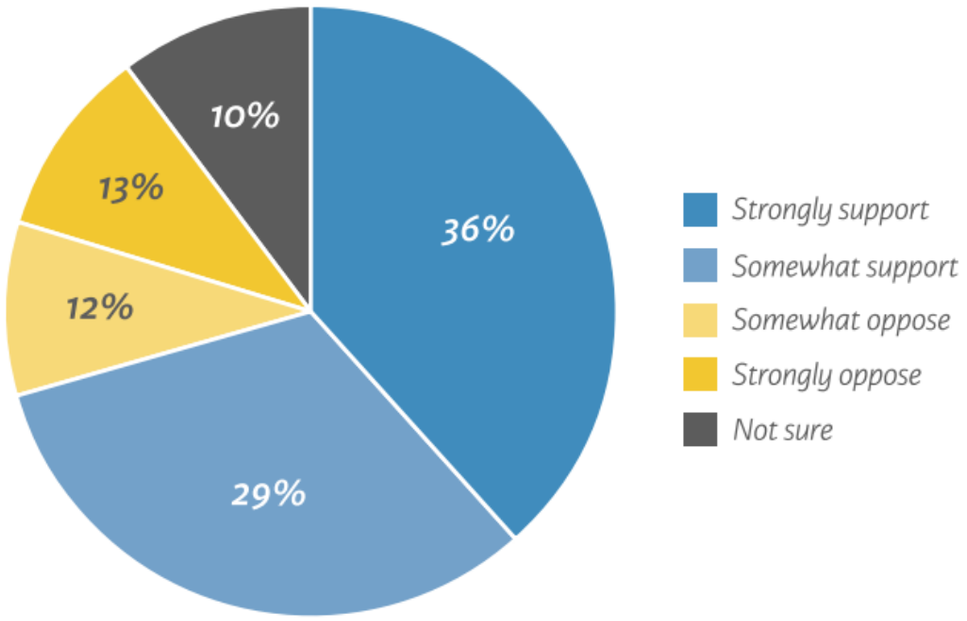


Yale Climate Opinion Maps, 2018

Know Your <u>Audience</u>:

TEXAS VOTERS
SUPPORT CLIMATE ACTION

Q: *Do you support or oppose government action to address climate change?*

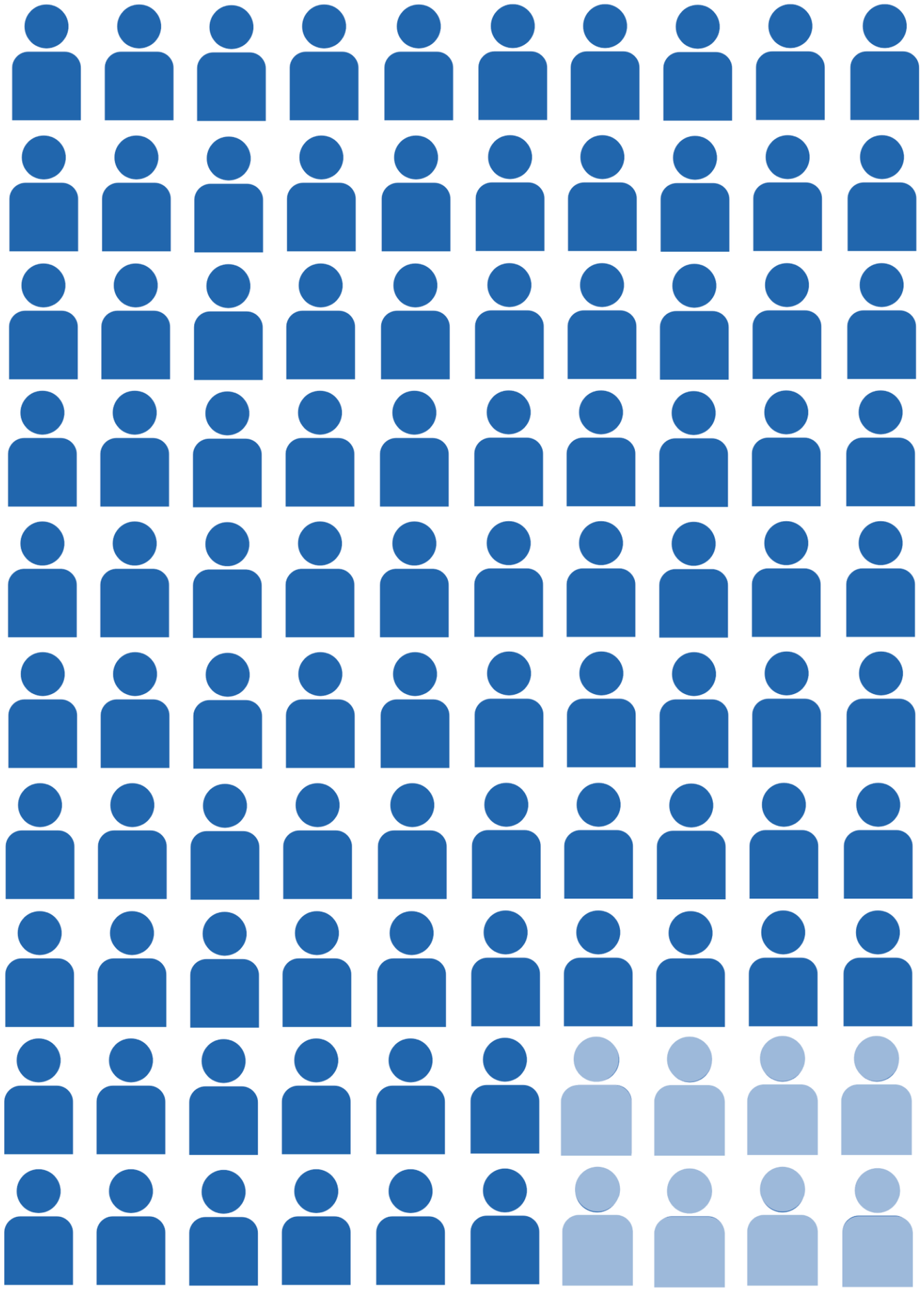


- Two-thirds (~66%) of Texas voters say developing renewables should be prioritized over natural gas
- Seven in ten (70%) of Houston voters have experienced flooding in their area in the last year
- Nearly three-quarters (74%) of Texas voters say they would be more likely to support a candidate who favors extending govt. funding for renewable energy.

climatenexus Polling | YALE PROGRAM ON Climate Change Communication | GEORGE MASON UNIVERSITY CENTER for CLIMATE CHANGE COMMUNICATION

92%

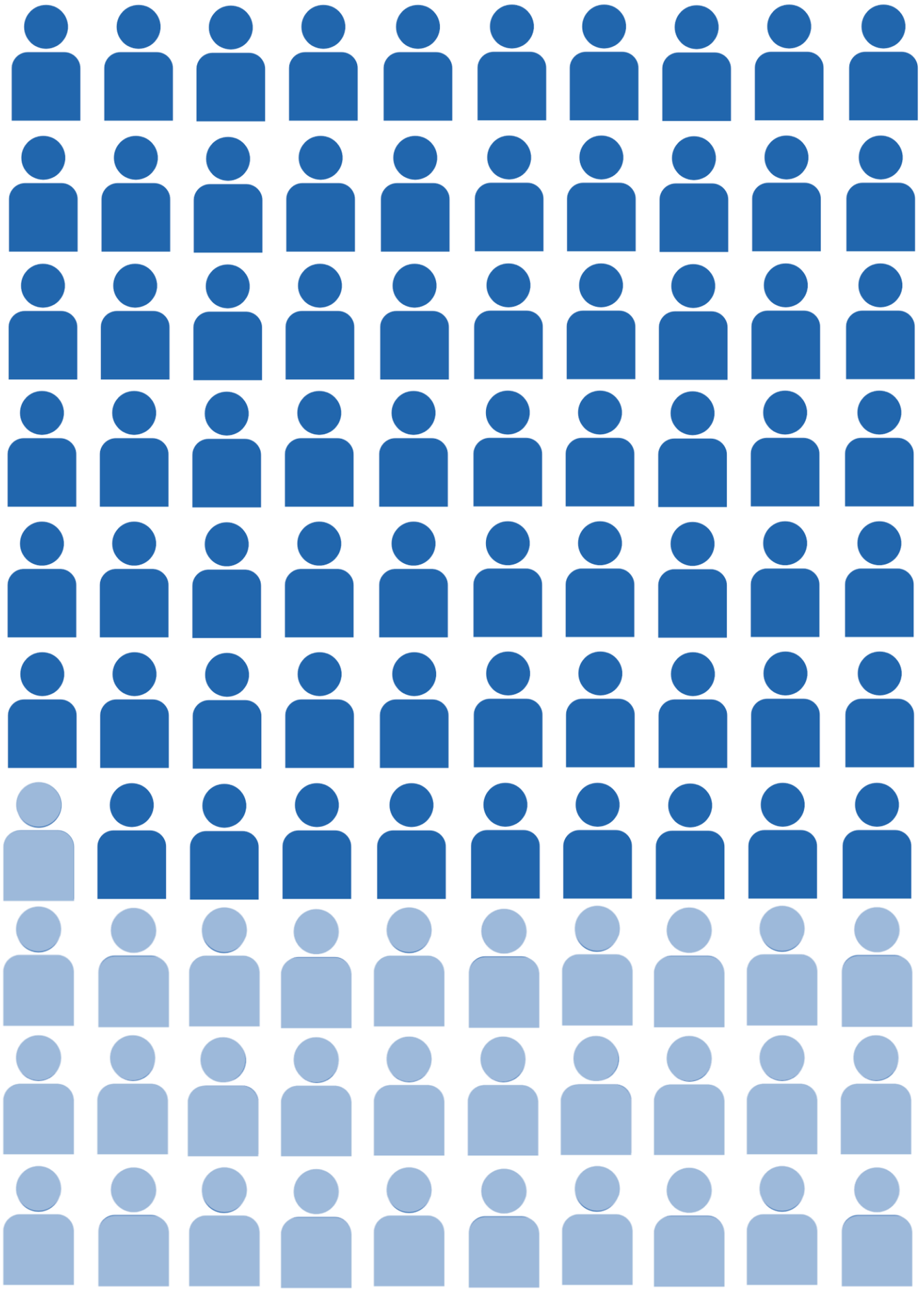
of Americans want their water utility to be a leader in preparing for the local impacts of climate change.



Water Research Foundation, 2014

71%

of the American public views their water utility as a trusted source of information on the local impacts of climate change



Water Research Foundation, 2014

How do we **engage, connect & establish common ground** to advance our climate adaptation efforts?

OUTLINE

1. **Communication** – *what do we mean?*
2. **Putting it into practice** – *engaging EXTERNAL audiences*
3. **Putting it into practice** - *useful steps & approaches for INTERNAL audiences*
4. **Activity** – *identifying barriers, strategies & creating next steps to put this training into practice*

Communication – *what do we mean?*

communication

noun | com·mu·ni·ca·tion | \kə-ˌmyü-nə-ˈkā-shən\

A **process** by which information is exchanged between individuals through a common system of symbols, signs, or behavior.

A **technique** for expressing ideas effectively.

from Merriam-Webster, June 2018

The Climate Change Communication Challenge

- Complex issue (super wicked problem)
- Lack of understanding
- Psychological & ideological barriers
- Climate risks can appear distant & exaggerated
- Scale of issue can be used to rationalize inaction
- Cognitive dissonance
- Need to plan for & incorporate uncertainty
- Asking for use of new approaches & data
- Associated with political, social and financial costs

Let’s explore.

There is no *one-size-fits-all* approach to climate change communication. Luckily, there are a range of *tools, tips and resources* that can help.

PUTTING IT INTO PRACTICE:

Engaging EXTERNAL Audiences

(note: concepts work for internal audiences, too!)

Key Points:
Consider outcomes, deliverables & approaches

Audience: who needs this information to make it 'actionable'? Who has authority to make change?

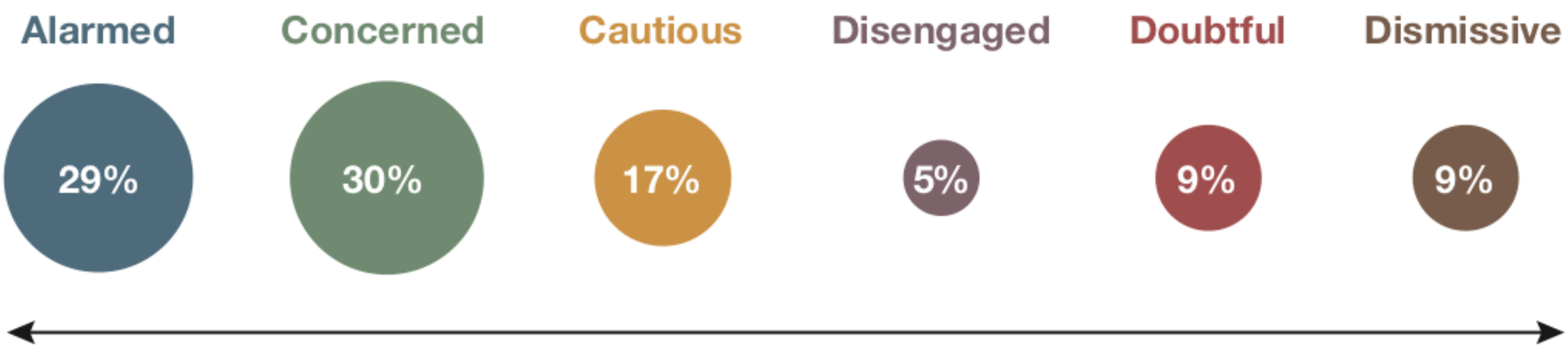
Content: What is the best way to deliver knowledge to relevant actors/audiences? *(e.g. level of detail, language, framing)*

Delivery: Who is best suited to 'broker' this knowledge?

Plan: Do you have sufficient scope, time and budget to deliver information in desired formats?

Success: What defines 'success' for those involved?

Know Your <u>Audience</u>:
'GLOBAL WARMING SIX AMERICAS'



December 2018
n=1,114

YALE PROGRAM ON Climate Change Communication

GEORGE MASON UNIVERSITY CENTER *for* CLIMATE CHANGE COMMUNICATION

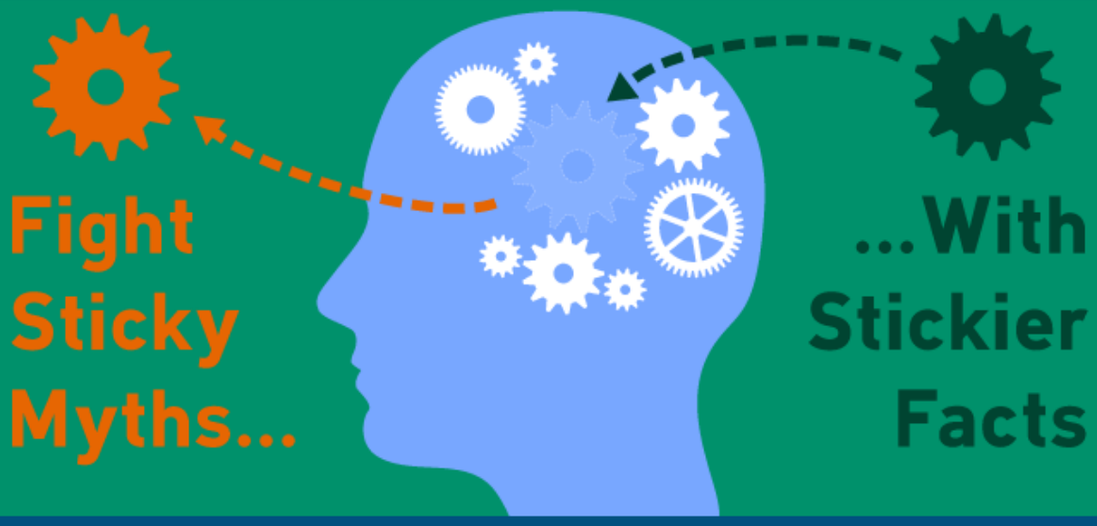
Actively listen & engage.

*Through listening, you can **encourage participation**, **enhance trust** and **ensure common understanding**. You might be surprised by what you learn about how people are (or are not) thinking about the issue.*

3 ELEMENTS TO AN EFFECTIVE DEBUNKING

FACT

Replace the myth with a more compelling and memorable fact



MYTH/MISCONCEPTION

Warn people before mentioning the myth so they're cognitively on guard

FALLACY

Explain the technique used by the myth to distort the fact.

From John Cook, George Mason University; Diethelm & McKee 2009

FACT	MYTH	FALLACY
Our planet has continued to build up heat since 1998 - global warming is still happening.	"Global warming stopped in 1998."	**Cherry picking:** looking at one region or a short period ignores the full picture.
Global warming is like rigging the weather dice, making it more likely to get hot days.	"It's cold outside, so global warming must have stopped."	**Impossible Expectations:** global warming doesn't mean no more cold weather, just fewer cold days compared to hot days.
Overall, glaciers across the globe are shrinking at an accelerating rate, threatening water supplies for millions of people.	"Glaciers around the world are increasing, disproving global warming."	**Cherry picking:** picking a handful of growing glaciers ignores the vast majority of glaciers that are shrinking.
Study after study, using a wide range of independent methods, has found overwhelming agreement among climate scientists that humans are causing global warming.	"Experts don't agree on human-caused climate change."	**Red Herrings/Logical Fallacies:** deliberate attempts to change the argument, or the use of an opposing argument where it is misrepresented to make it easier to refute.

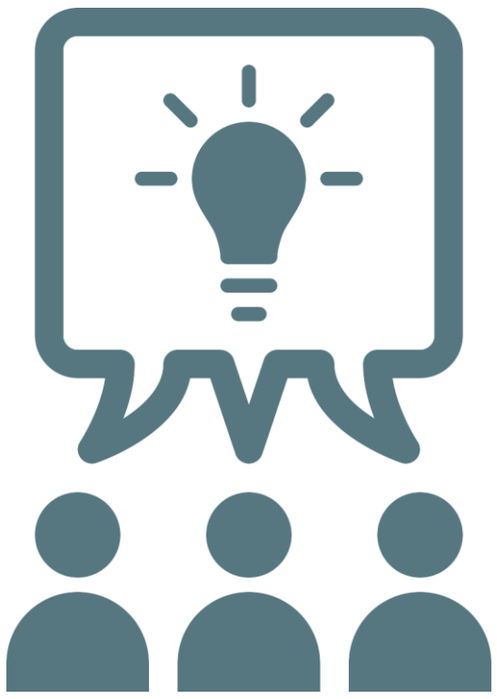
http://edx.org/understanding-climate-denial

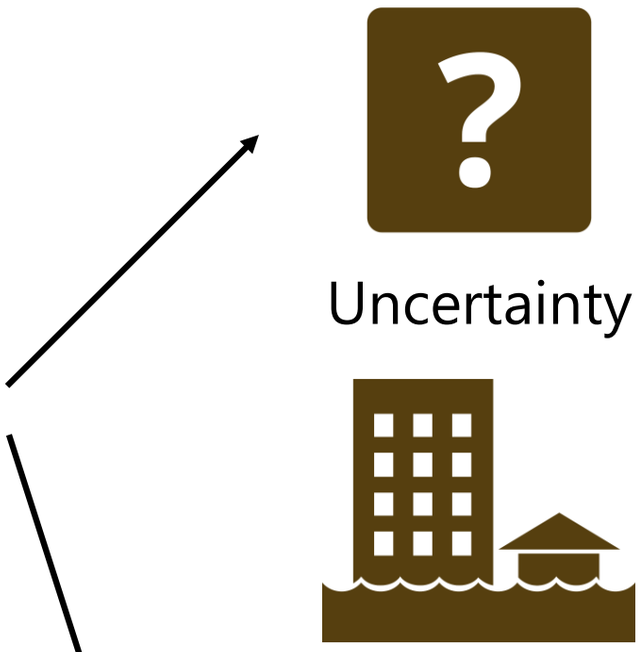
John Cook, George Mason University

Develop common terms of reference.

Talk about terms that might carry different meanings

Establish common meaning





Uncertainty

Conservative

Vulnerability

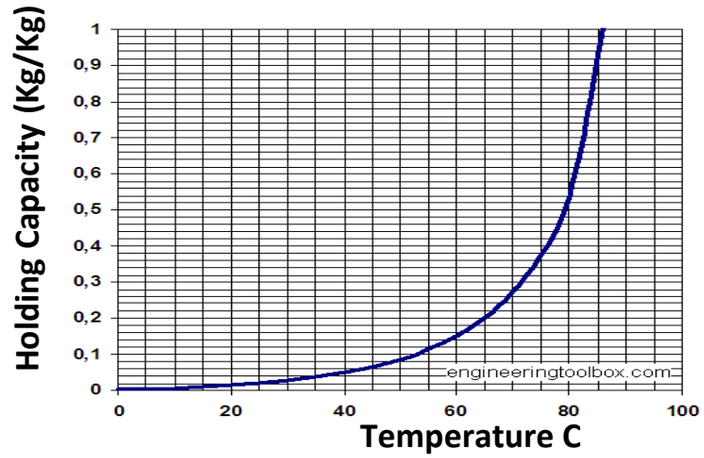
5 evidence-based messages that work:

1) It’s real.
2) It's us.
3) Experts agree.
4) It's bad (for us).
5) There's hope.

Yale, 2018

Principle #1

Warm air holds more moisture than cold air.
“Atmospheric holding capacity”

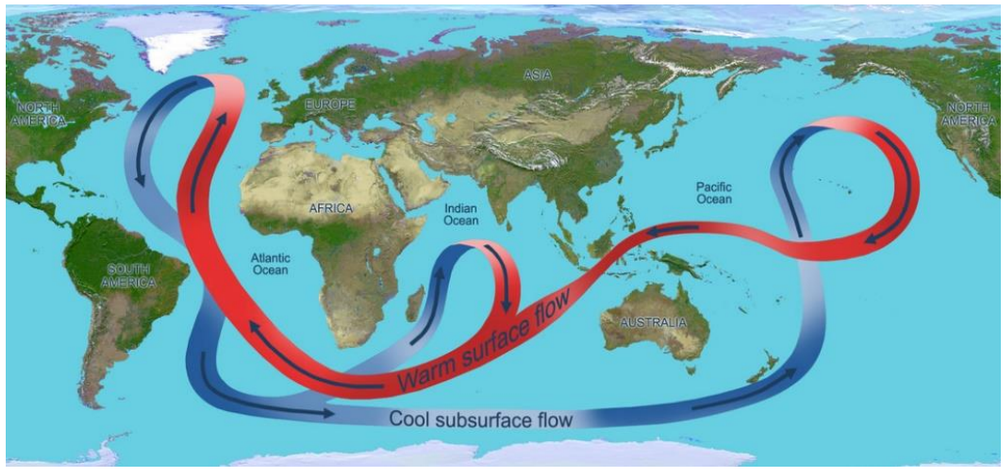


Principle #2

Warm air increases evaporation and transpiration rates

Principle #3

Temperature changes influence global circulation patterns (atmosphere & ocean)

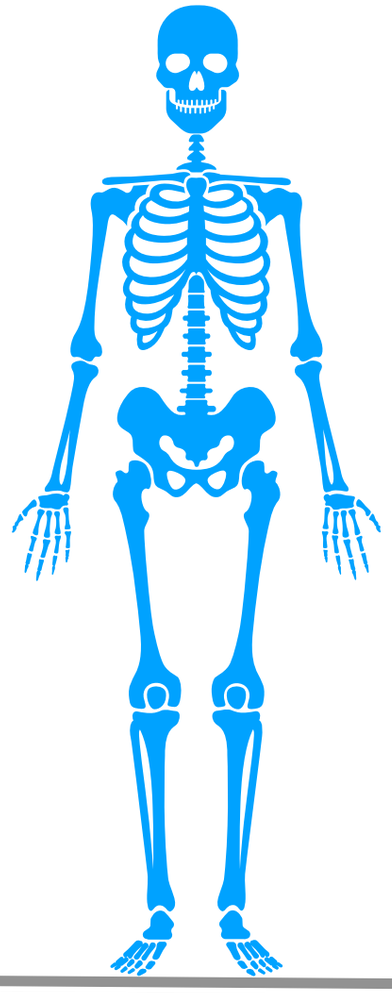


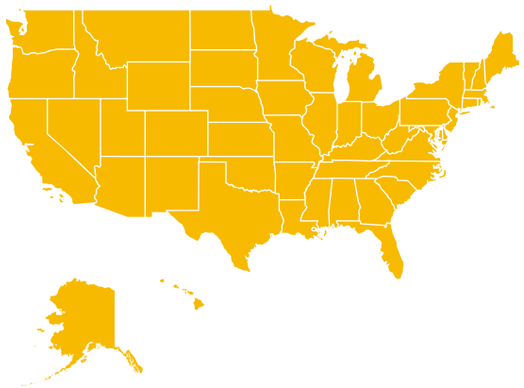
Source: Principles from the Water Research Foundation Project 4381, Effective Climate Change Communication for Water Utilities

ANATOMY OF A MESSAGE

Logical,
relevant content

Emotional
Appeal





Place & context
specific

BOND - CONNECT - INSPIRE

MESSAGES THAT CAN ‘LAND’

✓ Our society & infrastructure are based on the premise of a stable climate.

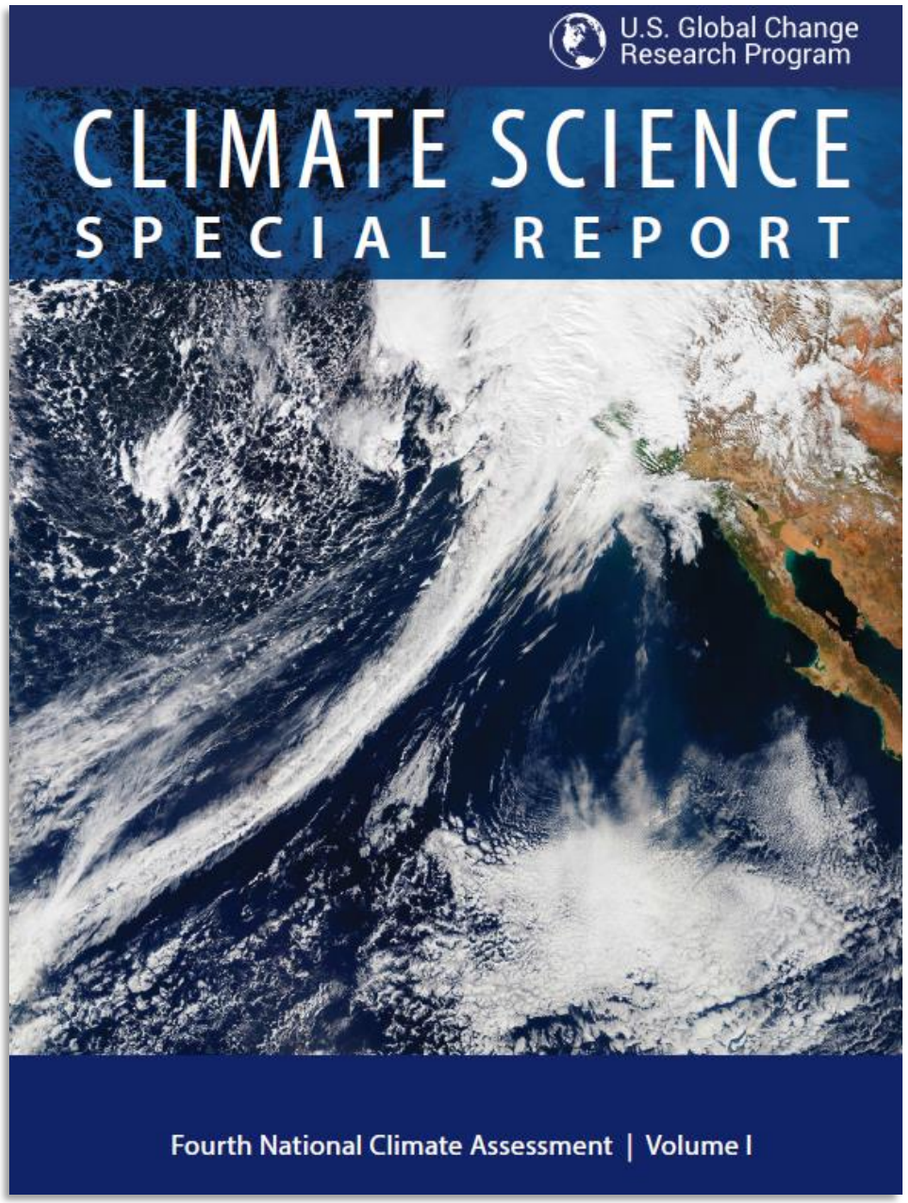
✓ We make assumptions every day that include climate.

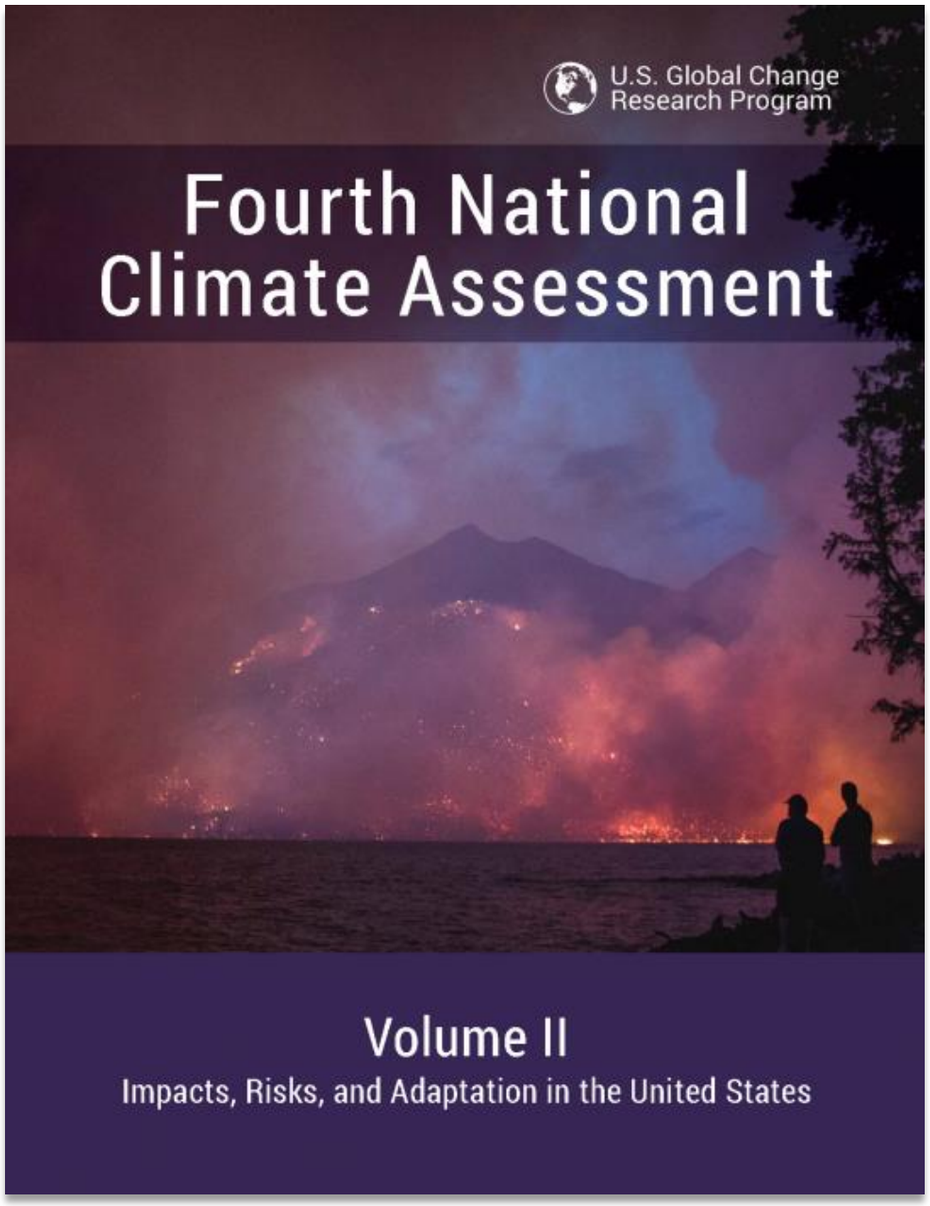
✓ We all want to thrive and have a safe future – *for ourselves and our families.*

✓ Climate change does not bring anything new – it takes events already experience and makes them more frequent and extreme.

Modified from Climate Impacts Group & K. Hayhoe, 2018

You don’t have to start from scratch.





You don’t have to start from scratch.

Southern Great Plains

The Southern Great Plains experiences some of the most diverse and extreme weather hazards on the planet. These extreme events can have high consequences, causing significant stress to existing infrastructure, billions of dollars in property damage and loss of life.

<u>Look to existing resources</u> to find appropriate messages for your audience.

Fourth National Climate Assessment, 2018

Key Message:
Food, Energy, and Water Resources

Quality of life in the region will be compromised as increasing population, the migration of individuals from rural to urban locations, and a changing climate redistribute demand at the intersection of food consumption, energy production, and water resources.

Fourth National Climate Assessment, 2018

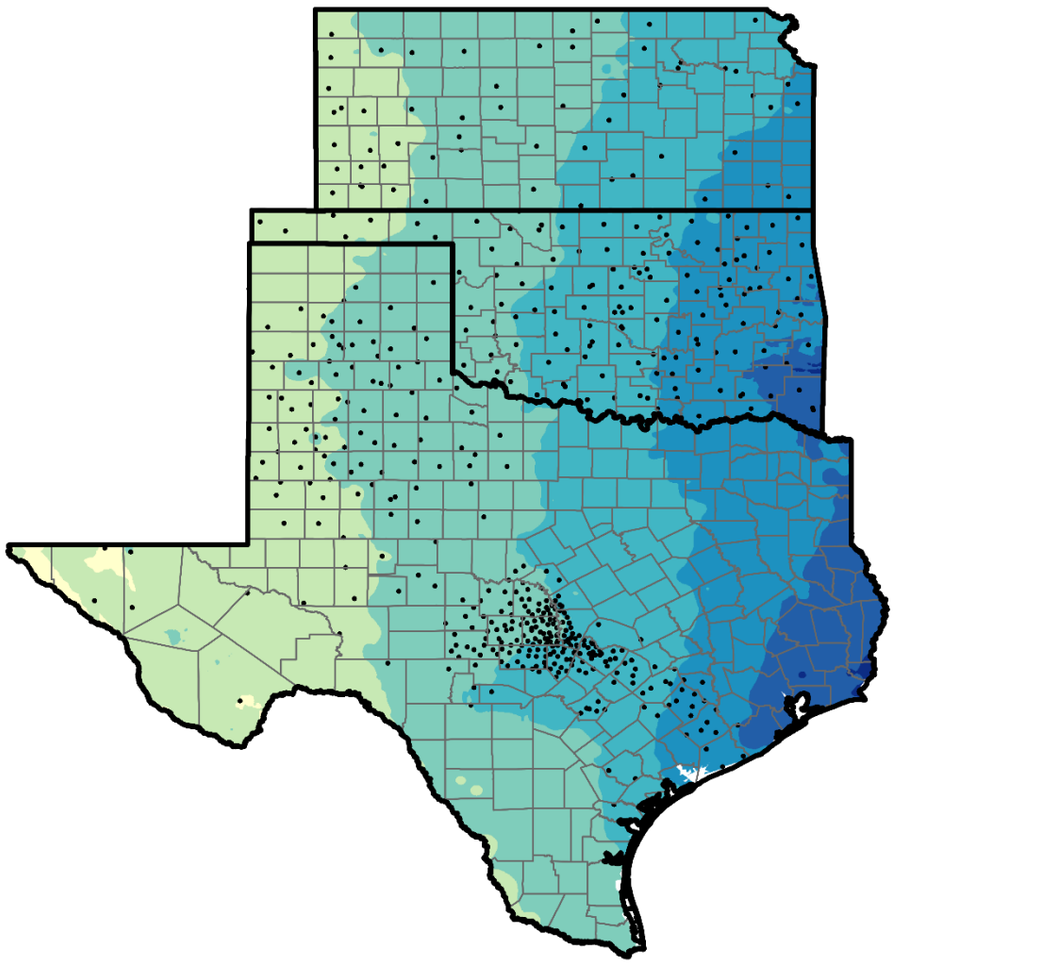
Key Finding: Extreme Storms

Human activities have contributed substantially to observed ocean–atmosphere variability in the Atlantic Ocean, contributing to the observed upward trend in North Atlantic hurricane activity since the 1970s. These extreme storms stress our infrastructure and communities, with potentially significant economic consequences

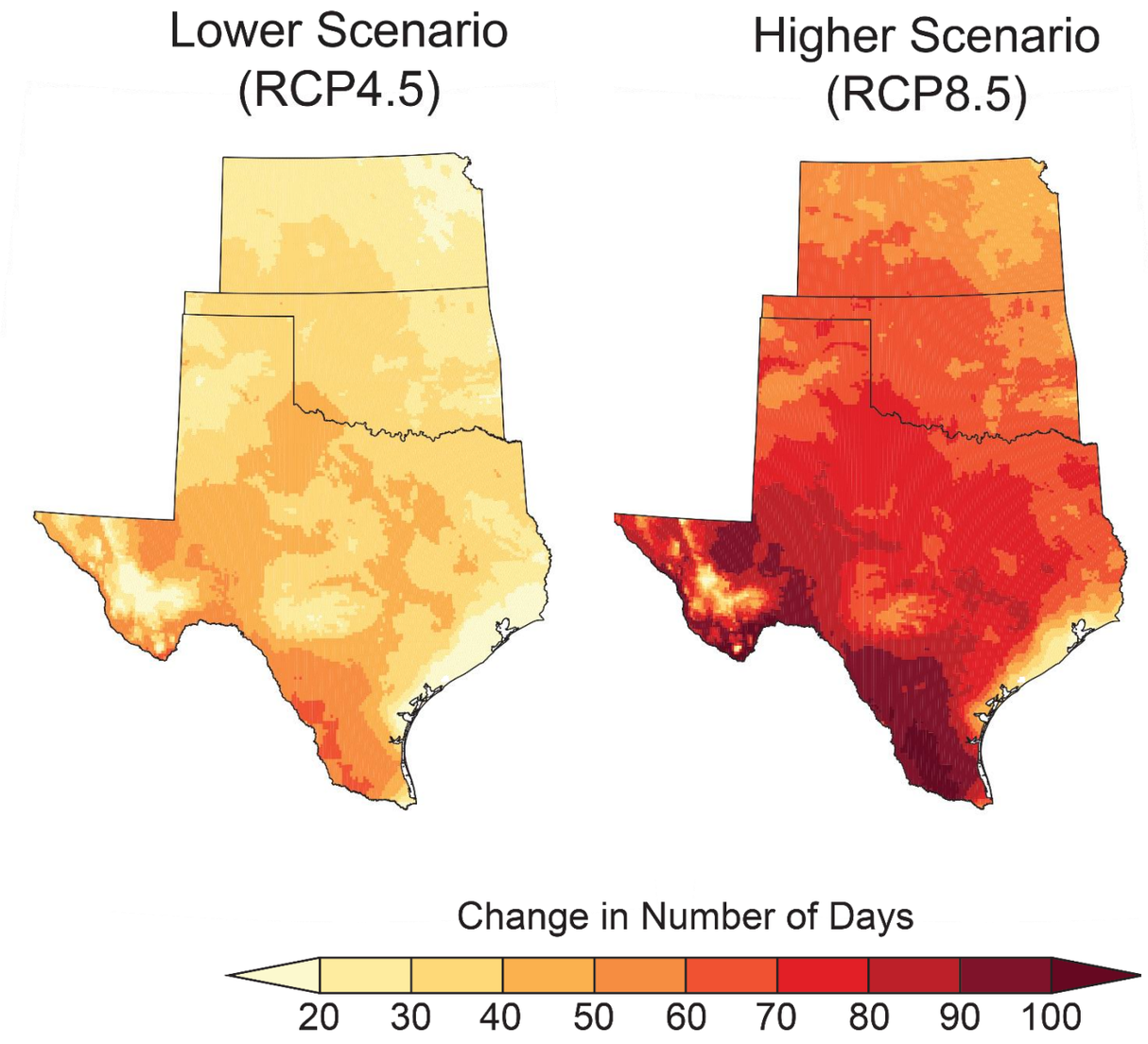
Fourth National Climate Assessment, Climate Science Special Report, 2017

Observed Annual Precipitation

"Average annual precipitation ranges from less than 10 inches in the western reaches of the region to over 60 inches in the southeastern corner "

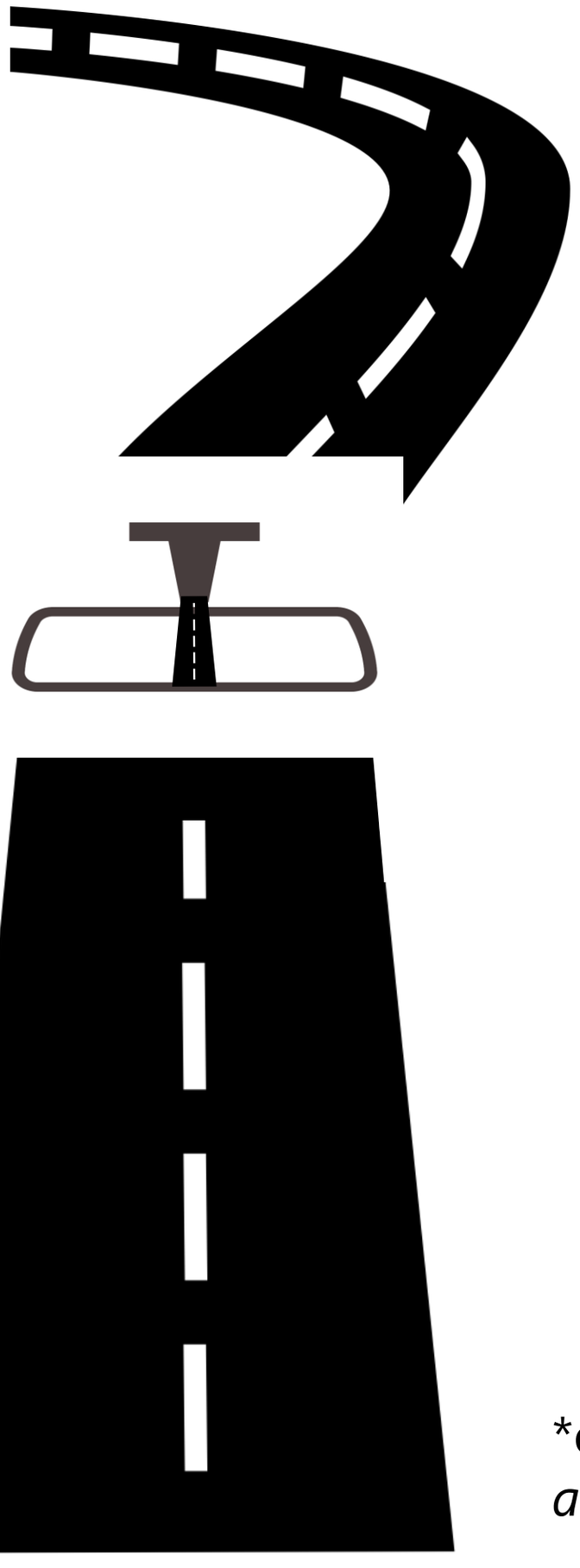


Projected Increase in Number of Days Above 100ºF



The number of days exceeding 100°F is projected to increase markedly across the Southern Great Plains by the end of the century (2070–2099 as compared to 1976–2005).

NCA, 2018

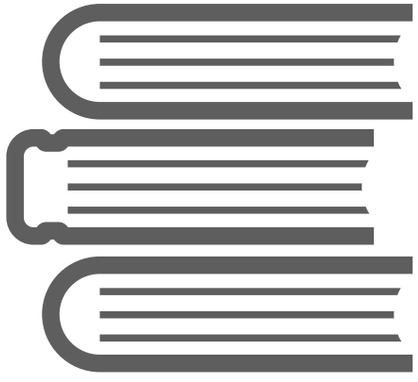


Use analogies & metaphors

Navigating the straight road* by looking in the review mirror…

*even better if you can use a local road and landmark your *audience* knows.

Positive stories & routes to change *resonate*.



Tell stories that show others doing or trying similar work - share *motivations, challenges and successes.*

PUTTING IT INTO PRACTICE:
Approaching & addressing INTERNAL communications and INSTITUTIONAL barriers

Buckets o’ Barriers!

Organizational Structure
(*e.g. silos, separations, general management, etc.*)

Communication
(e.g. *political will, ideological barriers, lack of public support, communicating uncertainty, new and longer planning timeframes)*

Technical Challenges
(*e.g. limitation of climate models, insufficient data*)

Resources & Capacity
(*e.g. staff time, funding, staff understanding)*

Policies
(e.g. lack of regulation/mandate to considering sea level rise, few implemented examples, no specifics in engineering design manual)

Organizational Structure: *Silos*

Organizational Structure: *Silos*

Management/leadership style

physical separations

ideological separations

political separations

large staff

Work to engage <u>all</u> levels of your organization

Organizational Structure: *Silos*

- Identify champions
- Form a working group

Find allies, build trust, open communication channels, share ownership and build buy-in to the process

Identify champions

Organizational Structure: *Silos*

Climate Change Work Group

- *Communication mechanism*
- *Builds trust*
- *Builds buy-in to process*

Water Resources

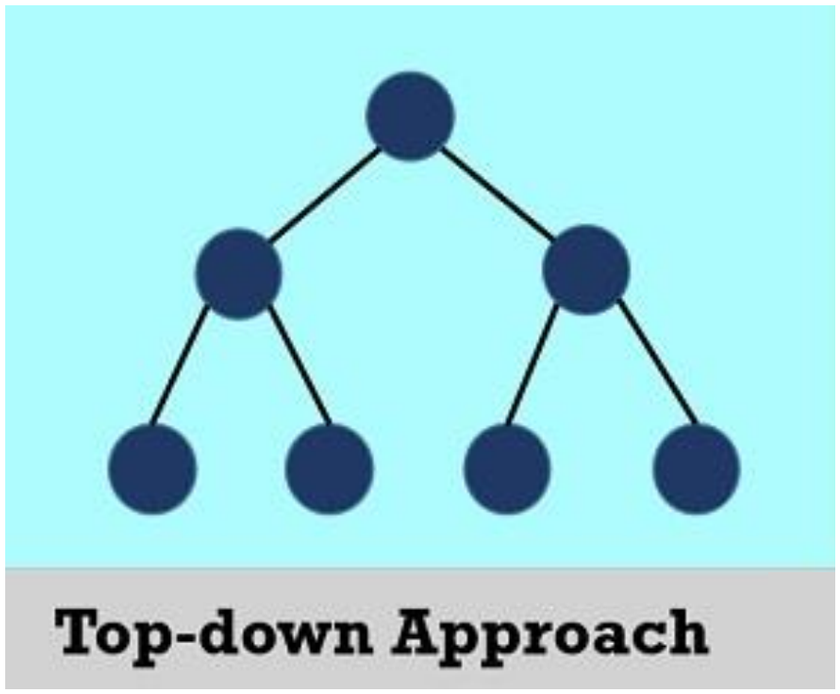
Water Quality and Treatment

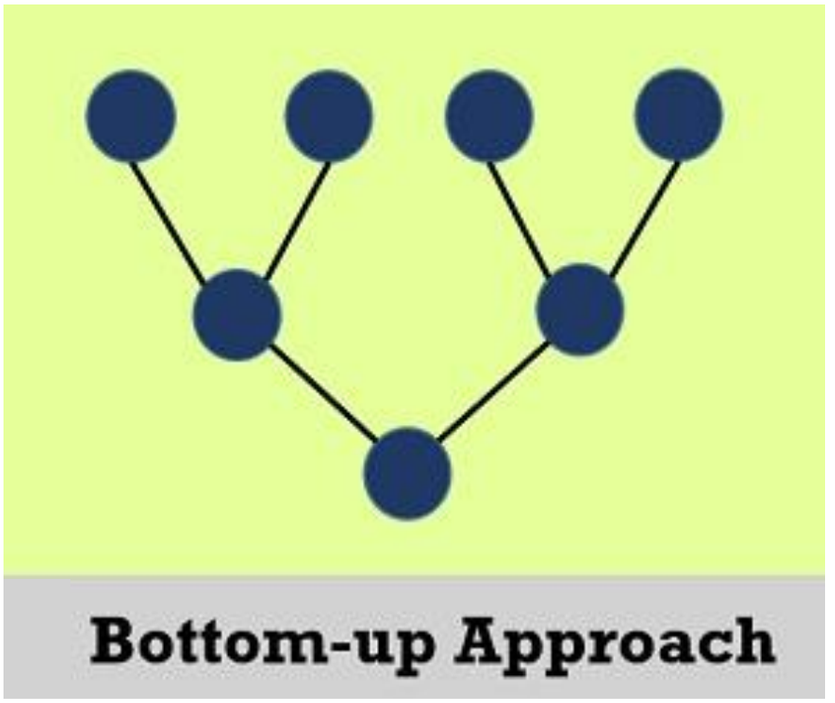
Infrastructure and Engineering

Operations

Baseline understanding… know thy audience

Need for both top-down and bottom-up approaches





- Department-wide policy, mandate or Adaptation Plan
- Adoption of resiliency guidelines
- Include adaptation within strategic plan

- Include info in existing plans, programs and processes
- Build trust, open communication avenues to create strategies *with* staff

Organization-wide Strategy

Communication: *Resistance*

Communication: *Resistance*

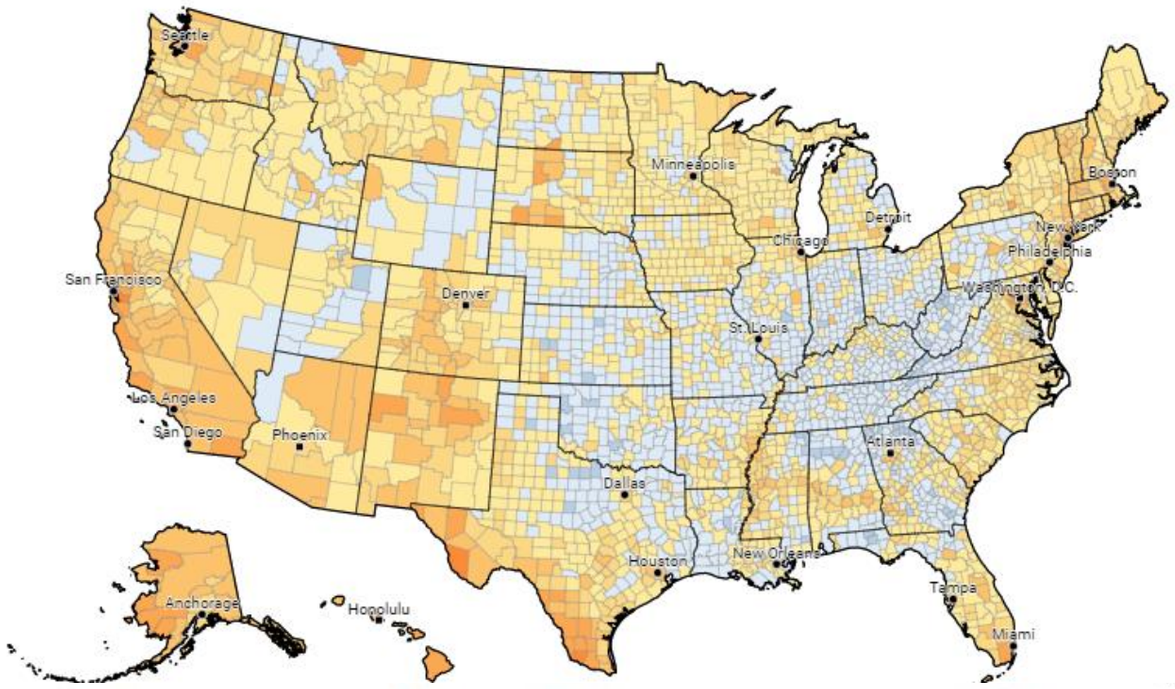
Communication: *Resistance*

Most people think that climate change will harm Americans, but they don't think it will happen to them.

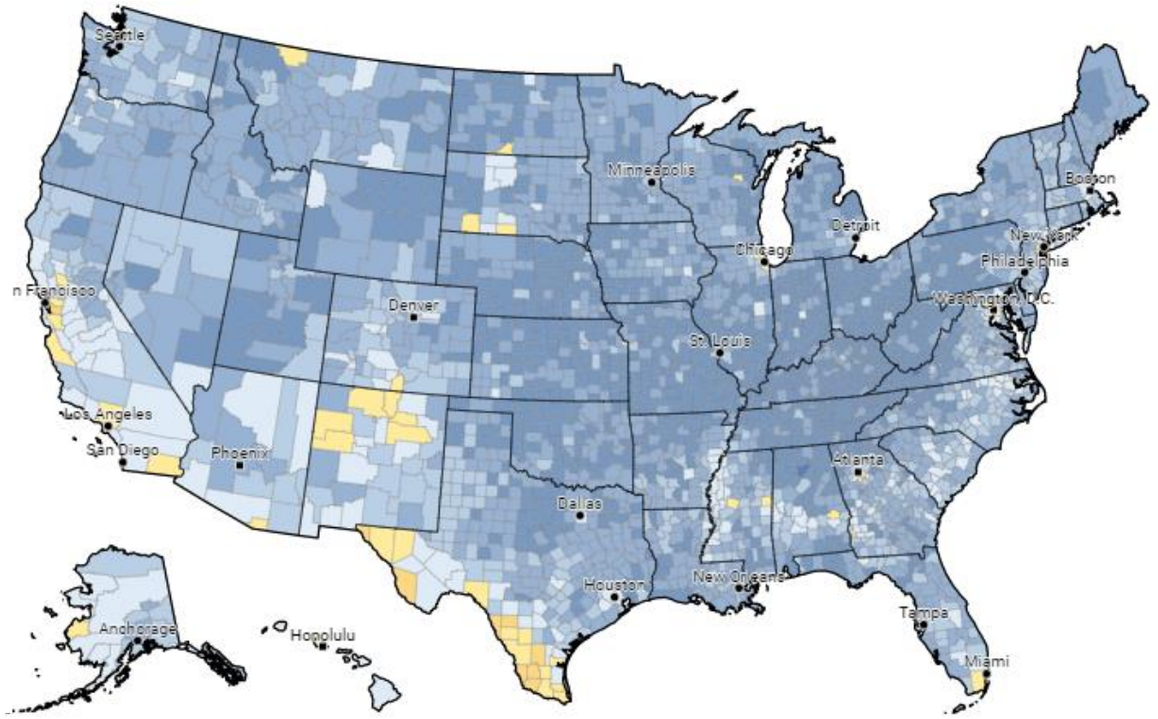
Percentage of adults per county who think . . .

0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60% 65% 70% 75% 80% 85% 90% 95% 100%

Global warming will harm people in the United States



Global warming will harm me, personally



Source: Yale Climate Opinion Maps, 2019

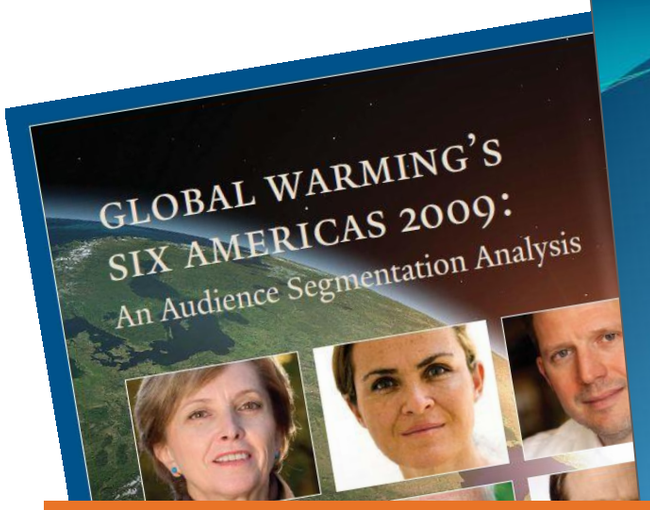
Communication: *Resistance*

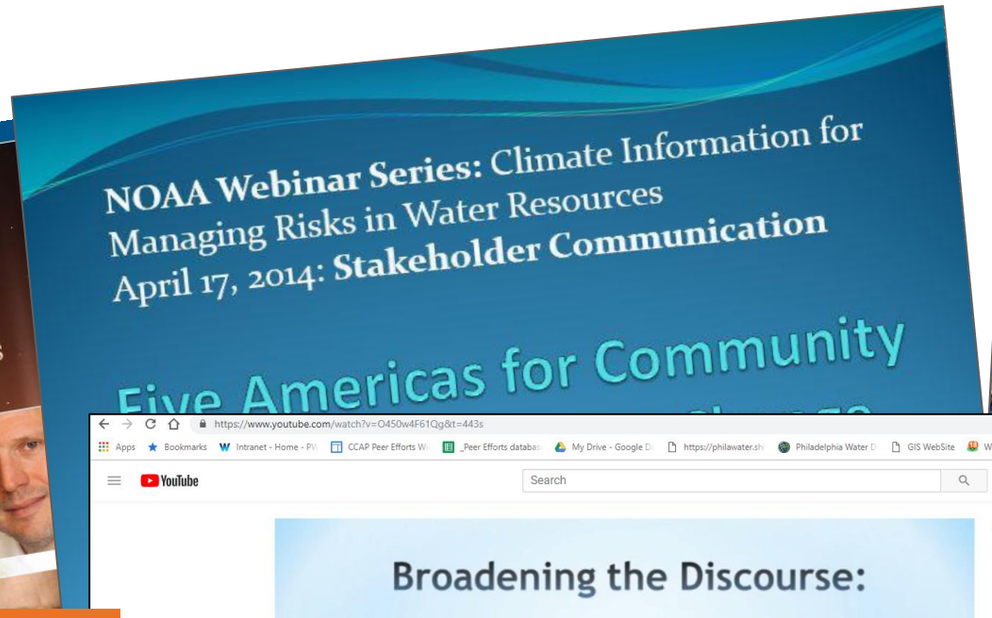
Key to Overcoming Resistance is engagement!

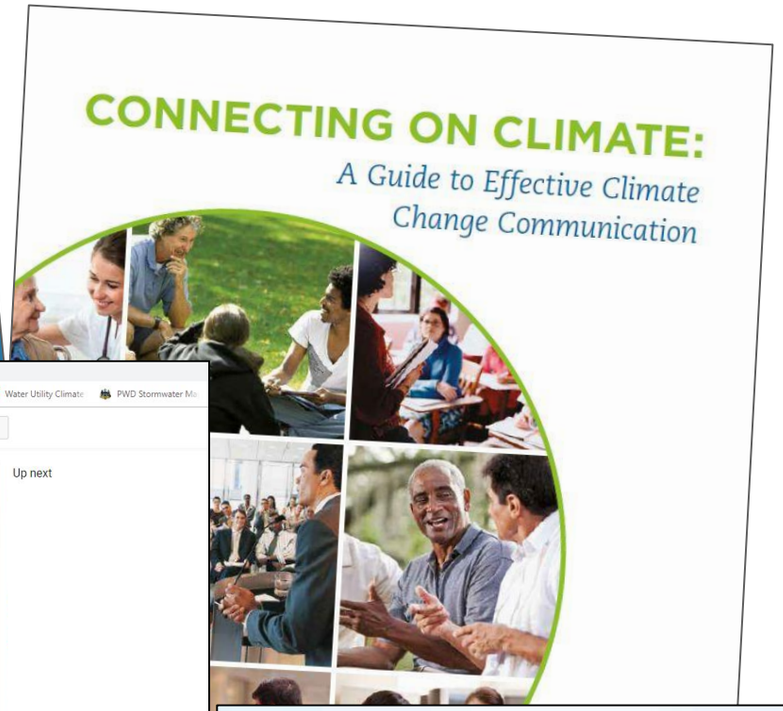
1. People need to understand the issue, and ultimately

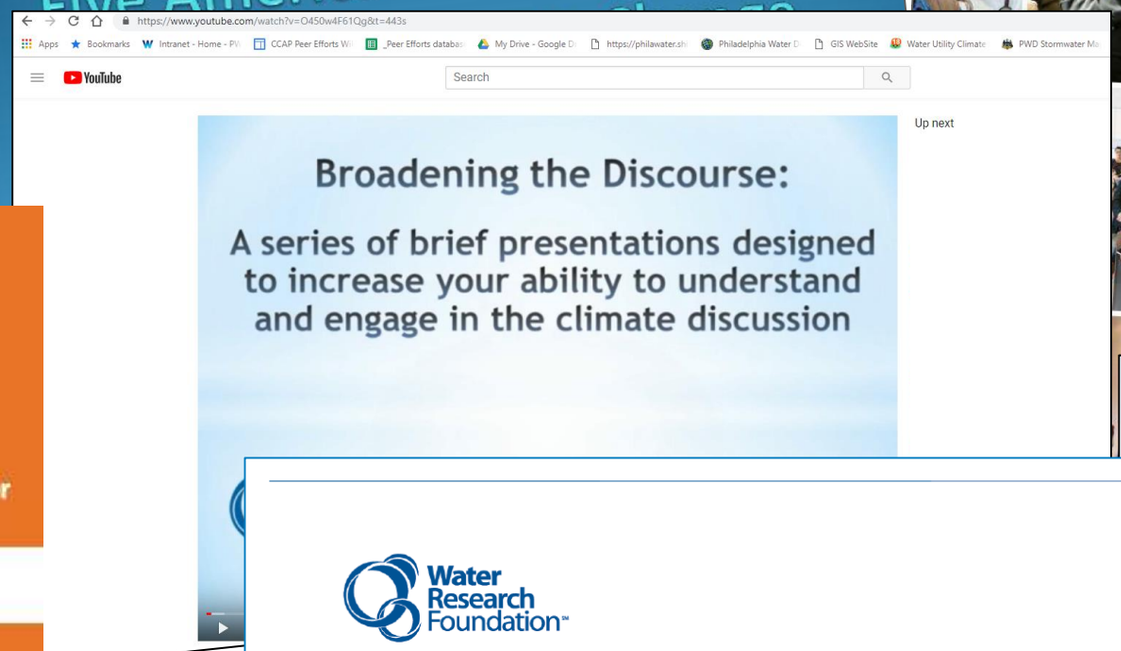
2. How will it impact their work

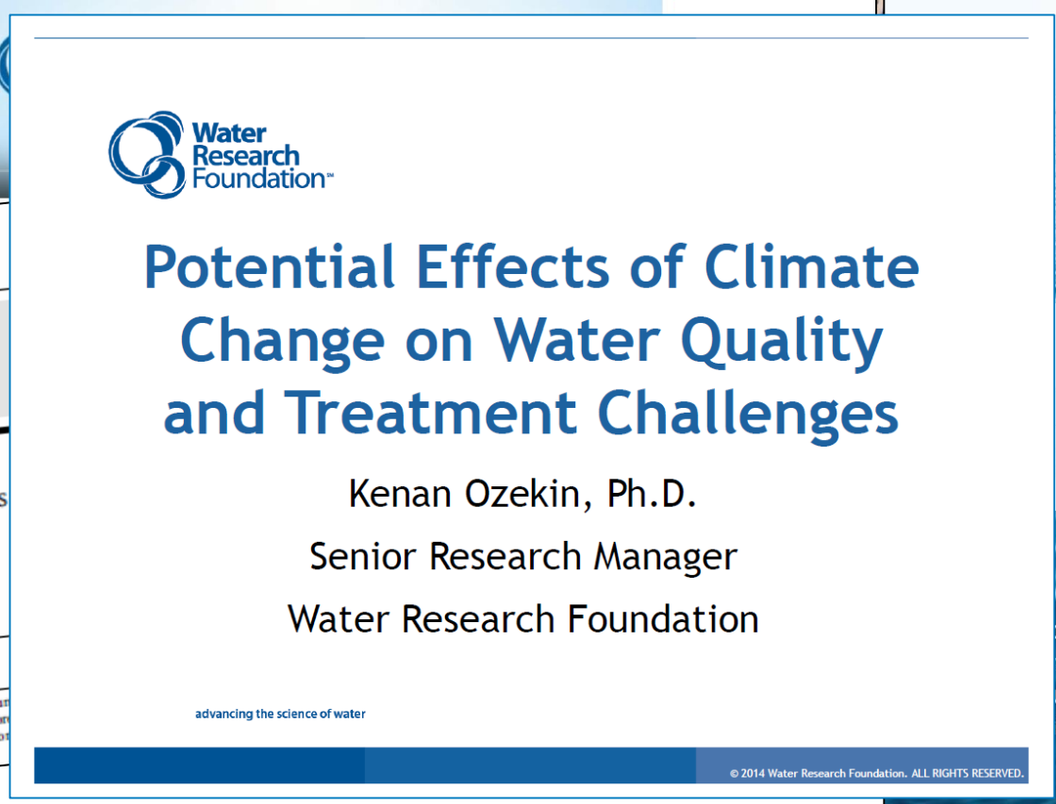
Strategies to overcoming *Resistance*

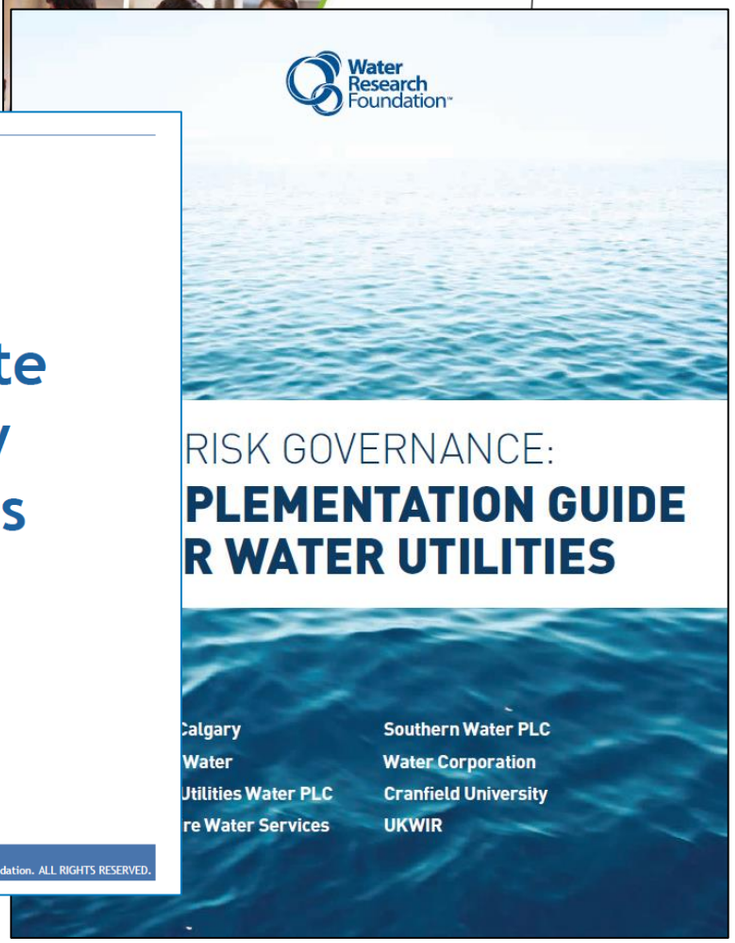








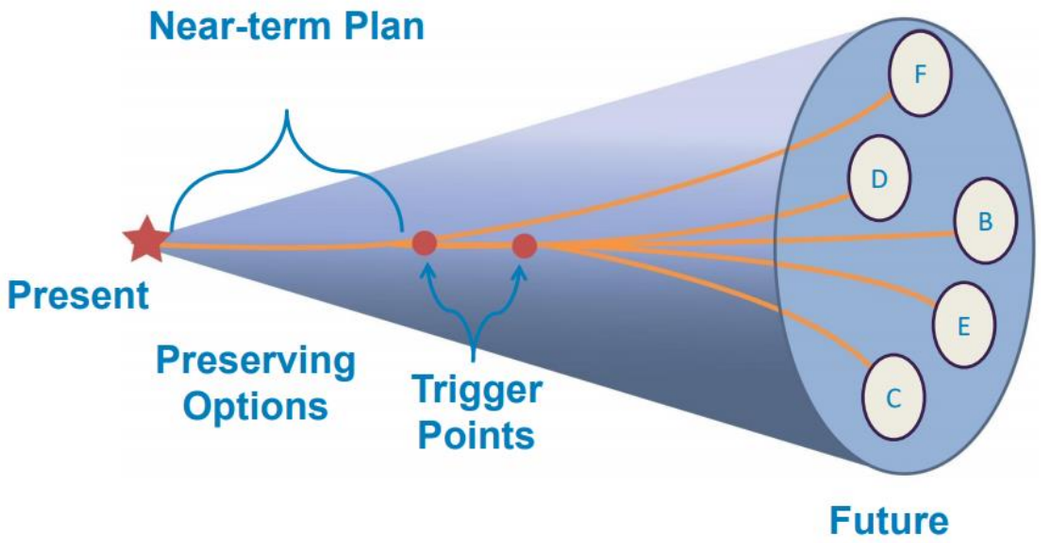




Rely on existing resources and borrow ideas

Alternatives Analysis

Scenario Planning



Adaptive Management

Risk Governance

Introduce new strategies and support existing tools

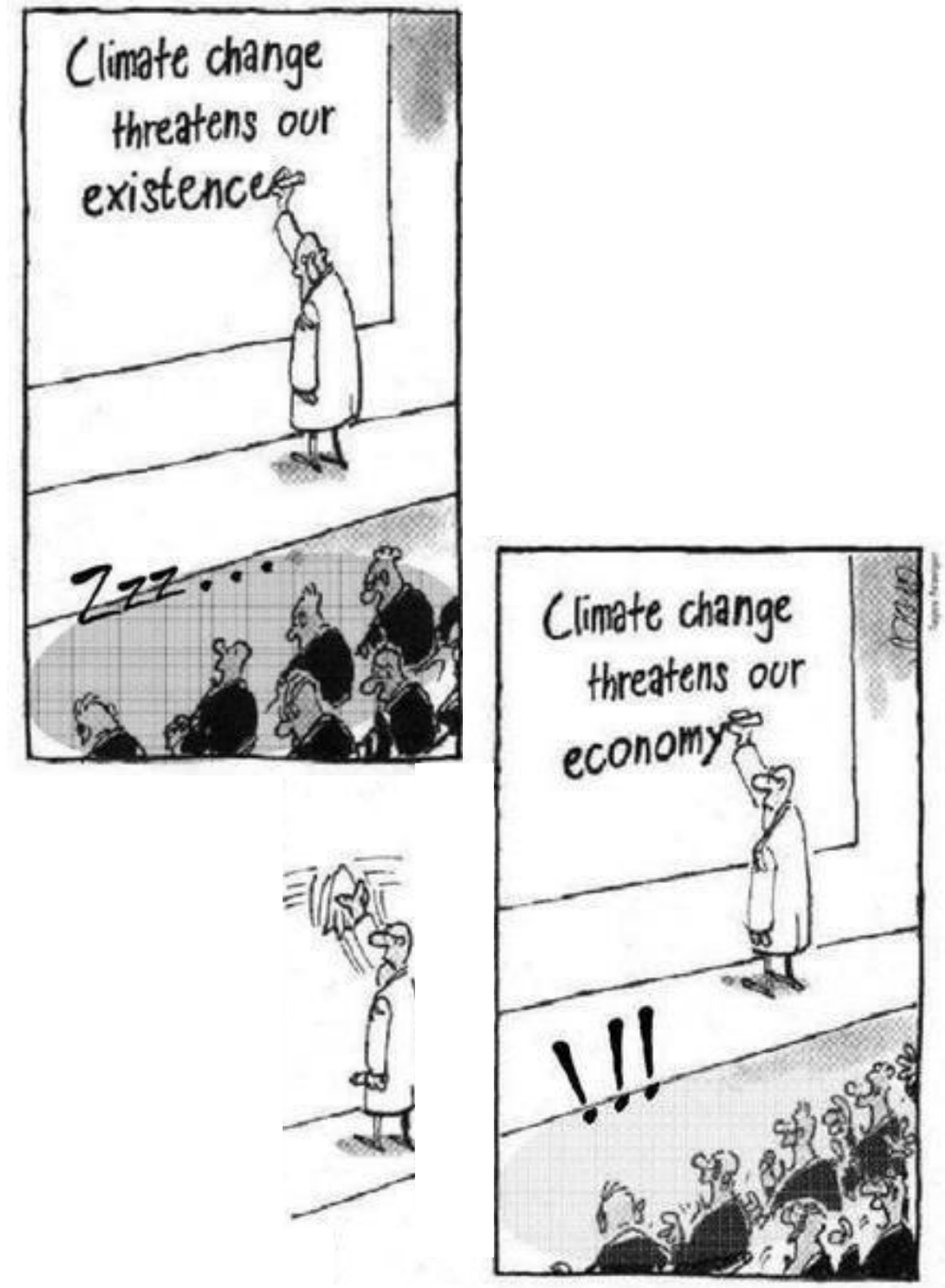
Communication: *Resistance*

People want to be heard, respected and given a chance to provide their perspective.

Listen and avoid criticizing or making demands

Communication: *Resistance*

- Frame your messages
- Be transparent about your limitations
- Be aware of staff sensitivities
- Anticipate conflicts and be prepared
- Think about roles (your role?)



Tips and considerations…

Technical Challenge:
Insufficient data or models

Technical Challenge: *Insufficient data or models*

A lack of quantifiable information or data does not mean inaction. We can still provide general information and make smart decisions.

Low-regret, no-regret and precautionary steps can be advocated for before there is sufficient data or results from analyses.

Use the precautionary principle based on best available knowledge

Technical Challenge: *Insufficient data or models*

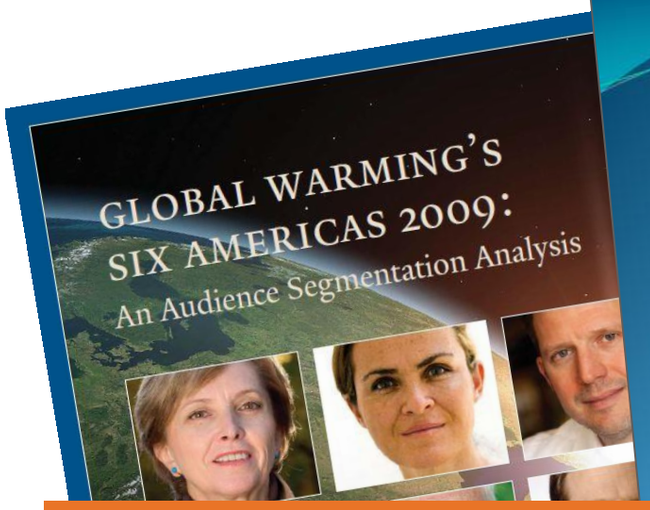
Not all climate adaptation actions have to involve a long study. Many can be implemented quickly.

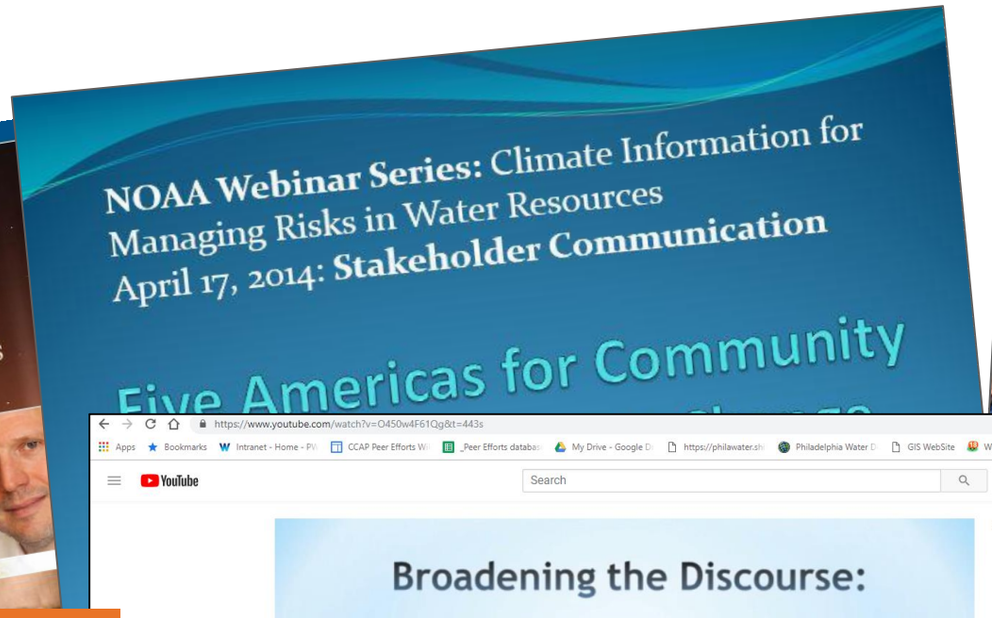
Interim above ground steel storage tank
Las Vegas, NV

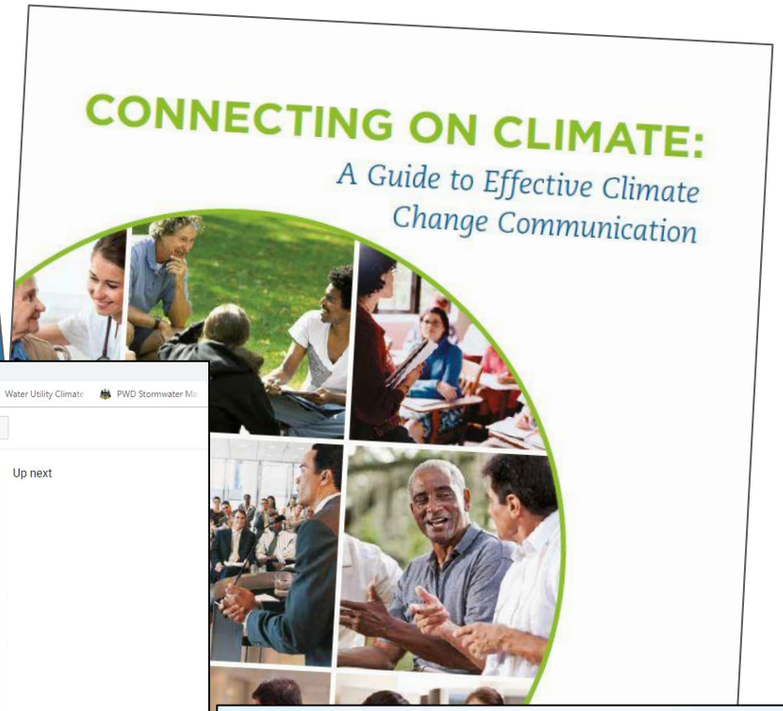
Recognize some adaptations can be employed quickly

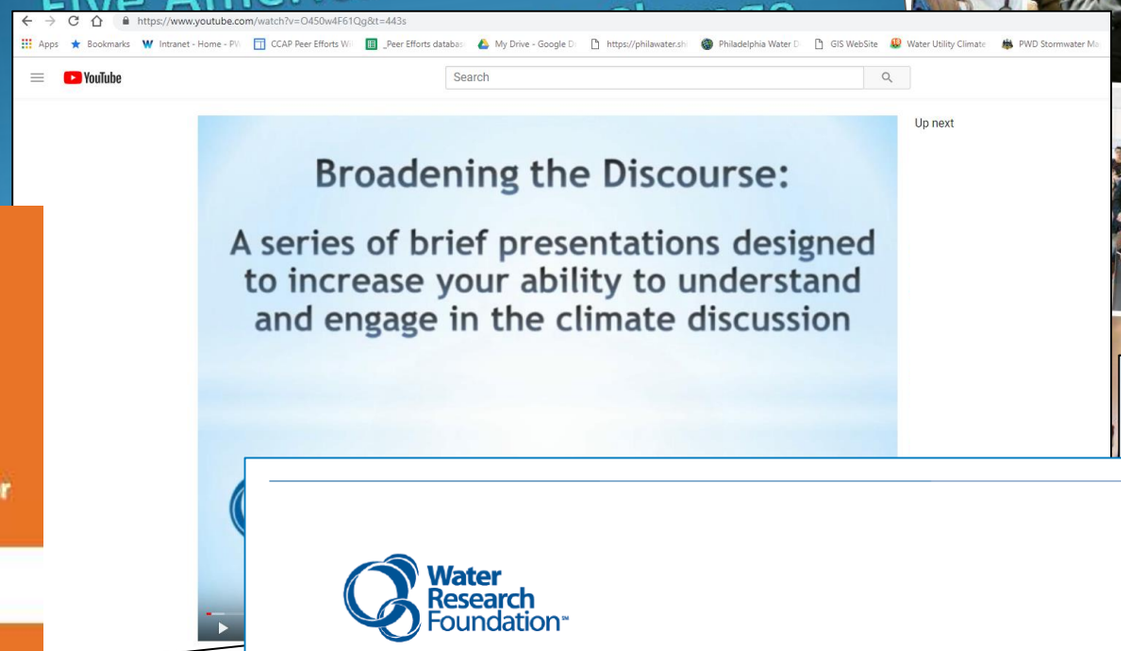
Tips and considerations...

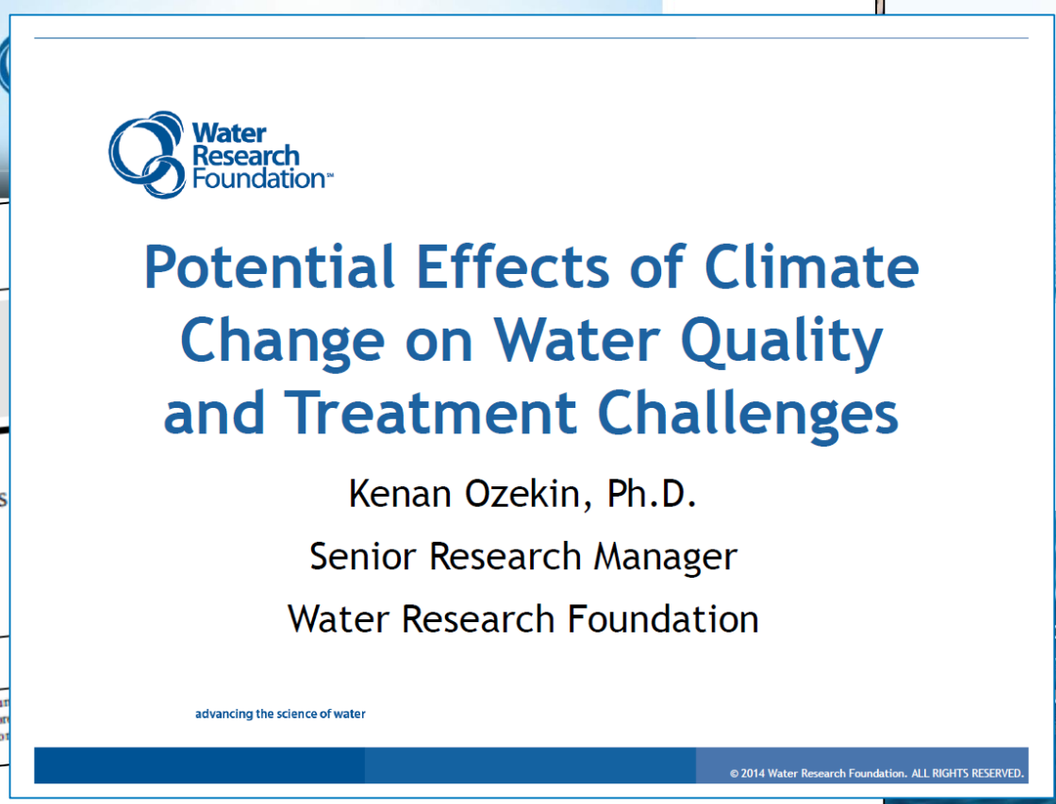
Resources & Capacity: *Staff Understanding*

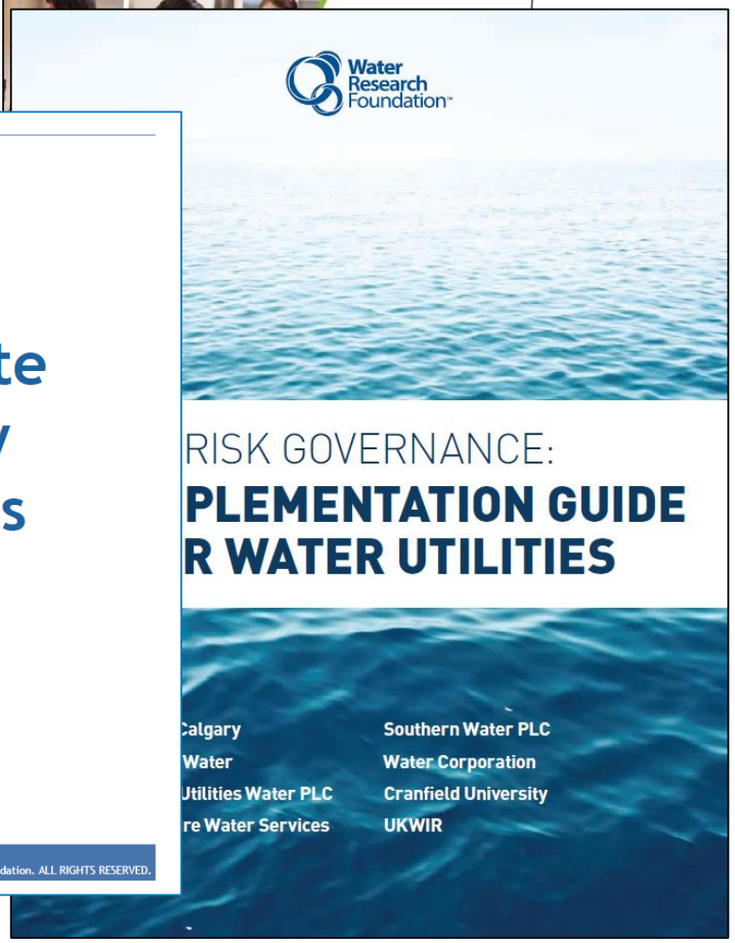






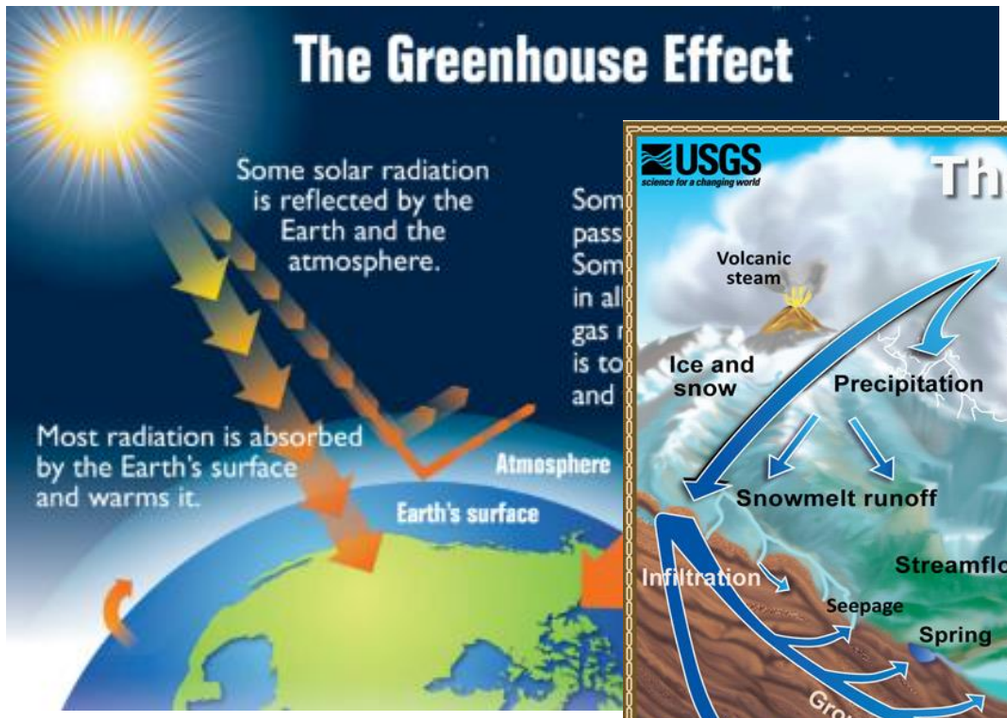


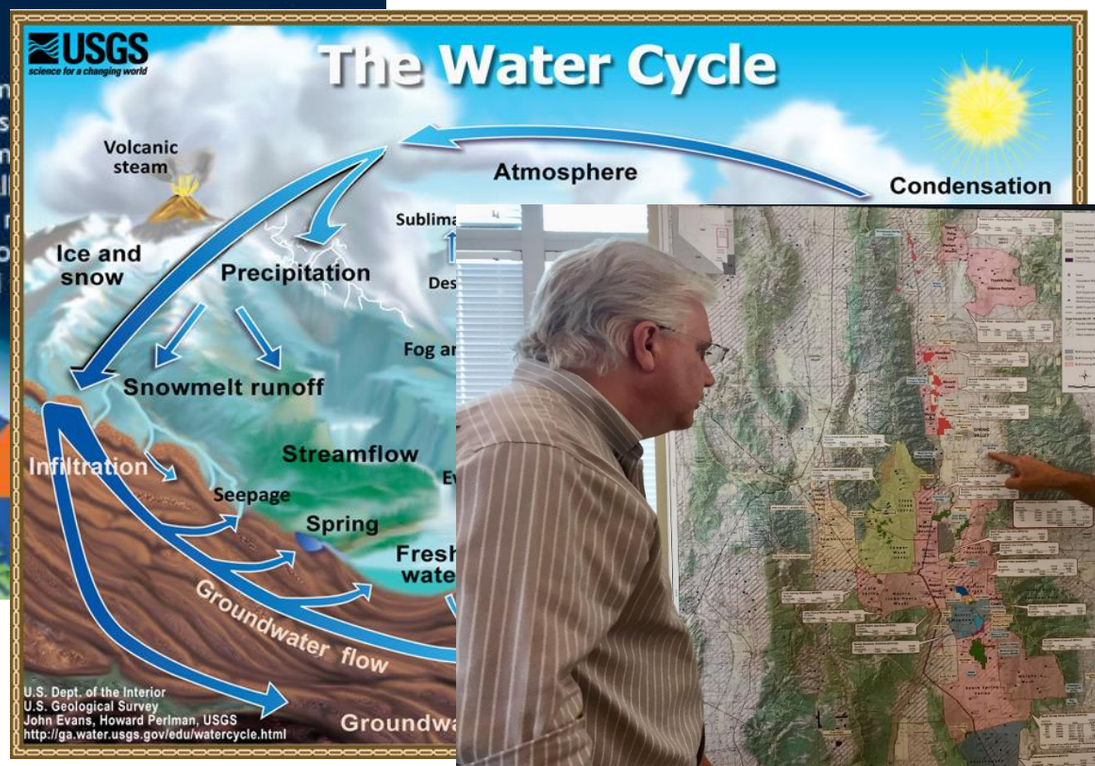


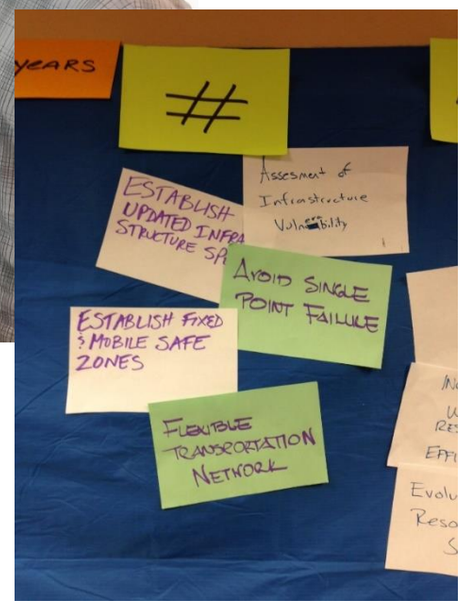


Rely on existing resources and borrow ideas

Resources and Capacity – *Staff Understanding*





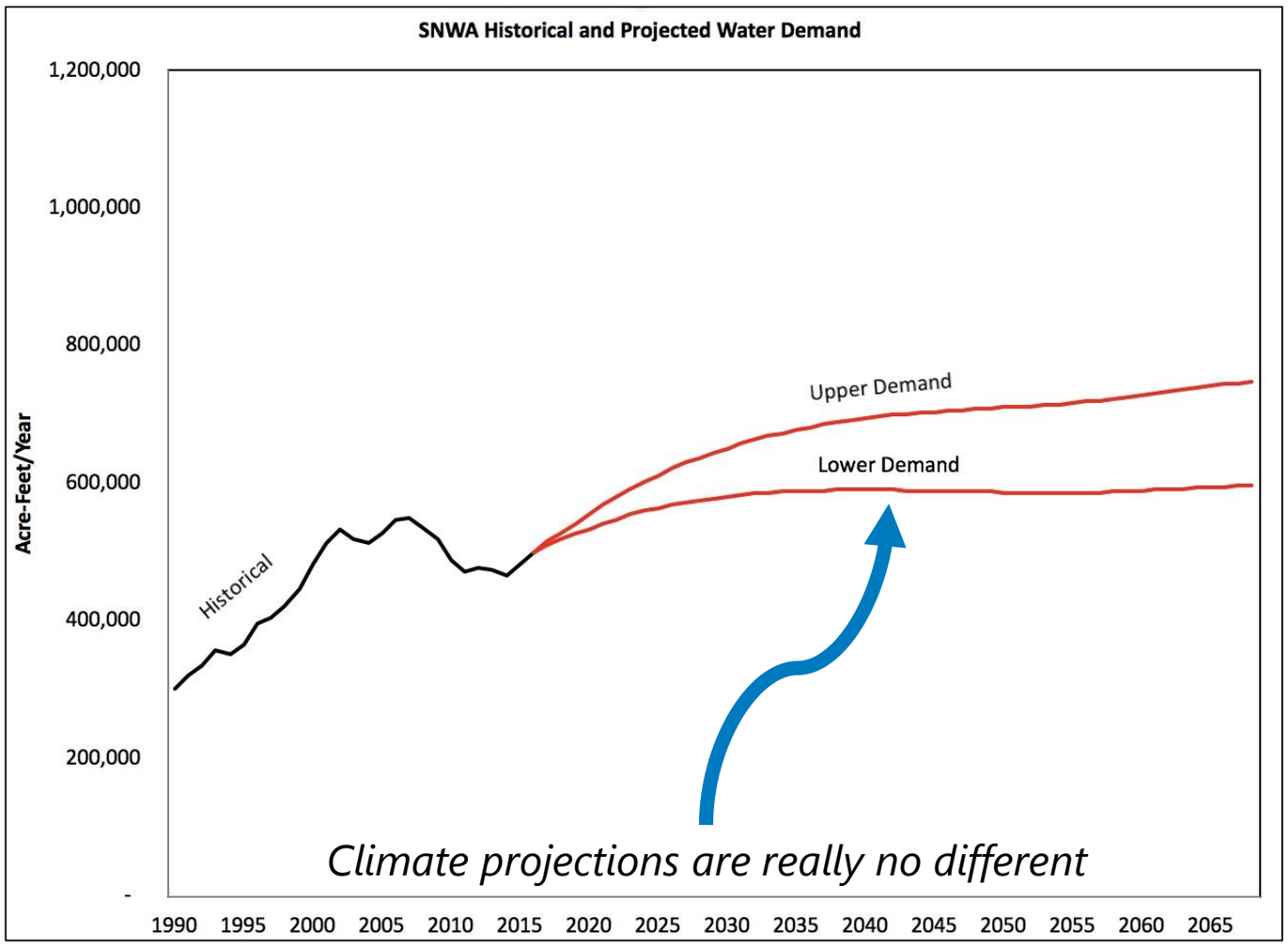


Create opportunities for education and face-to-face interactions. Communicate frequently.

Invest in building trust and understanding

Resources and Capacity – *Staff Understanding*

Water utilities are familiar with planning for risk and operating under uncertainty (e.g. economic & population growth, future water demand projections).



Talk about uncertainty in context of what your audience already knows.

Resources and Capacity – *Staff Understanding*

You may feel like a broken record but context, experiences and mental models are always changing.

Time is required to make both individual and institutional change.

Repeat, revisit, repeat again. And have patience.

Resources and Capacity – *Staff Understanding*

- Bring in other experts
- Who are the influencers?
  - Share case studies
- Share from trusted sources (AMWA, WRF, WUCA?)
- Guide to the same conclusion

Katherine Hayhoe
climate scientist/communicator extraordinaire

Messengers matter. (And should not always be you)

Policies: or lack thereof

Policies – *or a lack thereof*

Work to get top-down support for internal policies you are shaping:

- Adopt scenario planning
- Change planning/design process
- Incorporate climate change into master plans
- Adopt resiliency design guidelines
- Adopt higher standards and safety factors beyond what is required by local/state/federal ordinance

Push for more progressive standards than required

Building & sustaining effective dialogue that can lead to action or 'uptake' is a marathon, *not a sprint*.

This is true for both internal and external audiences.

Salient, credible and legitimate knowledge ahead!

Questions & Conversation

Bringing it All Together:
Identifying Institutional Barriers and Mapping Out Strategies and Next Steps

Buckets o’ Barriers Activity

Organizational Structure
(e.g., silos, board support, general management, etc.)

Communication
(e.g., political will, ideological barriers, lack of public support, communicating uncertainty)

Technical Challenges
(*e.g., limitation of climate models, insufficient data*)

Resources & Capacity
(*e.g., staff time, funding, staff understanding)*

Policies
(e.g., lack of regulation/mandate, few implemented examples, no specifics in engineering design manual)

STRATEGY SESSION

What strategies & resources might you use or develop to address some of these barriers?

e.g., find champions, map out potential influencers, develop a communications plan, etc.

3
or more!

Next Steps

WHAT ARE YOURS?

Towards climate adaptation & resilience

Resources & Capacity

Communication

Technical Challenges

Policies, regulation & mandates

Organizational Structure

Key Communications Takeaways

- **Many barriers exist.** A diversity of evidence-based *strategies* and solutions can help you work towards climate adaptation solutions.
- **Effective, place-based messages** delivered by **various voices** can help to catalyze conversations & create change.
- You have **new resources** and a new community of practice (everyone in this room!).
- **Concrete, small actions** are needed to address this complex issue. Practice, repetition, time and missteps are keys to success.
- Building dialogue is **time-intensive but essential** for usability & scalability. *Different messengers & champions are key. Think marathon, not sprint!*