Building Resilience to a Changing Climate:
A Technical Training in Water Sector
Utility Decision Support

WUCA
Water Utility Climate Alliance

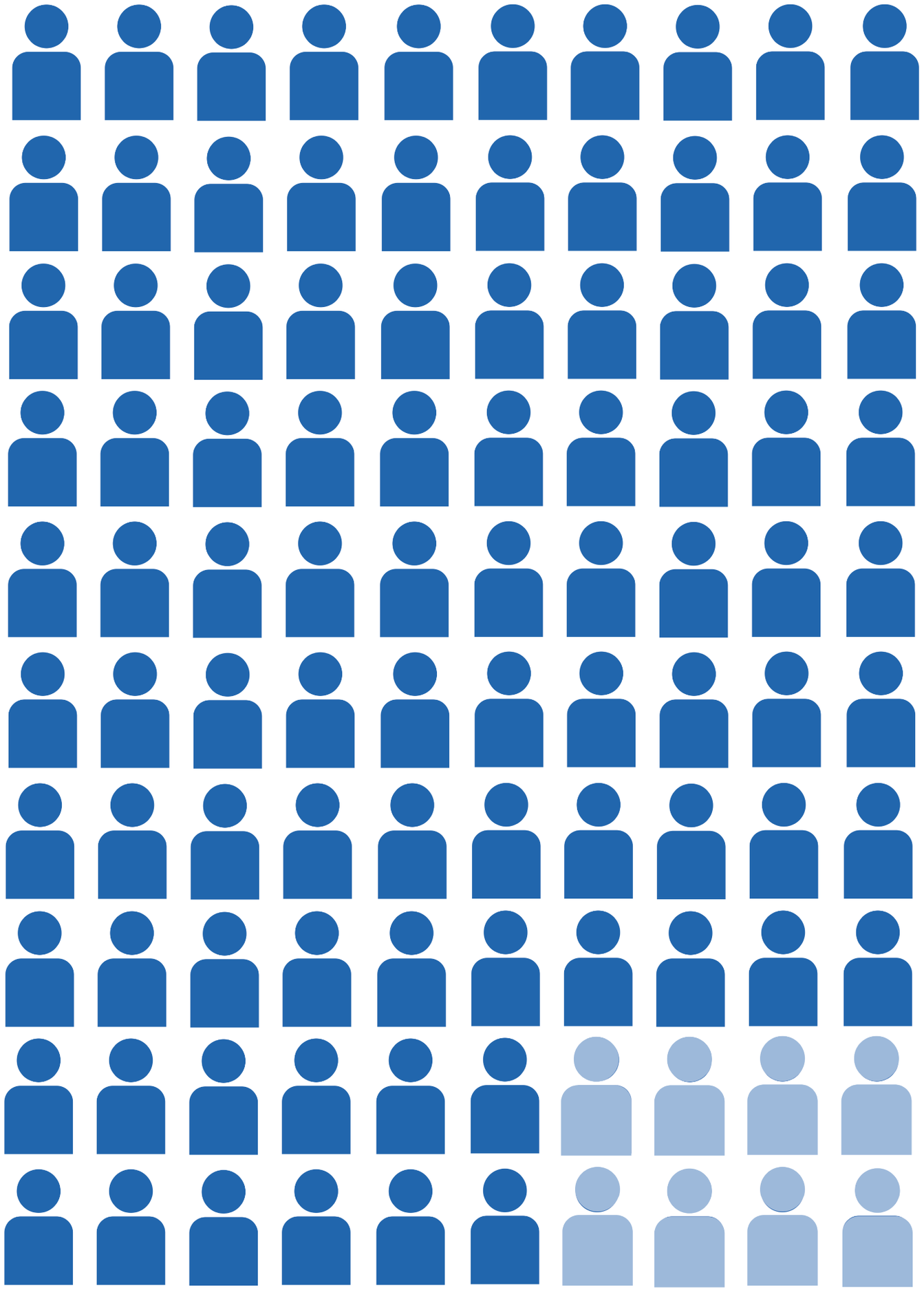
Using Communication Best Practices to Engage Audiences & Address Institutional Barriers

Heidi A. Roop - University of Washington Climate Impacts Group & School of Public Health

Abby Sullivan - Philadelphia Water Department / WUCA

92%

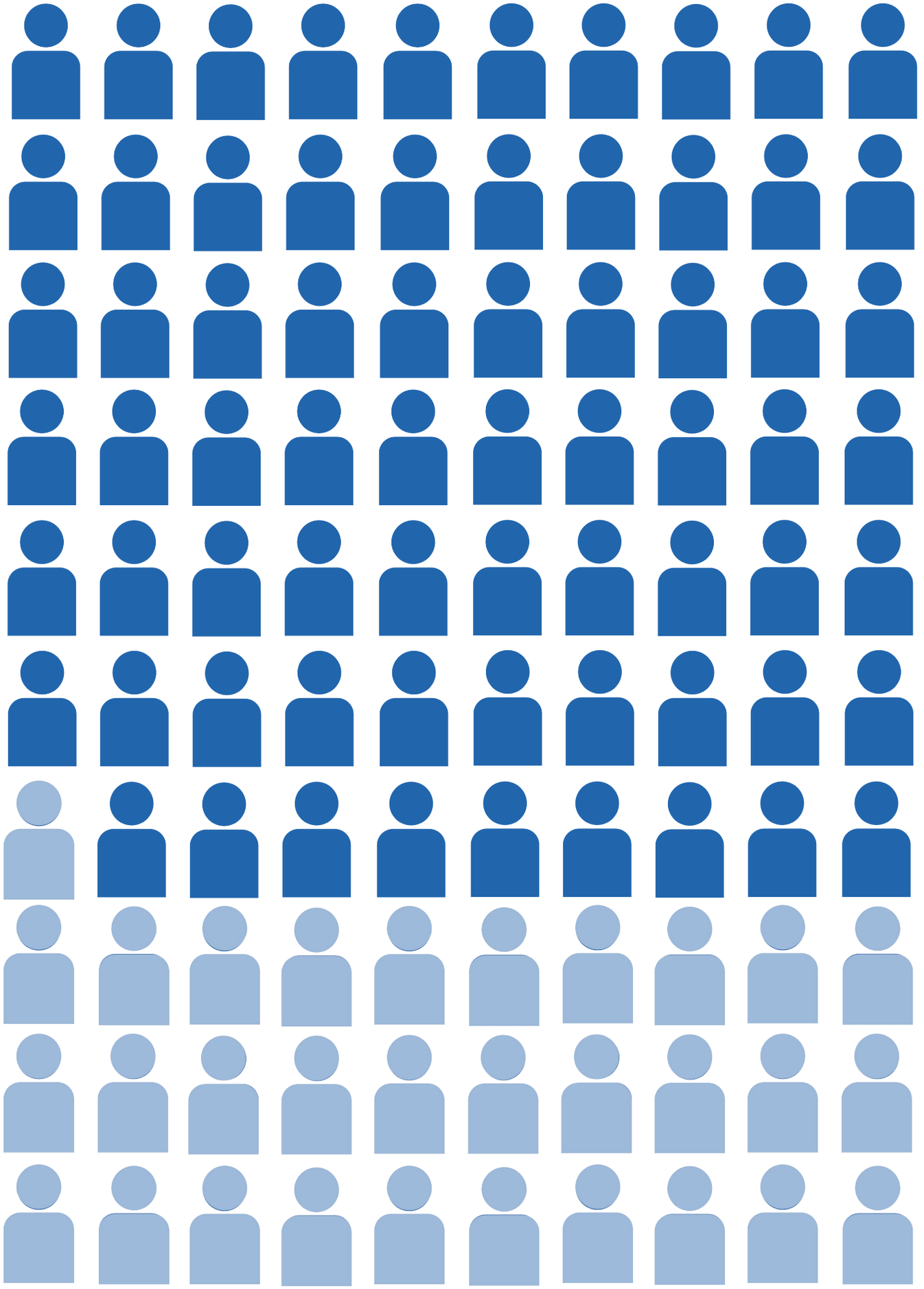
of Americans want their water utility to be a leader in preparing for the local impacts of climate change.



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

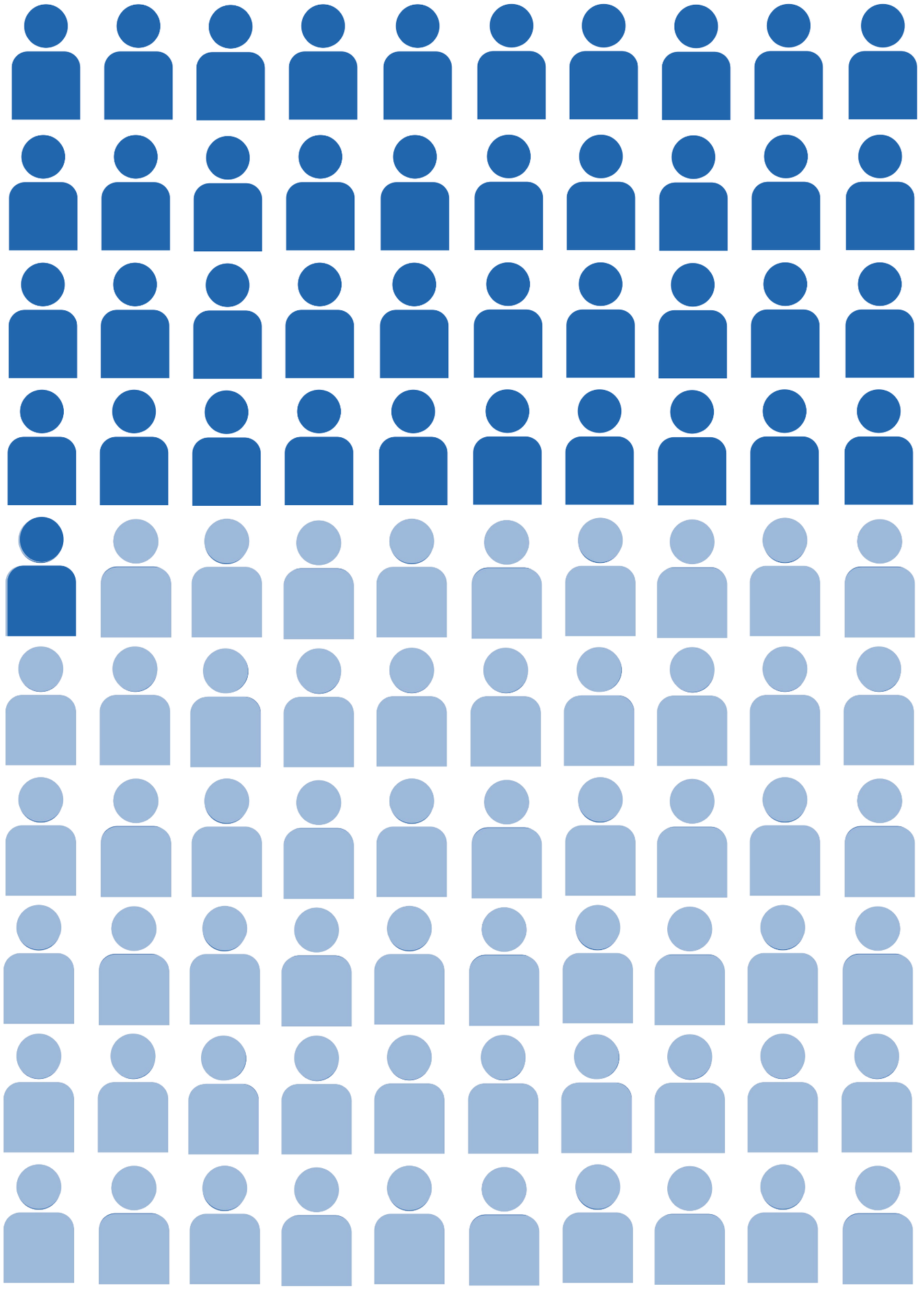


Water Research Foundation, 2014

34%

adults in Florida

discuss climate change at least occasionally



Yale Climate Opinion Maps, 2018

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

- Psychological & ideological barriers
- Climate risks can appear distant & exaggerated
- Scale of issue can be used to rationalize inaction
- 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?

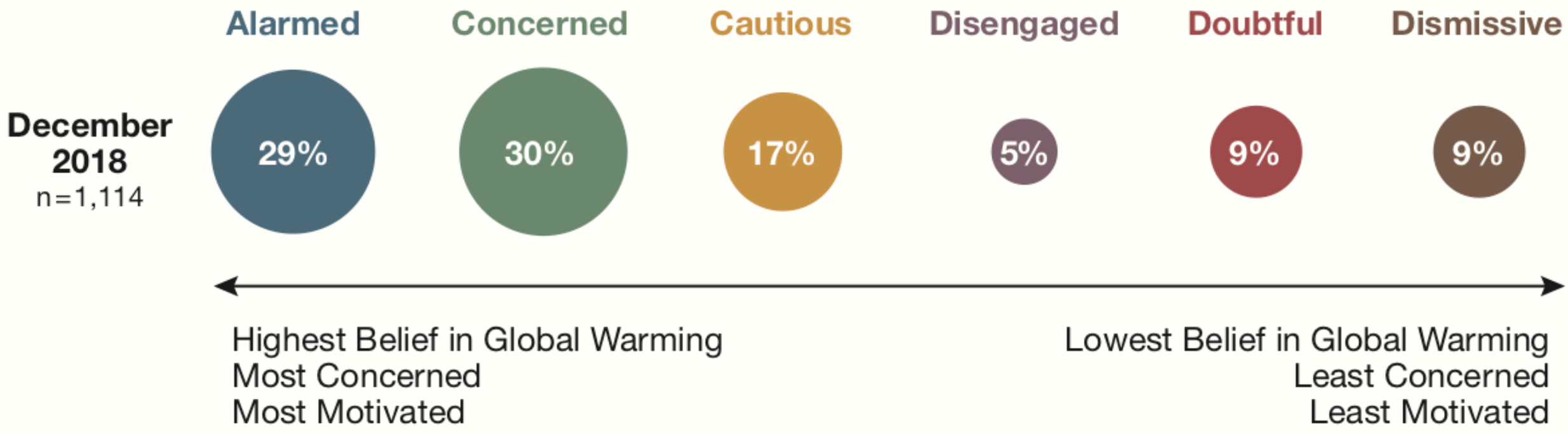
Content: What is the best way to deliver knowledge to relevant actors/audiences? *(e.g. level of detail, language, framing)*

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'



YALE PROGRAM ON Climate Change Communication

GEORGE MASON UNIVERSITY CENTER for CLIMATE CHANGE COMMUNICATION

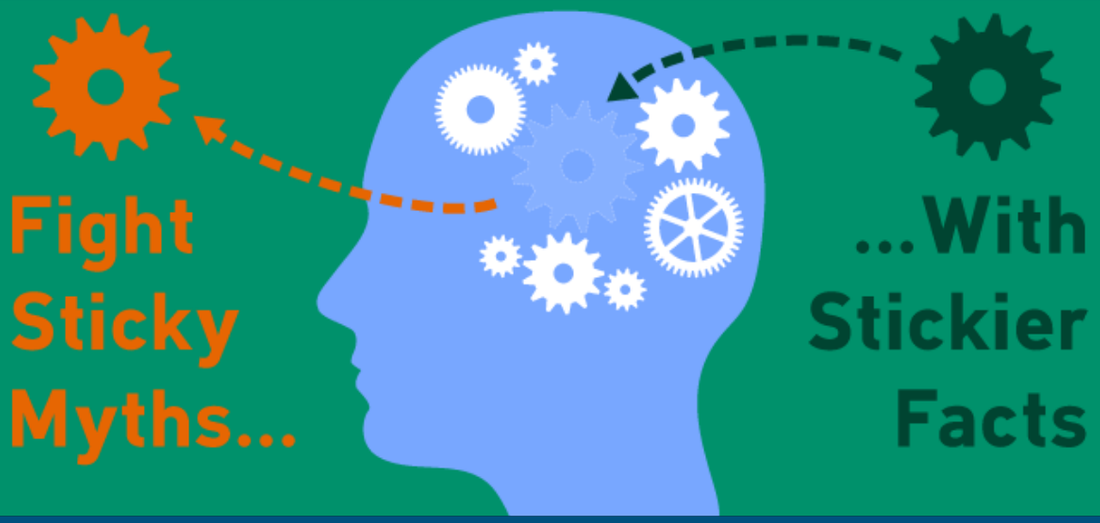
Actively listen & engage.

*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.

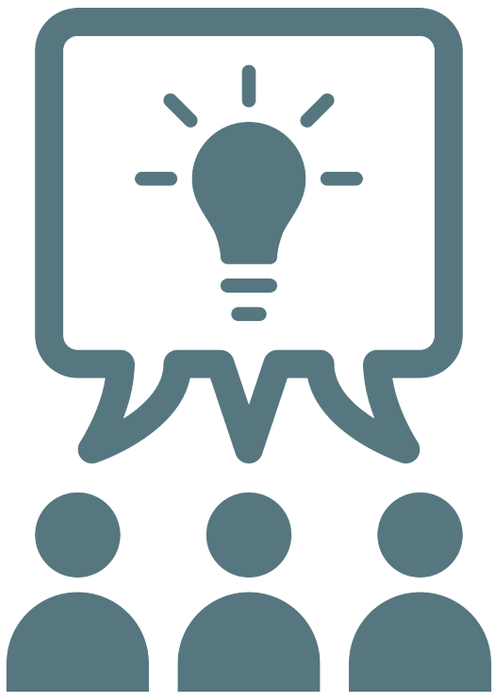
http://edx.org/understanding-climate-denial

John Cook, George Mason University

Develop common terms of reference.

Talk about terms that might carry different meanings

Establish common meaning



Uncertainty

Conservative

Vulnerability

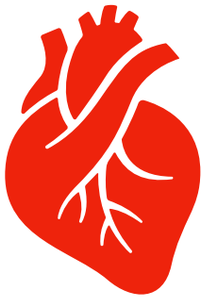
5 evidence-based messages that work:

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

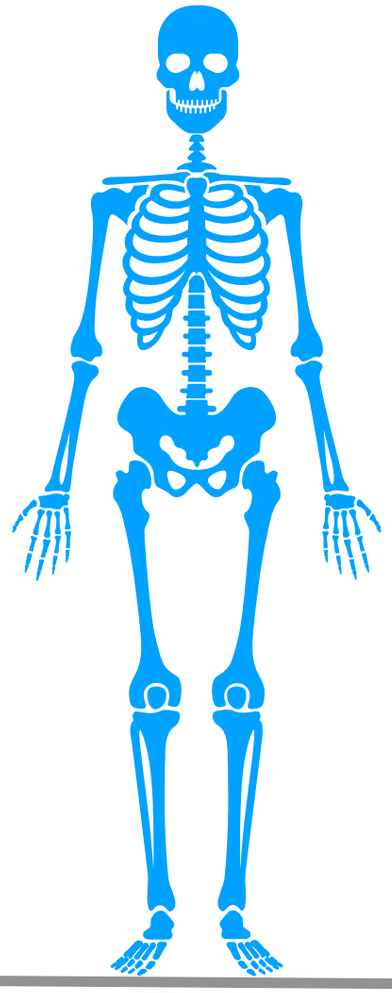
Yale, 2018

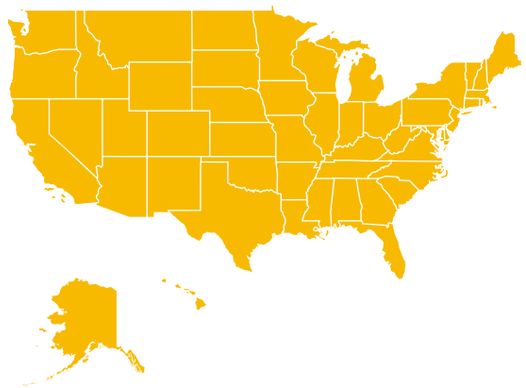
ANATOMY OF A MESSAGE

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 is not bringing anything new – it’s taking events we have already experienced and making them more frequent and extreme.

Modified from Climate Impacts Group & K. Hayhoe, 2018

You don’t have to start from scratch.

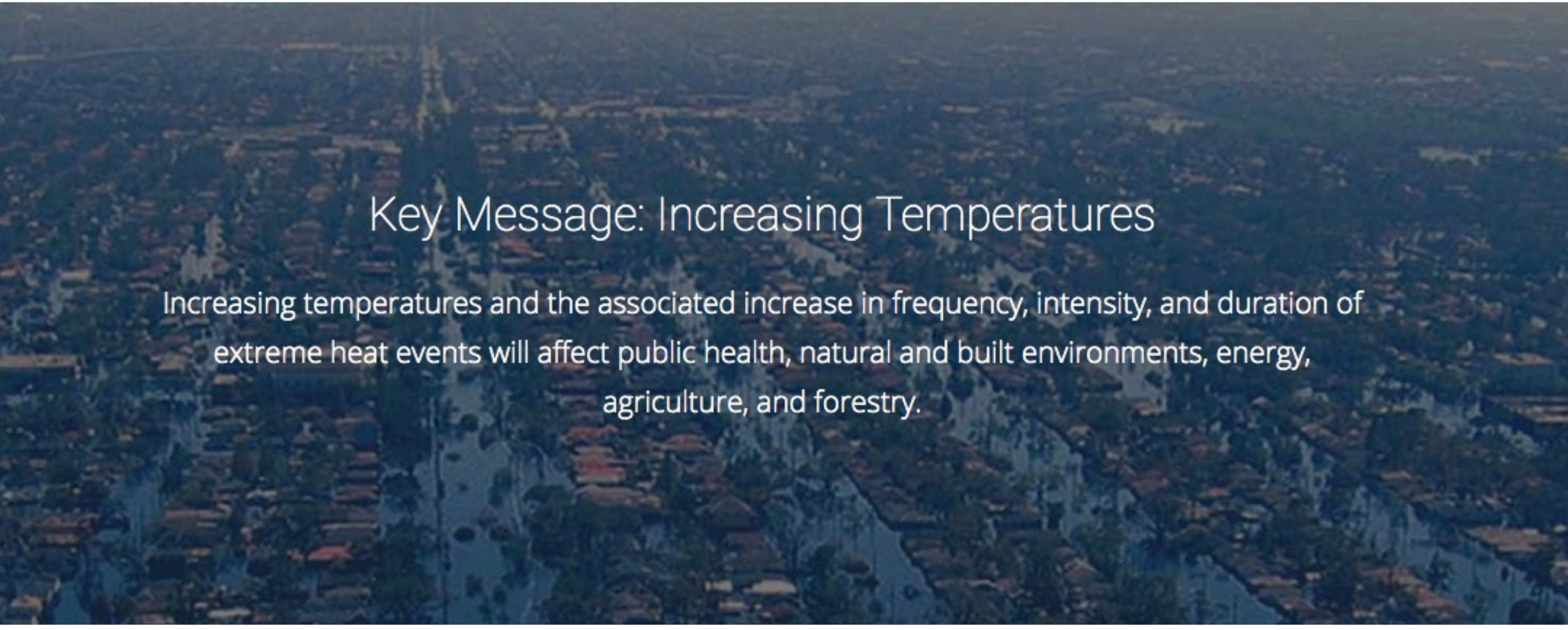
<u>Look to existing resources</u> to find appropriate messages for your audience.

NCA, 2014

Key Message: Sea Level Rise Threats

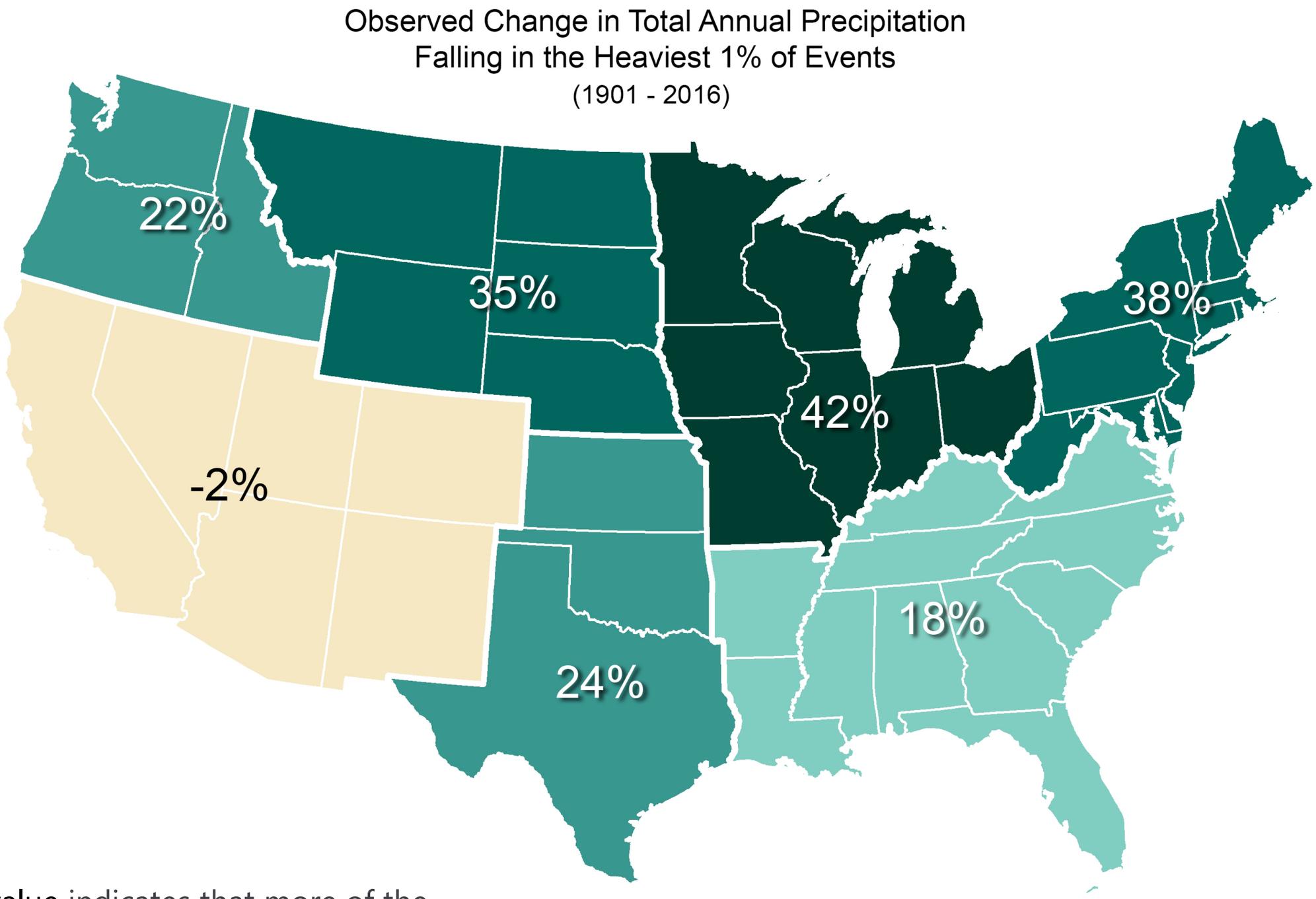
Sea level rise poses widespread and continuing threats to both natural and built environments and to the regional economy.

NCA, 2014


Key Message: Increasing Temperatures
Increasing temperatures and the associated increase in frequency, intensity, and duration of extreme heat events will affect public health, natural and built environments, energy, agriculture, and forestry.

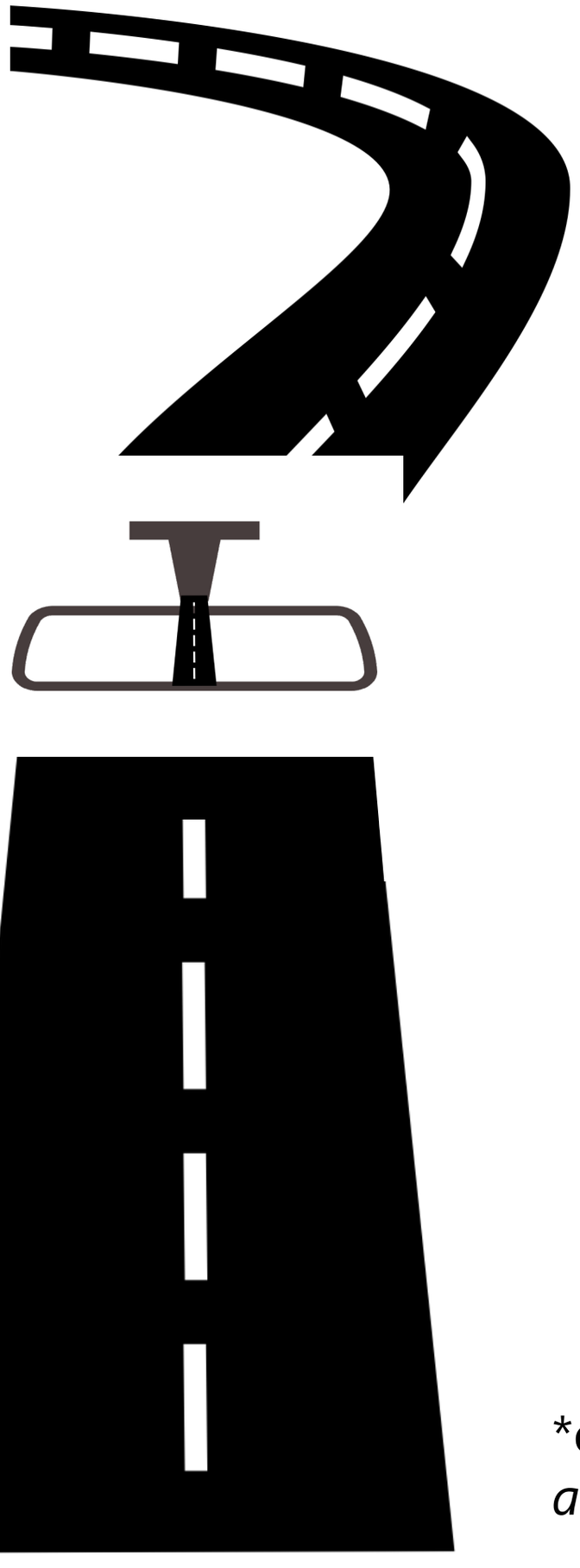
NCA, 2014

“Heavy precipitation is becoming more intense and more frequent across most of the United States, particularly in the Northeast and Midwest."



A positive value indicates that more of the precipitation that falls each year is falling as part of a heavy precipitation event.

NCA, 2018

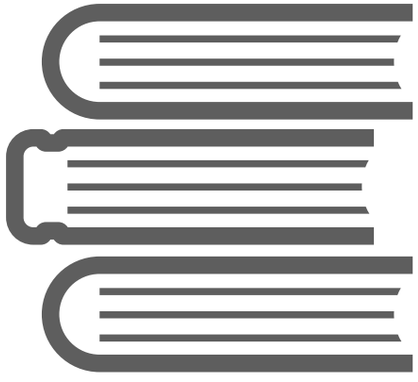


Use analogies & metaphors

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*

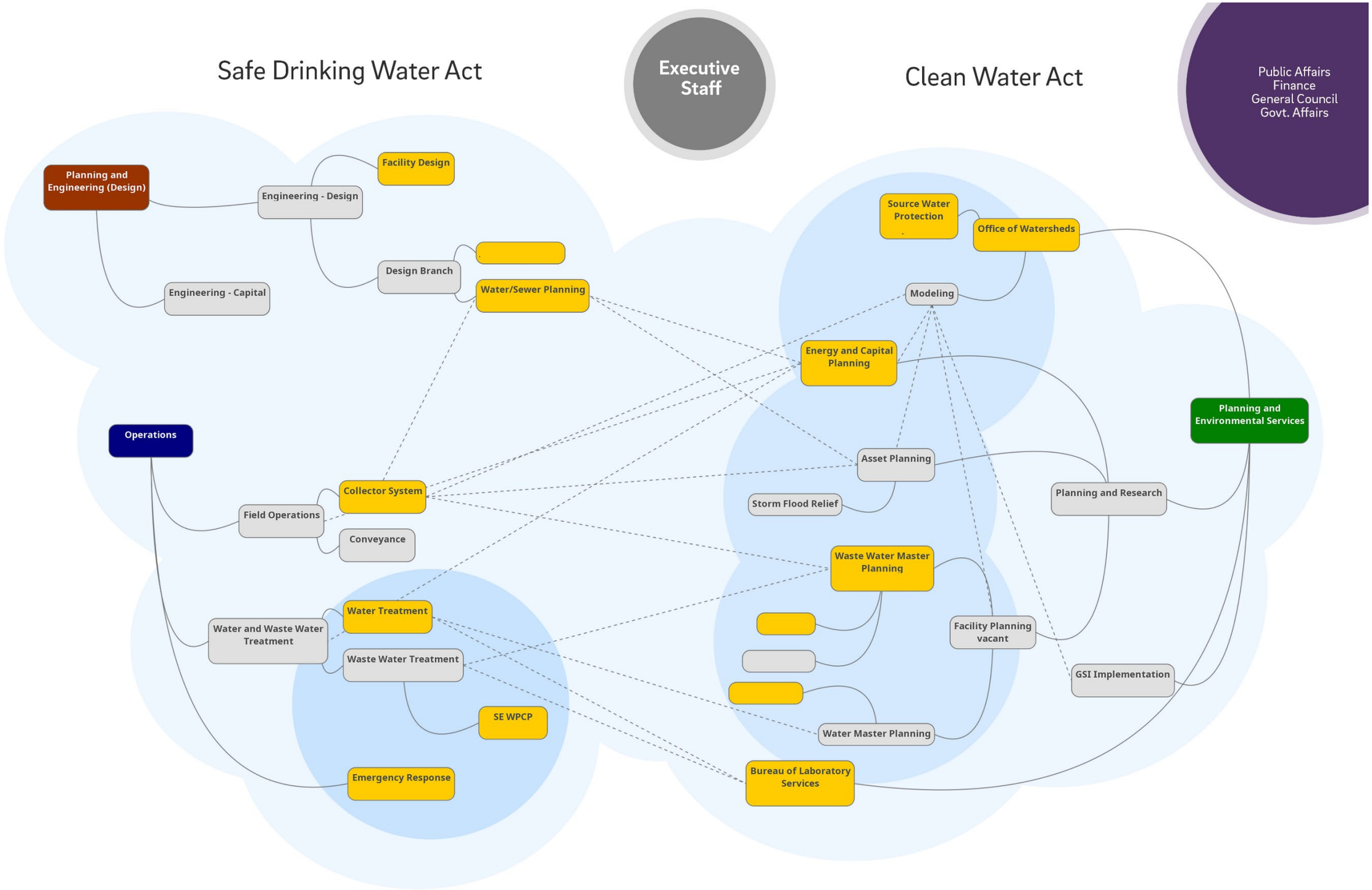
1. Identify climate impacts & PWD Systems
2. Seek Staff Insight
3. Evaluate Feedback
4. Compile List of Primary Planning Needs

		STRUCTURAL SYSTEM EXAMPLES
SEA LEVEL RISE	✓	• Drinking Water Treatment Plants • Wastewater Treatment Plants • Discharge and Drainage Systems
EXTREME STORM EVENTS	✓	• Distribution and Con • Drinking Water Treat • Wastewater Treatme
INCREASED PRECIPITATION	✓	• Stormwater Collectic • Green Stormwater Ir • Discharge and Draina
INCREASED AIR TEMPERATURE	✓	• Electrical Equipment

		NON-STRUCTURAL SYSTEM EXAMPLES
SEA LEVEL RISE	✓	• Source Water Quality • Source Water Quantity • Energy Demand
INCREASED AIR TEMPERATURE	✓	• Source Water Quality • Drinking Water Treatment Process
EXTREME COLD	✓	• Source Water Quality • Source Water Quantity • Wastewater Treatment Process
DROUGHT EVENTS	✓	• Source Water Quality • Source Water Quantity

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

Organizational Structure: *Silos*



Baseline understanding… know thy audience

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*

Increasing Air Temperatures

What is affected?

STRUCTURAL SYSTEMS

- ✓ Electrical Equipment (all facilities)

NON-STRUCTURAL SYSTEMS

- ✓ Source Water Quality
- ✓ Drinking Water Treatment Process

Who is affected?

PWD UNITS

- ✓ Planning & Research
- ✓ Office of Watersheds
- ✓ Operations

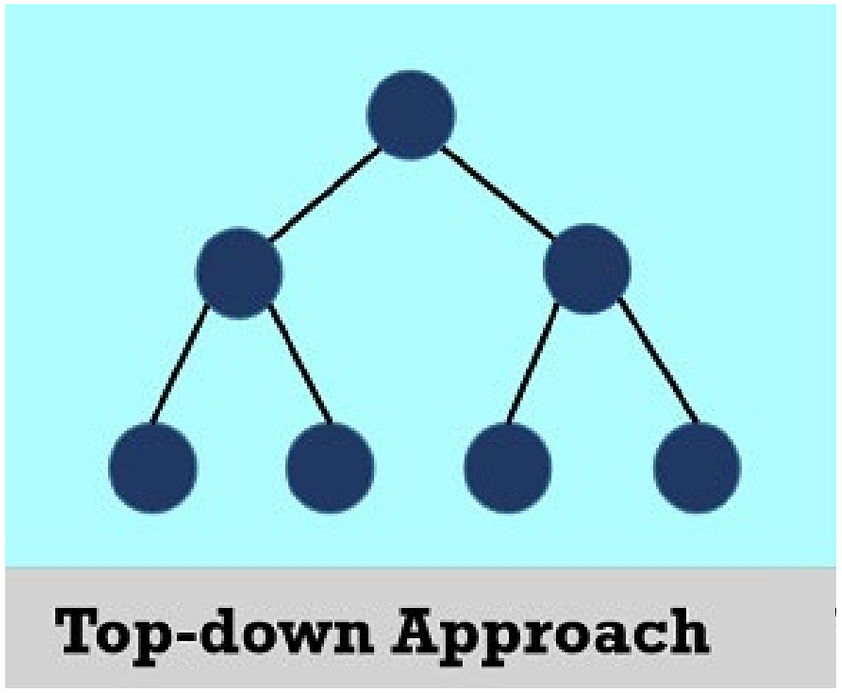
Which processes & plans are affected?

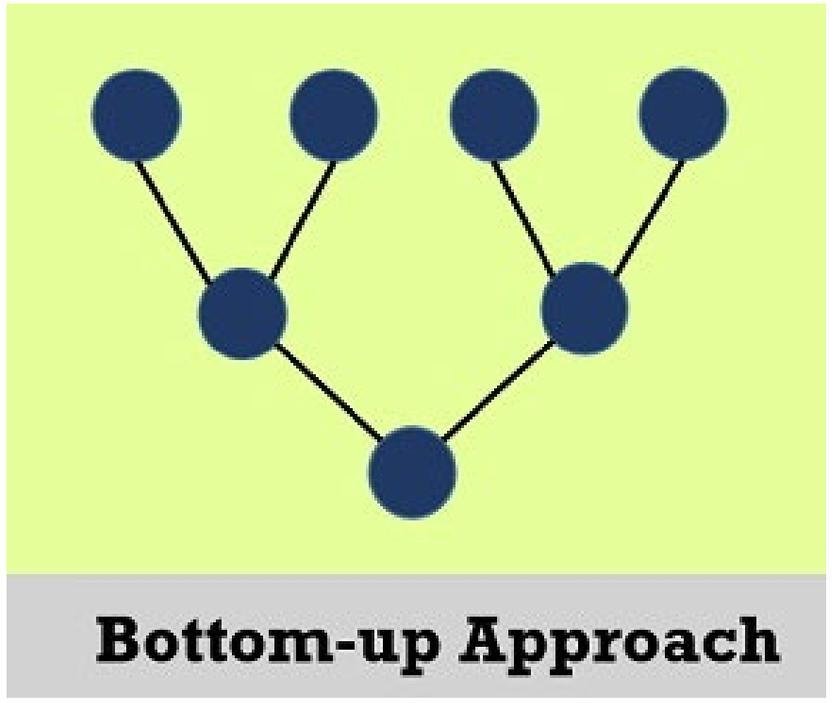
PLANS & PROCESSES

- ✓ Wastewater Master Plan
- ✓ Water Master Plan
- ✓ Capital & Project Planning (heat resistant materials)
- ✓ Source Water Protection
- ✓ Operations (Treatment)

Baseline Understanding…
Know processes, plans, policies and regulatory drivers

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*

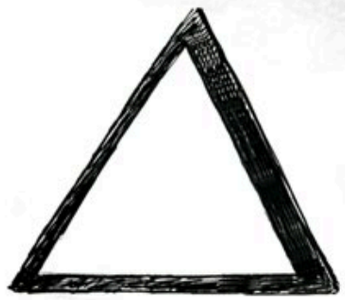
Communication: *Resistance*

Communication: *Resistance*

The
Ostrich Effect

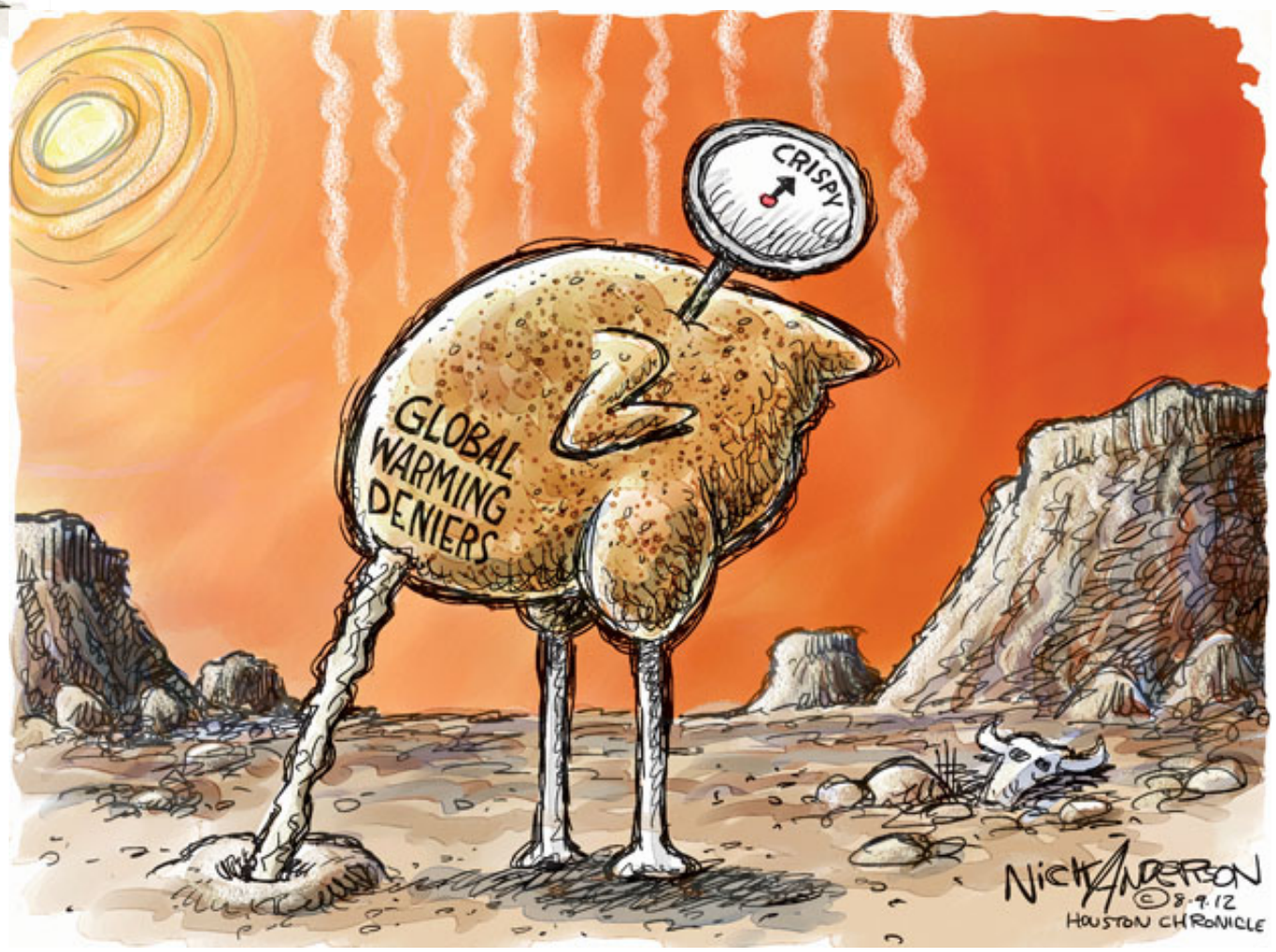
ADAM ZYGLIS THE BUFFALO NEWS CAGLECARTOONS.COM ©2013

MATH SYMBOL FOR CHANGE:



GOV'T SYMBOL FOR CLIMATE CHANGE:

BENNETT Chattanooga Times Free Press



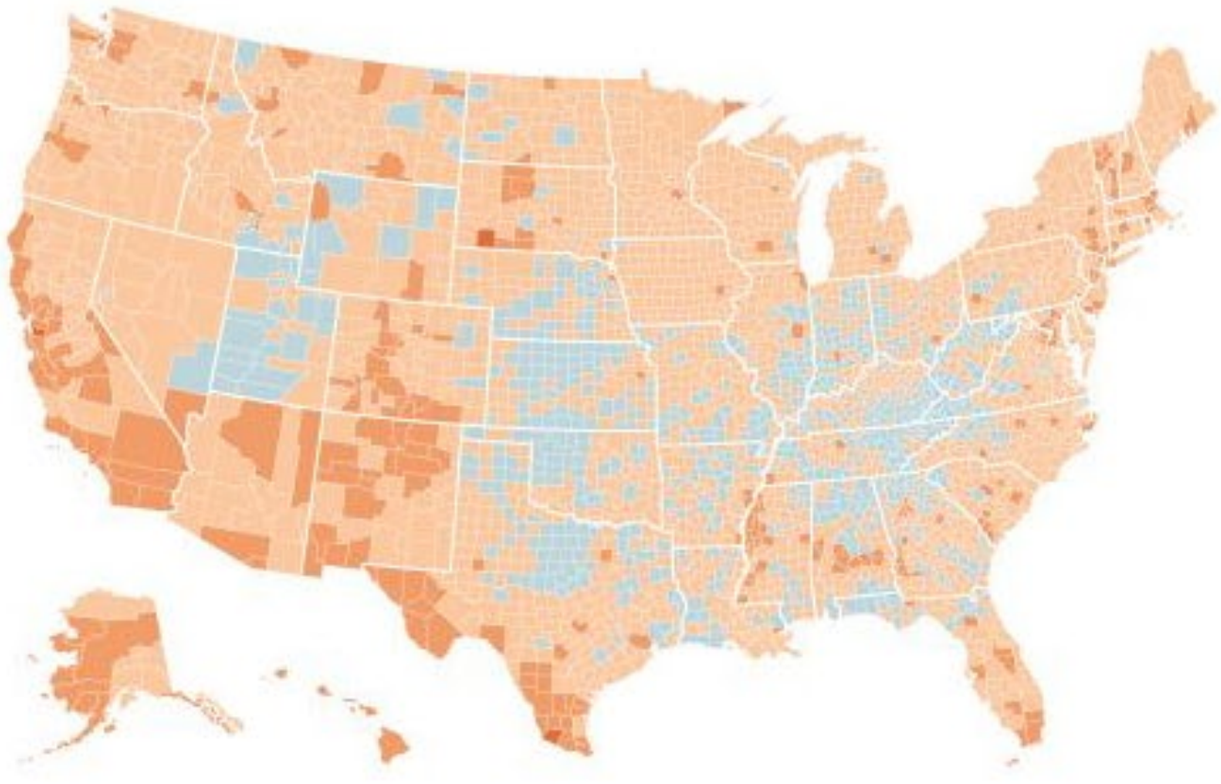
Communication: *Resistance*

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

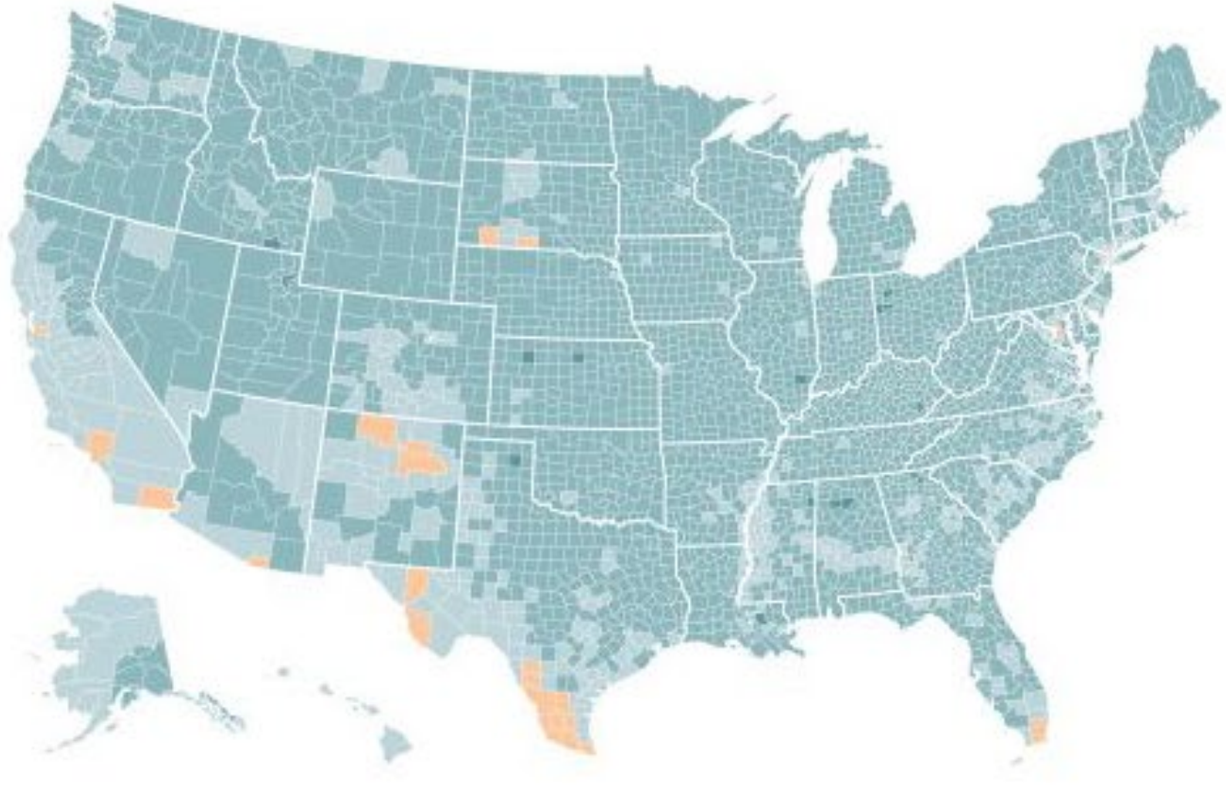
Percentage of adults per county who think . . .

20% 30 40 50 60 70 80

Global warming will harm people in the United States

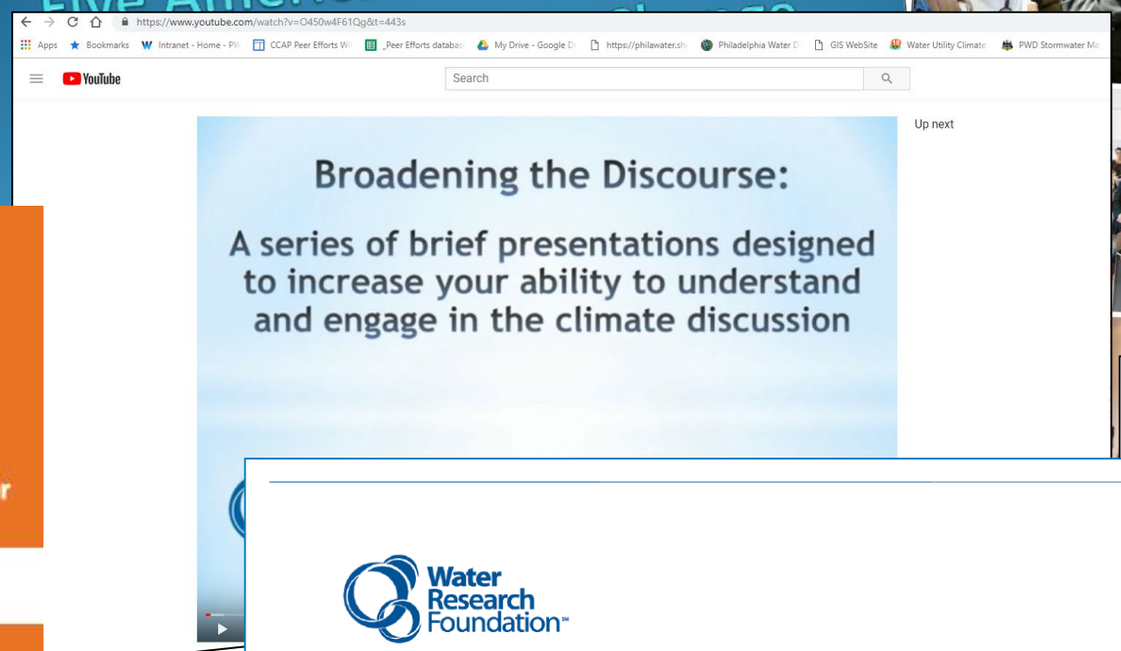


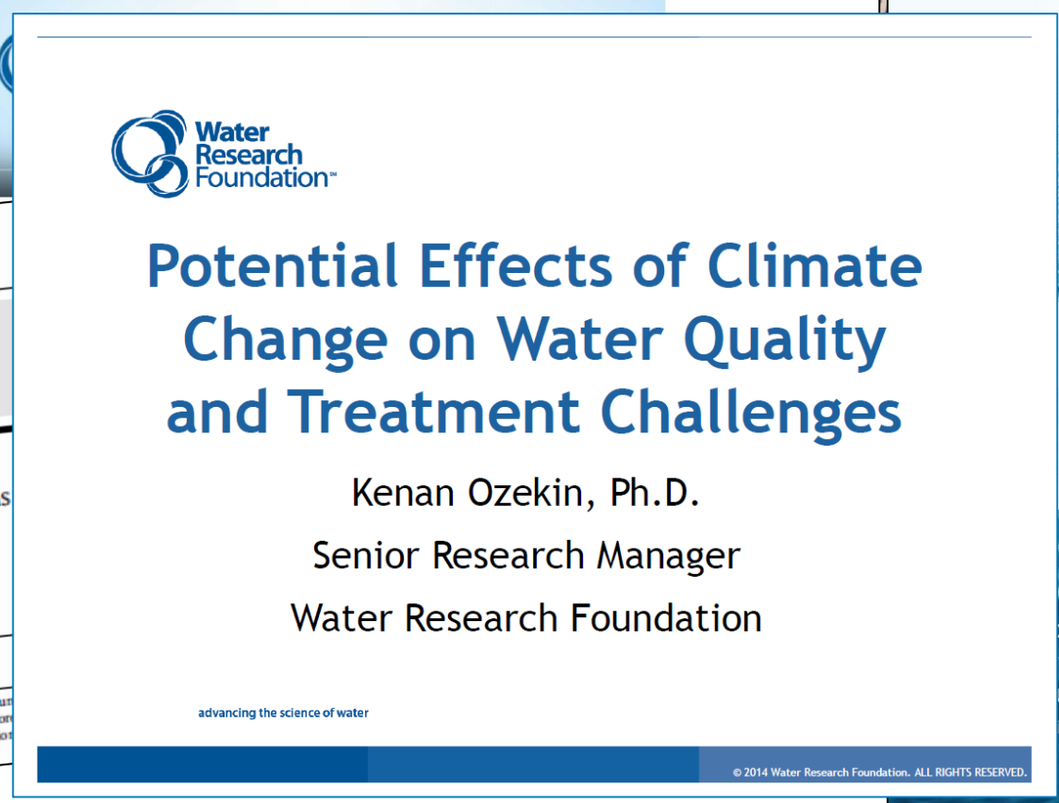
Global warming will harm me, personally

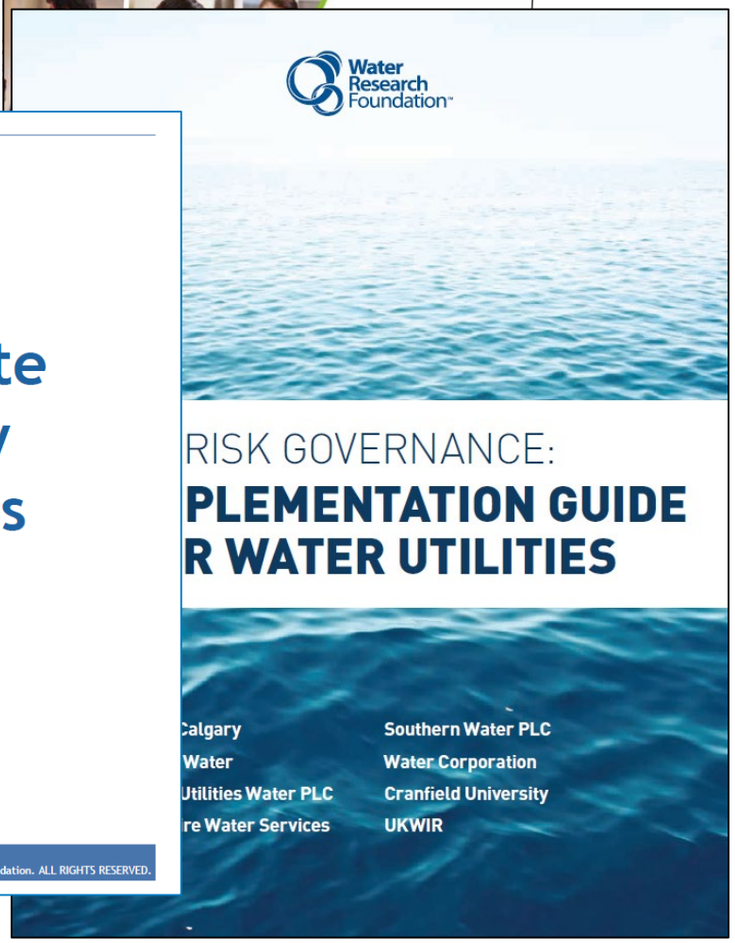


Source: New York Times, March 21, 2017 article *How Americans Think about Climate Change, in Six Maps*

Communication: *Resistance*



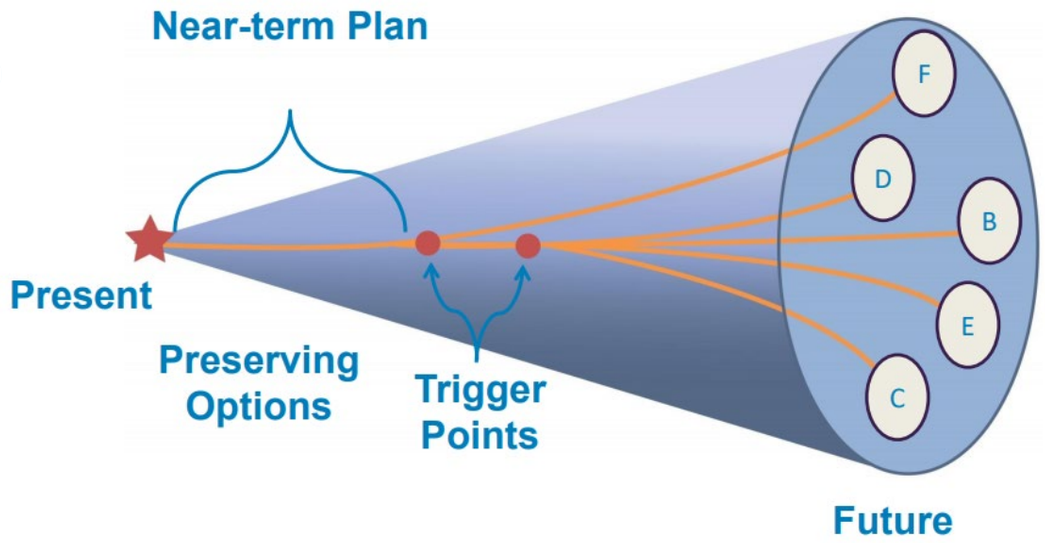




Rely on existing resources and borrow ideas

Alternatives Analysis

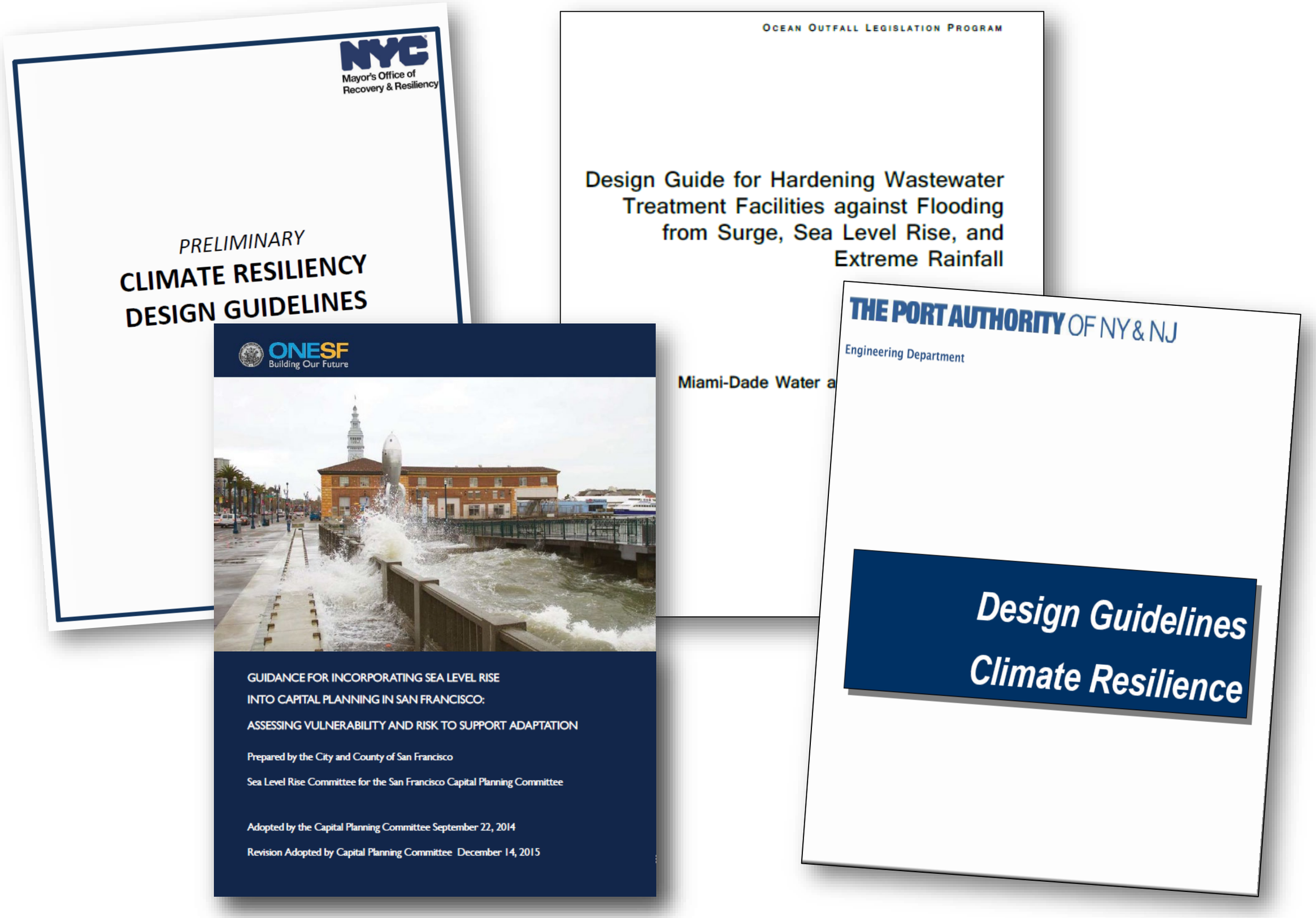
Scenario Planning



Adaptive Management

Risk Governance

Introduce new strategies and support existing tools



Rely on existing resources and borrow ideas

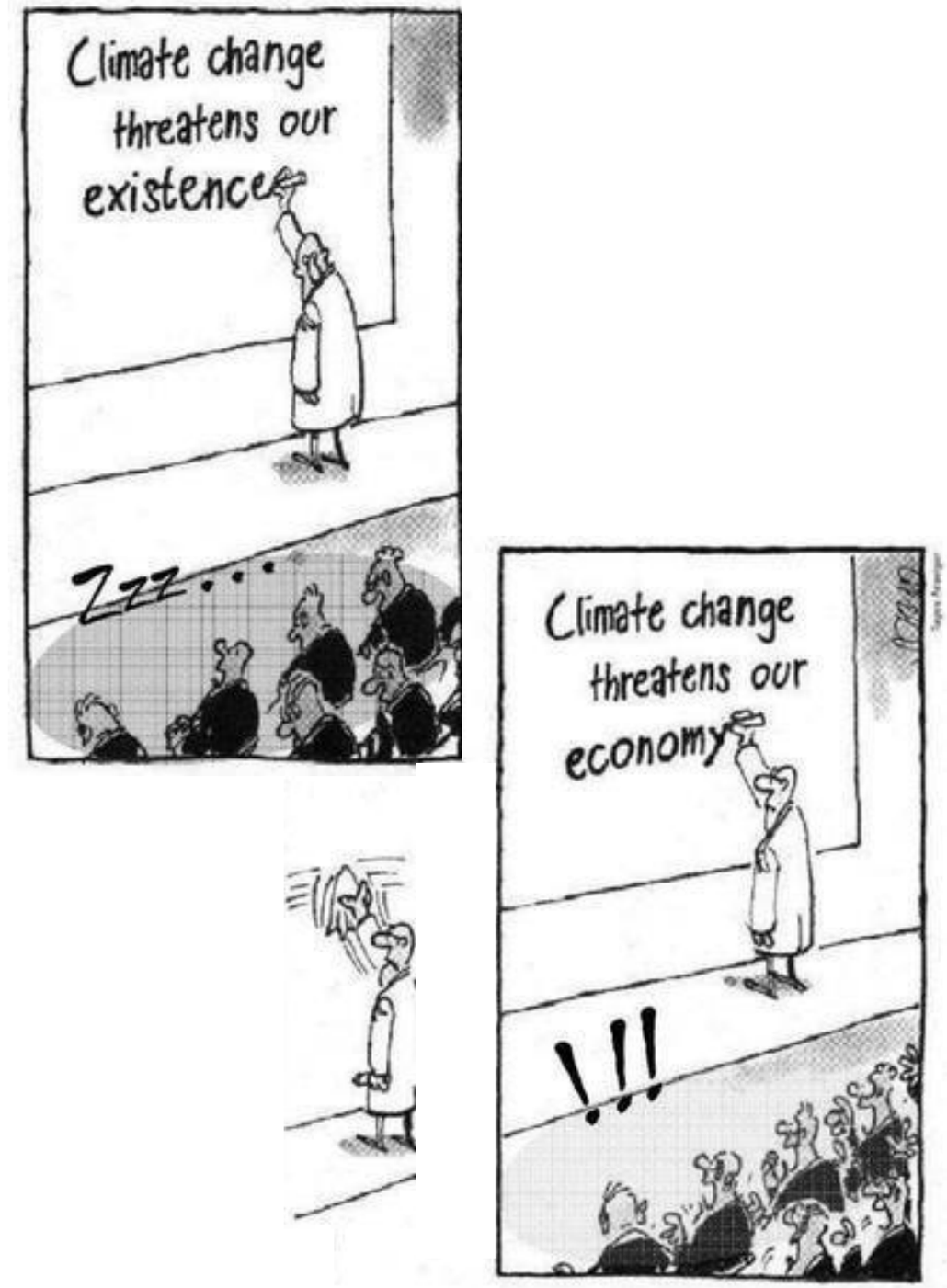
Communication: *Resistance*

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
- Liability – reach out to your legal team
- Think about roles (your role?)



Tips and considerations…

Technical Challenge:
Insufficient data or models

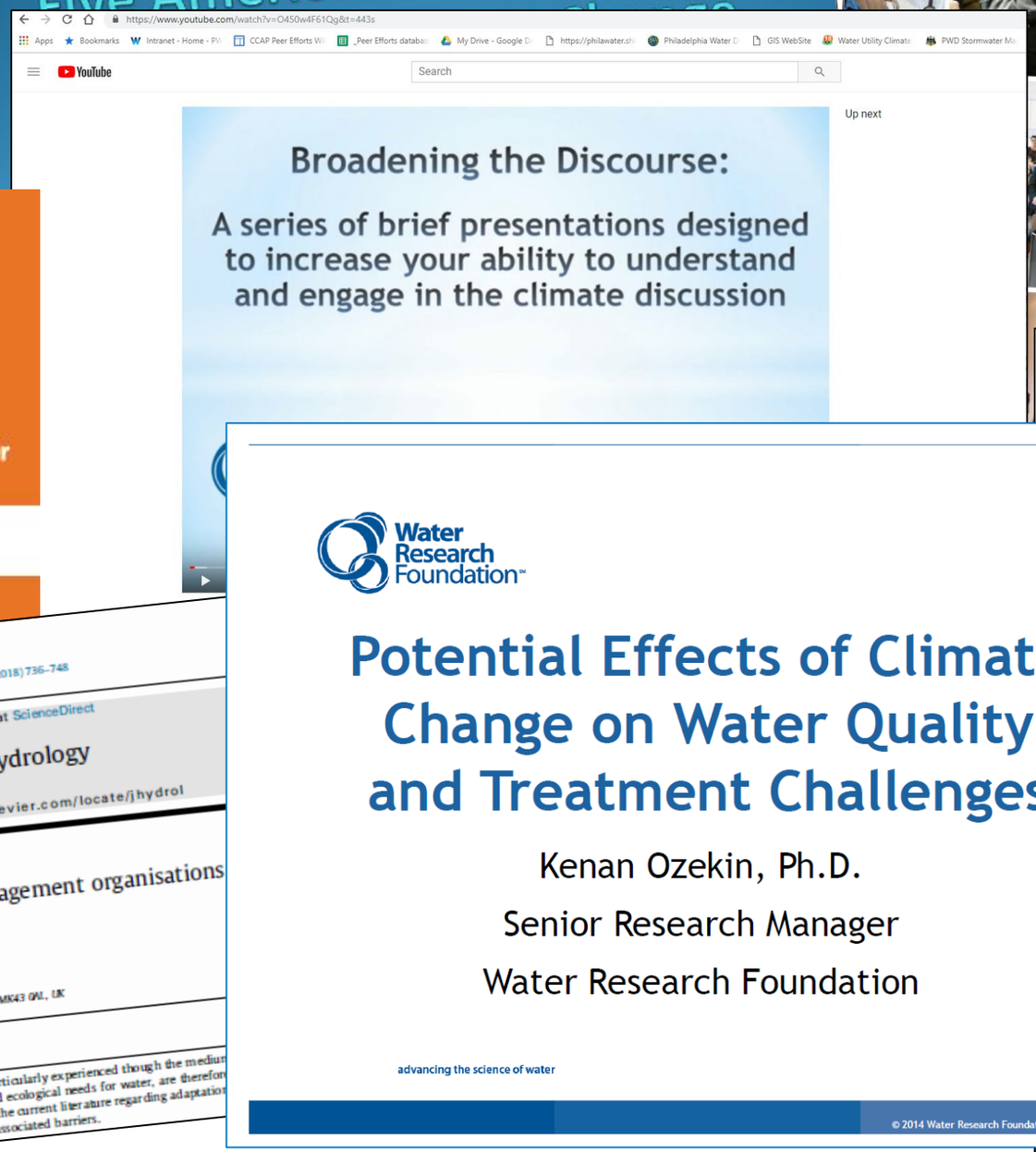
Technical Challenge: *Insufficient data or models*

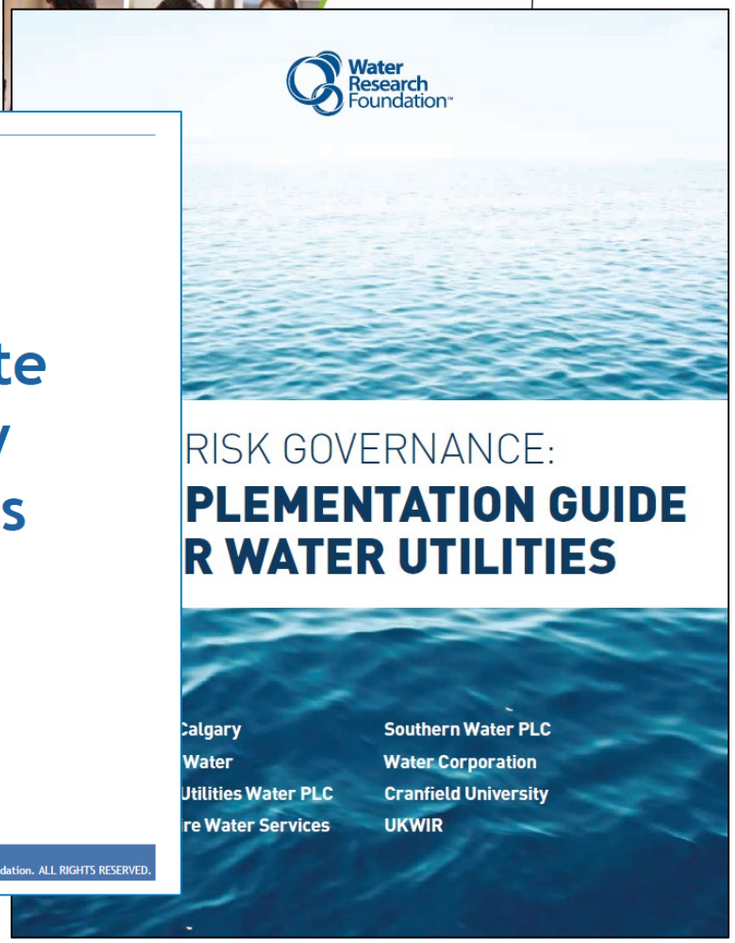
A lack of quantifiable information or data does not mean inaction. We can still provide general information and make smart decisions.

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

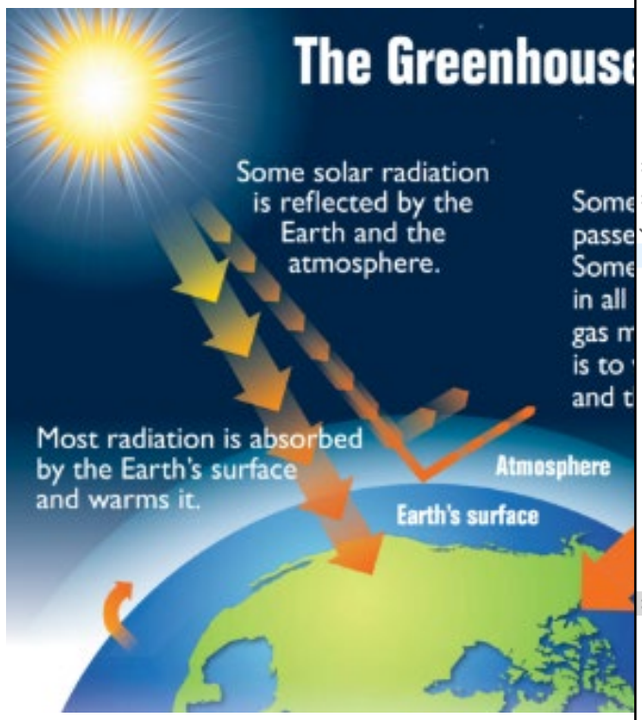
Resources & Capacity: *Staff Understanding*

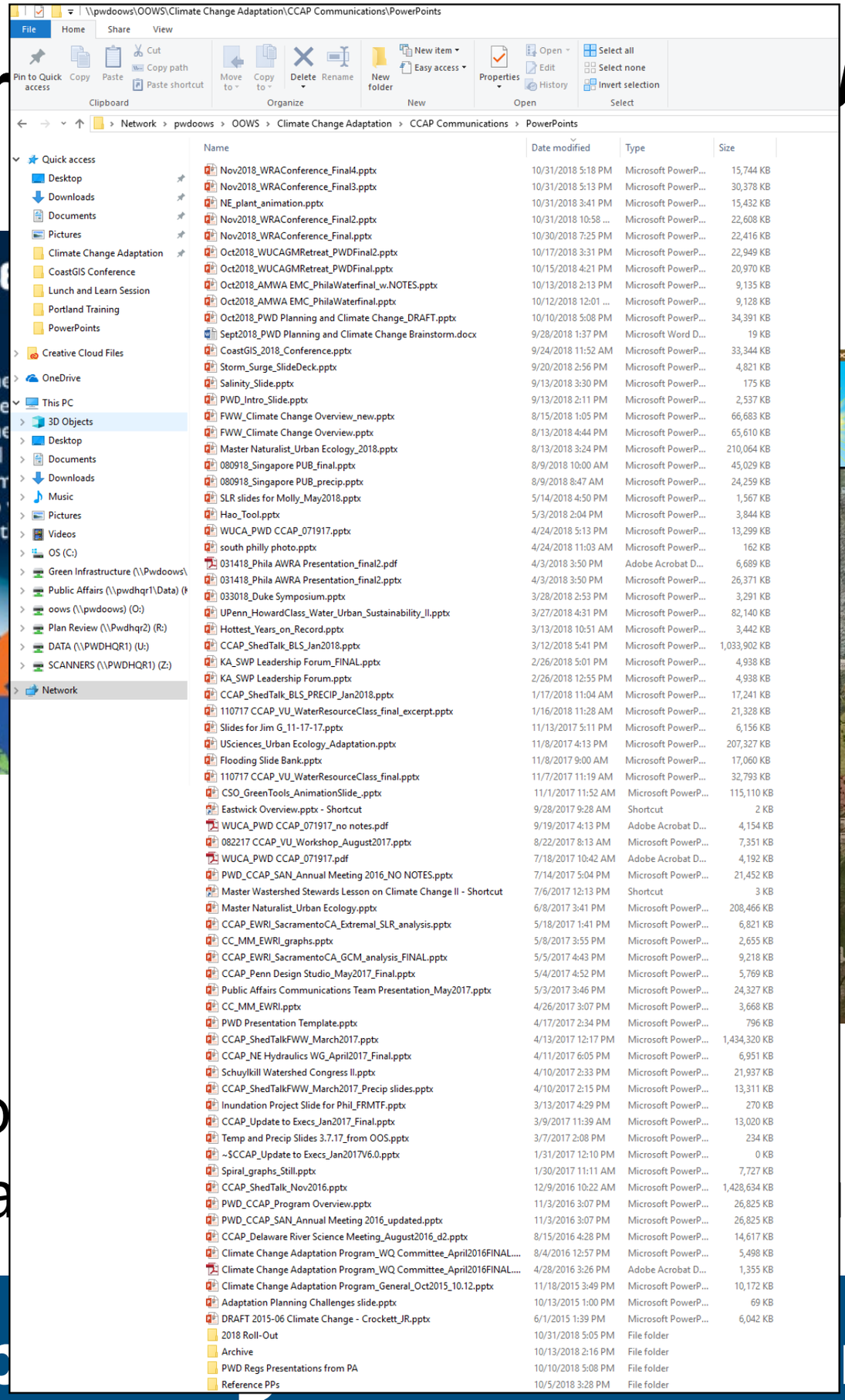




Rely on existing resources and borrow ideas

Resour



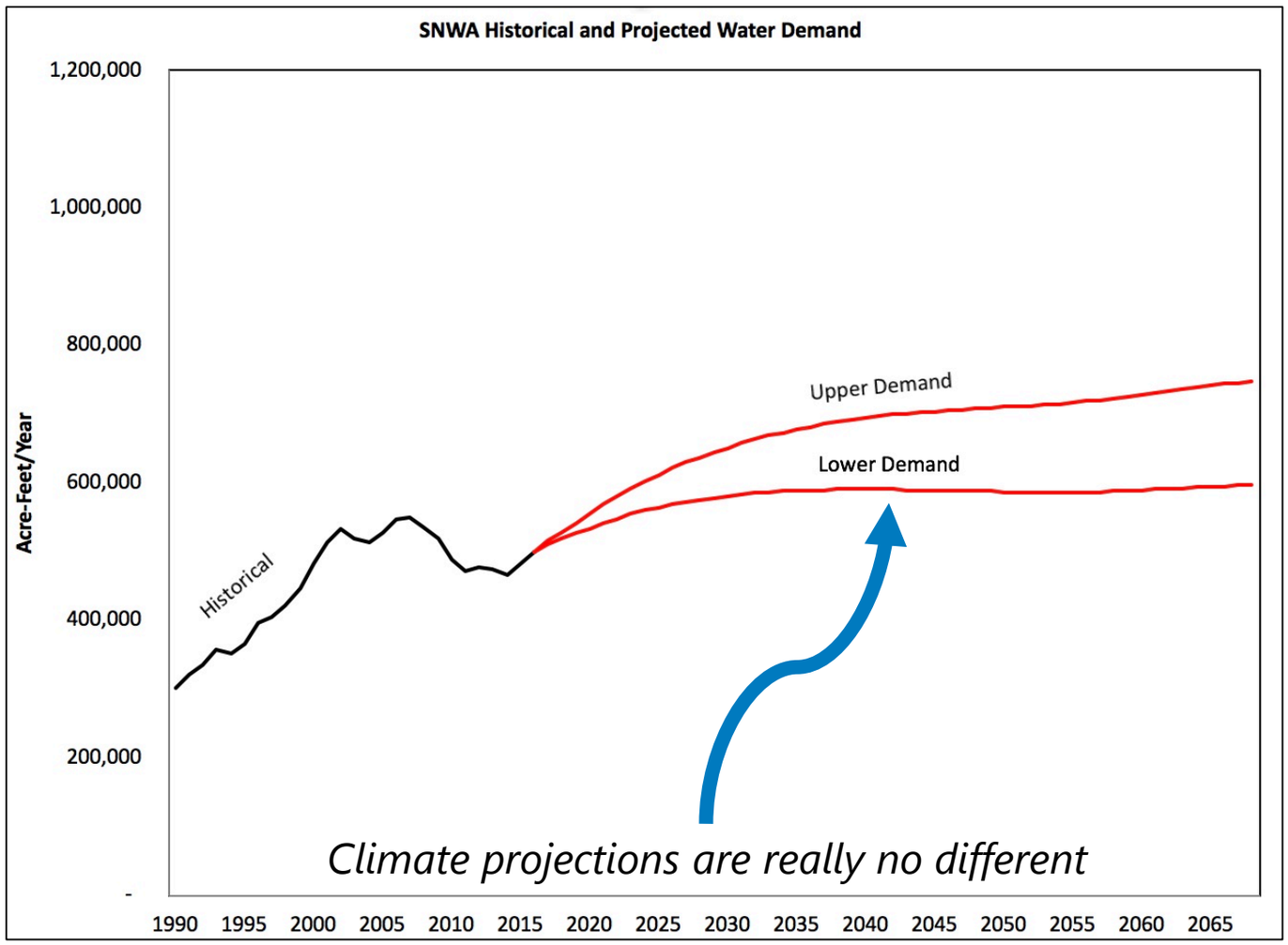


Create oppo face-to-face
intera ently.

Invest in b rstanding

Resources and Capacity – *Staff Understanding*

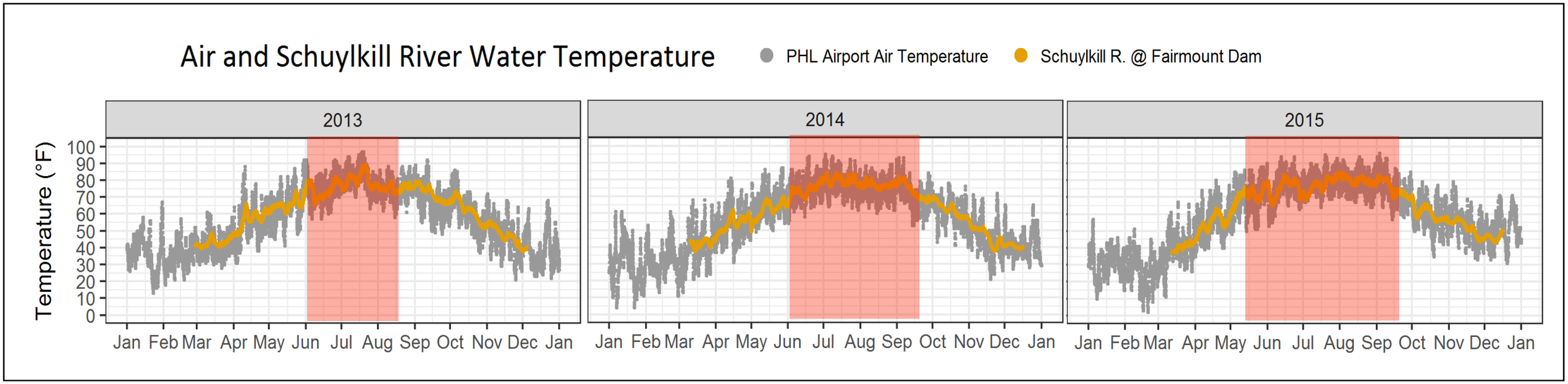
Water utilities are familiar with planning for risk and operating under uncertainty (e.g. economic & population growth, future water demand projections).



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

Resources and Capacity – *Staff Understanding*

Climate change amplifies issues we already deal with.



Summer months are the hardest time to meet some treatment regulations (i.e. Disinfection Byproducts, Chlorine residual).

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, ASCE?)
- 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:

- Incorporate climate change into capital planning process
- Change planning and design processes
- Incorporate climate change into long term master plans
- Adopt resiliency design guidelines
- Adopt scenario planning
- 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

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

Buckets o’ Barriers Activity

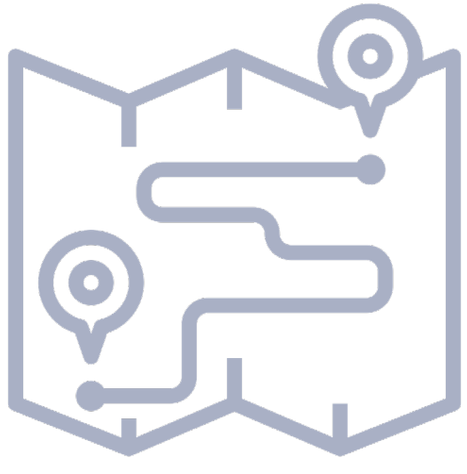
Organizational Structure
(e.g., silos, board support, general management, etc.)

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

Organizational Structure

Policies, regulation & mandates

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!*