Talking Climate Change

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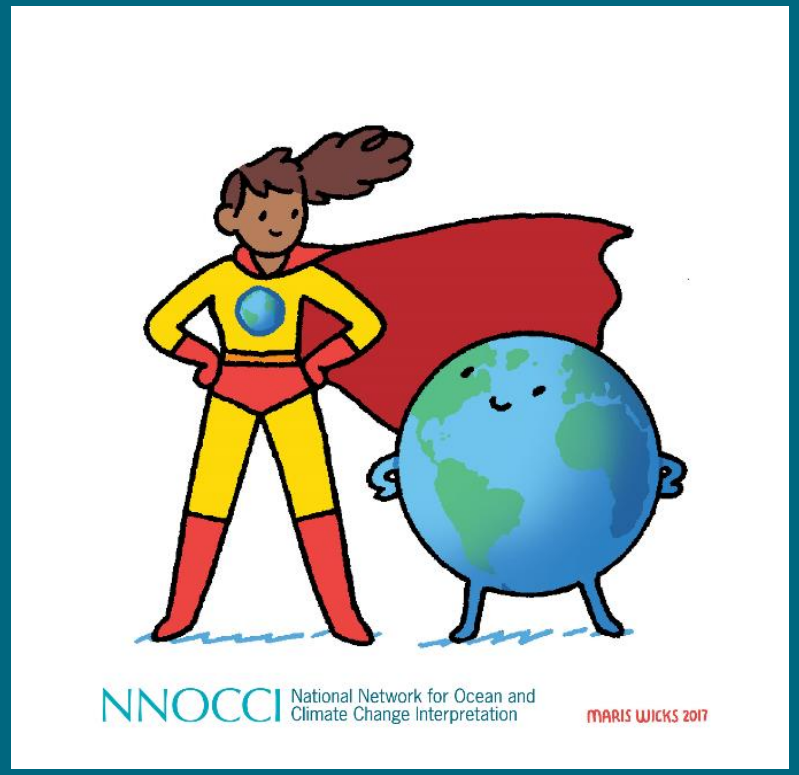
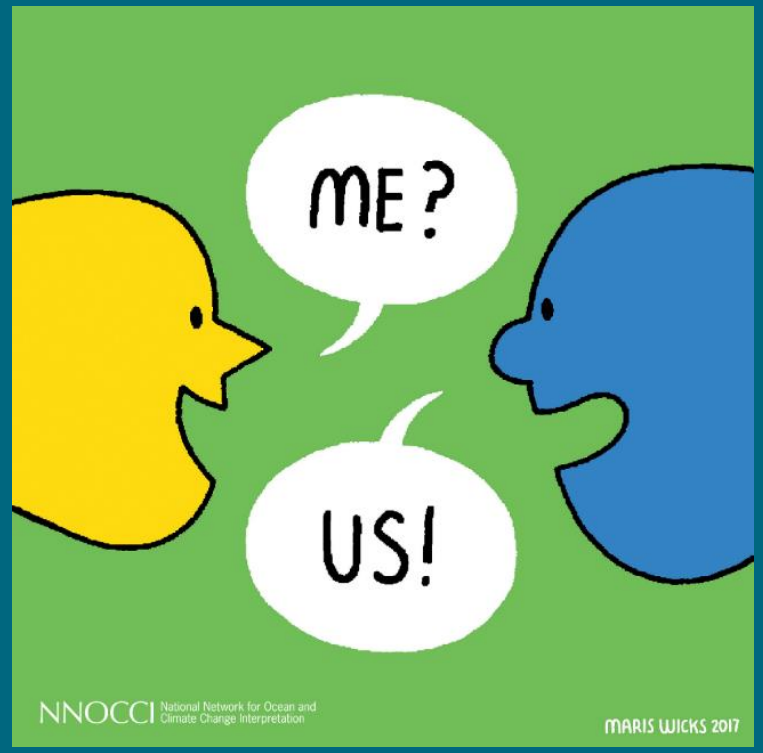
NNOCCI National Network for Ocean and Climate Change Interpretation

Effective climate action requires productive public discourse and civic engagement



- 70% of Americans think climate change is happening now.
- Yet, 65% of Americans discuss climate change only occasionally or never.

Our Opportunity: Our Reach



- 1,500 informal science centers are visited by 61% of the US population
- Working together we can influence other networks and communicators

Association of Zoo & Aquarium institutions reach 180 million visitors a year

Our Opportunity: We are Trusted

- We are highly credible sources of information
- We are not seen as having a political agenda
- People believe that informal science learning centers should recommend action

(Dilenschneider, 2017)

A Primed Audience

75% of visitors believe zoos & aquariums should make recommendations for how the public can protect the environment.

(CLiZEN 2012)

Photo: Marianne Hale

A Primed Audience

70% percent of visitors agree that the most important environmental issue confronting the world is climate change.

(NWZAA, 2009 & Ocean Project 2009)

Photo: Marianne Hale

Science Education Standards

- The NGSS specifically requires climate science and resource management be included in curriculum
  - 3rd, 4th, 5th, MD, HS all specifically mention climate change
  - Weather, the carbon cycle, resources, sustainability all appear in the other grades within the standards

SAN FRANCISCO UNIFIED SCHOOL DISTRICT
SCIENCE
DEPARTMENT

NEXT GENERATION SCIENCE STANDARDS
For States, By States

So…
what's actually happening?


Photo: Marianne Hale

Global Climate Change

CHANGING:

- Temperature
- Precipitation
- Humidity
- Wind
- Pressure

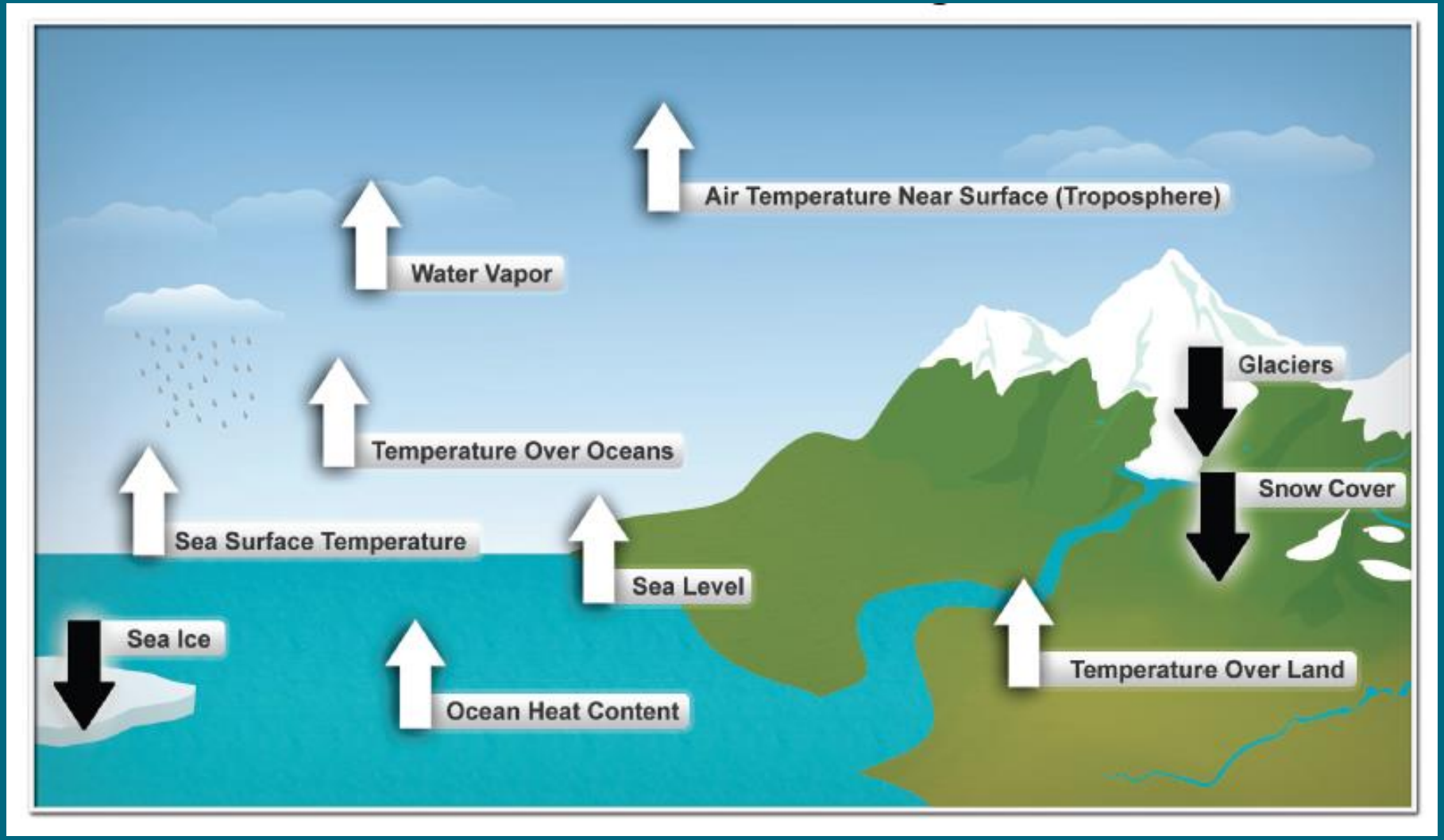
**Average over 30 years

“But we had such a cold winter?”

Climate → What clothes should I buy for the season?

Weather → What should I wear today?

Ten Indicators of a Warming World:

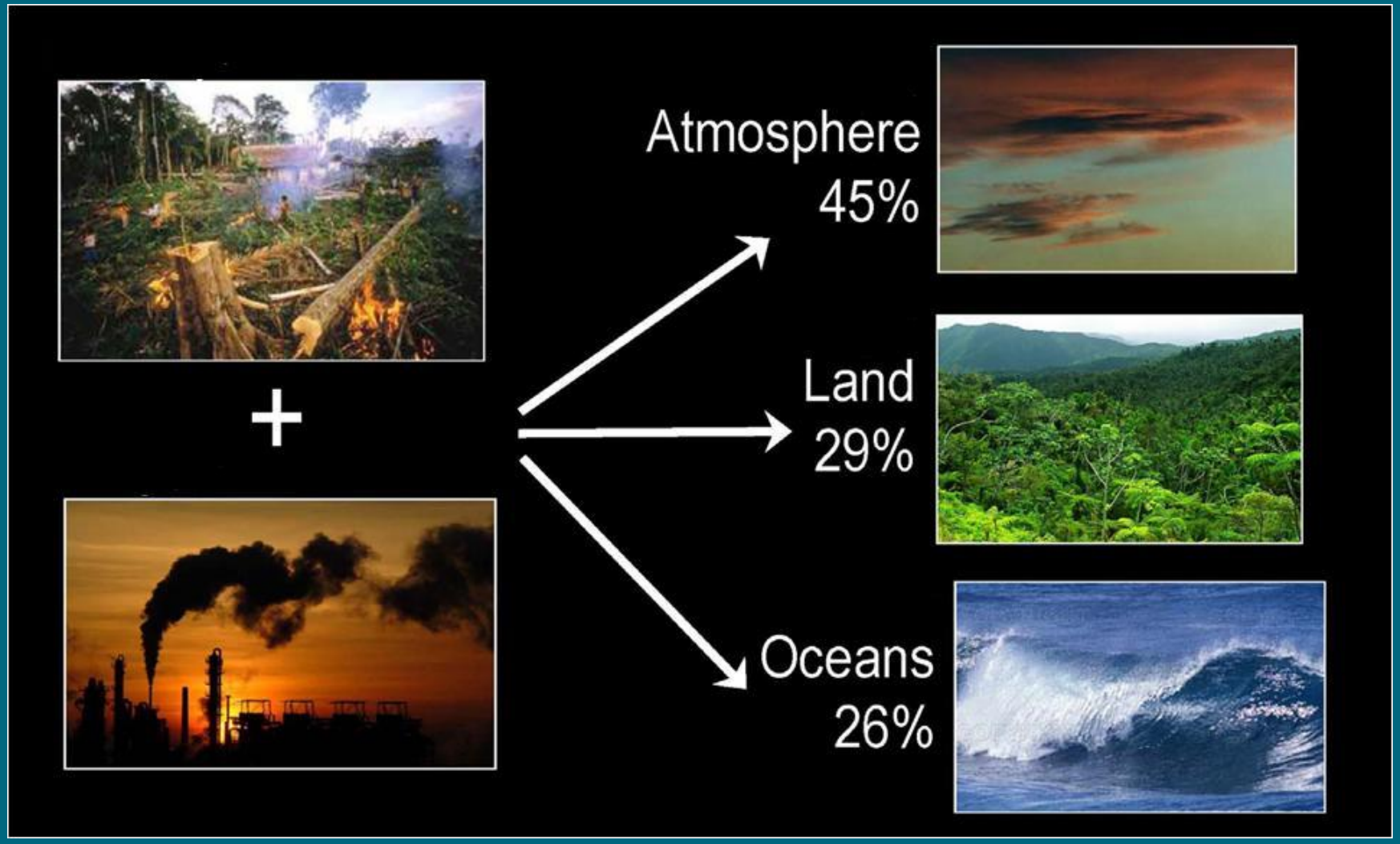


Mechanism of Climate Change

Carbon Dioxide is the most important factor when talking about climate change:

- ✓ CO_2 has contributed most between 1750 and 2011.
- ✓ Other gases are better at trapping heat molecule per molecule (e.g. CH_4), but are far less abundant.
- ✓ CO_2 remains in the atmosphere longer than the other major heat-trapping gases.
  - ✓ Water vapor cycles back into the water cycle in on average 10 days.
  - ✓ It takes 10 years for methane (CH_4) to leave the atmosphere and 100 years for nitrous oxide (N_2O).
- ✓ After a pulse of CO_2 is emitted into the atmosphere…
  - ✓ 40% will remain in the atmosphere for 100 years.
  - ✓ 20% will reside for 1000 years.
  - ✓ The final 10% will take 10,000 years to turn over.

Does all carbon dioxide go into the atmosphere?



A Few Facts to Note:

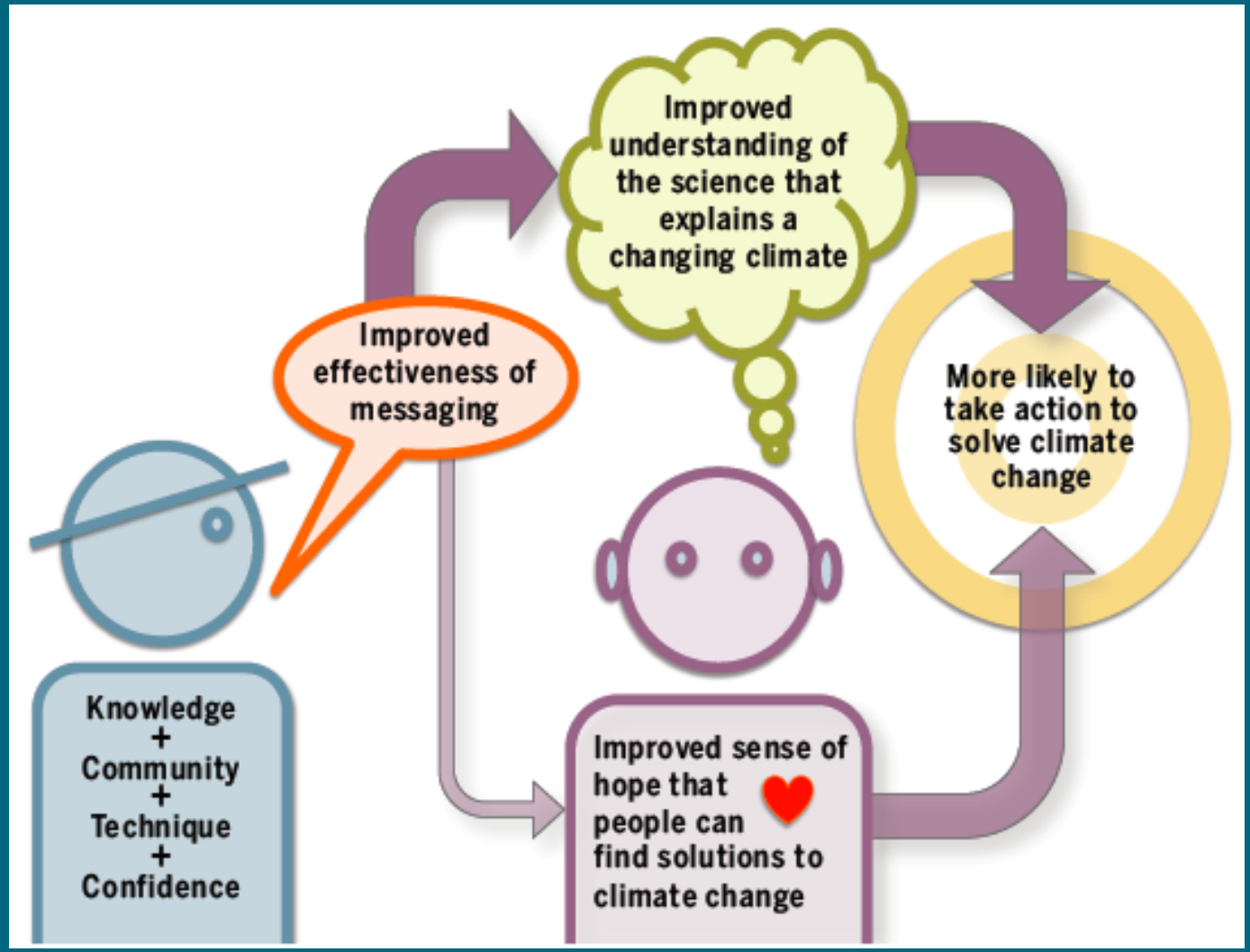
- Scientists have understood the fundamentals of the burning of fossil fuels and how CO2 traps heat since the Civil War
- The last time the earth had 400ppm of CO2 in the atmosphere was between 4 and 2 million years ago
  - Mastodons roamed North America
- The last time sea surface temperatures were like they are today was 125,000 years ago
  - That change took about 4 millennia
  - This current change took 150 years

Put Quite Simply…

Climate Change:

- **It's Real**
- **It's Us**
  - Human caused
- **It's Bad**
  - Harmful to humans
- **Scientists Agree**
  - 97% of climate scientists agree that human-caused climate change is happening
- **There's Hope**
  - This problem is solvable!

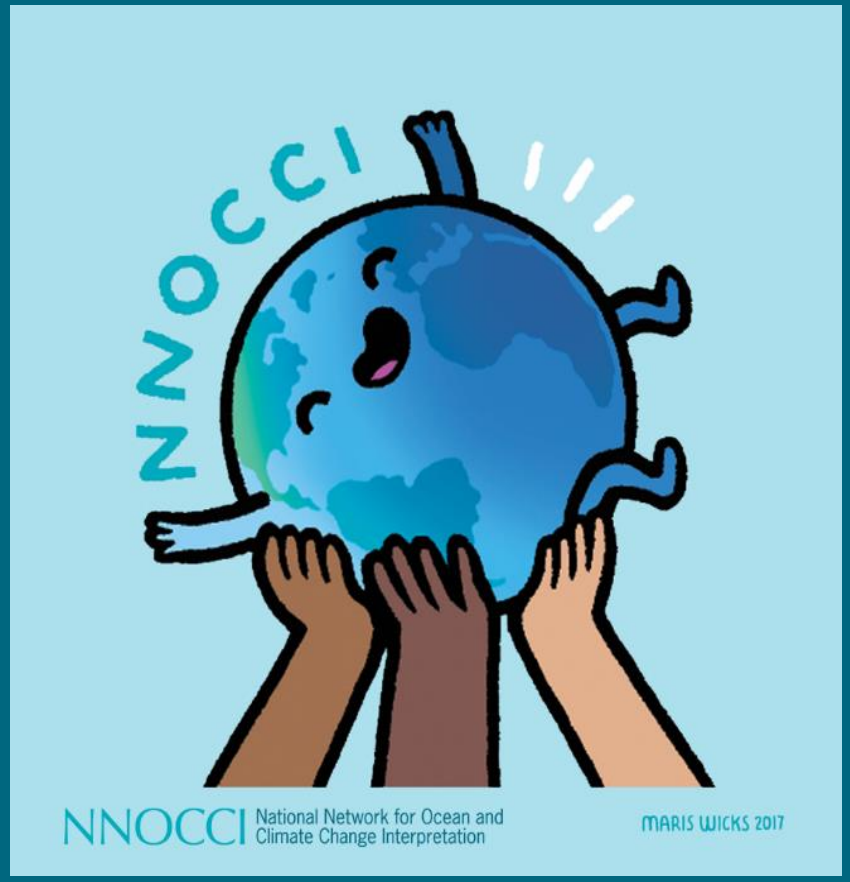
Evaluation shows how this works



Visitors to institutions with NNOCCI-trained staff were more likely than visitors to other institutions to:

- Encounter climate change information
- Express hope and confidence about their ability to talk about climate change
- Believe that talking with friends, family and politicians is effective
- Talk about climate change with others
- Engage in more personal and civic actions

Our mission



Together we can train enough voices in proven communication techniques to shift the national conversation about climate change to be more positive, civic-minded and solutions-focused.

FIRST!

We need to know what's already in people's heads.

- We need to know how people THINK
- We need to know what is missing from the public's understanding vs. the scientist community's understanding.

Ocean & Climate Change

Oceans

- Ocean and land= separate worlds
- Oceans are vast; Drop in the bucket
- Heal themselves
- All on the surface
- Ocean acidification- what's that?
- Ocean is too big to be harmed
- Oceans as a resource
- Basis of life
- Oceans support humans

Science

- New study every week
- My observation is as good as yours
- How do scientists know that?
- "Scientists say..."
- Science is innovation

Consumerism

- Eat it while you can!
- Bottomless grocery store
- Jobs vs. environment
- Cost/benefit thinking
- Ecosystems are valuable resources

Pollution

- Ocean problems=material pollution
- The root of all environment problems
- Just clean it up
- Solution=Recycling
- Carbon dioxide=carbon monoxide
- Human caused

What's in the swamp of...

Nature

- Nature works in cycles
- Nature is self-correcting
- Change is natural/Fatalism
- Mother nature
- CO_2 is natural, therefore it is good
- Web of life/It's all connected
- Shared fate

Climate Change

- Climate=yearly weather patterns in place
- "It's about the ozone, isn't it?"
- Big, Scary depressing
- System, what system?
- Climate change = warming
- Melting Ice
- What can I really do?
- Something needs to be done

Public Affairs

- Two sides to every story
- Even if we do our part, other countries won't
- Politics as usual
- Individualism
- Government is good at protection
- Americans are problem solvers
- Civic Responsibility

Strategic Framing is…

A research-based approach that is proven to:

- Bridge the gap between scientist and public understanding
- Help the public understand the mechanisms of climate change
- Show the public how they can be ‘heroes’ of the climate change story
- Leave the visitor and the interpreter with a sense of hope

Let’s next consider HOW we talk…

Why would we want to avoid a **crisis** tone?

Instead, keep a **neutral, reasonable, and explanatory tone** in messaging and conversations.

The Core Story of Climate & Ocean Change

Why Does This Matter to Society?

How Does it Work?

How Do We Improve the Situation?

Why Does This Matter to Society?

- It's a common trap to assume people care about the same things as you do!
- Using the tested values situates the issue within something they already care about

Value

Protection

Why does it matter? What's at stake?

The story you're telling:

We must protect people and places from being harmed by the issues facing our environment.

Strategically redirects thinking away from patterns such as:

- Bottomless Grocery Store
- Change Is Natural/Fatalism
- Individualism
- Nature Will Fix Itself
- Nature Works in Cycles
- Solution = Recycling

Value

Responsible Management

Why does it matter? What's at stake?

The story you're telling:

Taking practical, common sense steps to address problems facing our environment today is in the best interest of future generations.

Strategically redirects thinking away from patterns such as:

- Change Is Natural/Fatalism
- Eat It While You Can
- Individualism
- Nature Will Fix Itself
- Nature Works In Cycles
- Solution = Recycling

The Core Story of Climate & Ocean Change

Why Does This Matter to Society?

How Does it Work?

How Do We Improve the Situation?

Explanatory Metaphors

- Make an abstract idea concrete and sticky
- Help people understand the mechanisms at work
- When linked to causes and impacts, they motivate productive consideration of multiple solutions
- Give people a role in the story.

Explanatory Metaphor

Regular and Rampant CO_2

A metaphor for anthropogenic carbon dioxide

The story you're telling:

"Regular" carbon dioxide is used and created by normal life processes, but "Rampant" levels of carbon dioxide come from burning fossil fuels for energy. We need to reduce rampant CO_2. It's getting out of control.

Strategically redirects thinking away from patterns such as:

- CO_2 Is Natural Therefore It Is Good
- Carbon Dioxide = Carbon Monoxide
- Ocean Problems = Material Pollution
- Nature Will Fix Itself
- Solution = Recycling
- Change Is Natural/Fatalism
- It's the Ozone, Right?

Explanatory Metaphor

Heat-Trapping Blanket

A metaphor for the basic mechanism of climate change

The story you're telling:

When we burn fossil fuels for energy, we add more and more carbon dioxide into the atmosphere. This buildup acts like a blanket that traps heat around the world, which disrupts the climate.

Strategically redirects thinking away from patterns such as:

- Change Is Natural/Fatalism
- It's About the Ozone, Isn't It?
- Nature Will Fix Itself
- Nature Works In Cycles
- Solution = Recycling

The Core Story of Climate & Ocean Change

Why Does This Matter to Society?

How Does it Work?

How Do We Improve the Situation?

(or moving from fossil fuels toward renewable energy)

(or reducing our demand for and use of fossil fuels)

(or empowering others to raise the topic of climate change in more settings)

Collective Local Existing

Frame Element

Solutions

The Solutions frame element fosters hope and instills a sense of agency and efficacy.

The story you're telling:

Concern for our climate is normal and action on climate is happening all around us. We can come together as citizens to address climate change and help change the decision-making context so that the sustainable choice is the easy choice for more Americans.

Strategically redirects thinking away from patterns such as:

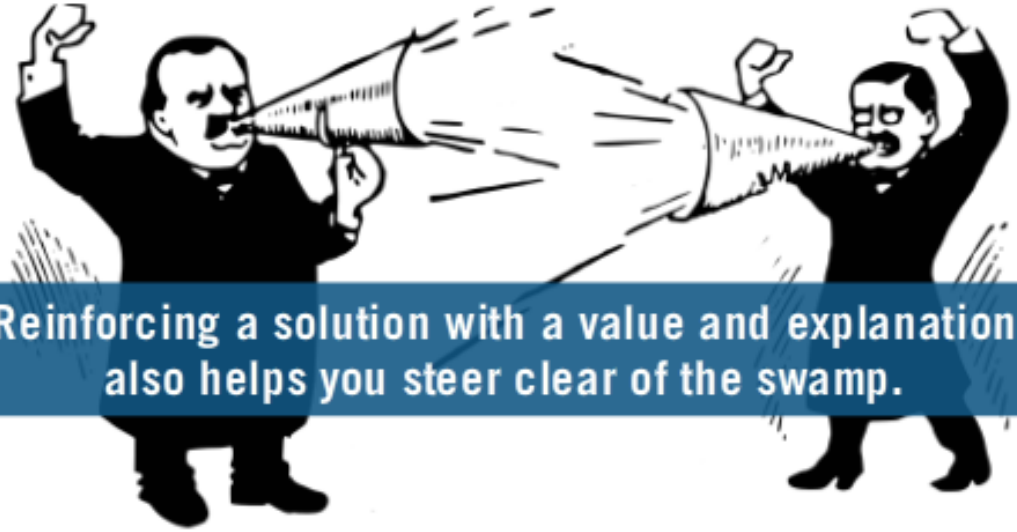
- What can I really do? / Individualism
- Politics as usual
- Even if we do our part, other countries won't
- Big, Scary, Depressing
- Crisis
- Change is natural / Fatalism
- Just clean it up
- Nature is self-correcting
- Solution = Recycling

Avoiding Polarizing The Solution

In 2016 and 2017, FrameWorks conducted a study of **4500** individuals, looking at how framing *Solutions* can help you avoid swampy thinking.

Solutions themselves have the ability to be polarizing.

Cues to use with caution:	Use instead:
Politicians	Civic leaders
Policies	Approaches
Laws	Programs
Regulations	State or City Name
Government	Municipal



Reinforcing a solution with a value and explanation also helps you steer clear of the swamp.

What does this look like in action?

It's important that we all take responsible steps to manage the issues facing our environment, to leave our planet in good shape for future generations of otters and people!

When we burn fossil fuel, like coal, oil and natural gas for our energy needs, we emit excess carbon dioxide into the atmosphere where it acts like a blanket trapping in heat around the world. This extra heat is throwing the climate system out of balance. Here in California, periods of extreme weather, like drought, followed by a concentrated period of heavy rain, causes soil to dry out and then get swept away by the downpour, destroying river otter habitats. This erosion is also affecting coastal communities, damaging houses and roads. Did you know that 85% of Californians live along the coast?

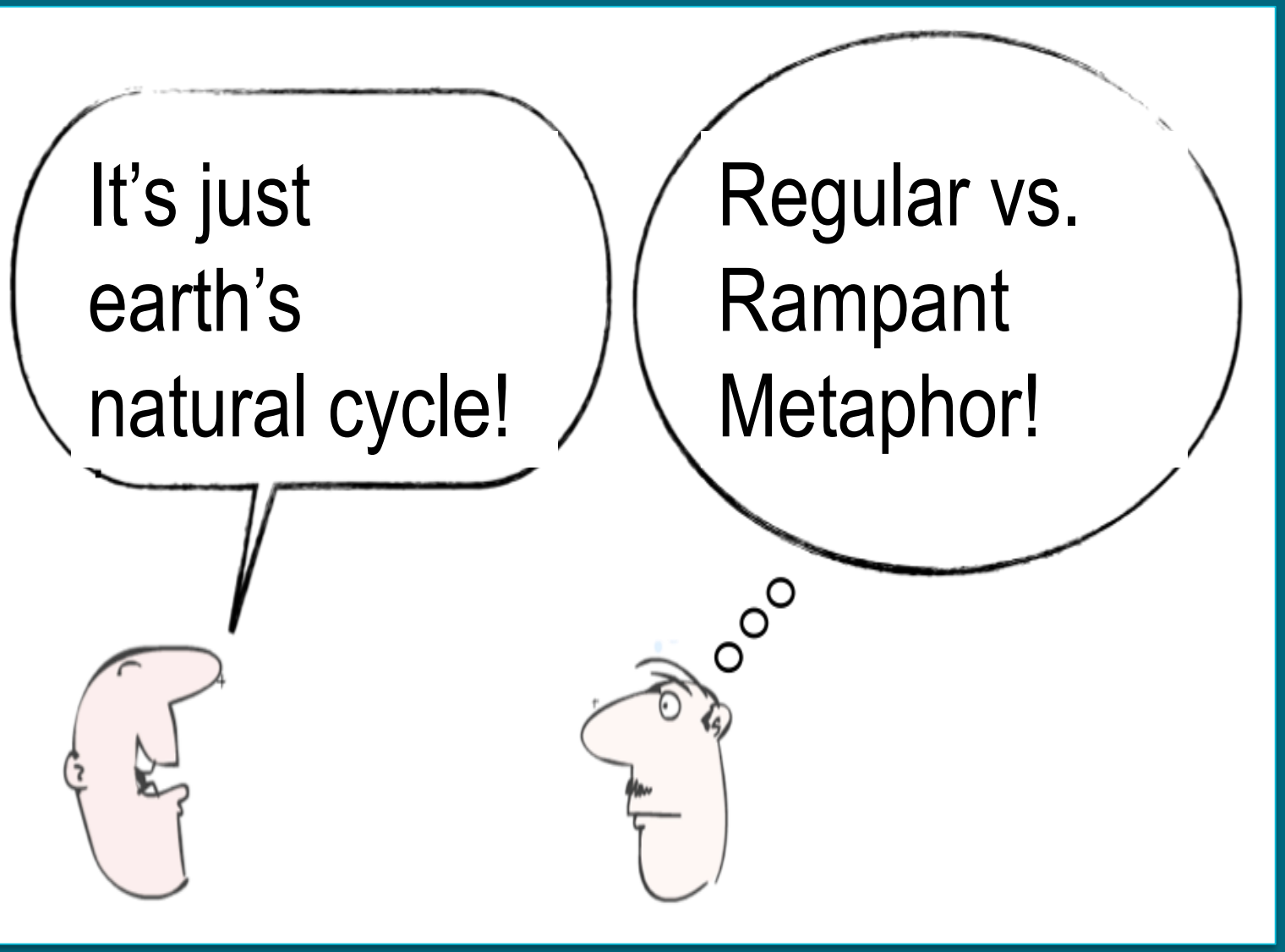
We at the San Francisco Zoo are dedicated to working towards handling these problems before they get too big to handle. It's not just us though – communities around California have been asking their leaders for better energy options. Through CleanPowerSF and other Community Choice Aggregation programs, we can choose where our energy comes from (solar, wind, etc), joining our neighbors in reducing the unnecessary carbon dioxide emissions that are throwing our climate system out of whack. And, by talking to your friends and family about why you are taking advantage of this opportunity, you can help us protect current and future generations of otters and people by tackling the source of the problem.

What does this look like in a conversation?

1. LISTEN: What's behind the statement? Let's go back to the swamp!

2. CONSIDER: What tool (values, explanation, solutions) would help first?

3. TALK CALMLY: What might the response be?



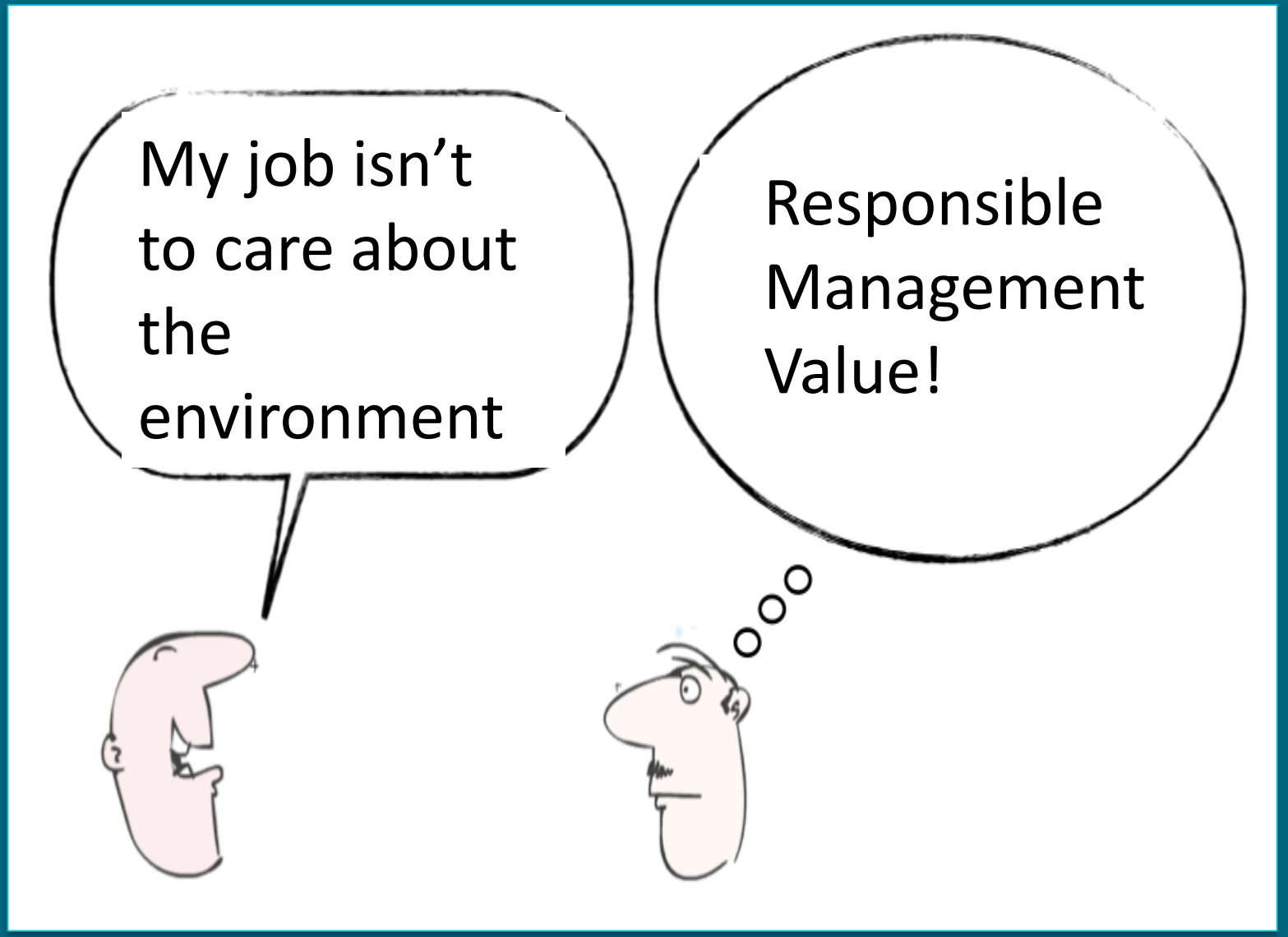
Well it is interesting you say that, the earth does have a natural carbon cycle – for example we breathe in oxygen and breathe out CO_2. Trees and plants take in that CO_2 and give us oxygen. That's what we call regular CO_2 – it's a balanced system.

But since the industrial revolution we've been adding excess CO_2 by burning fossil fuels like coal, oil and natural gas, and right now that extra CO_2 is being added too quickly and throwing the balance out of whack. We call that rampant carbon dioxide.

Fortunately for us, we already have ways to limit the rampant CO_2 we produce so that we can bring the system back to balance.

Well you know, its not too late and we don’t have to wait for far off solutions - change is happening all around us! For example, here in San Francisco, we negotiated a 100% renewables plan that allows residents to choose local green energy for the electricity for a price that is close to the price of the fossil fuel plan. By participating in this program we are also fueling local green energy infrastructure, which will help us all in the long run.

There’s also this awesome group called Mothers Out Front that is helping residents understand their options and encouraging whole neighborhoods to sign up.
When I joined Mothers Out Front it helped me feel less anxious because I was surrounded by people who were lending their talents to helping tackle this problem in a big way. It makes my small contribution much larger and focuses it on the root of the problem – changing our systems. Together we can tackle the climate problem while building a thriving future!



I hear you – your job is to make sure that this company tackles problems before they get too big to handle and make sure that we are good in the long run. I agree with that.

When I said that we should put solar panels on our buildings, I was thinking about ensuring that our actions today don't make it harder for us to work in the future. Solar panels would help us reduce our excess CO_2 emissions from our electricity generation. Less CO_2 in the atmosphere means less heat is trapped because CO_2 acts like a blanket in our atmosphere.

We are currently feeling the effects of the extra heat at the Zoo each winter- the storms and precipitation events have increased in their intensity. We are seeing more instances where we have to close pathways or exhibits because of down trees or flooding, which makes caring for our animals more difficult. It's the responsible thing to do for our visitors, staff and animals to take practical steps today that ensure that the way we operate doesn't put our business at risk in the future.

Adjusting Messaging for Young Minds

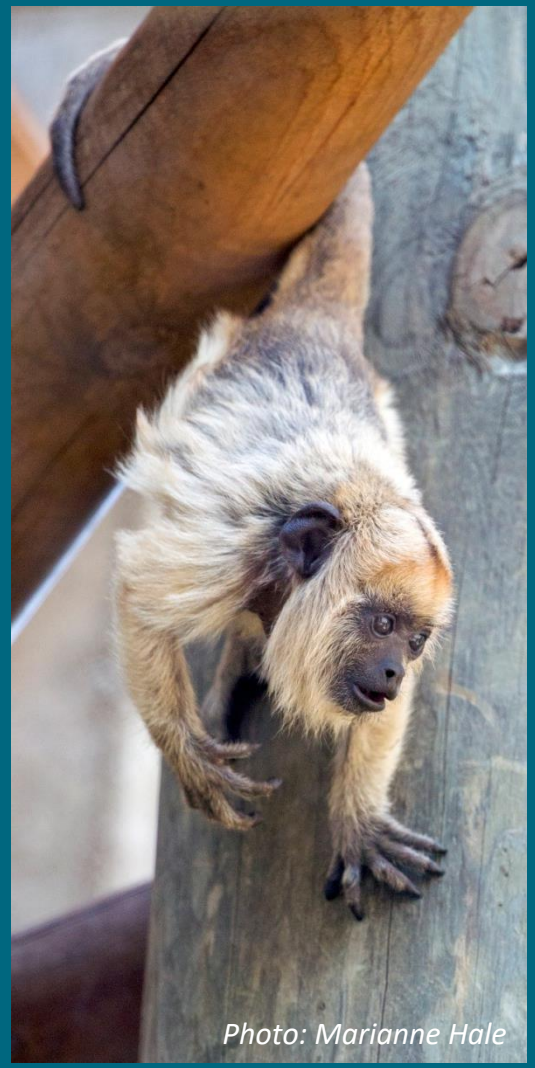
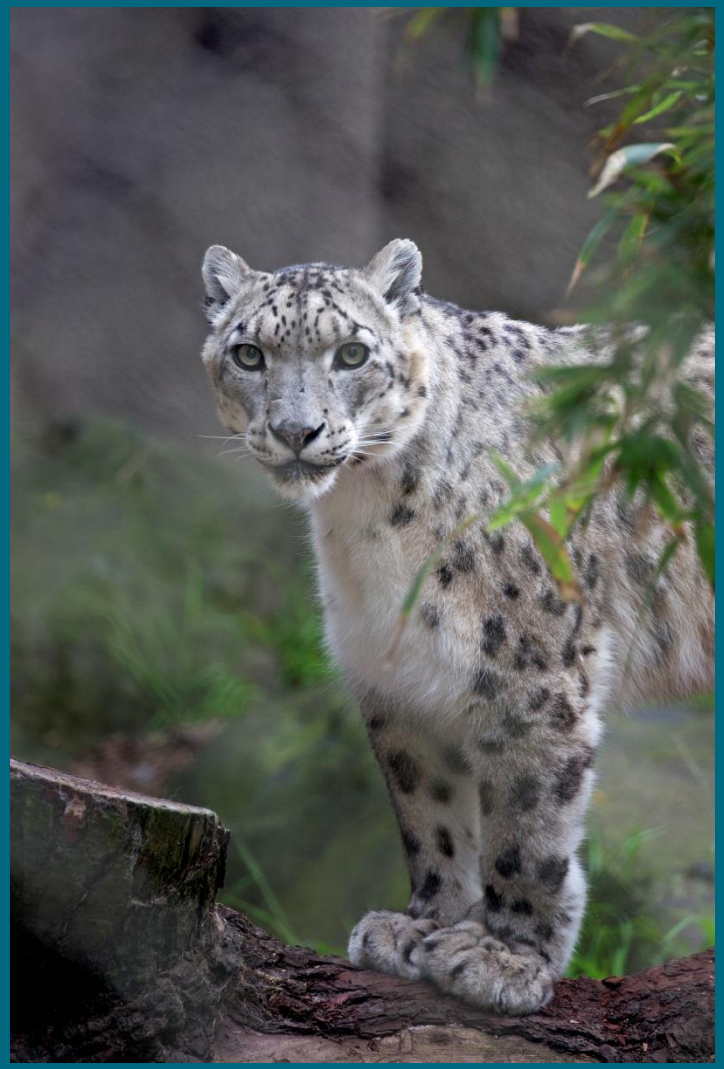
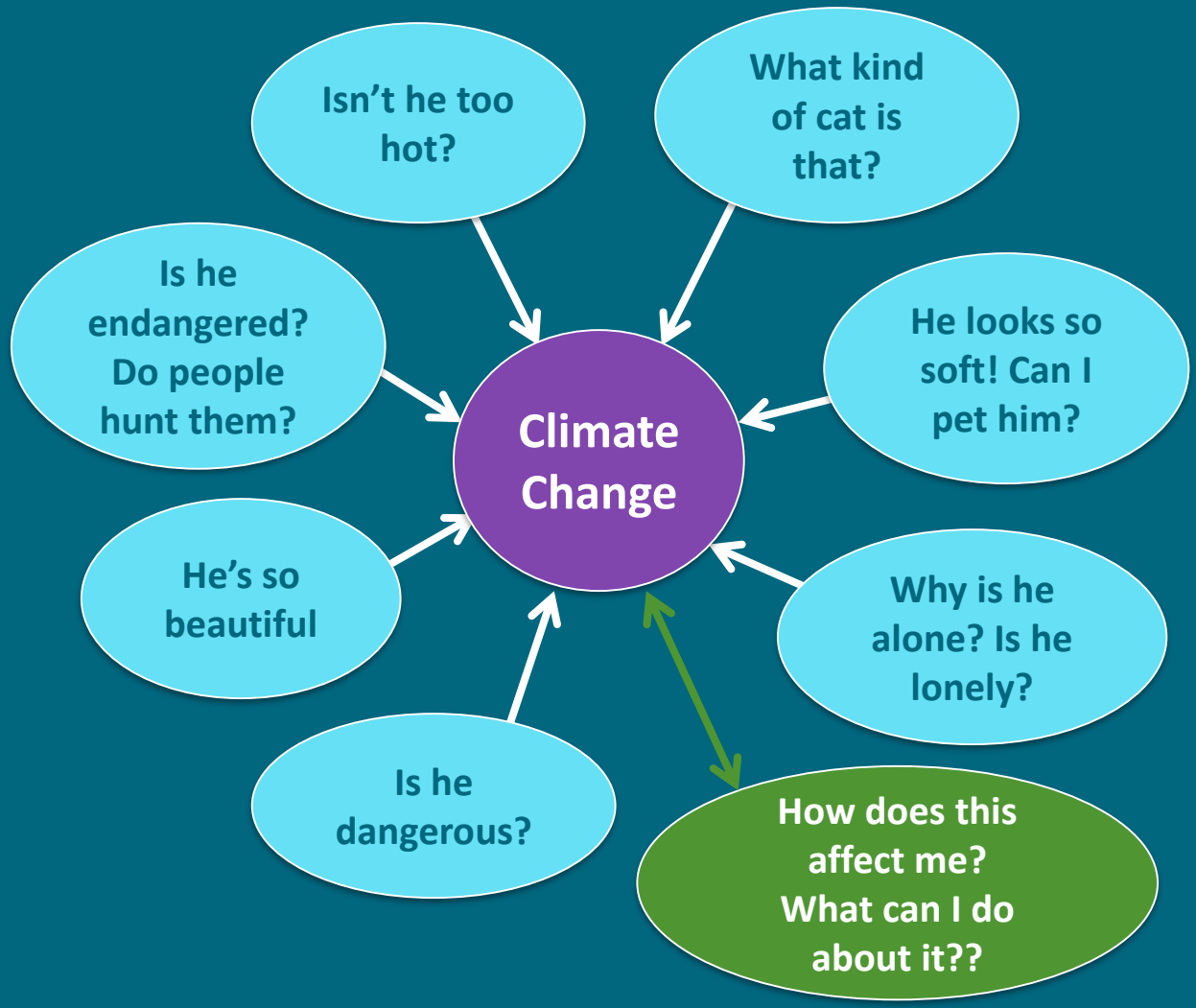


Photo: Marianne Hale

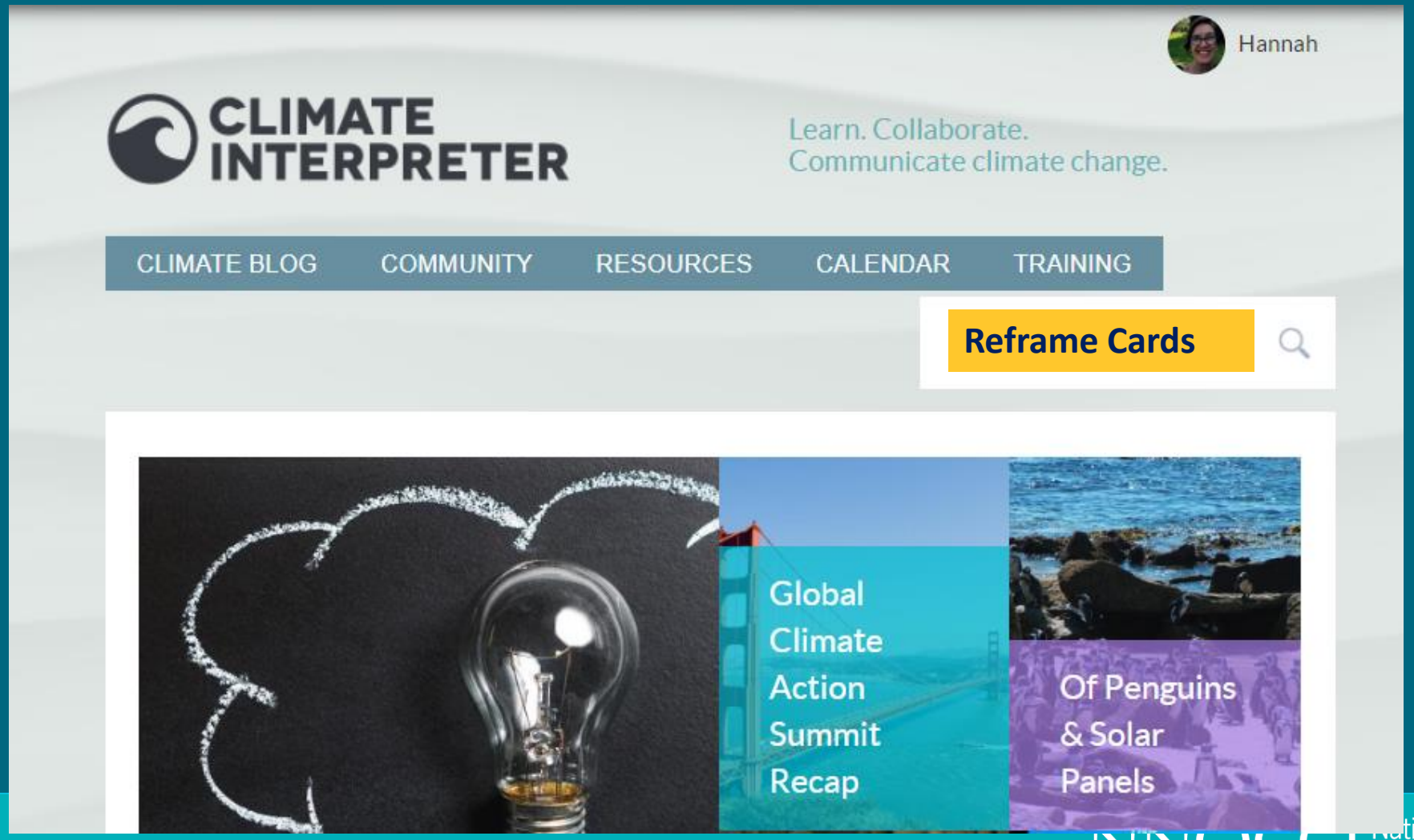
- Language should be appropriate
- No soapboxing! Encourage conversation, ask/answer questions
- Stay far away from death, doom, and gloom
- Projections are dangerous (tread lightly in all cases)
- **Solutions should be achievable for your audience**

Our Approach: All Roads Point to Home





Tool: ClimateInterpreter.org Community



Challenge

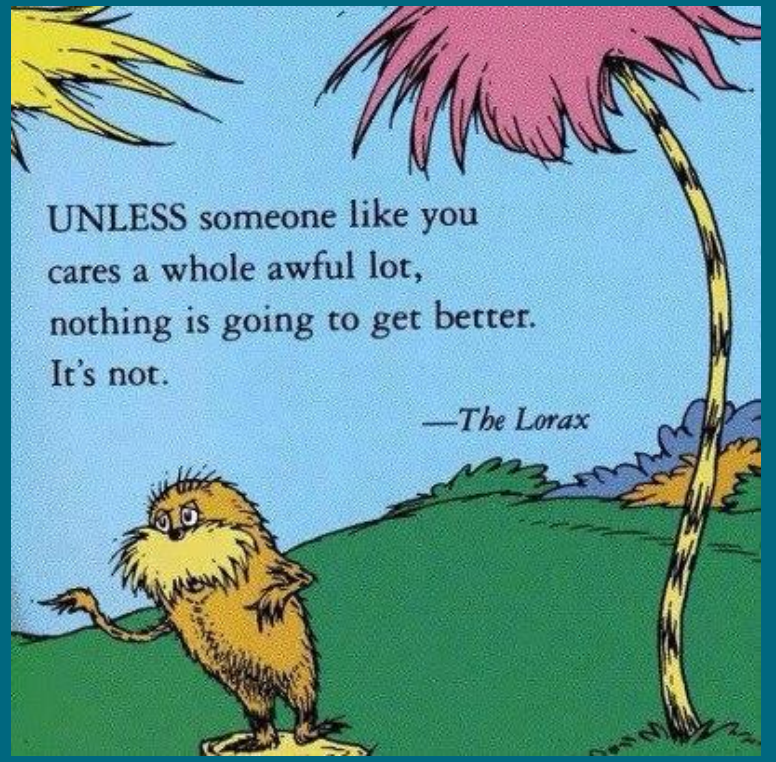
Try to use the Heat-Trapping Blanket metaphor once with someone you trust in the next 3 days.

Questions?

My motto is…
Conversation before Conservation!!

- Armed with the tools of a master-framer, we can frame (or reframe) any topic
  - Keep it conversational
  - Start with a value
  - Use tested metaphors
  - Promote collective solutions
  - Stay Positive/Get Excited

  Go forth and Frame!



NNOCCI National Network for Ocean and Climate Change Interpretation

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- Want to learn more? Frameworks has a free online course (link in handout)
- Want to practice more? Keep an ear out for workshops and trainings!
- blairb@sfzoo.org