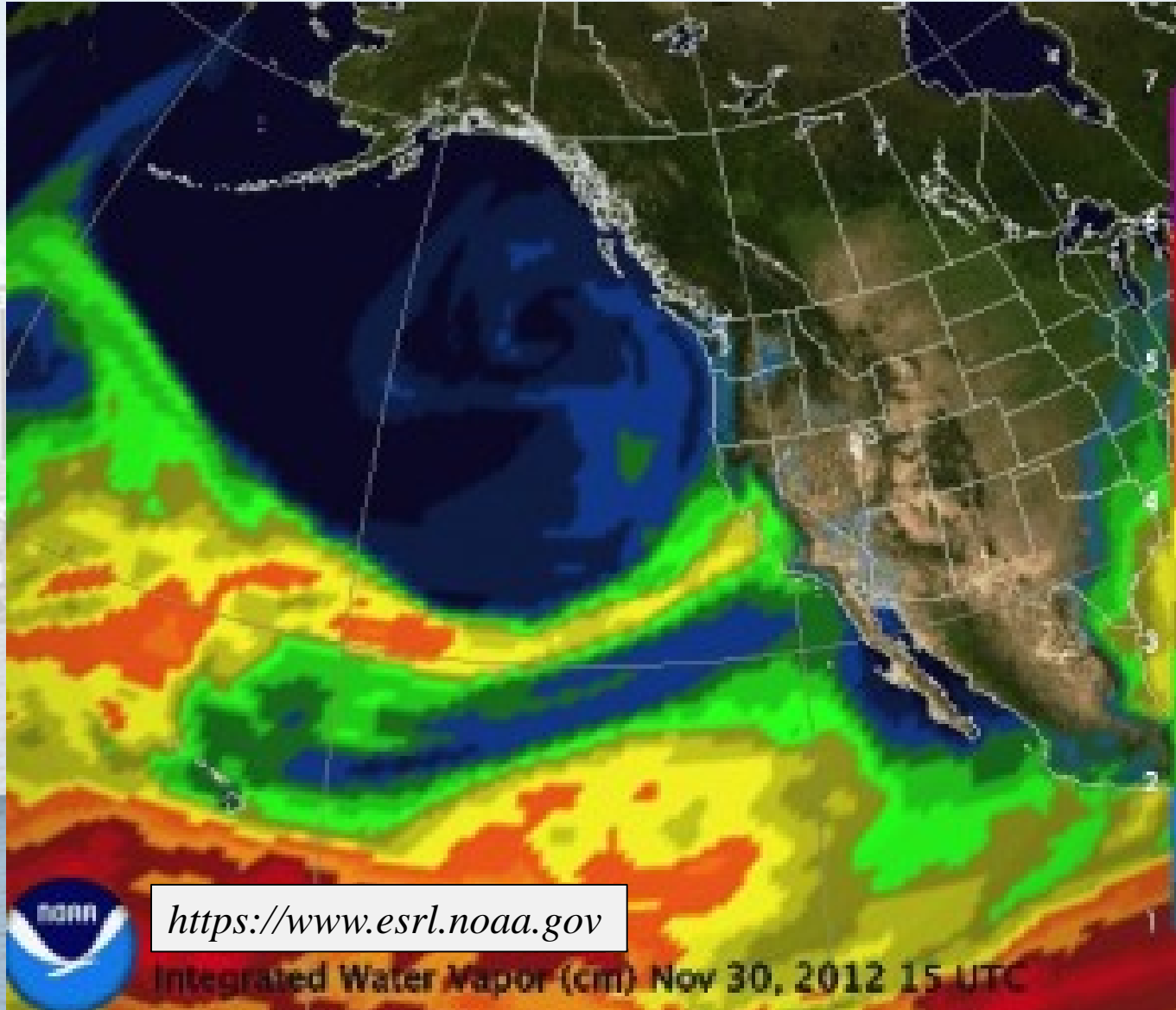


Tentative Resolution No. R9-2018-0051

Addressing Threats to Beneficial Uses from Climate Change

Item 12
May 9, 2018

Jeremy Haas,
Healthy Waters
Branch



The effects of climate change will be felt on many uses of local waters.

Climate Change Readiness Project 2016-2018

Context

Constraints

Decisions

Climate Change Effects

State Efforts

Local Actions

Practical Vision

Limited staff resources

Incomplete data / info

Limited ability to influence outcome

Priorities

Goals

Actions

Goals of the Tentative Resolution

- Inform the public of the Board's intentions
- Provide guidance to staff
- Respond to climate change directives of the Governor and Legislature

Leadership Stewardship Communication Transparency

Climate Change has many effects on water quality

Shoreline erosion

Ocean acidification

More extreme heat days

Intertidal habitat loss

Increased toxic bioavailability

Warmer Ocean

“Increasing greenhouse gases will have a significant impact on the ocean during the 21st century.” – NOAA
<https://www.esrl.noaa.gov/psd/news/announcements/2018/020818.html>

Seawater intrusion

More droughts

More wildfires

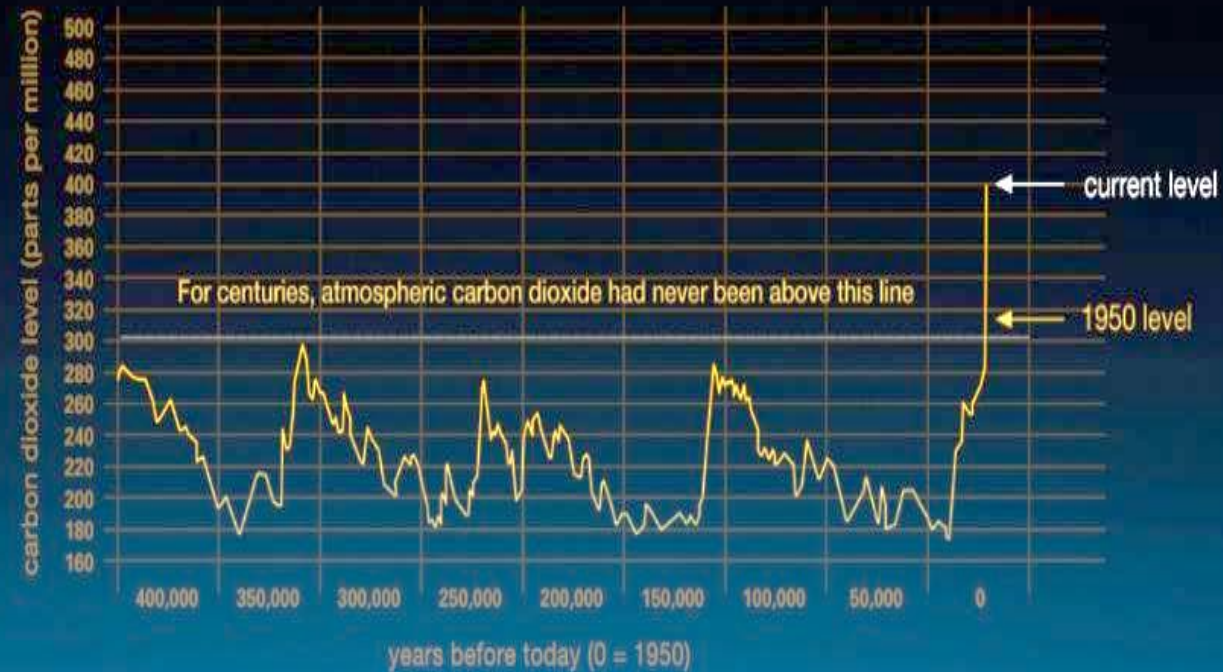
More flooding

More intense rainstorms

Less reliable imported water

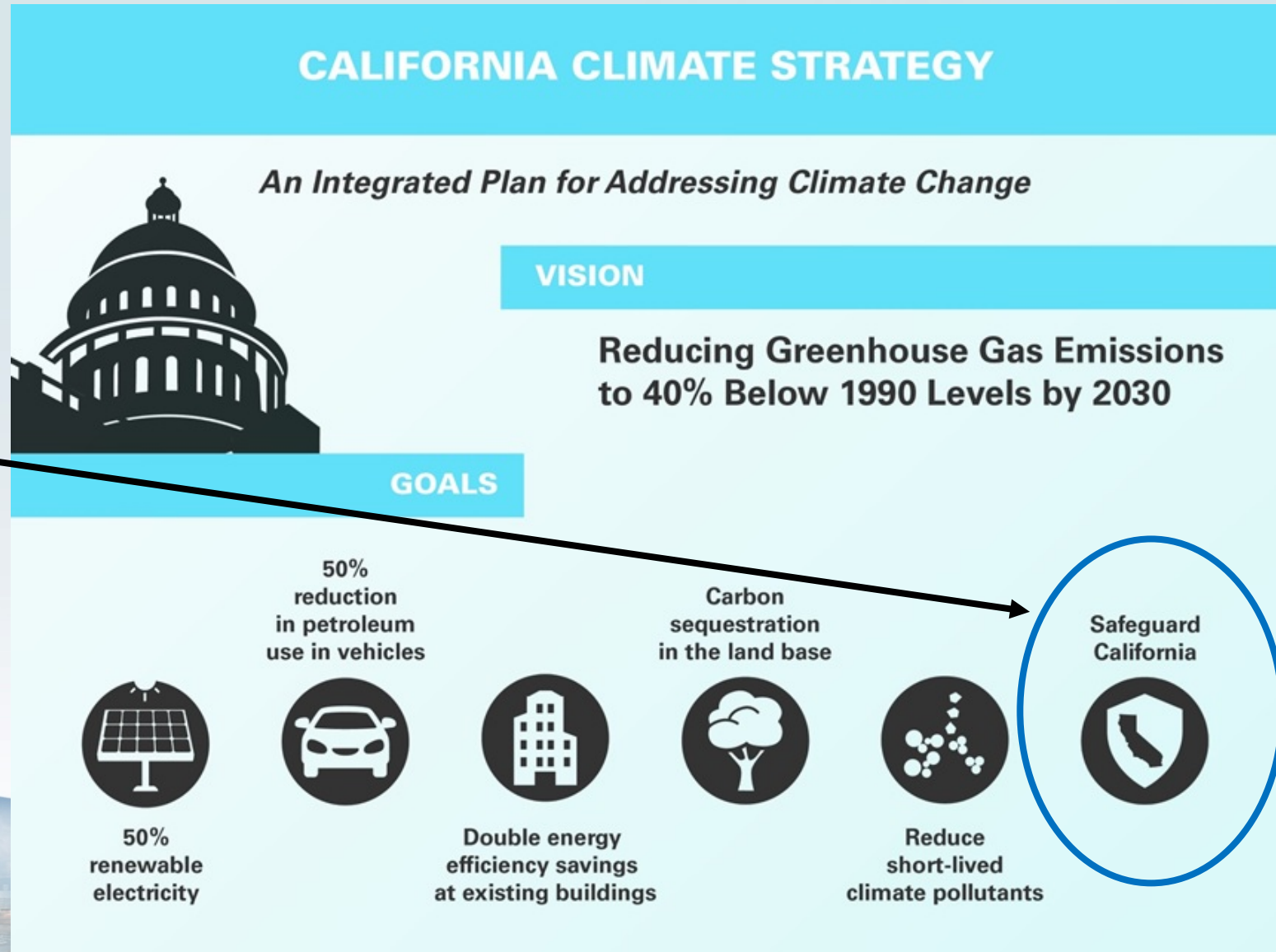
More algal blooms

And ???



California has a lot of science, laws, policies, and plans

- Started with greenhouse gas reduction
- Moving quickly now to adaptation planning



Learn about it all at:

<http://climatechange.ca.gov/>



The San Diego Region is Climate-Busy

- Local climate action plans
- Regional collaboration
- World-class climate research



Sea Level Rise Adaptation Strategy for San Diego Bay

Executive Summary

January 2012



<http://icleiusa.org>

Prepared by ICLEI-Local Governments for Sustainability for the project's Public Agency Steering Committee, with the support of The San Diego Foundation.

SAN DIEGO COUNTY ECOSYSTEMS:

*The Ecological Impacts of Climate
Change on a Biodiversity Hotspot*



<http://www.climatesciencealliance.org/>



RECLAMATION *Managing Water in the West*

Technical Memorandum No. 86-68210-2016-08

San Diego Watershed Basin Study

Task 2.2 – Climate Change Impacts and Hydrologic
Modeling



[https://www.usbr.gov/lc/socal/
basinstudies/SDBasin](https://www.usbr.gov/lc/socal/basinstudies/SDBasin)



There are also indirect threats from local responses to climate change

- Accommodating higher tidal surges by armoring coastlines.
- Managing larger volumes of storm water by modifying stream channels.
- Relying on natural attenuation of soil contamination where exposed to sea level rise and/or rising groundwater.

E&E NEWS

SEARCH:

[<< Back to E&E News index page.](#)

CALIFORNIA

Beach disappearing in city where sea walls dominate

Anne C. Mulhern, E&E News reporter • Climatewire: Monday, July 31, 2017



Water hits sea walls in Solana Beach, Calif., leaving the beach free of dry sand a few hours before high tide. Jim Jaffee/Special to E&E News



Staff are already taking some actions



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD • SAN DIEGO REGION
 2375 Northside Drive, Suite 100, San Diego, California 92108



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 Governor

Matthew Rodriguez
 Secretary for
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 GARY STRAWN
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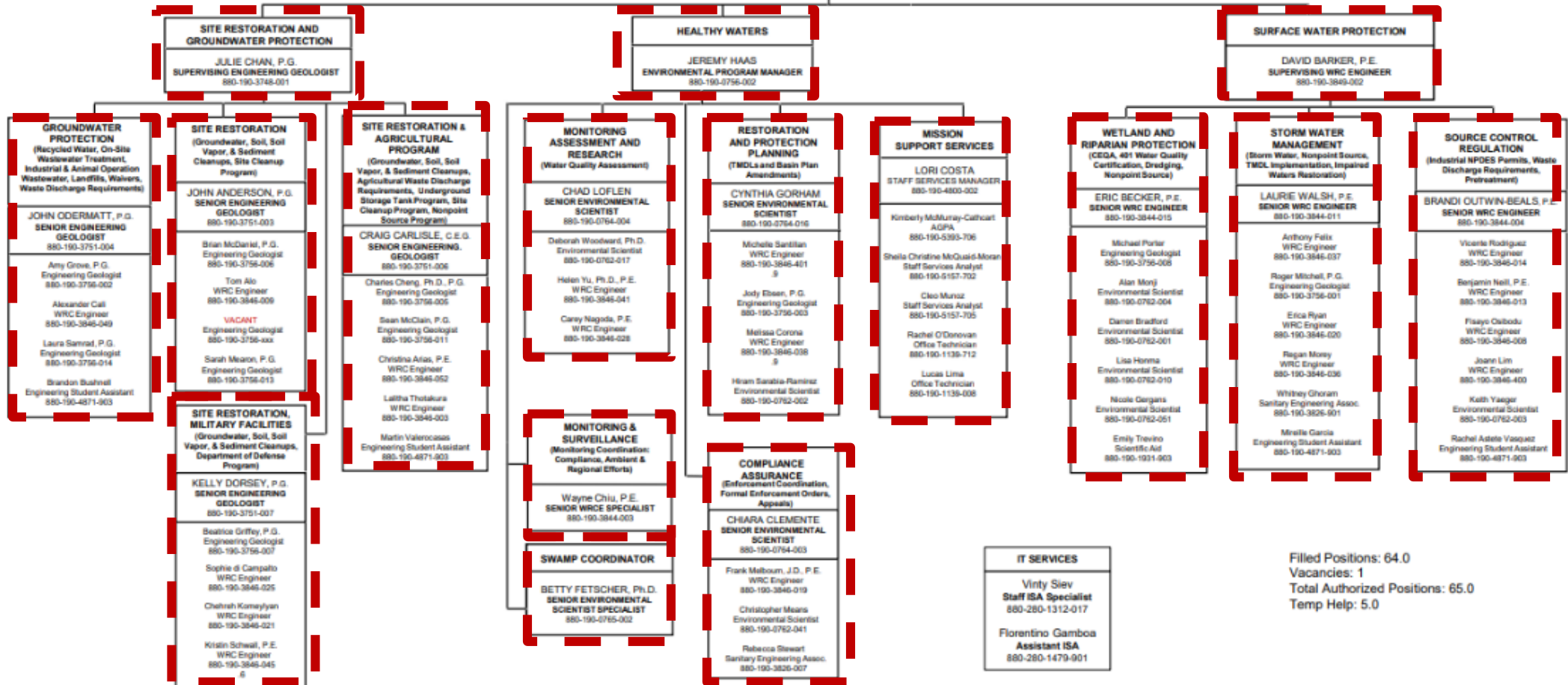
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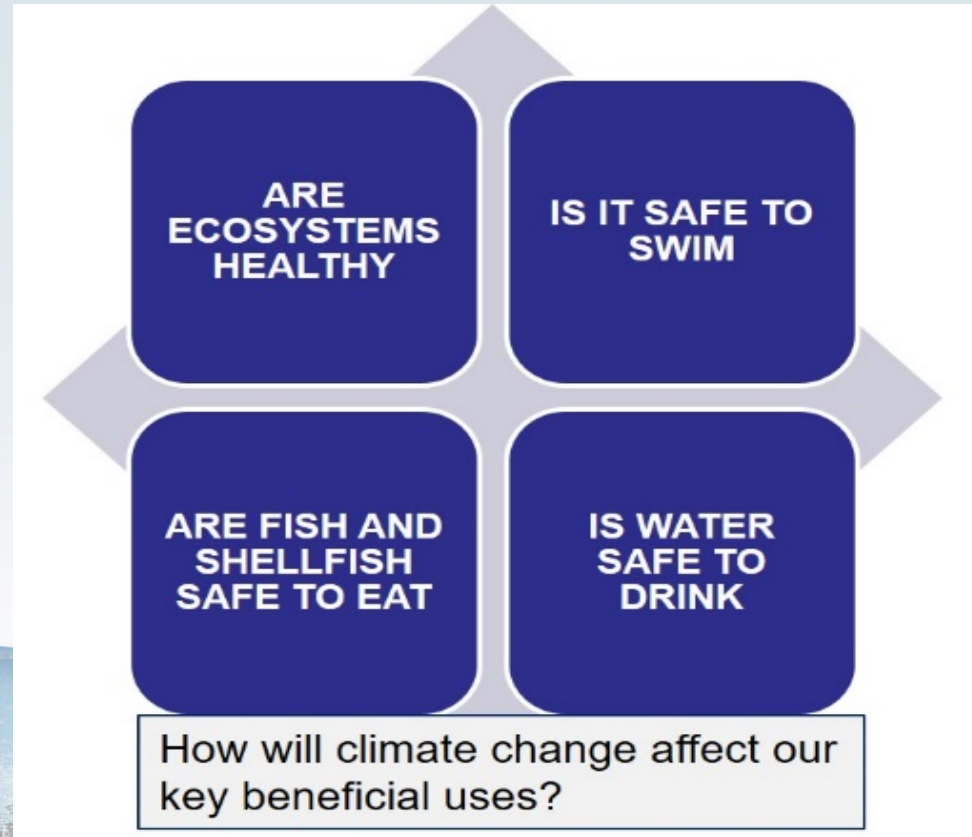
APPROVED

David W. Gibson
 Executive Officer
 March 12, 2018



Filed Positions: 64.0
 Vacancies: 1
 Total Authorized Positions: 65.0
 Temp Help: 5.0

Vision: *Actions of the San Diego Water Board are preserving, enhancing, and restoring water quality for future generations that will live with the likely effects of climate change*



BREAK FOR SCCWRP

Climate Change Readiness Project 2016-2018

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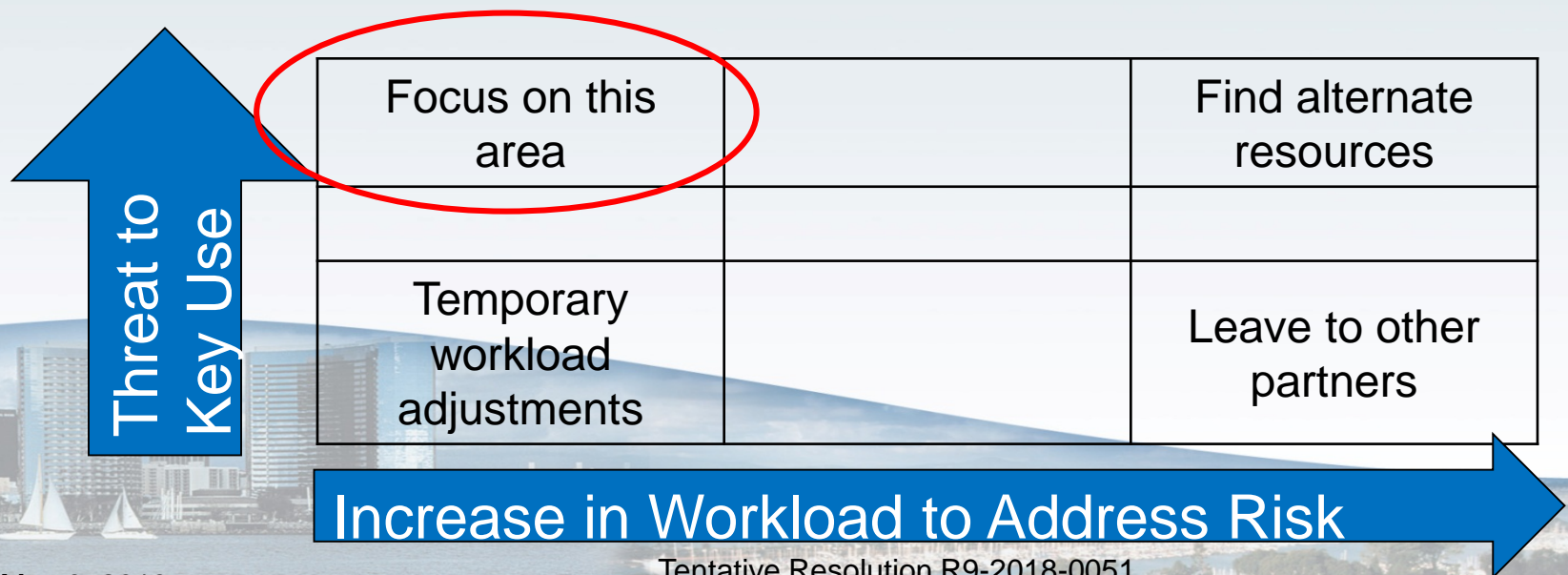
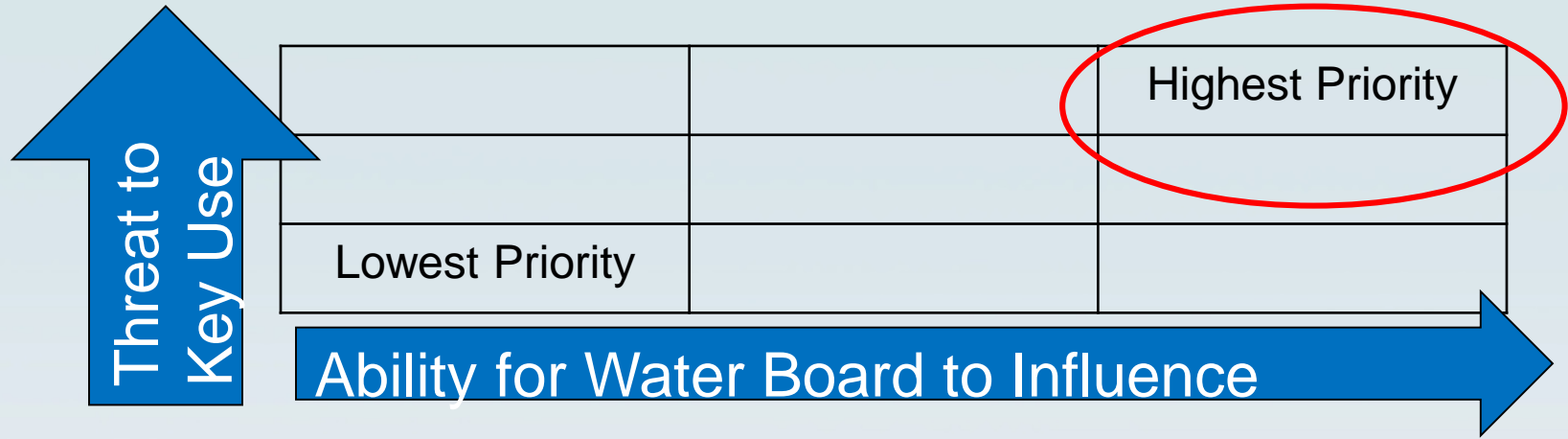
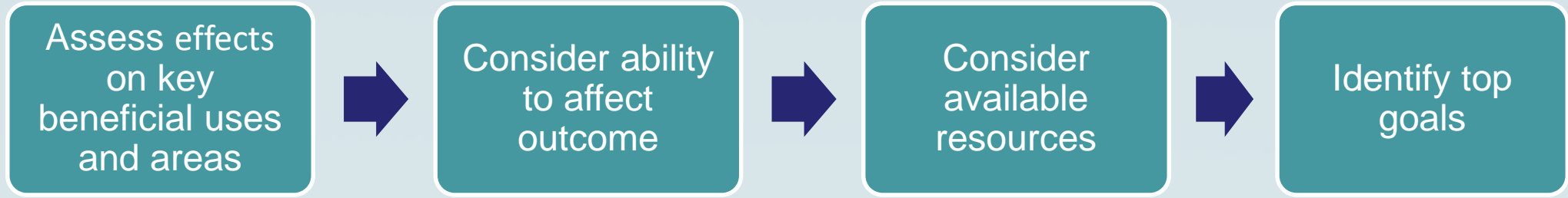
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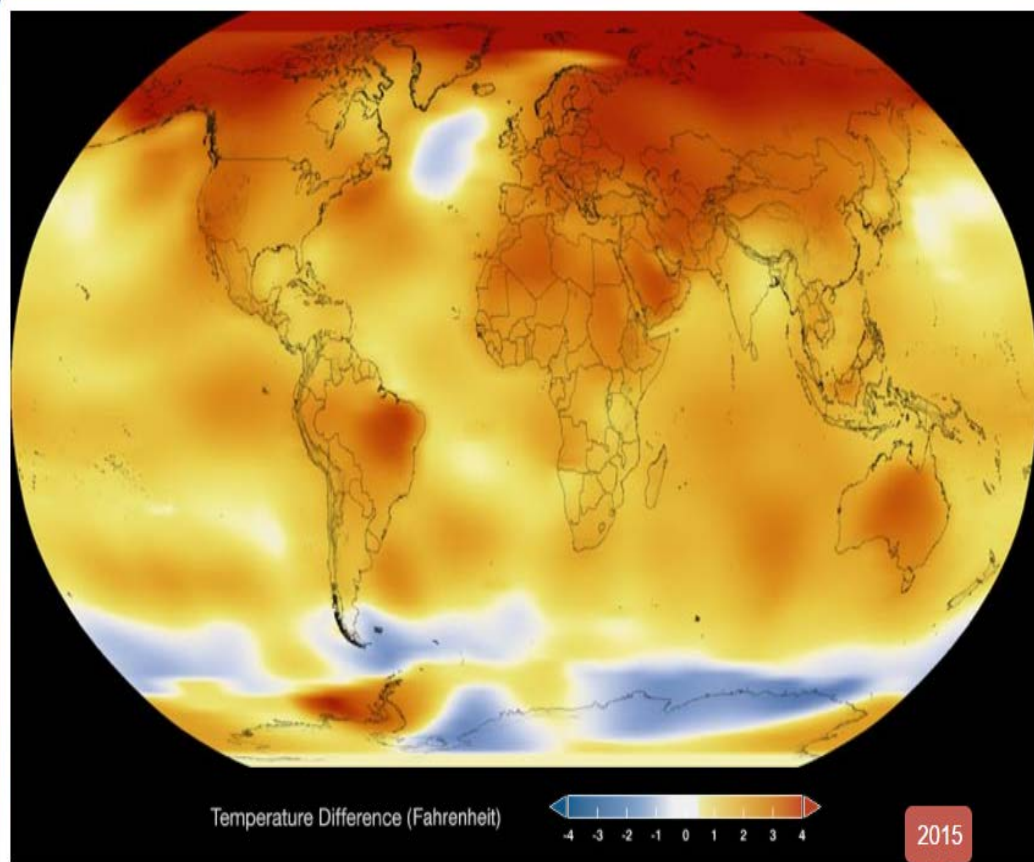


Using Key Beneficial Uses to Determine Priorities

Key Beneficial Use	Key Areas for the Use	TOP GOALS RELATED TO CLIMATE CHANGE
Safe to Drink	1 st Rank: Drinking water supply reservoirs 2 nd Rank: Groundwater	<ul style="list-style-type: none"> • Increase local water supply via water recycling • Capture storm water without harming in-stream ecosystems
Safe to Eat	1 st : Ocean 2 nd : Bays 3 rd : Harbor, lagoons, estuaries	<ul style="list-style-type: none"> • Address bioaccumulation and toxin threats • Protect and increase refuges for intertidal ecosystems
Safe to Swim	1 st : Ocean, bays 2 nd : Harbors 3 rd : Lagoons, estuaries, streams, stream mouths	<ul style="list-style-type: none"> • Protect beaches from harmful shoreline hardening • Identify and remedy vulnerable wastewater infrastructure
Healthy Ecosystems	1 st : Ocean, bays, lagoons, estuaries, streams 2 nd : Stream mouths 3 rd : Ponds, harbors	<ul style="list-style-type: none"> • Protect and increase intertidal ecosystems • Protect and restore natural flow regimes

Using Practical Vision Strategies for Action Plans

PV Strategy	Example Priority Climate Change Goal	Near-term Outcome / Action
Incorporating Latest Science and Technology	Healthy Ecosystems: Protect and restore natural flow regimes	Train staff on ecohydrology research
	Safe to Swim: Identify and remedy vulnerable wastewater infrastructure	Explore next-generation technologies
Collaboration & Communication	Safe to Swim: Protect beaches from harmful shoreline hardening	Assign sea level rise liaison to agencies and researchers
	Safe to Drink: Capture storm water without harming in-stream ecosystems	Work with Orange County applicants to eliminate or minimize long-term harm
	Safe to Eat: Address bioaccumulation and toxins threats	Educate public on intertidal Bay species bioaccumulation
Aligning Effort to Priorities	Safe to Swim: Identify and remedy vulnerable wastewater infrastructure	Ensure WDRs for collection systems address vulnerability



This color-coded map shows a progression of changing global surface temperatures from 1884 to 2015. Dark blue indicates areas cooler than average. Dark red indicates areas warmer than average.

Data source: NASA/GISS
Credit: NASA Scientific Visualization Studio

From NASA: <https://climate.nasa.gov/interactives/climate-time-machine>

Adopting the tentative Resolution will help

- Set expectations for staff
- Staff emphasize climate change in meaningful ways
- Advance Water Board interests in local climate change adaptation planning
- Inform and leverage effort of partners
- Protect key beneficial uses