



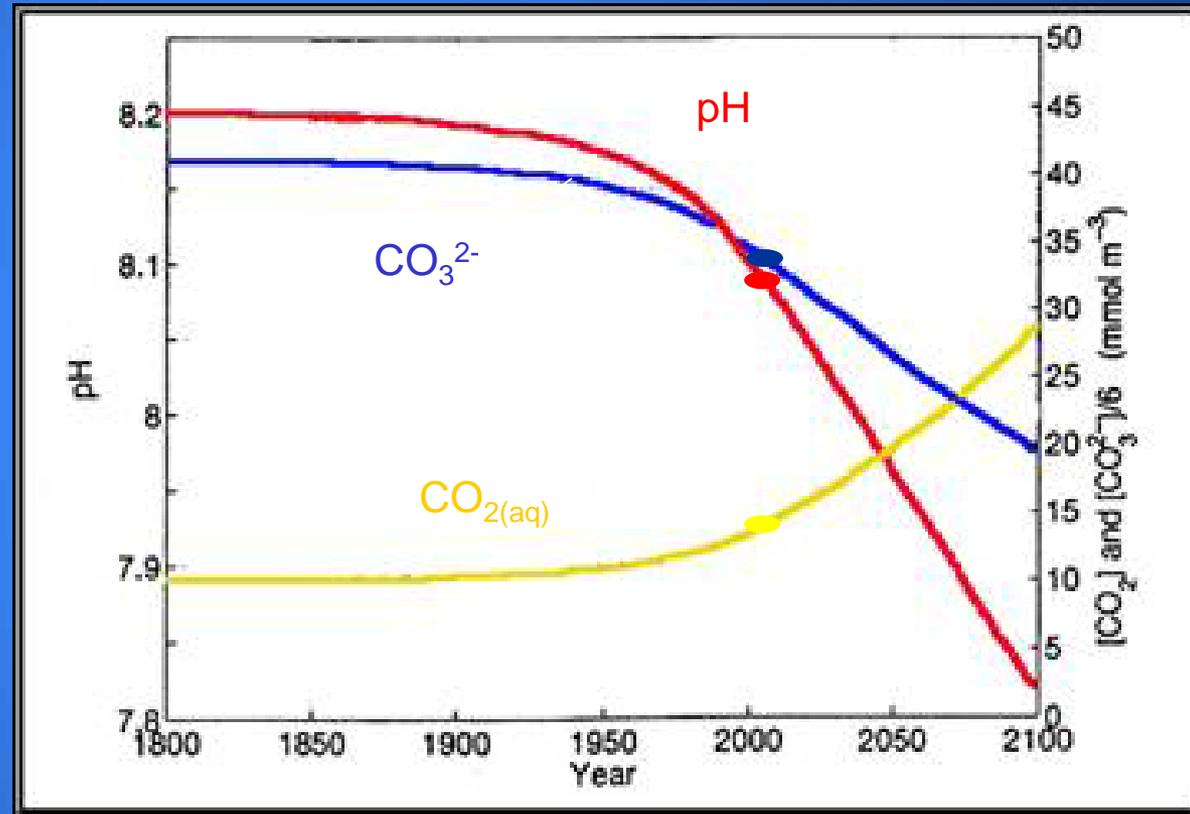
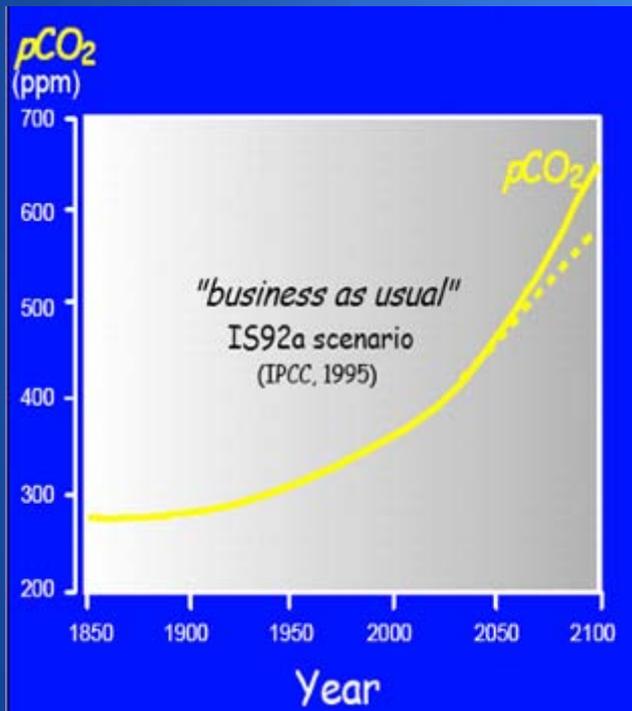
US Coral Reef Task Force CCWG
Response to the
*Honolulu Declaration on Ocean
Acidification and Reef Management*

Dr. C. Mark Eakin

NOAA

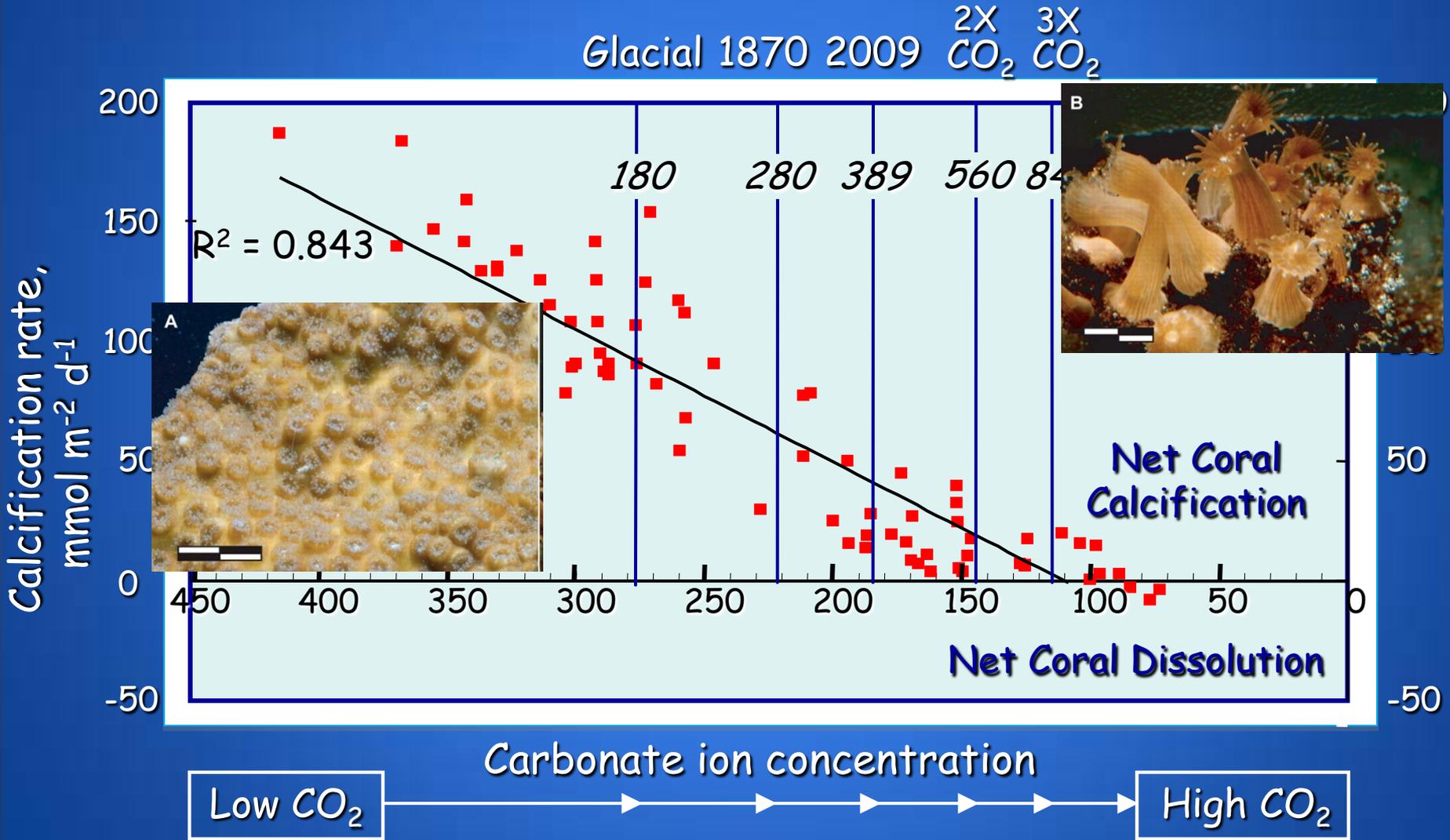
Co-Chair CCWG

The Oceans and CO₂: Ocean Acidification



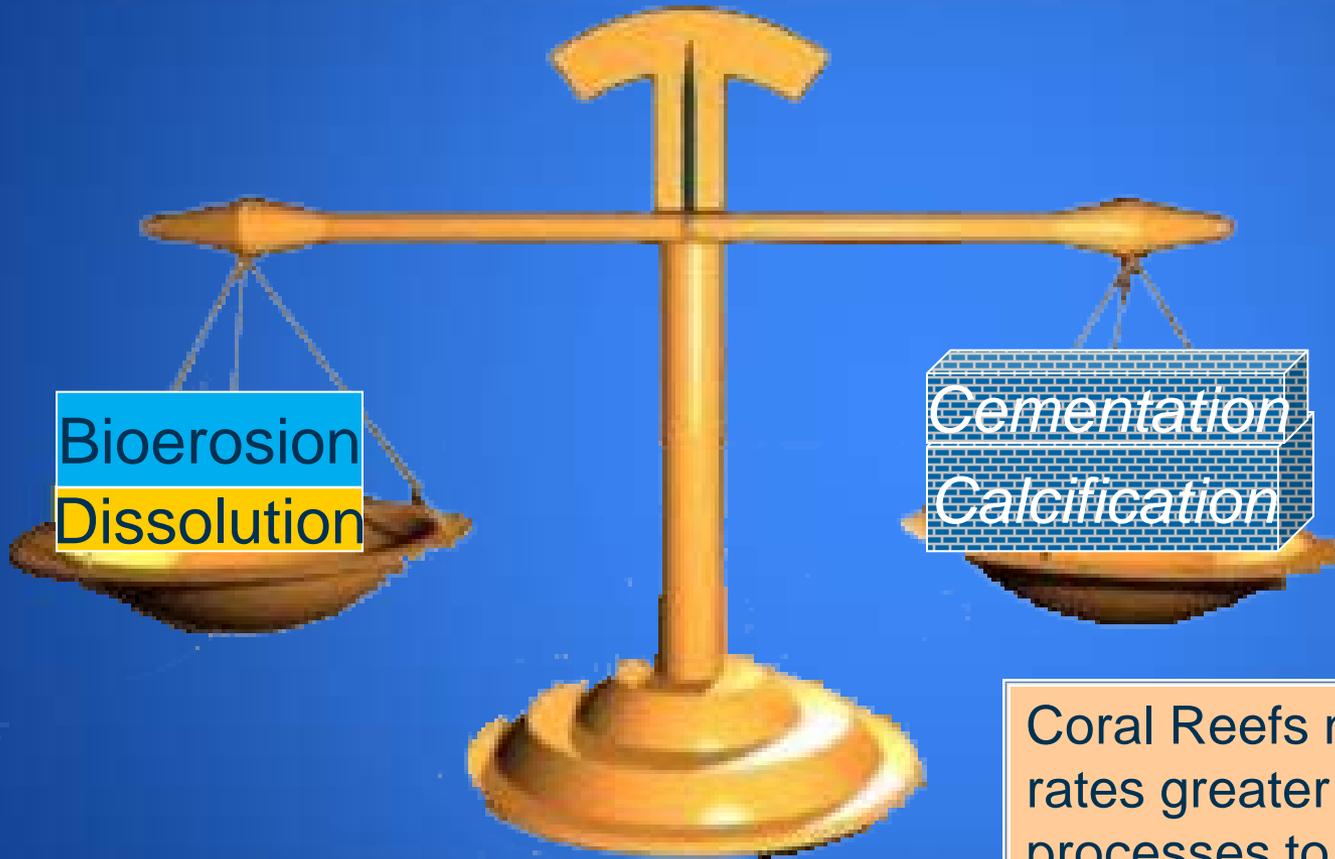
After Wolf-Gladrow et al., 1999

Decreased Coral Calcification with Increasing Ocean CO₂



Langdon & Atkinson, (2005)

Coral Reef “Growth” in the Balance



Coral Reefs need to calcify at rates greater than destructive processes to grow.

Coral Reef “Growth” in the Balance



Bioerosion
Dissolution

Cementation
Calcification

A 20% reduction in calcification rate could push many coral reefs into net loss.



Honolulu Declaration

- Aug 2008 – TNC convened a group of leading
 - Climate Scientists
 - Marine Scientists
 - Coral Reef Managers
- Goal:
 - To respond to the challenge OA poses to coral reef conservation and management
 - To chart a course of action to address OA





- Two Major Strategies Emerged
 - Limit fossil fuel emissions
 - Build resilience of tropical marine ecosystems and communities to maximize their ability to resist and recover from climate change impacts, including ocean acidification
- Tangible Steps to Increase Coral Survival
 - 7 Policy Recommendations
 - 8 Management Recommendations



CCWG Response

- TNC presented the Honolulu Declaration to the USCRTF in Kona, Hawai'i
- USCRTF tasked the CCWG with developing a response
- For each recommendation, CCWG gathered information on activities underway and planned

Summary of Agency and Jurisdiction Responses

Recommendations	NOAA	EPA	NASA	DOI/USGS	DOI/USFWS	Florida	Puerto Rico	Hawai'i	American Samoa	USVI	Guam	CNMI
Policy #1 Stabilize Atmospheric CO ₂		X		X	X	X		X	X	X	X	X
Policy #2 Reduce LBS of Pollution	X	X		X	X	X	X	X	X	X	X	X
Policy #3 Reduce Nitrogen, SO _x , NH ₄ , Coastal Inputs	X	X		X		X	X	X	X	X	X	X
Policy #4 Enhance OA Context in IPCC AR5	X	X	X	X	X							
Policy #5 Increase Funding for Mgmt Response	X					X			X			X
Policy #6 Establish Int'l. Program	X	X	X	X	X	X	X	X	X	X	X	X
Policy #7 CC Actions in MPAs	X			X	X	X	X	X	X	X	X	
Management #8 Reduce Reef Stress	X	X		X	X	X	X	X	X	X	X	X
Management #9 Protect Less Threatened Reefs	X		X	X	X	X	X	X	X	X	X	X
Management #10 Spread the Risk	X	X		X	X	X	X	X	X	X	X	X
Management #11 Address OA in MPAs	X	X		X	X	X	X	X	X	X	X	X
Management #12 Intl. OA Monitoring	X	X	X		X					X		X
Management #13 OA Data Management	X	X		X		X		X		X		
Management #14 Educate on OA	X	X		X	X	X	X	X	X			X
Management #15 OA in CC Programs	X	X		X	X	X		X	X	X	X	



Highlights

- Mandates:
 - FOARAM Act (NOAA, NASA)
 - Clean Air Act (EPA)
 - Coastal Zone Management Act (NOAA)
 - Coral Reef Conservation Act (NOAA)
 - Fish and Wildlife Conservation Act (USFWS)
 - Fish and Wildlife Act (USFWS)
 - Clean Water Act (USFWS, EPA)
 - Jurisdictional Legislation / Exec. Orders



Highlights

- Emissions: USCRTF Agencies have limited jurisdiction, but States/Territories do regionally
- Agencies & Jurisdictions can address coastal pollution that may contribute to acidification



Highlights

- Currently mostly research and monitoring
 - Identifying levels of change (monitoring) - starting
 - Identifying impacts and possible actions – starting
- Agencies coordinating research and working to increase funding
- Need to consider climate change and ocean acidification in management

Recommendation #1

The USCRTF CCWG recommends that federal agencies work with coral reef jurisdictions involved in the USCRTF Response to the Honolulu Declaration to support continued coordination and collaboration on climate change and ocean acidification activities, including development of adaptation strategies under the FOARAM Act of 2009.

Recommendation #2

The US CRTF CCWG recommends that the USCRTF and/or its agencies and jurisdiction partners contact the US Department of State and US Global Change Research Program to request rigorous complete consideration of marine impacts of climate change and ocean acidification in the IPCC 5th Assessment Report.