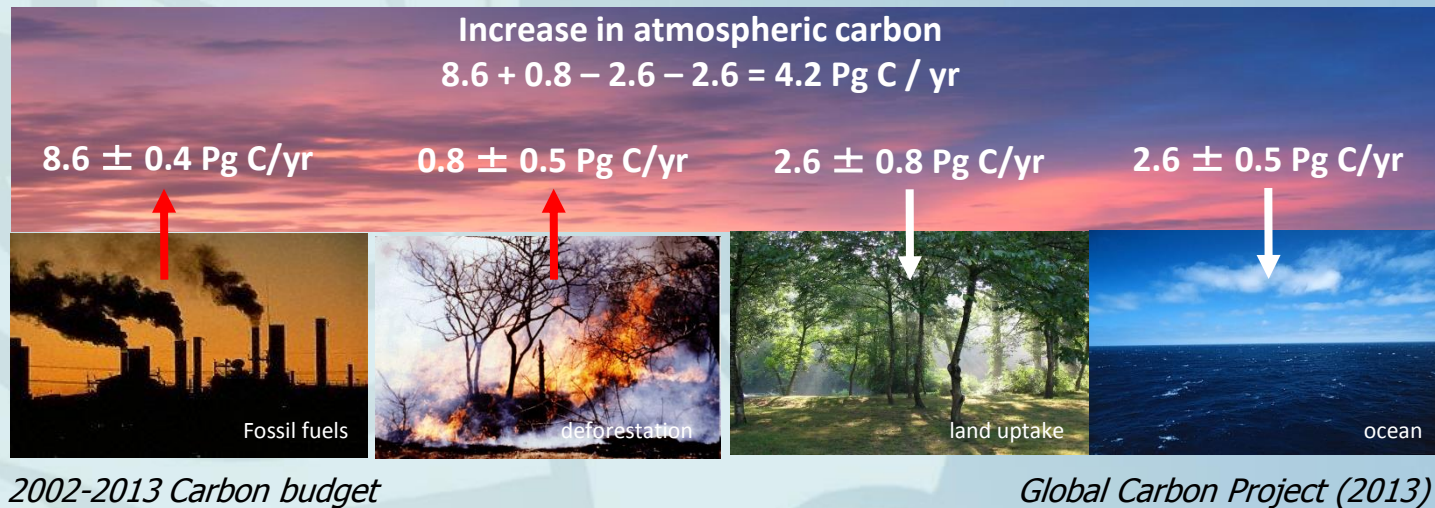


Ocean Acidification in the Pacific Islands Region

Tommy S. Moore
PI-GOOS Officer

Secretariat of the Pacific Regional Environmental
Programme

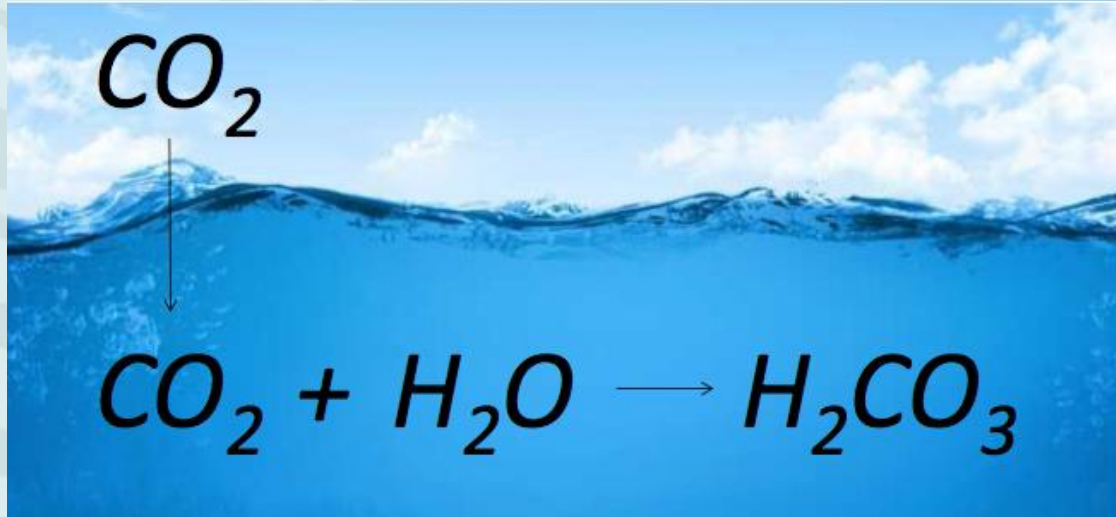
tommym@sprep.org



Half of emitted CO₂ remains in atmosphere (causing global warming)

Half absorbed by ocean & land (trees, plants, and soils)

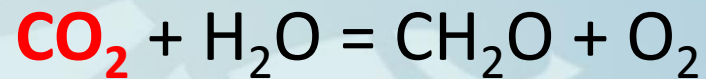
Ocean absorbs 24 million tons of CO₂ every day (4 kg per person, daily)



Schematic: Sam Dupont, University of Gothenburg

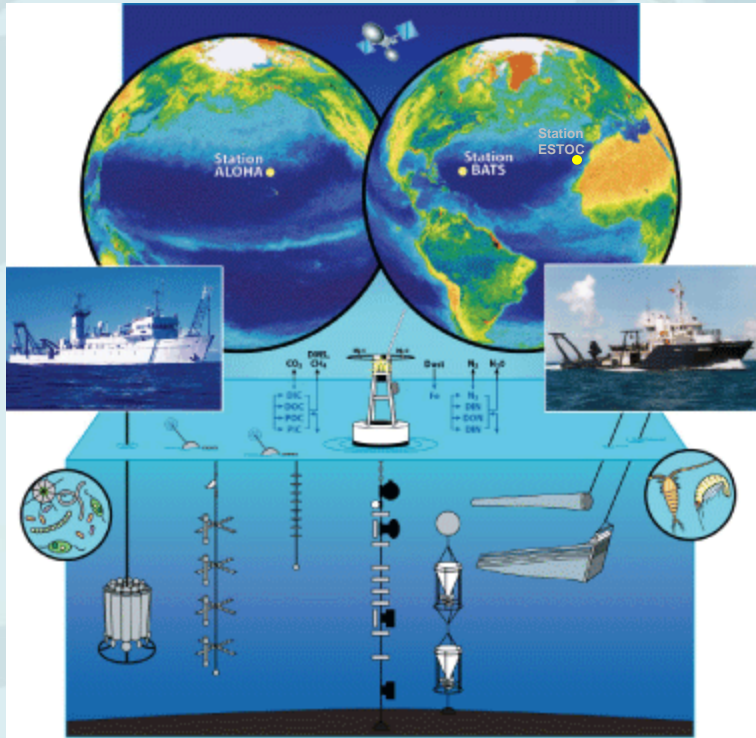
- CO_2 is an acid gas (it produces acid when combined with water)
- Each of us adds 4 kg CO_2 per day to the ocean (increasing acidity, reducing pH)
- Ocean acidity up by 30% since start of industrial age
- Most of that only in last 40 years

Photosynthesis - Respiration



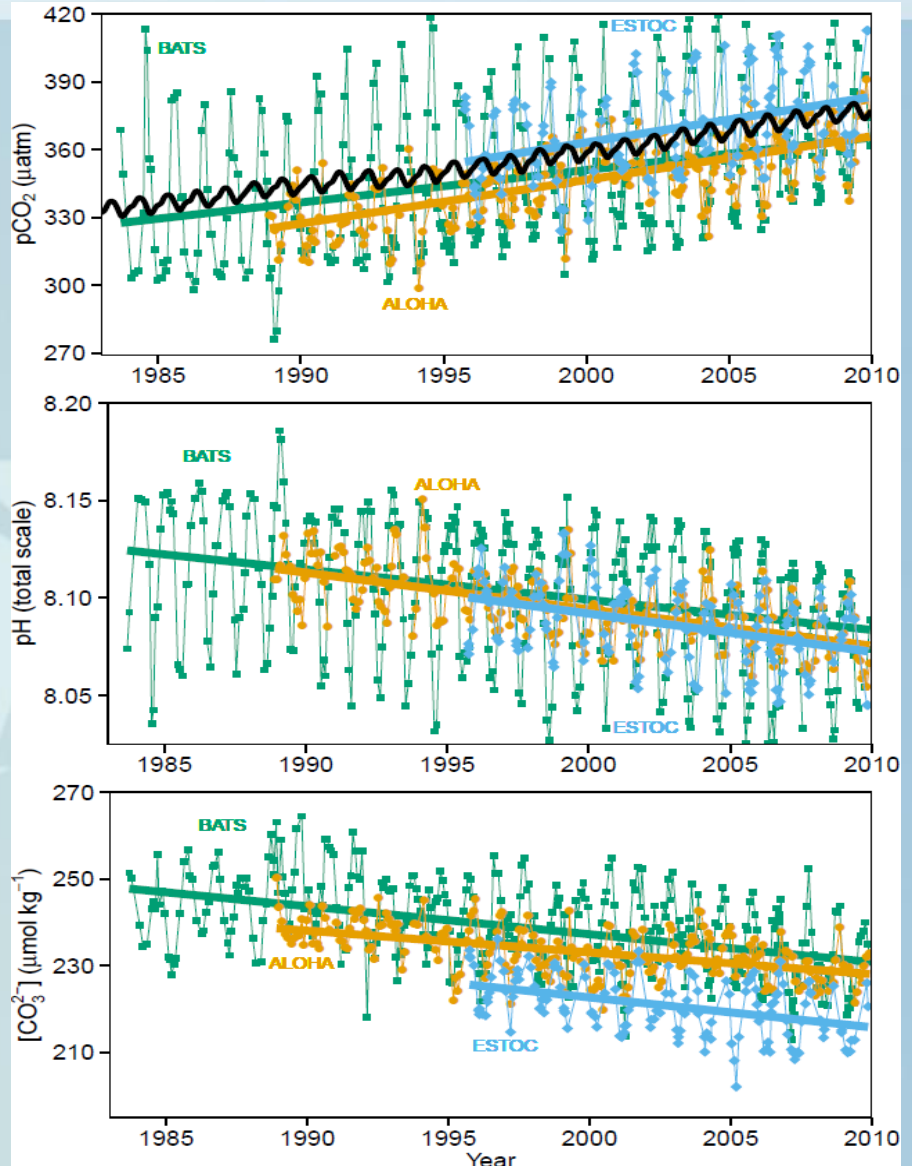
Calcification - CaCO₃ dissolution



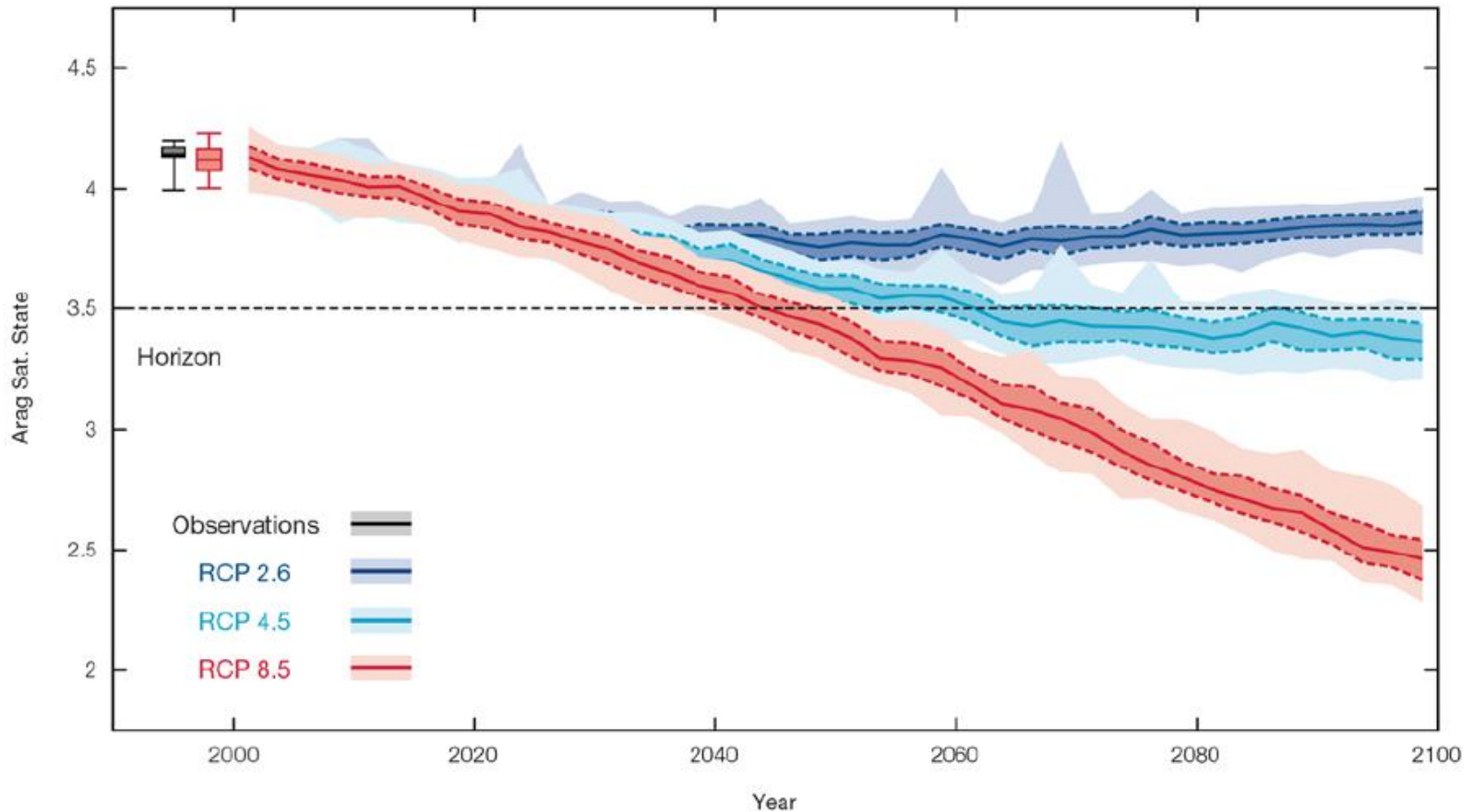


Data:
Bates (2007)
Dore et al. (2009)
Santana-Casiano et al. (2007)
Gonzales-Dávila et al. (2010)

IPCC AR5 WG1 Report, Chap. 3 (2013)



Projected decreases in aragonite saturation state for Samoa



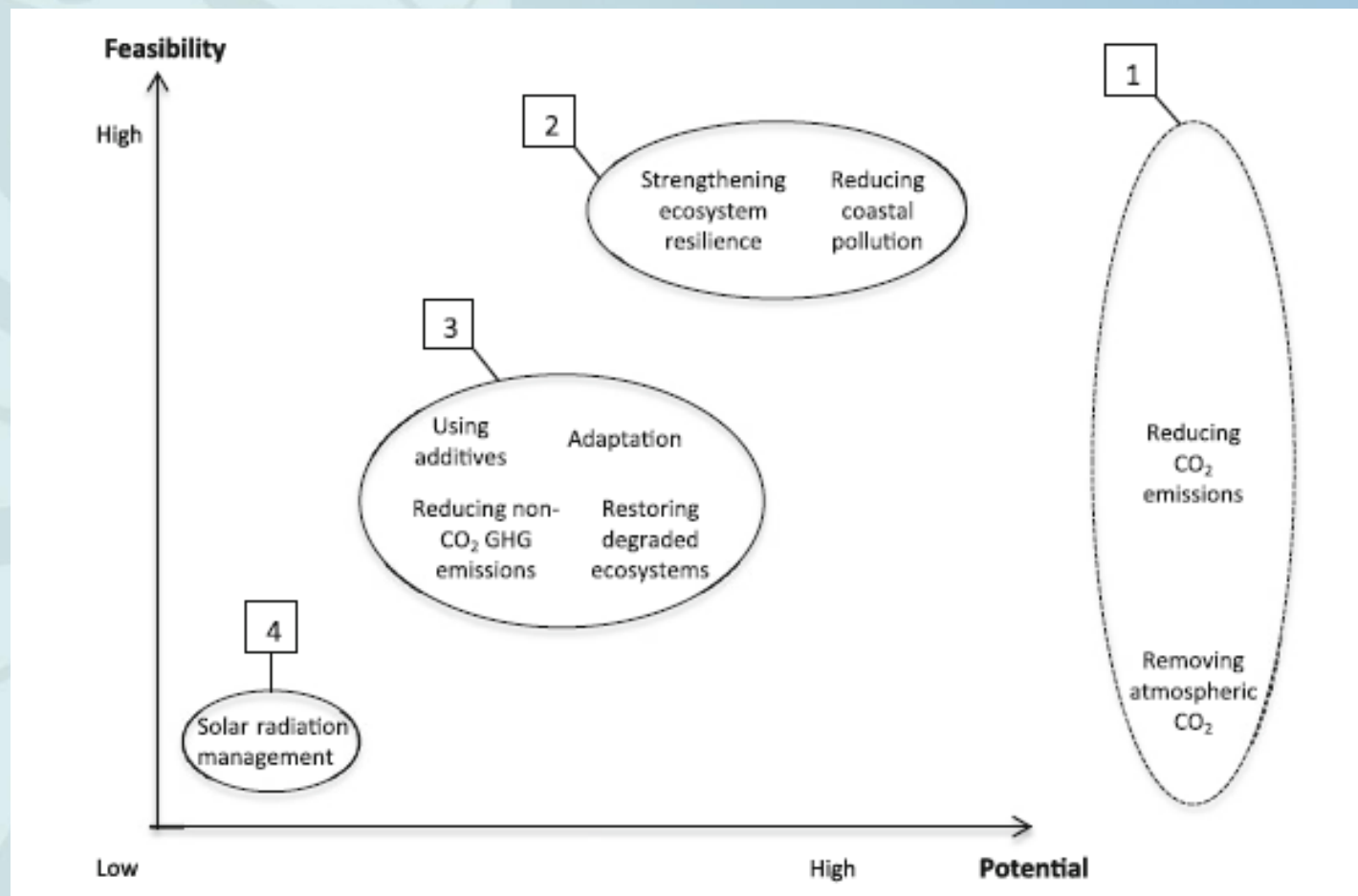
From: PACCSAP Climate Variability, Extremes and Change in the Western Tropical Pacific

Potential Impacts

- Coastal fisheries – Impacts on coral reef productivity, fish behavior
 - ~50% of household income for coastal communities
 - 50-90% of dietary protein
 - \$200 million in subsistence value and \$165 million in commercial value
- Tourism
- Ecosystem Services – Protection from storms
- Culture

- Impacts of OA compounded by other local stressors

Resilience Building



Proposed OA Adaptation Activities

- Increasing ecosystem resilience to Ocean Acidification
- Developing a knowledge base for improved policy and planning
- Improving monitoring of Ocean Acidification
- Developing a framework of action for adapting to Ocean Acidification at the local level through practical measures that empower women and men to take informed actions

EbA in Abaiang, Kiribati

- USAID Funded Project of 2M (USD)
- Timeframe of 3 years
- Climate Change Adaptation (Abaiang, Kiribati) & EbA (Choiseul, Solomon Islands)

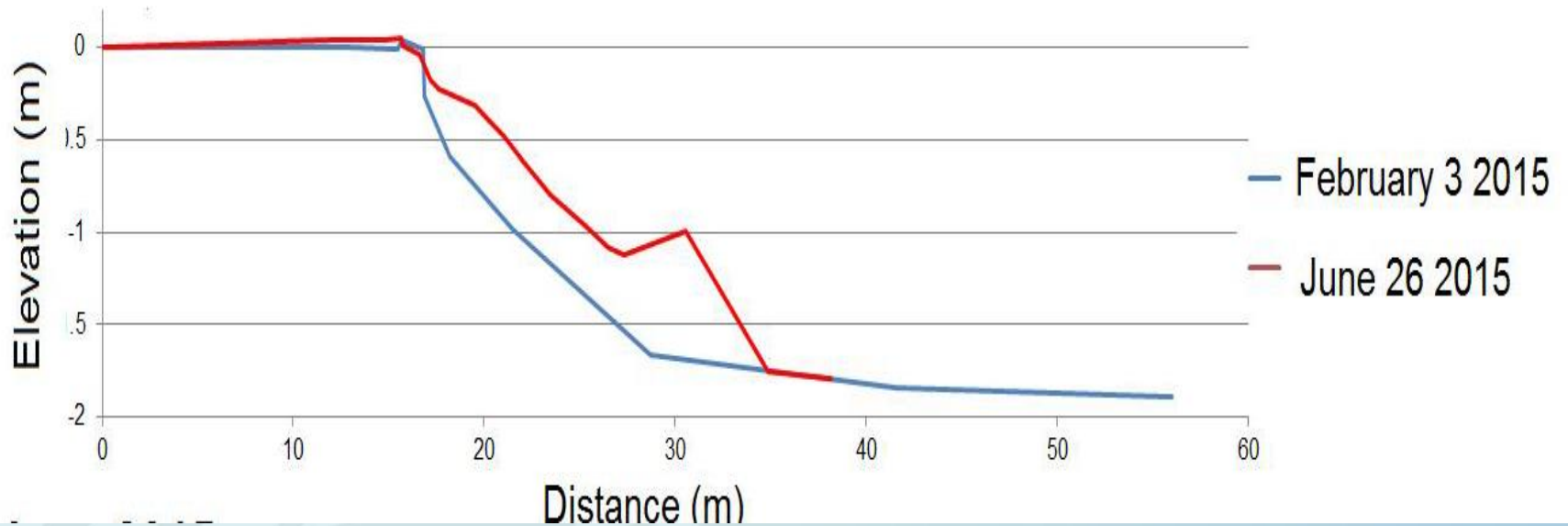
Project Activities for CC Adaptation Project (Abaiang, Kiribati)

1. Coordination
2. Implementation of Adaptation Measures
3. Knowledge Management

June 2015

Distance (m)

February 2015



Questions?

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