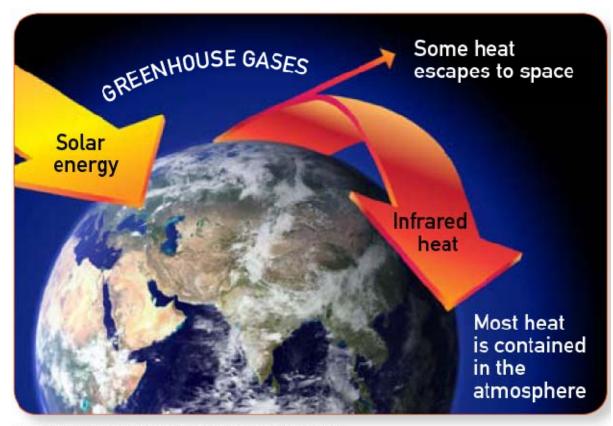
#### Acid Test Considering ocean acidification in the UNFCCC





Ellycia Harrould-Kolieb

#### Temperature as an Indicator for Climate Change



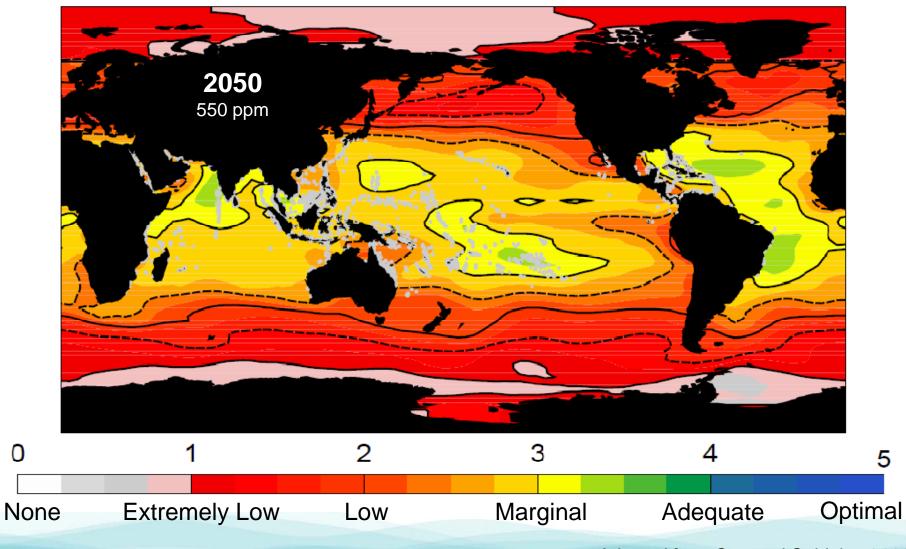
Source: Modified graphic from U.S. National Park Service.

# pH as an Effective Indicator for OA?





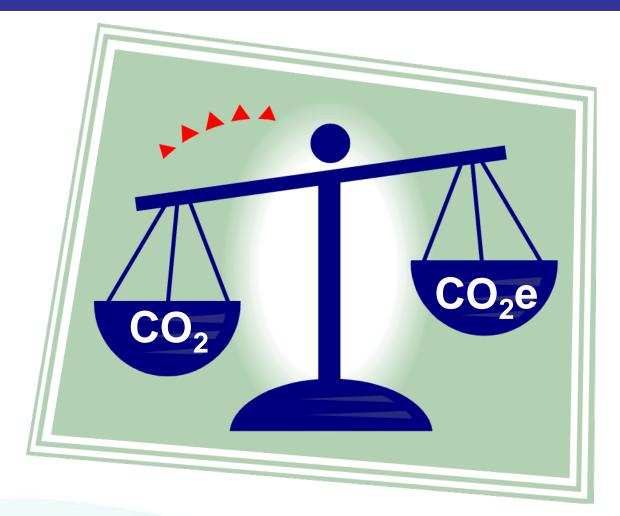
#### Perhaps Saturation State?



0

Adapted from Cao and Caldeira, 2008

# Appropriate Targets



Increasing carbon dioxide = Increasing hydrogen ions = decreasing pH (increasing acidity) Increasing bicarbonate ions + decreasing carbonate ions Decreasing carbonate ions below saturation = dissolution

H

Biartandarcatete

0

Ca

**Calcium Carbonate** 





0

## Temperature Targets Open the Door for Geoengineering



## Policy Options Under the UNFCCC

 Include ocean acidification in a post-2012 Agreement and/or COP decision

 Inclusion of ocean acidification as a priority theme under SBSTA

# **Policy Options for Mitigation**

- Set effective targets
- Decide upon an effective indicator
- Focus on curtailing CO<sub>2</sub>
- Avoid strategies that may exacerbate ocean acidification

# **Policy Options for Adaptation**

 Incorporate ocean acidification into existing and new adaptation plans

 Incorporate ocean acidification into vulnerability assessment, information sharing and capacity-building activities