

Coastal Acidification Networks and Global OA Observing Network – cooperation and capacity building

Dr. Libby Jewett
Director, Ocean Acidification Program, NOAA
Co-Chair, Global OA Observing Network

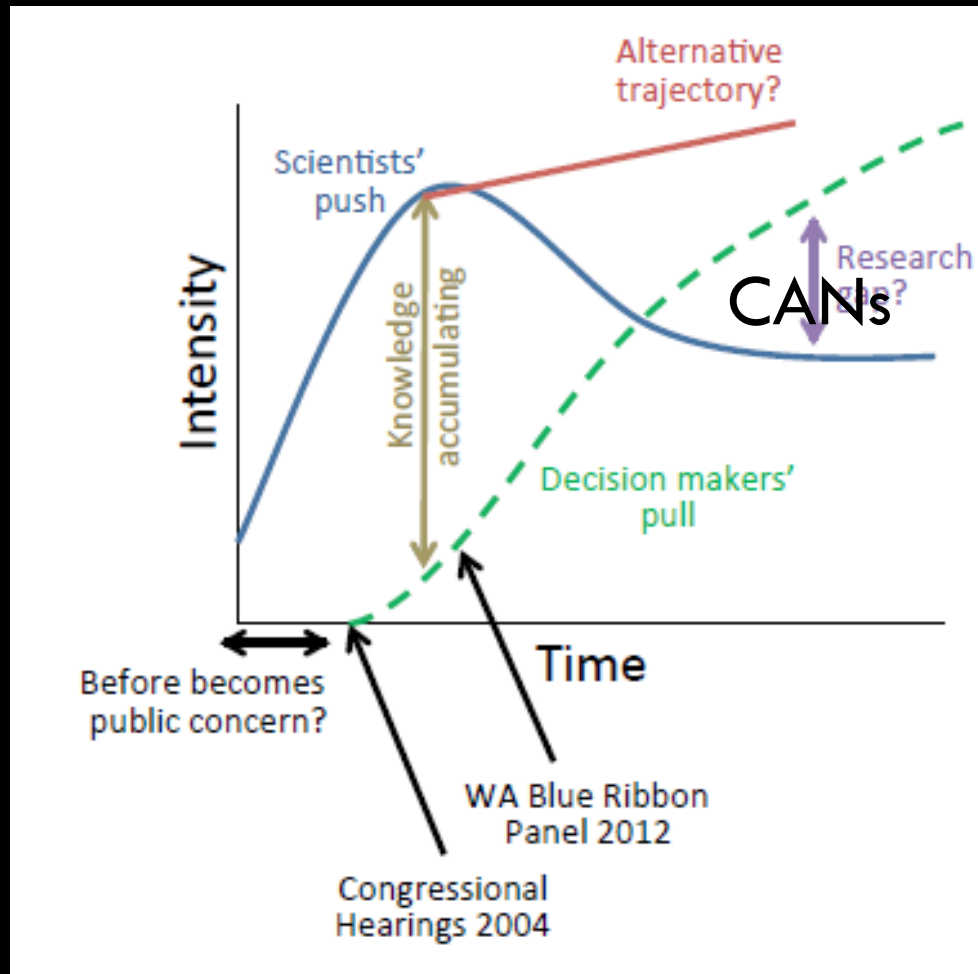
OCB OA PI Mtg
February 17 – 19, 2018



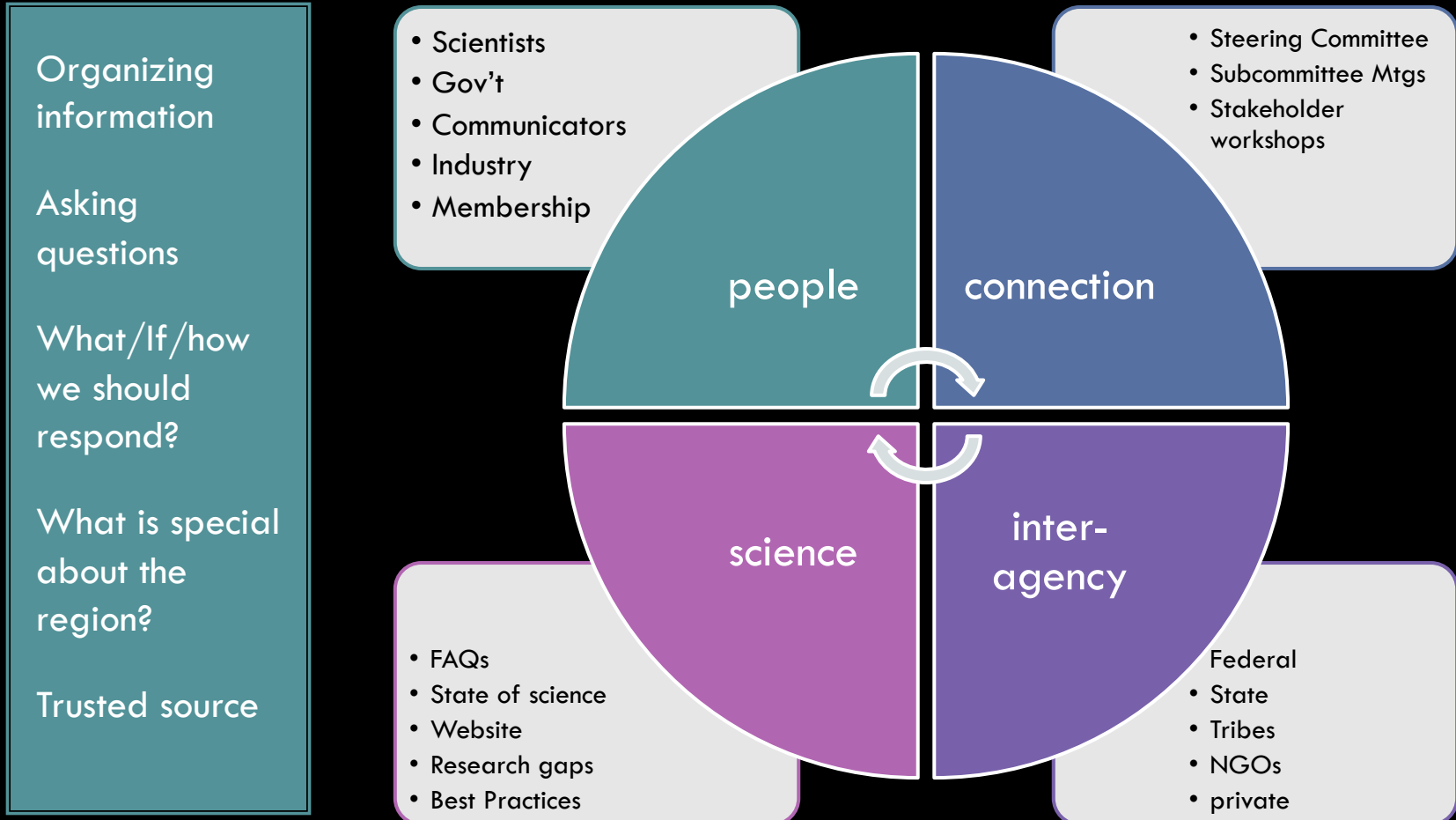


Regional Response...

Push pull for scientific info



What is a Coastal Acidification Network (CAN)?





Alaska Ocean Acidification Network



Global Response...



Where GOA-ON shows up

- UN General Assembly
- UN Sustainable Development Goals (14.3)
- UN Framework on Climate Change – COPs
- Law of the Sea
- Arctic Council

GOA-ON will provide:

- GOA-ON
Global Ocean Acidification
Observing Network
- Select Language ▼
- Home
- About
- News
- Workshops
- Resources
- Regional Hubs
- Pier2Peer
- Data Portal
- Add a Platform
- Calendar
- Members



Global Ocean Acidification
Observing Network

GOA-ON is a collaborative international approach to document the status and progress of ocean acidification in open-ocean, coastal, and estuarine environments, to understand the drivers and impacts of ocean acidification on marine ecosystems, and to provide spatially and temporally consistent biogeochemical data necessary to optimize modeling for ocean acidification.



GOA-ON Data Portal

The GOA-ON data portal provides easy access to data and visualizations.



THE
**OCEAN
CONFERENCE**
UNITED NATIONS, NEW YORK, 5-9 JUNE 2017

The Ocean Conference: 5-9 June 2017 at the United Nations

The UN hosted a conference this June in New York focused on implementing Sustainable Development Goal (SDG) 14, which is focused on marine sustainability. Of particular interest to the ocean community is the SDG target 14.3: "Minimize and address the impacts of ocean acidification, including through enhanced scientific research, monitoring, and management, as well as increasing the resilience of coastal ecosystems." In preparation for this conference an online discussion was held on 31 March, moderated by several members of the GOA-ON Council. As a result of strong international participation in the conference a number of important issues were raised, including the need for increased research, education, outreach, and capacity building.

Nested System Design

Ecosystem

Ecosystem

Ecosystem

Ecosystem

Goal 1 OA conditions	Goal 2 Ecosystem response	Goal 3 OA modeling
<u>Level 1</u> Essential	<u>Level 1</u> Essential	} Inputs to models
<u>Level 2</u> Desirable	<u>Level 2</u> Desirable	
<u>Level 3</u> Optional	<u>Level 3</u> Optional	

Nested System Design

Coral reefs

Coasts & shelf seas

Open ocean

Goal 1 OA conditions	Goal 2 Ecosystem response	Goal 3 OA modeling
<p><u>L1:</u> carbonate-system constraint, T, S, O, fluorescence, irradiance</p> <p><u>L2:</u> nutrients, bio-optics, transport, meteorology, trace metals...</p> <p><u>L3:</u> capability-specific</p>	<p><u>L1:</u> biomass of functional groups (phytoplankton, zooplankton & microbes)</p> <p><u>L2:</u> species; processes incl. growth, grazing & respiration</p> <p><u>L3:</u> capability-specific</p>	<p>Inputs to models</p>

Nested System Design

Coral habitats

Nearshore

Shelf seas

Open ocean

Goal 1

OA conditions

Goal 2

Ecosystem response

Goal 3

OA modeling

Level

Level 1 **Essential**

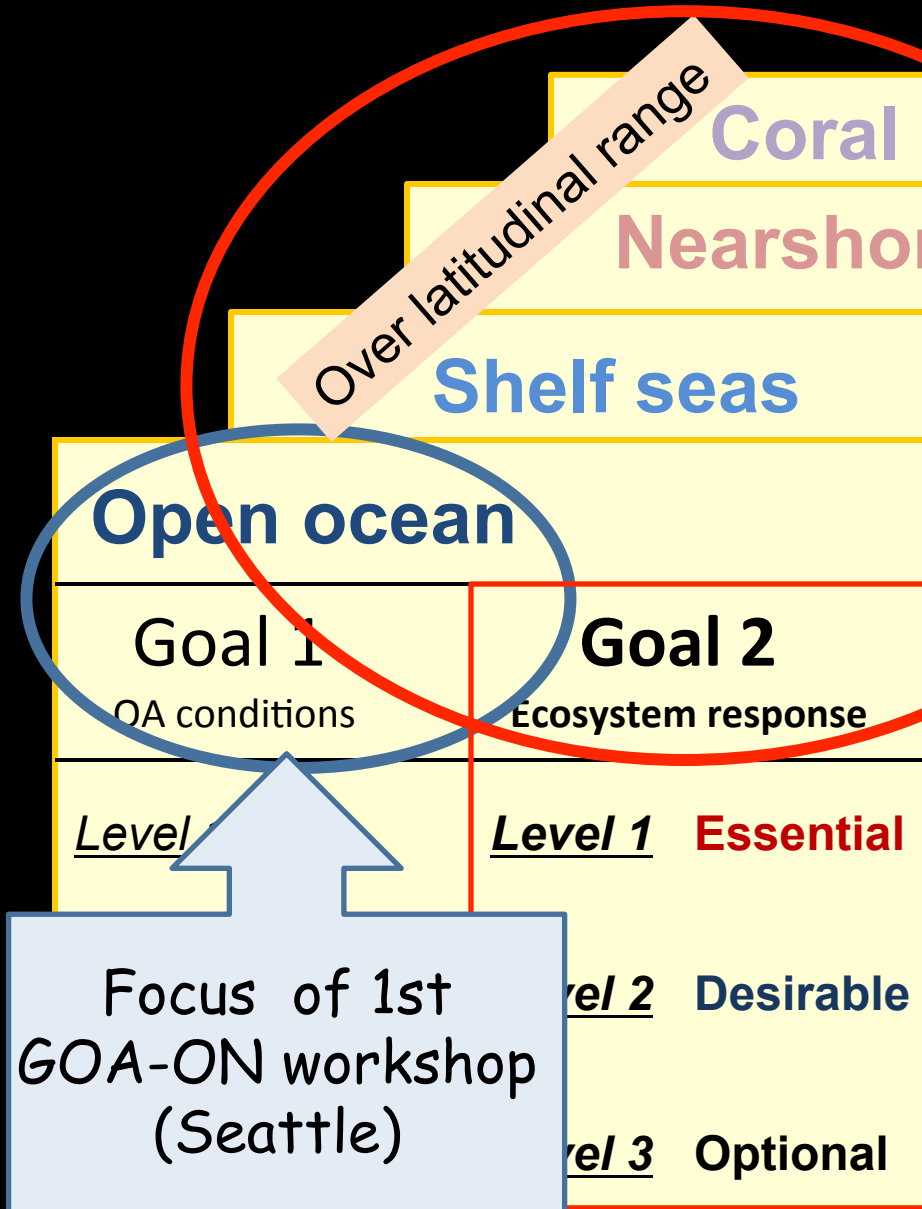
Level 2 **Desirable**

Level 3 **Optional**

Inputs to
models

Focus of 1st
GOA-ON workshop
(Seattle)

Nested System Design



GOA-ON
Global Ocean Acidification Observing Network

**Global Ocean Acidification Observing Network:
Requirements and Governance Plan**

Second Edition

October 2015

J.A. Newton, R.A. Feely,
E.B. Jewett, P. Williamson,
J. Mathis

IOOS
INTEGRATED OCEAN OBSERVING SYSTEM

NOAA

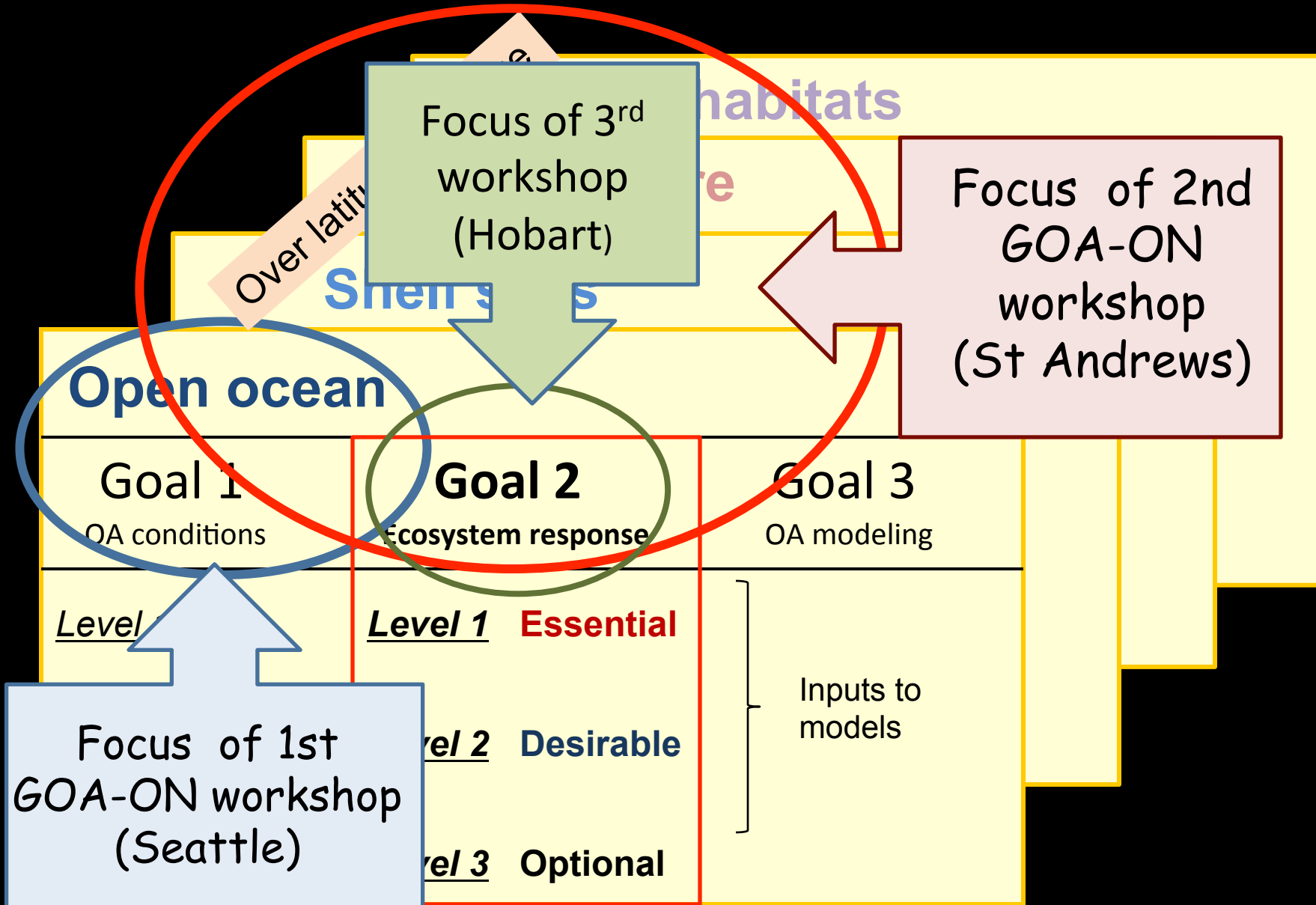
IAEA

OA-ICC
Ocean Acidification International Coordination Centre

UK Ocean Acidification Research Programme

BLUE PLANET
Oceans and Society

Nested System Design



GOA-ON Workshop 3

➤ Hobart, TAS, AUS (2016)



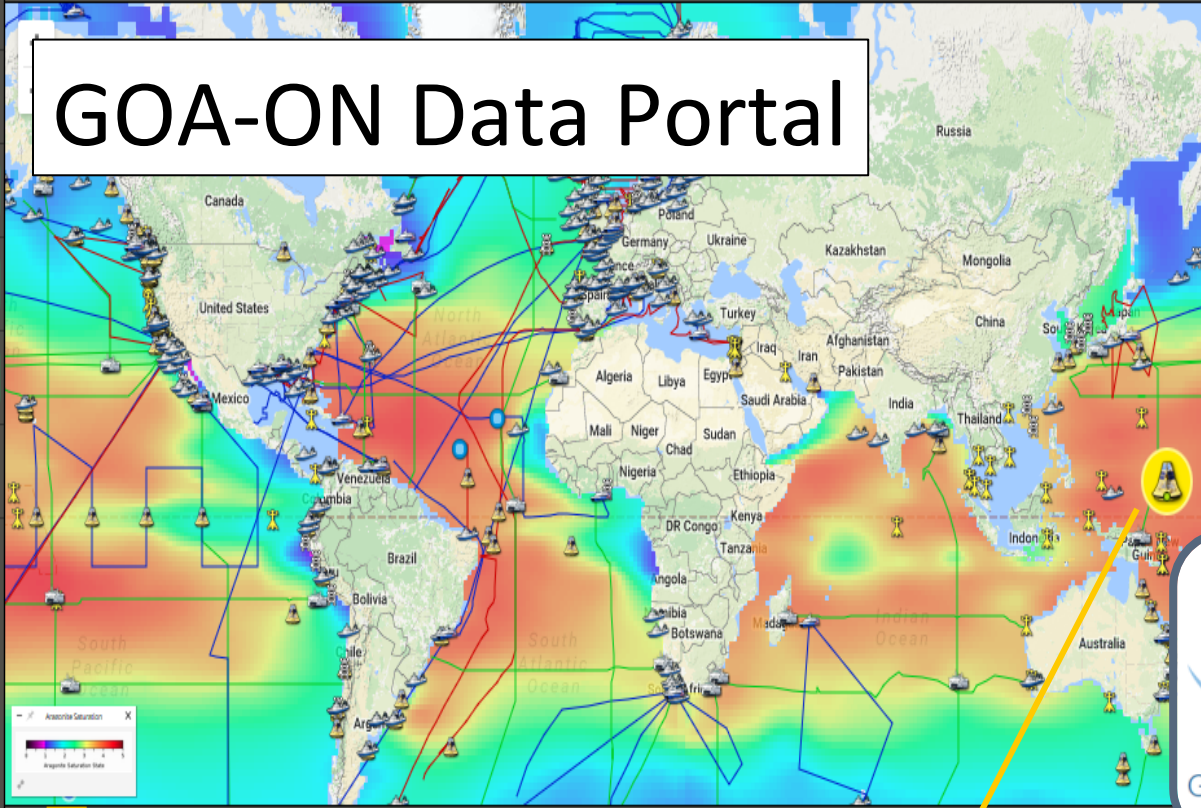
Network of ~240 scientists



Lat: 0.0000 Lon: -113.5547

GOA-ON Data Portal

- Regions
- Filters
- Fixed Platforms
- Mobile Platforms
- Remote Sensing
- Legend



Chuuk K1 Lagoon Mooring

Observations Details Credits

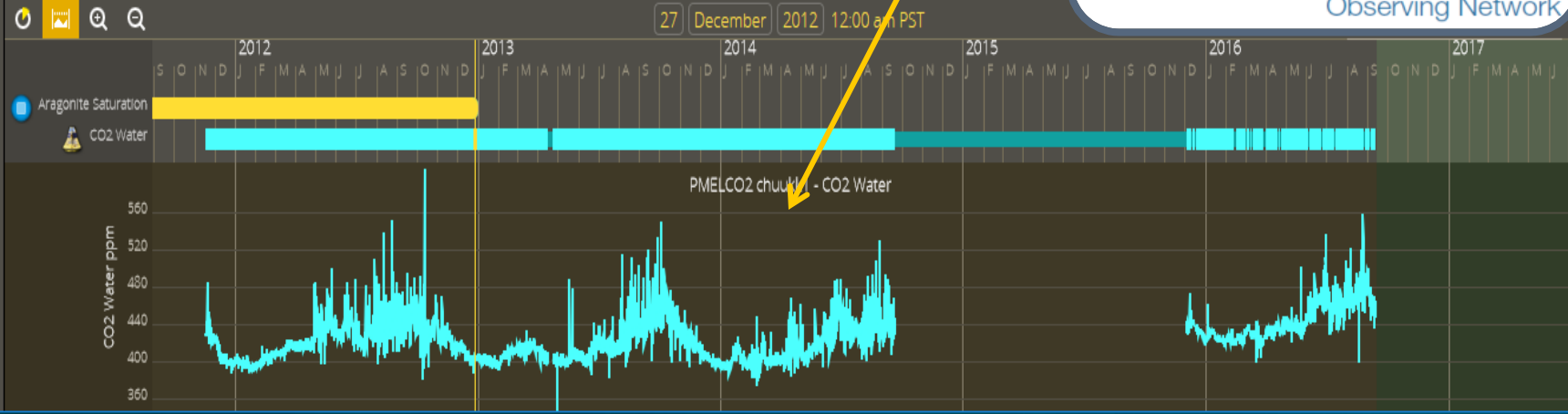
Data Updated: 13 Sep 2016 17:17 PDT Provider: PMEL-CO2

ATMOSPHERIC

- CO2 Air (1 m) 395.2 ppm

HYDROGRAPHIC

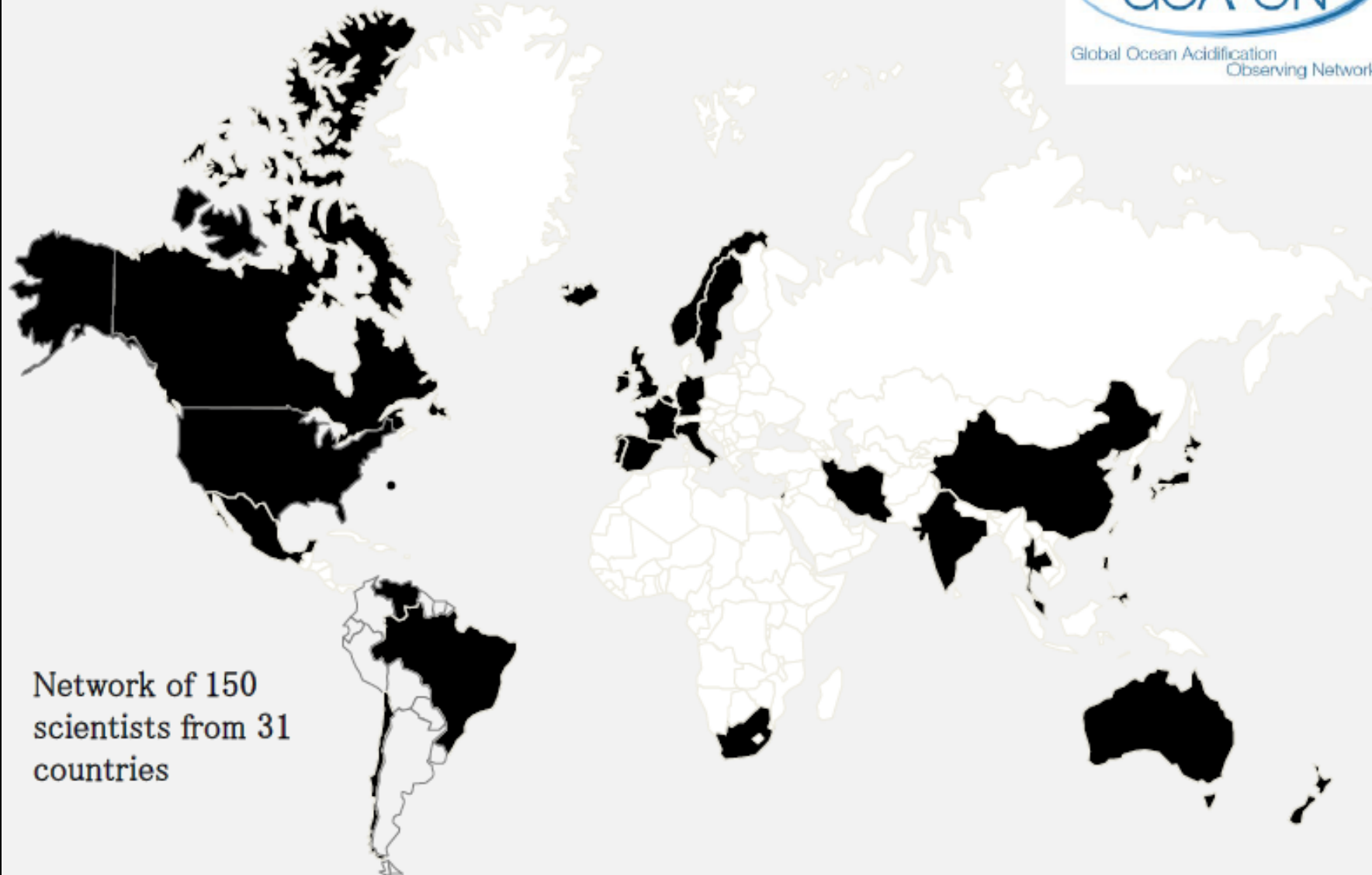
- CO2 Water (-0.8 m) 465.4 ppm
- pH (-0.8 m) 7.4
- Salinity (-0.8 m) 34.1 PSU
- Water Temperature (-0.8 m) 30.6 °C





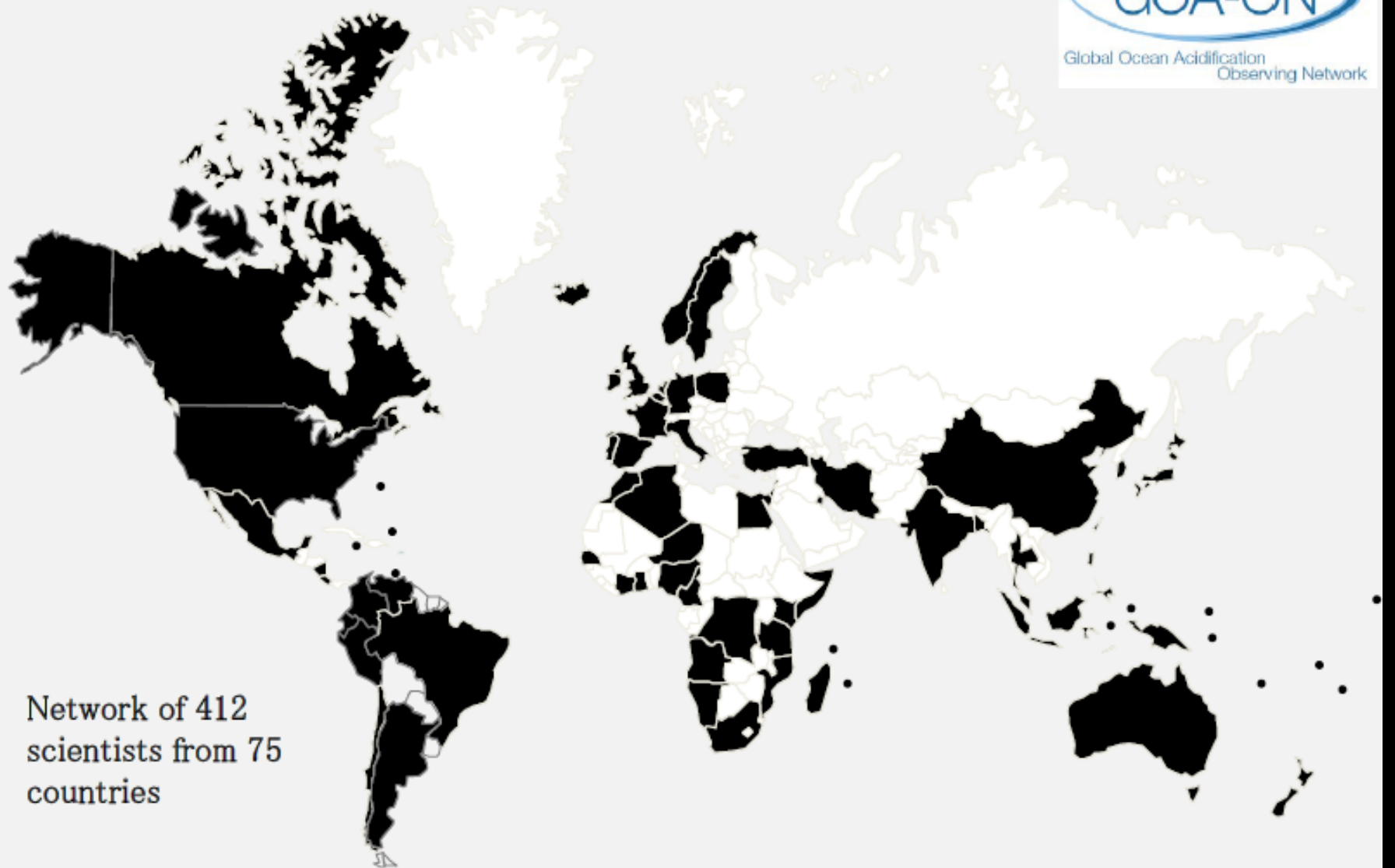
Capacity Building

GOA-ON...as of 2013



Network of 150
scientists from 31
countries

GOA-ON...as of December 2017



Network of 412
scientists from 75
countries

Expanding Platforms

Ships, buoys, gliders

NEW low cost options for nearshore deployment



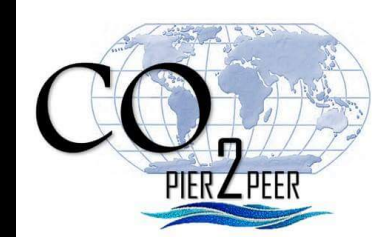
Recent training in Mauritius



Instrument deployed just offshore

Pier2Peer Mentorship Program

Mission: *A scientific mentorship program supporting the expansion of ocean acidification observing capacity through two way sharing and capacity building activities.*



Pier2Peer Activities

Professional Engagement

Directed Lab Trainings

Strengthen GOA-ON





Ocean Acidification Information Exchange

*Catalyzing response to ocean acidification through collaboration and
information sharing*

Libby Jewett, Shallin Busch, Ru Morrison, Jackie Ball, Rob Cardeiro, Kelly Canesi

www.OAInfoExchange.org



What's new



All topics ▾ Filters ▾ Most recent ▾



Funding Opportunity: MIT Sea Grant's FY2019 annual call for pre-proposals is open

by Kelly Canesi (Portsmouth) • Feb 6, 2018

MIT Sea Grant Annual Request for Pre-Proposals is open . Pre-proposals are due by Tuesday March 6, 2018 by 5:00PM . Full Proposals are due by Tuesday June 12, 2018 by 5:00PM . MIT...



Welcome, Pilot Users

by Webitecs Team (Chicago) • Feb 1, 2018

We are excited to have you as one of the beta members of the new Ocean Acidification Information Exchange (OAIE)! The OAIE is a joint project of the NOAA OA Program, Interagency Working Group on...



Mayday: Gulf of Maine in Distress

by Bill Mook (South Bristol) • Feb 9, 2018

This six-part series by Colin Woodard in the Portland Press Herald (2015) highlights changes in the Gulf of Maine. Part 5 'Shellfish can't keep up with shifting ocean chemistry ' highlights...

Add update

Upload document

Schedule event

Add link

Upcoming events

Feb 12 Ocean Sciences Town Hall—OAIE Website Launch
6:30 PM - 7:30 PM Pacific Standard Time

Feb 11-16 Ocean Sciences 2018

Feb 15-19 AAAS Annual Meeting

[More upcoming events »](#)

[Upcoming webinars »](#)

Questions?



NOAA OCEAN ACIDIFICATION PROGRAM



Libby.Jewett@NOAA.gov

OceanAcidification.NOAA.gov

WWW.GOA-ON.org

Self-Forming Regional Networks

