



UK Ocean Acidification
Research Programme



UKOA Knowledge Exchange

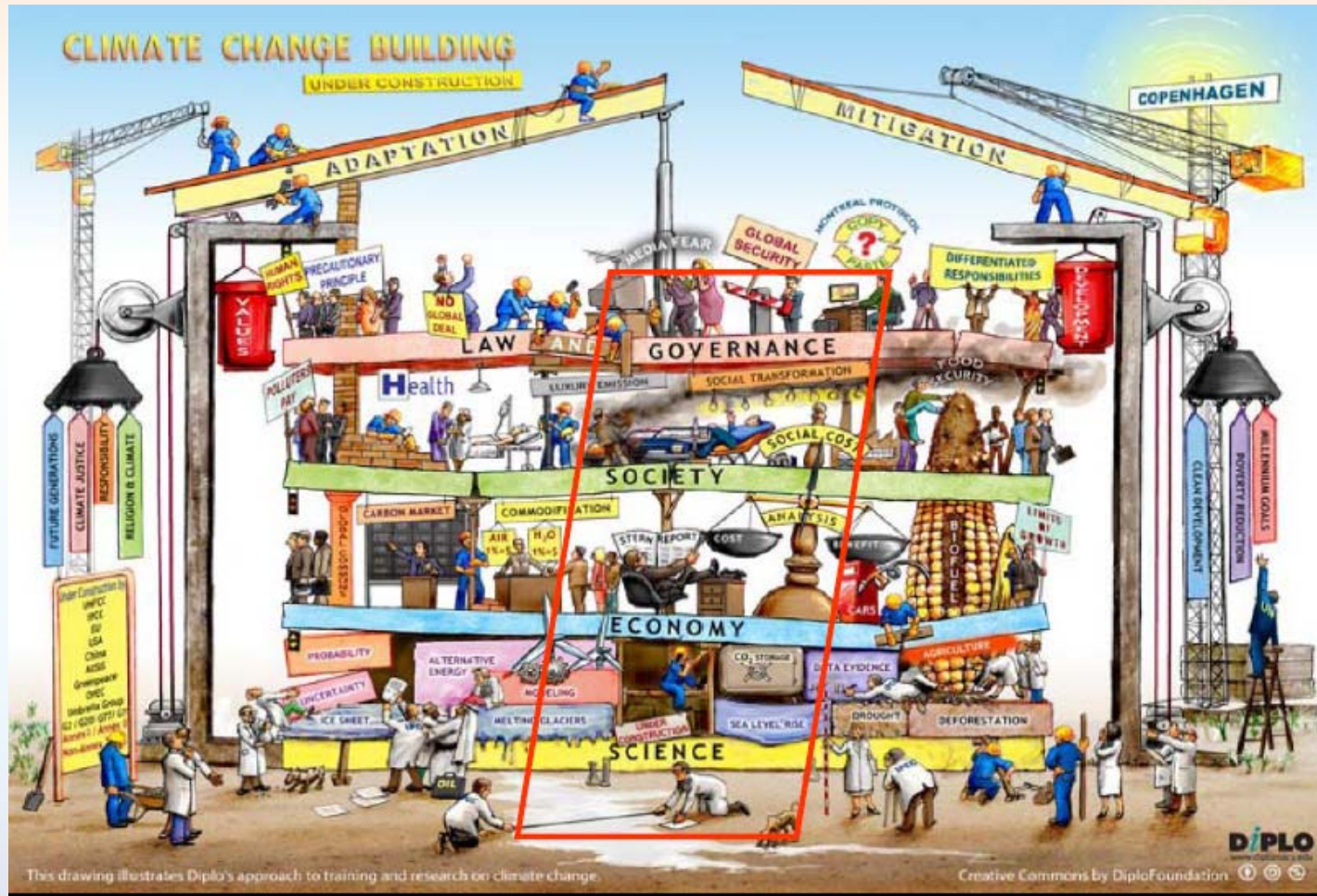
(incl. activities with UN bodies)

Carol Turley & Kelvin Boot





Bridging the Gap between Science and Policy





International Policy Options for OA

↓

Current policy international options for action		
CO ₂ mitigation	Local mitigation	Adaptation (incl. resilience)
▶ UNFCCC		▶ UNFCCC
	▶ CBD	▶ CBD
	▶ UNCLOS	▶ UNCLOS
▶ London Convention/Protocol		
	▶ Regional Fisheries Bodies	▶ Regional Fisheries Bodies
	▶ Marine Management Bodies (eg. OSPAR)	▶ Marine Management Bodies (eg. OSPAR)
		▶ CMS
		▶ CITES
International assessments	International assessments	International assessments
▶ IPCC (key focus)	▶ IPCC	▶ IPCC
▶ UN Regular Process	▶ UN Regular Process	▶ UN Regular Process
▶ IPBES	▶ IPBES	▶ IPBES

Adapted from Turley and Gattuso (2012)

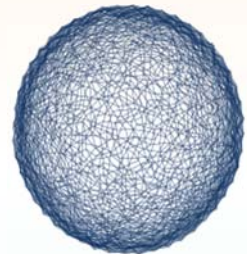


UK Ocean Acidification
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Ocean Acidification and the UNFCCC -

Growing Interest at UNFCCC COP Climate Discussions, rapid interest but still a long way to go



COP15
COPENHAGEN
UN CLIMATE CHANGE CONFERENCE 2009



COP16
CMP6 México2010
United Nations Climate Change Conference



COP17/CMP7
UNITED NATIONS
CLIMATE CHANGE CONFERENCE 2011
DURBAN, SOUTH AFRICA

DOHA 2012
UN CLIMATE CHANGE CONFERENCE
COP18·CMP8



Opportunities of Opportunity at Rio+20

UK Ocean Acidification specific outcome (Number 166) is:

Call for support for initiatives that address ocean acidification and the impacts of climate change on marine and coastal ecosystems and resources. In this regard, reiterate the need to work collectively to prevent further ocean acidification, as well as to enhance the resilience of marine ecosystems and of the communities whose livelihoods depend on them, and to support marine scientific research, monitoring and observation of ocean acidification and particularly vulnerable ecosystems, and to do so through enhanced international cooperation in this regard.”

UK contribution at the UK Pavilion, Oceans Day event, also organised and hosted an EU side event on multiple stressors and contributed to the US OA side event





OCEANS & LAW OF THE SEA
UNITED NATIONS

DIVISION FOR OCEAN AFFAIRS AND THE LAW OF THE SEA



United Nations Convention on the Law of the Sea (UNCLOS)

UNCLOS may present a viable alternative to the UNFCCC context to address OA.

17-20 June 2013: UNCLOS Informal Consultative Process focused its discussions on the impacts of ocean acidification on the marine environment.

- **Williamson and Turley were members of the UK delegation**
- **Turley was a panellist on the ICP**
- **Williamson summarised the draft findings of the CBD**





UNFCCC COP19 - Warsaw



COP19/CMP9
UNITED NATIONS
CLIMATE CHANGE CONFERENCE
WARSAW 2013

Working with IOC-UNESCO and IAEA/OA-ICC
on side events

Working with SCRIPPS and other consortium
members on exhibition booth

Ocean Acidification International Coordination Centre (OA-ICC)

Communicating, promoting and facilitating global actions
in a changing ocean world

Coordination of scientific activities

Observation network

Open platforms/facilities

Collaboration natural and social
sciences

Exchange of students and postdocs

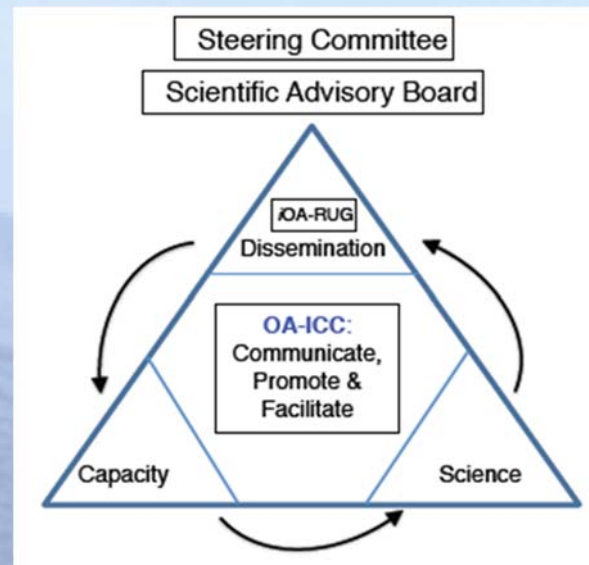
Workshop comparison exercises

Workshop experiments

Workshop practices

Online bibliographic database

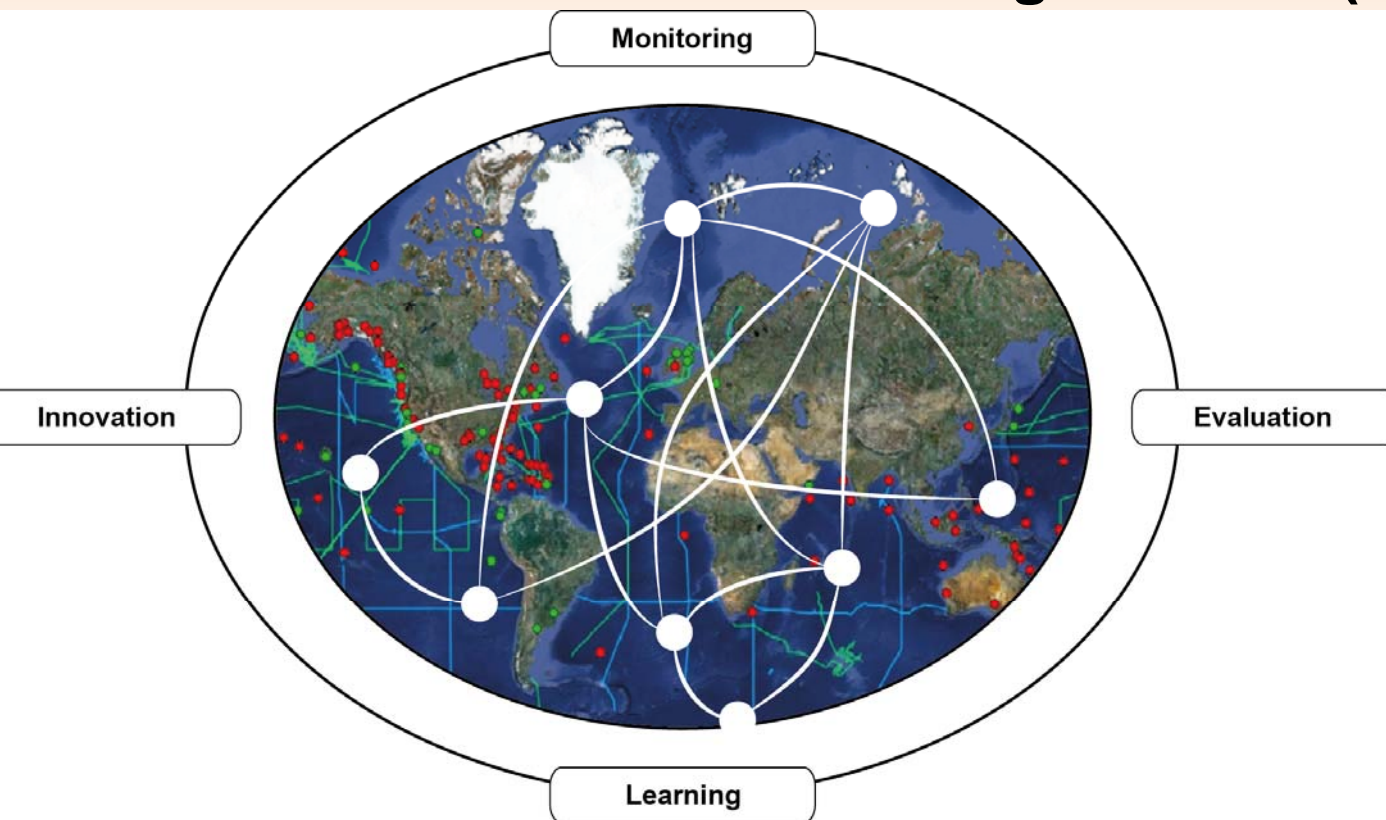
Workshop management

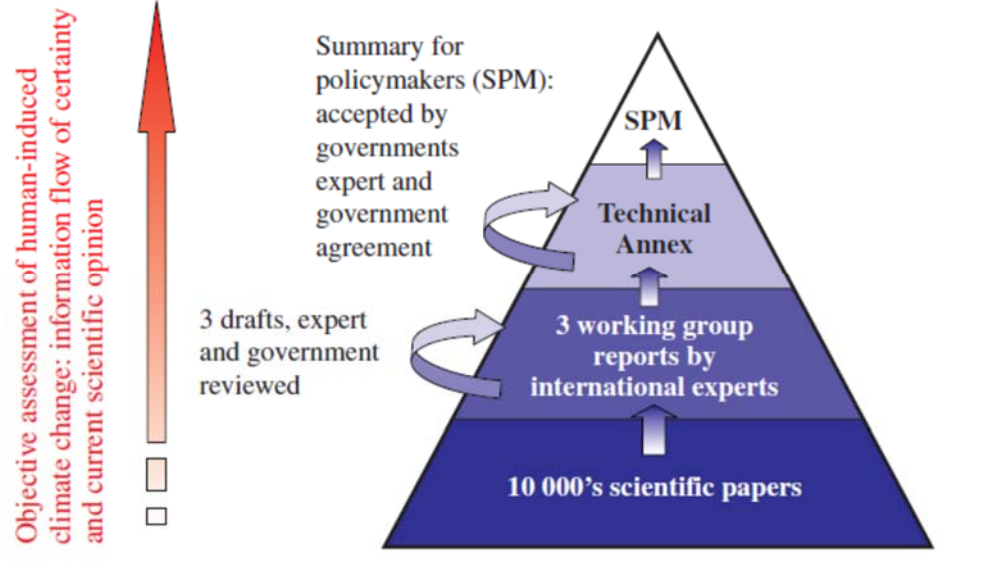


iOA-RUG is a stakeholder group working with experts to disseminate understanding of ocean acidification by policy makers funded by Prince Albert II Foundation



Global Ocean Acidification Observing Network (GOA-ON)





2007: *Fourth Assessment Report*, the IPCC recognized ocean acidification as a risk to ecosystems for the first time

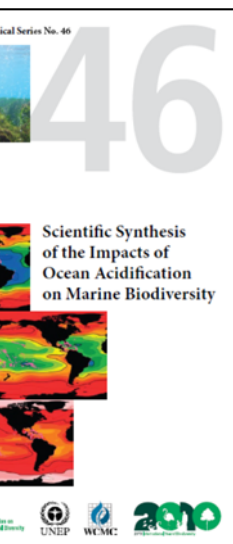
2011: IPCC held an expert workshop on the *Impacts of Ocean Acidification on Marine Biology and Ecosystems*

2013-2014: *IPCC Fifth Assessment Report* with chapters on the ocean and



Convention on
Biological Diversity

CBD is an international legally binding treaty addressing all aspects of biological diversity: genetic resources, species, and ecosystems.



2009: *Scientific Syntheses of Impacts of Ocean Acidification on Biodiversity*

2011: Joint Expert Review Meeting on the *Impacts of Ocean Acidification on Marine Biodiversity*

2014: (underway): Expert Review *Impacts of ocean acidification on biodiversity and ecosystem functions lead by UKOA AVA funding*



D Report on OA

Working title: Seas of change: The response of marine biodiversity to a high CO₂
An updated synthesis of the impacts of ocean acidification on marine
biodiversity

Editor: Rajendra Pachauri, Chair IPCC

Coordinating contributors: Sebastian Hennige, Murray Roberts, Phil Williamson

Contributors: Tracy Aze, James Barry, Richard Bellerby, Luke Brander, Maria Byrne,
Pierre Gattuso, Samantha Gibbs, Lina Hansson, Caroline Hattam, Chris
J. N. Jones, Jon Havenhand, Jan Helge Fosså, Christopher Kavanagh, Haruko Kurihara,
David Matear, Felix Mark, Frank Melzner, Philip Munday, Barbara Niehoff, Paul
Ongly, Katrin Rehdanz, Sylvie Tambutté, Carol Turley, Alexander Venn, Michel
Vieira and Jeremy Young

OSPAR is the mechanism by which fifteen Governments of the western coasts and catchments of Europe, together with the European Community, cooperate to protect the marine environment of the North-East Atlantic.



2006: OSPAR report on the *Effects on the marine environment of ocean acidification resulting from elevated levels of atmospheric CO₂*.

2010: QSR report for evaluating the quality status of the North-East Atlantic and for taking forward OSPAR's vision of a clean, healthy and biologically diverse sea.





The Ocean in a High-CO₂ World
Ocean Acidification

THIRD SYMPOSIUM • MONTEREY • CALIFORNIA • 24-27 SEPTEMBER • 2012

UK scientists had a high profile at the 3rd Ocean in a High CO₂ World conference, held in Monterey, 24-27 September 2012, with its focus on ocean acidification research.

They presented 55 science contributions (the second largest national number, after the US)



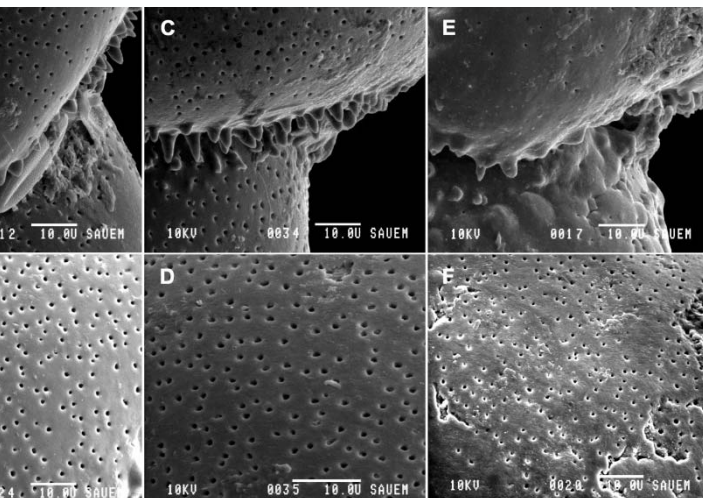


Science and Good Communications

Working to bridge the gap between science and policy

July 2013 Press Release: Microscopic marine creatures may lose teeth as ocean acidification kicks in.

Marine scientists from around the globe meet in St Andrews, Scotland, to share their knowledge on the threat posed by increasing amounts of carbon dioxide entering the sea.



Heroic KE efforts from UKOA scientists not mentioned here but are recorded on the UKOA website “latest news”:

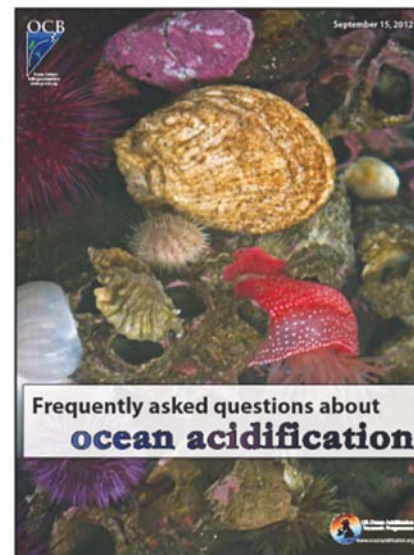
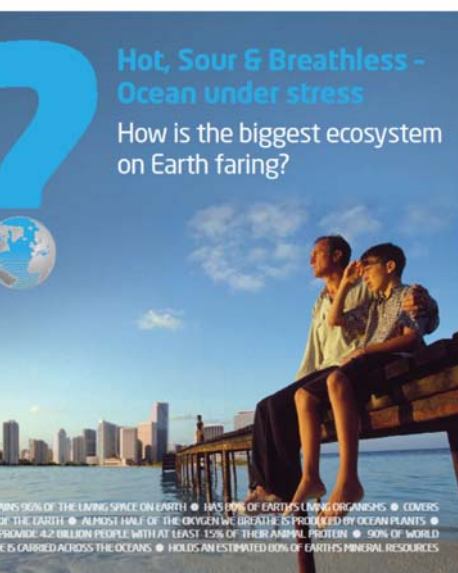
<http://www.oceanacidification.org.uk/>

Many thanks to all your efforts



Types of Communication Material at the Reception Desk

lets us know if you need more material





The Ocean Faces a Host of Multiple Stressors: ocean acidification is “just” one of many.....

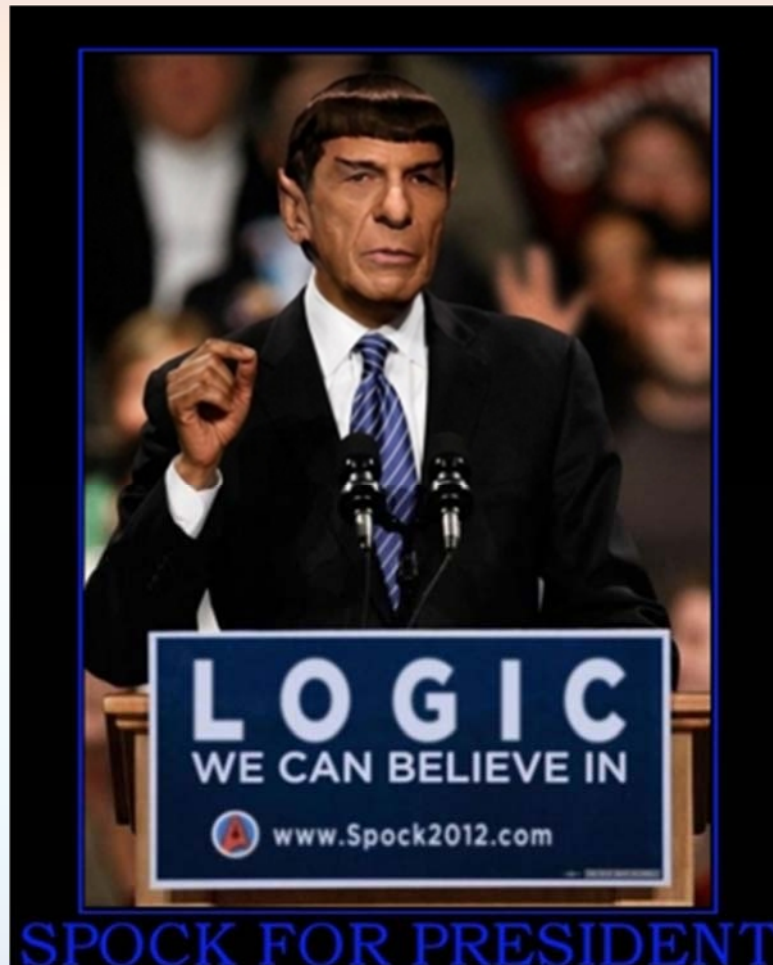


**Balance needed
in getting the
message right!**

**And over to
Kelvin Boot,
UKOA Science
Communicator....**



Communicating the UKOA outputs to stakeholders





The scientist, the politician and the balloon exercise in non-communication



Clear, concise , to the point – time is tight for everyone.

Written in language that stakeholders can understand.

Answering the questions that they want answered. Giving the best answer you can.

What are the **impacts**? How is it **relevant**?

What does it mean for society?

Accessibility does not mean dumbing down



Products

from me.....

Short (up to 8 pages) interim synthesis for each consortium subject area and cross cutting themes.

- Each will be stand alone but also work as a group to provide an overview of the science to date, what it may mean and how it may impact the environment and ultimately people.
- They will be produced as science develops, the first will be Benthic (completed project)
- They will be available as a set, bound in a folder – design to be established.
- They will each contain an overview/summery page

More comprehensive final synthesis report at the end of the project, in the same design and complementary to the interim synthesis reports. This is likely to be around 20 pages in length, and will be accompanied by a 2 page executive summary.

In addition podcasts and vodcasts will be recorded at meetings and placed upon the website and made available – the aim will be your science in a 4 minute nutshell.