First World Ocean Assessment

David Halpern

NASA / California Institute of Technology Jet Propulsion Laboratory

and

U.S. Representative to the United Nations Bureau
of the Ad Hoc Working Group of the Whole for the Regular Process for
Global Reporting and Assessment of the State of the Marine Environment,
Including Socioeconomic Aspects

with

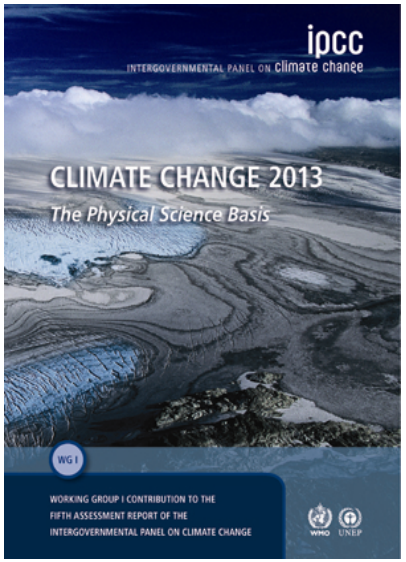
Guidance From U.S. WOA Team

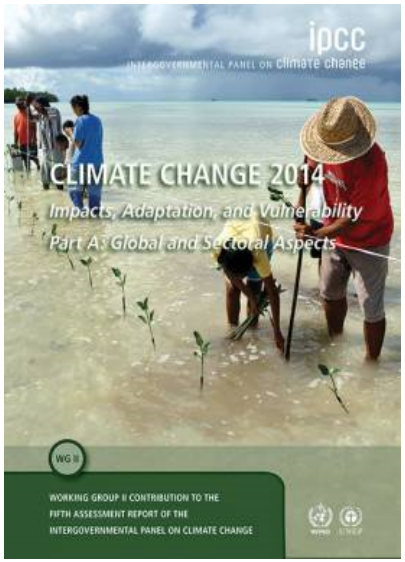
© 2016 California Institute of Technology. Government sponsorship acknowledged.

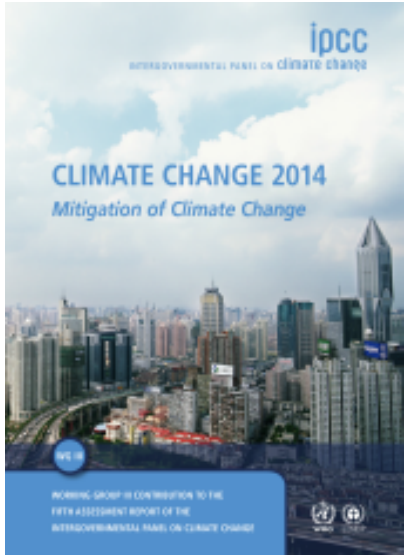
Global Environmental Assessments

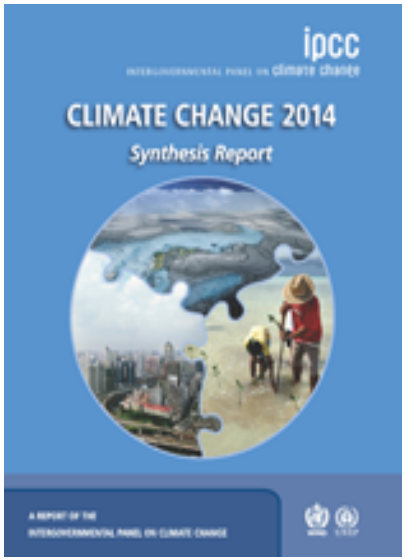
Measure Change, Advance Knowledge, Predict Future

Climate

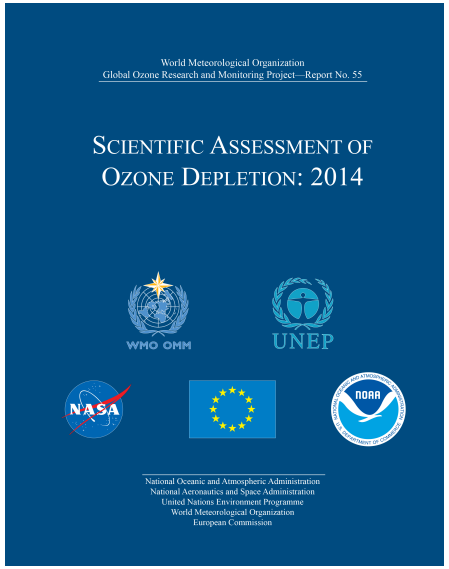


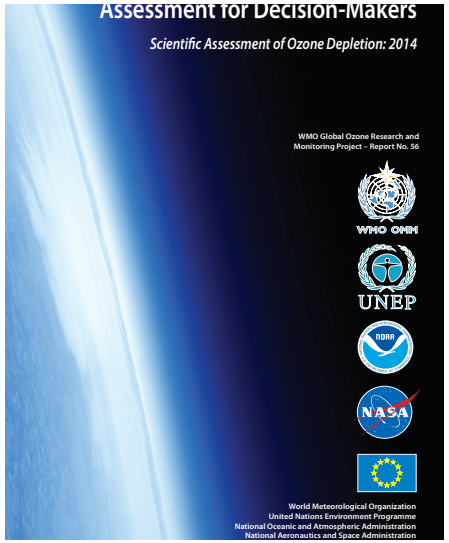




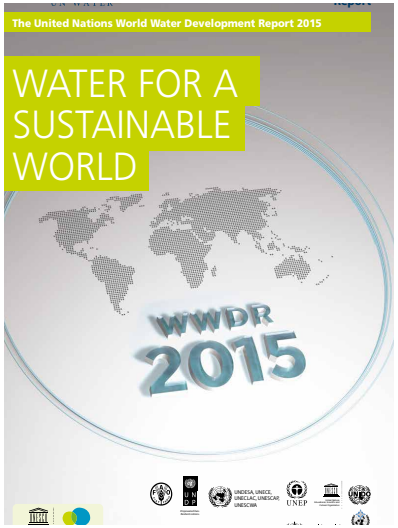


Ozone





Fresh Water



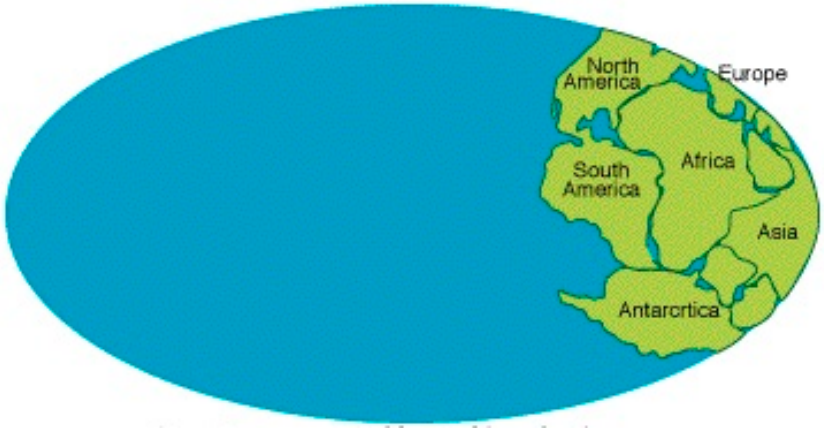
Ocean

WOA-I

NOTE: This is not an electronic publication of the First Global Integrated Marine Assessment, it is a compilation of the Assessment's individual content files which are available on www.un.org/Depts/los/woa and is provided for ease of reference.

WOA ⇨ Oceans Under Permanent Review

- No system exists to assess conditions of marine environment, including socioeconomic aspects



http://www.mos.org/oceans/planet/index.html

- 50% of ocean beyond national jurisdictions has governance through international treaties based on themes (climate change, fisheries, pollution, biodiversity

- WOA is conducted under the United Nations General Assembly
  - Promoted by 2002 World Summit on Sustainable Development (WSSD promoted coordinated Earth observations ⇨ 2003 Earth Obs. Summit)
  - WOA-I has more than 60 chapters
  - WOA-I was peer reviewed by States
  - WOA-I was released in January 2016 – identify baselines
  - Regular cycle of WOAs will identify trends
  - Ecosystem approach was framework for fully integrated assessment
  - Ocean is a part of the integrated global Earth system

United Nations World Ocean Assessment

Regular Process for Global Reporting and Assessment of the State of the Marine Environment Including Socioeconomic Aspects

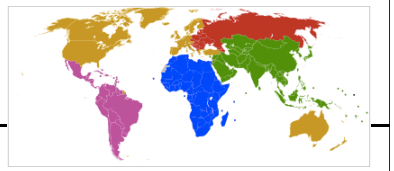
UN Secretary-General Ban Ki-moon promoted development of WOA-I

HOME
ABOUT
RESOURCES
EXPERTS
REPORTS
WORKSHOPS
CAPACITY BUILDING
FINANCIAL
CONTACT

www.worldoceanassessment.org

WOA Governance

UN Regions



United Nations General Assembly (UNGA)

Annual Meeting

Ad Hoc Working Group (AHWGW) of the Whole of UNGA on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects

Bureau

Appointed by States

Group of Experts

Appointed by UN

Secretariat (DOALOS)

UN Headquarters in NYC

Pool of Experts

- DoS transmitted names to WEOG POC, who sent to DOALOS
- DoS distributed announcements to AGU, SCOR, …
- Bernal (2011), Harris (2011), Tirpak and Halpern (2012)

Bureau of the Ad Hoc Working Group of the Whole

Co-Chairs of the Regular Process	
	Mrs. Carolyn Schwalder (New Zealand)
	Ms. Juliette Babb-Riley (Barbados)
MEMBERS	
1	**African States**
	Ghana (Ms. Audrey Abayena)
	Kenya (Ms. Beatrice Wanjuhi Mwaura)
	United Republic of Tanzania (Ms. Tully Malecela Mwaipopo)
2	**Asia-Pacific States**
	China (Mr Li Zhenhua)
	Republic of Korea (Mr. Ki-Jun You)
	Sri Lanka (Amb. Palitha T.B. Kohona)
3	**Eastern European States**
	Bulgaria (Mr. Nicolay Vanchev)
	Estonia (Mr. Auväärt)
	Ukraine (TBC)
4	**Latin American and Caribbean States (GRULAC)**
	Argentina (Mr. Jose Luis Valoni)
	Chile (Mr. Jose Antonio Gonzalez / Mr. Javier Gorostegui)
	Ecuador (Mr. Troya / Mr. Fornell)
5	**Western European and Other States (WEOG)**
	Greece (TBC)
	United States of America (Mr. David Halpern)
	Spain (Mr. Manuel Pablos)

- Formed in 2012 to carry out the wishes of the AHWGW
- Operational Mode
  - Quorum
  - Guidance for Contributors
  - Review Process
  - Risk Reduction
  - G-77 w & w/o China
  - Communication with DOALOS & GoE
  - Review WOA-I Summary
  - Lessons Learned

WOA Workshops

- Objectives
  - Build communications between GoE and experts from States and NGOs
  - Review, evaluate and compile an inventory of relevant assessments
  - Build capacity capacity for integrative assessment
  - Outline linkages in an underlying framework of Drivers – Pressures – Status – Impact – Response
  - Enhance the legitimacy, credibility and relevancy of the WOA

- Workshops
  - Santiago, Chile: 13-25 Sep 2013
  - Sanya, China: 21-23 Feb 2012
  - Brussels, Belgium: 27-29 Jun 2012
  - Miami, Florida, USA: 13-15 Nov 2012 (Tirpak and Halpern, 2013, *Eos*)
  - Maputo, Mozambique: 5-7 Dec 2012
  - Brisbane, Australia: 25-27 Feb 2013 [Harris,
  - Grand Bassam, Côte d'Ivoire: 28-30 Oct 2013
  - Chennai, India: 27-29 Jan 2014

WOA Wider Caribbean Region Workshop 13-15 November 2012, Miami

- Sponsored by US with UNEP

AoA Chapter 0, http://www.unga-regular-process.org/index.php?option=com_content&task=view&id=18&Itemid=20

- Wider Caribbean Region has 28 States and is the marine environment of the Gulf of Mexico, the Caribbean Sea, and adjacent areas of the Atlantic Ocean south of 30°N and within 200 nm of the Atlantic coasts of relevant States.

  Cartagena Convention, 24 March 1983

- Objectives
  - review WCR assessments
  - identify capacity-building needs
  - build elements for WOA
- 13 Nov: Overview
- 14 Nov: Breakout Groups
  - marine environment
  - food security and safety
  - human activities
  - biological diversity
- 15 Nov: WCR contributions to WOA

WOA-I Outline (1)

Policy relevant,
not policy prescriptive

number of US co-authors

- Part I: Summary **0**
- Part II: Introduction (chapters 1 and 2) **0**
  - Mandate, information sources, methods
  - Humans-ocean interactions
- Part III: Assessment of Marine Environment (chapters 3-9) **14**
  - Oceanic role in hydrological cycle
  - Air-sea interaction
  - Primary production, nutrient cycling and plankton
- Part IV: Food Security and Food Safety (chapters 10-16) **1**
  - Ocean and seas as food sources
  - Aquaculture and fish stock propagation
  - Seaweeds and other sea-based food
  - Social and economic aspects of fisheries
- Part V: Human Activities and Marine Environment (chapters 17-32) **12**
  - Shipping
  - Ports
  - Submarine cables and pipelines
  - Coastal, riverine and atmospheric inputs from land

WOA-I Outline (2)

- Offshore hydrocarbons and other marine energy industries
- Offshore mining
- Land-sea erosion and sedimentation
- Tourism and recreation
- Marine genetic resources
- Impact of defence activities on marine environment
- Marine scientific research
- Solid waste disposal
- Marine debris
- Desalinization

Policy relevant,
not policy prescriptive

- Part VI: Marine Biological Diversity (chapters 33-53 + 8/36) **26**
  - Status and trends of biodiversity for species and habitat
  - Ecologically and biologically sensitive areas
  - Vulnerable ecosystems
  - Arctic Ocean, 36G
  - Mangroves, salt marsh, and other macro-vegetations
  - Regulatory approaches to conservation
  - Coral and other biogenic reefs
  - Seagrass and eelgrass beds
  - Kelp forests
  - Seamounts, deep-sea banks and plateaus
  - Hydrothermal vents
  - Other migratory species
  - Other species threatened
  - Other habitats threatened

Moratorium on commercial fisheries in CAO "until there is adequate information on which to manage such fisheries properly" (D. Balton, *Science*, 15Apr2016)

- Part VII: Overall assessment (chapters 54-55) **0**
  - Human impacts on ocean
  - Ocean impacts on humans

Group of Experts (GoE) – I

Number of chapters co-authored; **number of single-authored chapters**

20 chapters authored only by GoE members

African States

4 Renison Ruwa (Kenya)

0 Rolph A. Payet (Seychelles)

3 Osman K. Kamara (Sierra Leone)

3 Amanuel Y. Ajawin (South Sudan)

3 Joshua T. Tuhumwire (Uganda)

Asia-Pacific States

3 Peyman Eghtesadi (Islamic Republic of Iran)

0 Kunio Kohata (Japan)

5 Juying Wang (People's Republic of China)

4 Hilconida P. Calumong (Philippines)

2 Chul Park (Republic of Korea)

GoE-II (deadline – 29 Feb; in progress)

- 11 nominations, 20 Apr
- WEOG: Greece, New Zealand, Portugal, UK, USA (Michelle McClure, NOAA NMFS-Seattle)

Eastern European States

1 Georg Martin (Estonia)

0 Jan M. Węsławski (Poland)

Latin America and Caribbean States

7 Enrique Marschoff (Argentina)

9 Lorna Inniss (Barbados)

10 Beatrice P. Ferreira (Brazil)

15 Patricio Bernal (Chile) 1

15 Sean O. Green (Jamaica)

Western Europe and Other States

8 Peter Harris (Australia)

4 Saskia V. Gaever (Belgium)

24 Jake Rice (Canada) 1

16 Alan Simcock (United Kingdom) 4

11 Andrew Rosenberg (USA) 1

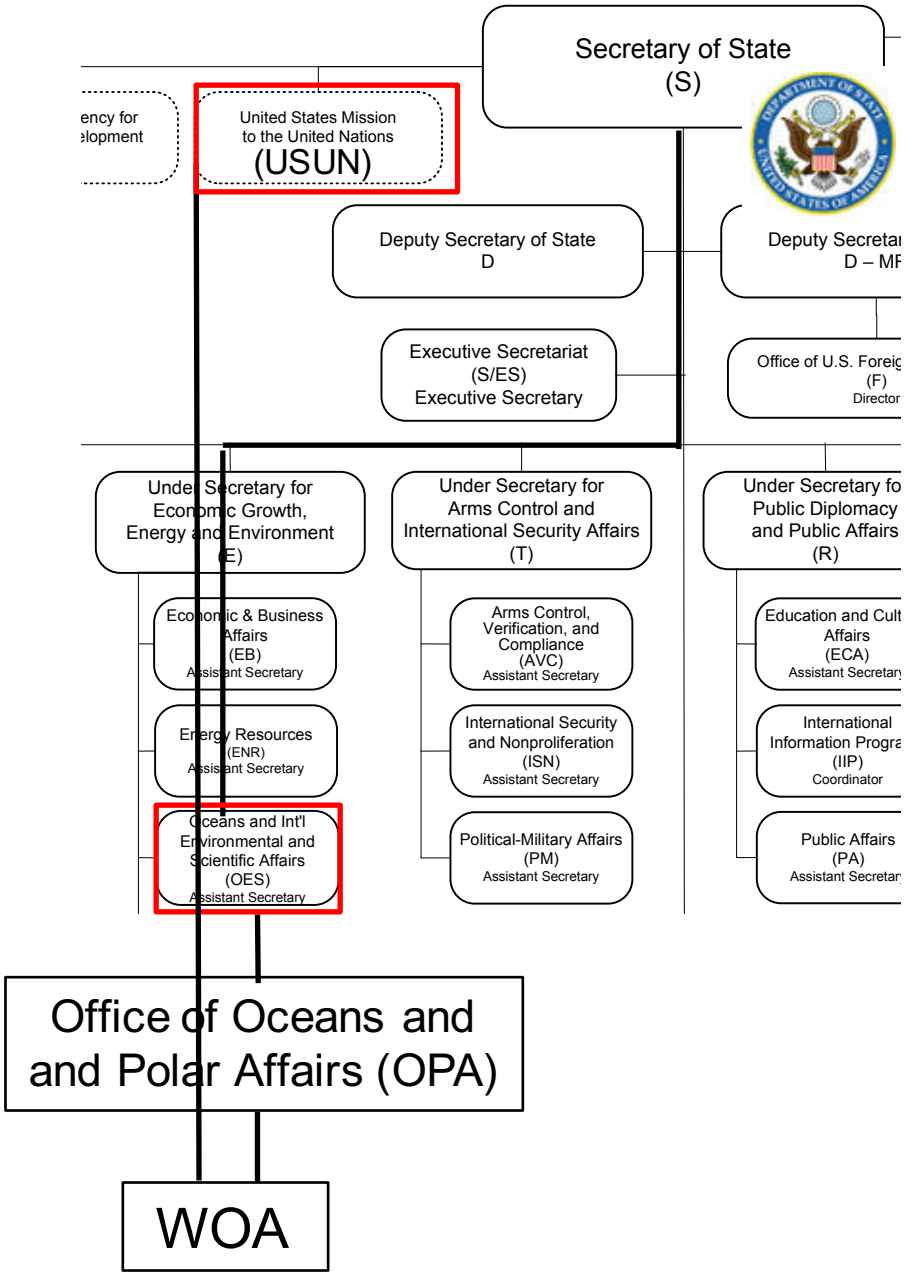
Structural Overview of WOA-I

- Cover: No
- Continuous pagination: No
- Total Number of Pages: 1752
- Total Number of Diagrams: 170
- Summary: 50 pages, no diagrams
- Total Number of Chapters: 63
- Chapter Sizes: 2 – 96 pages
- Chapters With Commentators: 7
- Contributors / Lead Members

Participation of Pool of Experts: N_{WOA} / N_{PoE}

Albania: 0 / 1
Argentina: 8 / 14
Australia: 16 / 21
Bangladesh: 2 / 2
Barbados: 10 / 13
Belgium: 22 * / 23
Benin: 1 / 14
Brazil: 15 / 30
Bulgaria: 0 / 1
Canada: 23 / 35
Chile: 5 / 21
China: 6 / 63
Colombia: 1 / 3
Costa Rica: 0 / 1
Dominican Rep: 0 / 1
Ecuador: 1 / 3
Egypt: 0 / 2
Estonia: 3 / 2
France: 5 / 13
Germany: 5 / 13
Greece: 2 / 5
India: 6 / 12
Iran: 1 / 6
Italy: 4 / 5
Jamaica: 2 / 4
Japan: 7 / 14
Kenya: 3 / 2
Madagascar: 4 / 16
Mexico: 3 / 13
Mozambique: 1 / 1
New Zealand: 7 / 9
Nigeria: 2 / 7
Norway: 8 / 12
Peru: 1 / 4
Philippines: 2 / 2
Poland: 1 / 2
Portugal: 4 / 12
Qatar: 1 / 2
ROK: 5 / 50
Russian Fed: 1 / 1
Seychelles: 1 / 0 *
Sierra Leone: 1 / 0 *
South Africa: 1 / 4
South Sudan: 1 / 0 *
Spain: 4 / 7
Sweden: 1 / 7
Trinidad Tobago: 2/3
UK: 17 / 22
Tanzania: 1 / 8
USA: **48** / **97**
Uruguay: 1 / 2
Viet Nam: 0 / 1

U.S. WOA Team
First Cycle of WOA Regular Process, 2010-2016



- OPA Foreign Affairs Officer (FAO)
  - Elizabeth Tirpak, 2010-2014
  - Alan Lowther, 2014-2015
  - Kelly Kryc, 2015
  - Allison Reed, 2015-present
- USUN
  - John Arbogast et al.
- DoS Interagency WG on WOA
  - Chair, OPA FAO
  - BOEM, EPA, Navy, NASA, NOAA, NSF, USGS
- National Ocean Council
  - OST-IPC and ORM-IPC (review of draft WOA-I)
- U.S. Representative to WOA Bureau (NASA) 2012-present

Thank you

http://theaposition.com/robertfagan/wp-content/uploads/sites/33/2013/04/QuestionsPic.jpg