



Brief Report on Activities of Regional Education and Research Centre on Oceanography for West Asia (RCOWA) under the auspices of UNESCO

Iranian National Institute for Oceanography and
Atmospheric Science

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Contents

<i>Introduction</i>	3
<i>RCOWA Activities (2017- 2019) at a glance</i>	3
<i>Attachment 1:</i>	5
Report on "OceanTeacher Global Academy Training Course on: Marine Biogeographic Data processing using OBIS", 23 - 26 September 2018, Tehran, Iran.....	5
<i>Attachment 2:</i>	7
Cooperation in holding Twelfth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS-XII), 9–12 March 2019 and the Expert Consultation on “Scientific Tsunami Hazard Assessment of the Makran Subduction Zone” 8 March 2019, Kish Island, Islamic Republic of Iran	7
<i>Attachment 3:</i>	8
Report on "Ocean Acidification workshop: Developing regional capacity for ocean observations in support of SDG target 14.3", 8 – 9 June 2019, Tehran, IR. of Iran.....	8

Introduction

The establishment of Regional Education and Research Centre on Oceanography for West Asia (RCOWA) was approved by 37th UNESCO General Conference as a Category 2 under the Auspices of UNESCO in the Iranian National Institute for Oceanography and Atmospheric Science (INIOAS) in November 2013 (37 C/18 Part XVII) and the agreement was signed on 2015.

The member states of the center include 17 countries of the region consisting of Pakistan, Iraq, Oman, Turkey, Indian, Qatar, Lebanon, Egypt, United Arab Emirates, Kuwait, Yemen, Bahrain, Saudi Arabia, Syria, Palestine, Jordan and Iran.

The representative of UNESCO, IR. of Iran, Oman, Iraq, Pakistan and India are the Members of the Governing Board.



RCOWA Activities (2017- 2019) at a glance

Regional Education and Research Centre on Oceanography for West Asia (RCOWA) under the auspices of UNESCO from the beginning of its activity has organized 2 Meetings of Governing Board, 3 workshops and an international conference. RCOWA also cooperated with regional and international bodies in organizing 3 events including one workshop, one consulting meeting and an international UNESCO (IGG/IOTWMS XII) meeting.

As in the list of ongoing RCOWA activities in 2019, the 3rd meeting of the Governing Board is going to be held in June 2019, the "Workshop on Ocean Acidification" is scheduled to be held on 8-9, June 2019 in Bushehr, IR of Iran. RCOWA also will cooperate with the Indian Ocean Rim Association - Regional Centre for Science and Technology Transfer (IORA-RCSTT) for organizing the Workshop on the "Effects of Climate Change on the Indian Ocean Environment" in November 2019 in Tehran, Iran.

The list of the RCOWA activities from 2017 to 2019 is as follows:

- **First meeting of the Governing Board Regional Education and Research Center on Oceanography for West Asia (RCOWA) under the auspices of UNESCO, 17-18 July 2016**
- **First Workshop of Regional Education and Research Center on Oceanography for West Asia (RCOWA) under the auspices of UNESCO on "Fundamentals of Ocean Data Management", 5-7 March 2017**

- **"First International Conference on Oceanography for West Asia", 30-31 October 2017, Olympic Hotel, Tehran, IR. Iran**
- **Workshop on "The Ocean and Climate Change", 30 October 2017, Olympic Hotel, Tehran, IR. Iran**
- **Workshop on "A review of progress in satellite oceanography", led by Professor Stefano Vignudeli from the National Research Council (CNR), Italy, 30 October 2017, Olympic Hotel, Tehran, IR. Iran**
- **Second Session of the Governing Board Regional Education and Research Center on Oceanography for West Asia (RCOWA) under the auspices of UNESCO, 1 Nov 2017, Tehran, IR Iran**
- **Cooperation in: Training Course on “Modelling Aquatic Ecosystems with Ecopath, Ecosim and Ecospace” from 27-29 November 2017, Tehran, IR of Iran**
- **Cooperation in organizing "OceanTeacher Global Academy Training Course on: Marine Biogeographic Data processing using OBIS", 23 - 26 September 2018, Tehran, Iran (A brief report is attached-Attachment 1)**
- **Cooperation in 12th Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS-XII) 9-12 March 2019 (A brief report is attached- -Attachment 2)**
- **Cooperation in Expert Consultation on “Scientific Tsunami Hazard Assessment of the Makran Subduction Zone” 8 March 2019, Kish Island, Islamic Republic of Iran, 8 March 2019**
- **Ocean Acidification workshop: Developing regional capacity for ocean observations in support of SDG target 14.3, 8 – 9 June 2019, Tehran, Iran**

List of ongoing activities in 2019 are as follows:

- **Thirds Session of the Governing Board of Regional Education and Research Center on Oceanography for West Asia (RCOWA) under the auspices of UNESCO, 27 June 2019, UNESCO HQ, Paris**
- **Cooperation with IORA-RCSTT for holding the Workshop on the “Effects of Climate Change on the Indian Ocean Environment”, October 2019, Tehran, Iran**
- **Cooperation in Joint Meeting and Field Trip of IGCP 610 and INQUA POCAS Focus Group “From the Caspian to Mediterranean: Environmental Change and Human Response during the Quaternary”, Tehran and Guilan Province, I.R. Iran 11-18 October 2019**

Attachment 1:

Report on "OceanTeacher Global Academy Training Course on: Marine Biogeographic Data processing using OBIS", 23 - 26 September 2018, Tehran, Iran

The "OceanTeacher Global Academy Training Course on: Marine Biogeographic Data processing using OBIS", was organized by the IODE- OceanTeacher Global Academy Center in Iran 23 - 26 September 2018, Tehran, Iran in cooperation with Regional Education and Research Centre on Oceanography for West Asia (RCOWA) under the auspices of UNESCO and the Iranian National Institute for Oceanography and Atmospheric Science. RCOWA contributed to organization of the workshop financially.

The course provided an introduction to the Ocean Biogeographic Information System (OBIS). This included best practices in marine biogeographic data management, data publication, data access, data analysis and data visualisation. With the numerous datasets being generated through various projects and some old data yet to be captured in the database, this training provided an opportunity to manage this wealth of scientific knowledge.

Dates: 23 - 26 September 2018

Venue: INIOAS, Terhan, Iran

Course Instructors:

- Keivan Kabiri
- Abdolvahab Magsoudlou
- Oleksandr Neprokin
- Hanieh Saeedi

The training module was as follows:

- Install RStudio
- Install robis and obistools R packages
- Discover robis and obistools R package functions and features
- Reading data in R (txt, xlsx, DwC-A)
- Manipulating data in R
- Plotting data in R
- Mapping data in R



"OceanTeacher Global Academy Training Course on: Marine Biogeographic Data processing using OBIS", 23 - 26 September 2018, Tehran, Iran

Attachment 2:

Cooperation in holding Twelfth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS-XII), 9–12 March 2019 and the Expert Consultation on “Scientific Tsunami Hazard Assessment of the Makran Subduction Zone” 8 March 2019, Kish Island, Islamic Republic of Iran

Regional Education and Research Centre on Oceanography for West Asia (RCOWA) under the auspices of UNESCO also was one of the supporter of the Twelfth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS-XII) that was held in Kish Island, Islamic Republic of Iran, 9–12 March 2019 and the Expert Consultation on “Scientific Tsunami Hazard Assessment of the Makran Subduction Zone” 8 March 2019, Kish Island, Islamic Republic of Iran, 8 March 2019. The events were held under the auspices of the IOC-UNESCO ICG/IOTWMS.

For more information about the ICG/IOTWMS XII, please see the meeting website at: http://www.ioc-unesco.org/index.php?option=com_oe&task=viewEventDocs&eventID=2334

And for information about the Expert Consultation on “Scientific Tsunami Hazard Assessment of the Makran Subduction Zone” please see: http://www.ioc-tsunami.org/index.php?option=com_oe&task=viewEventRecord&eventID=2385



Twelfth Session of the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS-XII), Kish Island, Islamic Republic of Iran, 9–12 March 2019

Attachment 3:

Report on "Ocean Acidification workshop: Developing regional capacity for ocean observations in support of SDG target 14.3", 8 – 9 June 2019, Tehran, IR. of Iran

In line with "Regional Education and Research Center on Oceanography for West Asia (RCOWA) under the auspices of UNESCO" strategy and capacity building in the region and as approved in the 2nd Session of RCOWA Governing Board, the Ocean Acidification workshop: Developing regional capacity for ocean observations in support of SDG target 14.3" was held from 8 to 9 June 2019 in Tehran, IR. of Iran.

The Workshop organized by the Regional Education and Research Centre on Oceanography for West Asia (RCOWA), supported by the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO), the Global Ocean Acidification Observing Network (GOA-ON) and the Iranian National Institute for Oceanography and Atmospheric Science.



Ocean Acidification workshop: Developing regional capacity for ocean observations, 8 – 9 June 2019, Tehran, IR. of Iran
Photo: Manoochehr Mohammadi

Four lecturers from Intergovernmental Oceanographic Commission of UNESCO and the Iranian National Institute for Oceanography and Atmospheric Science presented their lectures in the workshop. Twenty nine experts from Iran, Iraq and Emirate participated in the workshop.

Lecturers:

- Dr. Kirsten Isensee
Project Specialist - Ocean Carbon Sources and Sinks
Ocean Science Section
Intergovernmental Oceanographic Commission of UNESCO
- Dr. Katherina SCHOO
Consultant on Ocean Acidification
Intergovernmental Oceanographic Commission of UNESCO
- Dr Abolfazl Saleh,
Faculty Member & Head of Marine Geology & Physics Research Group of Ocean Science
Department of Iranian National Institute for Oceanography and Atmospheric Science
- Dr. Maryam Ghaemi
Faculty Member & Head of Persian Gulf (Bushehr) Research Station of Iranian National
Institute for Oceanography and Atmospheric Science

Executive Organizers:

- Fahimeh Foroughi,
Head of International Cooperation Office
Iranian National Institute for Oceanography and Atmospheric Science
- Zahra Nejad Fallah,
Scientific Cooperation Office
Iranian National Institute for Oceanography and Atmospheric Science



Ocean Acidification workshop: Developing regional capacity for ocean observations in support of SDG target 14.3

Workshop Agenda 8 – 9 June 2019

Day 1 – 8 June 2019

9:00	Welcome	RCOWA Official / Local Official
9:10	Introduction to the workshop: overview of the Agenda and expected outcomes	IOC-UNESCO (Kirsten Isensee & Local representative (tbc)
9:20	Tour de Table	Short introduction by everybody: Name, Organization, Country, Expertise
9:45	What is ocean acidification? Introduction to the threat of ocean acidification to ocean health and resources	IOC-UNESCO
10:30	<i>Break</i>	
10:45	SDG 14.3 – Ocean acidification in the framework of the UN 2030 Agenda and the role of national statistical agencies as well as National Oceanographic Data Centres	Kirsten Isensee (IOC-UNESCO)
11:30	Inorganic carbon chemistry in coral reefs and rocky intertidal shores of the northern Persian Gulf: implication for ocean acidification studies	Dr. Saleh
12:00	Mangrove and coastal acidification, case study: Mangrove ecosystems on the northern coasts of the Persian Gulf	Dr. Ghaemi
12:30	Carbonate chemistry of the Persian Gulf and Gulf of Oman (results of Cruise PGE1803, Sep. 2018)	Dr. Saleh

13:00	<i>Lunch break</i>	
14:00	Other regional and global ocean acidification science and observation networks – Science cooperation to address policy demands and best practices	Local representatives, Katherina Schoo, Kirsten Isensee (IOC-UNESCO)
14:30	Interactive Afternoon Short presentations by participants Discussion questions: What are key regional concerns related to OA? Can you address 14.3? What is missing to observe ocean acidification? Do you have access to equipment and trained experts? Do you use open access data centres? What is necessary increase regional and international collaboration?	Local scientists and stakeholders
17:30	Wrap up	

Day 2 – 9 June 2019

9:00	Technical capacity– what do we need to measure and how?, including introduction to the GOA-ON in a box	IOC-UNESCO
10:00	Ocean Acidification measurement resources: Presentation of e.g. GOA-ON data portal and Pier2Peer, IAEA resources, status of SDG indicator 14.3.1 online resources and others	Katherina Schoo (IOC-UNESCO)
10:30	<i>Break</i>	
11:00	Interactive Session in Breakout Groups (by specialty and/or subregion) Drafting of a Roadmap: Steps needed to implement a sustained ocean acidification observing network and related science activities in the West Asia Region to achieve target 14.3 by 2030 Questions to focus on: <ul style="list-style-type: none"> • What existing capacity does your country/region have? • What additional resources does your country/region need? • Monitoring impact – what experimental facilities and OA research programmes do you have? • What partnerships need to be developed? 	Keeping in mind the results from the discussions on day 1 Consider the roles of international and intergovernmental entities like GOA-ON, IOC, IAEA, GOOS, and how they can facilitate this

- How can GOA-ON, IOC, IAEA, GOOS and other entities facilitate this work?
- How will this work address SDG 14.3? What steps need to be taken to ensure this happens by 2030?

12:30 *Lunch break*

14:00 **Interactive Session** – continued

15:30 *Break*

16:00 **Presentations** of breakout group findings and results Lead from each group

17:00 **Summary and steps forward** – what next? Kirsten Isensee & RCOWA Secretariat

17:45 **Closing**



Ocean Acidification workshop: Developing regional capacity for ocean observations 8 – 9 June 2019

List of Participants

Name	Email	Institution
1. Saeed Maleki- Porazmiani	maleki.saeed@alumni.ut.ac.ir	University of Tehran, Iran
2. Pargol Ghavam Mostafavi	Gh.mostafavi@gmail.com	Islamic Azad University, Iran
3. Maliheh Safari	Safarimaliheh895@yahoo.com	Payame Noor University, Iran
4. Sima Rahi		Tarbiat Modares University, Iran
5. Mona Hajirasouli	Hr.mona@yahoo.com	Tarbiat Modares University, Iran
6. Ali Bassal Mahmood	ali.mahmood1970@yahoo.com	Marine Science Center, University of Basrah, Iraq
7. Satar Aziz Gmais	sattaralmaliki@gmail.com	Marine Science Center, University of Basrah, Iraq
8. Ali Mehdinia	mehdinia@inio.ac.ir	Iranian National Institute for Oceanography and Atmospheric Science, Iran
9. Mehri Seyed Hashtroudi	hashtroudi@inio.ac.ir	Iranian National Institute for Oceanography and Atmospheric Science, Iran
10. Ehsan Abadi	e.abedi2000@gmail.com	Iranian National Institute for Oceanography and Atmospheric Science, Iran
11. Zahra Darvishnia	Zahra.darvishnia@gmail.com	Tarbiat Modares University, Iran
12. Mohammadreza Hemmati Mojarab	Mrhm1374@outlook.com	Tarbiat Modares University, Iran
13. Marianna Kiyoko	mariannakiyko@gmail.com	Sorenica, Oil and Gaz, United Arab Emirate
14. Adel Ganje	Adel.ganje@sorenica.com	Sorenica, Oil and Gaz, United Arab Emirate
15. Najmeh Nozarpour	nozarpour88@gmail.com	Tarbiat Modares University, Iran
16. Neda Fahimi	ladan_fahimi@yahoo.com	University of Tehran, Iran
17. Rashed Abdollahi,	rashed.abdollahi@gmail.com	University of Tehran, Iran
18. Zahra Taghizadeh Rahmat Abadi	z.taghizadeh.ra@gmail.com	Shahid Beheshti University, Iran
19. Somayeh Nahavandian	s.nahavandian@modares.ac.ir	Tarbiat Modares University, Iran
20. Reza Shahifar	r.shafifar@gmail.com	Iranian Fisheries Organization, Iran
21. Amin Varnik	aminhydrography@gmail.com	NGO, Iran
22. Abdolreza Hashemi	Arhashemi.2005@gmail.com	NGO, Iran
23. Abolfazl Saleh	saleh@inio.ac.ir	Iranian National Institute for Oceanography and Atmospheric Science, Iran
24. Hamid Reza Bargahi	hr.bargahi@gmail.com	Iranian Fisheries Organization, Iran
25. Abdolvahab Maghsoudlou	Wahab@inio.ac.ir	Iranian National Institute for Oceanography and Atmospheric Science, Iran
26. Zahra Nejad Fallah	nfallah@inio.ac.ir	Iranian National Institute for Oceanography and Atmospheric Science, Iran

27.	Babak Moradi	babak.moradi@inio.ac.ir	Iranian National Institute for Oceanography and Atmospheric Science, Iran
28.	Fahimeh Foroughi	foroghi@inio.ac.ir	Iranian National Institute for Oceanography and Atmospheric Science, Iran
29.	Maryam Ghaemi	mghaemi@inio.ac.ir	Iranian National Institute for Oceanography and Atmospheric Science, Iran