



# UNESCO/IOC-ODC Training Course on Application of Ocean Forecast System



## PROGRAMME

1-12 September 2025

Qingdao, China

*Hosted by*  
**The First Institute of Oceanography (FIO),  
Ministry of Natural Resources (MNR), China  
Ocean Decade International Cooperation Center**



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## 1. Background

The UNESCO/IOC Regional Training and Research Center on Ocean Dynamics and Climate (ODC) was officially established through the Agreement signed by the Intergovernmental Oceanographic Commission (IOC) of UNESCO and the host institute, the First Institute of Oceanography (FIO), Ministry of Natural Resources (MNR) of China, at the WESTPAC-VIII in Bali, Indonesia in May 2010. ODC Center was built to provide advanced training and education for young scientists and officers, promote exchange among experts within and outside the WESTPAC region on ocean research and initiate cutting-edge research on ocean and climate model development. ODC center was inaugurated on 9 June 2011 at the host institute of the First Institute of Oceanography, China as the first UNESCO/IOC Regional Training and Research Center. Furthermore, the cooperation agreements with a work plan has been renewed through the exchange of letters every 5 year.

ODC center has been providing annual training and research opportunities on ocean dynamics, air-sea interactions, climate change and numerical modeling to junior scientists and doctoral/master students. Financial support is provided to about 15 trainees mainly from the developing member states of IOC. ODC center also provides support on high performance computing, data processing and numerical modeling during the training course and joint researches.

Thirteen training courses had been successfully held annually in last 14 years with the subjects of Ocean Models (10-16 June 2011), Ocean Dynamics (16-22 July 2012), Air-Sea Interaction and Modeling (12-23 August 2013), Climate Models (3-14 November 2014), Climate Change (7-18 September 2015), Ocean Dynamics and Multi-scales Interaction (5-16 September 2016), Development of Coupled Regional Ocean Models (12-23 June 2017), Ocean Forecast System (25 June-7 July 2018) and Climate Dynamics and Air-sea Interactions (17-28 Jun 2019), Regional Application of Coupled Climate Models (5-16 July 2021) and Prediction and Projection of Climate (22-28 August 2022), Ocean Model and Data Assimilation (10-21 July 2023), Ocean Model and Ecosystem Model (8-20 July 2024). Total 750 trainees from 55 countries have been selected from 1500 applications from 70 countries, and trained in these previous courses. More information could be found on ODC website (<http://odc.fio.com.cn>).

With the constructive suggestions and overwhelming interests received from the previous training courses, the topic of 14th ODC Training Course is scheduled as Application of Ocean Forecast System that will be held during 1-12 September, 2025. This year the BRICS joint project “Improvement and demonstration application of BRICS Ocean Forecast Model” will provide partial financial support for the training with focus on the trainees from BRICS nations. This training is designed to introduce New generation ocean to climate coupled models and their applications, The use of Ocean Forecasting in the Monitoring and Assessment of the Health of the Marine Environment Ecosystem, Application and practice of the Toolkits, Data and statistical analysis, The transport of plastic pollution in the ocean and its assessment, End to End Operational Oceanographic Systems for Societal Services, and other related frontier topics.

## 1.1 Place for Training

The opening ceremony and lectures for this two-week training will be given at the meeting room 302, located at the 3<sup>rd</sup> floor of the Administrative Building, in the First Institute of Oceanography (FIO), Ministry of Natural Resources, China(自然资源部第一海洋研究所). (see Figure 1)

Address: No.6 Xianxialing Road, Laoshan District, Qingdao.(青岛市崂山区仙霞岭路 6 号)

Trainees will be arranged in hotel of Hitide International Hotel (海泰万丰国际酒店, Address: No. 175 Shenzhen Road, Laoshan District Qingdao China, 青岛市崂山区深圳路 175 号; Room reservation: +86-532-57792088) which is about 15 minutes' walk to FIO. (see Figure 2)



Fig. 1 The training venue at FIO



Fig. 2 The Hitide International Hotel

## 1.2 Co-Sponsors



## 1.3 Local Organizers, Resource Persons and Volunteers

### Local Organizers & Resource Persons

#### **Dr. Tiegang Li**

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## 2. Program of UNESCO/IOC-ODC Training Course

### 2.1 Time Schedule

#### 14<sup>th</sup> UNESCO/IOC-ODC Training Course on Application of Ocean Forecast System

(Time Zone, GMT+08:00)

Time	Activities	Speaker/Chair
<b>Monday 1 September 2025</b>		
8:30-9:00	<b>Registration</b>	
9:00-10:00	<b>Opening Ceremony</b>	<b>Chaired by Fangli Qiao</b>
	Opening remarks from ODC Center & FIO	<b>Tiegang Li</b>
	Welcome remarks from Elsevier	<b>Peter Harrison</b>
	Speech from lecturer representative	<b>Juliet Clair Hermes</b>
	Logistic arrangement and introduction to the 2025 ODC training course	<b>Xunqiang Yin</b>
10:00-10:30	<b>Group photos and break</b>	
10:30-10:45	<b>Training Lecture:</b> Elsevier empowers oceanography: publishing trends and contributions from Early Career Researcher	<b>Haiyan Sun</b>
10:45-12:00	<b>Training Lecture:</b> New generation ocean to climate coupled models and their applications	<b>Fangli Qiao</b>
12:00-14:00	<b>Lunch</b>	
14:00-17:00	<b>Group Discussion 1:</b> <b>Brain storm for the proposal</b>	<b>All trainees and teachers</b>
<b>Tuesday 2 September 2025</b>		
9:00-12:00	<b>Training Lecture &amp; Practice:</b> Indian Ocean; ocean observations and how to access data	<b>Juliet Clair Hermes</b>
12:00-14:00	<b>Lunch</b>	
14:00-15:20	<b>Training Lecture &amp; Practice:</b> Indian Ocean; ocean observations and how to access data	<b>Juliet Clair Hermes</b>
15:20-15:40	<b>Health break</b>	
15:40-17:00	<b>Group Discussion 2:</b> <b>Brain storm for the proposal</b>	<b>All trainees and teachers</b>
<b>Wednesday 3 September 2025</b>		
9:00-12:00	<b>Training Lecture &amp; Practice:</b> Introduction of regional ocean forecast system	<b>Changshui Xia</b>
12:00-14:00	<b>Lunch</b>	
14:00-15:20	<b>Trainee report:</b> <b>Trainees in group 1</b>	<b>All trainees and teachers</b>
15:20-15:40	<b>Health break</b>	
15:40-17:00	<b>Trainee report:</b> <b>Trainees in group 2</b>	<b>All trainees and teachers</b>

Thursday 4 September 2025		
9:00-12:00	<b>Training Lecture &amp; Practice:</b> ITF or ocean and climate dynamics of Indonesian seas	<b>Raden Dwi Su santo</b>
12:00-14:00	<b>Lunch</b>	
14:00-15:20	<b>Training Lecture &amp; Practice:</b> The use of Ocean Forecasting in the Monitoring and Assessment of the Health of the Marine Environment Ecosystem	<b>Juliet Kelechi Igbo</b>
15:40-17:00	<b>Trainee report:</b> <b>Trainees in group 3</b>	
Friday 5 September 2025		
9:00-12:00	<b>Training Lecture &amp; Practice:</b> Application and practice of the Toolkits	<b>Jiechen Zhao, Qian Zhao</b>
12:00-14:00	<b>Lunch</b>	
14:00-15:20	<b>Training Lecture &amp; Practice:</b> Application and practice of the Toolkits	<b>Jiechen Zhao, Qian Zhao</b>
15:20-15:40	<b>Health break</b>	
15:40-17:00	<b>Trainee report:</b> <b>Trainees in group 4</b>	<b>All trainees and teachers</b>
Monday 8 September 2025		
9:00-11:00	<b>Training Lecture &amp; Practice:</b> Automatic simulation system for marine environment.	<b>Wanqing Chi</b>
11:00-12:00	<b>Lunch</b>	
12:00-13:00	<b>Travel to Qingdao West Coast New Area by Bus</b>	
13:00-17:00	<b>Special activities :</b> Sailing with the Ocean - Opportunities and Challenges for Young Marine Talent	<b>All trainees and teachers</b>
Tuesday 9 September 2025		
9:00-12:00	<b>Training Lecture &amp; Practice:</b> Data and statistical analysis (EOF, trend analysis, etc), and visualisation of satellite and modelled data using Julia	<b>Wee Cheah</b>
12:00-14:00	<b>Lunch</b>	
14:00-15:20	<b>Group Discussion 3:</b> <b>Work on the proposal</b>	<b>All trainees and teachers</b>
15:20-15:40	<b>Health break</b>	
15:40-17:00	<b>Trainee report:</b> <b>Trainees in group 5</b>	
Wednesday 10 September 2025		
9:00-12:00	<b>Training Lecture &amp; Practice:</b> The transport of plastic pollution in the ocean and its assessment	<b>Stefano Aliani</b>
12:00-14:00	<b>Lunch</b>	
14:00-15:20	<b>Training Lecture &amp; Practice:</b> End to End Operational Oceanographic Systems for Societal Services	<b>Justin Ahanhanzo</b>
15:20-15:40	<b>Health break</b>	
15:40-17:00	<b>Trainee report:</b>	<b>All trainees</b>

	<b>Trainees in group 6</b>	<b>and teachers</b>
<b>Thursday 11 September 2025</b>		
9:00-12:00	<b>Training Lecture &amp; Practice:</b> Workshop with OSF program office:Academic Writing and International Collaboration for Early-Career Ocean Scientists	<b>All trainees and teachers</b>
12:00-14:00	<b>Lunch</b>	
14:00-17:00	<b>Special activities:</b> Visit the Ocean Decade International Cooperation Center	
<b>Friday 12 September 2025</b>		
9:00-10:30	<b>Group Reports</b> <b>Report progress of the proposal</b>	<b>All trainees and teachers</b>
10:30-11:00	<b>Health break</b>	
11:00-12:00	<b>Completion Ceremony</b>	



## 2.2 Lecturers

### Lecturers (By order of teaching)

#### **Dr. Haiyan Sun**

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#### **Prof. Justin Ahanhanzo**

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### 3. Other Activities

#### 3.1 Trainee Reports

This activity is designed to help the trainees establish research networks, and identify possible areas of cooperation in the future. Before the course, all participants are required to prepare a 6-minute presentation, including an introduction to your work and study related to this course. There will be trainee report sessions for you to deliver the presentation. If you haven't finalized the introduction, you are encouraged to prepare and send it to [odc\\_center@fio.org.cn](mailto:odc_center@fio.org.cn) as soon as possible. The order of these reports will be announced during the training course.

#### 3.2 Group Discussion and Reports

Trainees will be divided into 6 groups with a group leader and a secretary elected from each group. Their task is to help the respective group members organize group discussions and to accumulate group reports.

The trainees in each group will be working together in this period. Each group is encouraged to find a research topic which is relevant to the theme of the training course and then start to develop a proposal for the two weeks. A **draft proposal** for new research is required to be presented on the Group report session to give the proposal presentation.

#### 3.3 Trainee Certificates and Awards

The performance of trainees will be evaluated during the training courses, and a score will be given to each trainee. The score is determined by attendance, motivation, activity performance in class, discussions, quality of homework, trainee reports and group reports.

**Best Trainee Award:** In order to encourage trainees to deep participate in the activities during this one week, 2-3 trainees who perform well during the training and generate the trainee report and group reports in good quality will be rewarded with a certificate. Trainees who obtain this award will be considered for the financial supports in the next training course with high priority.

### 4. Useful Information

#### 4.1 Platforms

A **WeChat** group had been set up for easy communications for onsite trainees. If you have the WeChat in your cell phone, please scan the following figure and join the group. This figure is only valid for 2 weeks and it will be updated on ODC website. If you can't join the WeChat group through the figure, please open the ODC website to find the newest one.



All the schedule, data, ppts, archived recordings(By **Tecent meeting**) are available via the ODC website. [https://odc.fio.com.cn/a/RESOURCES/ODC\\_Training\\_Course/](https://odc.fio.com.cn/a/RESOURCES/ODC_Training_Course/)

#### 4.2 Weather in Qingdao

September is crisp and clear in Qingdao, making it a relatively cool month. You can wear a T-shirt during the daylight. During the daytime, you can wear a T-shirt or a thin long-sleeved top. However, the weather is a bit cool in the early morning and evening. It is better to bring a thin coat with you, especially when you go to the seaside or outside. The temperature and rainfall are listed in the following table for your reference. More information could be also found on the internet and you are encouraged to check it before your coming.

Month	Average High Temperature		Average Low Temperature		Average Temperature		Average Rainfall	
September	78.8°F	26°C	66.2°F	19°C	73.4°F	23°C	62.7mm	12 days

### 4.3 Currency and ATM in Qingdao

The official currency of China is Renminbi (RMB). Other currencies are not accepted in markets, shops, restaurant or taxi. Visa, MasterCard, American Express, JCB, Diners Club, Discover and other major international credit cards are acceptable at some large shopping malls and hotels.

There are exchange bureaus in the airport terminals but their opening hours are limited (8:30am to 7pm or 9pm). Visa, Master and a few other international cards can be used to withdraw cash in local currency from ATMs with respective labels on, however, ATMs in different bank may accept different cards to withdraw cash. Hence it might be a process of trial and error. There are several ATMs with English language options that accept international credit cards in the basement of Lion Mall or Leader Plaza. We advise you to exchange RMB at your own countries as your first option. If you do need to exchange money in Qingdao, please use USD or Euro.

### 4.4 Medical services

The Laoshan Campus of the Affiliated Hospital of Qingdao University is located at No. 59, Haier Road, Laoshan District, Qingdao City, Shandong Province, adjacent to the First Institute of Oceanography, Ministry of Natural Resources and Hitide International Hotel. If any problems, please call 0532-82913225.

Service hours: 8:00am -12:00am; 1:30pm - 5:00pm

### 4.5 Electricity

In China the standard voltage is 220 V and the frequency is 50 Hz, and the common type of power socket is shown on the right. Some outlets accept US and European style plugs, but you may also consider to bring a power plug adapter.



### 4.6 Useful Numbers

Some useful numbers are provided to you if any emergency issues.

Police number is **110**; Fire Number is **119**; Ambulance Number is **120**.

Local telephone numbers: country code (+86), area code (532), telephone number (8 digits)

### 4.7 Internet connection

All Google applications (Gmail, Google Drive etc.), some social media tools (Facebook, X, Instagram, Youtube, etc.) and applications like Dropbox, are not accessible in China without a Virtual Private Network (VPN).

### 4.8 Tips

In China it is not customary to tip restaurant waiters, taxi drivers or hotel.



*Welcome to join the training courses!*



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