



# **Report on the Working Group on Operational ocean Forecasting System**

**March 10,  
2025**

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Heo**

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**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (of UNESCO)**

**North-East Asian Regional-Global Ocean Observing System (NEAR-GOOS)**



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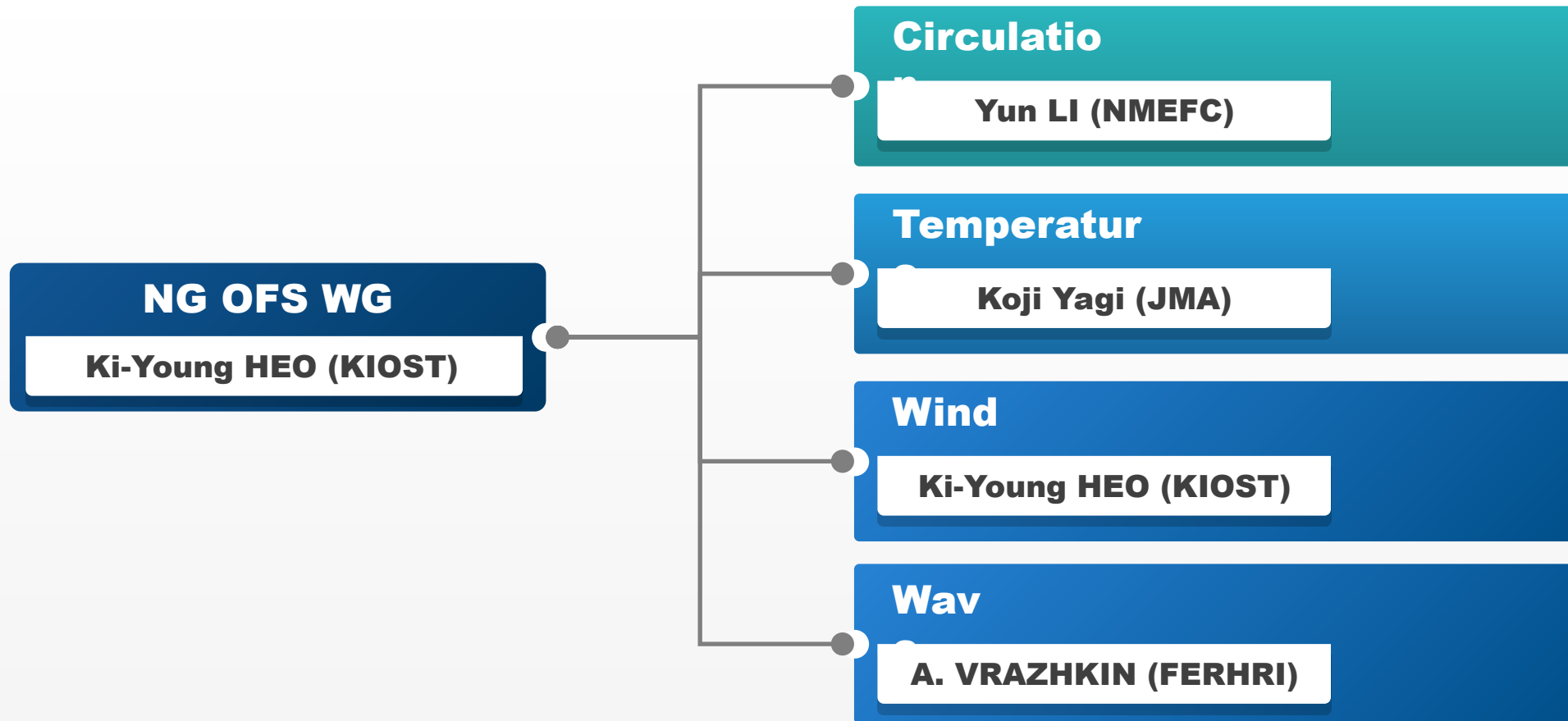
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## III Summary

## 4 Task Force Teams on NG OFS WG



**Task Force teams in OFS WG (Mar. 2025)**

	Leading Country	Leader	CHINA	JAPAN	KOREA	RUSSIA
<b>Wind</b>	Korea	Dr. Ki-Young HEO	Dr. Jianyong XING	-	Dr. Ki-Young HEO	-
<b>Circulation</b>	China	Dr. Yun LI	Dr. Shuangquan WU	Mr. Masakazu HIGAKI	Dr. Gwang-Ho SEO	-
<b>Temperature (sea)</b>	Japan	Dr. Koji Yagi	Dr. Yun LI	Dr. Mikitoshi HIRABARA	Dr. Jae-II KWON	-
<b>Wave</b>	Russia	Dr. A. VRAZHKIN	Dr. Zhiyi GAO	-	Mr. Jin-Yong CHOI	Dr. A. VRAZHKIN

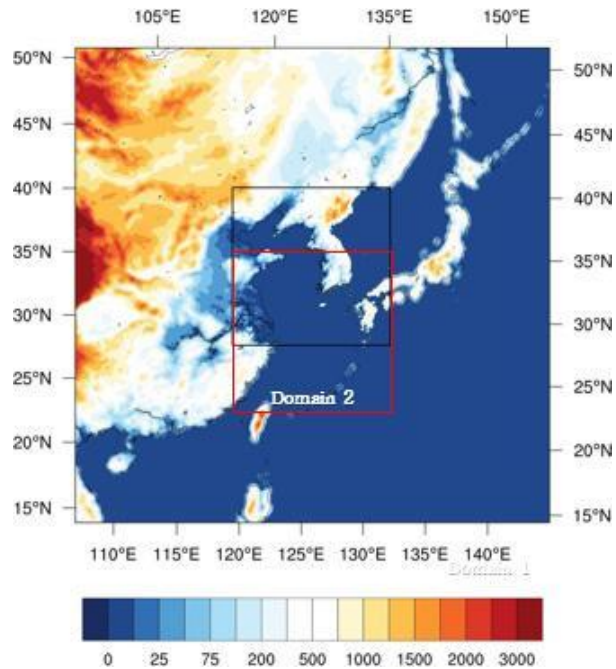
**OFS model configurations (Mar. 2025)**

	Leading Country	Product	System	Method	Timeline
<b>Wind</b>	Korea	Sea surface wind ( $U_{10}$ )	KOOS-WRF_ ver.4.2	Images for 72 hours with (3 hours interval) Via Homepage	Operational
<b>Circulation</b>	China	Sea surface Current, Sea surface height	NEMO	Images for 5 days with (1 days interval) Via Homepage	Operational
<b>Temperature (sea)</b>	Japan	Sea surface + 100m temperatures	MOVE/MRI.COM	Images for 30 days with (1 days interval) Via Homepage	Operational
<b>Waves</b>	Russia	Significant wave height and direction	FERHRI-WaveWatch III	Images for 120 hours with (6 hours interval) Via Homepage	Operational



## KOOS WRF ver. 4.2

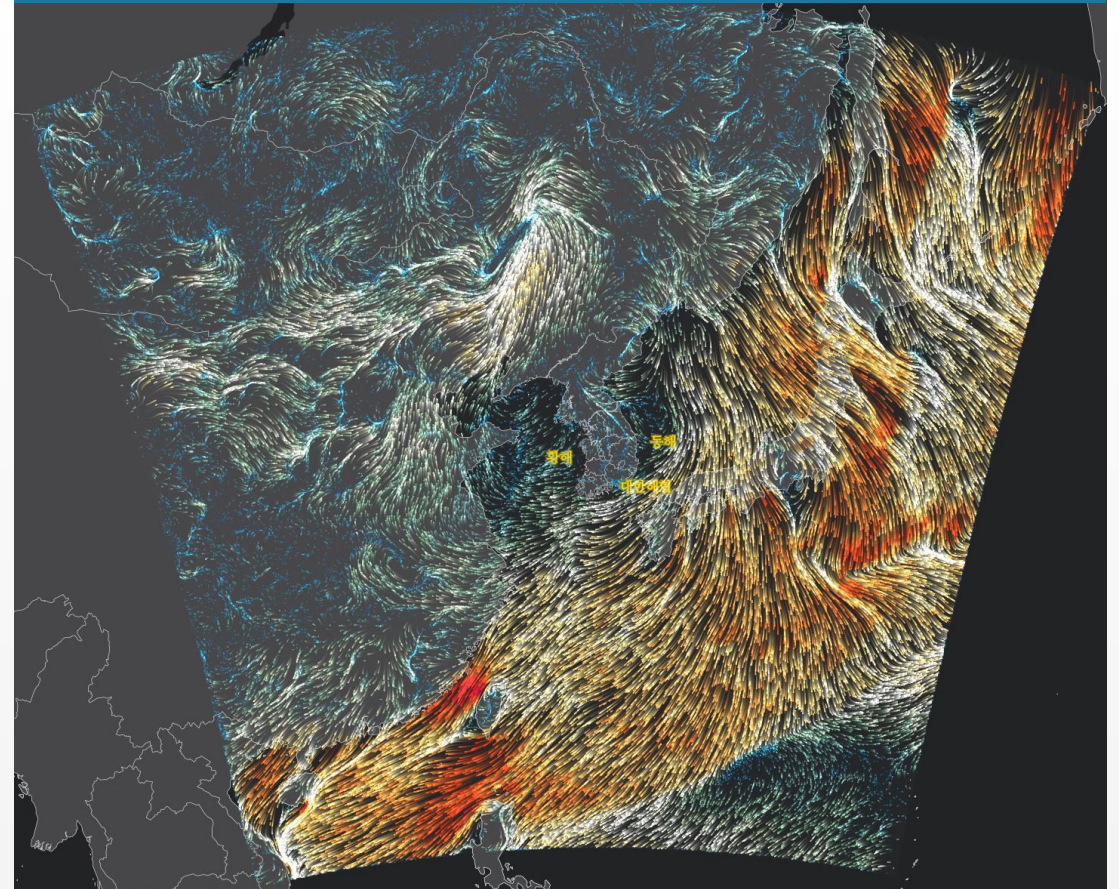
Regional domains




Specifications of WRF run

	Domain1	Domain2
Horizontal Resolution	20 km	4 km
Vertical Levels	60	60
Cumulus Parameterization	Kain-Fritsch	None
Microphysics	WSM6	
Radiation	RRTM/Dudhia	
Land surface	Noah LSM	
PBL	YSU Scheme	
Initial/Boundary condition	NCEP GFS	
Data Assimilation	4DVAR	

Operational Wind Forecasting System





NEAR-GOOS  
**China Regional Real Time Data Base**


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### ABOUT NEAR-GOOS

NEAR-GOOS as a regional pilot project of the Global Ocean Observing System (GOOS), the North-East Asian Regional GOOS (NEAR-GOOS) is being implemented by **China, Japan, the Republic of Korea and the Russian Federation**. The NEAR-GOOS China Real-Time Database is operated by National Marine Forecasting Center(NMFC).

[Learn More About NEAR-GOOS](#)





### China Regional Real Time Data Base

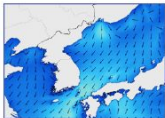
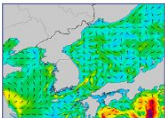
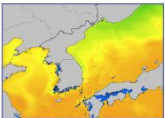
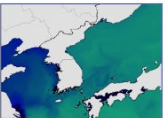
The NEAR-GOOS is a federation of data professionals bridging nations and scientific disciplines, with the aim of developing data sharing that meet the needs of Ocean researchers. There are fourteen marine station's data sharing from China Regional Real Time Data Base through the NEAR-GOOS Program. **Anyone who declares that they will not utilize the data for commercial purposes may access the data free of charge.**

[Access Data](#)


### Numerical Prediction Products

Anyone who declares that they will not utilize the data for commercial purposes may access the data for free.

NMFC provides numerical prediction products for the North-East Asian region, including: **Wave, Sea Surface Current, Sea Surface Temperature and Sea Surface Salinity.**







[View More Charts](#)

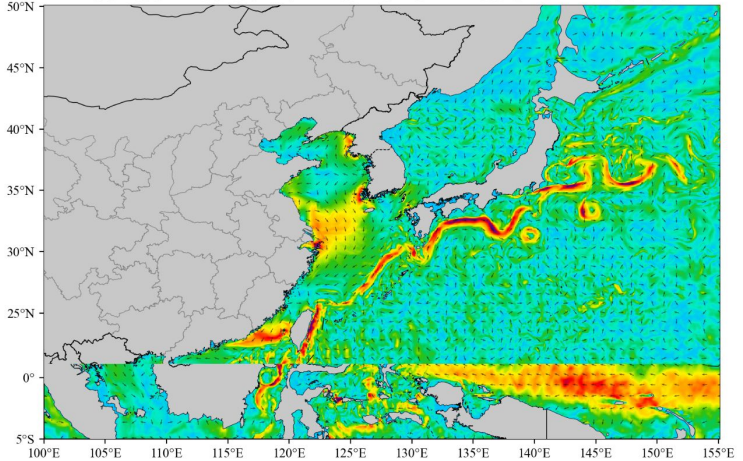

NEAR-GOOS  
**China Regional Real Time Data Base**

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Numerical Prediction Product: 
Base Time (UTC): 2025-03-04 12
Valid Time (UTC): 2025-03-05 12:00:00




### Sea Surface Current Numerical Prediction Products



Agency National Marine Environmental Forecasting Center  
Base time 2025-03-04 12 UTC  
Valid time 2025-03-05 12 UTC(T+024)  
Sea Surface Current Velocity units:m/s

Explanation:  
Sea surface current velocity is shown using colour shading.  
The arrow direction is the direction the sea surface currents are moving towards.


NEAR-GOOS

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#### About

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#### Contact Us

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Zip Code: 100081



## Temperature TF - JAPAN

# NEAR-GOOS Regional Real Time Data Base

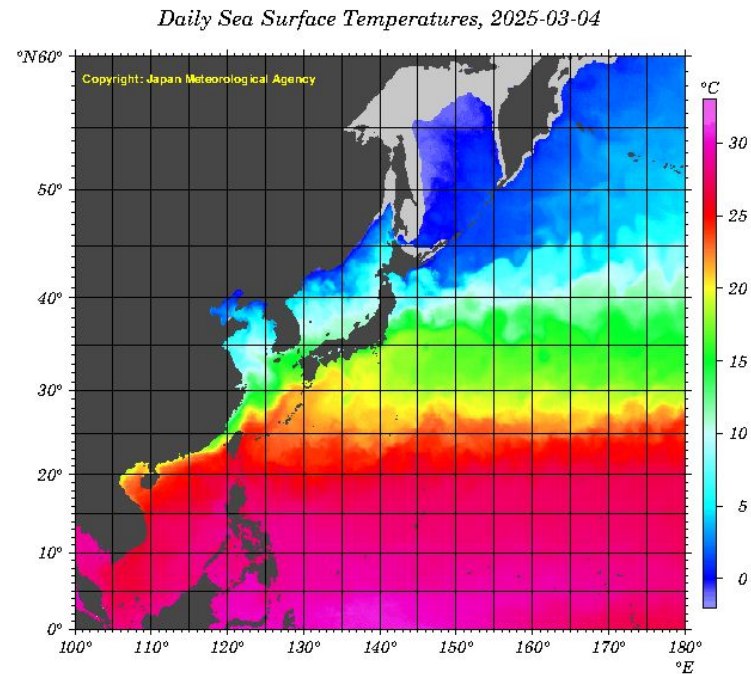
Home Documents JMA Products In-situ Data Cross-Section

## Daily Sea Surface Temperatures in the Western North Pacific

High Resolution Merged Satellite and In-situ Data Sea Surface Temperature (HIMSST)

Date: 2025-3-4

Grid Point Values (1.4 MB) Readme



Correspondence to the database operator should be addressed to [neargoos@climar.kishou.go.jp](mailto:neargoos@climar.kishou.go.jp)

Japan Meteorological Agency (JMA)



# NEAR-GOOS Regional Real Time Data Base

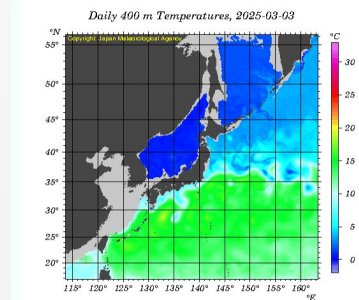
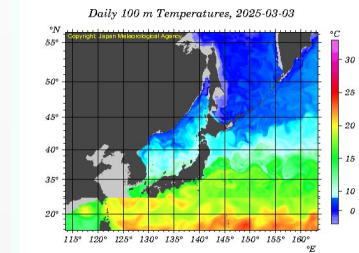
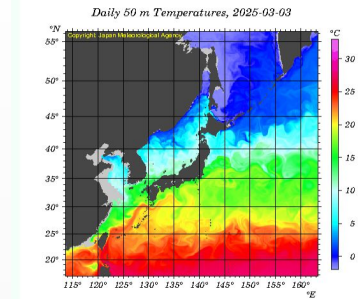
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## Daily Subsurface Temperatures in the Seas Adjacent to Japan

NPR-40000 is the data assimilation component of MOVEMRI COA-JPN, the JMA's operational system for monitoring and forecasting coastal and open-ocean states around Japan.

Date: 2025-3-3

Grid Point Values (3.4 MB) Readme



Correspondence to the database operator should be addressed to [neargoos@climar.kishou.go.jp](mailto:neargoos@climar.kishou.go.jp)





FERHRI



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ABOUT FERHRI ▾

OUR FLEET ▾

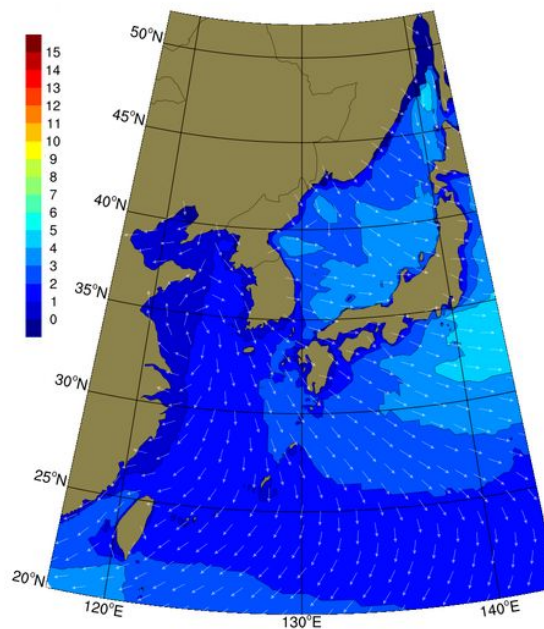
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OUR PROJECTS ▾

[OPERATIVE PRODUCTS](#)

Wave height (shaded,m) and dominant wave direction forecast (Area of NEAR-GOOS)

- Source: FERHRI, Vladivostok, Russia
- Forecast method: WaveWatch III
- The Spherical Multiple-Cell grid: 5-10-20'
- Forecast lead time up to 120 hours

[Slideshow](#)NG-WWIII 2025.01.29 12z  
GFS driven regional modelhindcast  
valid 2025.01.29 12z

Wave height (shaded,m) and dominant wave direction forecast (vector, not scaled)

FERHRI, Vladivostok, Russia 2017

## NEAR-GOOS Operational Ocean Forecasting System

[ABOUT NG OFS](#)[Task forces](#)[Contact US](#)[Activities](#)[Related sites](#)[Background](#)[Objectives](#)[Reports and Documents](#)[WG Members](#)

### Background

NEAR-GOOS Operational Ocean Forecasting System (hereafter NG-OFS) Working Group was adopted at the Sixteenth Session of IOC/WESTPAC Coordinating committee for the North-East Asian Regional-Global Ocean Observing System(NEAR-GOOS CC-XVI,Tokyo, Japan, 8-9 December 2015).

NG-OFS Domain is the geographic coverage of the NEAR-GOOS region.

Underscoring the ever-increasing need for the joint development among operational ocean forecasting systems in the NEAR-GOOS region, the meeting decided to establish a Working Group, led by Dr. Kwang-Soon Park on the joint research&development among ocean forecasting systems in the NEAR-GOOS Region.

This meeting urged all CC members to assist in the recommendation and identification of their suitable experts for the WG.

### Objectives

1. To review the present status of operational ocean forecasting systems in the NEAR-GOOS region and set a plan to develop operational ocean forecasting systems for NEAR-GOOS region.
2. To promote the cooperation on the joint research and development among operational ocean forecasting systems in the NEAR-GOOS region.
3. To implement the NEAR-GOOS Products and Data Managements and try to identify the deficiencies and suggest constructive comments for improvements.

### Reports and Documents

## WG Members

The membership will include one or more experts from the participating agencies or organizations based on their expertise in the subject area. Membership can be extended to experts outside the participating agencies or organizations by consensus, if their contributions are deemed necessary for the working group. The working group will select a Chairperson from its members by consensus of them for a the team to mutually agree. The Chairperson will be responsible for representing the working group and reporting to the NEAR-GOOS Coordinating Committee at its regular sessions.

Country	Name	Affiliation	TF member
China	Dakui WANG	National Marine Environmental Forecasting Center (NMEFC)	Delegation
	Jianyong XING	National Marine Environmental Forecasting Center (NMEFC)	Wind
	Yun LI	National Marine Environmental Forecasting Center (NMEFC)	Circulation(Leader)/ Temperature
	Zhiyi GAO	National Marine Environmental Forecasting Center (NMEFC)	Wave
	Shuangquan WU	National Marine Data and Information Service (NMDIS)	Circulation
Japan	Masakazu HIGAKI	Japan Meteorological Agency (JMA)	Circulation
	Koji YAGI	Japan Meteorological Agency (JMA)	Delegation/ Temperature(Leader)
Korea	Ki-Young HEO	Korea Institute of Ocean & Technology (KIOST)	WG Leader
	Ki-Young HEO	Korea Institute of Ocean & Technology (KIOST)	Wind(Leader)
	Jin-Yong CHOI	Korea Institute of Ocean & Technology (KIOST)	Wave
	Gwang-Ho SEO	Korea Hydrographic and Oceanographic Agency (KHOA)	Circulation
	Jae-Il KWON	Korea Institute of Ocean & Technology (KIOST)	Circulation
Russia	Alexander VRAZHKIN	Far East Regional Hydrometeorological Research Institute(FERHRI)	Wave(Leader)



## NEAR-GOOS Operational Ocean Forecasting System

[ABOUT NG OFS](#)[Task forces](#)[Contact US](#)[Activities](#)[Related sites](#)

So far we have four task forces (wind, wave, circulation, temperature) after NEAR-GOOS CC-XVII, Vladivostok, Russia, 15-16 December 2016.

*Below is the link page.*

[Circulation\(lead by China, Yun LI\)](#) 

Mr. Masakazu HIGAKI (Japan), Dr. Gwang-Ho SEO (Korea)

[Wave \(lead by Russia, Alexander VRAZHKIN\)](#) 

Zhiyi GAO (China), Jin-Yong CHOI (Korea)

[Wind \(lead by R. of Korea, Dr. Ki-Young HEO\)](#) 

Jianyong XING (China)

[Temperature \(lead by Japan, Koji YAGI\)](#) 

Yun LI (China), Dr. Jae-Il KWON (Korea)

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## NEAR-GOOS Operational Ocean Forecasting System

[ABOUT NG OFS](#)[Task forces](#)[Contact US](#)[Activities](#)[Related sites](#)[1. NEAR-GOOS Workshop on Development of the NG OFS \( Vladivostok, 2016\)](#)[2. 1st Technical meeting of NEAR-GOOS Operational ocean Forecasting Systems \(NGOFS\) Working Group \(KIOST Ansan campus, Korea, 2017\)](#)[3. 2nd Technical meeting of NEAR-GOOS Operational ocean Forecasting Systems \(NGOFS\) Working Group \(Bangkok, Thailand, 2018\)](#)

During the 2nd technical meeting, all participants discussed several important topics facing the OFS WG and agreed as below

1. OFS homepage will be linked to IOC/WESTPAC NEAR-GOOS official site within two months after some improvements including modifications, proofreading, and adding forecasting system configurations.
2. It is necessary that each TF collaborates more actively to improve model performances  
: comparison of model validation results from each member state. Later, this can be extended to make model validation standards.  
: recruiting more experts in each TF.
3. To enhance the impact of OFS WG, 4 TF teams(systems) have to increase model accuracy through model inter-comparisons, if possible.
4. To add new TF for Sea Ice will be discussed at proper time.
5. Continuous cooperation with SEA-GOOS will be considered necessary. To cooperate with SEA-GOOS continuously will be considered necessary.

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# OFS WG Homepage Link to NEAR-GOOS Homepage

The screenshot shows the homepage of the IOC Sub-Commission for the Western Pacific (WESTPAC) NEAR-GOOS. The header features the UNESCO logo and the IOC Sub-Commission for the Western Pacific (WESTPAC) logo. The main title is "IOC Sub-Commission for the Western Pacific (WESTPAC)". Below the header is a navigation bar with links: ABOUT WESTPAC, THEMATIC AREAS, WORKING GROUPS, CAPACITY, EVENTS, RESOURCES, and CONTACT US. The main content area is titled "NEAR-GOOS" and "DEVELOPMENT". It includes a sidebar with links: Background, Objectives, Project Steering Group, Activities, Reports and Documents, PAGES, Marine Science and Application, Ocean Observations and Services, Working Groups, and Capacity Development. The main text area contains the title "North East Asian Regional - Global Ocean Observing System (1996-2017)" and the following text: "NEAR (North-East Asian Regional)-GOOS is a regional pilot project of GOOS in the North-East Asian Region, implemented by China, Japan, the Republic of Korea and the Russian Federation as one activity of IOC Sub-Commission for the Western Pacific (WESTPAC). NEAR-GOOS was conceived in 1995 and initiated in 1996 upon the formal adoption of the NEAR-GOOS Implementation Plan and Operational Manual by the 29th Executive Council of the Intergovernmental Oceanographic Commission following a recommendation from the WESTPAC Regional Sub commission of IOC earlier in the year. It became one of the first regional pilot projects of GOOS." The text continues: "The primary aim of NEAR-GOOS in its first phase was to facilitate the sharing of oceanographic data gathered by agencies of the partner countries using the internet, to support the daily mapping of conditions in the marginal seas bordered by the partner countries (5)." and "Although it was anticipated that this should eventually lead to improvement in the availability of information and ocean services for all kinds of beneficial purposes (in particular maritime weather and storm forecasting, fishing operations, pollution monitoring and coastal management), it is important to note that these flow-on outcomes were not specific goals for the first phase." The text concludes with "The most important success of NEAR-GOOS in its first phase were:" followed by a list of four points: i. The consolidation of a functional two-mode 'distributed' Internet-based database structure in the partner countries as a workable model for the enhancement and coordinated handing of oceanographic data at national level; ii. The linking of this structure with two Regional Databases that are responsible for the receipt and merging of data concerning the NEAR-GOOS region as a whole, thus creating a regional database system which is part of GOOS; iii. The adoption and practice of a free and open data exchange policy, predating the formulation of such a policy for GOOS as a whole; iv. The implementation of coordinated and approved data exchange management training for regional participants.

**IOC Sub-Commission for the Western Pacific (WESTPAC)**

United Nations Educational, Scientific and Cultural Organization

IOC Sub-Commission for the Western Pacific (WESTPAC)

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- Activities
- Reports and Documents

**PAGES**

- Marine Science and Application
- Ocean Observations and Services
- Working Groups
- Capacity Development

**North East Asian Regional - Global Ocean Observing System (1996-2017)**

NEAR (North-East Asian Regional)-GOOS is a regional pilot project of GOOS in the North-East Asian Region, implemented by China, Japan, the Republic of Korea and the Russian Federation as one activity of IOC Sub-Commission for the Western Pacific (WESTPAC). NEAR-GOOS was conceived in 1995 and initiated in 1996 upon the formal adoption of the NEAR-GOOS Implementation Plan and Operational Manual by the 29th Executive Council of the Intergovernmental Oceanographic Commission following a recommendation from the WESTPAC Regional Sub commission of IOC earlier in the year. It became one of the first regional pilot projects of GOOS.

The primary aim of NEAR-GOOS in its first phase was to facilitate the sharing of oceanographic data gathered by agencies of the partner countries using the internet, to support the daily mapping of conditions in the marginal seas bordered by the partner countries (5).

Although it was anticipated that this should eventually lead to improvement in the availability of information and ocean services for all kinds of beneficial purposes (in particular maritime weather and storm forecasting, fishing operations, pollution monitoring and coastal management), it is important to note that these flow-on outcomes were not specific goals for the first phase.

**The most important success of NEAR-GOOS in its first phase were:**

- The consolidation of a functional two-mode 'distributed' Internet-based database structure in the partner countries as a workable model for the enhancement and coordinated handing of oceanographic data at national level;
- The linking of this structure with two Regional Databases that are responsible for the receipt and merging of data concerning the NEAR-GOOS region as a whole, thus creating a regional database system which is part of GOOS;
- The adoption and practice of a free and open data exchange policy, predating the formulation of such a policy for GOOS as a whole;
- The implementation of coordinated and approved data exchange management training for regional participants.



## 1. Progress report by the Working Group on Operational ocean Forecasting Systems

- All 4 TFs work (forecasting) very good!
- Lots of updated needed
  - 1) Let me know if there have been any changes in the Working Group members.
  - 2) More information about the forecasting models should be added.

## 2. Future plans

- WG on OFS would like to resume a technical meeting or workshop 1 day before the NG-CC meeting, as usual  
: **No technical meeting has been held since the second technical meeting in 2018.**  
**There have been many improvements in numerical forecasting since then.**
- We need to renew the NEAR-GOOS OFS website.
  - 1) Russia's wave forecasting has not been updated since January 29 of this year.
  - 2) Korea's NEAR-GOOS OFS website is currently down due to a web server issue.
- **A short announcement: The Ocean Predict COSS-TT will be held in June in France.**

## COSS-TT meeting – June 2025

Task Team event

17 Jun 2025 – 20 Jun 2025, Ifremer, Plouzané, near Brest, France



### Overview and meeting objectives

The main goal and central mission of the COSS-TT is international coordination in support of new science and expertise leading to improvements in coastal ocean prediction and forecast systems. COSS-TT works within OceanPredict towards the provision of a sound scientific and expert basis for sustainable multidisciplinary downscaling and forecasting activities in the world's regional and coastal oceans. **The strategic goal of the COSS-TT is to help achieve a truly seamless framework from the global to the coastal/littoral scale.** A major contribution is to address the particular challenges on monitoring and forecasting in coastal areas and regional seas, where the majority of human marine activities take place. As these are also the areas of enhanced exploitation of marine resources, the COSS-TT has a mission well aligned with society's needs and benefits.

International coordination meetings of the OceanPredict Coastal Ocean and Shelf Seas Task Team (COSS-TT) gather a broad community of scientists, engineers and experts around presentations and discussion themes in support of coastal ocean forecasting. The COSS-TT is well-aligned with relevant international initiatives under the UN Ocean Decade, such as the CoastPredict program, the SynObs project, the Decadal Collaborative Center for Ocean Prediction and the Decadal Collaborative Center for Coastal Resilience.

[VIEW ALL EVENTS](#)

### This event

#### Overview and meeting objectives

Important dates

Date and Time

Registration and abstract submission

Attendees

Agenda

Themes

Meeting Format

Venue

Accommodation and local information

Organising Committee

**谢谢**  
**ありがとうございます**  
**す**

**Спасибо**  
**감사합니다**