



4th RIMES MINISTERIAL CONFERENCE

Introduction of World Meteorological Centre Beijing of CMA and International Trainings

Wang Yi

China Meteorological Administration (CMA)

World Meteorological Centre Beijing Office



May 7 2025 | Colombo, Sri Lanka



1 Overview of World Meteorological Centre Beijing

2 Products and WIPPS Pilot Projects

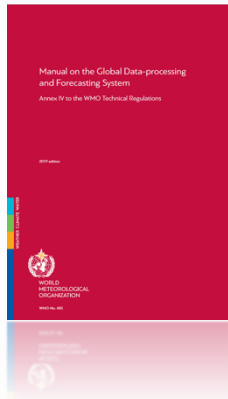
3 International Trainings

4 Future Perspective

1. World Meteorological Centre Beijing

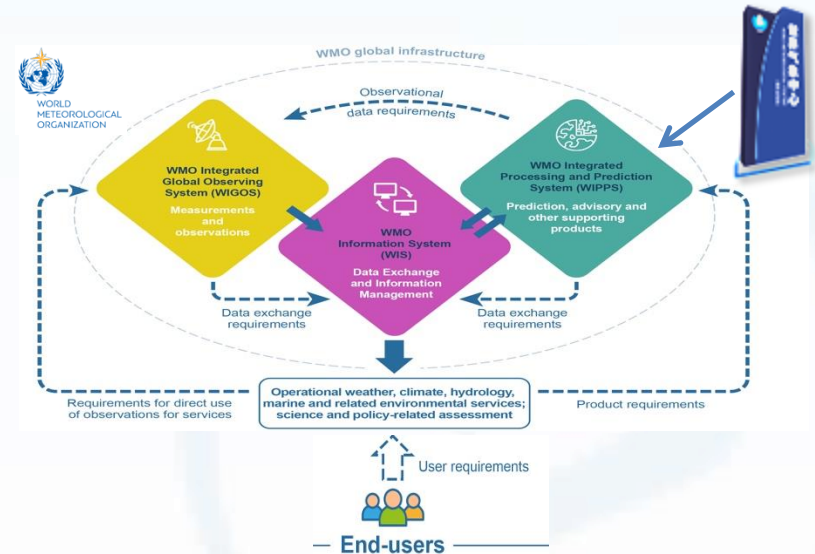
- In May 2017, WMO has designated **China Meteorological Administration** (CMA) as the **World Meteorological Centre** (WMC Beijing) on 69th WMO Executive Council meeting.
- WMC Beijing, among the **WMO Integrated Processing and Prediction System** (WIPPS) Centres, its purpose is to make operationally available defined **products and services** among WMO Members and relevant operational organizations.

Manual on WMO WIPPS (WMO-No. 485)



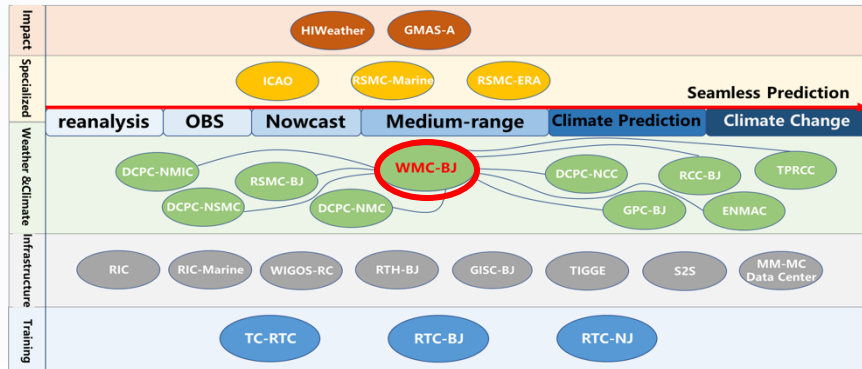
WMCs generate a set of products including:

- Global deterministic numerical weather prediction
- Global ensemble numerical weather prediction
- Global numerical long-range prediction



1. World Meteorological Centre Beijing

- The WMC Beijing has established a "**Coordinated Network**" led by the National Meteorological Centre (NMC) and supported by other CMA's operational centres (Designated RSMCs) and provincial met services to provide **observation and seamless prediction** products.
- In Nov 2023, the **WMC Beijing Guangdong-Hong Kong-Macao Greater Bay Area Branch** was officially launched to provide tailored international training programs.



1. World Meteorological Centre Beijing

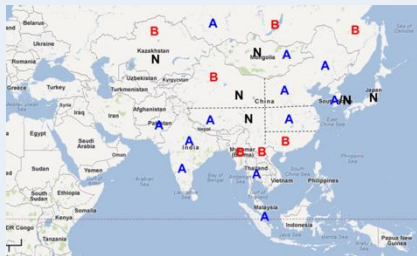
- CMA also hosts a variety of **WMO Designated Regional Specialized Meteorological Centre** (RSMCs) for applications related to weather, climate, water and environment



Regional Climate Centre (RCC) Beijing

Designated in 2009, conduct monthly/seasonal climate monitoring, prediction and services to WMO RAI users and contribute various products for **RCOFs** such as FOCRAII, SASCOF, ASEANCOF and EASCOF.

Outlook of Precipitation for Summer 2024



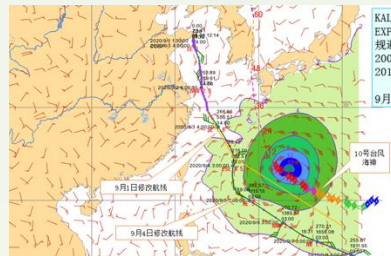
20th Session of FOCRAII
May 2024, Qingdao China



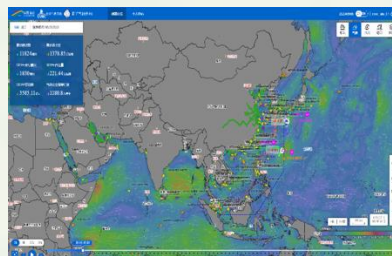
RSMC - Marine meteorological services Beijing

Designated in 2017, provide **marine forecasts** for METAREA XI, **ship weather routing services**, voyage performance assessment and services under emergency conditions.

Marine Weather Forecast



Ship Weather Routing Service



1 Overview of World Meteorological Centre Beijing

2 Products and WIPPS Pilot Projects

3 International Trainings

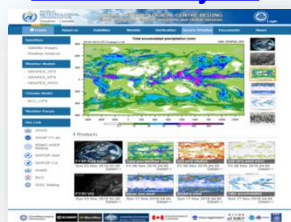
4 Future Perspective

2. Products and WIPPS Pilot Projects

- In Jun 2018, the **WMC Beijing Web-portal** was launched, providing a variety of global monitoring, forecasting products and services supporting the EW4All initiative.
- WMC Beijing's mandatory products are also disseminated through **WIS (GISC Beijing)**.

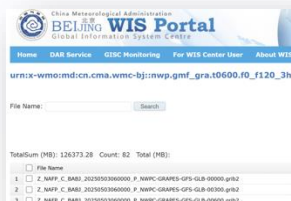
Graphical products

www.wmc-bj.net

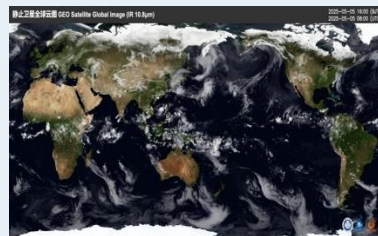


NWP Grib data

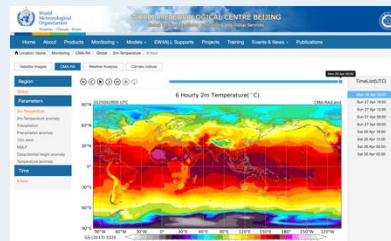
<http://gisc.wis.cma.cn/wis>



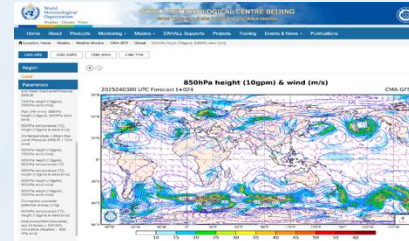
Fengyun Satellite



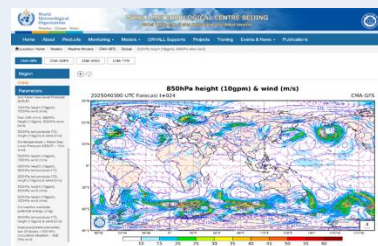
Reanalysis



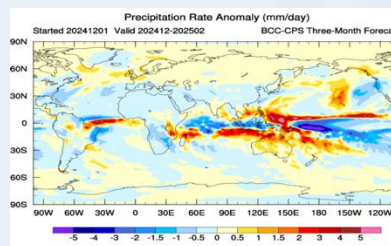
Short-medium Forecast



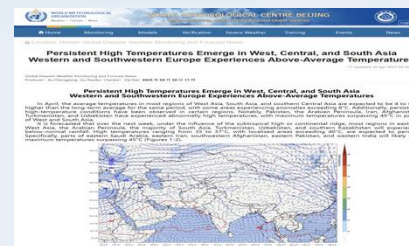
Subseasonal-seasonal Forecast



Climate Prediction



Global Severe Weather Briefing



2. Products and WIPPS Pilot Projects

- In 2024, CMA has developed three **data-driven forecasting models**.
- In Nov 2024, the **WMC Beijing Workshop on New Technology and Products** was successfully held in Guangzhou, China to introduce emerging tech (e.g. AI application).

Data-driven Forecasting Models



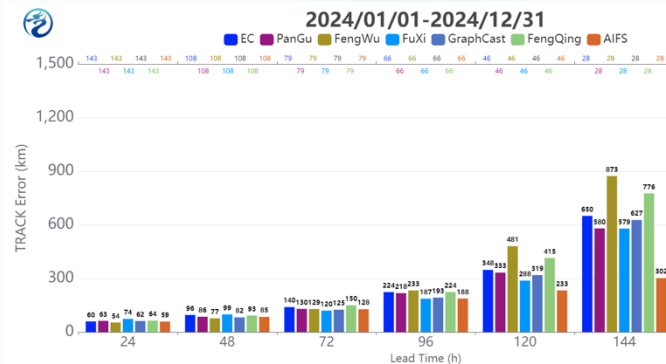
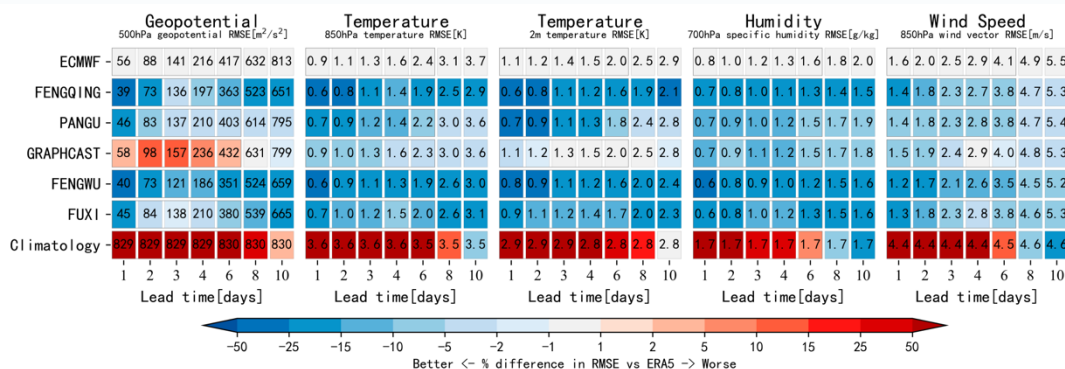
WMC Beijing Workshop

Nov 2024, Guangzhou China



2. Products and WIPPS Pilot Projects

- Fengqing model** was trained using ~40 years of reanalysis data, capable of generating global weather forecast products within **3 minutes** including **69** meteorological variables for the surface and 13 pressure levels at 25 km resolution.
- Verification shows that AI models have **comparable performance** with NWP and outperforms NWP for **typhoon track** forecast especially in medium range.



Fengqing is now open-source: <https://github.com/nmcdev/CMA-AIM-GFS-Fengqing>

2. Products and WIPPS Pilot Projects



Multi-model Integrated Forecasting and Application (MMIFA)

- The MMIFA, led by the **CMA and HKO**, aims to enhance the **visualization** and accessibility of WIPPS data products to addresses the challenges faced by the WMO RA II (Asia) due to severe meteorological disasters.
- The MMIFA will develop **integrated multi-model products** with uniform graphical presentations to improve the capacity of NMHSs, especially in LDCs for interpreting and utilizing global NWP models and integrated forecast products.

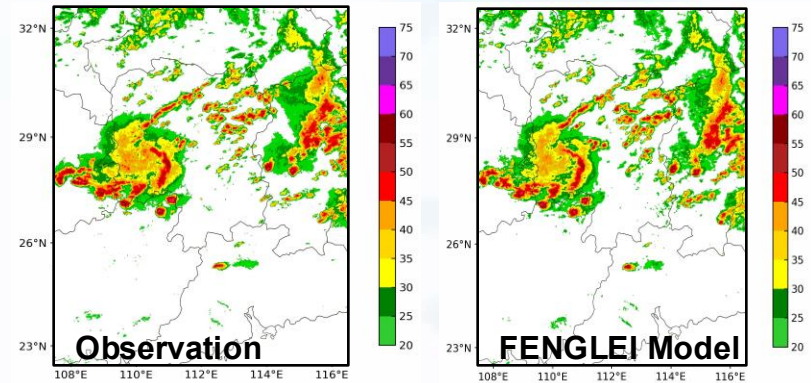
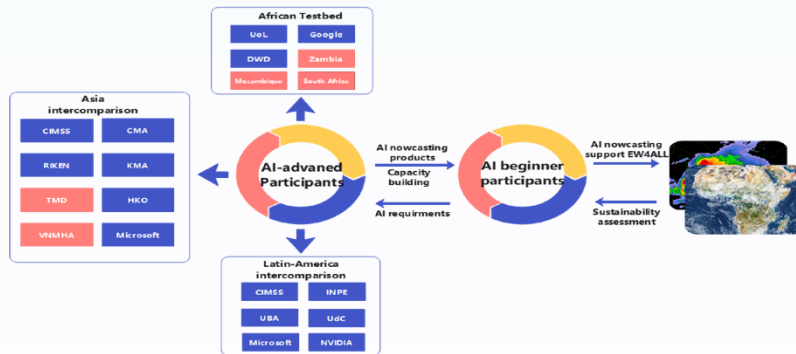


2. Products and WIPPS Pilot Projects



AI for nowcasting pilot project (AINPP)

- The AINPP aims to assess the skill of **AI-based nowcasting** products through inter-comparison and investigate the feasibility of real-time dissemination and the technology transfer to developing countries.
- Nearly **20 participants** including NMHSs, academic institutions and private sectors have joined the AINPP.



1 Overview of World Meteorological Centre Beijing

2 Products and WIPPS Pilot Projects

3 International Trainings

4 Future Perspective

3. International Trainings

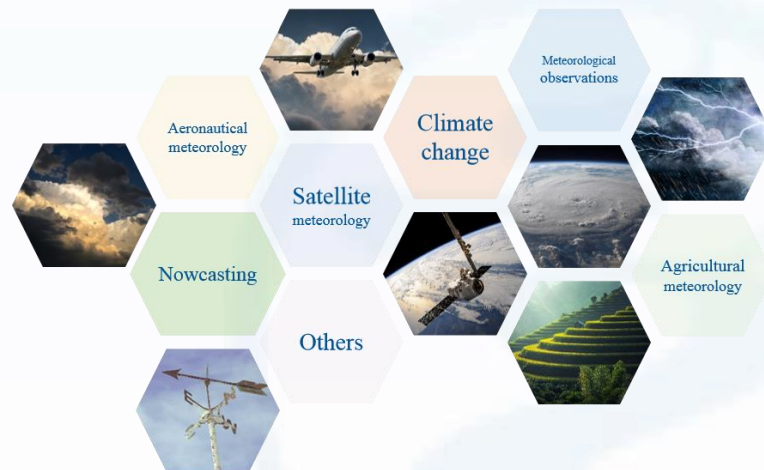
- Founded in 1955, **CMA Training Centre** (CMATC) is a comprehensive, professional meteorological education and training institution for continuing managerial and operational on-the-job training in meteorology.
- CMATC was recognized by **WMO Beijing Regional Training Centre** (RTC-Beijing) in 2003, and CGMS Virtual Laboratory of Excellence in 2007.

International training activities by numbers

- 115** international training courses (in-person & online)
- 11000+** international participants
- 170+** countries and regions covered



International training activities by fields



3. International Trainings

- In January 2025, the **WMO RTC Nanjing** received WMO's confirmation of its status as one of its CGMS-Vlab of Excellence.
- Hosted over **6000 trainees** from 160 WMO Members with 250+ events since 1993.



3. International Trainings

No.	Courses in 2025	Time
1	International Training Course on the Application of Nowcasting Techniques in Multi-Hazard Early Warning	Mar.
2	Seminar on Climate Change Response and Sustainable Agricultural Development for Antigua and Barbuda	Jun
3	International Training Course on Marine Meteorological Disaster Prevention and Mitigation for Indian Ocean Rim Countries	Jun
4	Seminar on Management for Director-Generals of National Meteorological and Hydrological Services (NMHSs) in Developing Countries	Jul
5	Seminar on Climate Change Response and Green Development under the Global Development Initiative	Jul
6	Seminar on Ecosystem Conservation Management and Policy in the Context of Climate Change Response	Aug
7	Seminar on Capacity-Building for Climate Change Response in Central Asian Countries	Aug
8	International Training Course on Meteorological Early Warnings for Disaster Prevention and Mitigation for BRICS Countries	Sep
9	Workshop on Public Early Warning and Climate Change Adaptation Capacity Building	Sep
10	International Training Course on the Application of Meteorological Satellite Products	Oct
11	International Training Course - AI Empowered Early Warnings for All	Jun
12	International Training Course on the Application of Products of World Meteorological Centre (Beijing)	Oct
13	International Training Course on Tropical Cyclone Monitoring and Forecasting	Oct
14	International Symposium on Climate Finance Supporting Climate Action	Oct



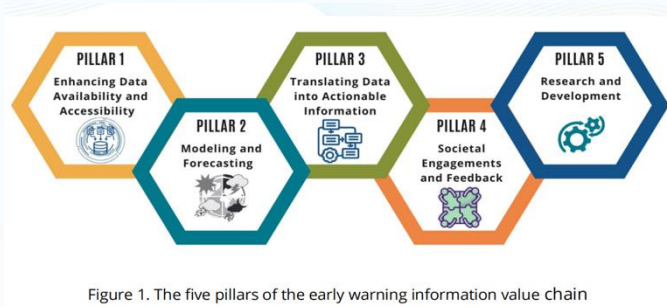
1 Overview of World Meteorological Centre Beijing

2 Products and WIPPS Pilot Projects

3 International Trainings

4 Future Perspective

4. Future Perspective



WORLD
METEOROLOGICAL
ORGANIZATION



- Foster **cooperation with RIMES**, leveraging **WIPPS Centres**' (e.g. WMC Beijing, BCC) products and **Cloud-based EWS** to enhance multi-hazard early warning capacity, in alignment with WMO-RIMES JSAP and RIMES Master Plan 2026-2030.
- Advance the **WIPPS Pilot Projects** (MMIFA, AINPP), encouraging more Member countries to participate to exchange on **new technology** (e.g. AI) and good practices.
- Share **expertise/knowledge** in the regions through **technical forums/workshops** (SASCOF, SAHF, FORCAI, ASEANCOF, etc).
- Strengthen joint **capacity development** through **international trainings** in innovative techniques and tools.



4th RIMES MINISTERIAL CONFERENCE

Thank you !



WORLD METEOROLOGICAL CENTRE
BEIJING OFFICIAL WEBSITE



WORLD METEOROLOGICAL CENTRE
BEIJING INTRODUCTION VIDEO

