

RSMC Tokyo Activity Report for 2017

Executive summary

This document outlines activities conducted by the Regional Specialised Meteorological Centre (RSMC) Tokyo in 2017 to support environmental emergency response (EER), and atmospheric backtracking. It highlights operational issues, exercises and routine tests, challenges, and plans for 2018. Major activities are summarised below.

- i) An RSMC Tokyo expert contributed to joint testing for the new Time of Arrival atmospheric transport, dispersion and deposition modelling product in June.
- ii) RSMC Tokyo contributed to the ConvEx-3 international emergency preparedness and response framework test in June. The centre also continued its efforts with internal tests and exercises.
- iii) In November, RSMC Tokyo analysed email and fax communications with registered organisations in Regional Association II (RA II). The results were presented to RSMCs Beijing and Obninsk and the Secretariat of the World Meteorological Organization (WMO).
- iv) An RSMC Tokyo expert was re-appointed as the Leader in the Emergency Response Activities (L-ERA) of the Expert Group on Operational Forecasting (EG-OF) in RA II. L-ERA developed a work plan for 2017 – 2020 regarding activities related to ERA within RA II.

1. Introduction

In July 1997, the Japan Meteorological Agency (JMA) was designated by the World Meteorological Organization (WMO) as a Regional Specialised Meteorological Centre (RSMC) supporting environmental emergency response (EER) activities. RSMC Tokyo is responsible for providing atmospheric transport modelling (ATM) products in response to requests from the International Atomic Energy Agency (IAEA) and Members of the WMO Regional Association II (RA II). In such work, RSMC Tokyo responds jointly with RSMCs Beijing and Obninsk.

Based on the Manual on the Global Data-Processing and Forecasting System (WMO No. 485), RSMC Tokyo provides atmospheric backtracking products in response to requests for support from the International Data Centre (IDC) of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO).

At the 16th RA II session in Abu Dhabi in February 2017, it was decided that work related to Emergency Response Activities (ERA) would be continued as part of efforts by the Expert Group on Operational Forecasting (EG-OF). Masami Sakamoto of RSMC Tokyo was re-appointed as the Leader in ERA (L-ERA) at the 12th session of the RA II Management Group in May. These activities target (a) monitoring the provision of products and services by designated RA II GDPFS centres within the framework of the ERA Programme, and (b) advising on evolving requirements for ERA operational systems and services.

2. Contact information

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3. Exercises and routine tests

3. i. ConvEx-3

RSMC Tokyo contributed to the ConvEx-3 international emergency preparedness and response framework exercise conducted from 21 to 22 June. The Centre distributed standard products, and a joint statement was issued by the three RSMCs in RA II. As part of the initiative, the IAEA Incident and Emergency Centre (IEC) sent three requests to the RSMCs for regional distribution. The second request required simultaneous provision of ATM products for three radiological species, and highlighted the challenges inherent in providing user services via the common RSMC web system. Early notification of a nuclear accident (EMERCON/WNXX01 IAEA) was provided via the Global Telecommunication System (GTS) as specified in the Manual on the Global Data-processing and Forecasting System (WMO-No.485).

3. ii. Quarterly tests

As per a decision by the CBS Expert Team on Emergency Response Activities (ET-ERA), RSMC Tokyo continued efforts to post its ATM products within 36 hours of request receipt and remove products within 84 hours in relation to each quarterly test for regions other than RA II. The work was conducted on 21 February and 15 August.

The RA II quarterly test scheduled for 21 November was canceled due to IAEA procedural issues.

3. iii. Monthly internal training

RSMC Tokyo conducted monthly internal training to maintain its operational capability for emergency response to nuclear accidents and for atmospheric backtracking.

4. Operational issues/challenges

4. i. Email and fax test within RA II

In November, RSMC Tokyo conducted an email and fax communication test within RA II in line with the technical memorandum issued by RA II RSMCs. The results showed that 27 out of 29 registered organizations were accessible, and that 27 organizations were able to receive email appropriately. The test results were shared with RSMCs Beijing and Obninsk, and the WMO Secretariat.

4. ii. Updating of RSMC Tokyo IT facilities

JMA updated its Internet facilities in early 2017 with a comprehensive overhaul of the infrastructure for HTTP, FTP and SSH service provision to operators outside the organization. RSMC Tokyo established and tested its common web services with the new IT facilities and evaluated the SSH connection to CTBTO/IDC. RSMC Tokyo informed related centres of the new IP addresses used for FTP/SCP data transmission as appropriate and confirmed successful data transmission to the Montreal and Washington RSMCs, where IP filtering systems are employed.

5. Operational atmospheric transport model status

The status of RSMC Tokyo's operational atmospheric transport model is described in Annex 4 of WMO Technical Documentation No. 778 (WMO/TD-No. 778). The document is appropriately maintained in line with the action plan (Action 1) established at the ET-ERA meeting in 2015.

6. Related matters

Time of Arrival joint production testing

Based on Action 18 established at the ET-ERA meeting in Buenos Aires, RSMC Tokyo expert Masami Sakamoto contributed to production testing for the Time of Arrival (ToA) product in tandem with the ConvEx-3 initiative in June.

Mr. Sakamoto was appointed by the ET-ERA chair as a coordinator of the production testing and organised an instructive document for test contributors in line with pre-test discussions, as well as providing preliminary ATM results to help IEC identify suitable release scenarios.

Mr. Sakamoto collected all ToA charts, processed the results, engaged in discussions with attendees and developed a report for submission at the next ET-ERA meeting. Remaining issues to be resolved were identified during the discussion. The report is expected to support further ToA product development.

ERA-related activities in RA II

The 16th session of RA II in Abu Dhabi (12 – 16 February 2017) agreed that ERA-related activities should be continued as part of EG-OF duties. At the 12th session of the RA II Management Group held in Geneva on 17 May, Masami Sakamoto of RSMC Tokyo was re-appointed as L-ERA.

In line with a request from the EG-OF coordinator, L-ERA submitted a work plan for 2017 – 2020 at the RA II working-group chair meeting in December as detailed below.

In February, user request survey results were presented at the 16th session of RA II as part of the progress report.

ERA work plan of the RA-II Working Group on Weather Services for 2017 – 2020

Task	Key deliverable	Activity	2017	2018	2019	2020	Responsible parties	Status
To monitor the provision of products and services by designated RA II GDPFS Centres within the framework of the Emergency Response Activities (ERA) Programme, and advise on evolving requirements for ERA operational systems and services	Improved reachability of ERA products and services to RA II Members	Continue email / fax tests to improve reachability for the registered NMHSs	done	X	X	X	RSMCs and EG-OF/L-ERA	Test was conducted in 2017; will continue
To deliver user requests to ET-ERA for the improvement of services	Enhanced communication with ET-ERA through the provision of Members' requirements	Carry out a user request survey	X				EG-OF/L-ERA	the survey was done in 2016
		Convey appropriate requests from Members to CBS ET-ERA		X				
To advise on evolving requirements for ERA operational systems and services	Continuous provision of RSMC EER services to Members in transition of the Manual	Provide Members with a concise guidance for the transition to the new GDPFS manual regarding EER			X	X	EG-OF/L-ERA, WMO RAP office	

7. Plans for 2018

RSMC Tokyo remains committed to fulfilling its responsibilities as an RSMC providing ATM products as necessary. The Centre will participate in international exercises planned for 2018 to maintain its nuclear emergency response capabilities based on requests from IAEA/IEC, CTBTO/IDC and WMO RA II Members.

JMA will update its super-computing system in June 2018. The operational ATM forecasting system of RSMC Tokyo will be developed under the new set-up.

An RSMC Tokyo expert will contribute to the following activities in 2018:

- Discussions on specifications of ToA and user requests by NMHSs in RA II at the ET-ERA meeting
- Formulation of Lagrangian ATM comparison for WMO RSMCs and related discussion at the ET-ERA meeting

References

Regional Association II (Asia) Sixteenth session, Abu Dhabi, 12–16 February 2017. Part I - Abridged final report with resolutions and decisions (WMO-No. 1188)

Regional Association II (Asia) Sixteenth session, Abu Dhabi, 12–16 February 2017. Part II - Progress report [Progress Report for Information Presented at the 16th Session of Regional Association II (Asia)]
https://library.wmo.int/opac/index.php?lvl=notice_display&id=19873#.WgJWS3ZpGUk

Final report of the meeting of the CBS Expert Team on Emergency Response Activities (ET-ERA), Buenos Aires, Argentina, 30 November to 4 December 2015