

WMO RAI/IV Pilot Activity on Satellites for Disaster Risk Reduction

HLPP Reference: 3.2

The WMO Integrated Global Observing System (WIGOS) Joint Workshop for Region II (Asia) and Region V (South-West Pacific) for Disaster Risk Reduction (DRR) was held in Jakarta, Indonesia, from 12 to 14 October 2015. The Workshop was aimed at enhancing the exchange of observations across the Southeast Asia region and to improve the availability and quality, of those observations that have significant applications in DRR, e.g. in early warning systems for severe weather events. Representatives from eight RA II and six RA V WMO Members participated in the Workshop which major outcome is contained in the “Jakarta declaration”.

The declaration proposes the development of two Joint RA II/RA V WIGOS projects: one on Satellite Data and another one on Radar Data. The Satellite Data project aims at (i) strengthening the capabilities of all Members to use geostationary satellite images and derived products in support of DRR and (ii) developing a protocol for the National Meteorological and Hydrological Services (NMHSs) in the project countries to request event-driven rapid-scan imagery for their respective national areas of interest.

After approval by RA II and RA V Management Groups, a joint RA II/V Coordination Group should be established for each project.

Action/Recommendation proposed:

The “Jakarta Declaration” recommends to CGMS that the satellite operators provide the necessary support to the Joint RA II/V WIGOS project on Satellite Data.

The declaration encourages the satellite operators of the Republic of Korea, China, and Japan to make digital data at the full resolution available to all Members involved in the “Satellite Data project” and to support the project in any way they can.

WMO RAI/IV PILOT ACTIVITY ON SATELLITES FOR DRR

1 INTRODUCTION

This paper describes the outcomes and proposals of the WMO Integrated Global Observing System (WIGOS) Joint Workshop for Regional Association II (Asia) and Regional Association V (South-West Pacific) for Disaster Risk Reduction (DRR) that was held in Jakarta, Indonesia, at the kind invitation of the government of Indonesia, from 12 to 14 October 2015.

The Workshop was aimed at enhancing the exchange of observations across the Southeast Asia region and to improve the availability and quality, in particular, of those observations that have significant applications in DRR, e.g. in early warning systems for severe weather events.

Representatives from eight RA II and six RA V WMO Member countries reported on their national observing networks and participated in the discussions on the following specific topics presented by eight invited speakers: weather forecasting and warnings, radar observations, lightning detection systems, satellite observations and GSM (Global System for Mobile communications) attenuation by rain, plus a special talk on OSCAR (the Observing Systems Capability Analysis and Review tool).

2 THE “JAKARTA DECLARATION”

The major outcome of the Workshop is contained in the “Jakarta declaration” (Appendix), which proposes to develop two projects across WMO RA II and RA V under the WIGOS umbrella, and to establish a joint Coordination Group for each project. The declaration also contains two Annexes: one with the draft Terms of Reference for the Coordination Group for the “Joint RA-II/RA-V WIGOS Satellite Data Project” (Annex I) and another one with the draft Terms of Reference for the Coordination Group for the “Joint RA-II/RA-V WIGOS Radar Data Project”.

3 ACTIONS AND/OR RECOMMENDATIONS FOR CONSIDERATION BY CGMS PLENARY SESSION C

The “Jakarta Declaration” recommends to CGMS that the satellite operators provide the necessary support to the Joint RA II/V WIGOS project on Satellite Data.

The declaration encourages the satellite operators of China, Japan and the Republic of Korea are to make digital data at the full resolution available to all Members involved in the “Satellite Data project” and to support the project in any way they can.

The declaration requests the Management Groups of WMO RA II and RA V to review, approve and support these projects, and recommends the WMO Secretary General to support the projects with technical assistance within available resources.

4 ACTIONS/RECOMMENDATIONS

The “Jakarta Declaration” recommends to CGMS that the satellite operators provide the necessary support to the Joint RA II/V WIGOS project on Satellite Data.

The declaration encourages the satellite operators of the Republic of Korea, China, and Japan to make digital data at the full resolution available to all Members involved in the “Satellite Data project” and to support the project in any way they can.

Jakarta Declaration

adopted by the

Participants in the
Joint RA-II/RA-V Workshop on WIGOS for Disaster Risk Reduction
BMKG, Jakarta, October 12-14 2015

Noting,

The unique meteorological and geophysical nature of the Asia/Oceania region defined by the following WMO Region II and V Members: Australia, Bangladesh, Brunei, Cambodia, East Timor, Hong Kong China, Indonesia, Lao PDR, Malaysia, Myanmar, Papua New Guinea, Philippines, Singapore, Thailand, Vietnam, which is characterised by frequent high-impact phenomena such as tropical cyclones, severe convective weather and volcanic eruptions,

The need to protect lives and property in this densely populated region, and the central role played by the National Meteorological and Hydrological Services in Disaster Risk Reduction,

Noting further,

The excellent coverage of this region with satellite imagery obtained from geostationary platforms operated by three WMO Members, namely China, Japan and the Republic of Korea,

The existing "RA II WIGOS Project to Develop Support for NMHSs in Satellite Data, Products and Training" led by two Co-Coordinator representing Japan and the Republic of Korea, respectively,

The recent developments to improve radar coverage in many of the participating Members,

The existing "RA II WIGOS Project for Observing systems integration for supporting Disaster Risk Reduction - Capacity Building in Radar Techniques in the Southeast Asia",

The need to improve the quality of radar data and to further improve the coverage and availability of weather radar data in the region;

Recognizing,

The sovereign authority of satellite operators to determine the observational priorities of their space-based assets based on national priority needs and other concerns,

The participants in the Joint RA-II/RA-V Workshop on WIGOS for Disaster Risk Reduction

Propose,

To initiate two regional projects to be developed under the WIGOS umbrella, involving the following Members: Australia, Bangladesh, Brunei, Cambodia, China, East Timor, Hong Kong China, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, Papua New Guinea, Philippines, Republic of Korea, Singapore, Thailand, Vietnam:

- a) A “Joint RA-II/RA-V WIGOS Satellite Data Project” aimed at (i) strengthening the capabilities of all Members to use geostationary satellite images and derived products in support of Disaster Risk Reduction as specified in the Annex to this declaration, and (ii) developing a protocol for the NMHSs in the project countries to request event-driven rapid-scan imagery for their respective national areas of interest,
- b) A “Joint RA-II/RA-V WIGOS Radar Data Project” aiming at (i) improvement of data quality of existing radars, (ii) development and expansion of national radar networks, (iii) near real time international exchange of radar data, and (iv) development of «sub-regional» radar data centre(s);

Further propose,

To establish a close coordination between project a) and the ongoing “RA II WIGOS Project to Develop Support for NMHSs in Satellite Data, Products and Training”, and with the RA-V Task Team on Satellite Utilization,

To develop project b) based on the existing RA-II and RA-V WIGOS Projects via a proposed joint Coordination Group;

Request,

The Management Groups of WMO Regions II and V to review and approve these two projects, and to support their further development once approved;

Recommend,

That the WMO Secretary General be requested to support this project with technical assistance within available resources, and to recommend to CGMS that the satellite operators provide the necessary support to it;

Encourage,

The satellite operators of China, Japan and the Republic of Korea to make digital data at the full resolution available to all Members involved in the “Satellite data project” and to support project a) in any way they can,

All Members participating in project b) to freely share their radar data products with other project Members, according to the project plan.

Annex I: Terms of Reference for the Coordination Group for the “Joint RA-II/RA-V WIGOS Satellite Data Project” :

The Coordination Group shall be composed of

1. the Co-coordinators of the existing “RA II WIGOS Project to Develop Support for NMHSs in Satellite Data, Products and Training”,
2. the Chair of the RA-V Task Team on Satellite Utilization,

The task of the Coordination Group shall be:

- (a) To identify the requirements of NMHSs of WMO Members participating in the “Joint RA-II/RA-V WIGOS Satellite Data Project” regarding satellite imagery, data and products in support of their weather services, including forecasts and warnings;
- (b) To develop an inventory of the capabilities of the NMHSs listed under (a), in particular those from developing Members, in the areas of (i) satellite data reception, (ii) satellite data processing, (iii) satellite data interpretation and utilisation;
- (c) To provide a gap analysis in which the capabilities under (b) are matched against the requirements under (a); To develop an action plan to close the gap identified under (c);
- (d) To devise a protocol under which individual Members can request event-driven rapid-scan satellite data covering their national area of interest for Disaster Risk Reduction;
- (e) To report progress on this project to the RA-II and RA-V Management Groups

Annex II: Terms of Reference for the Coordination Group for the “Joint RA-II/RA-V WIGOS Radar Data Project” :

The Project Coordination Group should be composed of:

- (i) The Coordinators of the RA-II Radar Project (R-WIP-II Project III.2)
- (ii) One or two members from Region V appointed by RA-V-MG, who are responsible for the radar tasks (R-WIP-V, Task 4.3.2)

Its tasks should be:

- (a) to devise ways to strengthen the radar capabilities of the project Members, according to the plan proposed by the “Joint RA-II/RA-V Workshop on WIGOS for Disaster Risk Reduction” held in Jakarta, Oct 12-14, 2015 (see Final Workshop Report);
- (b) to develop a detailed plan, including resource requirements, for a radar data project involving the project Members;
- (c) to seek support from Members participating in this project in terms of financial and human resources;
- (d) to promote the adjustment/update of the Regional WIPs according to the plans for this project, taking into account the five priorities of the WIGOS Pre-operational Phase;