

# Progress Report on the RA II WIGOS Project

## to Develop Support for NMHSs in Satellite Data, Products and Training in 2020-2021

### The Third Joint Meeting of RA II WIGOS Project and RA V TT-SU for RA II and RA V NMHSs

Presented to CGMS-50 Plenary

# Background of the Project

- Pilot Project to Develop Support for NMHSs in Satellite Data, Products and Training (Adopted at RA II-14, 2008)

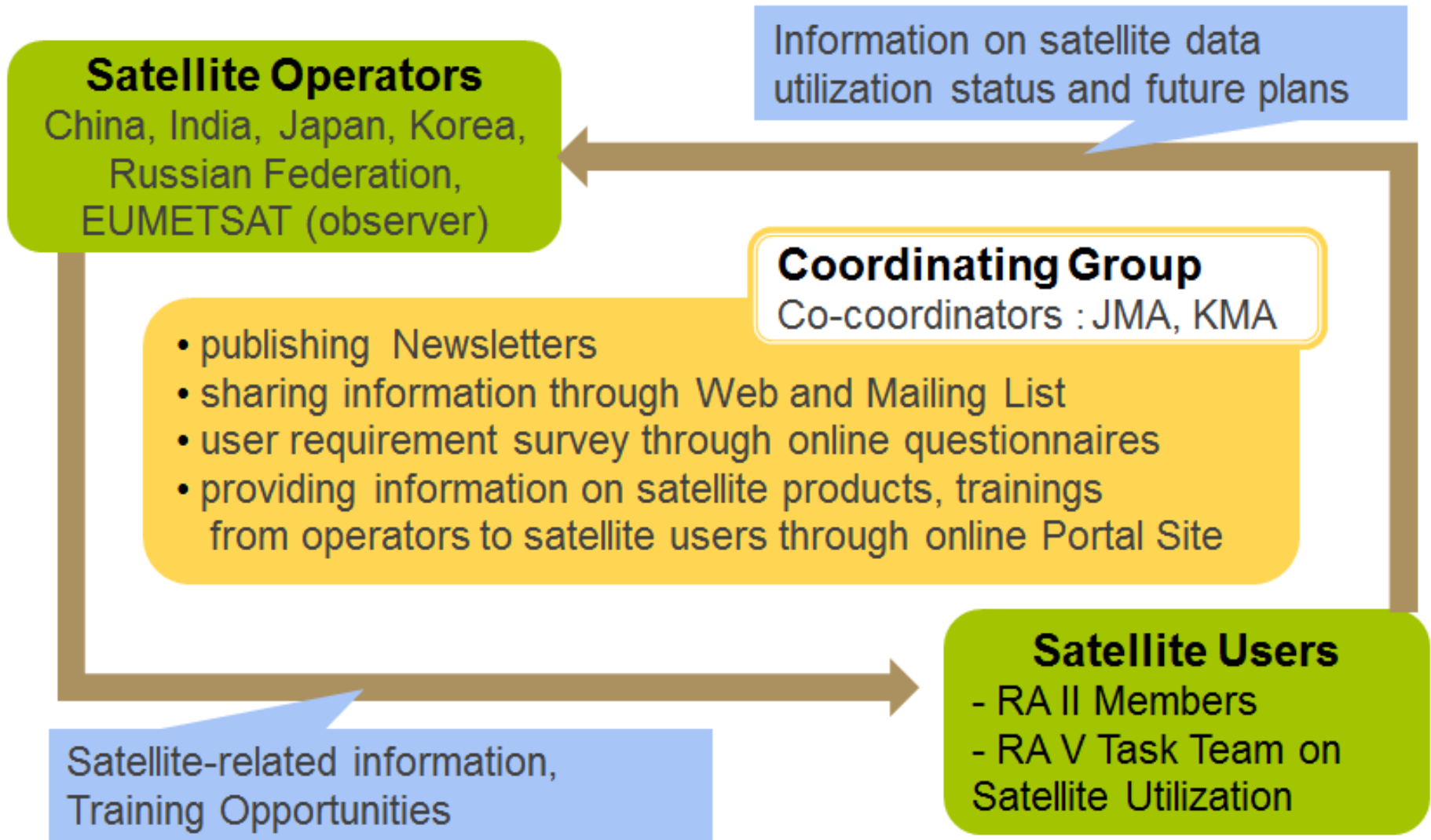


- RA II WIGOS Project to Develop Support for NMHSs in Satellite Data, Products and Training from 2013 (Decided at RA II-15, 2012)

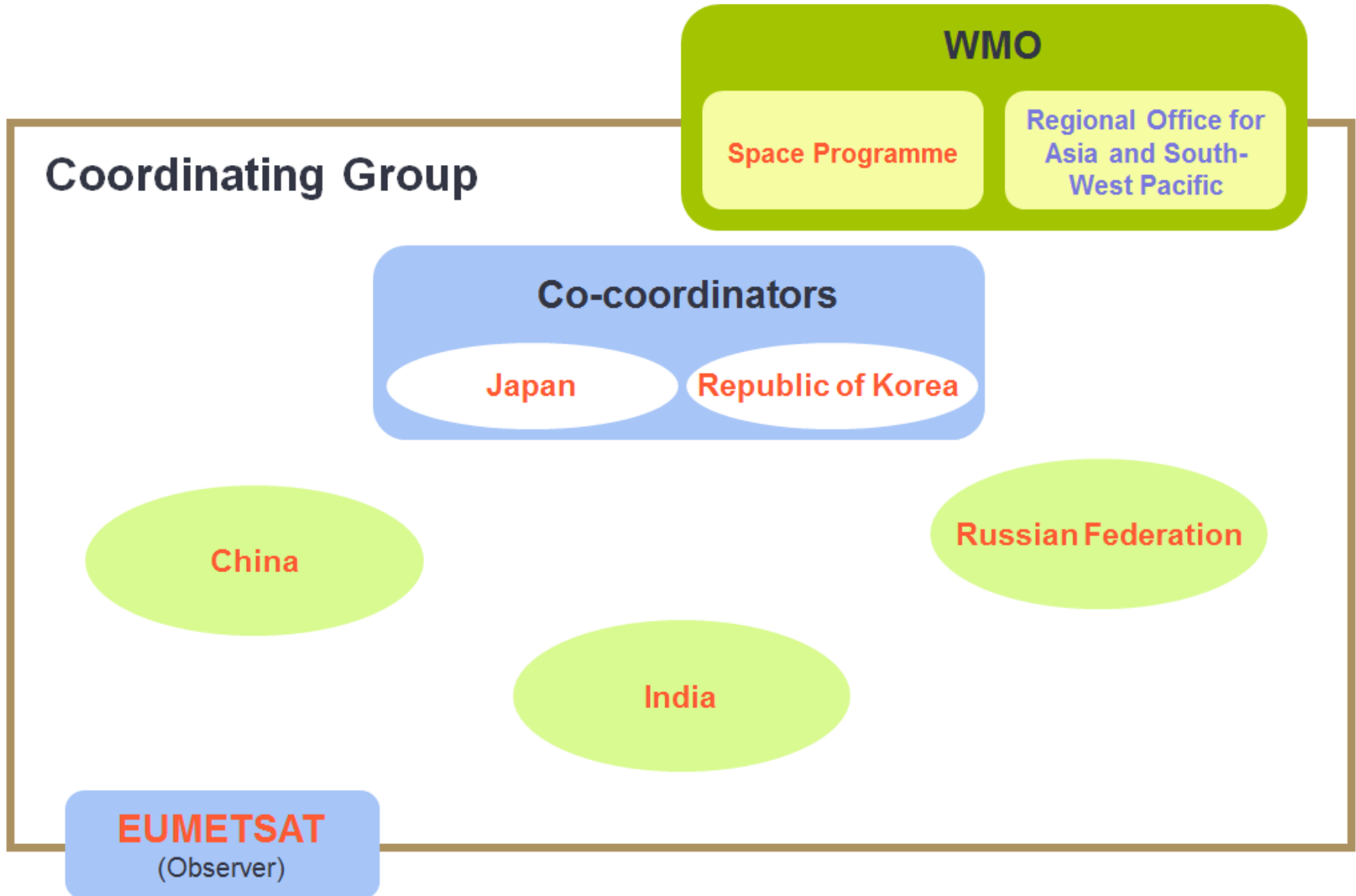


- RA II Regional WIGOS Implementation Plan 2017 –2020, including **new structure and work plans** of this Project, was decided at the 16th session of the RA II in Feb. 2017.

# Mechanism of the Project



# Coordinating Group



# The Third Joint Meeting of RA II WIGOS Project and RA V TT-SU

- **held Online Meeting (5 November 2021)**

- In conjunction with AOMSUC-11 (China, 1-5 November)

- **Attended by about 80 participants**

- Coordinating Group members (Korea, Japan, China and Russia)
- RA II Members (9 countries)
- RA V TT-SU members (5 countries)
- RA IV Members (1 country)
- WMO Secretariats
- Chair of the AOMSUC International Conference Steering Committee (as an observer)

# Summary of RA II and RA V Country Reports

- The main challenges delivering capacity building activities :
  - Insufficiency of the infrastructure (e.g. weather Radar or slow internet)
  - Image interpretation references for satellite data analysis
  - Satellite data access
  - Computation skill for data processing
  - Validation method
  - Expert lecturer
  
- Training requirements :
  - Basic of satellite and its interpretation for weather forecasters, observers and technical staff
  - Using satellite data for rainfall estimation, Nowcasting, Typhoon monitoring
  - Training on data manipulation (RGB techniques) and conduct research activities using satellite data.
  - Training on imagery analysis of tropical cyclones and for satellite-based products for climatology
  - Climate Services- Satellite interpretation

# Summary of RA II and RA V Country Reports

Items	Needs
1) Utilisation of geostationary and polar-orbiting satellite data and associated challenges	<p>GEO data :</p> <ul style="list-style-type: none"> <li>• FY-4A, FY-2F, 2G, 2H satellite data using CMACast</li> <li>• Himawari-8 via HimawariCast and HimawariCloud</li> <li>• GK-2A via Internet</li> <li>• GOES-E &amp; GOES-W via CMACast</li> <li>• Meteosat series satellites data via CMACast</li> <li>• MSG data via EUMETCast</li> </ul> <p>LEO data :</p> <ul style="list-style-type: none"> <li>• FY-3B, 3C, 3D, EOS (Aqua &amp; Terra), NOAA-18/-19/-20, SNPP, Metop-B/-C via ground reception systems</li> </ul>
2) Key examples of using this data	<ul style="list-style-type: none"> <li>• Airmass RGB, day convection RGB, dust RGB, infrared channel image, natural colour RGB, night microphysics RGB, visible and water vapour channels images.</li> <li>• Nowcasting for aviation; warnings of hazardous phenomena for airplanes; hazardous phenomena monitoring and so on</li> </ul>
3) Critical technical infrastructure challenges	<ol style="list-style-type: none"> <li>1) Cloud services for reception of satellite data</li> <li>2) Receiving system is down due to severe weather ( lightning strike)</li> <li>3) Internet connection problems</li> <li>4) Need for data visualization software that can generate image and product automatically for operational use</li> </ol>
4) Training needs in satellite meteorology and related areas	<ol style="list-style-type: none"> <li>1) Processing and utilization of the data from LEO satellites and analysis of satellite data after its processing</li> <li>2) Enhancement interpretation and utilization of satellite data and products</li> <li>3) Efficient use of satellite data and images for nowcasting and early warning</li> <li>4) Using satellite images for weather phenomena monitoring</li> <li>5) Using satellite data for case studies of severe weather conditions</li> <li>6) Cooperation with satellite data providers and other countries for improving the capacity for satellite data usage</li> </ol>

# Updates High-Frequency Regional Observation

- CMA, JMA and KMA have launched a request-based high frequency regional observation portal on RA II WIGOS Project webpage (JMA website):  
[https://www.jma.go.jp/jma/jma-eng/satellite/ra2wigosproject/ra2wigosproject-intro\\_en\\_jma.html#request](https://www.jma.go.jp/jma/jma-eng/satellite/ra2wigosproject/ra2wigosproject-intro_en_jma.html#request)
  - The Portal has links to
    - CMA's Emergency Support Mechanism of FENGYUN Satellite (FY ESM)
    - JMA's HimawariRequest Service
    - KMA's GEO-Kompsat-2A AMI Rapid Scan (ARS) Service
- Plans to improve the usability of the RA II WIGOS Project webpage, adding the following information:
  - current and planned observation locations for each service;
  - availability of request-based high frequency observation; and
  - observation locations to be visualized on the map in real-time (if it is feasible due to security reasons – still to be confirmed)



# Key Activities in the next two years(2021-2022)

- **key activities for the next two years were highlighted:**

1. The 12th Asia/Oceania Meteorological Satellite Users' Conference and user-focused training event will be held in Japan 2022 (hosted by JMA)
2. To define/provide the training requirement from country report for the user-focused training event in conjunction with AOMSUC-12
3. The 4th joint coordination group meeting of the RA II WIGOS Project and RA V TT-SU
4. To continue the issuance of half-yearly newsletters.

# Summary of the meeting – Action Items

- Provide the WMO and host country of AOMSUC-12 and training event (JMA, 2022) with the requirements from trainees which can be reflected in the next conference (WMO, JMA, KMA and BoM)
- Investigate the feasibility using the multi-geo-satellites (e.g. FY-4A, GK-2A and Himawari-8) to increase the utilization of next generated imagers over Asia-Oceania region (CMA, KMA, JMA, BoM)
- Update the requirements and template based on the discussion among the user representatives (KMA, JMA, BoM, WMO)
- Considering to add the new information on the Portal. Current and planned observation locations for each service, and availability of request-based high frequency observation. In addition, if possible, the observation locations to be visualized on map in real-time (CMA, KMA and JMA)
- KMA to encourage the registration for the GK-2A AMI Rapid Scan (ARS) service distributing the registration form and the usage information to RA II and RA V NMHSs (KMA)

**Thank you**