One Observation Policy to bridge data exchange between public and private sector

BMKG

Dr. URIP HARYOKO
Indonesaian Agency for Meteorology Climatology and Geophysics
urip.haryoko@bmkg.go.id
Indonesia data exchange

• Resolution 40 (Cg-12, 1995) : *WMO policy and practice for the exchange of meteorological and related data and products including guidelines on relationships in commercial meteorological activities* :
  *Indonesia contribution* : meteorological data (synop, pilot, temp, climat, climat temp)
  RBSN : 60 basic stations, factually Indonesia send almost 180 to GTS

• Resolution 25 (Cg-13, 1999) : *Exchange of Hydrological Data and Products*
  *Indonesian contribution* : ???

• Resolution 60 (Cg-17, 2015) *WMO Policy for the International Exchange of Climate Data and Products to Support the Implementation of the Global Framework for Climate Services* :
  *Indonesian contribution* : historical climate data
Indonesian Data Policy

Law No 31 - 2009 (Meteorology, Climatology and Geophysics)

• Article 18 Every observation station established by other than the Agency that is included in the observation network system can access data only to support its main task and mandate.

• Article 19 Paragraph (1) Every observation station established by other than the Agency is prohibited from publishing data resulting from its observations directly to the public unless stipulated otherwise by law.
Indonesian Data Policy

Government Regulation No. 47 - 2018 (types and tariff of non-tax state income)

• BMKG does not classify data as tariffed objects, but only information (processed data is assumed to be an information)

• Data access and tariffs for commercial purposes are set forth in the form of cooperation

• Responding to the WMO Open data policy, BMKG is obliged to provide zero tariffs for activities carried out in order to fulfill international obligations / commitments as a form of data exchange within the framework of the World Meteorological Organization.
Indonesian Data Policy

Regulation of the Head of BMKG (requirements and procedures for imposition of zero tariff).

Data could be provided with zero rates for:

• Data exchange within the framework of a WMO : Fulfilling obligations / commitments to WMO, IOC, JCOMM, IMO, ASEAN, UN, UNICEF, ICAO, FAO, WHO,... etc
• Disaster management
• Social activities
• Religious activity
• Security and defense activities
• Non-commercial educational and research activities
• Cooperation activities with Government Institutions and Local Governments
Potential conflict of international data exchange and national regulation

1. Data could be accessed freely for **commercial purposes**
2. There is a loss of income from non-tax state income / cost recovery
3. Private weather provider could potentially "threat" the existing mandate of NMHSs' public weather services in some of Member countries particularly developing and least developed countries
Indonesian Data Policy

Resume Data Services

1. Based on Govt. Regulation 47/2018, BMKG does not charge for data, but only charges for information

2. BMKG Regulation No. 20/2014 regulates data levels (level 1 to 3)

3. Based on BMKG Regulation No. 12/2019, it only regulates procedure of zero rates for data requests for non-commercial purposes

4. Data services are directed to information services

5. Data for Non-Commercial purposes is subject to zero rates

6. Requests data for commercial purposes are directed to be served as information, so the rates follow Govt. Regulation 47/2018

7. If point 6 can not meet an agreement it will be directed to create cooperation agreement with mutually agreed cost
Indonesian Data Policy

Private-Public Data Sharing Mechanism:
• Directing data requests into information services
• To collaborate in data processing, data analysis and information production
• Mutually beneficial cooperation through sharing cost recovery

Example case: State Electricity Company (PLN)
PLN (commercial purpose) requires high resolution weather information (spatio-temporal high resolution).
BMKG shares data, Human Resources, Numerical Model
PLN shares HPC and AWS
BMKG can carry out modeling research, PLN gets free information
ONE OBSERVATION POLICY (OOP)

It is defined as an observation policy which includes meteorological, climatological and geophysical observations so that it becomes a national policy where BMKG will coordinate based on Law No. 31/2009 which aims to synchronize, standardize observations, equipment, metadata, calibration and management of observations both from Ministries/Agencies, Legal Entities, Universities, State-Owned Enterprises, and Private sector nationally.
One Observation Policy

BMKG is initiating cooperation between public and private sector/other government institution in:

- installing observation equipment,
- maintaining observation equipment and
- observing the weather

The cooperation based on "One Observation Policy" (OOP).

The aim of this policy is to integrate non-NMS observations into the NMS observation network (Indonesian Law No. 31/2009):

- observation stations which established by non-NMS can be included in the observation network system through cooperation with NMS
- The observation station as intended must meet the criteria for the observation network system, prohibited for stopping observation and relocation
WIGOS (WMO Integrated Global Observing System) is one of the WMO program in order to integrate national, subregional, regional and global observations and data.

OOP is an implementation action to support WIGOS Program in integrating all observations and data nationally.

To utilize all potential resources for weather observation which are scattered in various institutions (government and private) for the national purposes.
NATIONAL OBSERVATION CONCEPT

One Observation Policy

NATIONAL OBSERVATIONS

OOP

NMS OBS

Non-NMS OBS

Automation / Standardisation
- calibration, metadata, etc

WIGOS
DATA EXCHANGE

RBON

WMO Data Conference, 16 – 19 November 2020
**Best practices of OOP to provide high resolution weather forecast**

<table>
<thead>
<tr>
<th>BMKG (Public services)</th>
<th>State Electricity Company (private company/commercial)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provide:</strong></td>
<td><strong>Provide:</strong></td>
</tr>
<tr>
<td>1) NHMS Data (112 AWS in Java and Bali)</td>
<td>1) New 28 AWS installation, operation and maintenance (BMKG standard) to fill gap observation network due to model assimilation</td>
</tr>
<tr>
<td>2) Numerical weather modelling expert</td>
<td>2) HPC</td>
</tr>
<tr>
<td>3) Research</td>
<td><strong>Advantage:</strong></td>
</tr>
<tr>
<td>4) Numerical Model</td>
<td>Spatio-temporal High resolution weather forecast as a tool to manage power plant operational and maintenance (&gt;400 Sub-station and High Voltage Substation)</td>
</tr>
<tr>
<td>5) Weather consultation</td>
<td></td>
</tr>
<tr>
<td><strong>Advantage:</strong></td>
<td></td>
</tr>
<tr>
<td>increasing skill of forecast</td>
<td><strong>Advantage:</strong></td>
</tr>
</tbody>
</table>
Sub-station and high-voltage stations network (GI / GITET) and AWS network (BMKG + PLN)

WMO Data Conference, 16 – 19 November 2020
The final output of OOP

WMO Data Conference, 16 – 19 November 2020

Detail Sub Sistem :: Cibatu 1-2 ::

Daftar GI

<table>
<thead>
<tr>
<th>No</th>
<th>ID</th>
<th>Nama GI</th>
<th>Date Time (UTC)</th>
<th>Suhu</th>
<th>RH</th>
<th>Precc</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>101</td>
<td>Gi Fajar Surya Wisesa</td>
<td>2020-11-12 02:00</td>
<td>31</td>
<td>58</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>105</td>
<td>Gi GandahMekar</td>
<td>2020-11-12 02:00</td>
<td>31</td>
<td>62</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>124</td>
<td>Gi Hankook</td>
<td>2020-11-12 02:00</td>
<td>31</td>
<td>61</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>134</td>
<td>Gi Jababeka</td>
<td>2020-11-12 02:00</td>
<td>31</td>
<td>58</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>299</td>
<td>Gi Poncol Baru</td>
<td>2020-11-12 02:00</td>
<td>31</td>
<td>58</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>374</td>
<td>Gi Tambun (158KV)</td>
<td>2020-11-12 02:00</td>
<td>31</td>
<td>62</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>375</td>
<td>Gi Tambun (70KV)</td>
<td>2020-11-12 02:00</td>
<td>31</td>
<td>62</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>394</td>
<td>Gi Toyoigiri</td>
<td>2020-11-12 02:00</td>
<td>31</td>
<td>58</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>576</td>
<td>Gi Kujapakli</td>
<td>2020-11-12 02:00</td>
<td>31</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>75</td>
<td>Gi Cilacarang</td>
<td>2020-11-12 02:00</td>
<td>31</td>
<td>58</td>
<td>0</td>
</tr>
</tbody>
</table>

Showing 1 to 10 of 11 entries

Map Window

Nama : Gi Poncol Baru
Suhu : 31 °C
Kelembapan : 58 %
Kecepatan Angin : 2 Knot
Arah Angin : ESE
Presipitasi : 0 mm/jam
THANK FOR YOUR ATTENTION