BMKG DATA POLICY AND QUALITY

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Background

- Indonesia strongly supports in-situ data to YMC activities, both at launching time or during the YMC research period
- Resolution WMO No 40
- BMKG will provide the QC-ed data to ensure that the result of research are valid

Resolusi WMO No. 40

- YMC adopts timely release and free/open sharing data policy.
- The YMC data policy should be in compliance with the World Meteorological Organization (WMO) Resolution 40 on the policy and practice for the exchange of meteorological and related data and products including guidelines on relationships in commercial meteorological activities: "As a fundamental principle of the World Meteorological Organization (WMO), and in consonance with the expanding requirements for its scientific and technical expertise, the WMO commits itself to broadening and enhancing the free and unrestricted international exchange of meteorological and related data and products."

http://www.jamstec.go.jp/ymc/docs/YMC_Data_Policy.pdf

YMC Data Archive Center

- All raw and QC-ed data from YMC campaign carried out in the Indonesian Territory must be sent and stored on the BMKG data server
- BMKG must be trained by the data owners to carry out data quality check

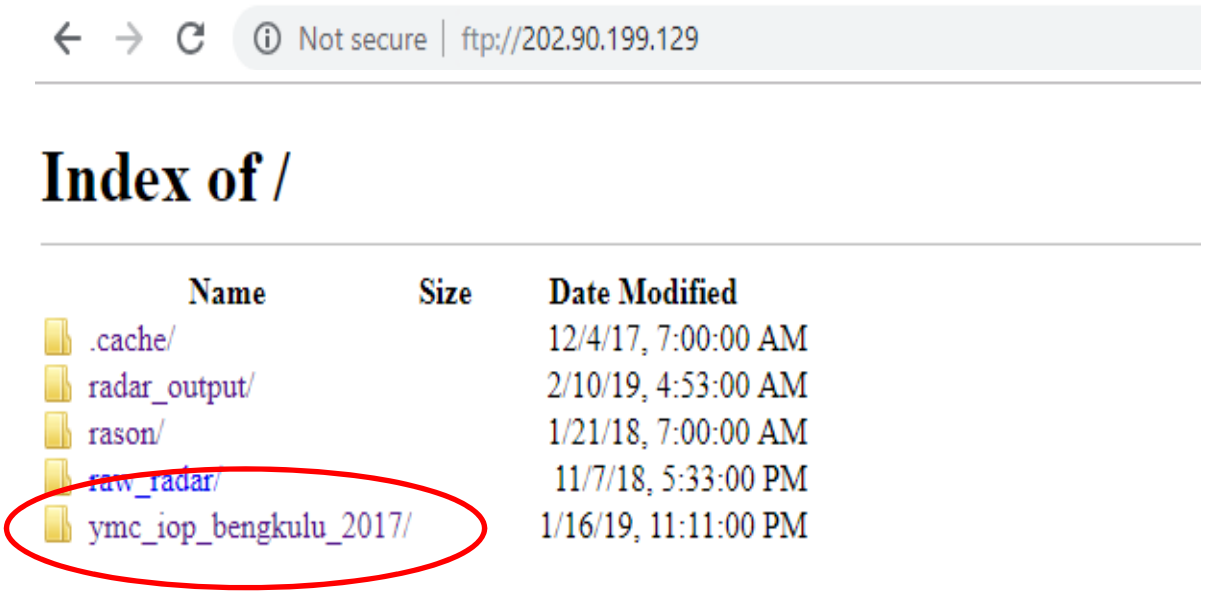
SERVER SPECIFICATIONS

Processor : Intel Xeon CPU E5-2650 v3 @2.30GHz, Model 6 Stepping 2 HyperThreading, Visualization Turbo Mode enabled
Integrated RAID Controller 1 : PERC H370 Mini (embedded)
SAS HDD Physical Disk 300GB
SAS HDD Physical Disk 4TB
QLE2562 PCI Express to 8GB FC Dual Channel
Integrated DELL Remote Access Controller (IDRAC) version 8
Memory 128GB (32GBx4) Dual rank 2133 MHz
NIC card: BRCM GbE 4P 5720-t rNDC 4 port
Power supply: dual 900 Watt AC

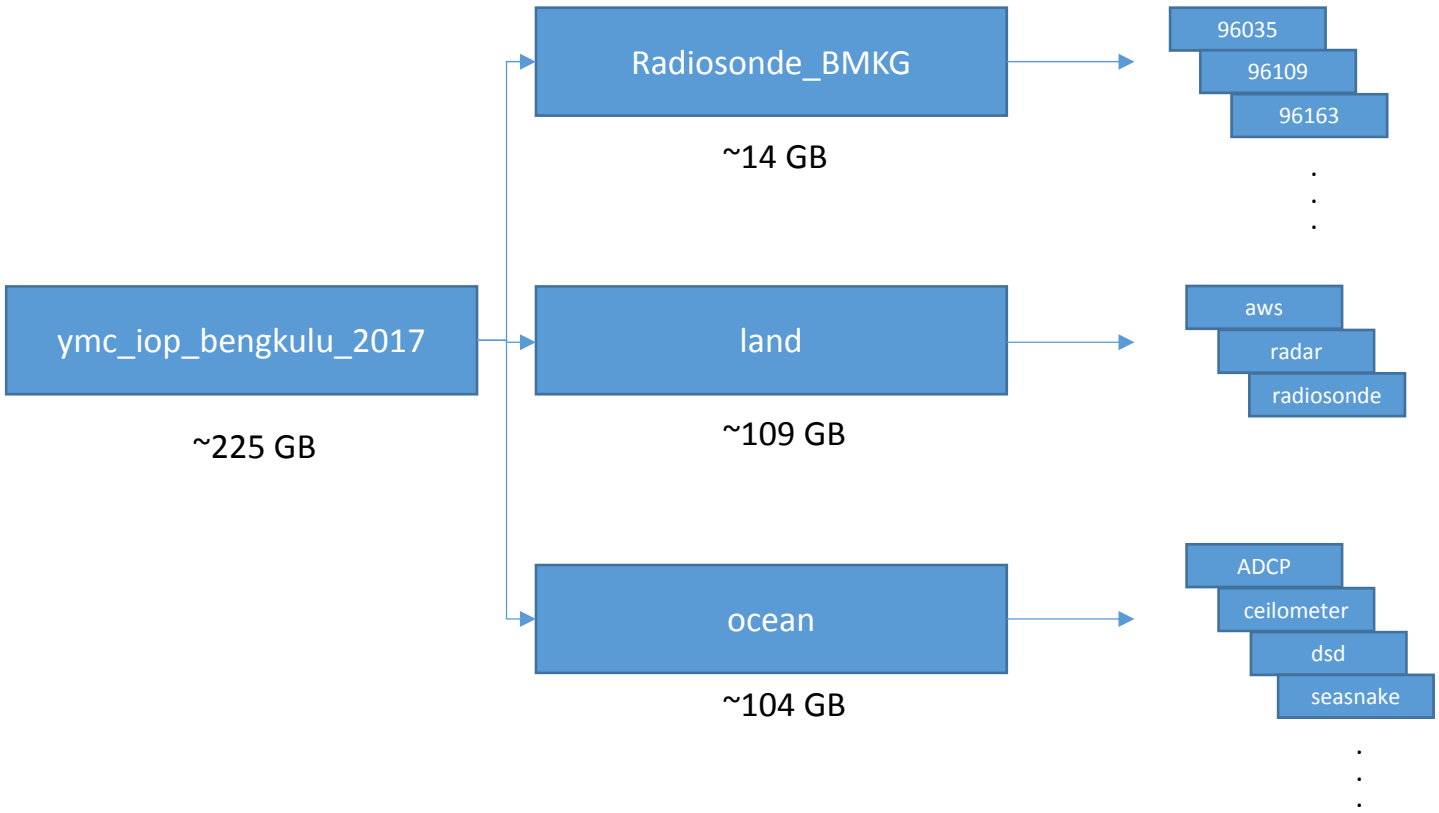
Storage capacitiy : 15TB

YMC-BMKG DATA ACCESS

Protocol : File Transfer Protocol (FTP)
Local IP : 172.19.3.168
Public IP : ftp://202.90.199.129
Username : ymcbmkg
Password : on request



FOLDER STRUCTURE



BMKG DATA ACCESS POLICY

1. **Data** is meteorological, climatological and geophysical observations obtained from the observation station
2. **Data Level 1** is raw data obtained from direct observation using either manual or automatic equipment. This data can be only accessed using the cooperation with BMKG (Memorandum of Understanding or Implementation Agreement)
3. **Data Level 2** is data obtained from processing Data Level 1. This data can be only accessed only based on the laws and regulations
4. **Data Level 3** adalah processing data from Level 2 Data in the form of information. This data can be accessed freely

EXAMPLE OF DATA LEVELING

No	Data type	Description	Format	Data level
1	Radar raw data (mosaic)	10 minutes	NetCDF	1
2	Radar raw data (individual)	10 minutes	NetCDF	1
3	Radar raw data (mosaic)	10 minutes	PNG	2
4	Radar raw data (individual)	10 minutes	PNG	2
5	Radiosonde raw data	12 hour	CSV	1
6	AWS/ARG/AWOS	10 minutes	CSV	1
7	Hourly weather data	1 hour	CSV	2
8	Daily weather data	1 day	CSV	2
9	Daily weather forecast	1 day	Image	3
10	Seasonal forecast	6 month	Image	3

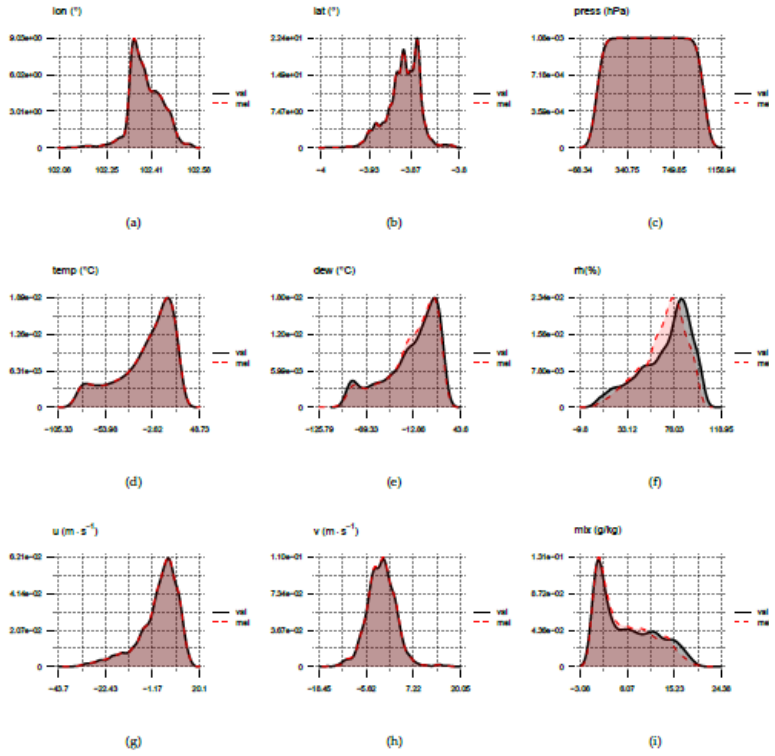
DATA QUALITY CHECK

Method

Kernel Density Estimation

We employed a Kernel Density Estimation (KDE) method to obtain the Probability Density Function (PDF) for all variable in the data. The results are displayed in Figure 1 and Figure 2.

Figure 1: KDE Results of Variable 1 to 9.



Cummulative Distribution Function (CDF)

After KDE had been obtained, we then calculated the CDF from the KDE. The results are displayed in Figure 3 and 4.

Figure 3: CDF Results of Variable 1 to 9.