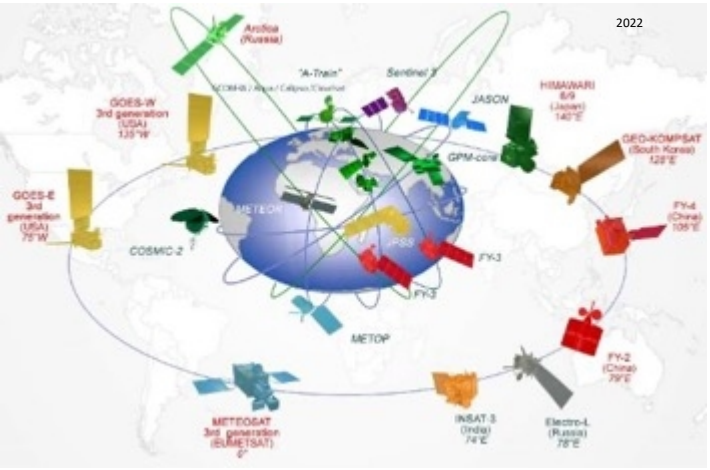

JMA's operational DCS status

Status of implementation of best practices

Presented to CGMS-51 WG I, agenda item 8.4 (JMA-WP-02)

Japan Meteorological Agency

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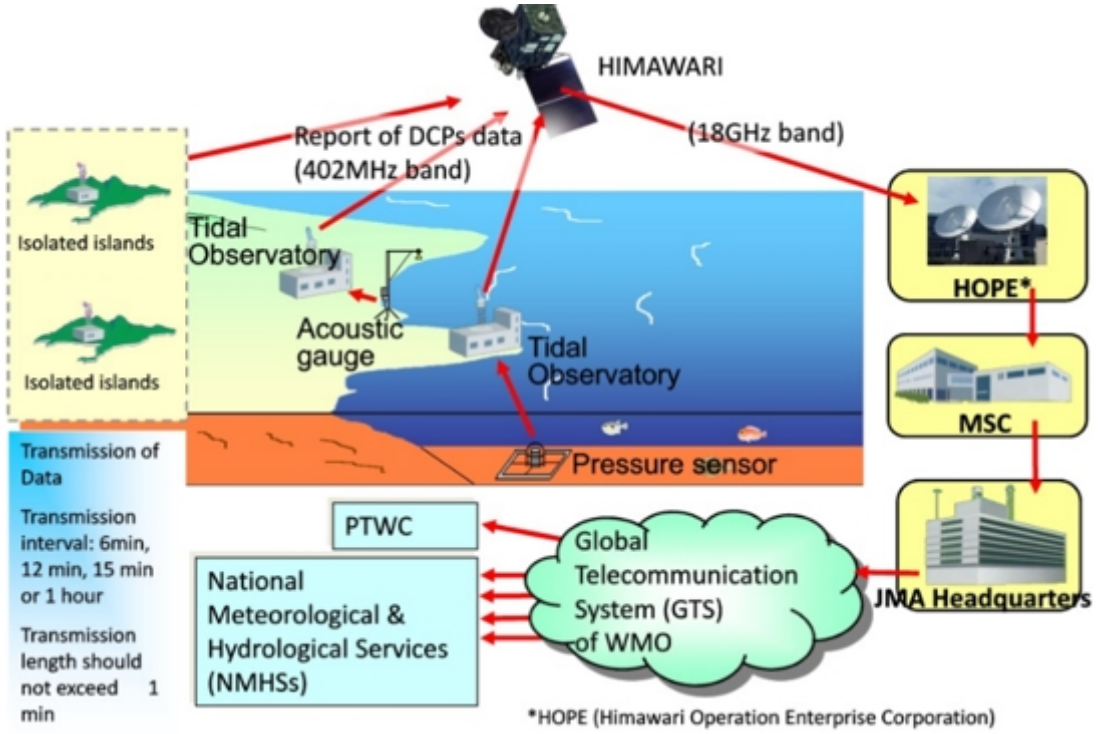
Himawari-8/9 Data Collection System (DCS)

- Himawari-8: operational since July 2015
- Himawari-9: back-up of Himawari-8 in orbit
  - ➢ To take over the role of Himawari-8 in late 2022

- DCP transmission rate
  - ➢ 100 / 300 bps
- Bandwidth
  - ➢ 402.0685 – 402.4 MHz (100 bps)
  - ➢ 402.1 – 402.4 MHz (300 bps)
- Data downlink
  - ➢ Ka band (18 GHz)
- Two ground stations for redundancy



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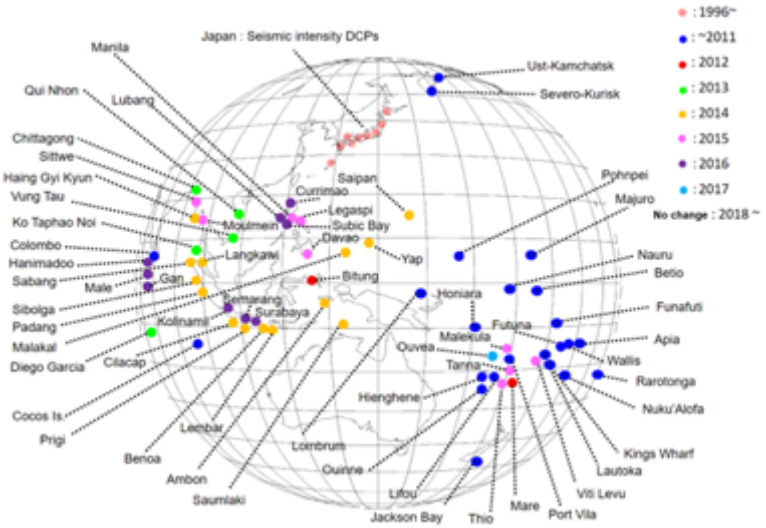
Recent updates of Himawari-DCS



Tidal/Tsunami and seismic intensity DCPs in Himawari-DCS

- New DCPs in 2022
  - ✓ 5 surface meteorological DCPs in Bhutan.
- These years, a number of DCPs stopped using Himawari-DCS and started using commercial communication satellites instead.
- Currently, a tidal DCP is being prepared to go into operation. (New Caledonia)

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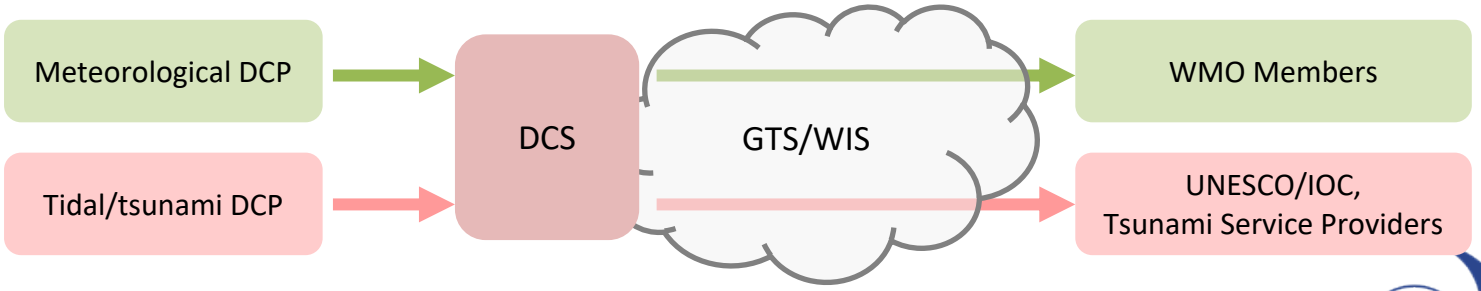
Status of Himawari-DCS

- DCPs as of Apr. 2022
  - Regional channel (RDCS)
    - 123 for **surface meteorological observation (WMO)**
    - 60 for **tidal/tsunami (UNESCO/IOC)**
    - 372 for seismic intensity in Japan
    - 8 for mobile surface meteorological observation in Japan
  - International channel (IDCS)
    - 11 for surface meteorological observation from ships (i.e. SHIP) (WMO)
    - 13 for aerosol (AERONET)
    - 3 for tidal/tsunami (UNESCO/IOC)

- Data flow of meteorological DCP data and tidal/tsunami DCP data



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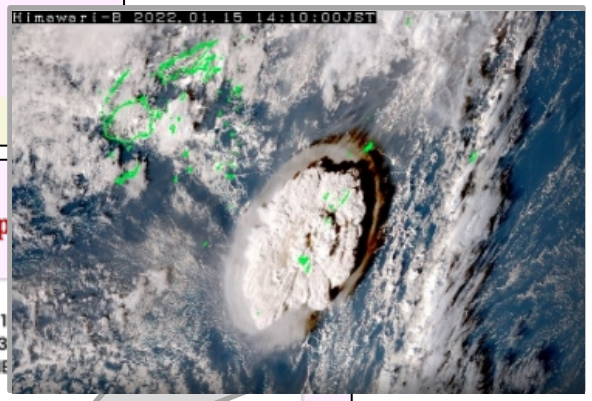
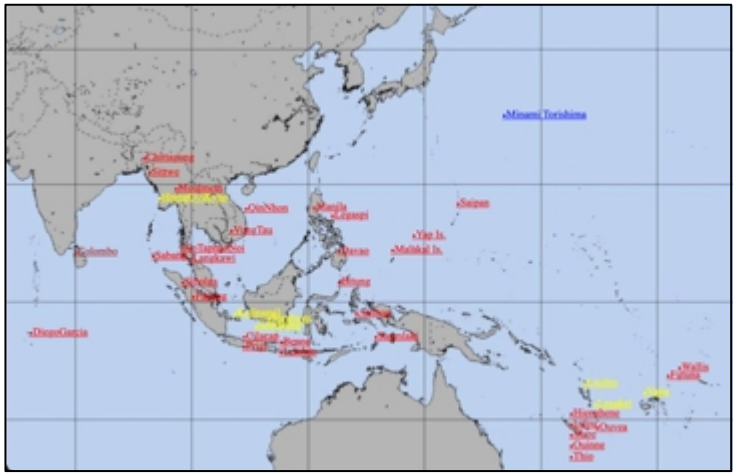
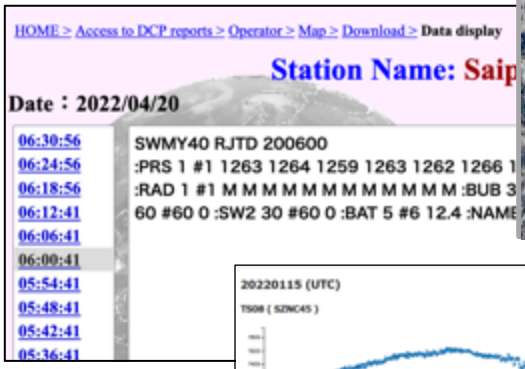
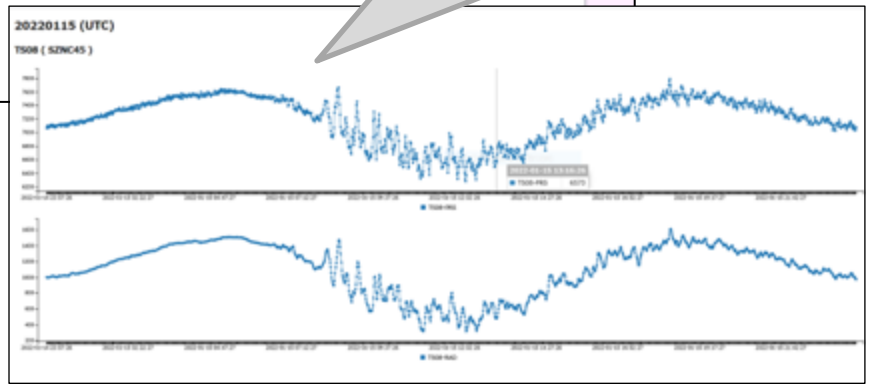
DCP data monitoring website for DCP operators









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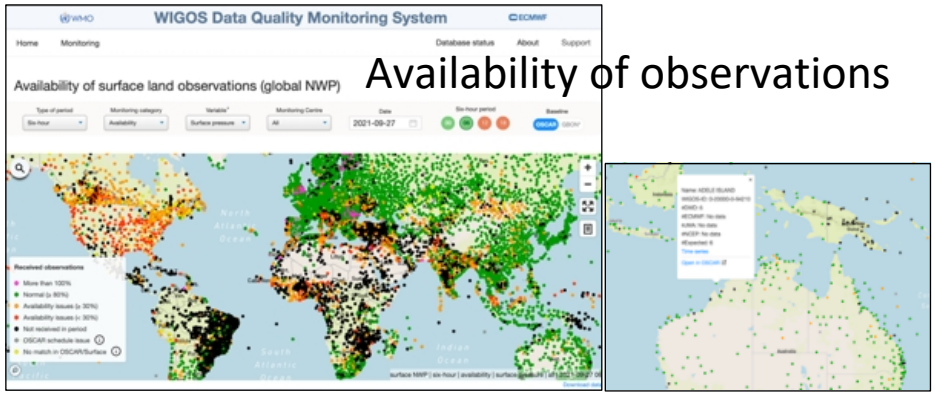
Useful websites for DCP data

WIGOS Data Quality Monitoring System

https://wdqms.wmo.int/



Availability of observations

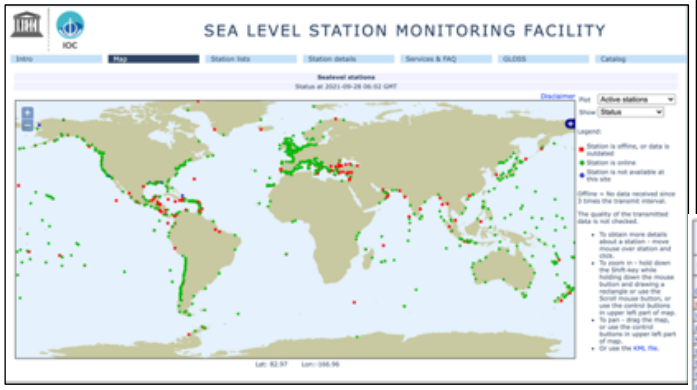
OSCAR/Surface

https://oscar.wmo.int/surface/

Observation stations DB

Sea Level Station Monitoring Facility by UNESCO-IOC

http://www.ioc-sealevelmonitoring.org



- Status (Active/Offline)
- Location
- Supervising organization
- Contacts
- **Connection (GTS, BGAN, e-mail,…)**
- Data (show on graph, content of message)

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Future Himawari-DCS

- JMA has decided that the planned Himawari-10 program set to replace Himawari-8/9 will assume the same DCS.
- Related discussions at CGMS WG-I are expected to be helpful for future Himawari-DCS.

Status of implementation of best practices in support to DCP data access

BP.01: *Satellite Operators offering DCS should make all the DCS data available via the Internet on a DCS Web Service.*
BP.02: *Satellite Operators offering DCS should make all the DCS data globally available on the WMO GTS.*
BP.03: *Satellite Operators offering DCS should ensure their DCS Web Service makes all DCS data within their system available to a valid registered user.*
BP.04: *Satellite Operators offering DCS should ensure high DCS data availability and put in place mechanisms to be able to detect and recover problems with the service with minimum delays*
BP.05: *The Satellite Operators offering DCS should ensure DCS data are made available on the DCS Web Service as soon as possible.*
BP.06: *The Satellite Operators offering DCS should provide an on-line DCS data archive, which is sized according to user's applications requirements and expandable to cope with evolving user needs.*

Compliant with all best practices except BP.09.

JMA makes all meteorological and tidal DCP data globally available via the WMO GTS.

JMA also makes the DCP data available online for registered users. The website for registered users stores 7-day archives and provides a downloading feature and the documentation on DCP data access.

JMA notifies users of any service changes and issues on its website.

Regarding BP.09, the WIGOS OSCAR/Surface website displays metadata including contact information for meteorological data, which observation station operators maintain.

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Status of implementation of best practices in support to DCP data access

BP.07: *The Satellite Operators offering DCS should ensure their DCS Web Services offer the possibility for tailoring DCS data retrieval.*
BP.08: *The Satellite Operators offering DCS should put in place mechanisms to notify the DCS Data Users of any service changes and issues, which impact the access to DCS data (e.g. delays, outages).* *The information provided in the notification should be as detailed as possible, including the extent of the impact, expected duration of the impact, etc. Updates to the notifications should be issued regularly and a final notification should be sent to confirm return to nominal service.*
BP.09: *The Satellite Operators offering DCS should ensure their DCS Web Services allows easy maintenance of up-to-date record of the DCP Operator's contact information by the users.*
BP.10: *The Satellite Operators offering DCS should provide the DCS Users with a full set of DCS Data Access documentation, accessible through the DCS Web Service.*

Compliant with all best practices except BP.09.

JMA makes all meteorological and tidal DCP data globally available via the WMO GTS.

JMA also makes the DCP data available online for registered users. The website for registered users stores 7-day archives and provides a downloading feature and the documentation on DCP data access.

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Status of implementation of best practices in support to DCP TX certification process

JMA does not require certification for DCP transmitter manufacturers.

Thank you

Himawari-DCS website : https://www.jma.go.jp/jma/jma-eng/satellite/nmhs/dcs89.html

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