Data dissemination and distribution of Himawari-8/9 and their recent updates

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Himawari-8/9 Data Distribution Services

• HimawariCloud
• HimawariCast
• JMA Data Dissemination System (JDDS)
  • Variety of meteorological data (e.g. Satellite imagery and High-resolution Cloud Analysis Information) to NMHSs
• Distribution service for R & D and education
  • Data archived and redistributed via cooperative institutes
• Distribution service to private sectors
  • Data for the private sectors are distributed via the Japan Meteorological Business Support Center
• Online satellite imagery
  • New contents were provided to facilitate scrolling and zooming
Himawari-8/9 Data Dissemination

Himawari-8/9
raw data

Communication Satellite (CS)

HimawariCast service
HRIT files, SATAID files

CS Operator

All imagery (full data)

JMA

HimawariCloud service

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Himawari Users

**HimawariCast Receiving Systems**
- 33 users

**HimawariCloud accounts**
- 23 users
  (In addition to these, EUMETSAT have accounts.)

**Web service covers**
- 42 areas
  (including Timor-Leste, Nauru, Marshall Islands and Cook Islands)

Observation Area of Himawari-8/9

- Russia
- Mongolia
- Korea
- China
- Hong Kong, China
- Macau
- Nepal
- Bhutan
- Bangladesh
- Myanmar
- Laos
- Sri Lanka
- Thailand
- Vietnam
- Cambodia
- Malaysia
- Singapore
- Indonesia
- Timor-Leste
- Philippines
- Brunei
- Palau
- Micronesia
- Marshall Islands
- Papua New Guinea
- Hawaii (USA)
- Nauru
- Kiribati
- Solomon Islands
- Tuvalu
- Samoa
- Fiji
- Cook Islands
- Tonga
- Vanuatu
- New Caledonia (Fr.)
- Australia
- New Zealand

(As of 1 November 2021)

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• **HpFP**
  
  • JMA is working to implement L2 connection and HpFP (High-performance and Flexible Protocol) in addition to the current HTTP(S)
  
  • HpFP was developed by the National Institute of Information and Communications Technology (NICT) based on the User Datagram Protocol
    
  
  • HpFp enables high throughput even with high latency and packet loss
Himawari-8 data are being redistributed to foreign and domestic R&D users by the following Japanese scientific institutes.

- NICT* (via Science Cloud)
- JAXA** (via Himawari Monitor)
- University of Tokyo (via DIAS; Data Integration and Analysis System)
- Chiba University CEReS***

* National Institute of Information and Communications Technology
** Japan Aerospace Exploration Agency
*** Center for Environmental Remote Sensing
JMA updated its online satellite imagery content on 24 February 2021.

- Facilitate scrolling and zooming
- New imagery (True-color reproduction imagery)

https://www.jma.go.jp/bosai/map.html#contents=himawari&lang=en
• JMA is now planning the switch over from Himawari-8 to -9 around Q3-4 in JFY2022.
• Switch over from Himawari-8 to Himawari-9 will be almost seamless, with no change in data format or data dissemination system.
• Their parallel observation and data distribution are also under consideration.
Conclusion

- JMA generally distributes Himawari-8/9 data via its HimawariCast and HimawariCloud systems
- HpFP is investigated to be implemented into HimawariCloud
- In February 2021, JMA improved its online satellite imagery
- JMA plans seamless switch over to Himawari-9 in late JFY2022