

RDAC Report from JAXA



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JAXA SST Missions Status

□ Aqua/AMSR-E

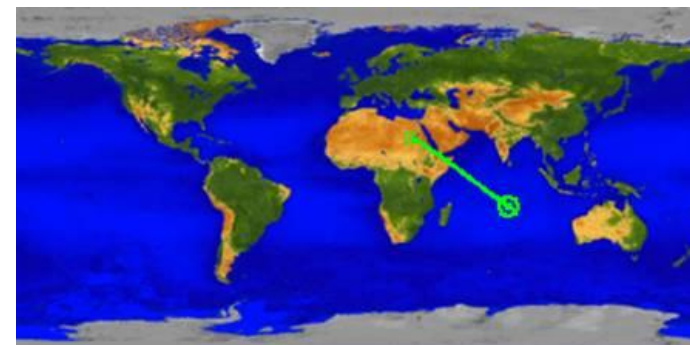
- Slow rotation (2rpm) mode since Dec. 2012.
- 2rpm L1 products are available via the GCCOM-W1 Research Product web site (http://suzaku.eorc.jaxa.jp/GCOM_W/research/terms.html).

□ GCOM-W

- No major problem in satellite and instruments.
- All standard products are updated to Ver.2 in Mar. 2015.
- Research products were defined in Mar. 2015. It will be available at the GCCOM-W1 Research Product web site.

□ TRMM (NASA-JAXA)

- Mission operation was completed in Apr. 2015, and satellite re-entered to the Earth's atmosphere over the Southern Indian Ocean on 16 Jun. 2015 (UTC).



□ GPM Core Observatory (NASA-JAXA)

- No major problem in satellite and instruments.
- The first public release version V03 products have been released to public.

□ GCOM-C/SGLI

- Preparation for the launch that is scheduled in Japanese Fiscal Year 2016.

AMSR2 Research Products

Products	Area	Resolution	Target accuracy	Range
All-weather sea surface wind speed	Ocean	60 km	± 7 m/s (at 15-40m/s)	0 - 70 m/s
10-GHz sea surface temperature	Ocean	30 km	± 0.8 ° C	9 - 35 ° C
Soil moisture and vegetation water content based on the land data assimilation	Africa, Australia	25 km	soil moisture: $\pm 8\%$ vegetation water: ± 1 kg/m ²	0 - 100 % 0 - 2 kg/m ²
Land surface temperature	Land	15 km	forest area: ± 3 ° C nondense vegetation: ± 4 ° C	0-50 ° C
Vegetation water content	Land	10 km	± 1 kg/m ²	0 - 4 kg/m ²
High resolution sea ice concentration	Ocean in high latitude	5 km	± 1 %	0 - 100 %
Thin ice detection	Okhotsk sea	15 km	± 80 %	N/A
Sea ice moving vector	Ocean in high latitude	50 km	2 components: 3 cm/s	0 - 40 cm/s

JAXA GHRSSST Datasets

- JAXA has operated the GHRSSST server (Japanese RDAC) to distribute JAXA's SST products in GDS format. All L2P/L3C products those are available from JAXA GHRSSST server are in GDS 2.0.
 - Aqua/AMSR-E
 - TRMM/VIRS
 - Windsat/Coliris
 - GCOM-W/AMSR2 (6-GHz)
 - GPM-Core/GMI (10-GHz)
- On-going real-time data production
 - Windsat, AMSR2 6-GHz, and GMI SSTs are processed
- Reprocessing activities
 - AMSR2 SST was updated to Ver.2 in Mar. 2015. Reprocessing is underway.
 - Updates of Windsat and GMI SSTs are planning in autumn 2015.
- Planned products in future
 - AMSR2 10-GHz (in 2015)
 - Himawari-8/AHI (in 2015)
 - GCOM-C/SGLI (in 2016 or 2017)

Main Activities since GHRSSST-XV (1/3)

□ AMSR-E algorithm updates

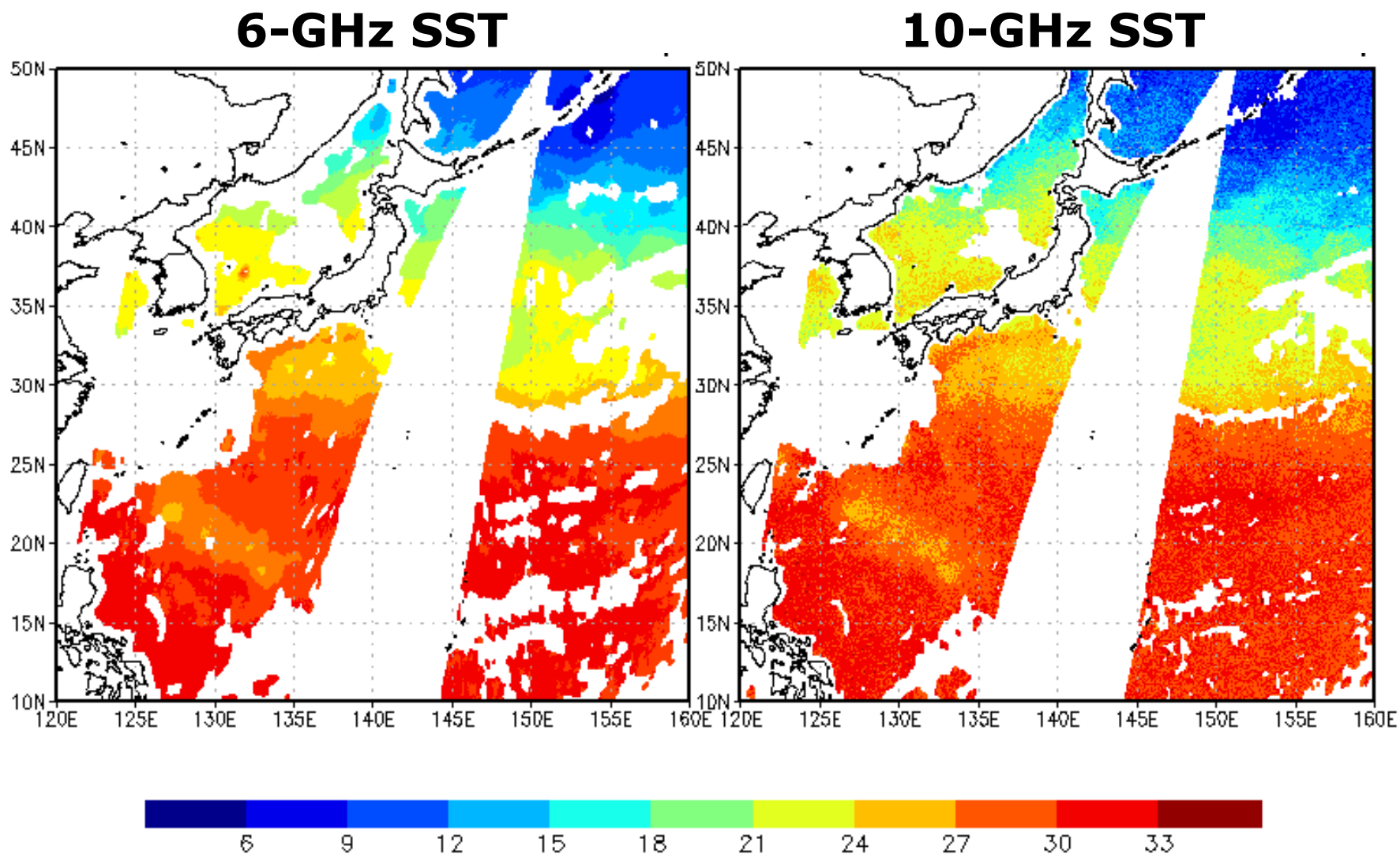
- **Preparing new AMSR-E products**, which are processed with new calibrated L1, AMSR2 L2 algorithms and output in AMSR2 formats, to produce continuous and coherent dataset between AMSR-E and AMSR2.

□ AMSR2 algorithm updates – *my presentation in tomorrow*

- On 26 March 2015, **JAXA updated L1 and L2 algorithms** from Ver.1 to Ver.2.0, and on 3 April 2015, updated again to Ver.2.1 to correct inappropriate parameter settings in L1 processing system.
- Reprocessing of L1 Ver.2.1 for the past period was completed, and that of L2 is underway. (to be completed in autumn (?) 2015)
- L1 cross-calibration activities are continuing.
- Validation Monitoring web site is available.
(http://suzaku.eorc.jaxa.jp/GCOM_W)
- 8 research products were defined in Mar. 2015, including 10-GHz SST and all-weather sea surface wind speed.
- **10-GHz SST (research product)** has been included in standard SST product from Ver.2. (Not included in GHRSSST dataset yet)

AMSR2 10-GHz SST !

July 8,
2014
(Dsc)



- 10-GHz SST has;
 - finer resolution & less missing area along coast line; and
 - less sensitivity to lower SST than 10 degC.

Major Activities since GHRSSST-XIV (2/3)

□ TRMM mission completed

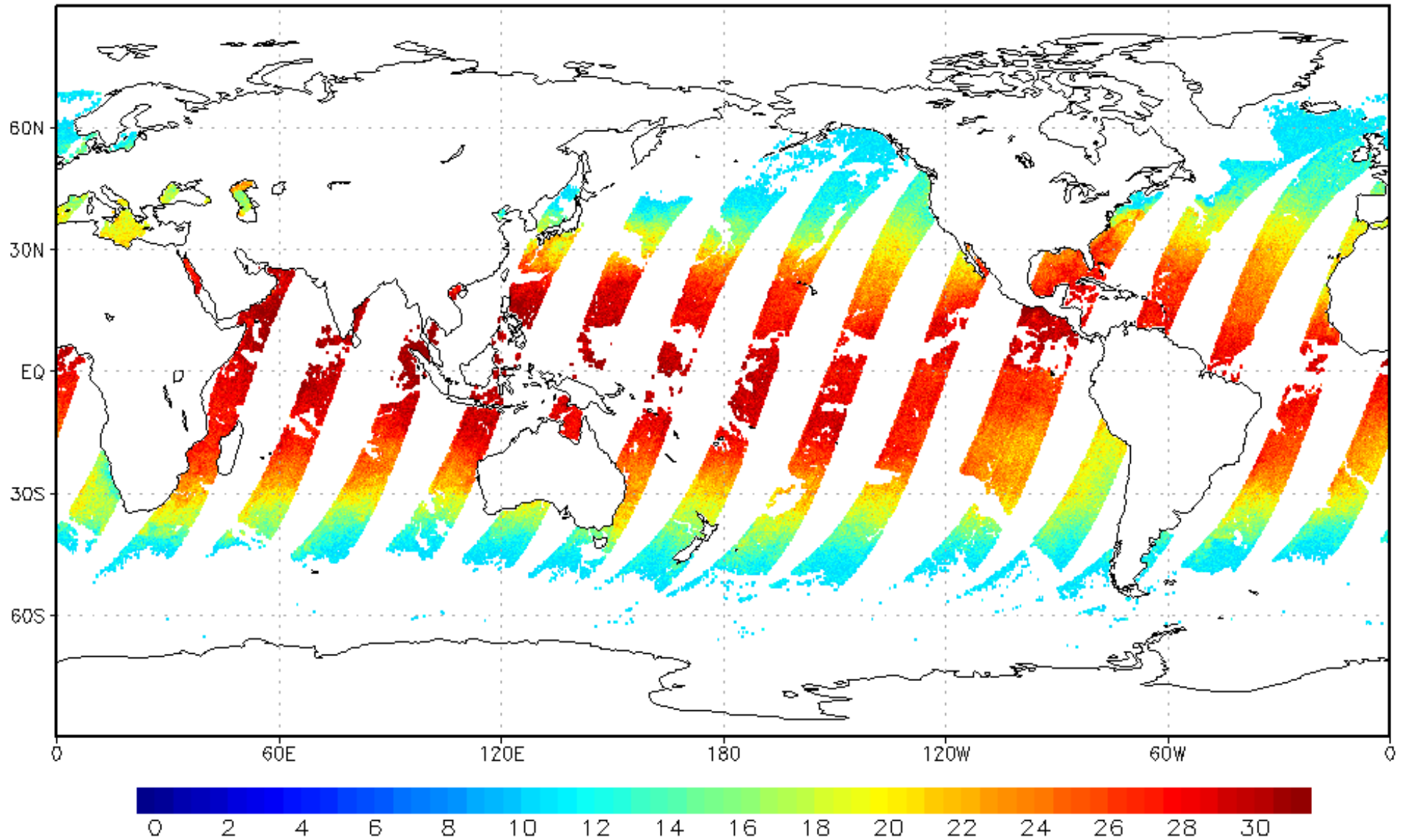
- **VIRS completed operation on 21 Mar. 2014** due to satellite bus battery issues.
- **TMI completed operation on 8 Apr. 2015.**
- TRMM V8 products (applying GPM algorithms to TRMM) will wait GPM V05 (not next V04, to wait results of cross-calibration between PR and DPR L1).

□ GPM algorithm updates

- **GPM V03** (DPR, GMI, combined products (standard) and JAXA global rainfall map GSMaP (national)) have been released in Sep. 2014. NASA global rainfall map IMERG (national) V03 has been released in Mar. 2015.
JAXA: <http://www.gportal.jaxa.jp/> and also available from NASA.
- Next major algorithm version up (V04) is scheduled in Jan. 2016.
- GMI (10GHz) SST, GMI sea ice concentration (SIC), DPR SIC products have been developed as JAXA's GPM research product. **GMI SST is already available** at JAXA GHRSSST server. – *my presentation in tomorrow*

GMI SST !

GMI SST[degC](2014/05/21:A)



Major Activities since GHRSSST-XIV (3/3)

□ JMA's Himawari-8 data

- JAXA (and other 3 institutes) exchanged agreement with JMA to **distribute Himawari-8 L1 data** from own server to non-commercial users in NRT basis.
- **JAXA's Himawari server** is currently constructing and **will be open in Aug. 2015**. JAXA also plans to release **L2 products including SST** and Aerosols from the same server. – *Y. Kurihara's presentation in tomorrow*

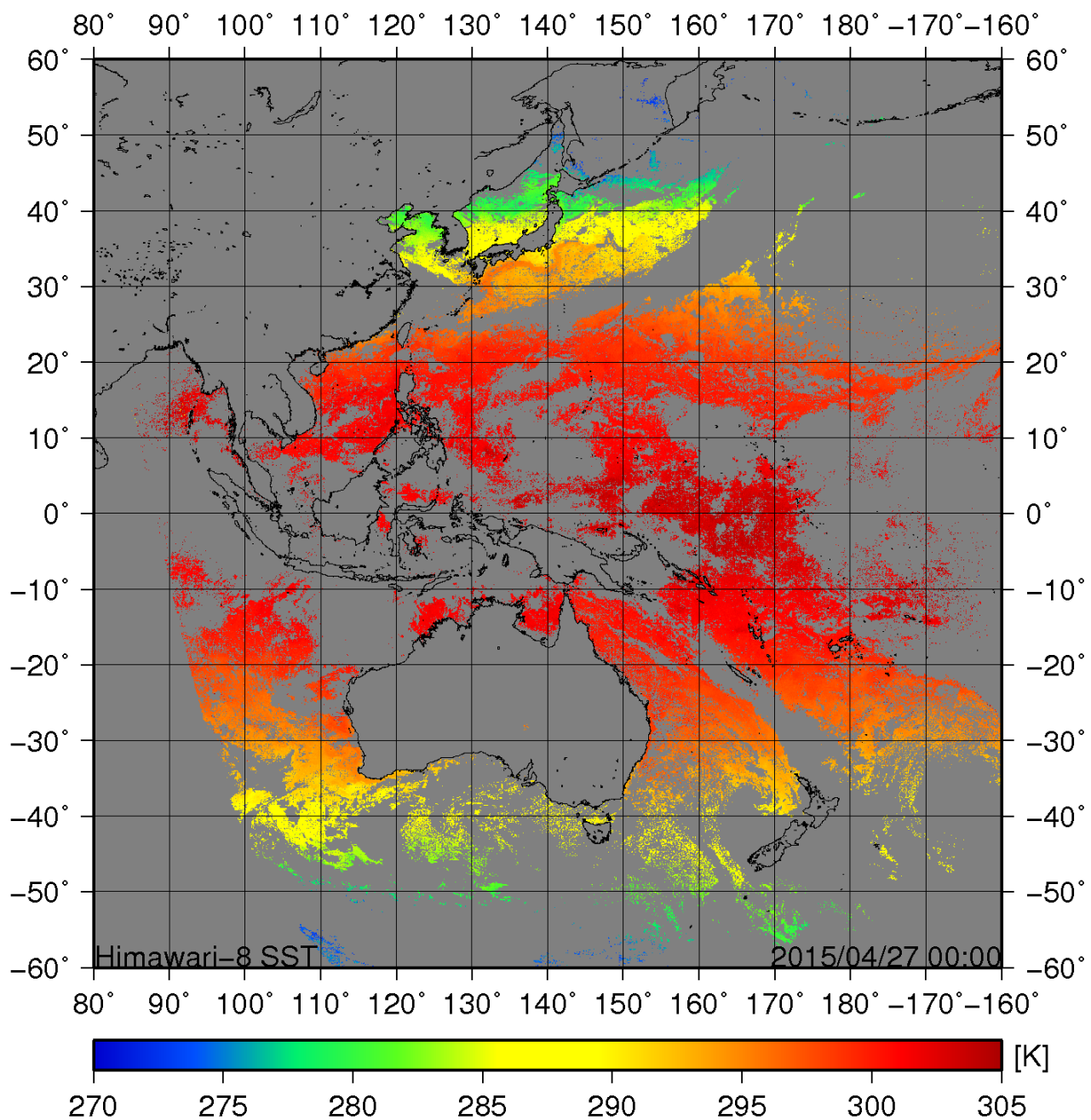
□ GCOM-C/SGLI preparation

- Preparation for the launch as scheduled.
- Data processing system is currently under final construction.
- SGLI SST (same algorithm as Himawari-8 SST) in GDS 2.0 will be available at JAXA GHRSSST server.

□ AMSR2 follow-on mission

- Still in planning phase. Joint microwave radiometer-scatterometer mission has been discussed by JPL, ISRO and Japan (ongoing activity).
- Water and Winds Mission with AMSR2 follow-on with solid (166/183 GHz) an temp. sounding (50-60 GHz) channels and Scatterometer with Ku and Ka bands.

Himawari-8 SST



00Z on 27 Apr.
2015

By Kurihara

JAXA GHRSSST Server (Japanese RDAC)

- Registration (automatic):
<http://suzaku.eorc.jaxa.jp/GHRSSST/>
- Data protocol: ftp (with UID and password)
 - We plan to switch new UID and password system that will be the same to the JAXA Himawari server (P-TREE) to integrate the two system in near future.
- Data latency:
 - NRT mode: 3-6 hour after observation
 - Delayed mode: 1-2 day after observation
- Format: GDS 2.0
- Redistribution: OK

JAXA Himawari server (P-TREE)

- ❑ Not open yet, but will be available in Aug. 2015.
 - L1 (every 10-minutes)
 - SST
 - ❑ 2km horizontal resolution
 - ❑ L2P : every 10-minutes, and L3C: 1-hour average
 - ❑ SST night product (L3C: 1-hour average) will be also available
 - Aerosols
 - ❑ in preparation
- ❑ Registration (automatic): <http://www.eorc.jaxa.jp/ptree/> (under construction)
- ❑ Data protocol: ftp (with UID and password)
- ❑ Data latency:
 - NRT mode: as soon as possible
 - Delayed mode: not available at the early stage
- ❑ Format:
 - SST is in GDS 2.0 (Other Himawari products will be also in NetCDF)
- ❑ Re-distribution:
 - JAXA L2 products including SST are OK.
 - L1 has restriction by JMA.

Issues to be discussed at G-XVI

- ❑ Discussion with GDAC to ingest JAXA GHRSSST dataset into their system
- ❑ SSES definition – our method is unusual?