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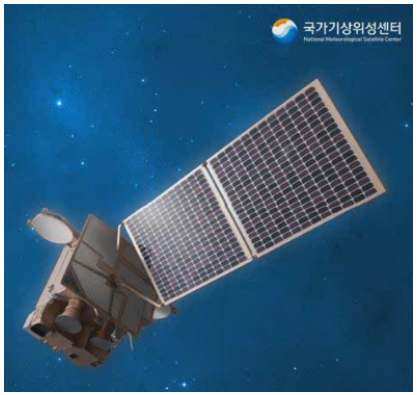
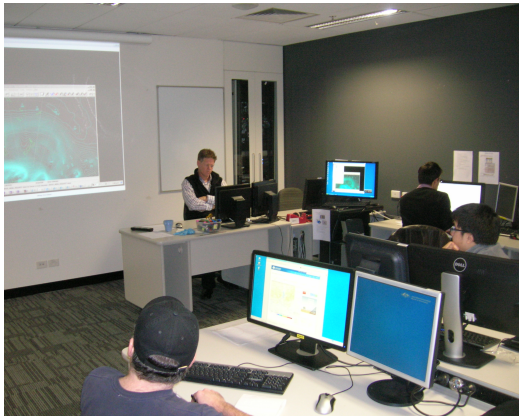
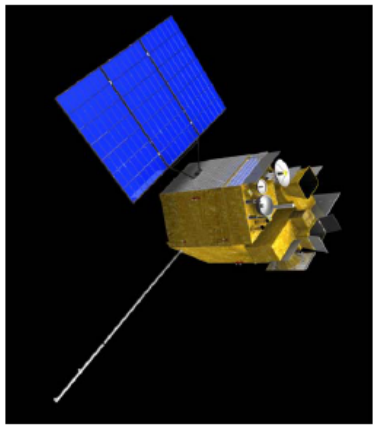
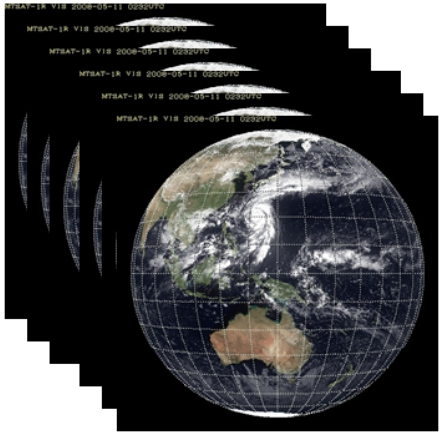
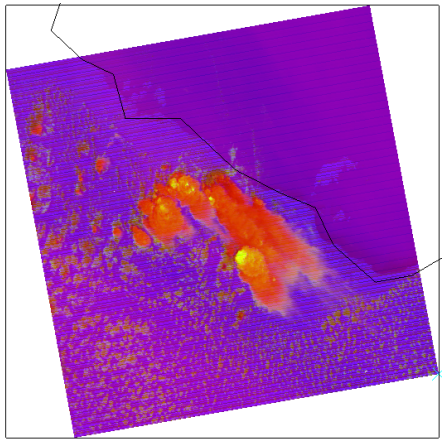






Regional Training Workshop on Preparation for Advanced Meteorological Imagers 7-8 October 2013. Bodo Zeschke BMTC





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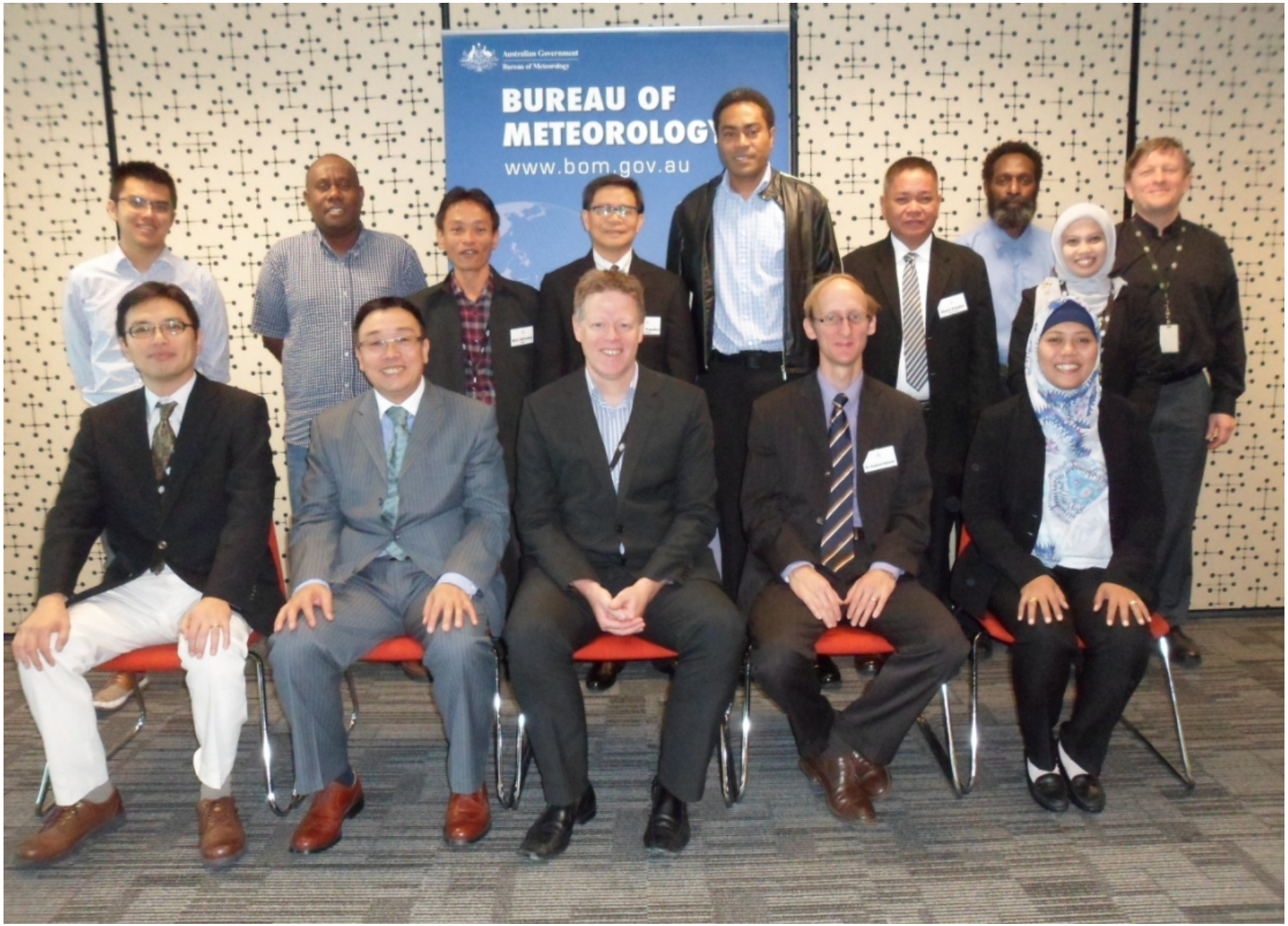
Aims of the Course

The purpose of this Training Workshop:

- To inform users about the expected changes associated with the launch of the new generation of satellites (Himawari-8, FY-4A, Geo-KOMPSAT-2A etc.).
- A platform for the launch of the Australian VLab Centre of Excellence Regional Focus Group meetings
- It was directed principally towards WMO Region V and Region II Operational Forecasters.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Timetable

WEBINAR SESSIONS IN BLUE

	Monday - 7 October		Tuesday – 8 October
9:00-10:00 AEST 22:00 – 23:00 UTC (6th October)	**Welcome** Chair of Satellite Users *(Dr A .Rea)* WMO representative *(Dr S. Bojinski)* BMTC Principal *(Mr R. Deslandes)* JMA representative *(Dr K. Bessho)* Course Manager *(Mr B. Zeschke)*	9:00-10:00 AEST 22:00 – 23:00 UTC (7th October)	**GOES-R Program** *(Dr S. Goodman)* **Polar Orbiting satellites** *(Dr M. Goldberg)*
10:15-10:45 AEST 23:15 – 23:45 UTC	**Background to Himawari 8/9 (JMA)** *(Dr K. Bessho - JMA)*	10:15-10:45 AEST 23:15 – 23:45 UTC	**Introduction to RGB & derived products** *(Mr B. Zeschke)*
10:45-11:15 AEST 23:45 – 00:15 UTC	**Planned future Chinese satellites** (CMA) *(Dr S. Bojinski)*	10:45-11:15 AEST 23:45 – 00:15 UTC	Workshop: **Satellite User Requirements in WMO Region V (SW-Pacific)** *(BoM OEB Policy & Strategy)*
11:30-12:00 AEST 00:30 – 01:00 UTC (7th October)	**Planned future Korean satellites** (Webinar session with KMA) *(Dr D. Kim - KMA)*	11:30-12:00 AEST 00:30 – 01:00 UTC (8th October)	
12:00-12:30 AEST 01:00 – 01:30 UTC	**Impact of Himawari 8/9 on BoM operations** *(Dr A. Rea)*	12:00-12:30 AEST 01:00 – 01:30 UTC	Workshop: **Creating RGB products from MODIS data.** **Examination of derived products.** *(Mr B. Zeschke)*
Lunch		Lunch	
2:00-5:00pm AEST 03:00 – 06:00 UTC	**Introduction to rapid scan imagery** *(Dr K. Bessho - JMA)* *(45 minutes duration)* Workshop: **Practical session using Rapid Scan Case Studies** *(Mr B. Zeschke)*	2:00-5:00pm AEST 03:00 – 06:00 UTC	(2:00-4:00pm) Workshop: **Creating RGB products from MODIS data.** **Examination of derived products.** *(Mr B. Zeschke)* (4:00-5:00pm) **V-Lab Regional Focus Group online presentation**

← 15 min break (Morning Tea)

← 15 min break

LUNCH

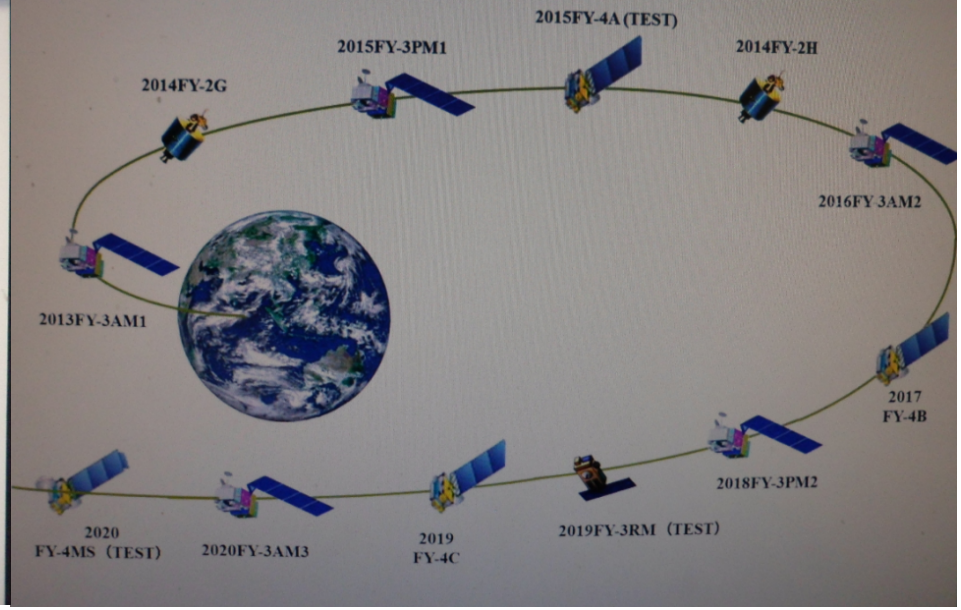
← 15 min break (3.45 to 4pm) (Afternoon Tea)

Status of Current and Future Satellite Programs of Japan Meteorological Agency

Kotaro BESSHO, Meteorological Satellite Center

気象庁 Japan Meteorological Agency JMA

Long-term Plan for CMA satellite



Current and future satellite mission, related products, and user support

Dohyeong Kim

National Meteorological Satellite Center
Korea Meteorological Administration
dkim@kma.go.kr

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Overview of User Preparedness

Two areas of preparedness

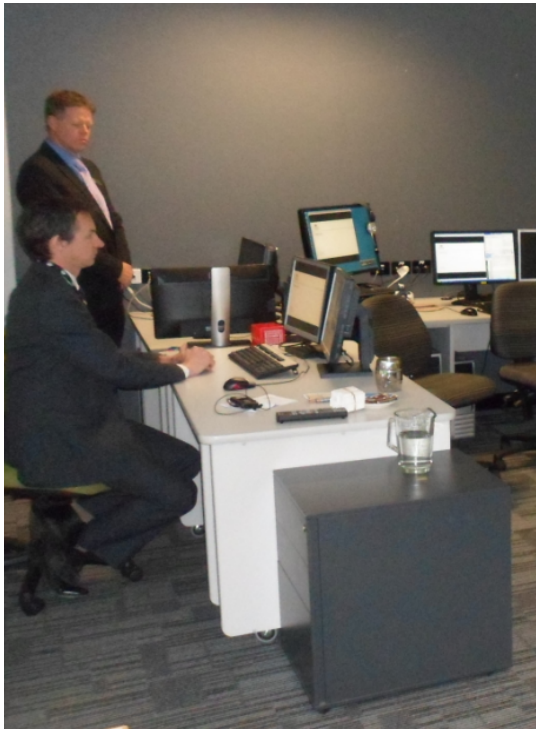
- New capability or
- Improved capability over what already exists

Continuity of service provision

- Critical path, maintaining services across the transition
- Legacy products and services

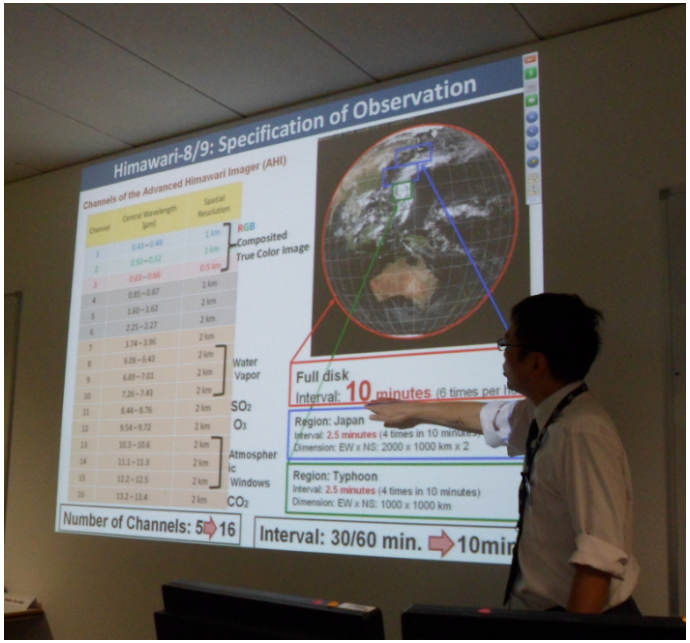
Maximising value of service

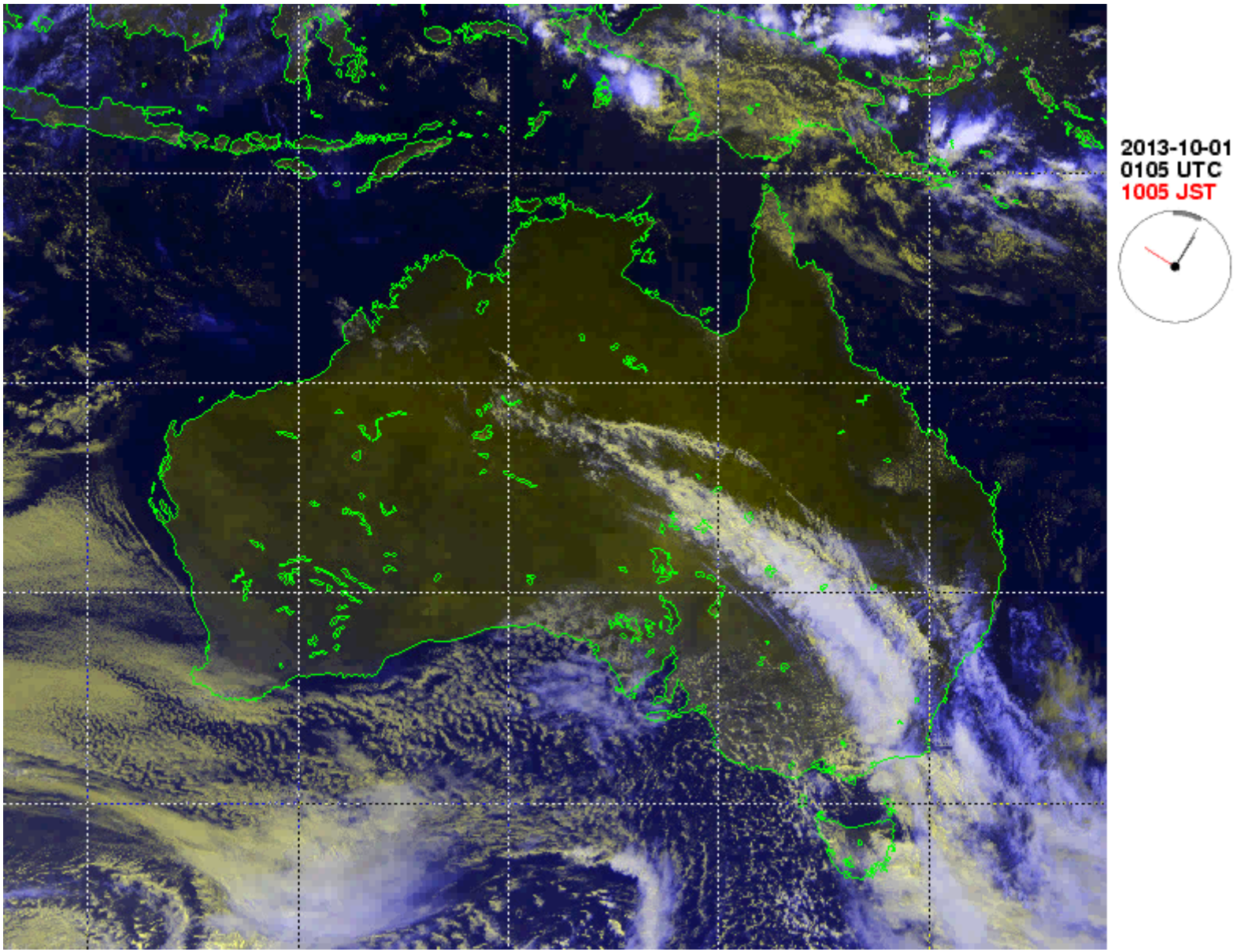
- Additional investment
- New products and services



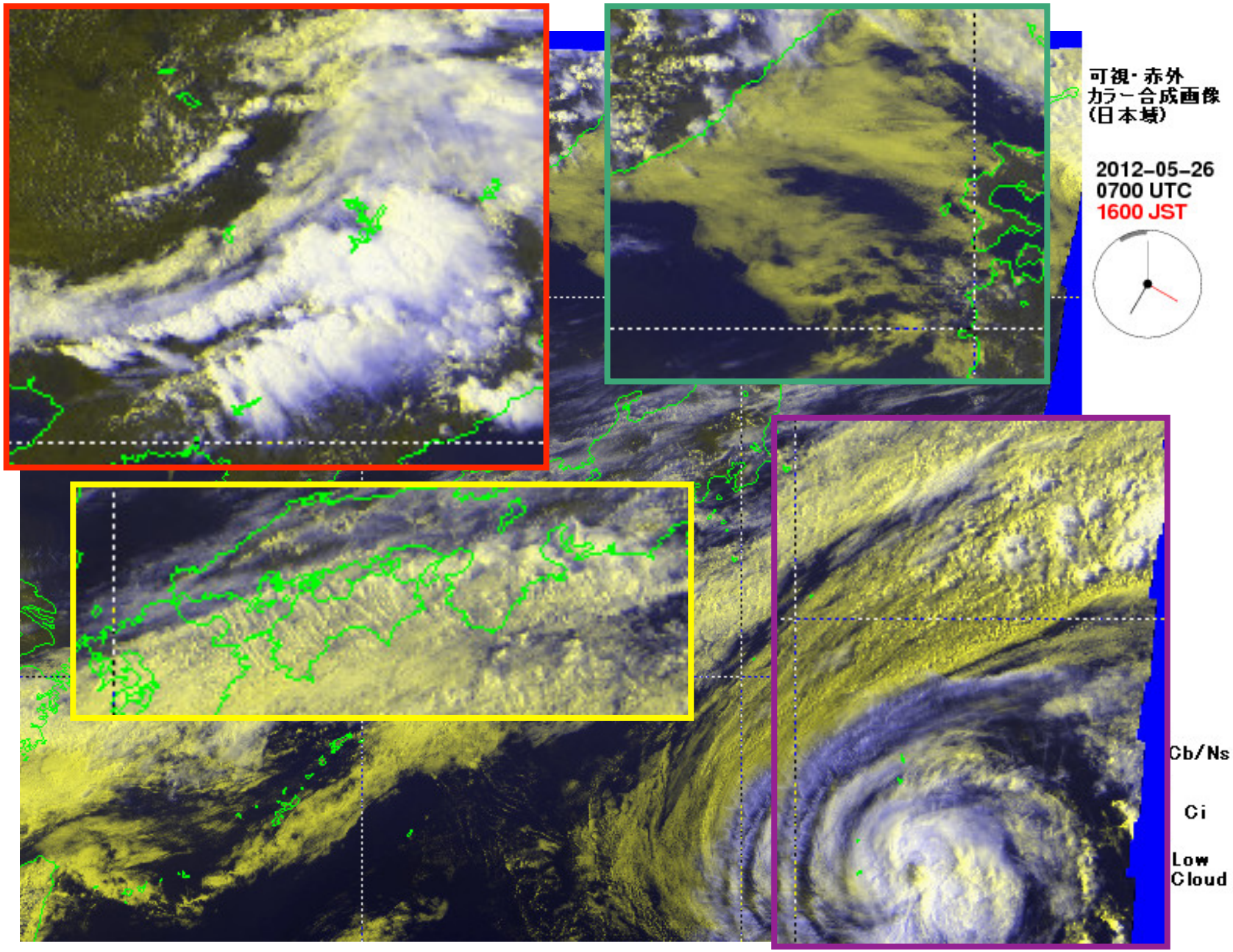

Mephanalysis information

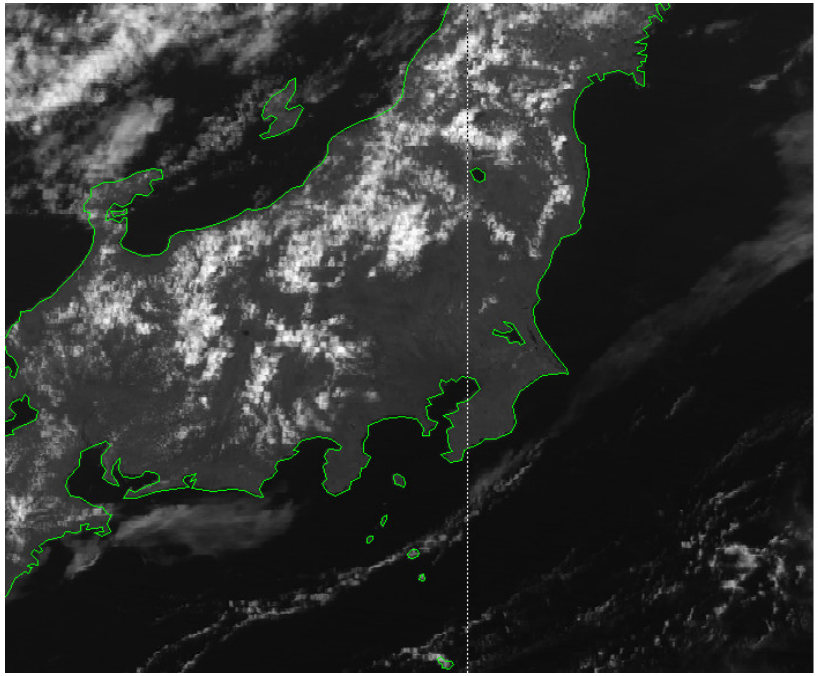

GIIRS Observation Modes


Himawari-8/9: Specification of Observation
Channels of the Advanced Himawari Imager (AHI)
Channel
Central Wavelength [μm]
Spatial Resolution
RGB Composited True Color Image
Water Vapor
SO2
O3
Atmospheric Windows
CO2
Full disk
Interval: 10 minutes (6 times per h
Region: Japan
Interval: 2.5 minutes (4 times in 10 minutes)
Dimension: EW x NS: 2000 x 1000 km x 2
Region: Typhoon
Interval: 2.5 minutes (4 times in 10 minutes)
Dimension: EW x NS: 1000 x 1000 km
Number of Channels: 5 16
Interval: 30/60 min. 10min



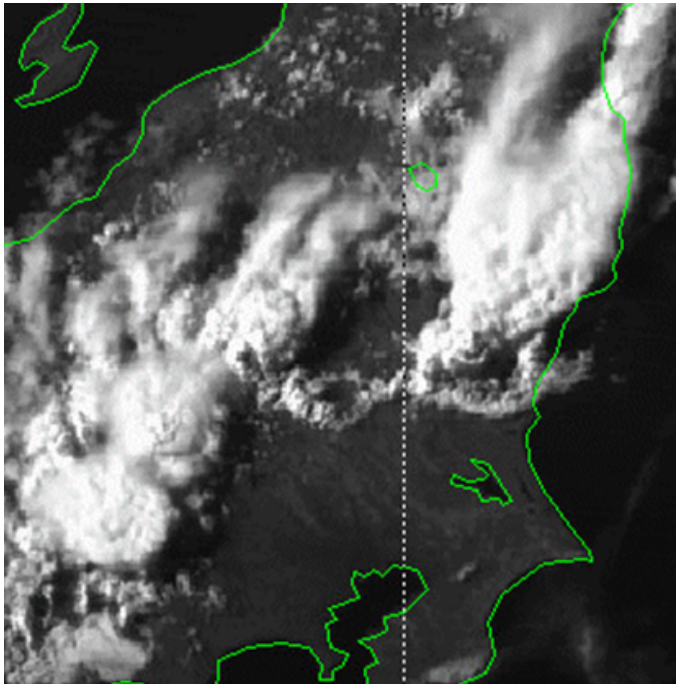
Animation courtesy Dr K.Bessho JMA

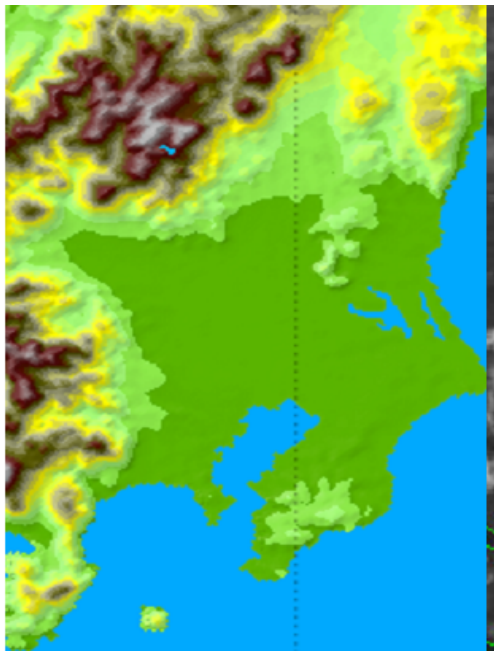

可視・赤外
カラー合成画像
(日本域)
2012-05-26
0700 UTC
1600 JST
Cb/Ns
Ci
Low
Cloud

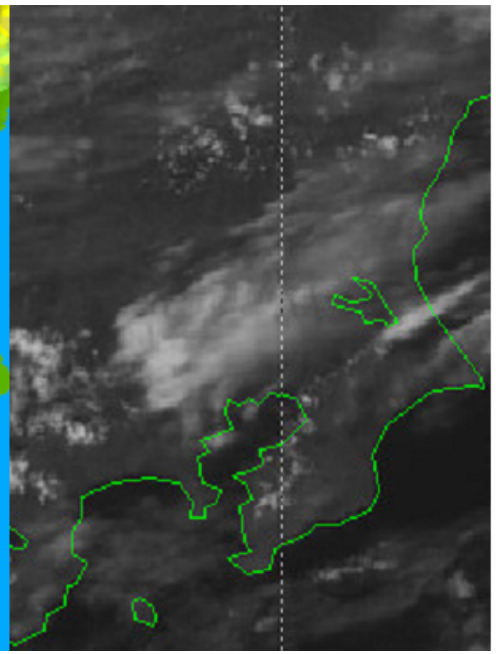


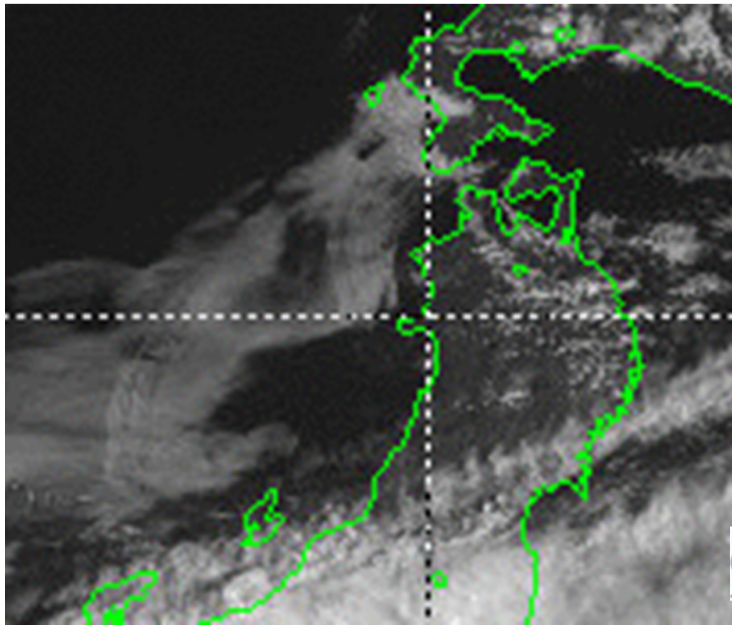
可視/赤外画像
(関東周辺)

2011-07-10
0300 UTC
1200 JST





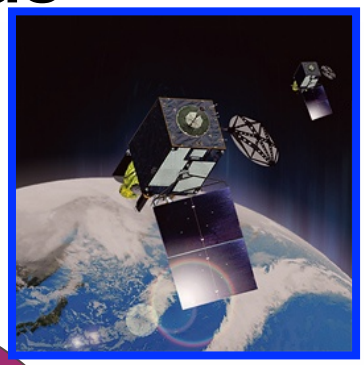




Changes from MTSAT 2 to Himawari 8 – increased number of bands

FROM 2015
Himawari 8

Band	Central Wavelength [μm]	Spatial Resolution
1	0.43 - 0.48	1Km
2	0.50 - 0.52	1Km
3	0.63 - 0.66	0.5Km
4	0.85 - 0.87	1Km
5	1.60 - 1.62	2Km
6	2.25 - 2.27	2Km
7	3.74 - 3.96	2Km
8	6.06 - 6.43	2Km
9	6.89 - 7.01	2Km
10	7.26 - 7.43	2Km
11	8.44 - 8.76	2Km
12	9.54 - 9.72	2Km
13	10.3 - 10.6	2Km
14	11.1- 11.3	2Km
15	12.2 - 12.5	2Km
16	13.2 - 13.4	2Km



NOW – MTSAT 2

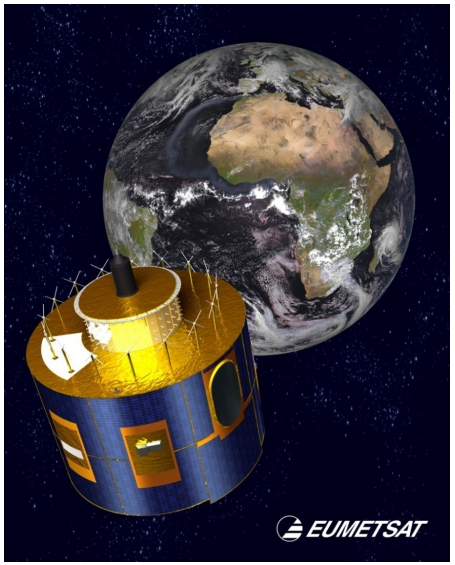
Band	Central Wavelength [μm]	Spatial Resolution
1	0.55 – 0.90	1Km
2	3.50 – 4.00	4Km
3	6.50- 7.00	4Km
4	10.3 – 11.3	4Km
5	11.5 – 12.5	4Km

気象庁
Japan Meteorological Agency

satellite images courtesy Japan Meteorological Agency (JMA)

MTSAT-2 image courtesy JMA, Himawari-8 image courtesy NASA

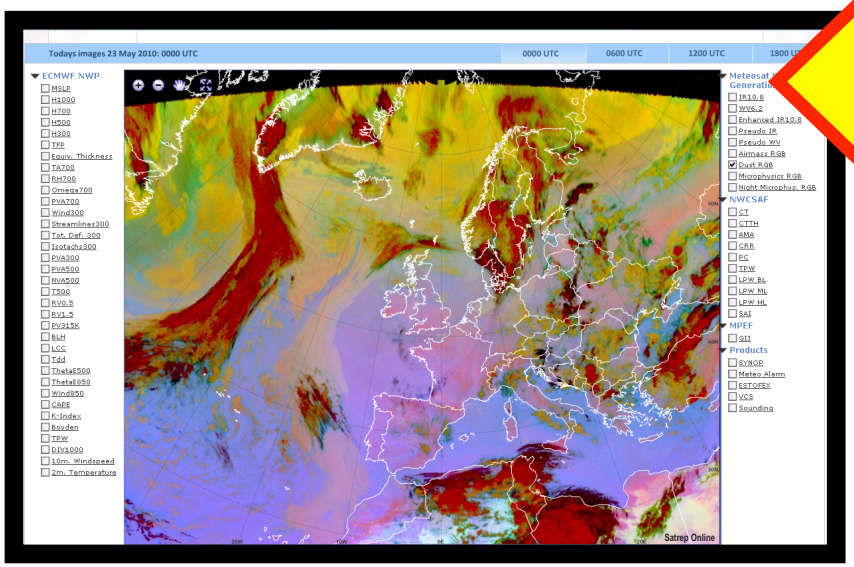
EUMETSAT processing of METEOSAT data



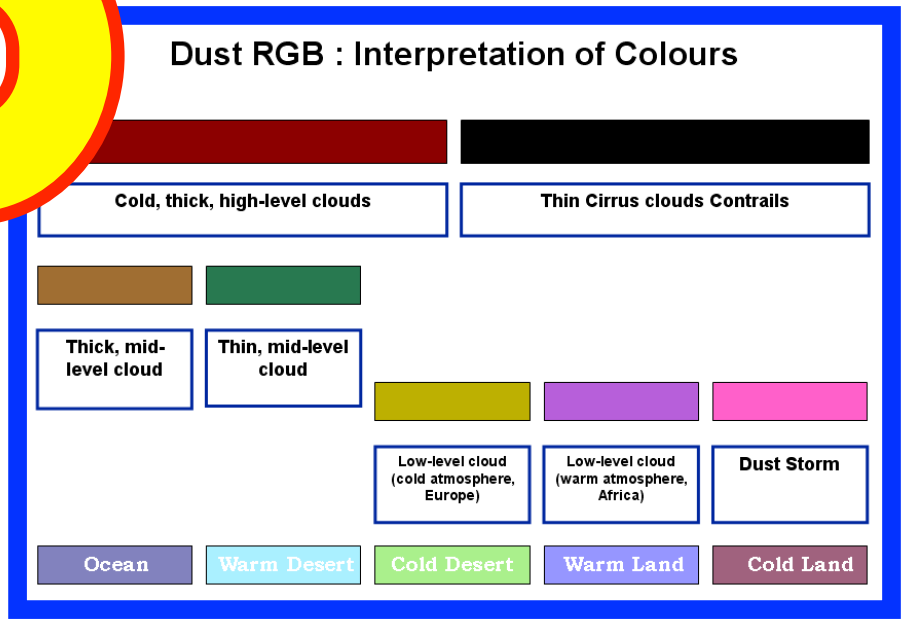
Recommended Range and Enhancement:

Beam	Channel	Range	Gamma	Gamma2
Red	IR12.0 - IR10.8	-4 … +2	1.0	1.0
Green	IR10.8 - IR8.7	0 … +15	2.5	1.0
Blue	IR10.8	+261 … +289	1.0	1.0

CHANNEL COMBINATION



SATREP ONLINE

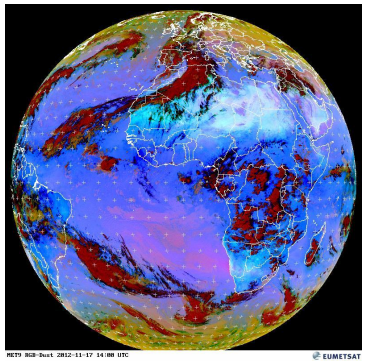


COLOUR INTERPRETATON

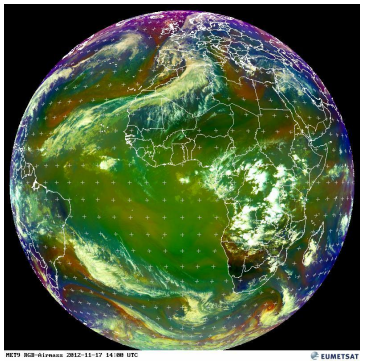
EUMETSAT = European Organization for the Exploitation of Meteorological Satellites

RGB products for Operational Forecasting – EumetSAT recommendation

Two RGB composites which complement each other



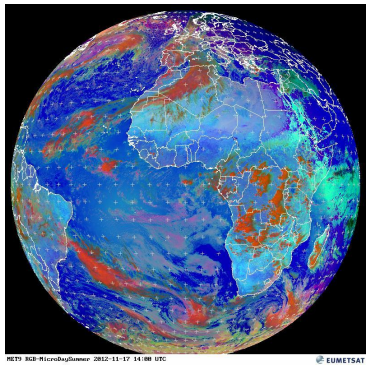
24 hour Microphysical RGB



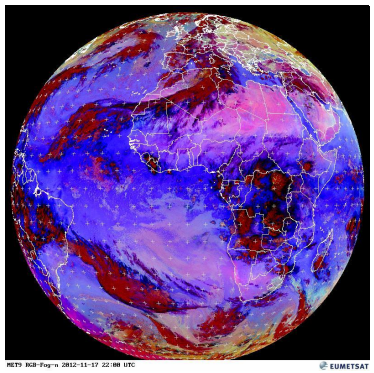
Airmass RGB

from RGB Products Overview (RGB Tutorial)
J. Kerkmann EumetSAT

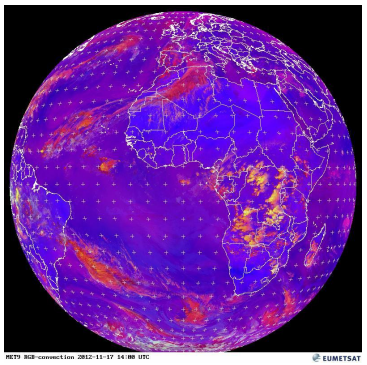
Five application specific RGBs



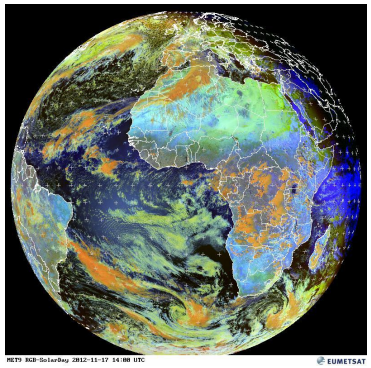
Day Microphysical RGB



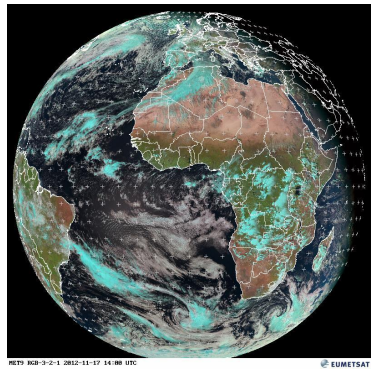
Night Microphysical RGB



Day Severe Convection RGB



Snow / fog RGB



Natural Colours RGB

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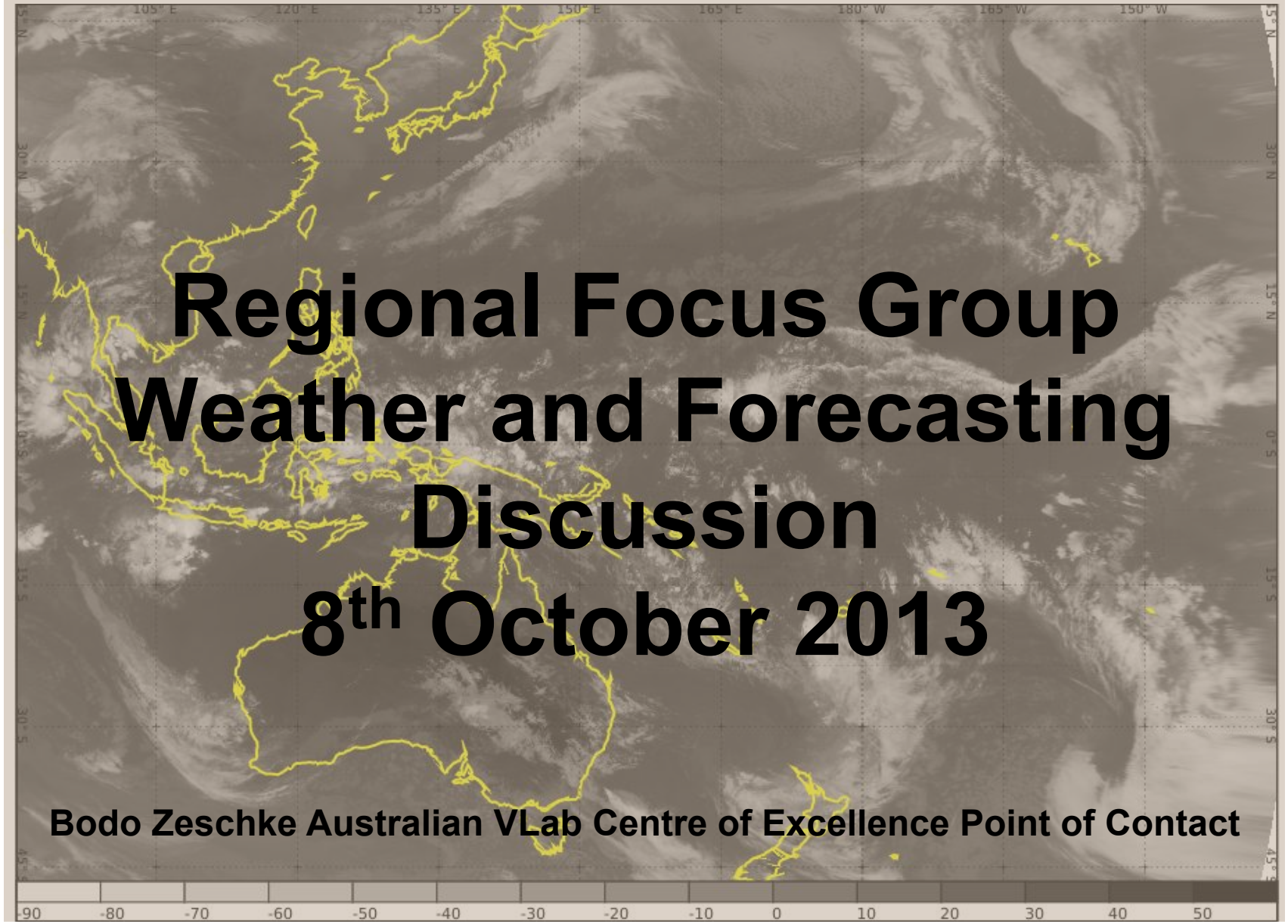
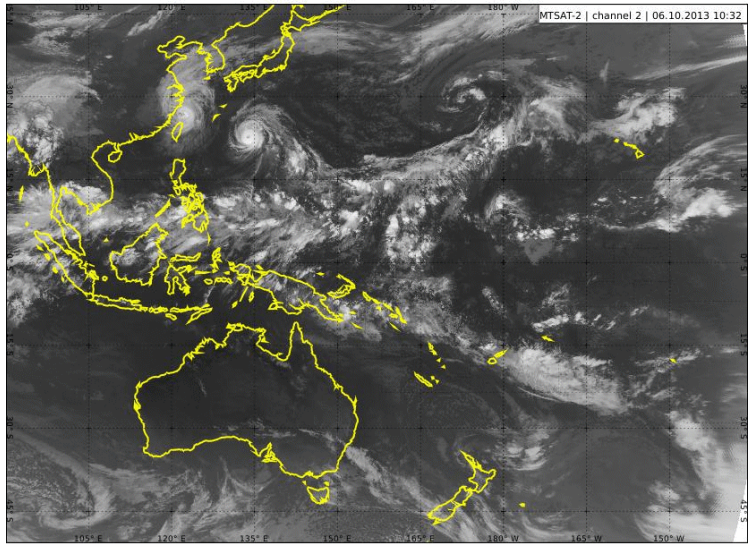
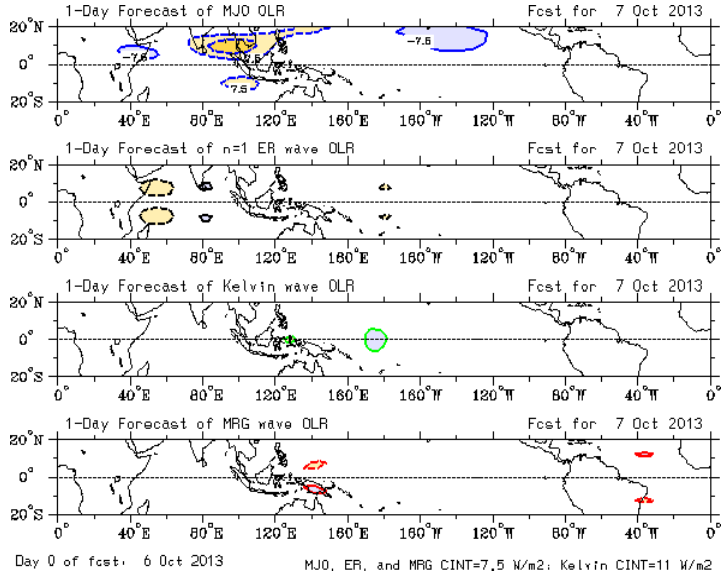


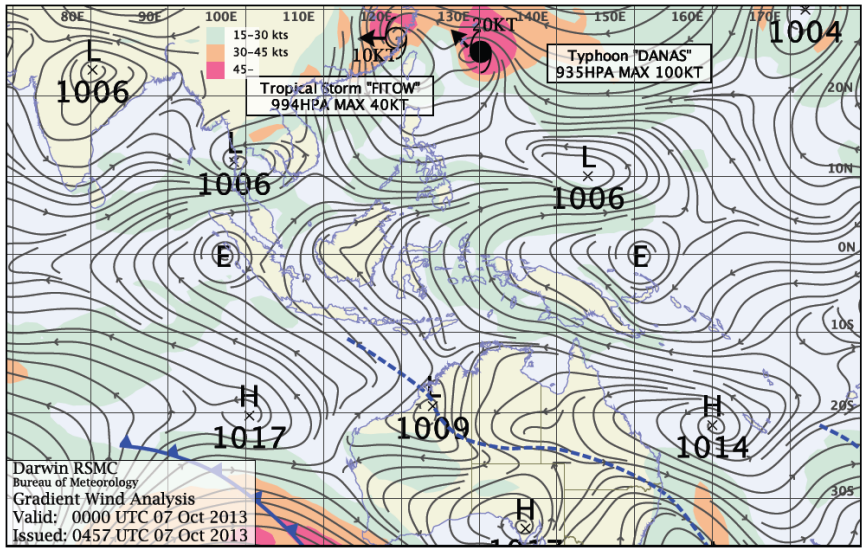
Regional Focus Group Weather and Forecasting Discussion 8th October 2013

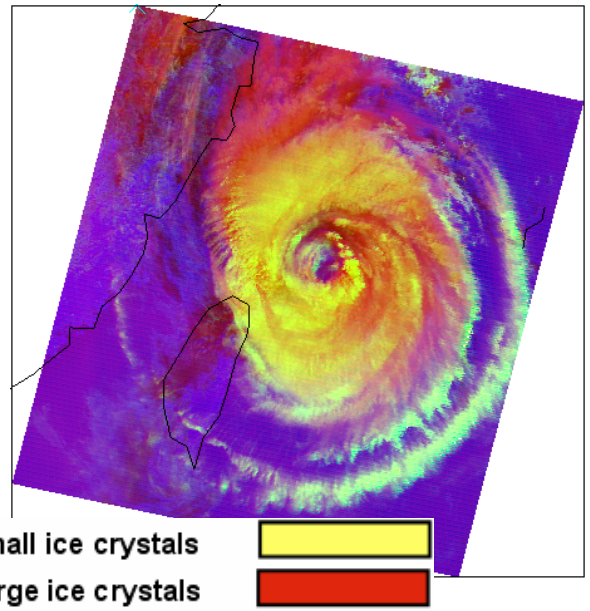
Bodo Zeschke Australian VLab Centre of Excellence Point of Contact

Regional Focus Group meeting ...









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Training Workshop legacy …

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Training Workshop legacy …

http://www.virtuallab.bom.gov.au/events/aomsuc-training/training-workshop-webinar-registration/

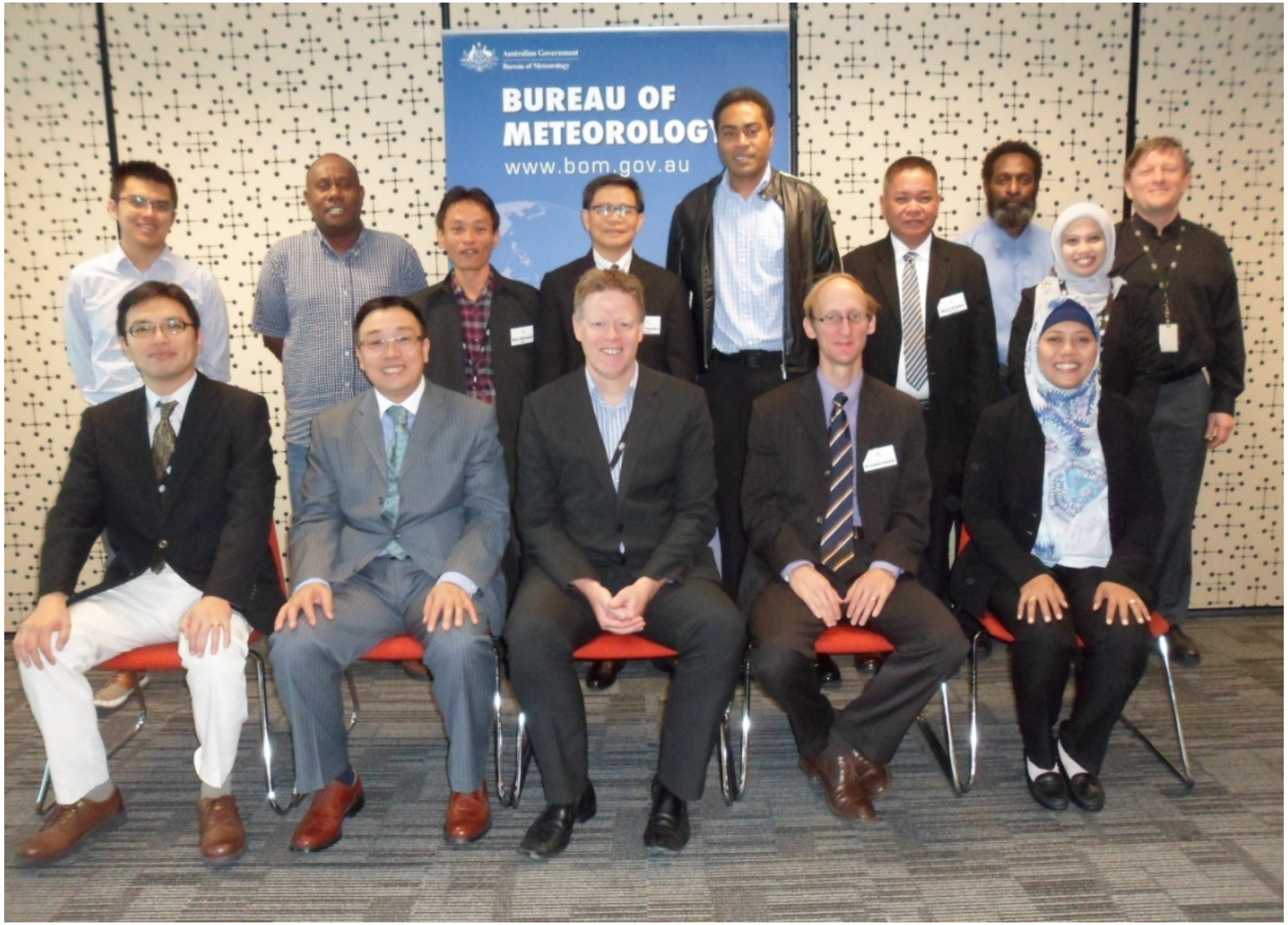
Time (AEST)	Time (UTC)	Monday 7th October
0900 - 1000	2200 (6th October) - 2300 (6th October)	**Welcome** Chair of Satellite Users (Dr A. Rea) WMO representative (Dr S.Bojinski) BMTC Principal (Mr R. Deslandes) JMA representative (Dr K.Bessho) Course Manager (Mr B.Zeschke) REGISTER QUESTIONS, COMMENTS AND FEEDBACK HERE

A few higher order outcomes from the Regional Training Workshop on Preparation for Advanced Meteorological Imagers (provided by Roger Deslandes):

- A "task team" meeting of stakeholders was convened to progress and review the survey data regarding Region V satellite user requirements;
- As a CoE in the CGMS-WMO V-Lab for education and training in Satellite meteorology the BMTC launched its first "official" online Regional Focus Group (RFG) as part of the training event. The participants of the training event were officially invited and welcomed as members of the RFG. This online forum will be held monthly to conduct ongoing training and weather briefings with Regional members.
- Participants received overviews of planned activities and capabilities of future satellite from Satellite providers (JMA, CMA, KMA)
- Participants overviewed the background and benefits of rapid scan imagery and multi-spectral products such as RGB products.

Training Workshop summary ..

- WMO RAV and RAII attendees from Australia, Japan, Indonesia, Singapore, Philippines, Papua New Guinea, Solomon Islands, Vanuatu, Fiji, Samoa, Europe.
- It was a great advantage to have the Japan Meteorological Agency representative Dr.K. Bessho explaining the data and data dissemination of the Himawari 8 and 9
- The rapid scan images provided by JMA and the RGB products, particularly the Eumetsat online resources (ePort) were invaluable during the afternoon practical sessions.
- The input from distinguished guests, including Dr Bojinski, Dr Zhang and my boss Roger Deslandes.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Thank you…