New developments in the GERB product suite: BARG and HR Edition release

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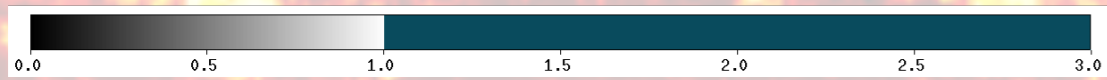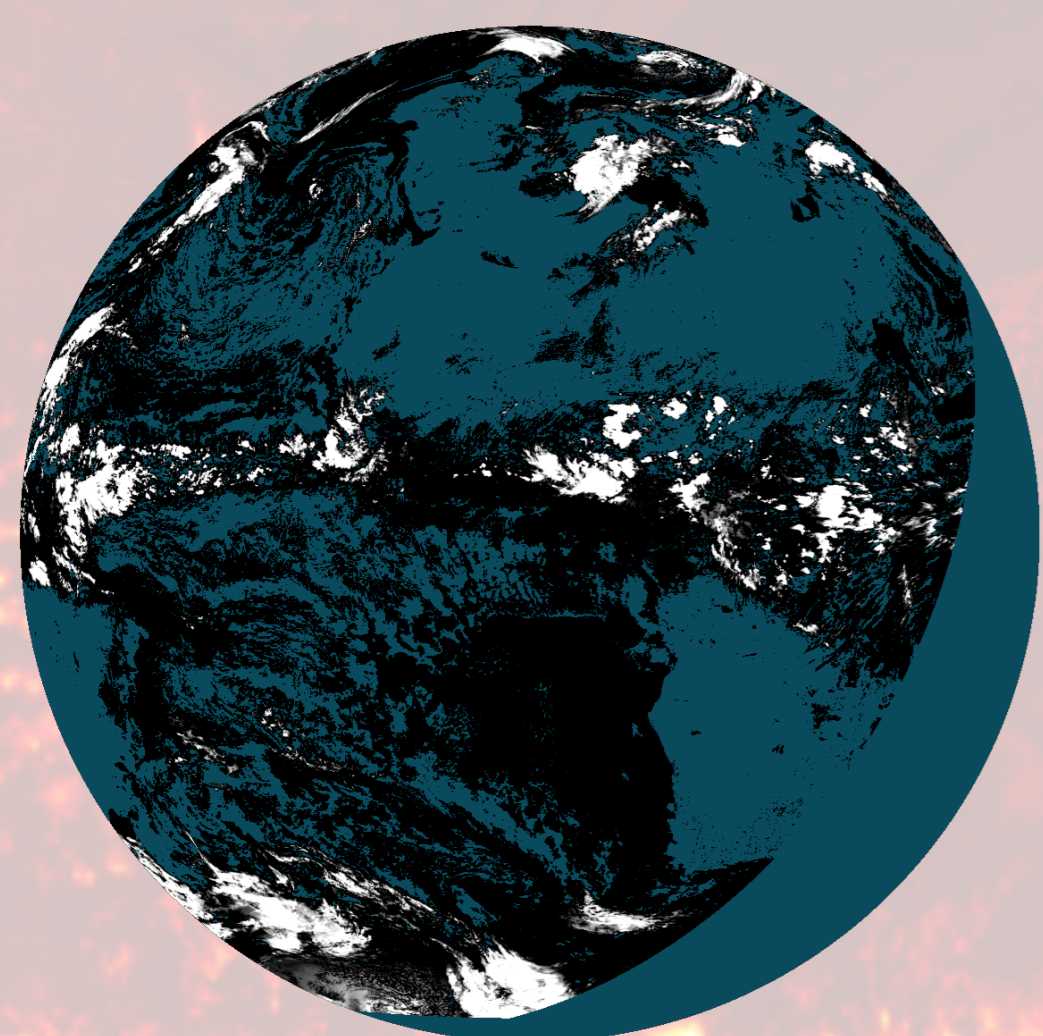
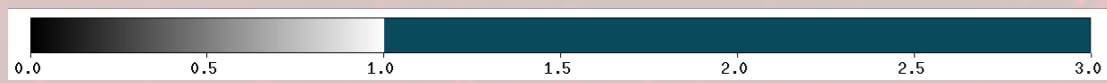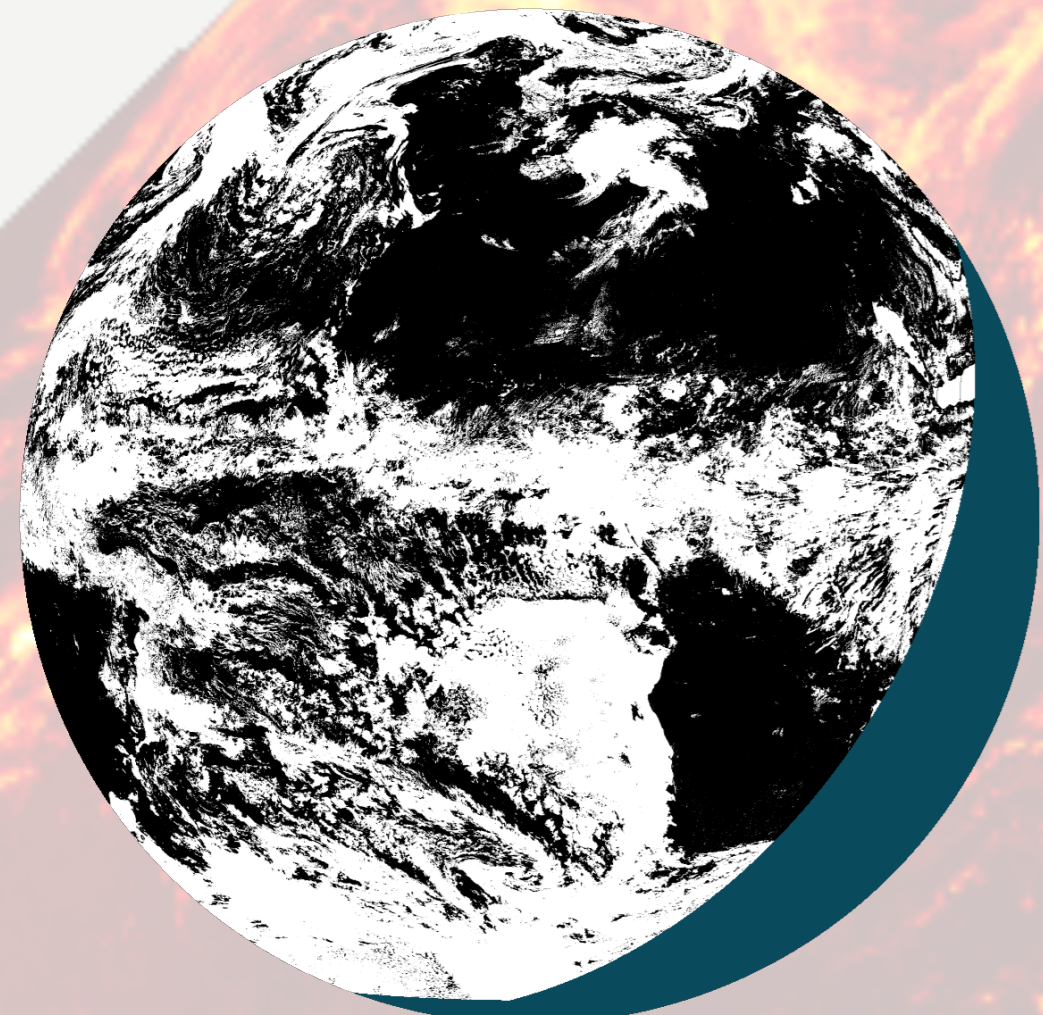edward.baudrez@meteo.be   h.brindley@imperial.ac.uk (PI)   Royal Meteorological Institute of Belgium
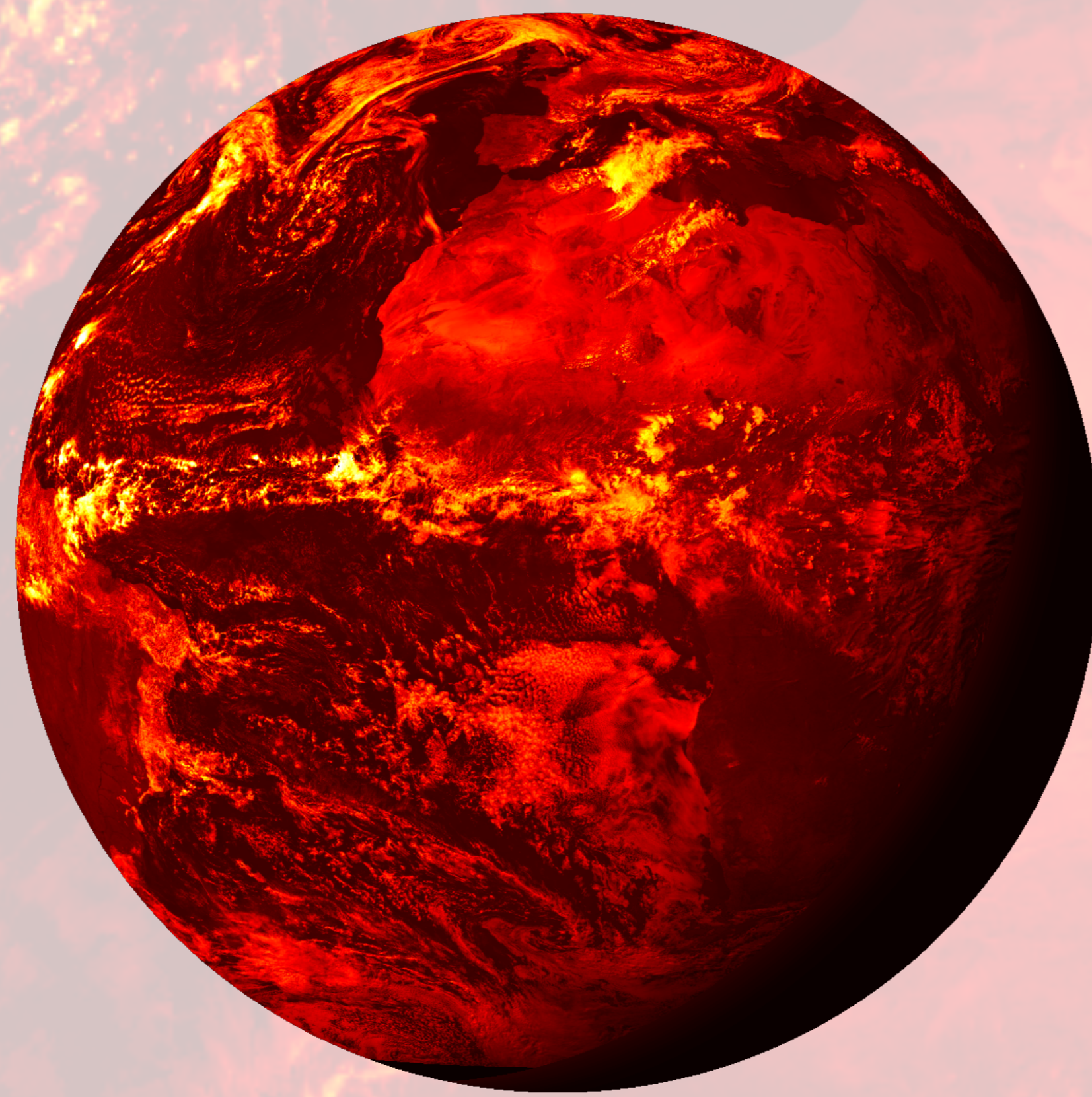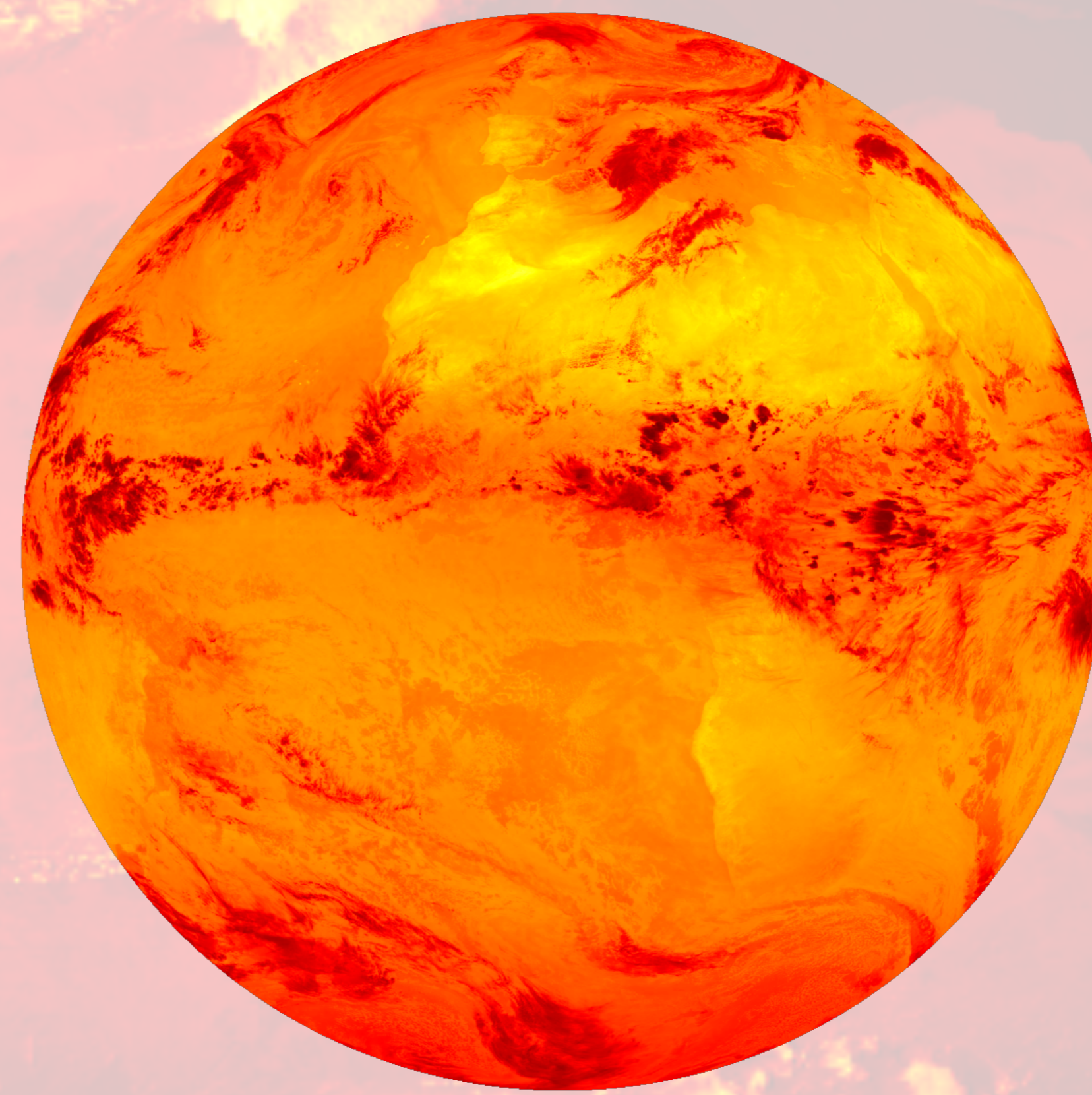j.e.russell@imperial.ac.uk   gerb@meteo.be (RMIB team)   *Imperial College, London, UK
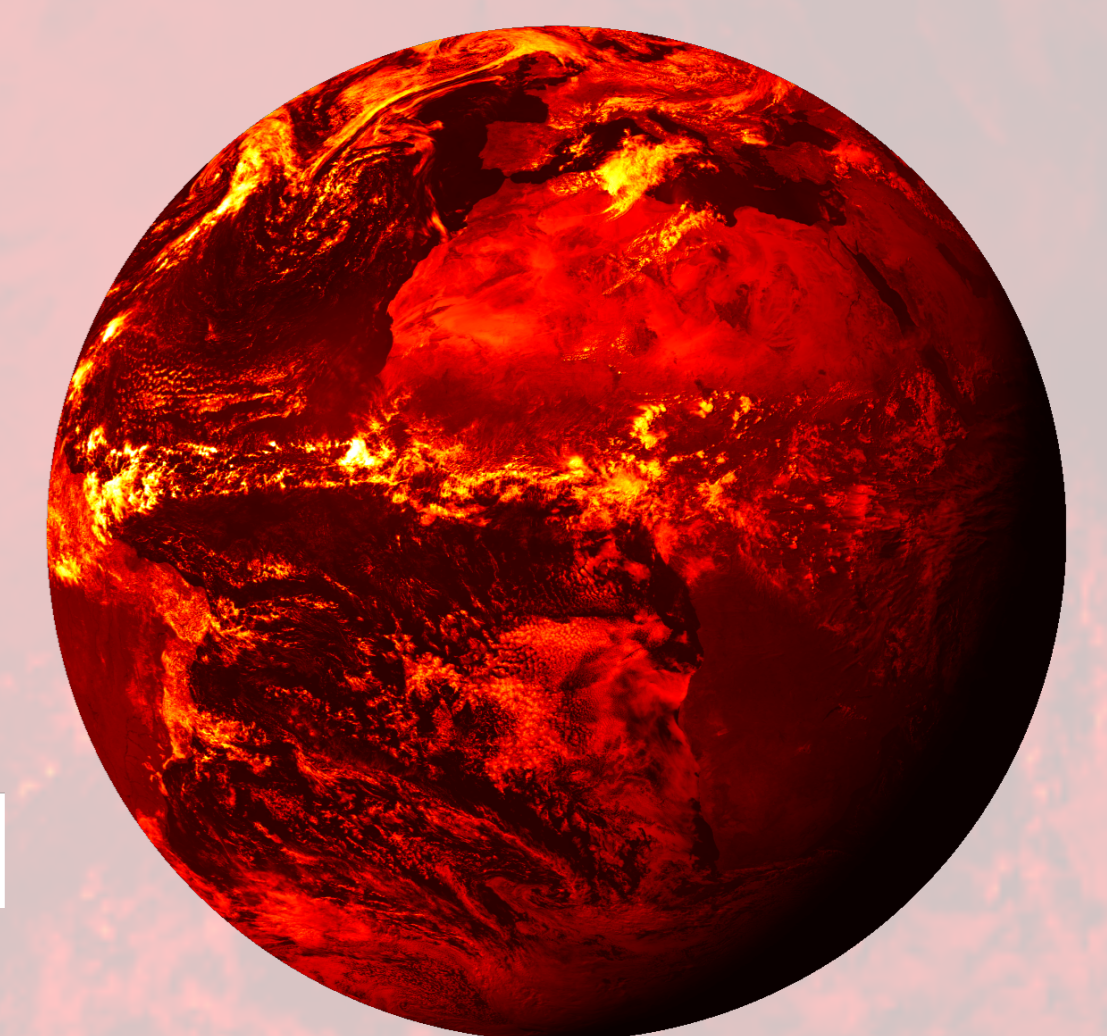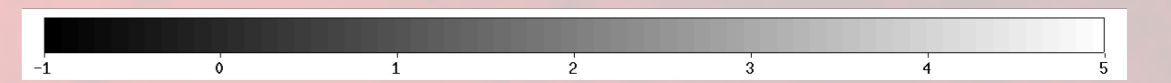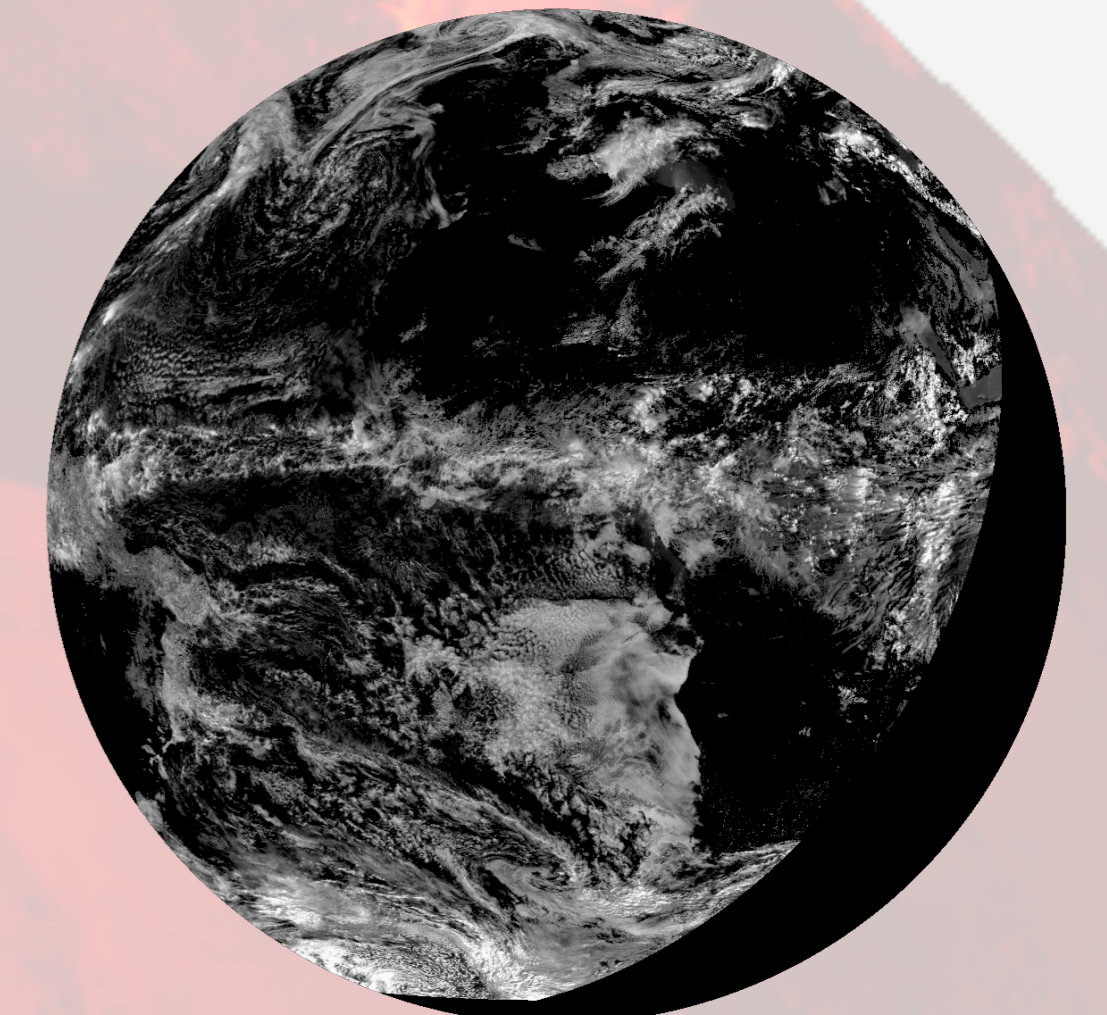
L2 HR product: solar flux, W m^{-2}   **L2 HR product: thermal flux, W m^{-2}**

16 June 2004, 14:30 UTC
(all images from High Resolution product unless noted otherwise)

cloud cover & cloud phase (0 = water, 1 = ice)

log(COD) & solar radiance (W m^{-2} sr^{-1})

Specifications

Geostatinary Earth Radiation Budget (GERB) radiometer

- orbit: geostationary at -3.5°W (GERB-2), 0°E (GERB-1 and -3)
- spatial coverage: Meteosat field of view
- temporal coverage: currently February 2004 - January 2013
- spatial resolution: 9 / 45 km at nadir (HR / BARG)
- temporal resolution: 15 minutes
- contains top-of-atmosphere (TOA) reflected solar and emitted thermal fluxes, scene identification (cloud mask, surface type, ...), viewing angles, quality flags, ...

L2 ARG product
(Averaged Rectified Geolocated)
solar & thermal flux, W m^{-2}
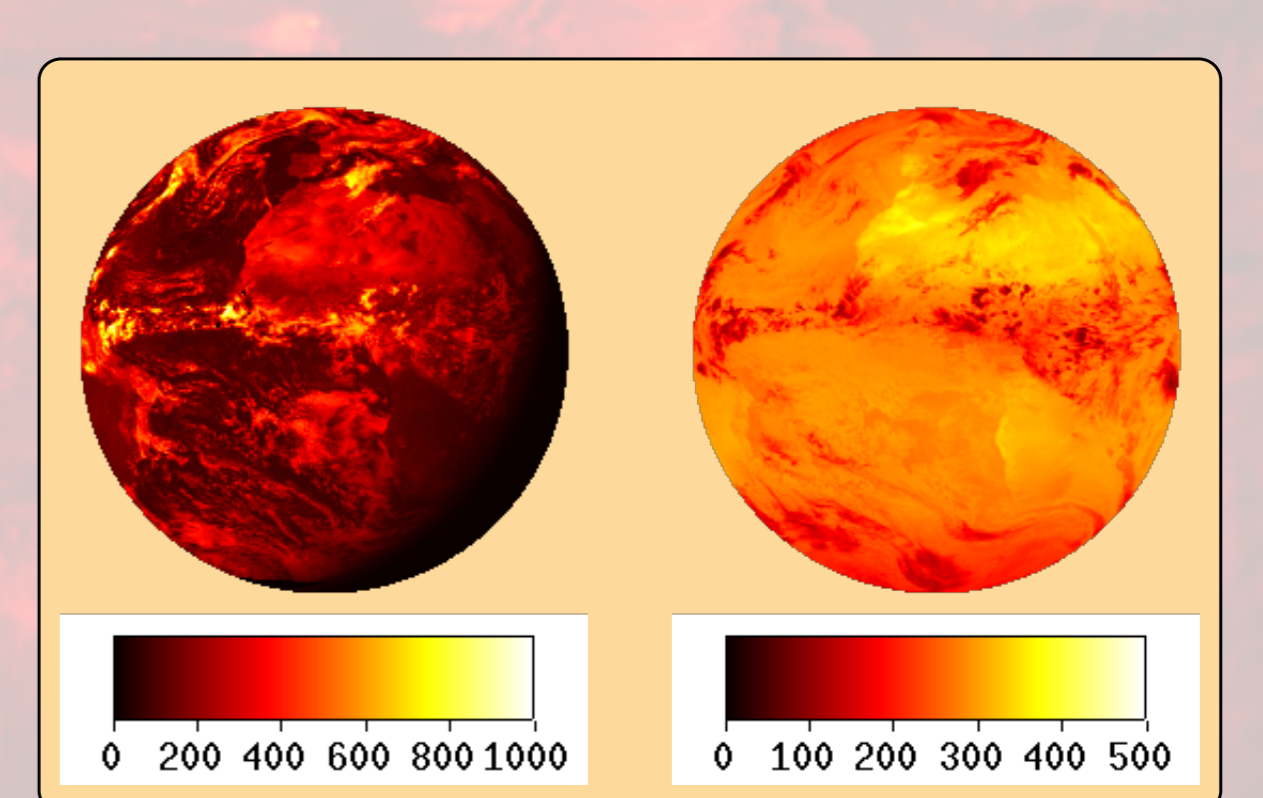
L2 BARG product
(Binned Averaged Rectified Geolocated)
solar & thermal flux, W m^{-2}

Applications

- as input to radiation budget studies
- cloud and aerosol radiative forcing
- NWP/climate model validation
- studying small-scale, fast processes
- climate monitoring (TOA flux daily/monthly means)
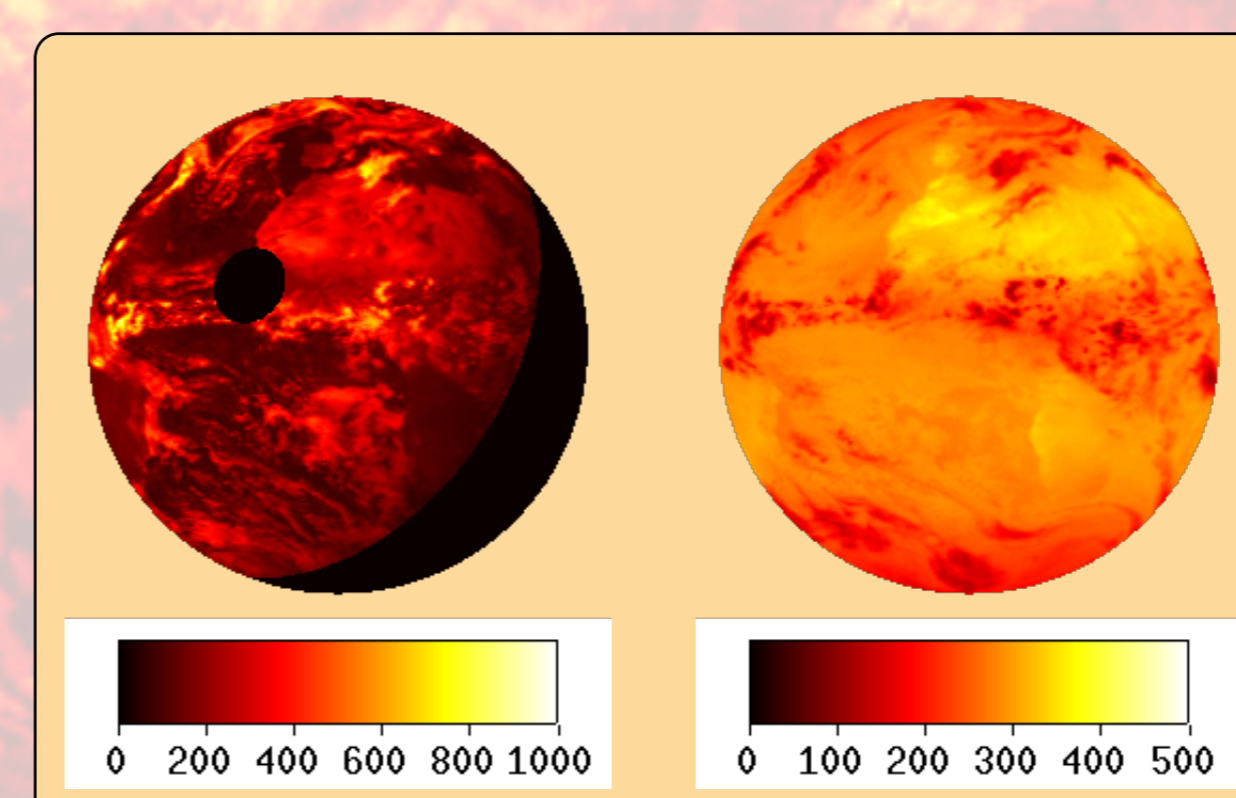
Strong points

- Point Spread Function (PSF)-free
- full diurnal cycle captured
- high spatial & temporal resolution
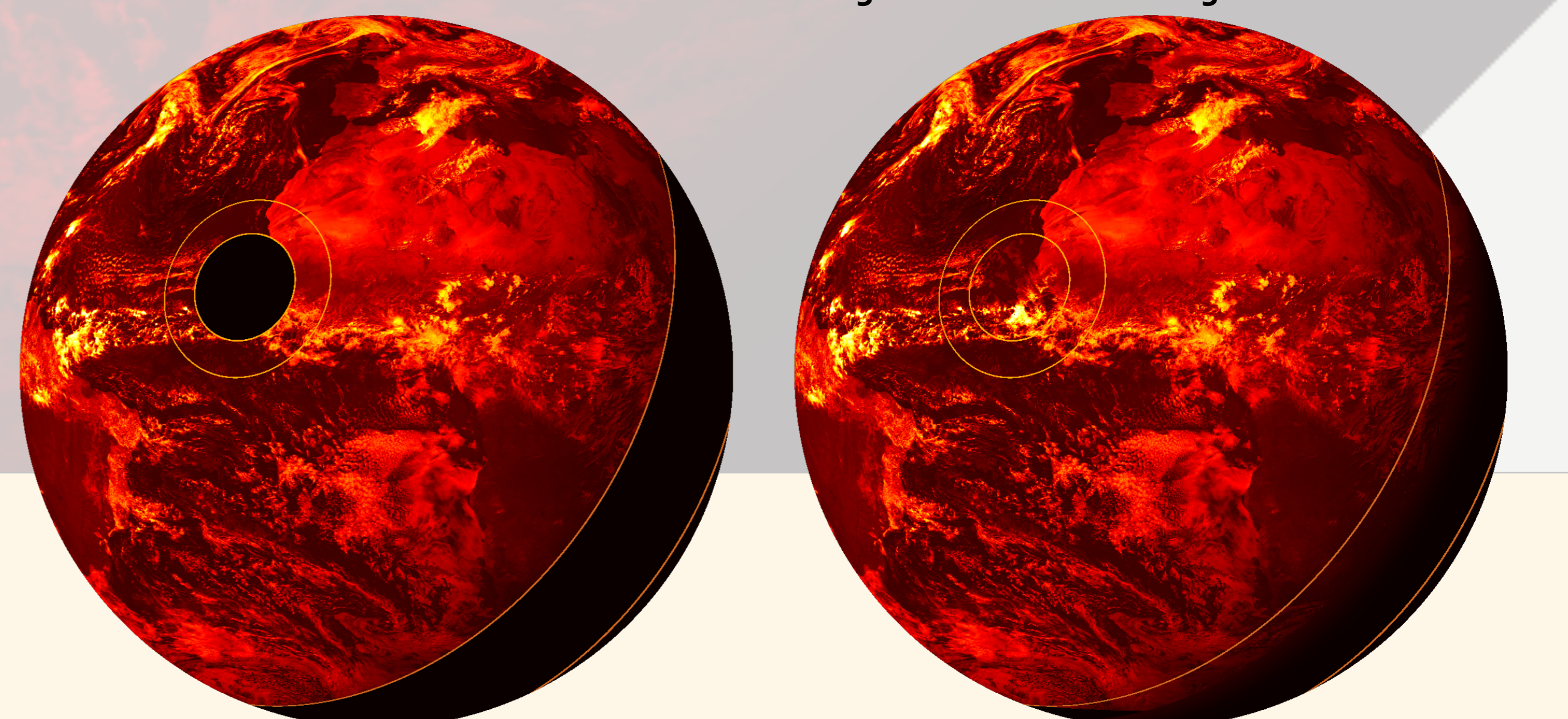- synergy with SEVIRI

Latest changes

- improved reflected solar flux processing in sun glint region
- reflected solar flux processing and modelling in terminator region
- addition of quality flags

How to obtain

- RMIB: http://gerb.oma.be
- British Atmospheric Data Center (coming soon): http://badc.nerc.ac.uk/gerb
- free download after registration

reflected solar flux, W m^{-2}, L2 HR product: former version (left) & release candidate (right)
note filled and modified flux in sun glint & terminator region

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