

# Processing status and quality assessment of GOMOS, MIPAS and SCIAMACHY ESA dataset



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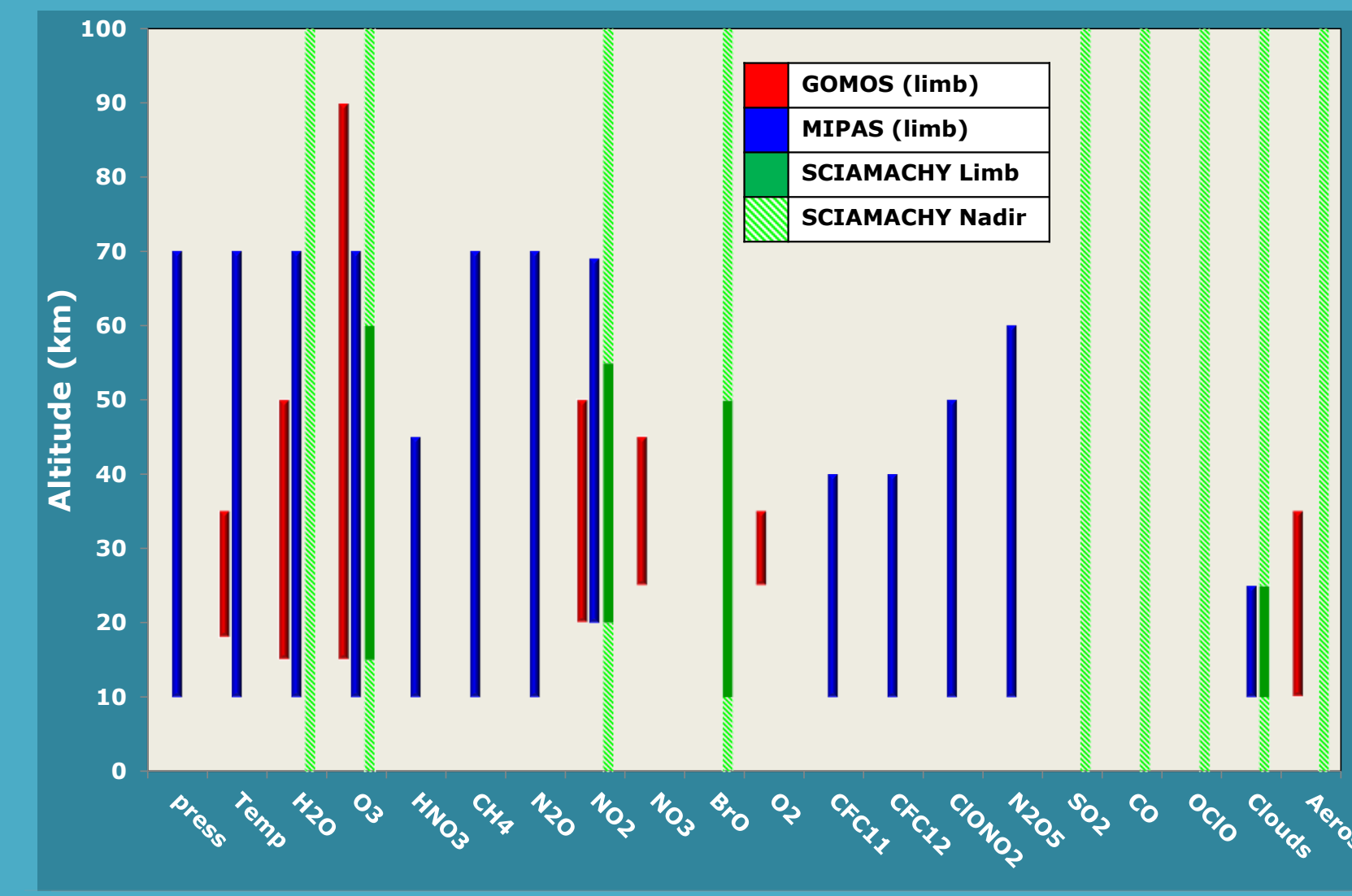
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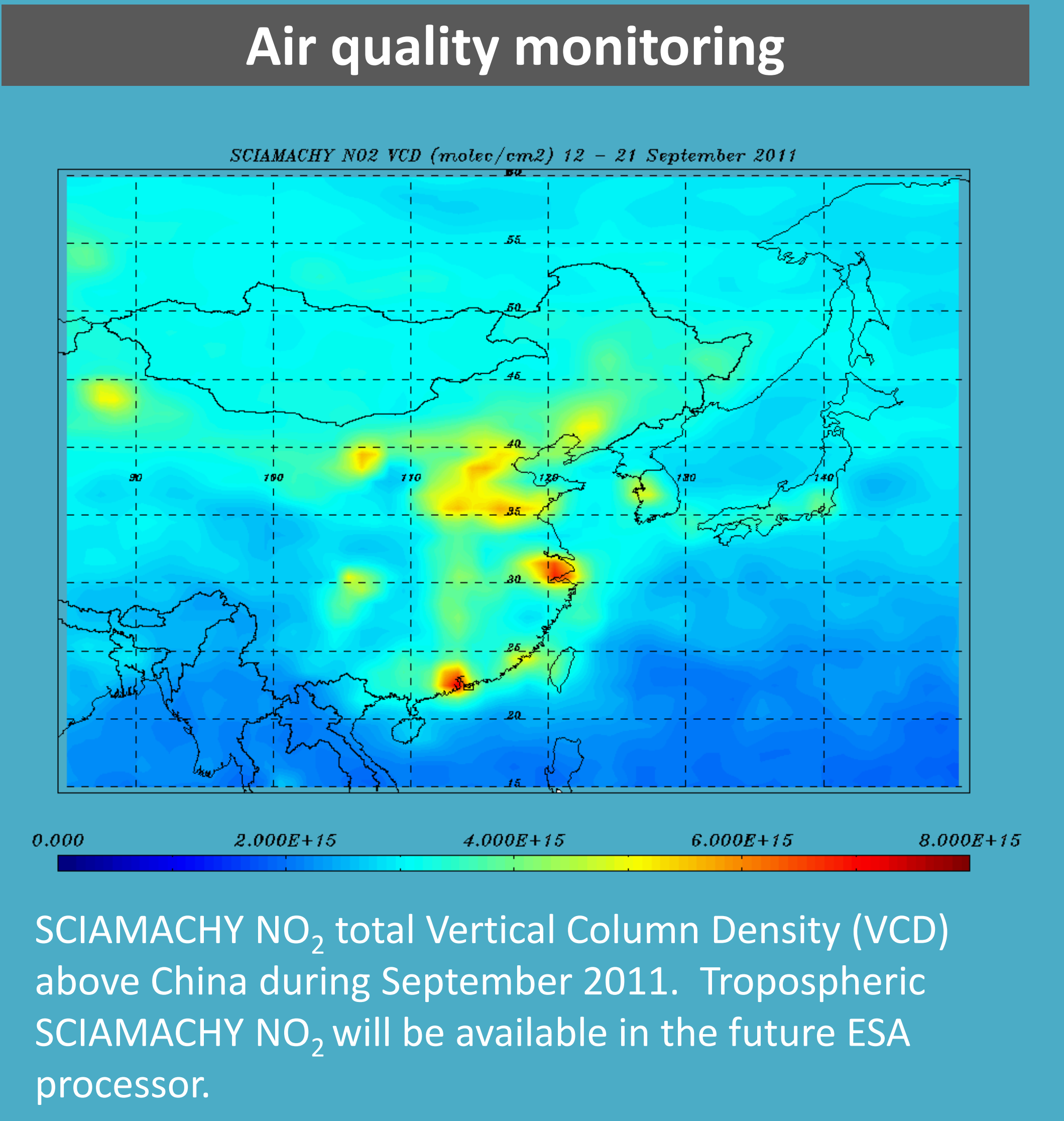
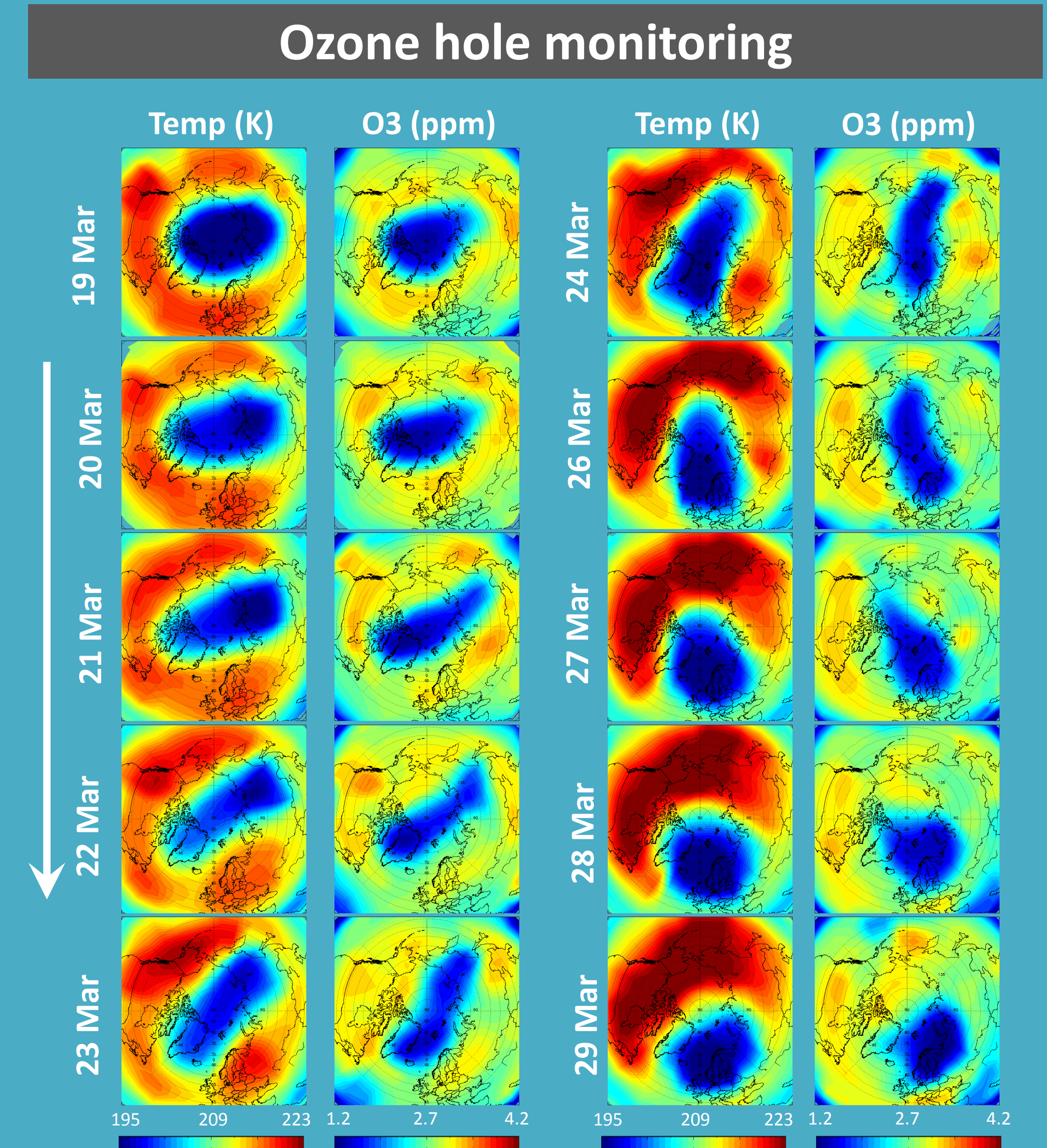
## The ENVISAT Atmospheric-Chemistry missions



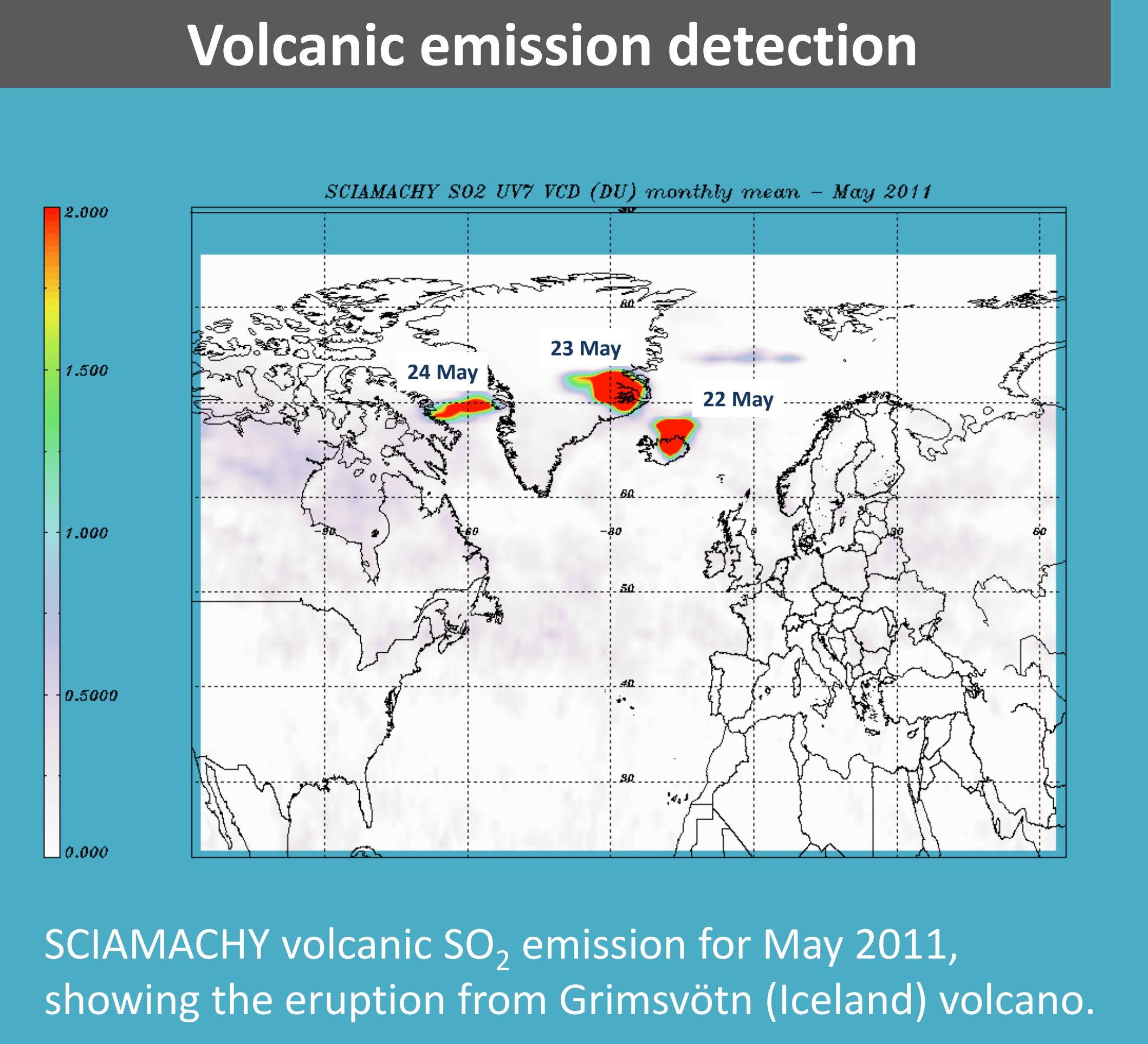
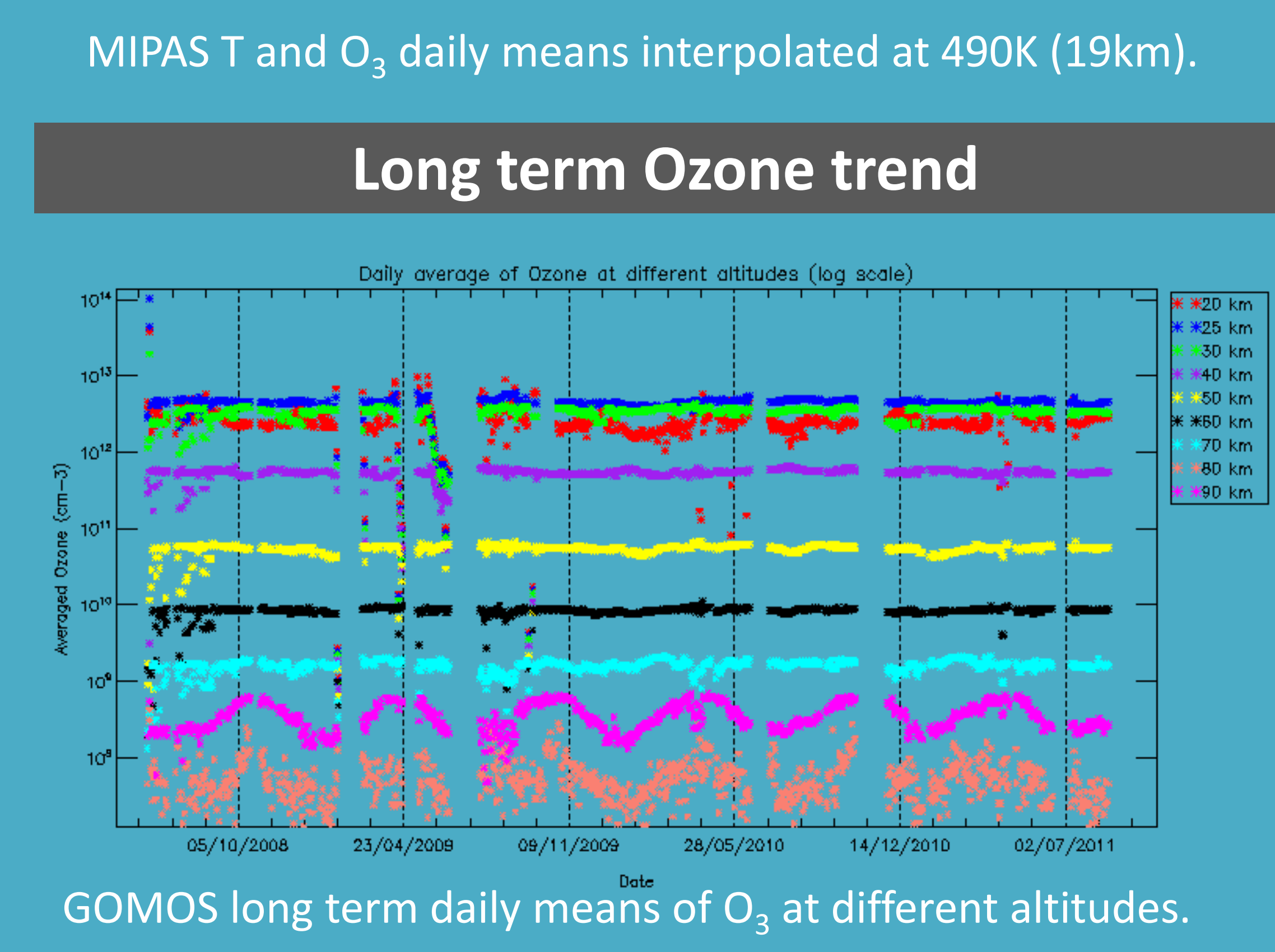
ENVISAT Specifications	
<b>Orbit</b>	Sun-synchronous polar orbit.
<b>Lifetime</b>	March 2002 – mid 2014 (expected)
<b>Atmo-Chem instruments</b>	GOMOS, MIPAS, SCIAMACHY
<b>Level 2 products</b>	Limb and Nadir products: see figure on the right.



## ESA operational dataset

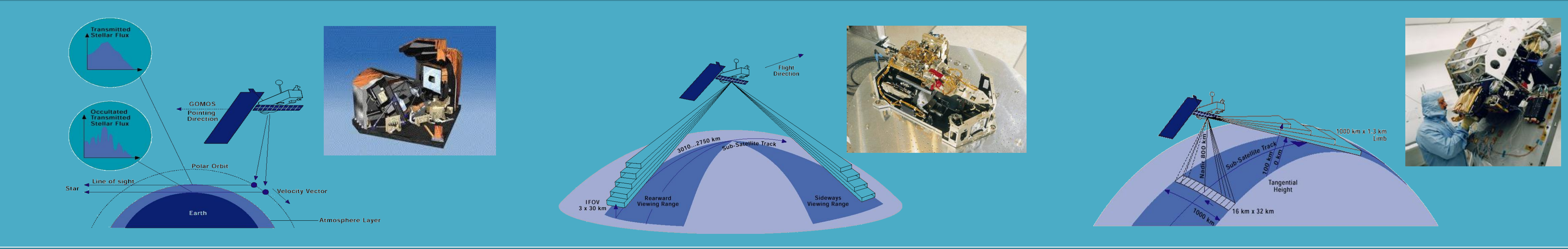


Applications of ESA products



Instrument Status

	GOMOS	MIPAS	SCIAMACHY
<b>Instrument Type</b>	Spectrometer measuring the UV, visible and near IR atmospheric spectrum using stellar occultation technique.	Michelson Interferometer measuring the thermal IR emission of the atmosphere with Limb viewing geometries.	Spectrometer observing back-scattered, reflected, transmitted or emitted radiation in nadir, limb, and sun/moon occultation.
<b>Instrument Status</b>	Critical. Serious instrument degradation observed.	Excellent in the Optimized Resolution mode.	Excellent.
<b>Mission extension</b>	Mission continuation depends on current anomaly study.	Continuation of the mission is expected.	Continuation of the mission is expected.



Processor Status

	IPF	NRT	OFL	Re-processing
<b>GOMOS</b>	Level 1: 6.01	6.01	6.01	6.01 (on-going)
<b>MIPAS</b>	Level 1: 5.06	5.06	5.05	5.05
<b>SCIAMACHY</b>	Level 1: 7.04	7.04	7.04	7.04
<b>Level 2</b>	6.01	6.01	6.01	6.01 (on-going)
<b>Level 2</b>	5.06	5.06	5.05; 6.00	5.05; 6.00
<b>Level 2</b>	5.02	5.02	5.02	5.02 (on-going)

The version 6 implements significant upgrades in the algorithm, mainly:

- Better characterization of the intra-pixel sensitivity allows improvement in the H<sub>2</sub>O retrieval
- Improved H RTP (High Resolution Temperature profiles) will be available
- The modeling error will be included in the covariance matrix in the inversion. Re-processing with version 6 is on-going.

The processor version 5 was activated in June 2010 for the Near-Real Time (NRT) and off-line (OFL) processing. Full mission re-processing with version 5 is completed for Level 1 and Level 2. Full mission Level 2 re-processing with V6 is completed, data will be soon distributed to expert users. The version 6 processor contains 4 additional species: CFC-11, CFC-12, ClONO<sub>2</sub>, N<sub>2</sub>O<sub>5</sub>.

The full-mission Level 1 reprocessing with IPF 7.04 is completed and will be made accessible. The Level 2 full-mission reprocessing with processor version 5.02 is on-going. A significant quality improvement is expected thanks to the optimization of the retrieval settings for SO<sub>2</sub>, OClO, CO, Aerosol Absorbing Index (AAI) and Clouds properties.

Information

Products	Availability	Retention	Distribution	Contact	Address
<b>NRT</b>	3h	10 days	DDS/ FTP	<b>Request</b>	Mail to: <a href="mailto:eohelp@esa.int">eohelp@esa.int</a>
<b>Off-line</b>	14 days	Full mission	FTP (D-PAC)	<b>Data Quality</b>	<a href="http://earth.eo.esa.int/pcs/envisat/">http://earth.eo.esa.int/pcs/envisat/</a>
<b>Re-processing</b>	With new IPF	Full mission	FTP (D-PAC)	<b>ESA/ENVISAT</b>	<a href="http://envisat.esa.int">http://envisat.esa.int</a>