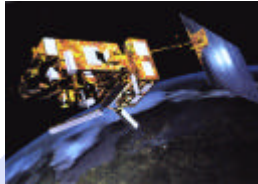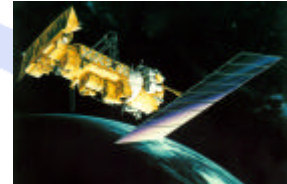# The ATOVS and AVHRR Product Processing Facility for EPS

Dieter Klaes, Jörg Ackermann, Rainer Schraidt, Tim Patterson, Peter Schlüssel, Pepe Phillips, Arlindo Arriaga and Jochen Grandell
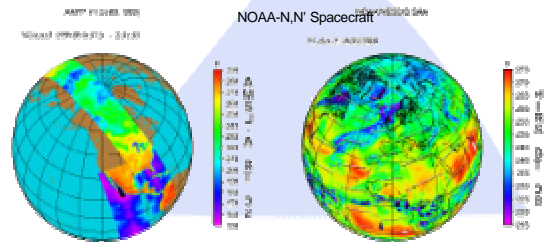
EUMETSAT
Am Kavalleriesand 31
D-64295 Darmstadt
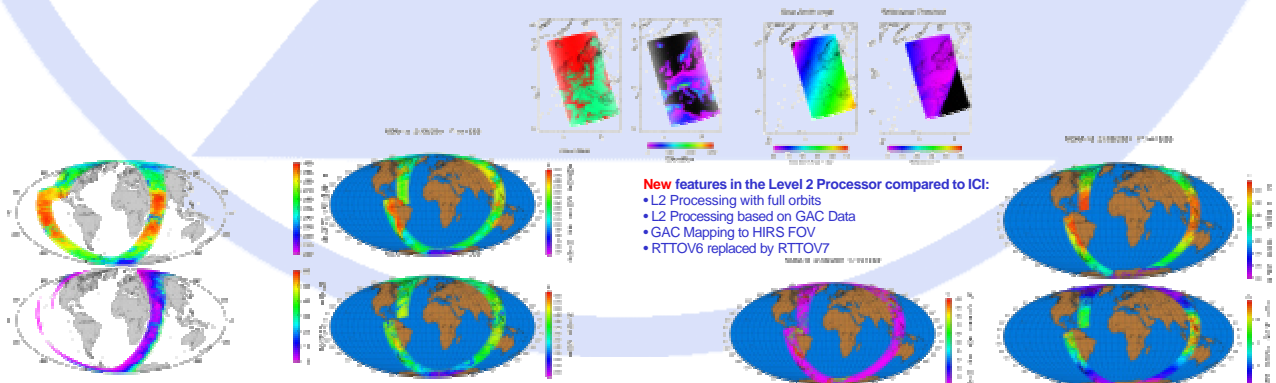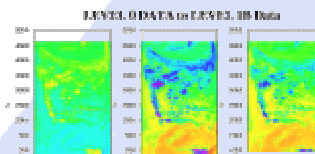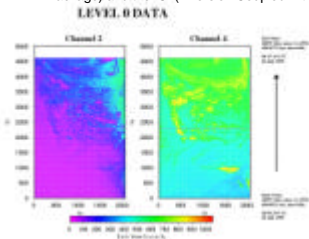*Germany*

Metop Spacecraft

NOAA-N,N' Spacecraft

- The EPS ATOVS and AVHRR Product Processing Facility (PPF) processes data from the Metop and NOAA satellites.
- The ATOVS and AVHRR PPF in the EPS Core Ground Segment processes the data to
  - Level 1 (radiances)
    - AVHRR/3
    - HIRS/4
    - AMSU-A
    - MHS
  - Level 2 (temperature and humidity profiles on the HIRS/4 FOV per default).
    - using all sounding instruments and AVHRR.
- The products provided are based on complete orbital dumps and are hence global products.

- The PPF development is done by an industrial contractor based on a set of specifications
  - Product Generation Specification (PGS) for each Level 1 and the Level 2 chain
  - Product Format Specifications (PFS) for each global product
  - Test data for each product
- The Specifications are supported by prototyping for the complete chains.
- The Specification of the ATOVS and AVHRR Product Processing Facility (PPF) is based on two well-known and well established software packages, the AAPP (ATOVS and AVHRR Processing Package) and the ICI (Inversion Coupled with Imager).

EPS provides GLOBAL ATOVS products. Products are dump based (e.g. AMSU-A channel 2, left) . 14 orbits are processed per day (e.g. HIRS channel 8, right) and satellite.

LEVEL 0 DATA

LEVEL 0 DATA to LEVEL 1b-Data

New features in the Level 2 Processor compared to ICI:
- L2 Processing with full orbits
- L2 Processing based on GAC Data
- GAC Mapping to HIRS FOV
- RTTOV6 replaced by RTTOV7

Level 1 Global products: AVHRR (left), AMSU-A (Right, top) and HIRS (right, bottom), based on NOAA-16 orbits.

Level 2 Global product: Temperature (top right) and humidity (bottom right) at 1000 hPa and percent of clear AVHRR pixels in the HIRS FOV (left).