The NWP SAF: what can it do for you?

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The NWP SAF: background

- Satellite Applications Facility for Numerical Weather Prediction (**NWP SAF**) - one of 7 SAFs that form part of the distributed ground segment of EUMETSAT

- Led by the **Met Office**, in partnership with **ECMWF, KNMI** and **Météo-France**

- 75%-funded by **EUMETSAT**

The NWP SAF: mission

MISSION

- To improve and support the interface between satellite data/products and European activities in global and regional NWP

The NWP SAF: people

- **Manager:** Bryan Conway
- **Project Team:**
  - **Met Office:** S.English, R.Saunders, D.Offiler, N.Atkinson, W.Bell, B.Candy, J.Cameron, A.Doherty, M.Forsythe, P.Francis, R.Francis, F.Hilton, S.Keogh, U.O'Keeffe, E.Pavelin, P.Rayer, S.Watkin
  - **ECMWF:** T.McNally, P.Bauer, A.Collard, A.Garcia-Mendez, H.Hersbach, G.Kelly, G. Van der Grijn
  - **Météo-France:** P.Brunel, T.Labrot, L.Lavanant, P.Marguinaud, A.Marsouin
  - **KNMI:** A.Stoffelen, A.Verhoef, J.Vogelezang
- **Steering Group:** J.Eyre, L.Sarlo, S.Elliott, J.Onvlee, P.Pylkko, F.Rabier, P.Schluessel, A.Simmons
- **Visiting scientists:** Many!

The NWP SAF: products

At present:

- **AAPP** - ATOVS and AVHRR Pre-processing Package
- **RTTOV** - fast radiative transfer model
  - + model-based profile data sets
- **1D-Var** retrieval schemes
- **QDP** - Quikscat Data Processor
- **Monitoring reports**

Under development:

- **Updates** to the above
- **AAPP** to include **IASI**
- **SDP** - Scatterometer Data Processor
- **SSMIS pre-processor**

The NWP SAF: RTTOV

- RTTOV is a fast radiative transfer model now developed within the NWP SAF
- It is used by NWP centres for several applications (e.g. radiance assimilation, data monitoring, simulated imagery)
- The SAF maintains and distributes several versions of RTTOV (currently versions 7 & 8)
- The latest version, RTTOV-8, was released in November 2004 *and more details are in Roger Saunders' poster*
- Users can request a free copy of the code from the SAF help desk (see later)
- The next version, RTTOV-9, is now under development and will be released in Feb 2007

The NWP SAF: 1D-Var schemes

3 schemes are available:

- “ECMWF”
  - generic harness
- “Met Office”
  - ATOVS, AIRS, IASI
- “SSMIS”
  - SSMI, SSMIS, AMSU

The NWP SAF: Scatterometer processors

- **QDP** - Quikscat Data Processor – **available NOW**
  - Input – NOAA Quikscat product in BUFR
  - QC – rain detection, etc
  - Pre-processing – sorting and spatial averaging
  - Wind retrieval
  - Ambiguity removal
  - Monitoring and output

- **SDP** – Scatterometer Data Processing - **SOON**
  - Generic scatterometer code
  - ERS SCAT, METOP ASCAT, Seawinds (Quikscat, NSCAT)

The NWP SAF: monitoring products

- Observation coverage plots
- Statistics of observed-forecast variables

- Data types:
  - ATOVS, SSMI, AIRS, geo-radiances
  - AMVs
  - Quikscat, ERS-2
  - Ozone: SBUV, Envisat

NWP SAF support to the EUMETSAT ATOVS Retransmission Service (EARS):

- Development and maintenance of AAPP
- Real-time data monitoring:
  - for each EARS reception site
  - checks consistency with global ATOVS data
  - checks consistency with locally-received ATOVS data (Lannion)

The NWP SAF: concluding remarks

- Collaboration between 4 European NWP centres, with support from EUMETSAT, has permitted the development, delivery and support of:
  - software modules for satellite data processing and assimilation,
  - data monitoring services,

to a large and growing user community.

- Over the next few years, the NWP SAF plans to contribute to the exploitation of data from new instruments.

- Collaboration with the international community will be needed to ensure we cover all the new instruments, in a timely manner, without unnecessary duplication.

The NWP SAF: further information

- Talk to us at this meeting

- For information, visit:

http://www.metoffice.gov.uk/research/interproj/nwpsaf/index.html

- To obtain software, visit:

http://www.metoffice.gov.uk/research/interproj/nwpsaf/request_forms/index.html

End