RECEIVING AND PROCESSING METEOSAT-8 DATA
WITH THE MSG-1 TOOLSET PLUS SUITE

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ABSTRACT

(Software demonstration – suggested session #3, Meteorological Applications)

The MSG-1 Toolset Plus suite of software comprises three applications for Meteosat-8 data users. The MSG-1 specific components have been developed within the last year during the MSG-1 trials, and are designed to make MSG-1 data accessible to anyone with a Windows PC. Issues of data management and the optimal display of 10-bit data on 8-bit displays have been addressed, and the software has been designed for hands-off operation with no routine user intervention.

- The MSG Data Manager provides the segment decoding, image assembly, data management, and image management functions required to produce 8-bit or 10-bit image data from Meteosat-8. The program includes a real-time display of incoming data, and algorithms to convert the 10-bit data for optimal display on 8-bit imaging systems if the user so desires. Images are saved in industry standard formats. Cloud type analysis and cloud top height data is presented in a palleted colour format for easier interpretation. Any image can be selected and viewed at full resolution, with a country outline overlay and cursor readout of latitude, longitude and temperature. There is an enormous amount of data flowing from Meteosat-8, so the program provides the means to select which channels of data are to be processed. Additional data reduction is possible by choosing to work only with a European segment of the data. Display of the text messages is included, together with the ability to recall previous messages. The program includes statistics gathering and reporting, and audible or automated e-mail warning of events like start-of-scan or loss-of-signal is available.

- The MSG Animator provides up to five simultaneous, independent animations, which are updated in real-time as Meteosat-8 data arrives. The channel and the region can be selected, with optional country boundary overlay and contrast stretching or histogram equalisation functions being applied. The animations can be saved in standard .AVI format.

- GeoSatSignal can combine multiple channels to produce false-colour images, which while attractive for the non-specialist still retain scientific value. These images can be remapped to standard map projections and animated. Command-line operation is possible for automation. The three visible channels of Meteosat-8 can be combined to produce a false-colour image, and data from the mid-IR channel can be used to overlay fire hot spots. Data from multiple satellites can be combined to produce a full-world view of the weather.

The SatSignal software designed for the HRPT and APT user including satellite orbit prediction and tracking will also be available for demonstration. This software uses the same false-colouring and data interpretation algorithms used in GeoSatSignal allowing a uniform data presentation across a wide variety of remote sensing sources.