MPEF – Help

1. Introduction.

The Meteorological Product Extraction Facility is part of the EUMETSAT ground segment for the geostationary meteorological satellites METEOSAT. Its primary function is the generation of Meteorological Products from the Level 1.5 METEOSAT image data. A range of near real time products are generated and disseminated (through EUMETCast) / archived. For details on the algorithms used to extract the various MPEF products for MSG at 0 and 45.5 degree as well as the RSS, see: https://user.eumetsat.int/s3/eup-strapi-media/pdf_ten_spe_04022_msg_mpef_c5dbfeb7d4.pdf.

2. MPEF at 0 Degree

The following products are processed – results obtained.

Table 1: MPEF at 0 degree

product	Temporal resolution	Time Stamp expected	Starting from (UTC)	Output format	Unit
AMV	1 hour	yyyymmddhhmm	00:30	Shape - table	various
ASR	1 hour	yyyymmddhhmm	00:45	Shape - table	various
CLM	15 min	yyyymmddhhmm	00:00	Raster	value and class map
CRM	daily	yyyymmdd1200	12:00	MapList	byte
CTH	15 min	yyyymmddhhmm	00:00	Raster	m
FIRC	15 min	yyyymmddhhmm	00:00	table	class
GII	15 min	yyyymmddhhmm	00:00	Shape - table	various
OCAE	15 min	yyyymmddhhmm	00:00	MapList	various

Units additional:

- For AMV: latitude, longitude, 29-Pressure (Pa), V-Component (m/s), U-Component (m/s) and Wind-direction (degree true), Wind-speed (m/s) and Temperature (K)
- For ASR-suffix _BT: latitude, longitude, Brightness temperature (K) (for BT-3 to BT-10, representing for the MSG infrared channels averaged over all pixels within a processing segment and in six separate categories: all pixels, clear pixels, cloudy pixels, and low-, mid- and high-level cloud pixels)
- For ASR-suffix _CF: latitude, longitude, % cloud free
- For GII: latitude, longitude, K Index (K), Parcel Lifted Index (K), Precipitable Water (kg/m2), KO Index (K), Maximum Buoyancy (K)

- For OCAE: Cloud Phase (111 = Single layer Water cloud, 112 = Single layer Ice cloud, 24 = ??), Upper Layer Cloud Optical Depth (Unitless), Upper Layer Cloud Top Pressure (Pa), Upper Layer Cloud Effective Radius (m)

3. MPEF at 45.5 Degree

The following products are processed – results obtained.

product	Temporal resolution	Time Stamp expected	Starting from (UTC)	Output format	Unit
AMV	1 hour	yyyymmddhhmm	00:30	Shape - table	various
CLM	15 min	yyyymmddhhmm	00:00	Raster	value and class map
CRM	daily	yyyymmdd1200	09:00	MapList	byte
CTH	15 min	yyyymmddhhmm	00:00	Raster	m
FIRC	15 min	yyyymmddhhmm	00:00	table	class
GII	15 min	yyyymmddhhmm	00:00	Shape - table	various
OCAE	15 min	yyyymmddhhmm	00:00	MapList	various

Units additional:

- For AMV: latitude, longitude, 29-Pressure (Pa), V-Component (m/s), U-Component (m/s) and Wind-direction (degree true), Wind-speed (m/s) and Temperature (K)
- latitude, longitude, K Index (K), Parcel Lifted Index (K), Precipitable Water (kg/m2), KO Index (K), Maximum Buoyancy (K)
- For OCAE: Cloud Phase (111 = Single layer Water cloud, 112 = Single layer Ice cloud, 24 = ??), Upper Layer Cloud Optical Depth (Unitless), Upper Layer Cloud Top Pressure (Pa), Upper Layer Cloud Effective Radius (m)

4. MPEF RSS

The following products are processed – results obtained.

product	Temporal resolution	Time Stamp expected	Starting from (UTC)	Output format	Unit
AMV	20 min	yyyymmddhhmm	00:10	Shape - table	various
FIRC	5 min	yyyymmddhhmm	00:00	table	class
RII	5 min	yyyymmddhhmm	00:00	Shape - table	various

Units additional:

- For AMV: latitude, longitude, 29-Pressure (Pa), V-Component (m/s), U-Component (m/s) and Wind-direction (degree true), Wind-speed (m/s) and Temperature (K)
- For RII: latitude, longitude, K Index (K), Parcel Lifted Index (K), Precipitable Water (kg/m2), and Maximum Buoyancy (K)