SAF – Help

1. **Introduction.**

The Satellite Application Facilities (SAFs) are a distributed network of thematic application facilities responsible for necessary research, development, and operational activities not carried out at EUMETSAT. The SAFs are located within the National Meteorological Services (NMS) of EUMETSAT member states or other agreed entities linked to a user community. SAFs deliverables can be a specific piece of software to be made available to users for use in their own environment, or data and products made available in near real-time or offline. Further information on the SAFs see: https://www.eumetsat.int/about-us/satellite-application-facilities-safs.

2. **CM-SAF**

The following products are processed – results obtained.

product	Temporal resolution	Time Stamp expected	Starting from – to (UTC)	Output format	Unit
Daily SDU	daily	yyyymmdd0000	yyyymm01-end month	raster	hours
Daily SIS	daily	yyyymmdd0000	yyyymm01-end month	raster	W m-2
Monthly CFC	monthly	yyyymmdd	yyyy0101-yyyy1201	Raster	%
Monthly SDU	monthly	yyyymmdd	yyyy0101-yyyy1201	raster	hours
Monthly SIS	monthly	yyyymmdd	yyyy0101-yyyy1201	raster	W m-2

Product name and units additional:

- Daily SDU: Sunshine duration, hours - sum
- Daily SIS: Daily mean Surface Downwelling Shortwave Radiation
- Monthly CFC: Cloud Fraction
- Monthly SDU: Sunshine duration, hours - sum
- Monthly SIS: Surface Downwelling Shortwave Radiation

3. H-SAF

The following products are processed – results obtained.

product	Temporal resolution	Time Stamp expected	Starting from (UTC)	Output format	Unit
H-60	15 min	yyyymmddhhmm	00:00	Raster	mm/hr
H-61 hourly	hourly	yyyymmddhhmm	00:00	Raster	mm
H61 daily	daily	yyyymmddhhmm	At 00:00, 06:00, 12:00, 18:00	Raster	mm
H-63	15 min	yyyymmddhhmm	00:00	Raster	mm/hr
H-90 hourly	hourly	yyyymmddhhmm	00:00	Raster	mm
H-90 daily	daily	yyyymmddhhmm	At 00:00, 06:00, 12:00, 18:00	Raster	mm
Global SM-DAS-2 (H14)	daily	yyyymmdd0000	--	MapList	-- (index)
Global rootzone SM (H26)	daily	Yyyymmdd0000	--	MapList	-- (index)
PCP-SM integrated (H64)	daily	yyyymmdd0000	--	Raster	mm

Additional:

- H60, H61(hourly rain rate and daily accumulated rain rate) are derived from MSG at 0 degree. H63, H90 (hourly rain rate and daily accumulated rain rate) are derived from MSG at 45.5 degree. Daily rainfall is accumulated for the previous 24 hrs at 00:00, 06:00, 12:00 and 18:00.

4. LSA_SAF

4.1 Full Disk

The following products are processed – results obtained.

product	Temporal resolution	Time Stamp expected	Starting from (UTC)	Output format	Unit
EDLST-Day	daily	Yyyymmdd0000	--	raster	Celsius
EDLST-Night	daily	Yyyymmdd0000	--	raster	Celsius

EDSC	daily	Yyyymmdd0000	--	raster	Value - class
ET	30 min	yyyymmddhhmm	00:00	raster	mm
FREM-GFRE	hourly	yyyymmddhhmm	00:00	raster	MJ
LST	15 min	yyyymmddhhmm	00:00	raster	Celsius
MDSSFTD	15 min	yyyymmddhhmm	00:00	raster	W/m2
METRef	daily	Yyyymmdd0000	--	raster	mm
MH	30 min	yyyymmddhhmm	00:00	raster	W/m2
MLE	30 min	yyyymmddhhmm	00:00	raster	W/m2
MLST-AS	daily	Yyyymmdd0000	--	raster	Celsius
MNSLF	daily	Yyyymmdd0000	--	raster	W/m2

Additional:

- EDLST: METOP daily land surface temperature (day / night)
- EDSC: METOP daily snow cover
- FREM - GFRE: Fire Radiative Energy eMission Product - Fire Radiative Energy
- MDSSFTD : Instantaneous estimate of the total Downwelling Surface Short-wave radiative Flux (DSSF) (W/m2) and the fraction of the diffuse flux component to the total flux
- METRef: Reference evapotranspiration
- MH: Sensible heat flux
- MLE: Latent heat flux
- MLST-AS: MSG Land Surface Temperature - All Sky
- MNSLF: daily net and upward surface longwave fluxes, based on SEVIRI observations, and accumulated over 24-h periods, using suffix *_nslf and suffix *-uslf respectively

4.2 Regional

The following products are processed – results obtained.

product	Temporal resolution	Time Stamp expected	Starting from (UTC)	Output format	Unit
All Regions					
DSLF	30 min	Yyyymmddhhmm	00:00	raster	w/m2
FAPAR	daily	Yyyymmdd1200	--	raster	n/a
FVC	daily	Yyyymmdd1200	--	raster	%
LAI	daily	Yyyymmdd1200	--	raster	n/a
Europe only					
FRM	daily	Yyyymmdd1200	--	MapList	classes

Additional:

- DSLF: Downwelling Surface Long Wave flux
- FRM: Fire Risk Map, Forecast (5 classes, from 1 to 5 for low, moderate, high, very high and extreme risk respectively)

5. NWC-SAF

The following products are processed – results obtained.

product	Temporal resolution	Time Stamp expected	Starting from (UTC)	Output format	Unit
All Regions					
CLM	15 min	Yyyymmddhhmm	00:00	raster	Value - class
CTTH	15 min	Yyyymmddhhmm	00:00	raster	various
CT	15 min	Yyyymmddhhmm	00:00	raster	class
MSG 0-degree					
CRR	15 min	Yyyymmddhhmm	00:00	raster	mm
RDT	15 min	Yyyymmddhhmm	00:00	raster	class
MSG-45.5 degree					
CM	15 min	Yyyymmddhhmm	00:00	MapList	various

Additional:

- CML: Cloud Mask
- CTTH: Cloud Top Temperature / Height, temperature in Kelvin and height in meters
- CT: Cloud Type. Class Assignment = "1: Cloud-free land; 2: Cloud-free sea; 3: Snow over land; 4: Sea ice; 5: Very low clouds; 6: Low clouds; 7: Mid-level clouds; 8: High opaque clouds; 9: Very high opaque clouds; 10: Fractional clouds; 11: High semitransparent thin clouds; 12: High semitransparent moderately thick clouds; 13: High semitransparent thick clouds; 14: High semitransparent above low or medium clouds; 15: High semitransparent above snow/ice"
- CRR: Convective Rain Rate
- RDT: Rapidly Developing Thunderstorms. Class Assignment = "0:Non_convective 1:Convective_triggering 2:Convective_triggering_from_split

3:Convective_growing 4:Convective_mature, 5:OvershootingTop_mature 6:Convective_decaying 7:Electric_triggering 8:Electric_triggering_from_split 9:Electric_growing 10:Electric_mature,11:Electric_decaying 12:HighRainRate_triggering 13:HighRainRate_triggering_from_split 14:HighRainRate_growing 15:HighRainRate_mature, 16:HighRainRate_decaying 17:HighSeverity_triggering 18:HighSeverity_triggering_from_split 19:HighSeverity_growing 20:HighSeverity_mature, 21:HighSeverity_decaying";

- CMIC: Cloud Microphysics. It consists of the cloud top phase (1: Liquid; 2: Ice; 3: Mixed; 4: Cloud-free 5: Undefined (separability problems), the particle size (m), the optical depth, (n/a) the liquid water patch (LWP) (kg/m2) and the ice water path (IWP) (kg/m2) respectively (during daytime!).

Note that a number of products are for the upper 1/3 portion of the MSG disk only!

6. OSI-SAF

7. The following products are processed – results obtained.

product	Temporal resolution	Time Stamp expected	Starting from (UTC)	Output format	Unit
SST-METOP	2 times per day (night and day)	Yyyymmdd0000 Yyyymmdd1200	At 00:00 night At12:00: day	raster	Kelvin