



## **“Convective cloud analysis with use of medium and high resolution radiometers – simulation of MTG/FCI and EPS-SG/MetImage RGBs”**

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The upcoming new satellite sensors onboard MTG (Meteosat Third Generation) and EPS-SG (EUMETSAT Polar System – Second Generation) require evaluation of new possibilities for convective environment and convective clouds analysis. The interesting opportunities are provided by Sentinel-2 MSI (Multi Spectral Instrument) having 12 channels in UV-VIS-Near IR part of spectrum with 10-60 m spatial resolution and Sentinel-3 OLCI (Ocean and Land Colour Instrument) having 21 channels in UV-VIS-Near IR part of spectrum with 300 m spatial resolution. The spectral channels of MSI and OLCI, make possible to create RGB compositions with use of channels similar to MTG and EPS-SG instruments. Higher spatial resolution of Sentinel-2 make possible evaluation, what we lose, limiting resolution to 500-1000 m. Interesting features of clouds and convective environment were analysed with use of: 1.3  $\mu\text{m}$ , 1.6  $\mu\text{m}$ , 2.2  $\mu\text{m}$  channels and True Colour capabilities of visible channels. Examples of microphysical properties of convective clouds at different stages of evolution were presented by RGB compositions, utilizing mentioned capabilities. The convective environment analysis with use of 0.9  $\mu\text{m}$  channel were also presented. Unfortunately, lack of WV and IR channels with high spatial resolution do not allow for creation of many other interesting products.

Direct use of performed analysis is training for the new MTG and EPS-SG capabilities, especially in case of deep convection development.