PROJECT: Multisensor Water Discharges

SCIENTIFIC DIRECTOR: V. Karathanasi

DURATION (MONTHS): 24 months

DEPARTMENT: Department of Topography

FINANCIER: ESA

DESCRIPTION: The aim of the project is to monitor the discharge of liquid waste into coastal waters and lakes using representative simulated datasets corresponding to the data from the CHIME (hyperspectral) and LSTM (thermal) sensors of the Copernicus Expansion missions. RSlab will produce representative simulated datasets corresponding to the CHIME (hyperspectral) and LSTM (thermal) sensor data of the Copernicus Expansion missions. The CHIME satellite will carry a HyperSpectral Imager (HSI) on board which will be a pushbroom-type grating Imaging Spectrometer with high Signal-to-noise ratio and data uniformity that will be able to image in over 200 bands over a wavelength range from 400 nm - 2500 nm in the Visible (VIS), Near Infrared (NIR), and Short-Wave Infrared (SWIR) spectrum at a spectral bandwidth less than 10 nm [WR01]. The Land Surface Temperature Radiometer on LSTM will operate in VIS-NIR, SWIR and Thermal Infrared (TIR) spectral bands, it has a spatial resolution of 50 m, making observations covering a wide temperature range, from approximately -20°C to 30°C with a precision of 0.3°C and can provide measurements from five bands in the TIR spectral range 8 - 12.5 μm complemented by bands in the visible and NIR [WR02]. For the data simulation of the aforementionned missions we will leverage airborne hyperspectral and thermal data acquisitions as well as existing satellite data.