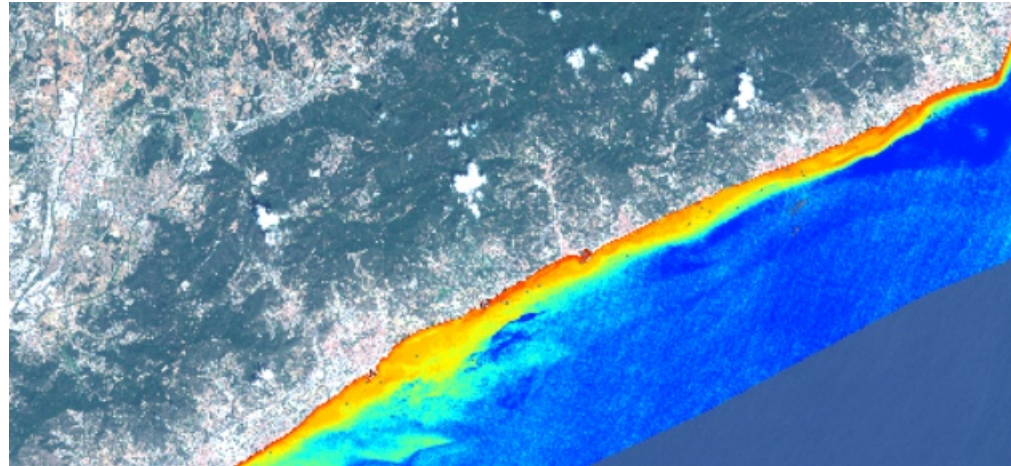# Satellite Derived Bathymetry Quality Control

SDB Internal Quality Control

SDB Internal Quality Control

- **Estimation of Biogeochemical products:**
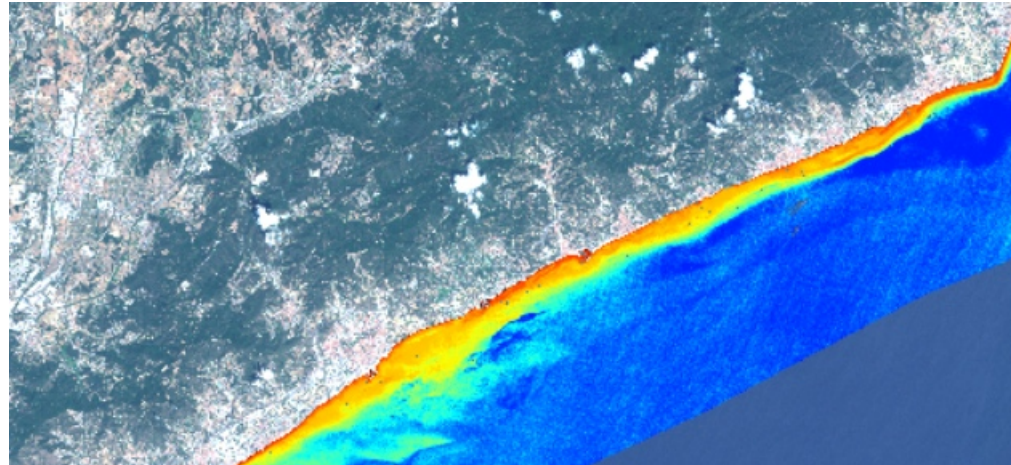 - Using backscatter values
  - Using CDOM values
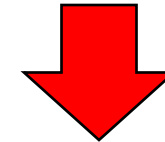
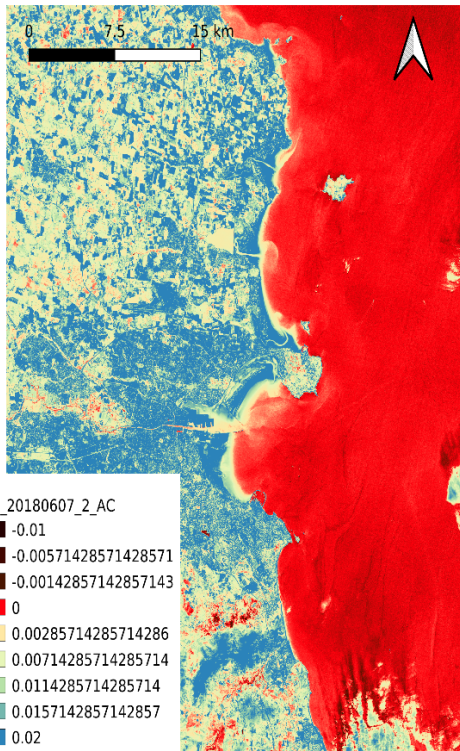Values of SPM and CDOM higher than defined thresholds: BAD depth values

SDB Semi-external Quality Control

SDB Semi-external Quality Control

- ## Image processing: Atmospheric correction

Two variables: 1) aerosol optical thickness and 2) the water surface roughness in terms of wind speed.

⬇

Negative values

| AC values	Positive reflectance values for each band	Negative reflectance values for each band
Classification	Good values	Bad values
Mask value	1	3

SDB Semi-external Quality Control

- ## Biogeochemical products: SPM

  - Estimation using a semi-analytical algorithm developed by Han et al., 2016
  - Reflectance values estimated using IDA Atmospheric Correction tool
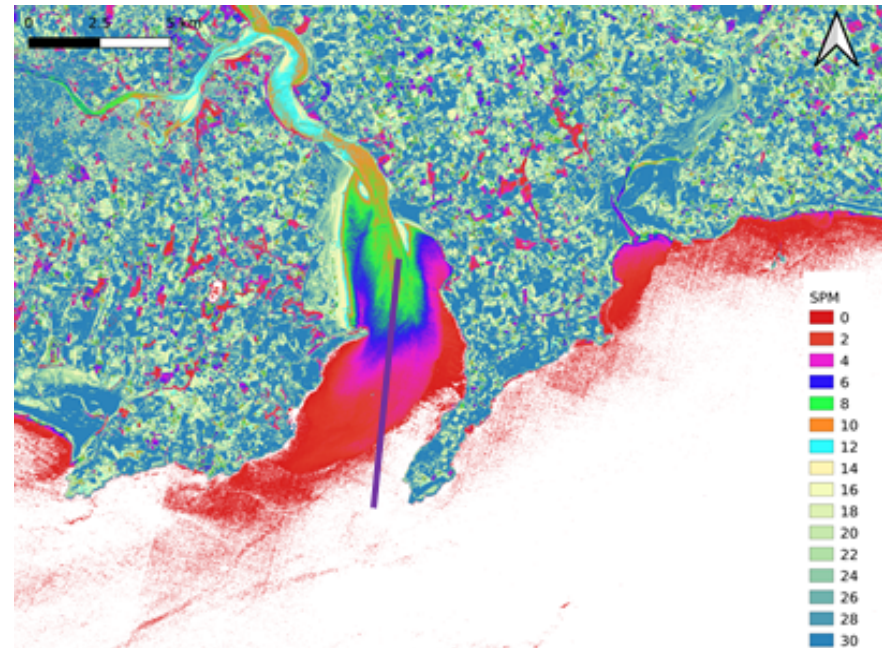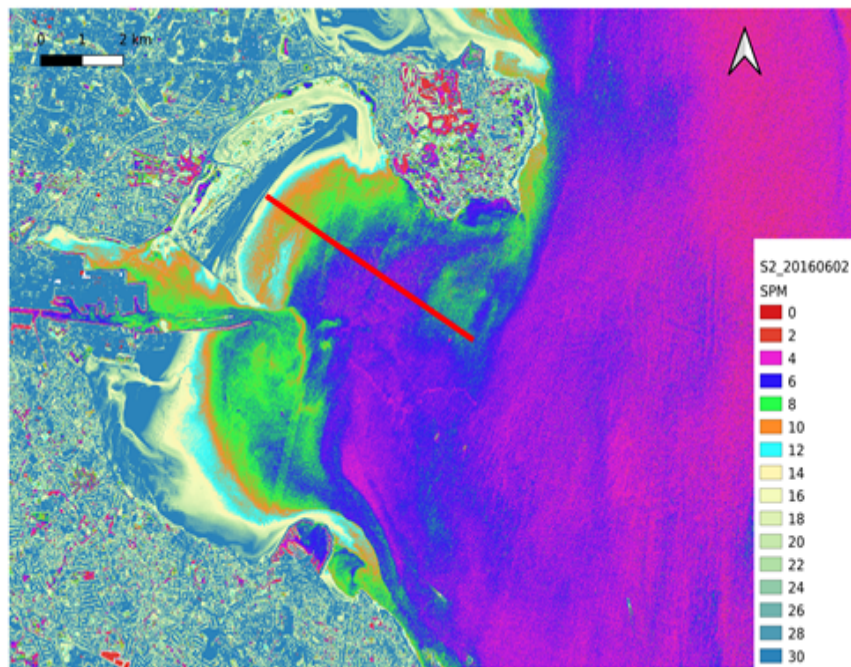
SDB Semi-external Quality Control

- ## Biogeochemical products: CDOM

  - Estimation using an algorithm developed by Kutser et al., 2005
  - Reflectance values estimated using IDA Atmospheric Correction tool
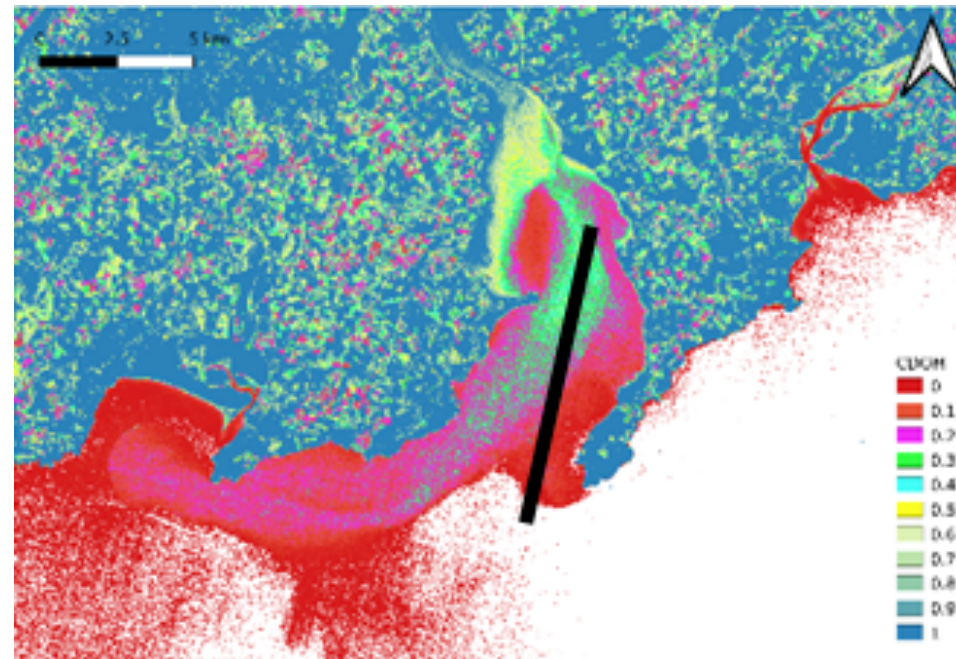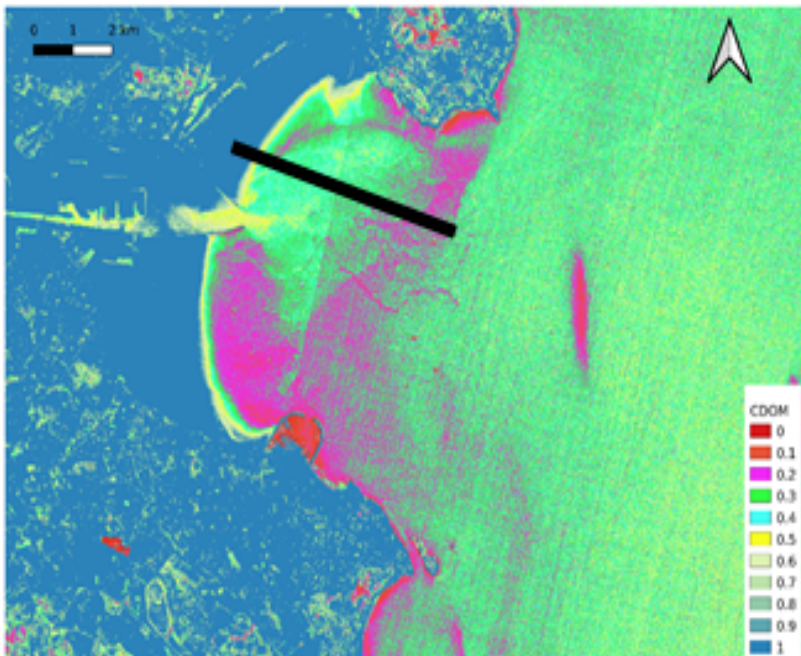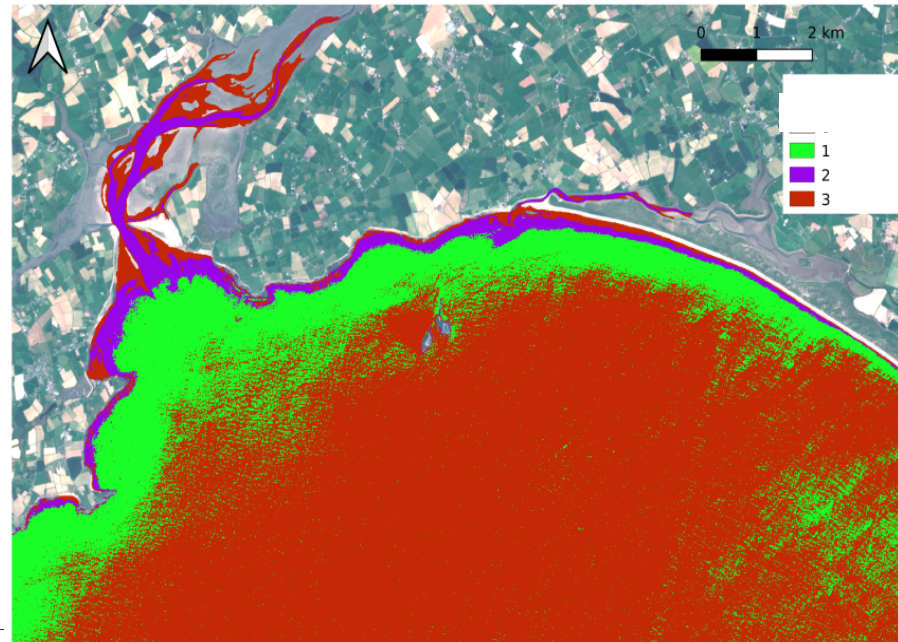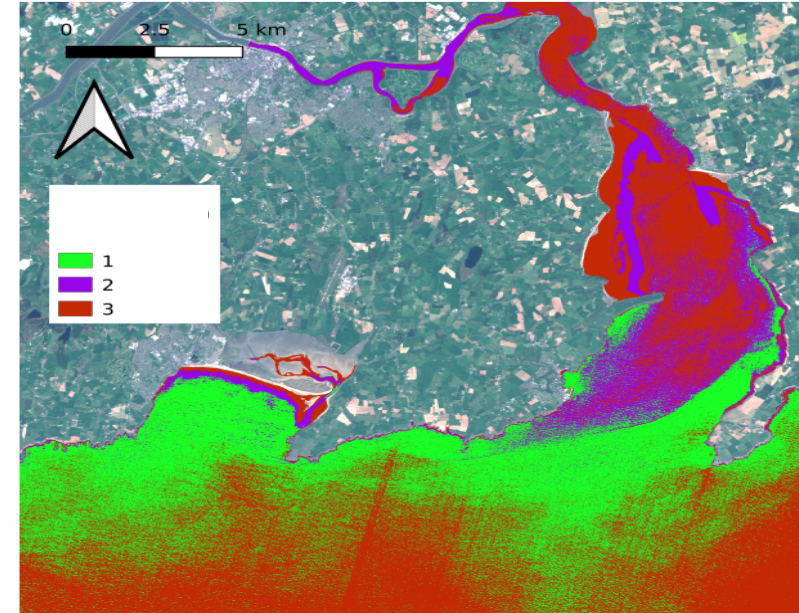
SDB Semi-external Quality Control

- ## Biogeochemical products: SPM + CDOM flagging

| Classification	Mask value	CDOM and SPM concentration
Good values	1	CDOM < 0.1 | SPM <5
Medium values	2	CDOM<0.2 and CDOM>0.1 | SPM>5 and SPM<10 CDOM<1.5 and CDOM>0.2 & SPM>4 and SPM<20
Bad values	3	CDOM > 0.2 | SPM >10

SDB Semi-external Quality Control

- ## Final mask: pixels flagging

  - Three values mask:

    - Good values (mask value of 1)

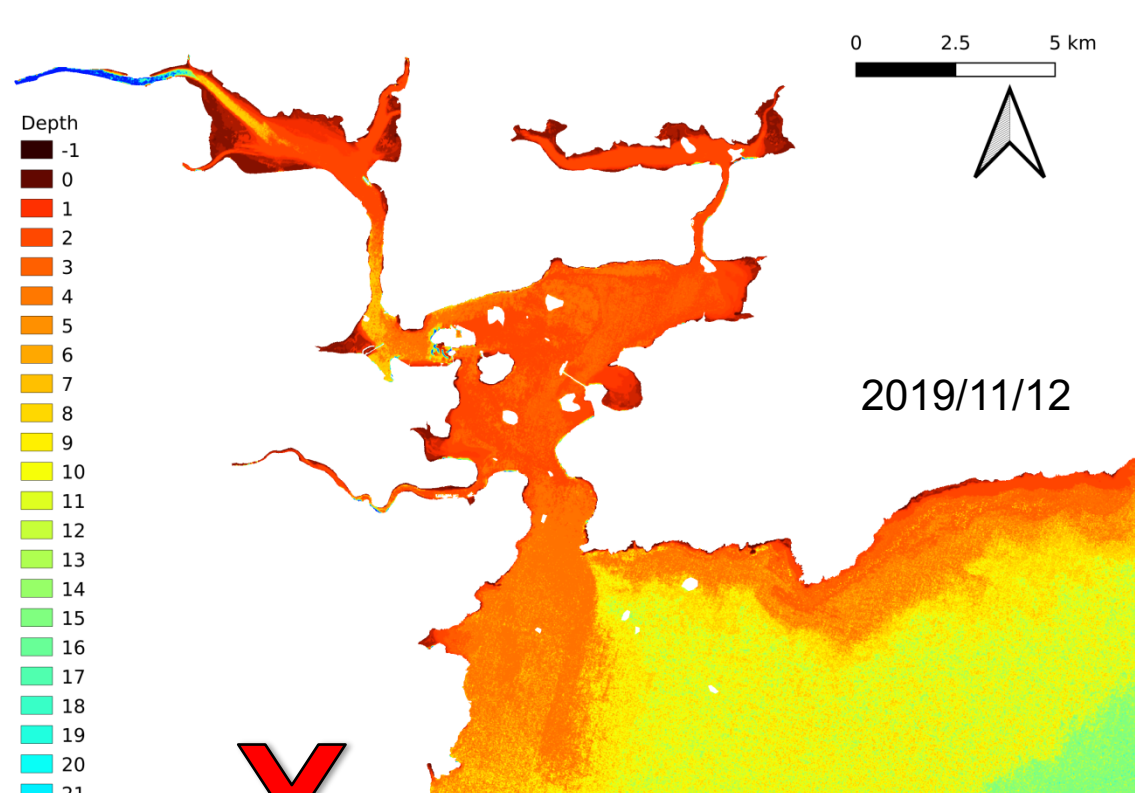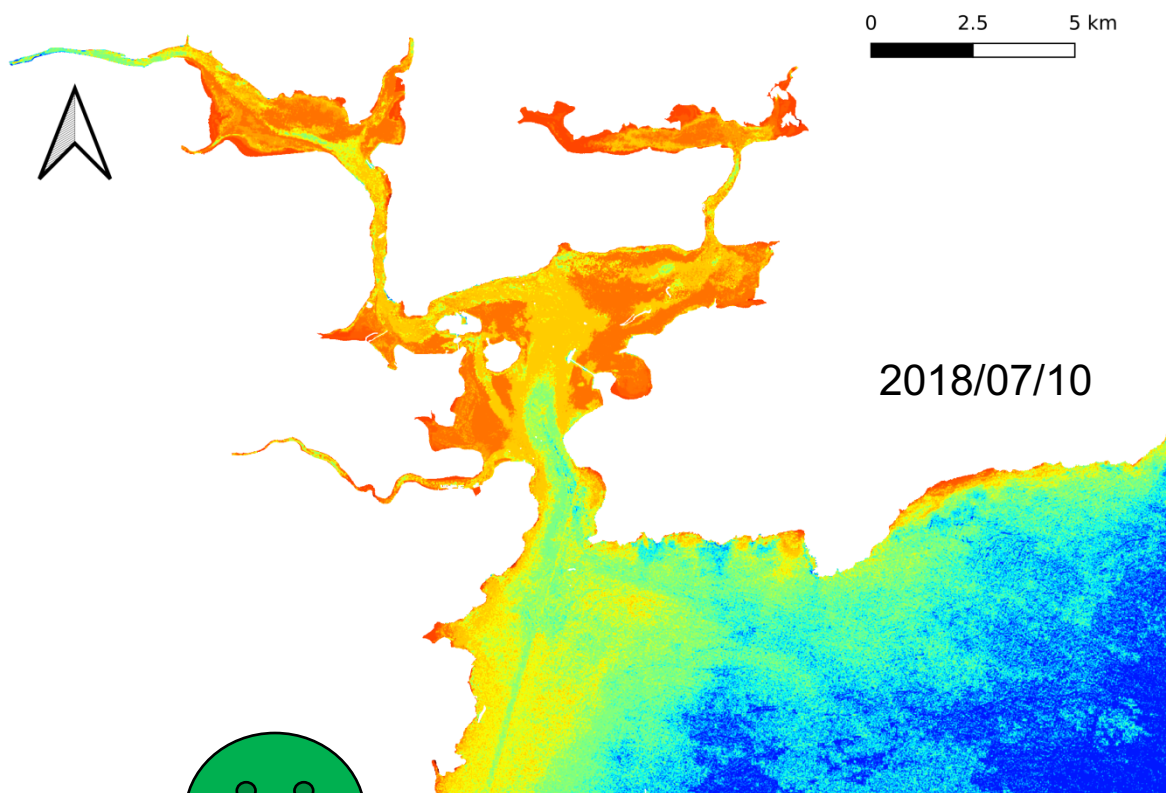   - Medium values (mask value of 2)

    - Bad values (mask value of 3)

SDB External Quality Control
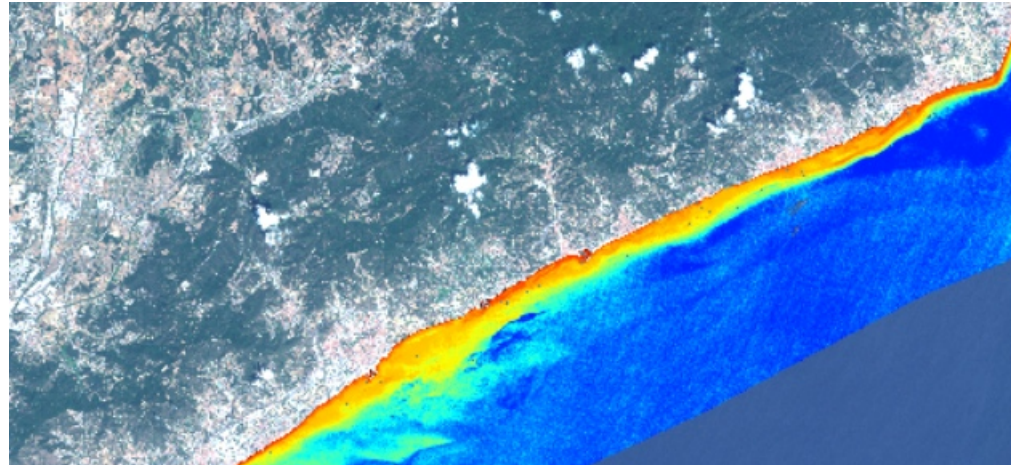
SDB External Quality Control

- ## Visual comparison with Nautical charts or bathymetric data