Analysis radar satellite altimeters applicability to detect the extent of flooding under the vegetation cover via EarthConsole P-PRO On Demand

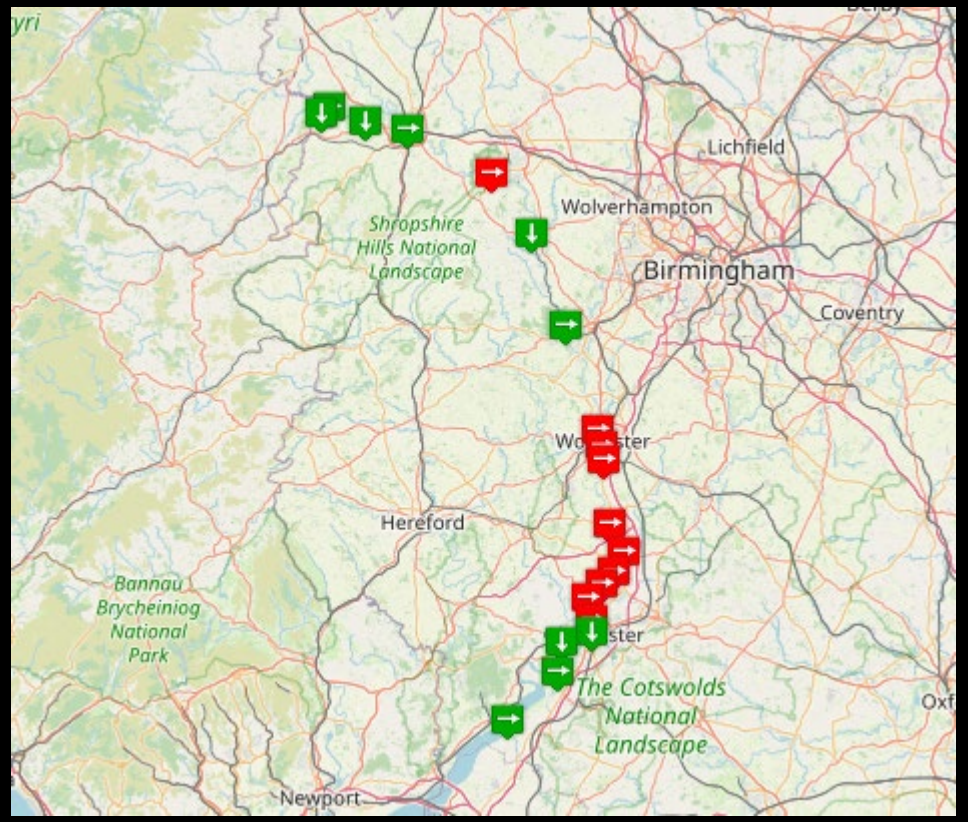
Project ID: 43151g

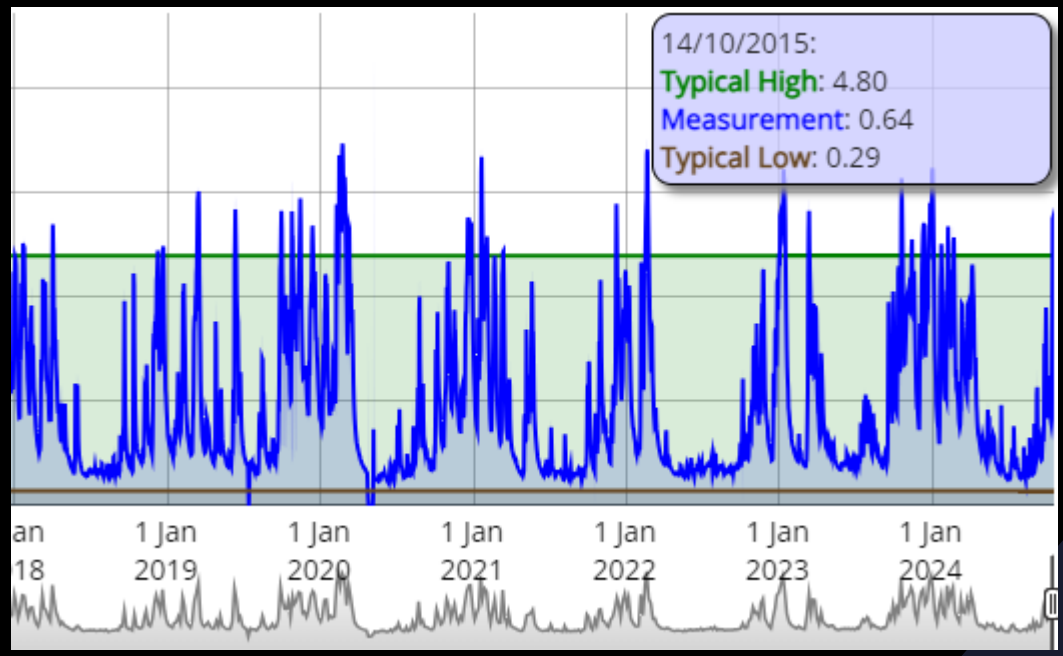
- Thanks to the kindness of ESA's NoR, it was possible to undertake work on analyzing the usefulness of radar altimeters using the FF-SAR technique for detecting the extent of flooding under vegetation cover.

- The main goal of the work was to select rivers that regularly flood, in areas that CryoSat-2 and Sentinel-3 satellites observe, with easy access to data showing the actual water level at the time of flooding.

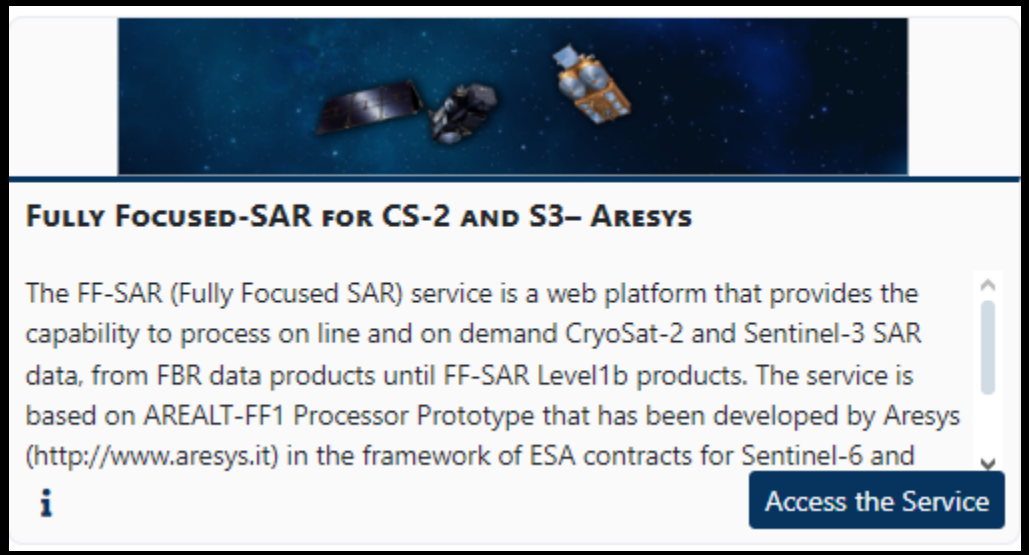
- While conducting the research, it was decided to change the area of interest from Poland to England, more specifically the areas around the River Severn.

As you can see in the following images from riverlevels.uk, the Severn River was a perfect fit for the topic of the paper. The water level in it is documented by many measuring stations, and the water level itself rises at regular intervals.

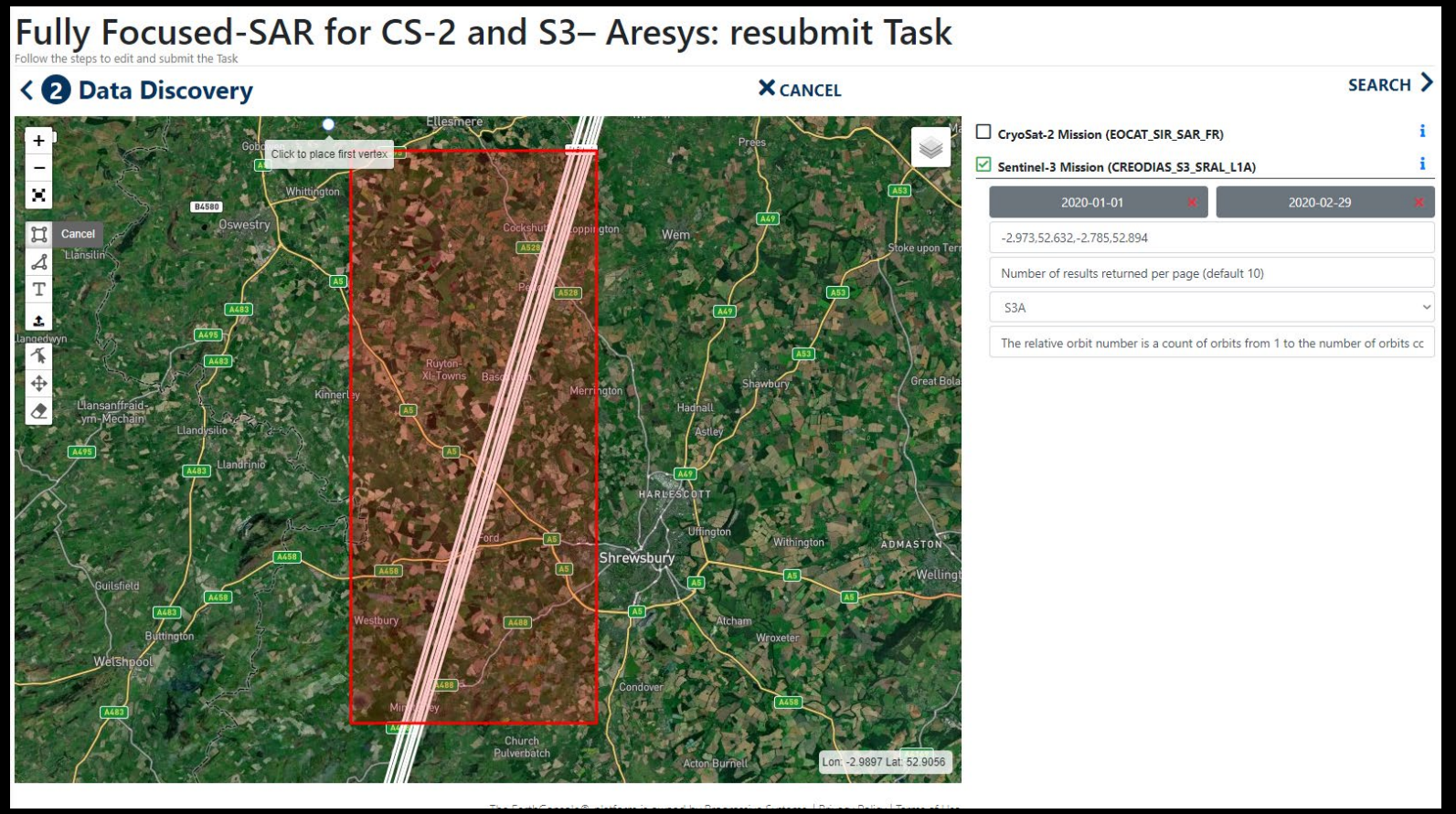




P-PRO On Demand was used to acquire FF-SAR Level1b products using service based on AREALT-FF1 Processor developed by Aresys.



This service allowed the download of NETCDF data acquired from both CryoSat-2 and Sentinel-3, which were then processed in a Matlab environment.



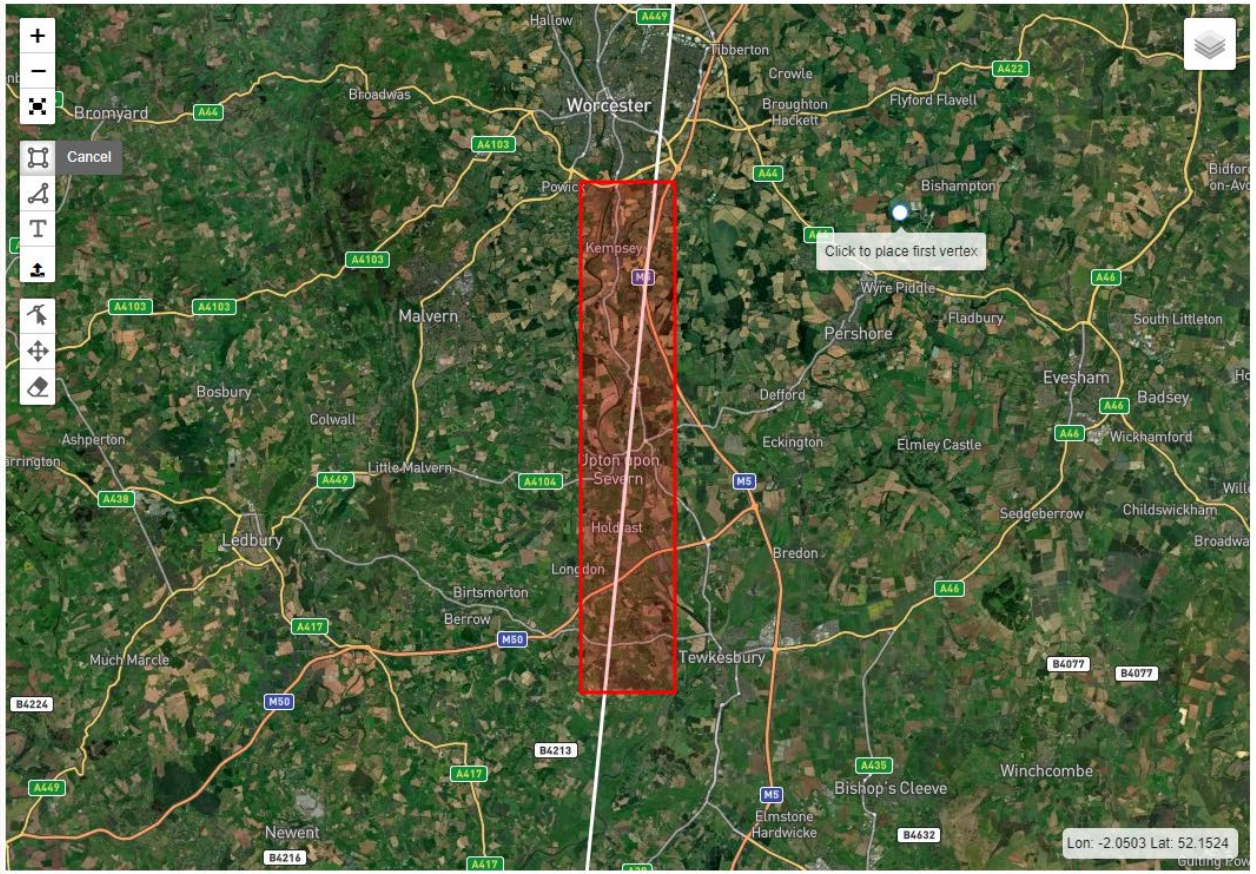
Fully Focused-SAR for CS-2 and S3– Aresys: resubmit Task

Follow the steps to edit and submit the Task

2 Data Discovery

CANCEL

SEARCH



CryoSat-2 Mission (EOCAT_SIR_SAR_FR)

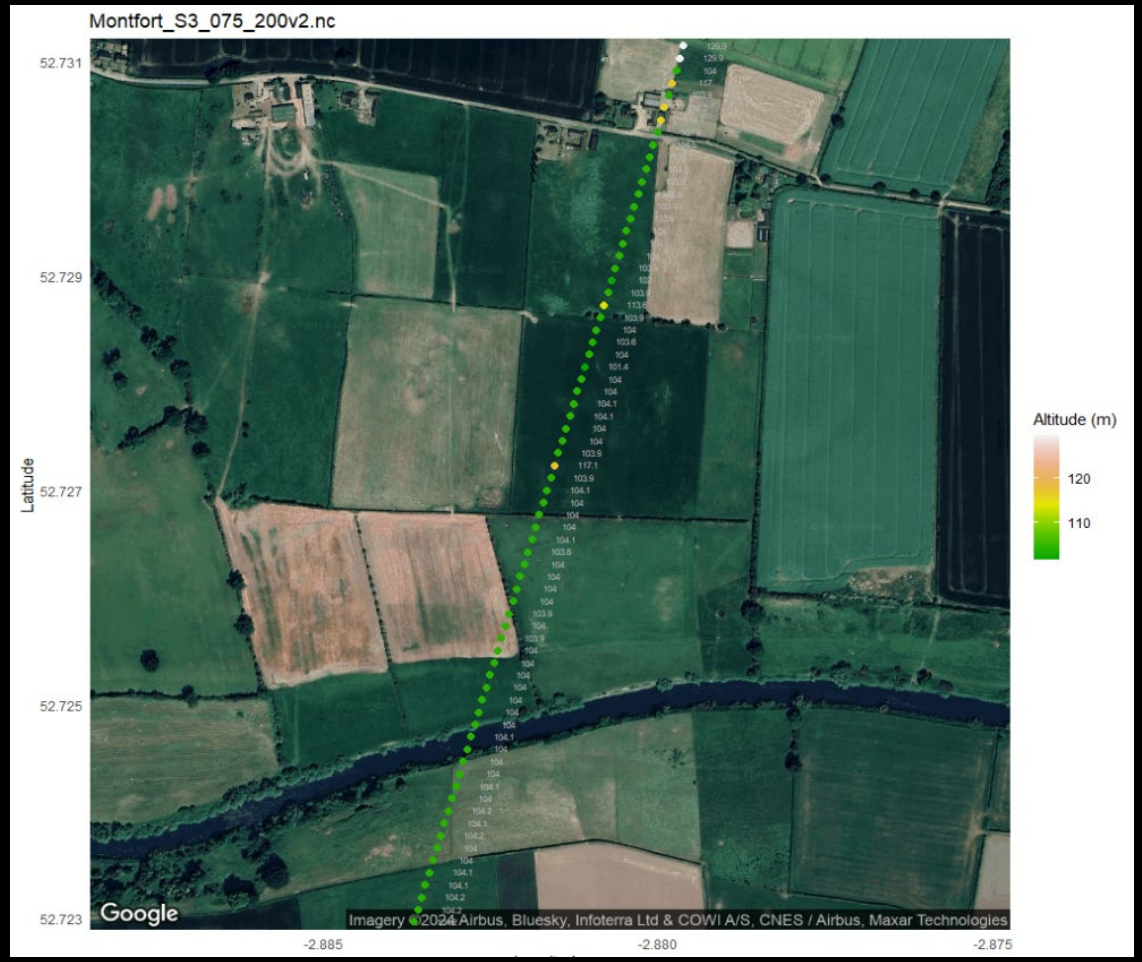
2020-01-01

2020-02-29

-2.237,51.981,-2.182,52.164

Number of products per page (default 10)

Absolute Orbit number

Sentinel-3 Mission (CREODIAS_S3_SRAL_L1A)

Trying different combinations of available parameters, the extracted data were brought to the form shown below to further investigate the accuracy of the results and reflect on the usefulness of the technique used.