

Coastal Erosion from Space



Coastal Erosion events:

in Nerja (Spain)

in Kilkee (Ireland)

in St Laurent mouth (Canada)

Preliminary selection of validation sites

Ref: SO-TR-ARG-003-055-009-PVP-A4

Date: 13/01/2020

Customer: ESA

Contract Ref.: 4000126603/19/I-LG



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 **ARCTUS**



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**Preliminary selection of validation sites Monthly
Report**

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Applicable and reference documents

Id	Description	Reference
AD-1	Product Validation Plan	SO-TR-ARG-003-055-009-PVP

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1 Overview

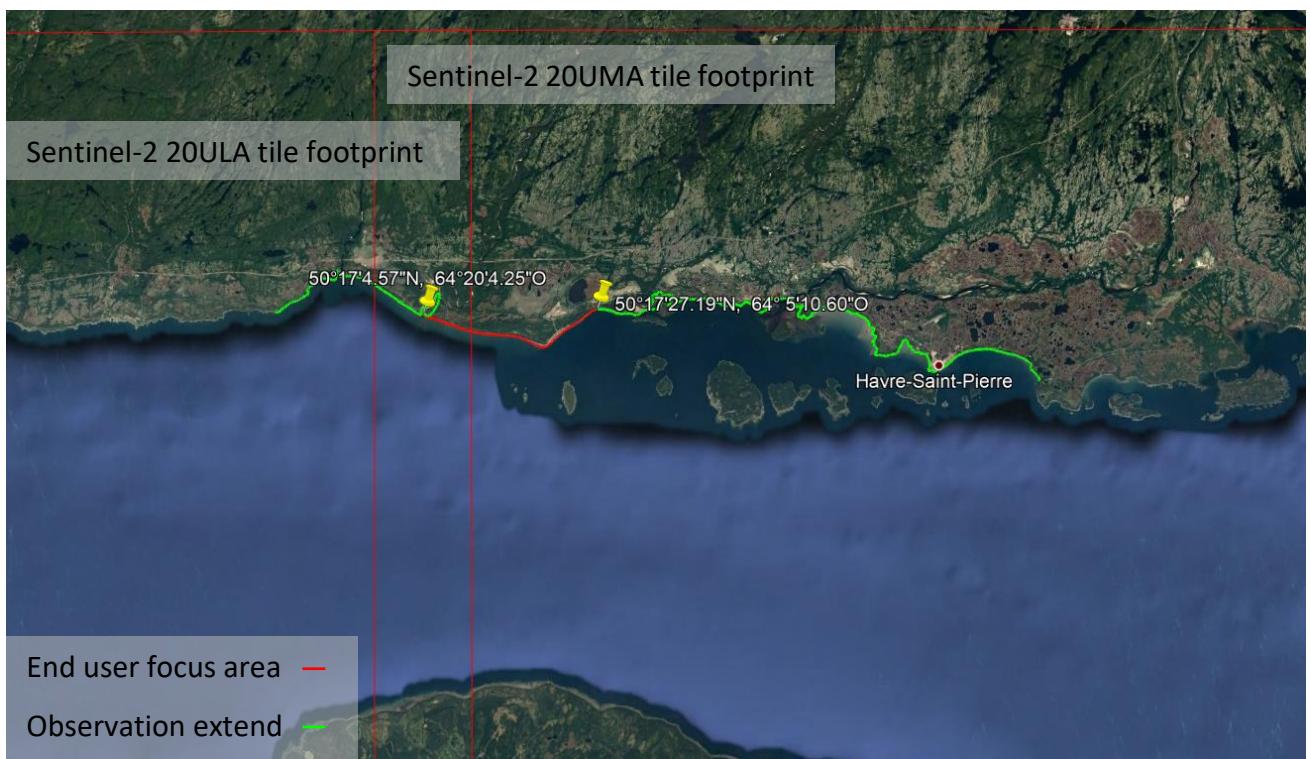
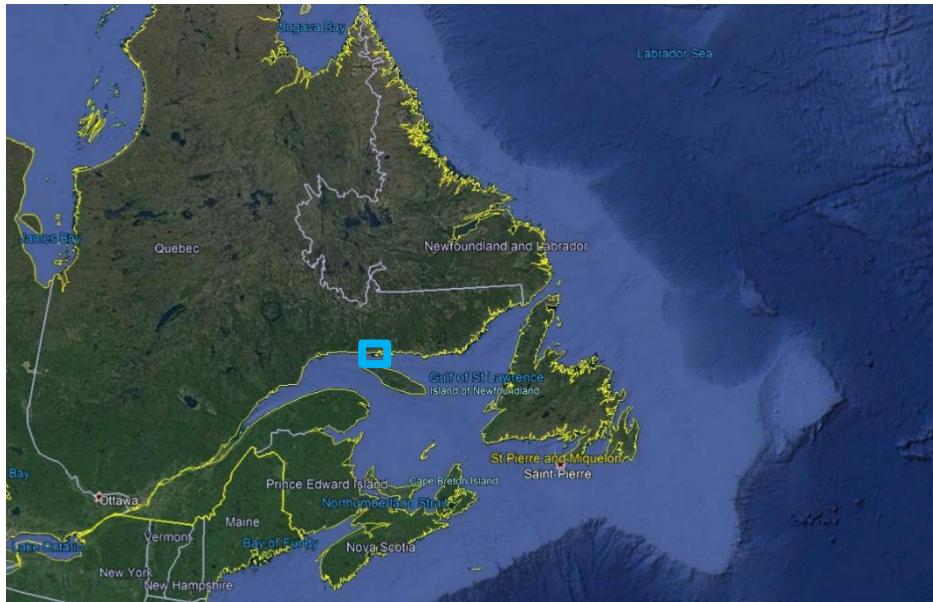
Phase 2 sites of interest have been chosen by the User Group according to the different sociological and economic value of the coast, but they also represent the global geological and geographical variabilities as demonstrated within their national coastline and more importantly are supported by a wealth of in-situ measurements and data they already have in order to be able to assess CE products. In the following maps, the red line represents the focus areas our partners have chosen as validation sites.

However, a more global vision is necessary to analyse and fully understand the changes displayed by the coasts of interest. Thanks to the Sentinel-2 large spatial extent and our developed fully automatic processor to extract the waterline, we can provide longer coastlines within a cost and time efficiency model. These extensions added to the coast have been chosen to respect the geomorphology dynamics of each area, in particular sediment transport (i.e. sediment cells, turbidity, long shore currents, ...)

Country	Total Observation (km)
Canada	509
Ireland	1287
Spain	1241
UK	803
Total	2955

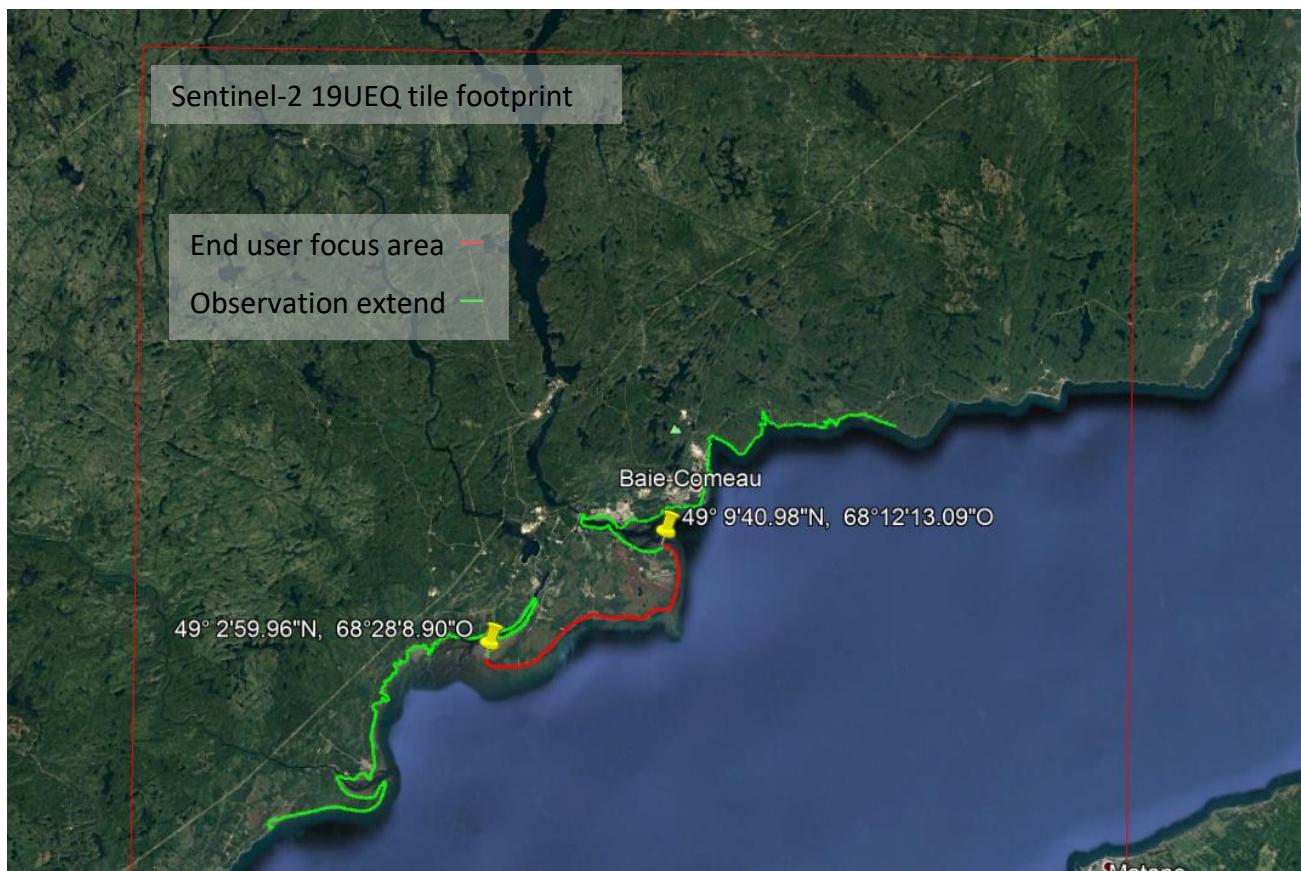
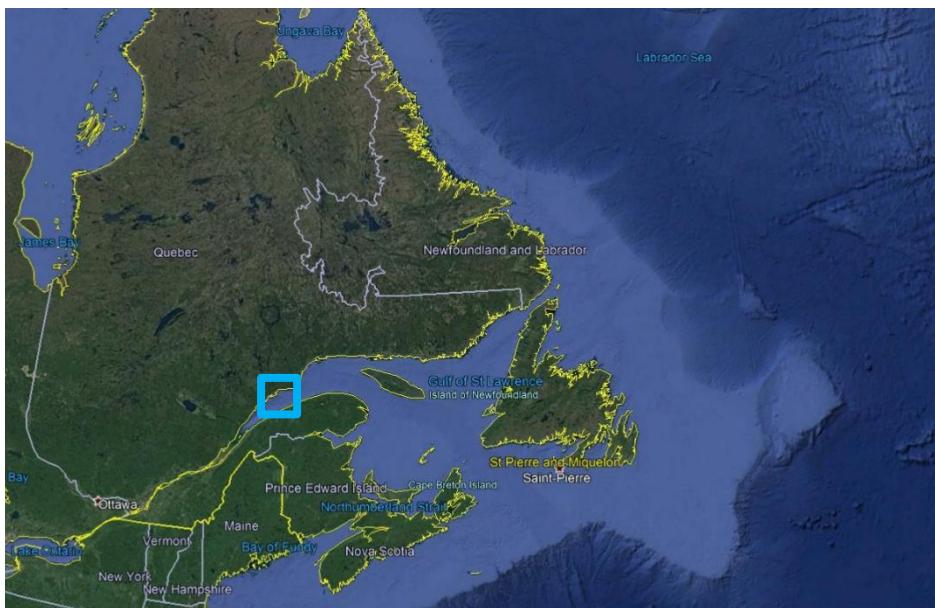
2 Canada

2.1 Longue Pointe de Mingan



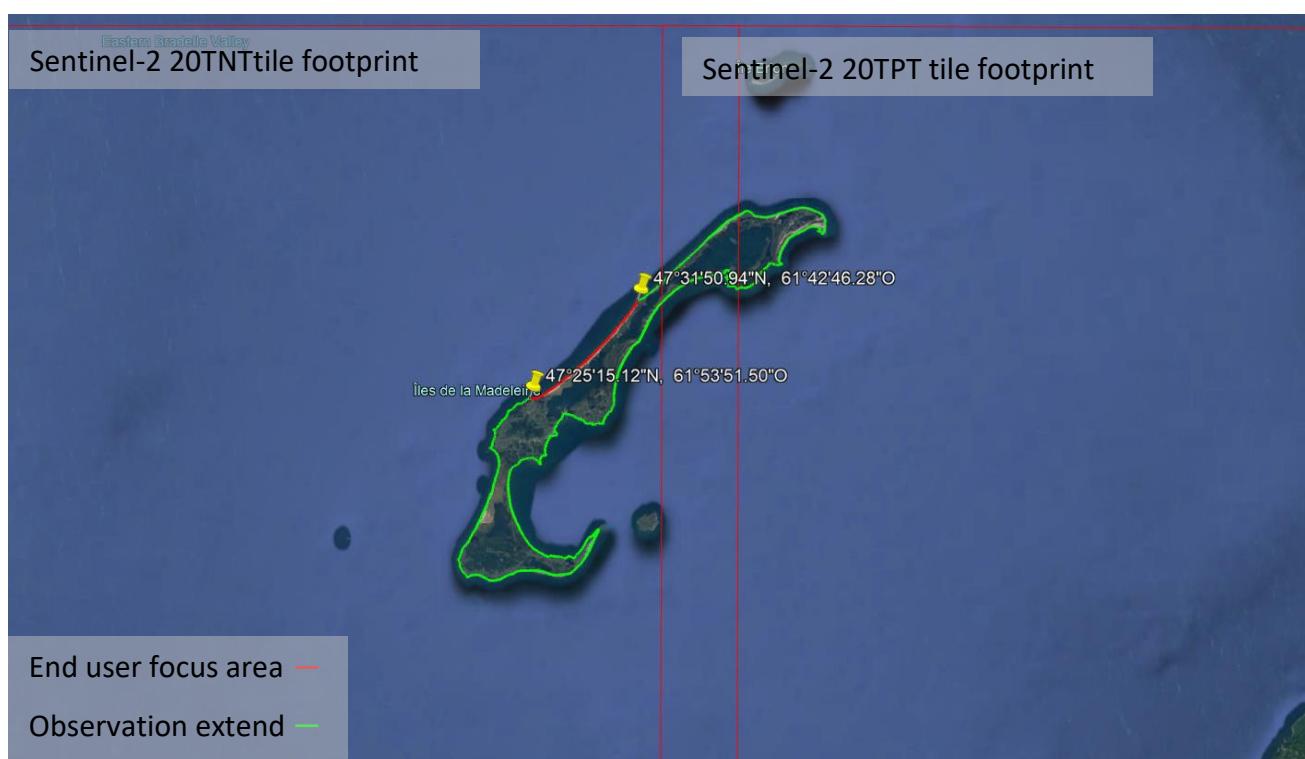
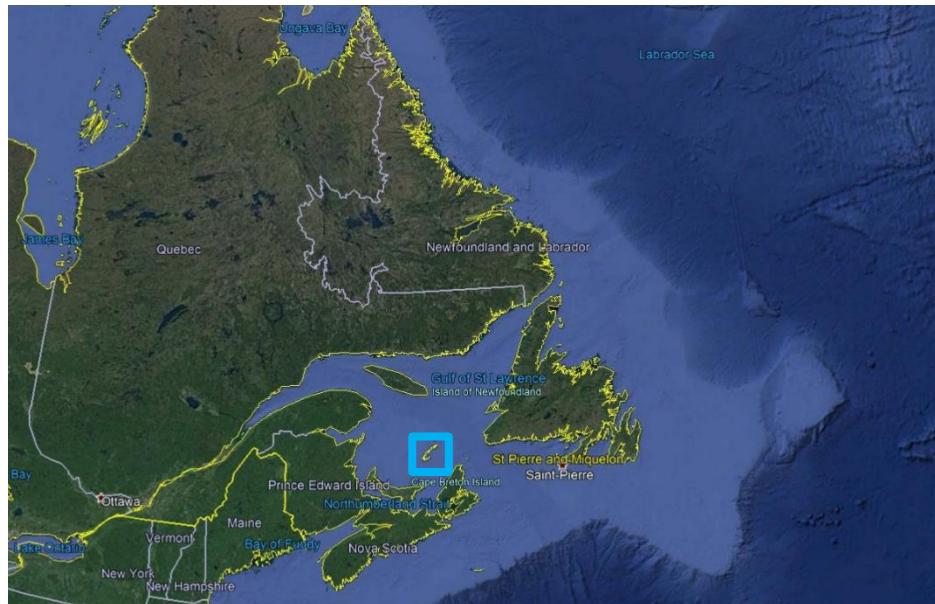
An average of 20 km of coastline for the end user focus area and 127 km of coastline for the whole observation.

2.2 Pointe aux Outardes



An average of 32 km of coastline for the end user focus area and 187 km of coastline for the whole observation.

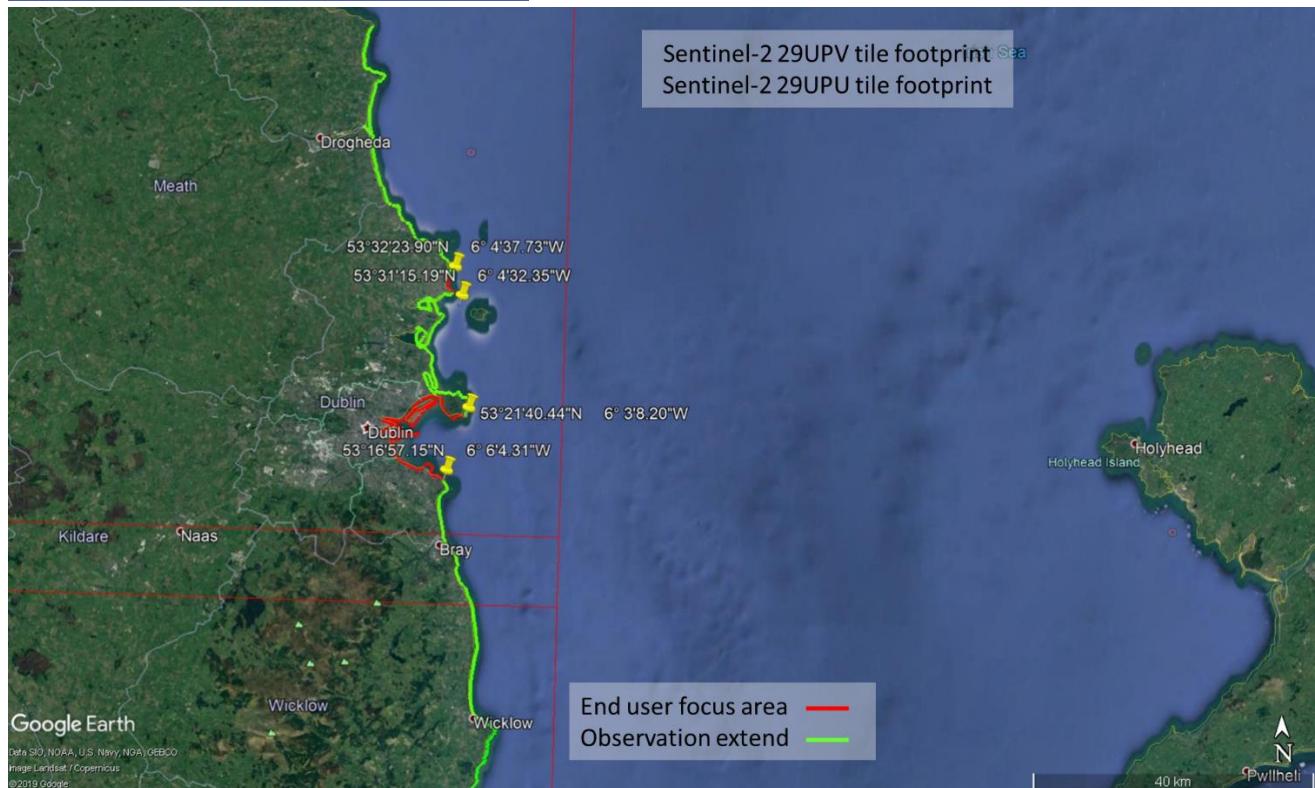
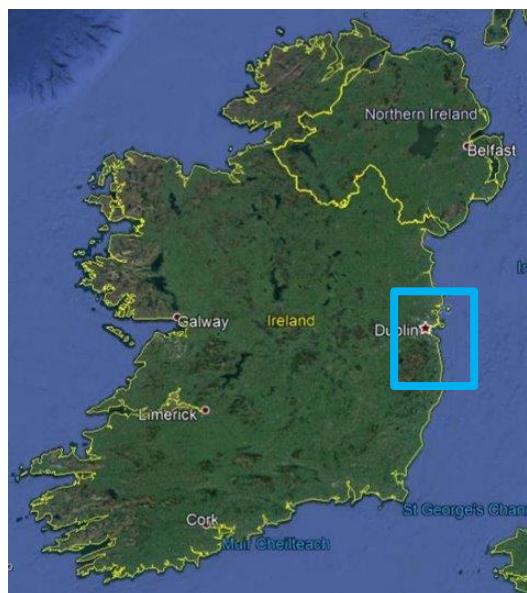
2.3 Pointe au Loup



An average of 20 km of coastline for the end user focus area and 195 km of coastline for the whole observation.

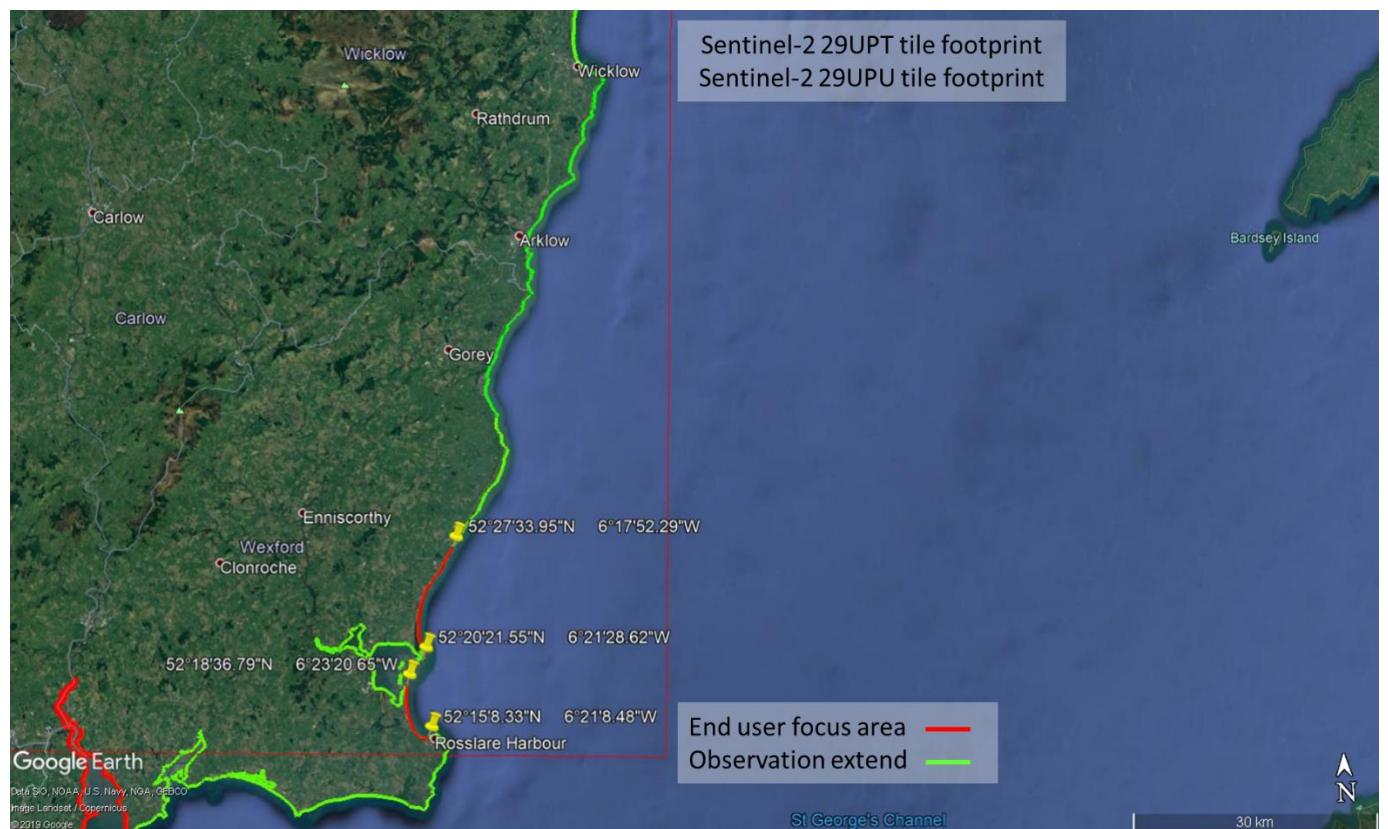
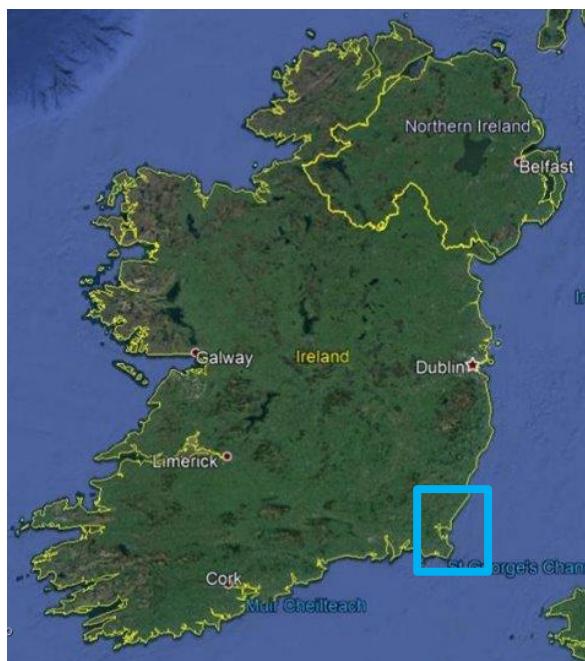
3 Ireland

3.1 Dublin bay and Rush



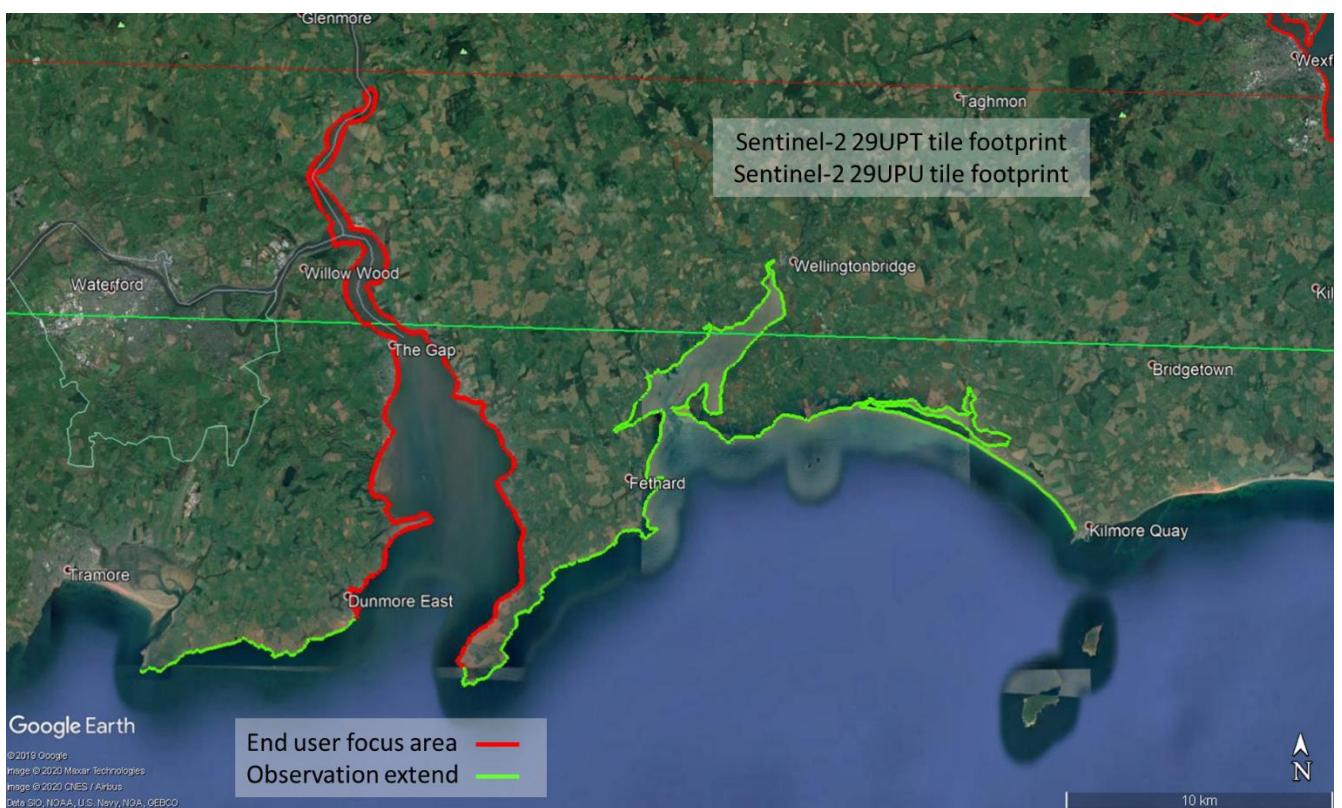
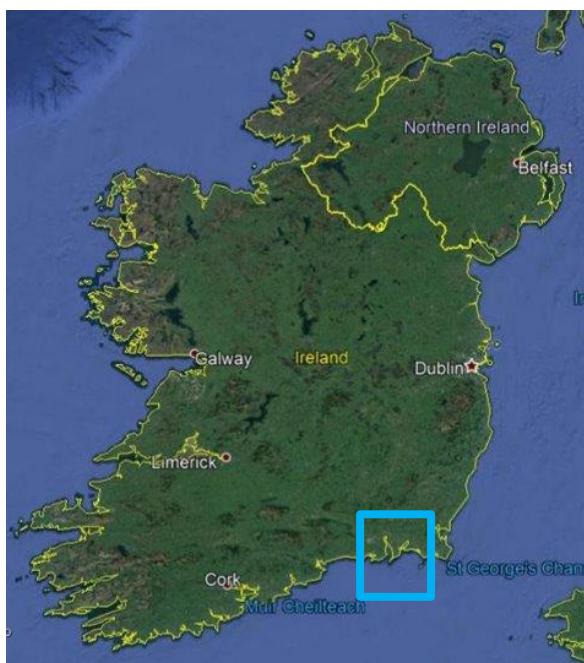
An average of 66 km of coastline for the end user focus area and 191 km of coastline for the whole observation.

3.2 Ballyconnigar-Raven's point and Rosslare



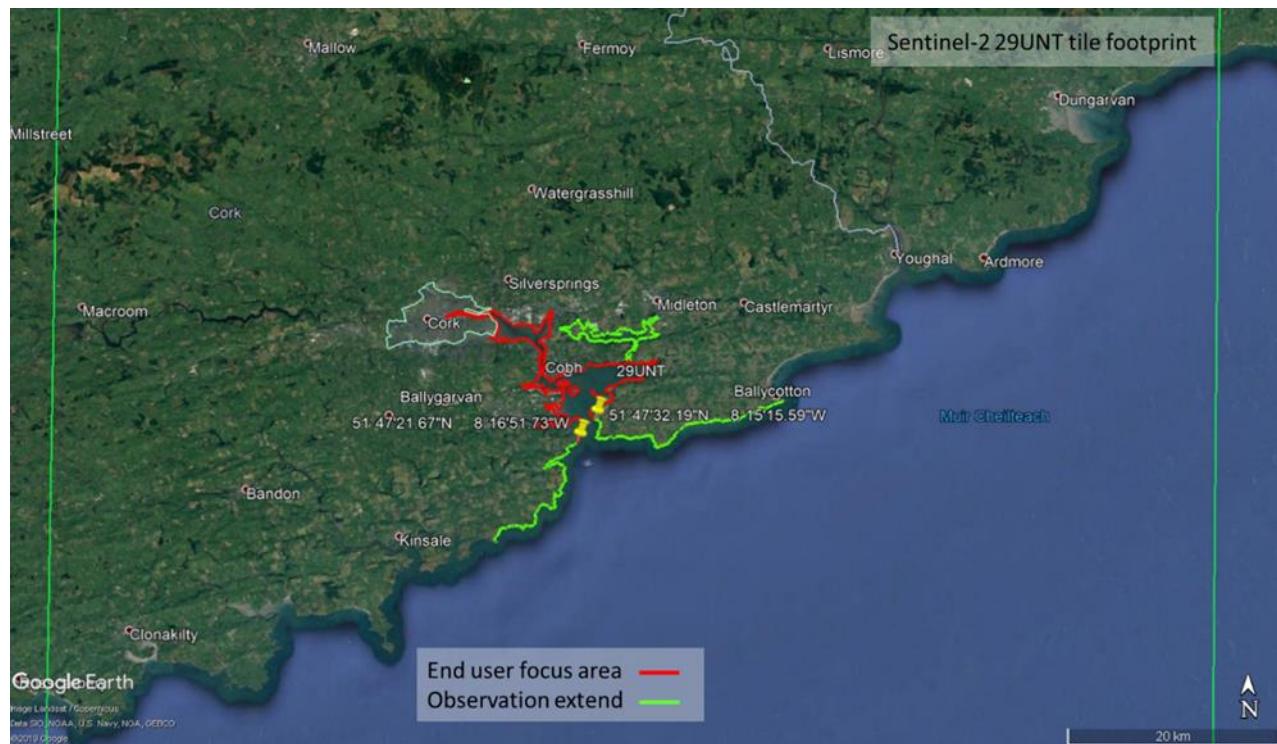
An average of 23 km of coastline for the end user focus area and 200 km of coastline for the whole observation.

3.3 Waterford estuary



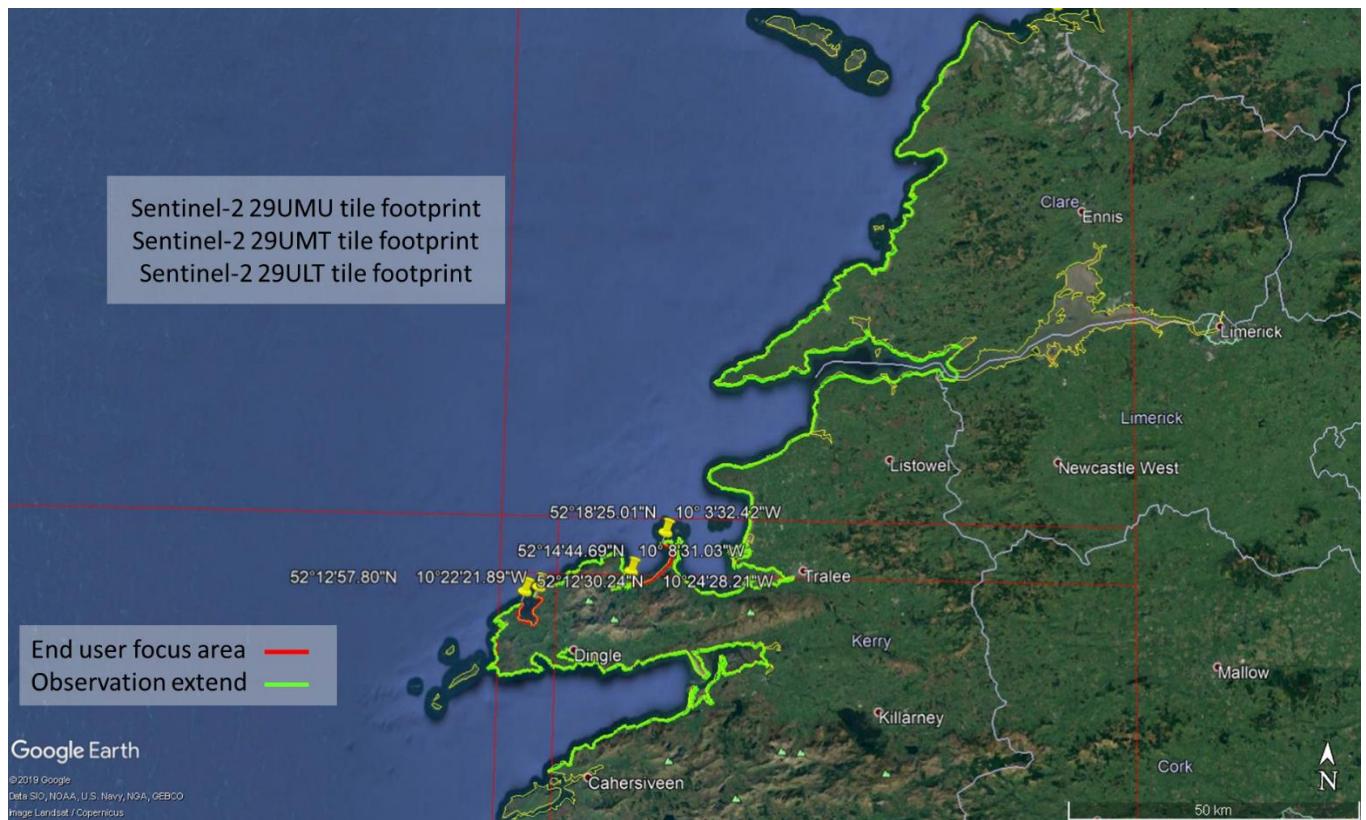
An average of 47 km of coastline for the end user focus area and 135 km of coastline for the whole observation.

3.4 Cork harbour



An average of 105.36 km of coastline for the end user focus area and 189 km of coastline for the whole observation.

3.5 Smerwick Harbour and Brandon Bay

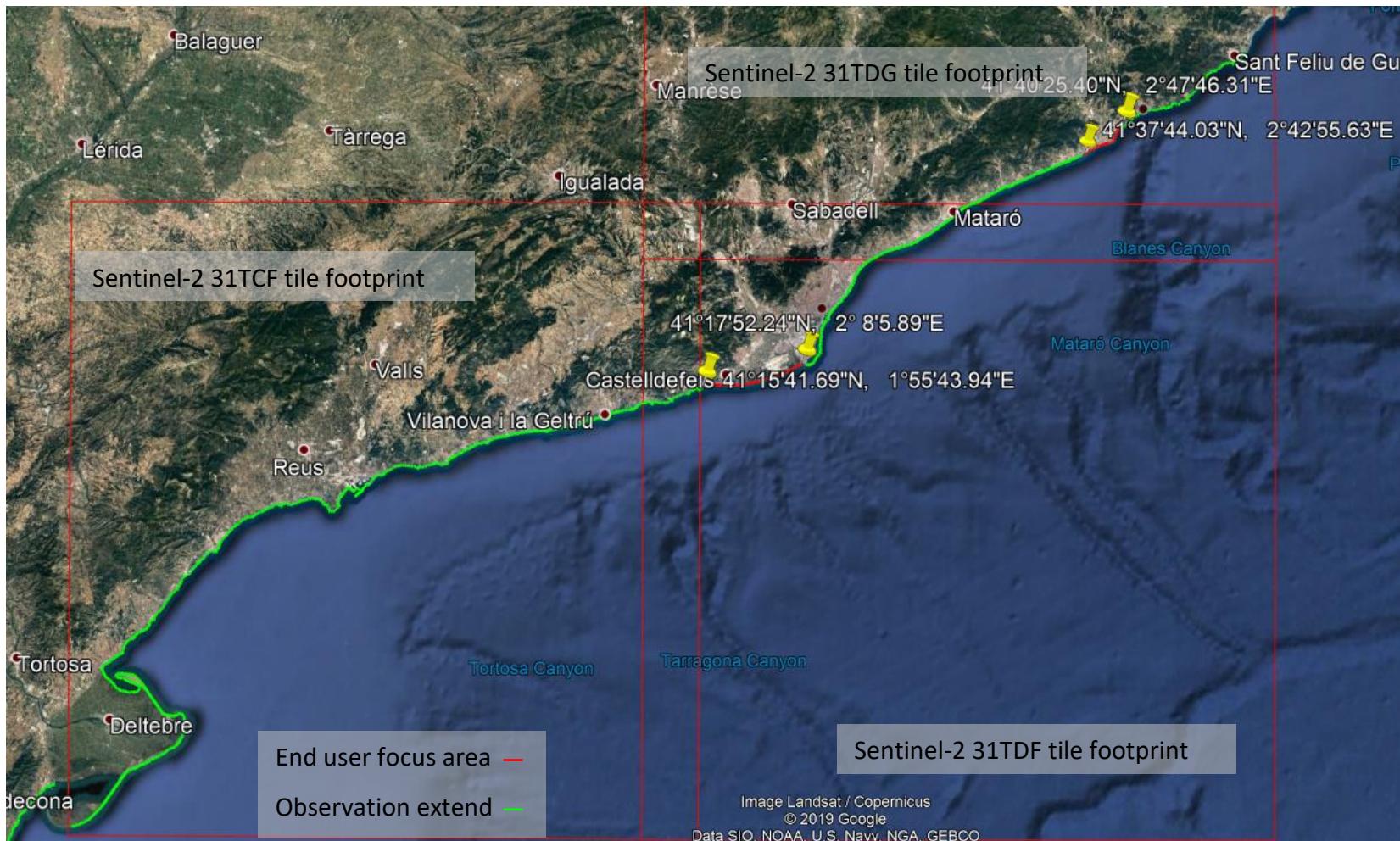


An average of 29 km of coastline for the end user focus area and 573 km of coastline for the whole observation.

4 Spain

4.1 Barcelona and Tordera Delta

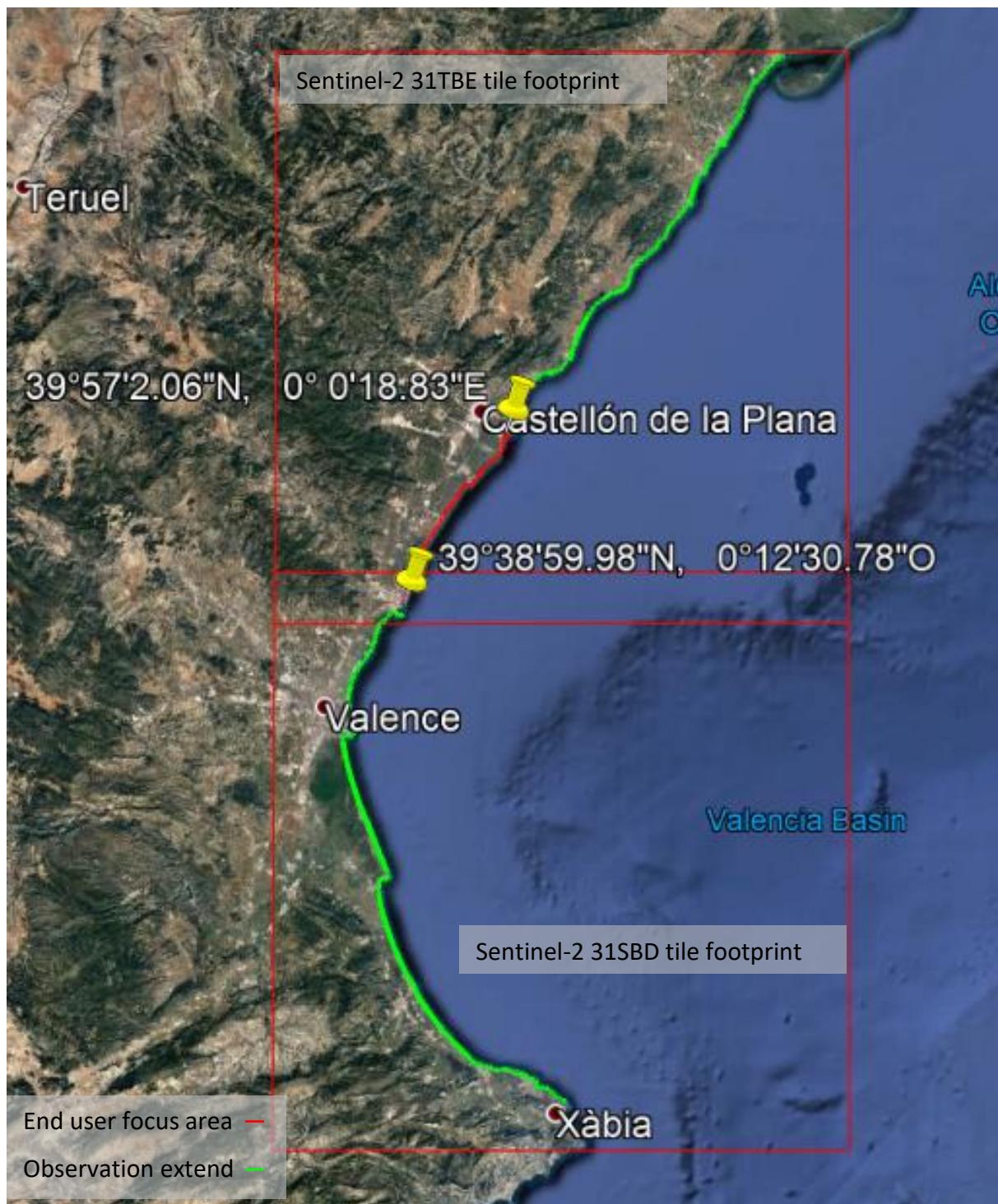




An average of 27 km of coastline for the end user focus area and 332 km of coastline for the whole observation.

4.2 Port of Castellón and Port of Sagunt

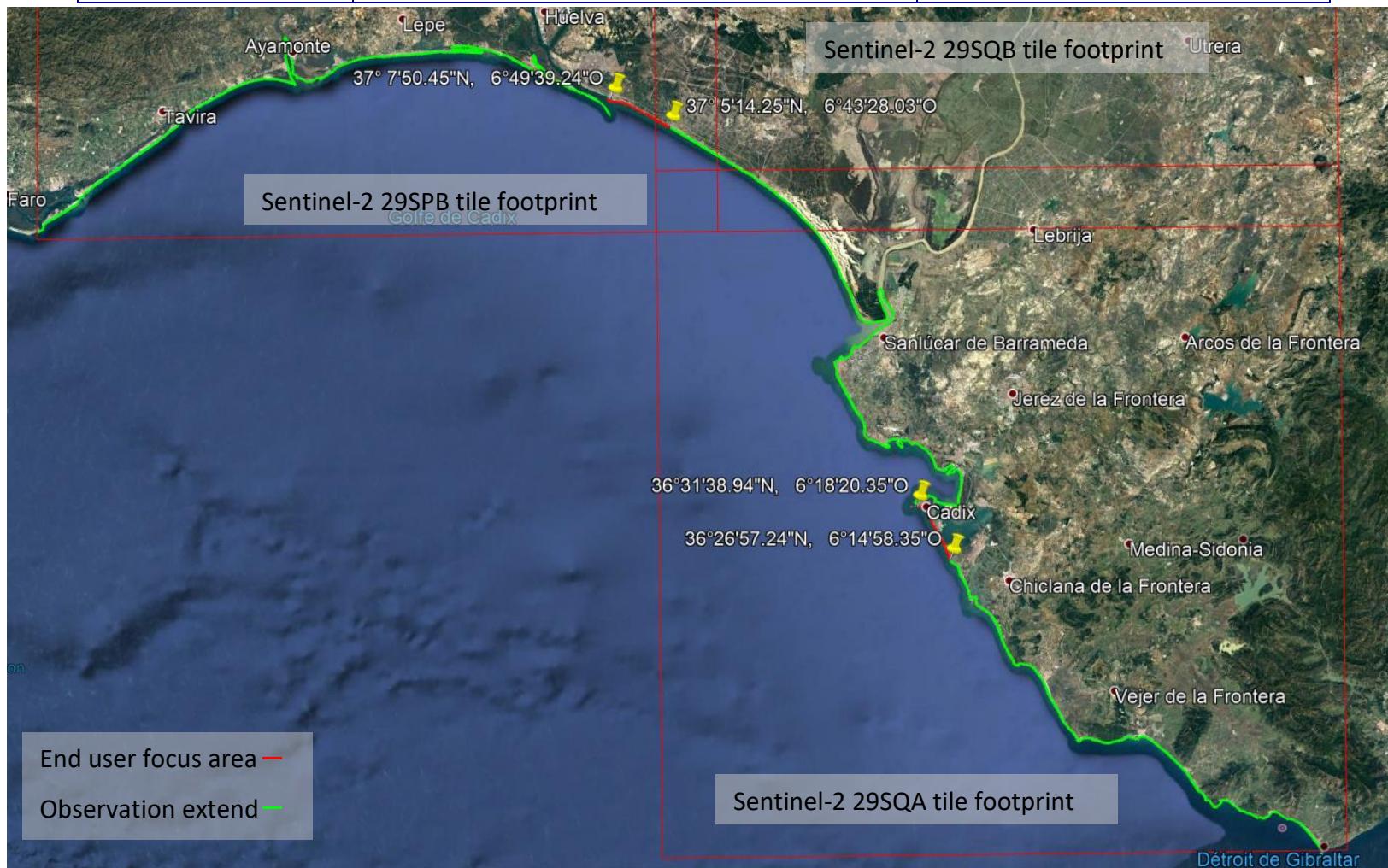




An average of 41km of coastline for the end user focus area and 268 km of coastline for the whole observation.

4.3 Cadiz and Mazagón Beach

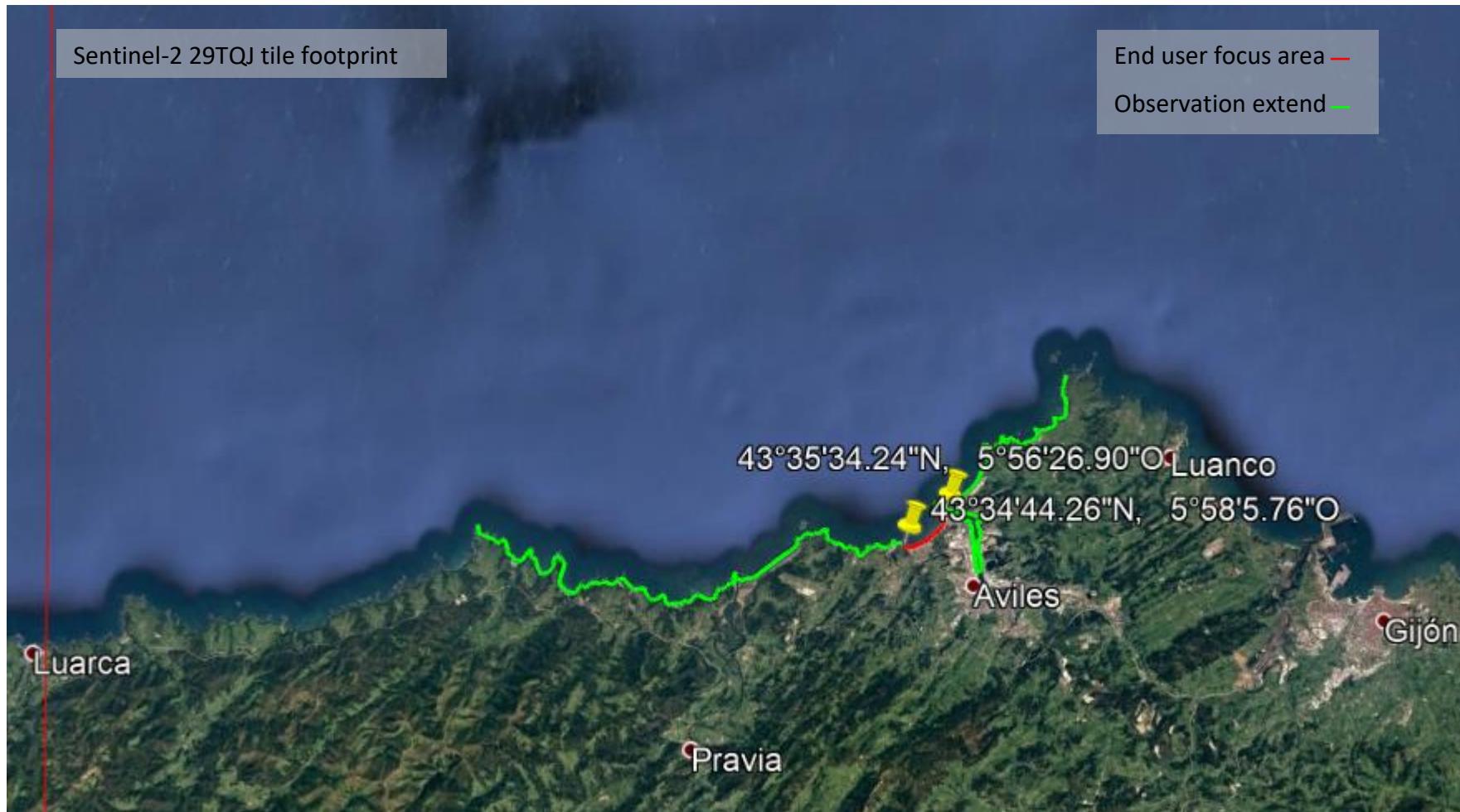




An average of 22 km of coastline for the end user focus area and 380 km of coastline for the whole observation.

4.4 Salinas





An average of 4 km of coastline for the end user focus area and 64 km of coastline for the whole observation.

4.5 El Puntal of Santander

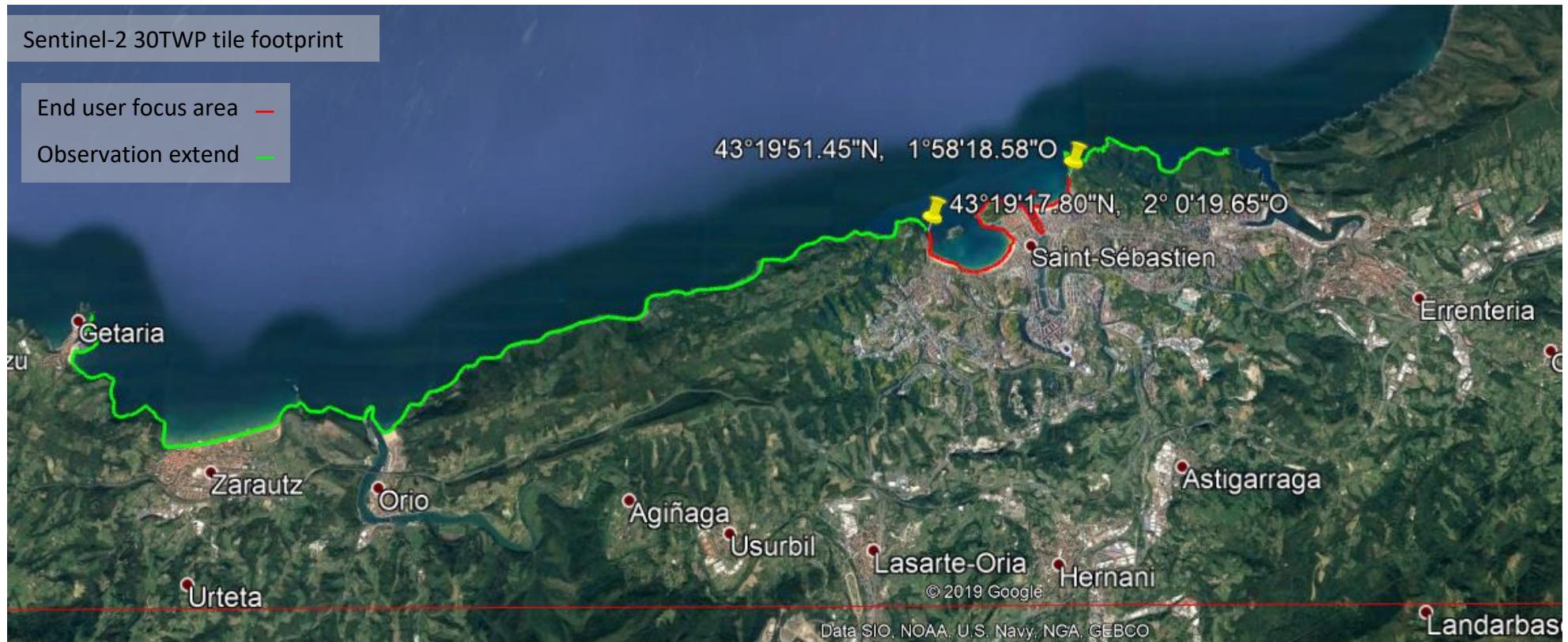




An average of 5 km of coastline for the end user focus area and 47 km of coastline for the whole observation.

4.6 San Sebastian





An average of 7 km of coastline for the end user focus area and 34 km of coastline for the whole observation.

4.7 Maspalomas

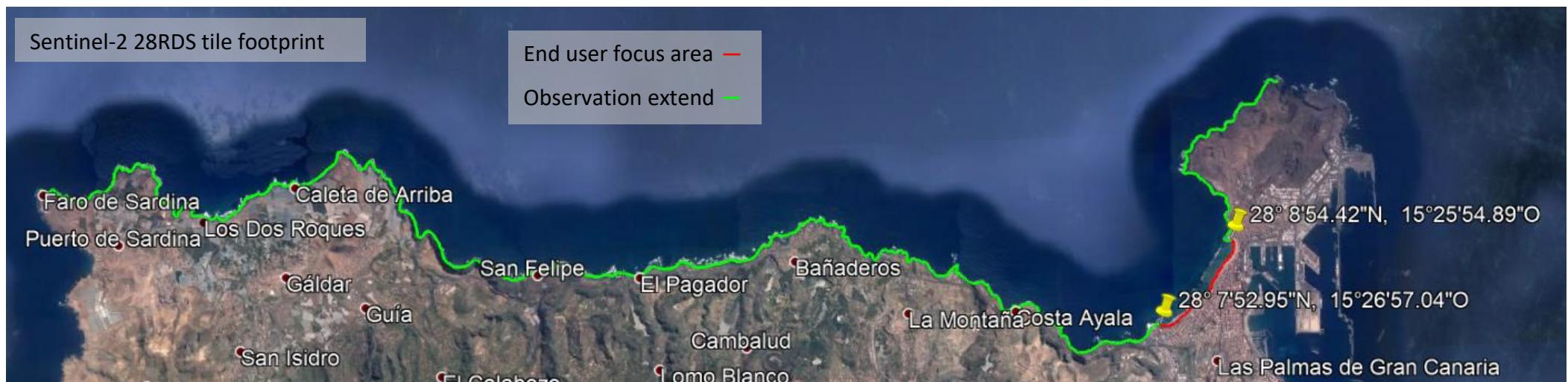




An average of 6 km of coastline for the end user focus area and 71 km of coastline for the whole observation.

4.8 Las Canteras

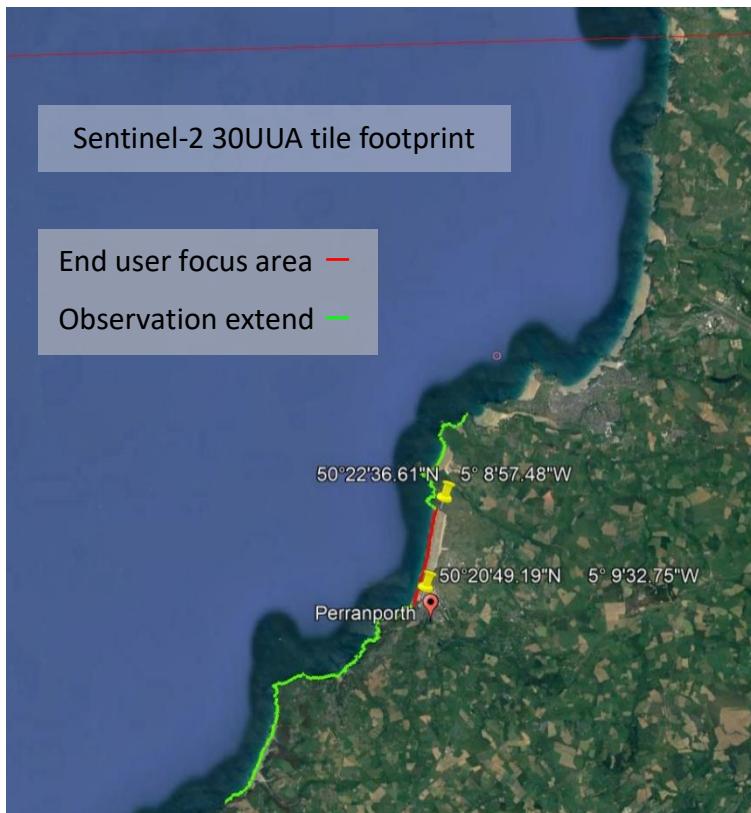




An average of 3 km of coastline for the end user focus area and 45 km of coastline for the whole observation.

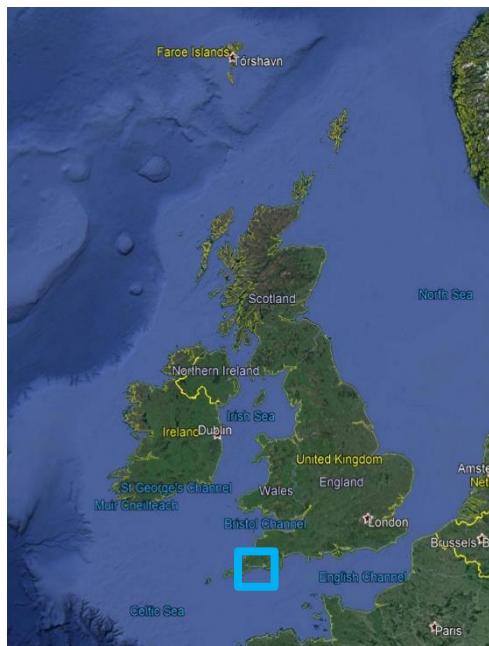
5 United Kingdom

5.1 Perranporth



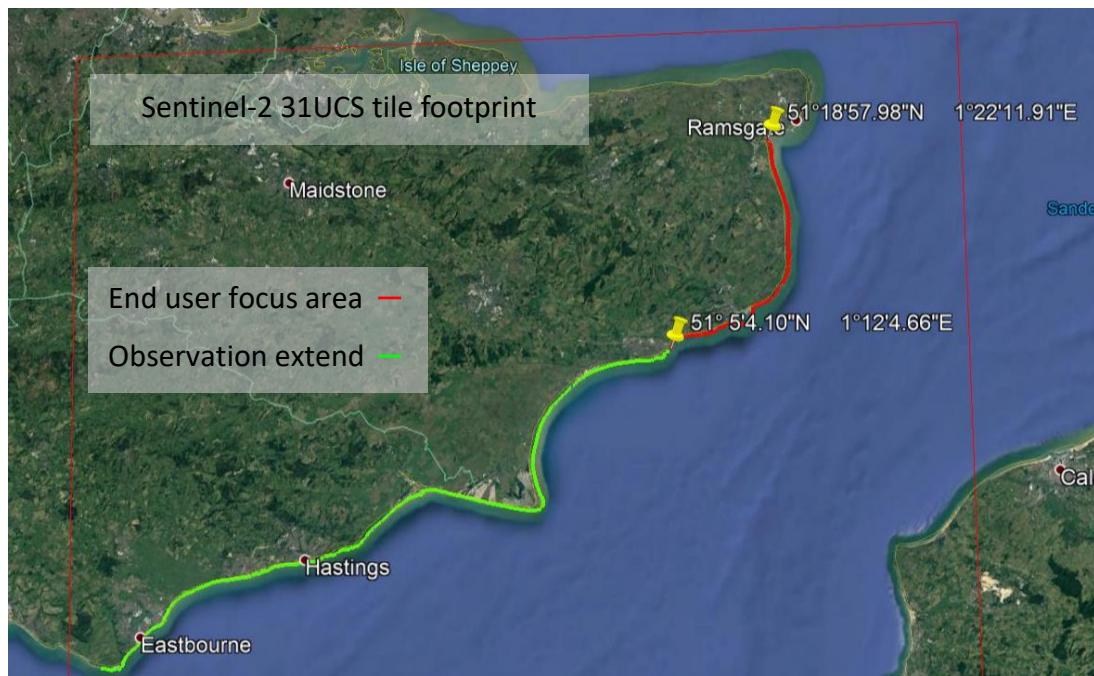
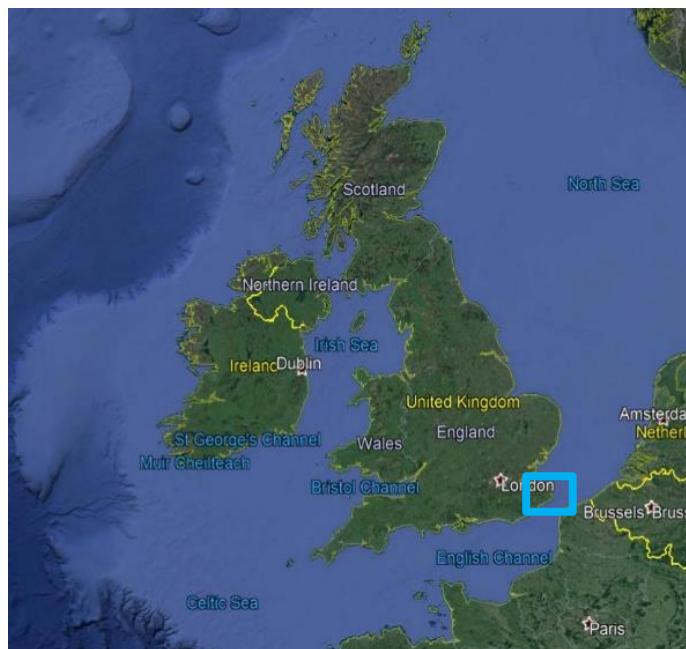
An average of 4 km of coastline for the end user focus area and 25 km of coastline for the whole observation.

5.2 Start Bay



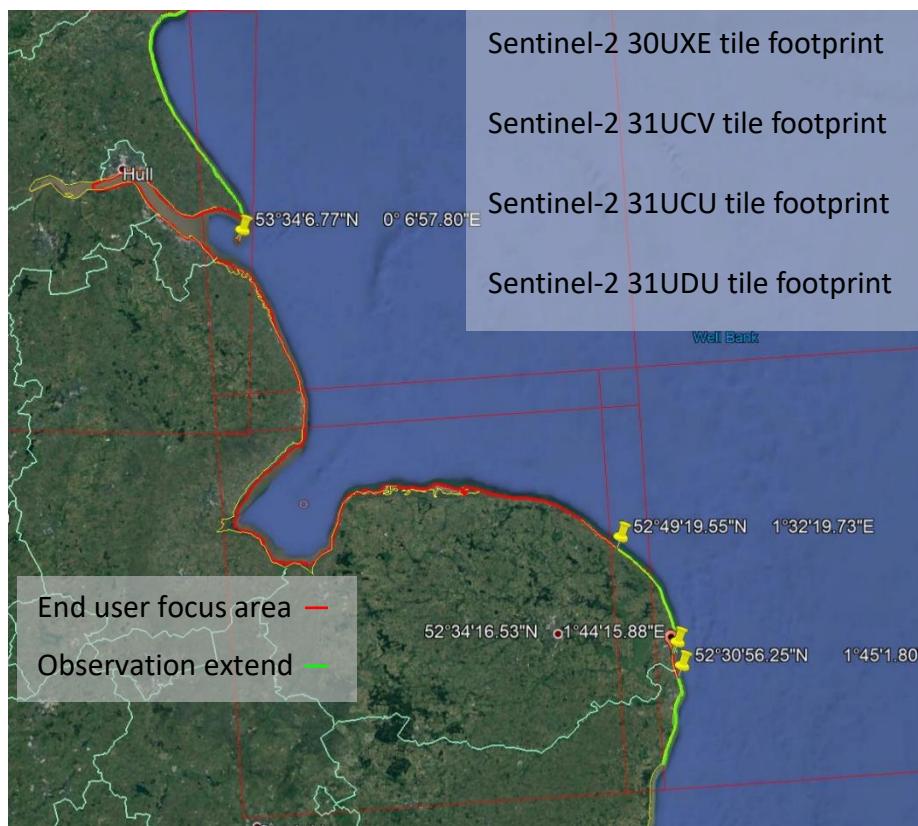
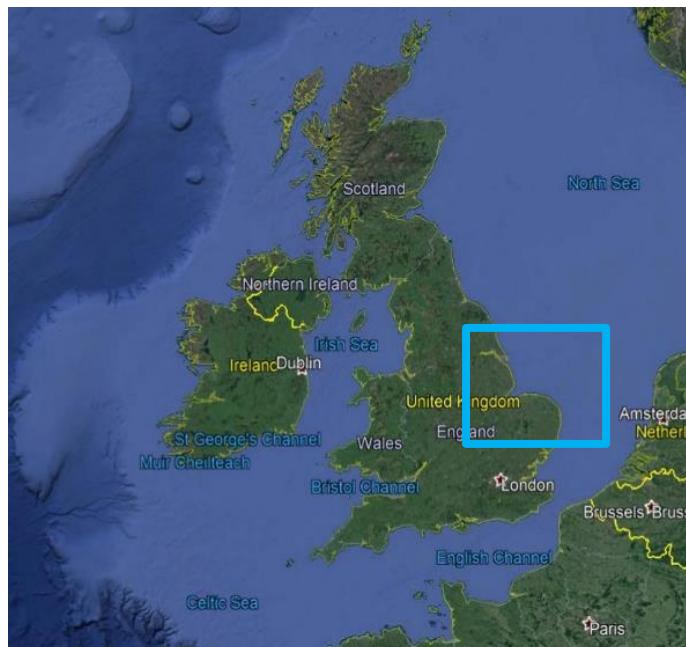
An average of 12 km of coastline for the end user focus area and 26 km of coastline for the whole observation.

5.3 Kent



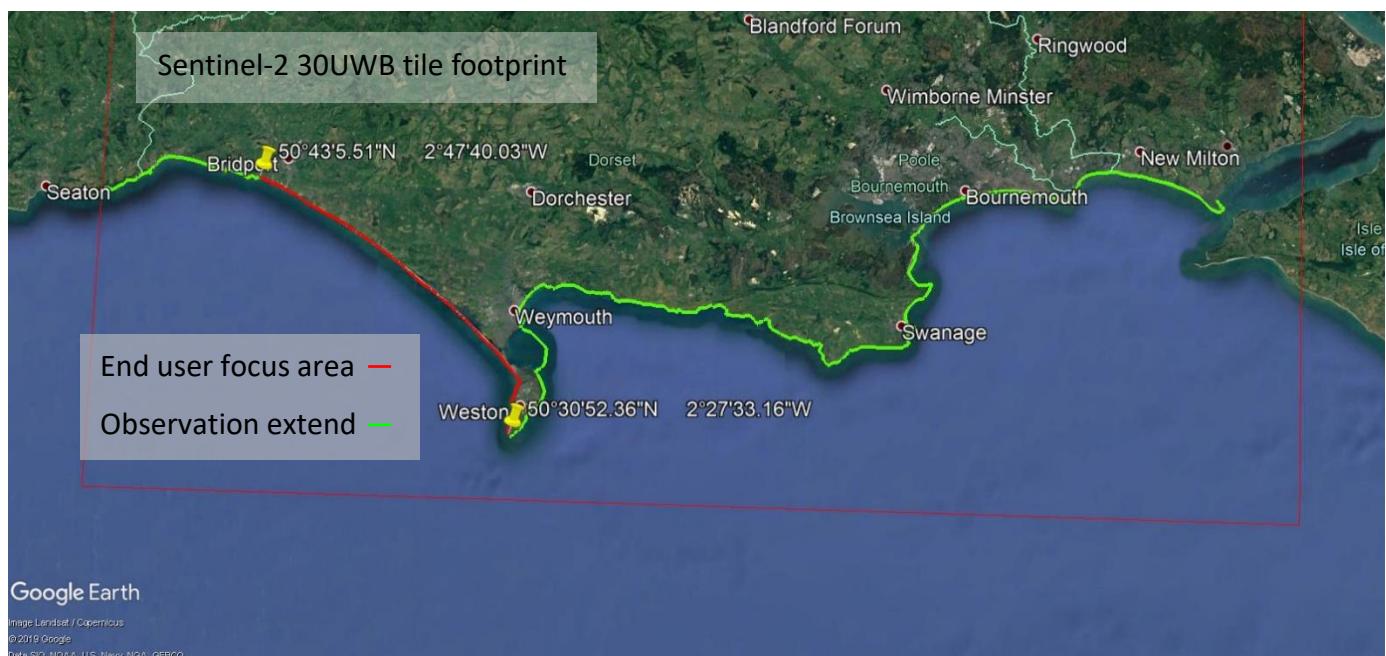
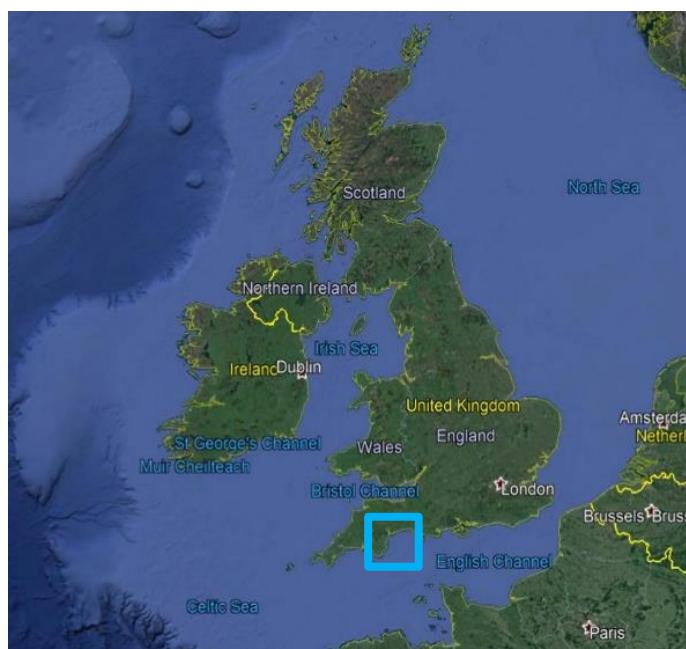
An average of 38 km of coastline for the end user focus area and 132 km of coastline for the whole observation.

5.4 Spurn Head to Hunstanton



An average of 335 km of coastline for the end user focus area and 462 km of coastline for the whole observation.

5.5 Chesil Beach



An average of 36 km of coastline for the end user focus area and 158 km of coastline for the whole observation.



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