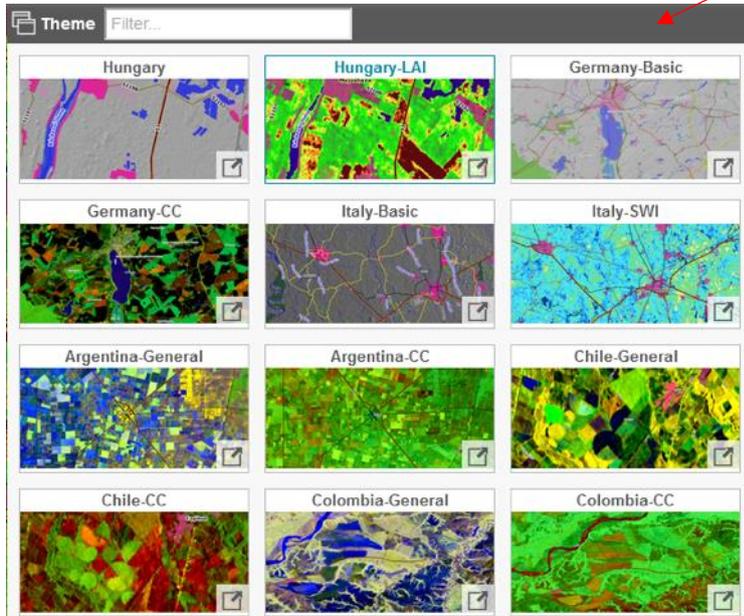
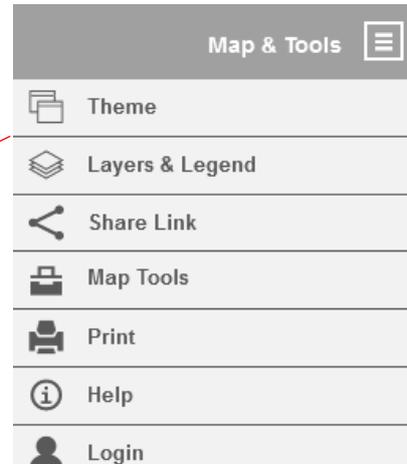


**imap** A Web-GIS application that shows agricultural map products, derived from Sentinel-1 SAR data.

[Follow the Link](#)

The main menu of the application you find at **Map & Tools**.

**Theme** shows a panel with the available GIS projects. For each region there is a base project, with free available data and a project showing a map product from Sentinel-1 SAR data.



If you would like to see other map products you can register for **free** on our web-site:

<https://cropix.ch/imap-en/>

You will receive your login details via email and use them to **login**. After that you will see all other available map products from the specified

region.

The **layers** are organized by orbits and acquisition.

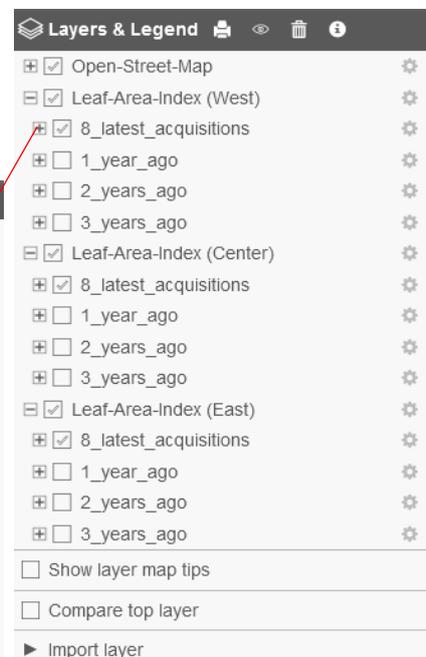
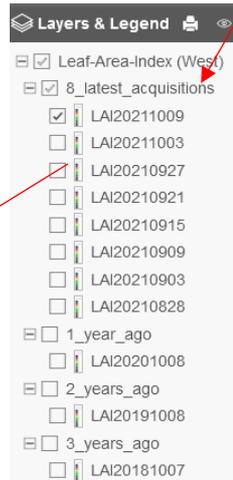
The example, the right side shows the layer structure for Hungary, where we have 3 orbits (West / Center / East).

From each map product we have the last 8 acquisitions as well as the acquisitions from the same time period from each of the previous 3 years.

Beside the **check-box** you will find the layer definition, which pops-up, when you move your mouse over it.



GPS functionality can be added optionally for mobile devices.

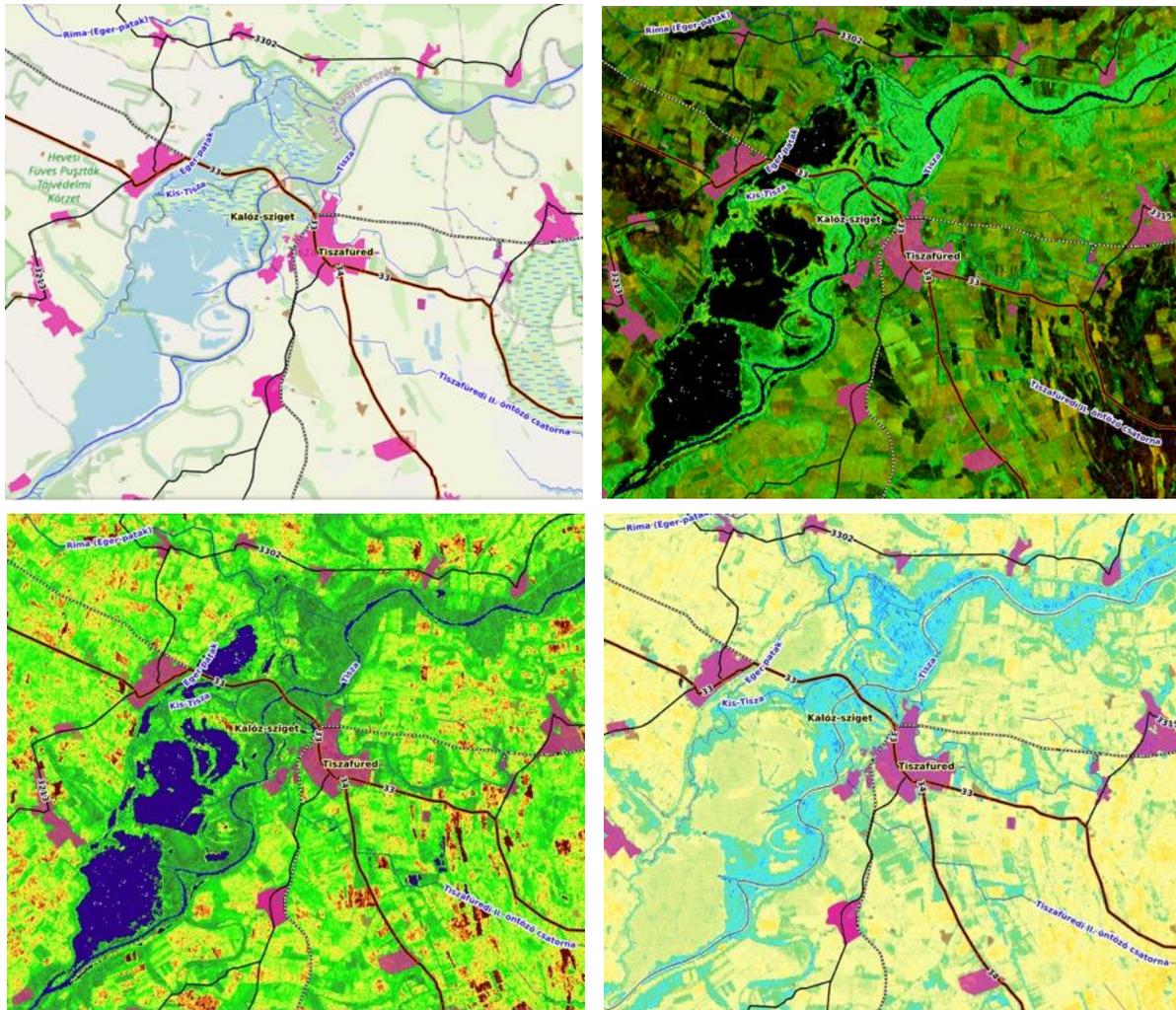


Various background maps available.



The following 4 examples show a region in the east of Hungary. From Open-street-map the vector layers overlay the map products. The three map products are: Color Composite, LAI and SWI.

Upper right: Color Composite from Oct 11, 2021. The map product shows the landscape in a pseudo true color representation. Water appears in black. Forests in turquoise, cropland brown and green.

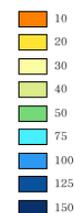


Lower left: LAI (Leaf Area Index) The map product shows the leaf area index in a range from 0 – 60. The value 40 represents an LAI of 4, which means, that the surface is covered 4 times with leaves. The map product was calibrated against in-situ measurements and can be seen as an approximation. LAI is a bio-physical parameter and can be used for yield forecast modelling.



The color coding starts with blue, which represents inland water, brown indicates bare soil and low vegetation. The growth of vegetation is represented by the colors from yellow to green and dark green.

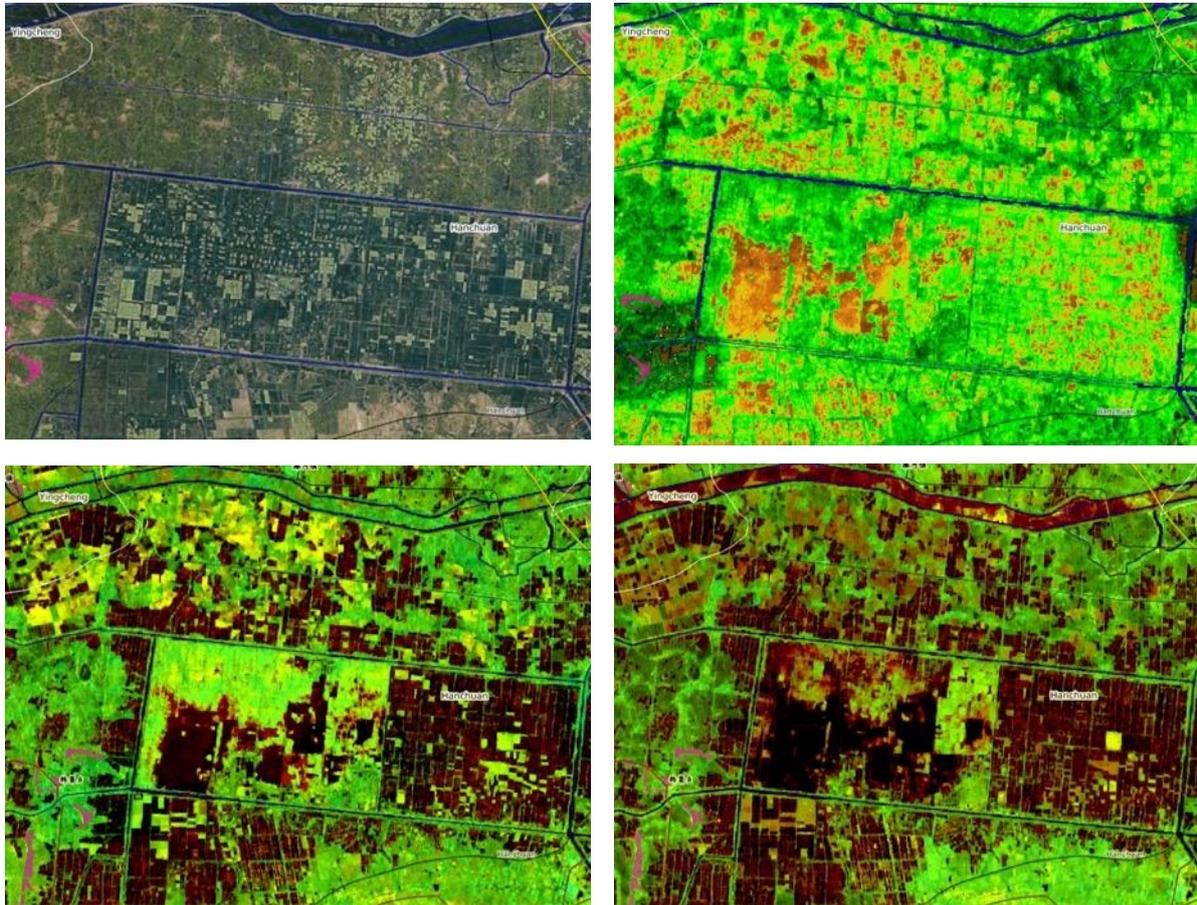
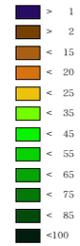
Lower right: SWI (SAR Water Index) The map product shows the humidity of plants and top soil and was calibrated against optical NDWI (Gao). Just like with NDWI inland water is not detected as humid area. The values range from 1 – 150. The color coding ranges from brown to blue. The values are in a relative scale and show the spatial and temporal variability. The product is useful for irrigation schemes and to detect drought condition.



The next example is from China. It shows a rice cultivation area near Wuhan.

The upper left side uses Bing Maps, where we do not know the date of acquisition.

The upper right image shows ESVI (enhanced SAR Vegetation Index). The map product represents the spatial variability of vegetation in a scale from 1-100. 1 represents water. Brown shows bare soil or sparse vegetation. Green to dark green shows the intensity of vegetation. ESVI shows the variability of vegetation in a relative scale. The data for the ESVI is from Sep 30, 2021.



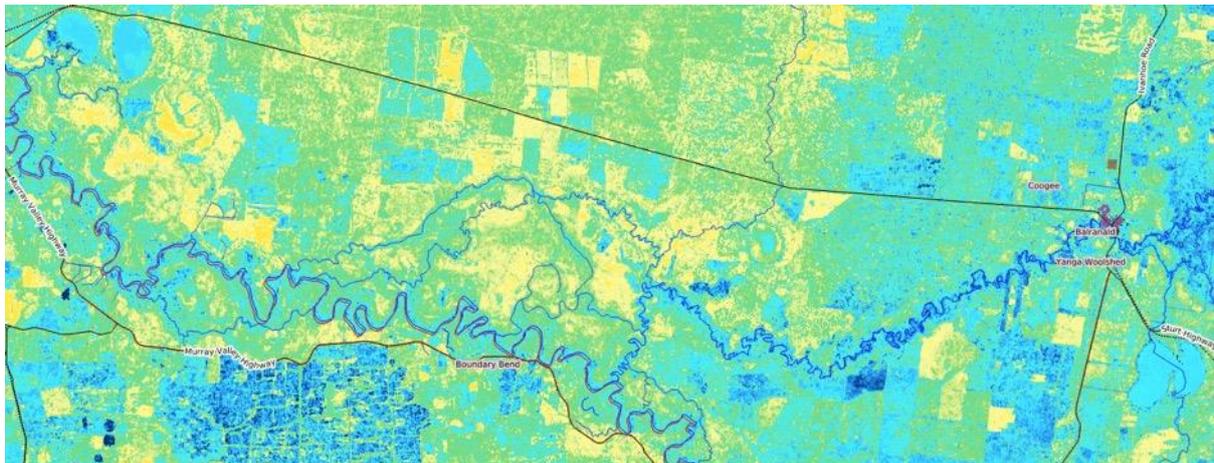
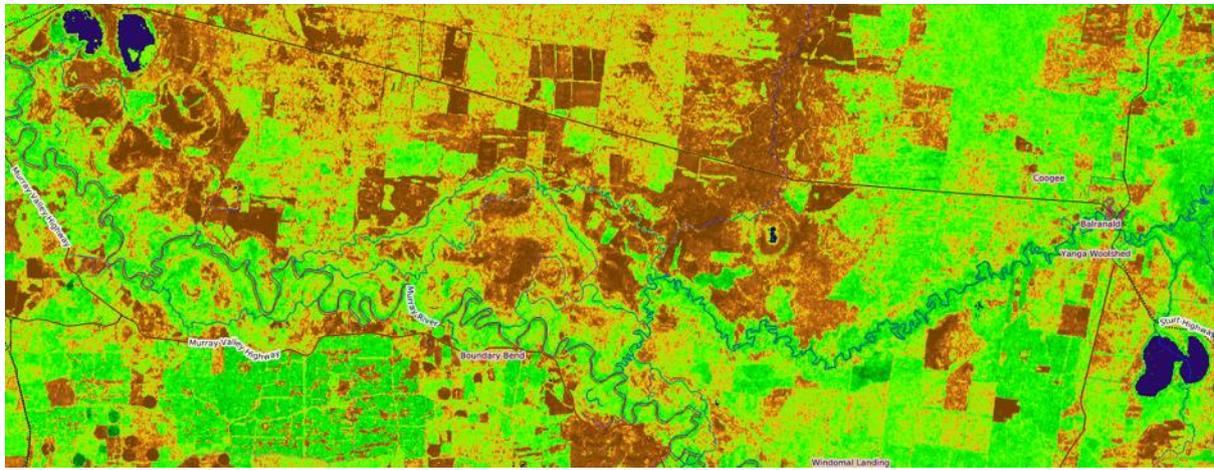
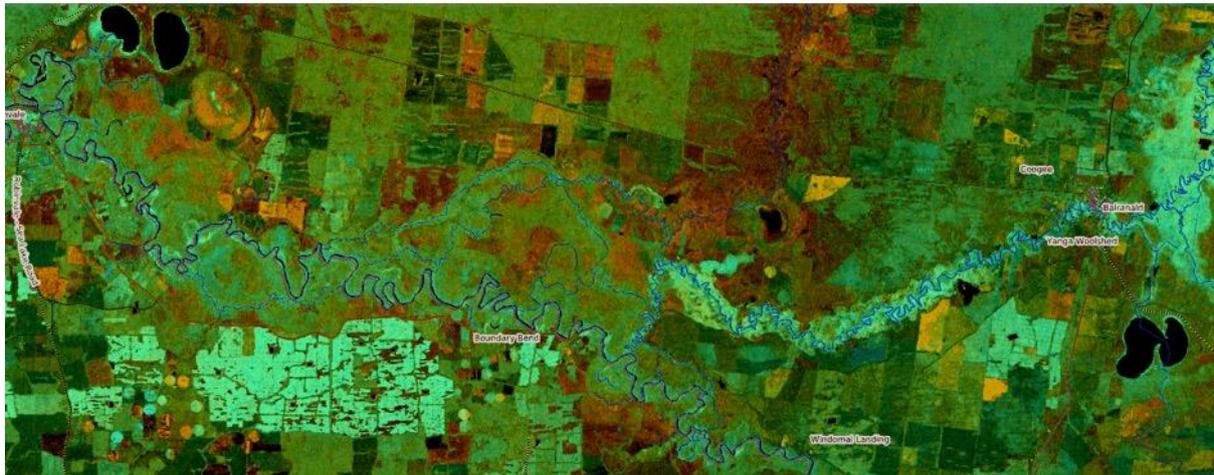
Lower left: The color composite from Sep 30, 2021. The lower right image shows the situation 12 month earlier. Last year it was drier at the same time and vegetation was a bit delayed.

The Color Composite is an RGB image with a high spectral contrast.

Once you get used to the Color Composite and its representation of the cropland it is easy to analyze crop condition and to detect anomalies.

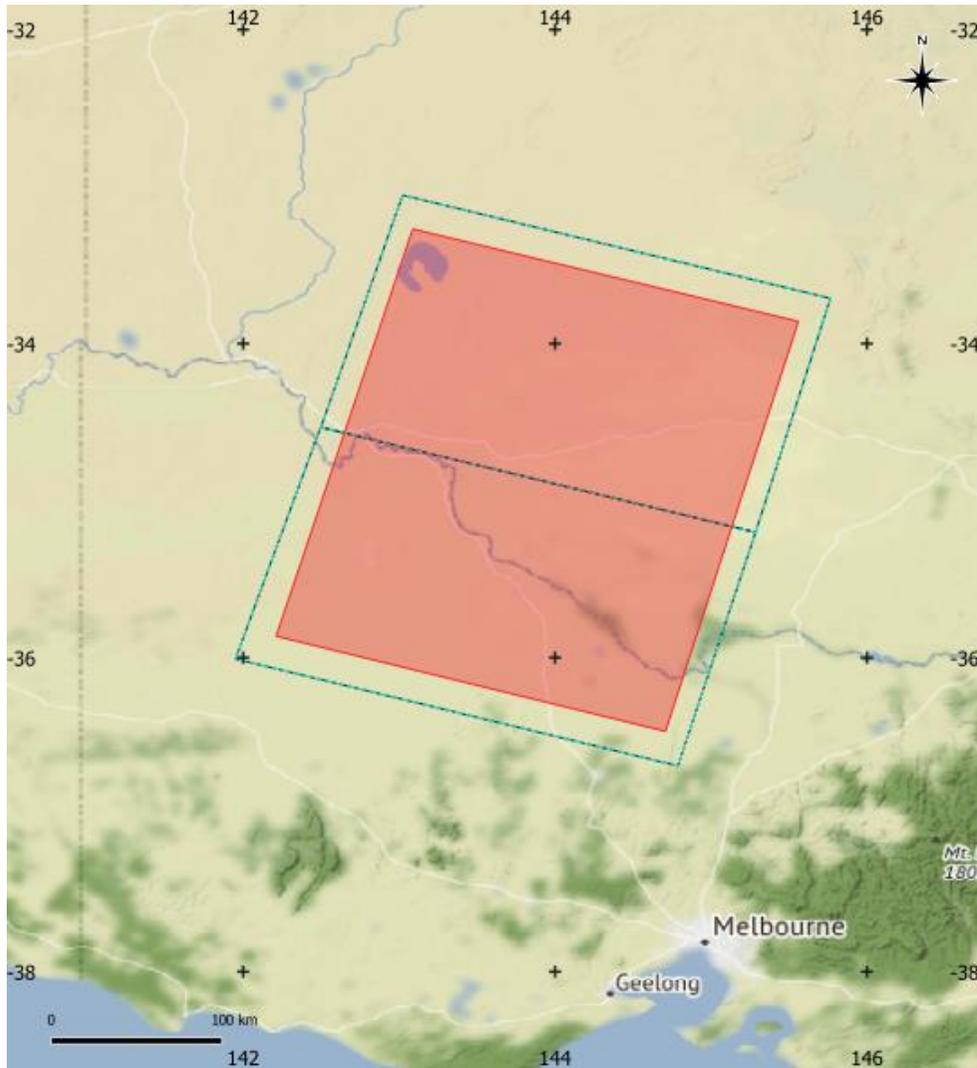
The following example is from Australia in New South Wales along the Murray river.

The three images (Color Composite, ESVI and SWI) are from Oct 5, 2021.

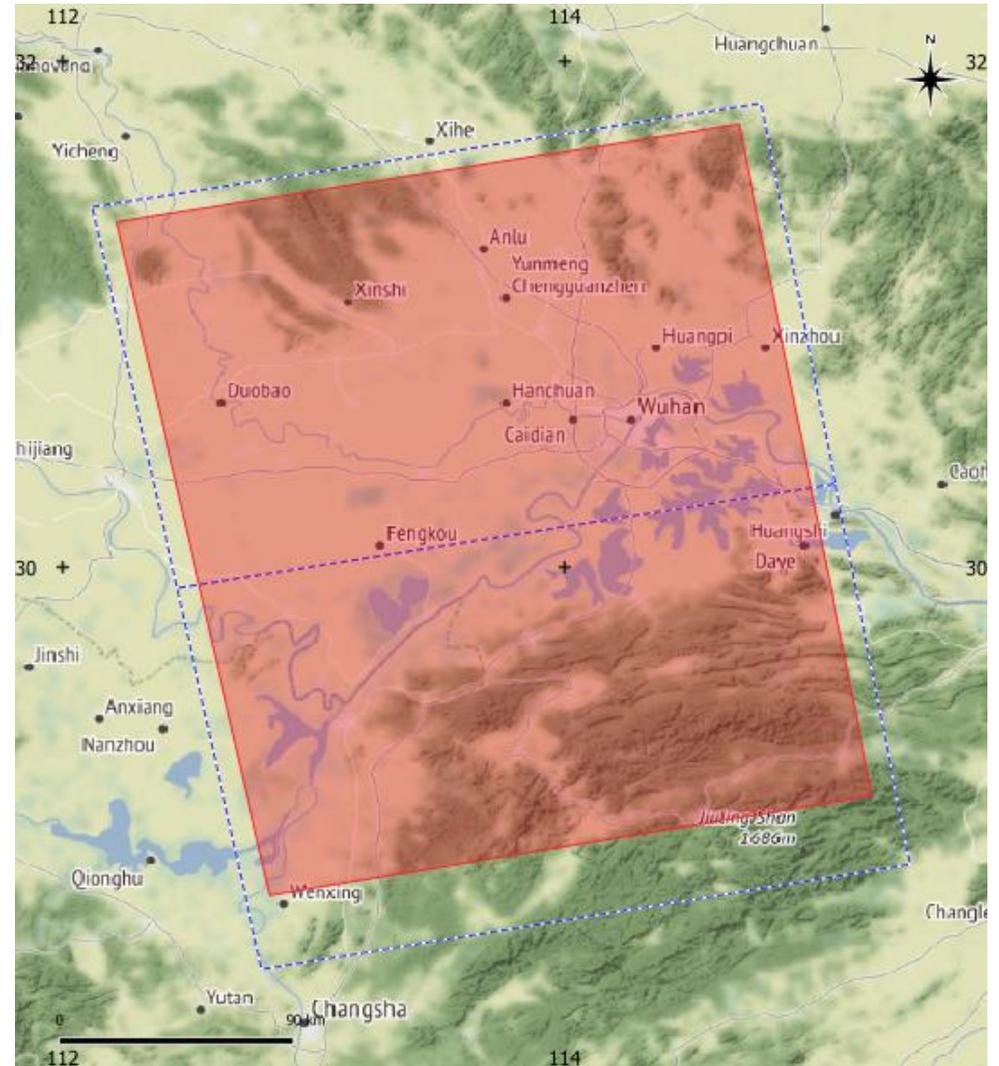


On the following pages you will find the **annexes** with an overview of the regions where we regularly update our map products.

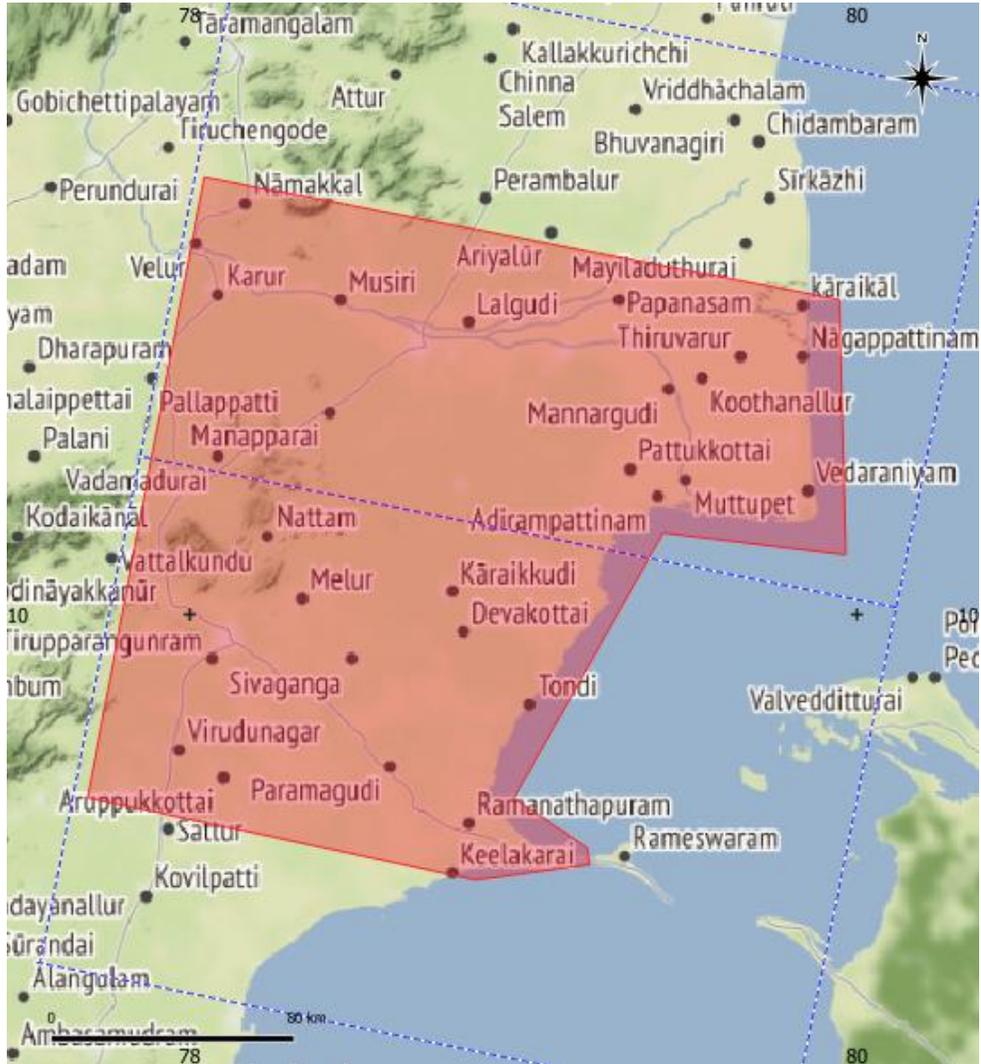
Australia: (New South Wales): One orbit ascending 12 days



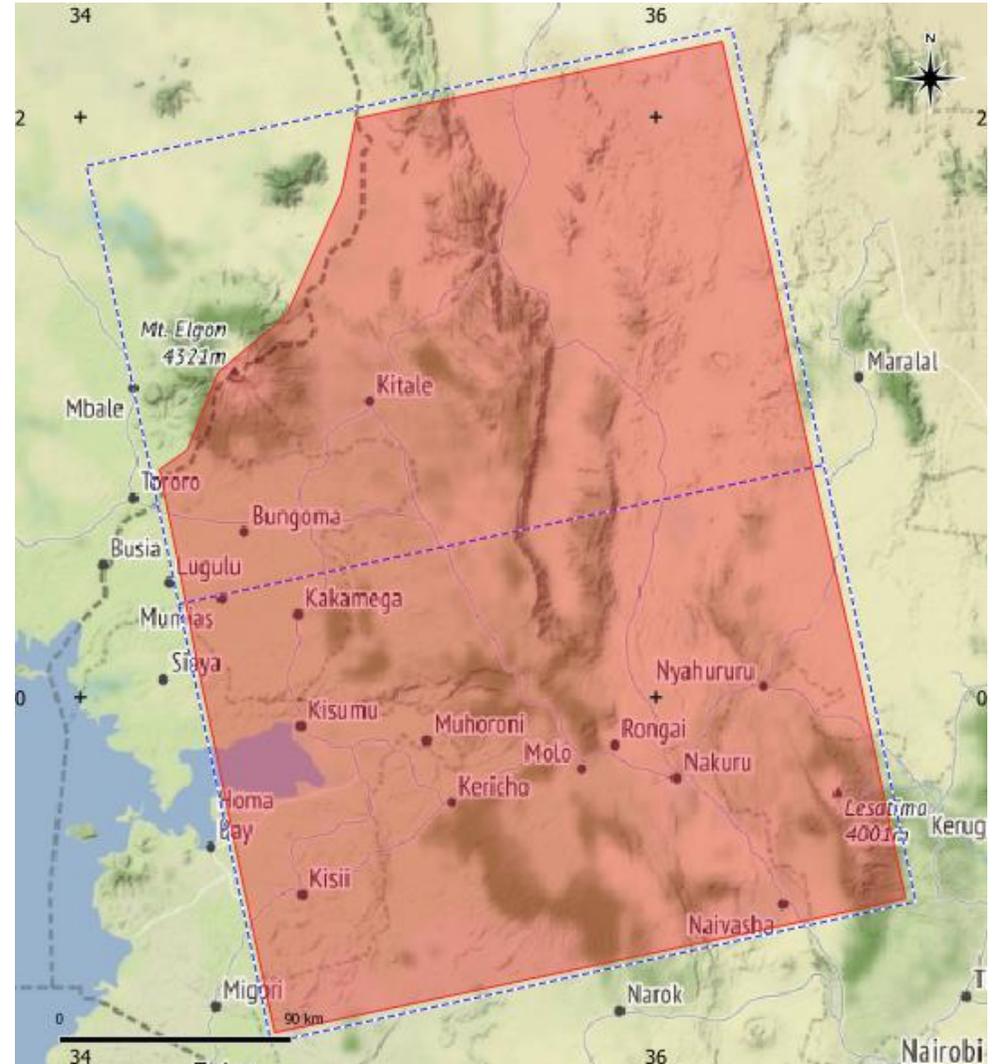
China: One orbit ascending 12 days



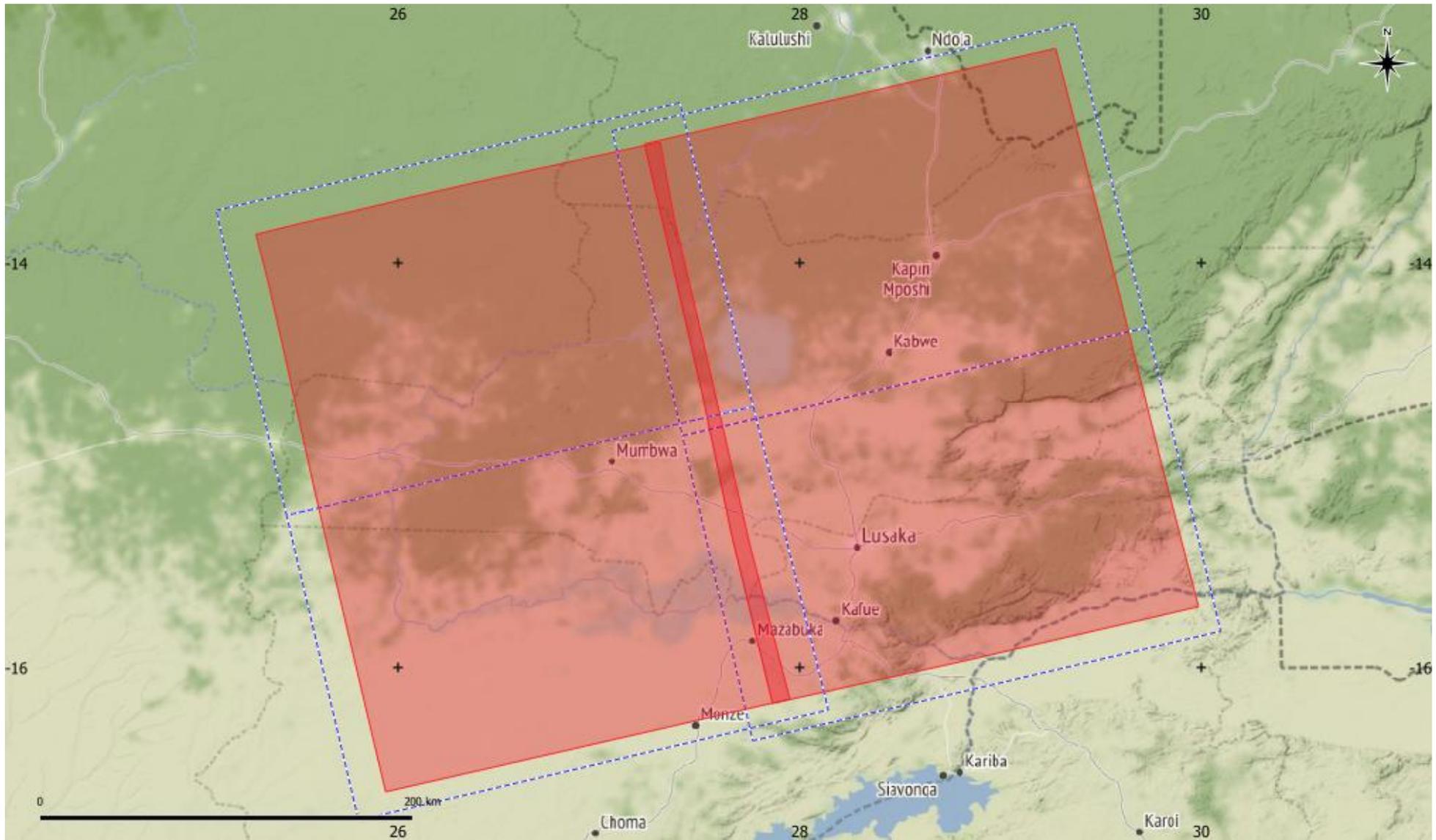
India (Tamil Nadu): One orbit ascending 12 days



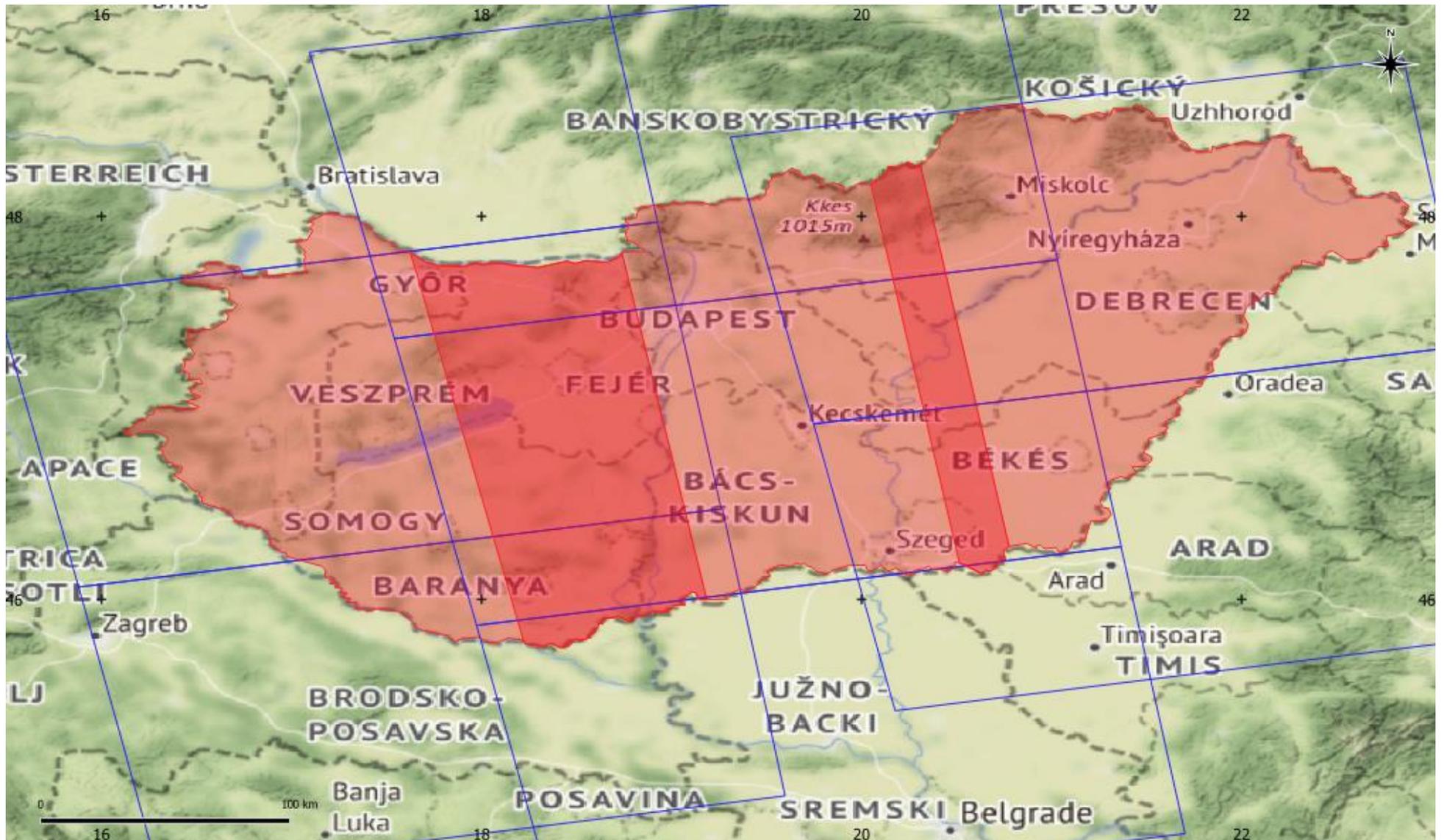
Kenya: One orbit ascending 12 days



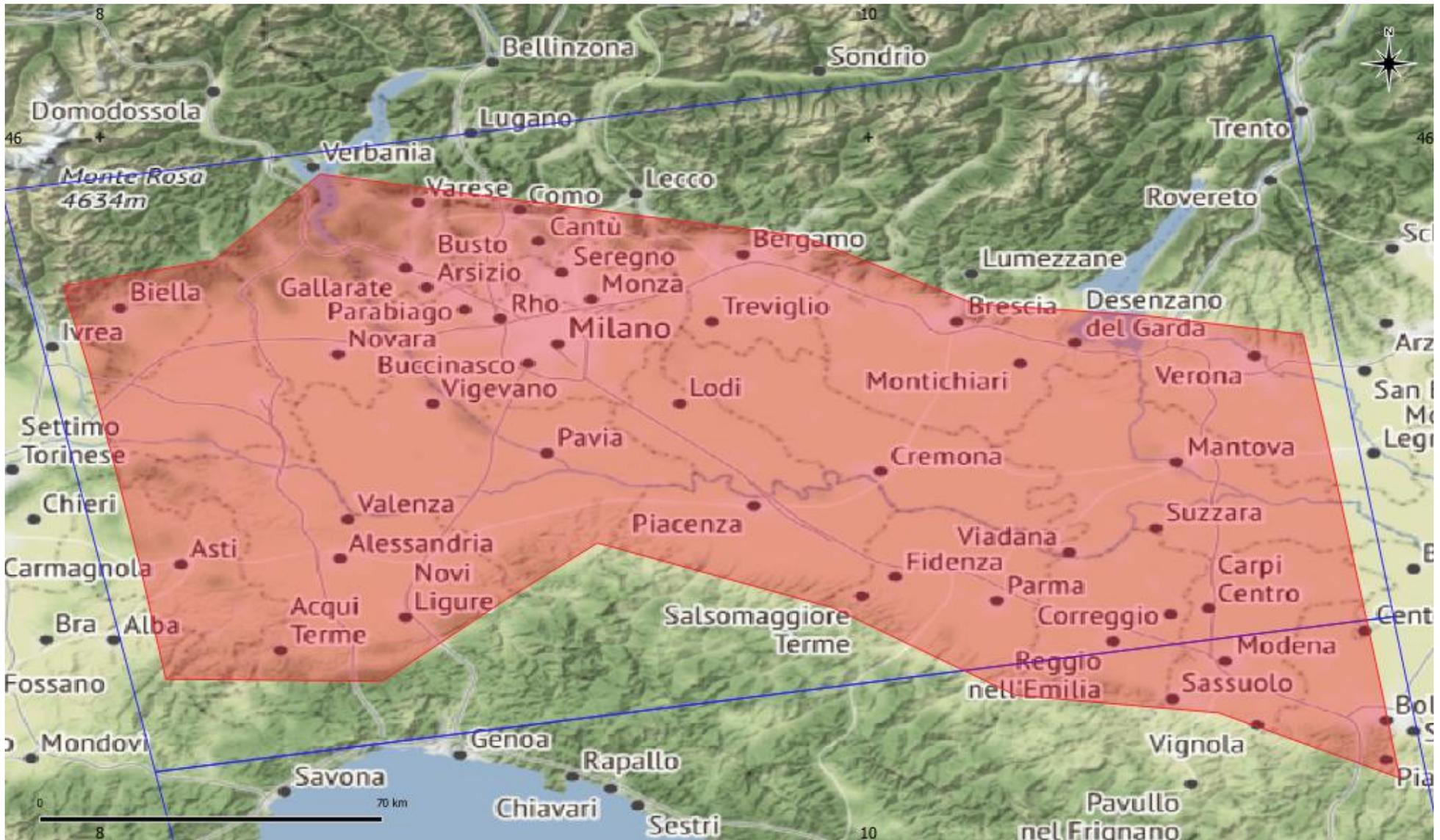
Zambia: Two orbits ascending 12 days



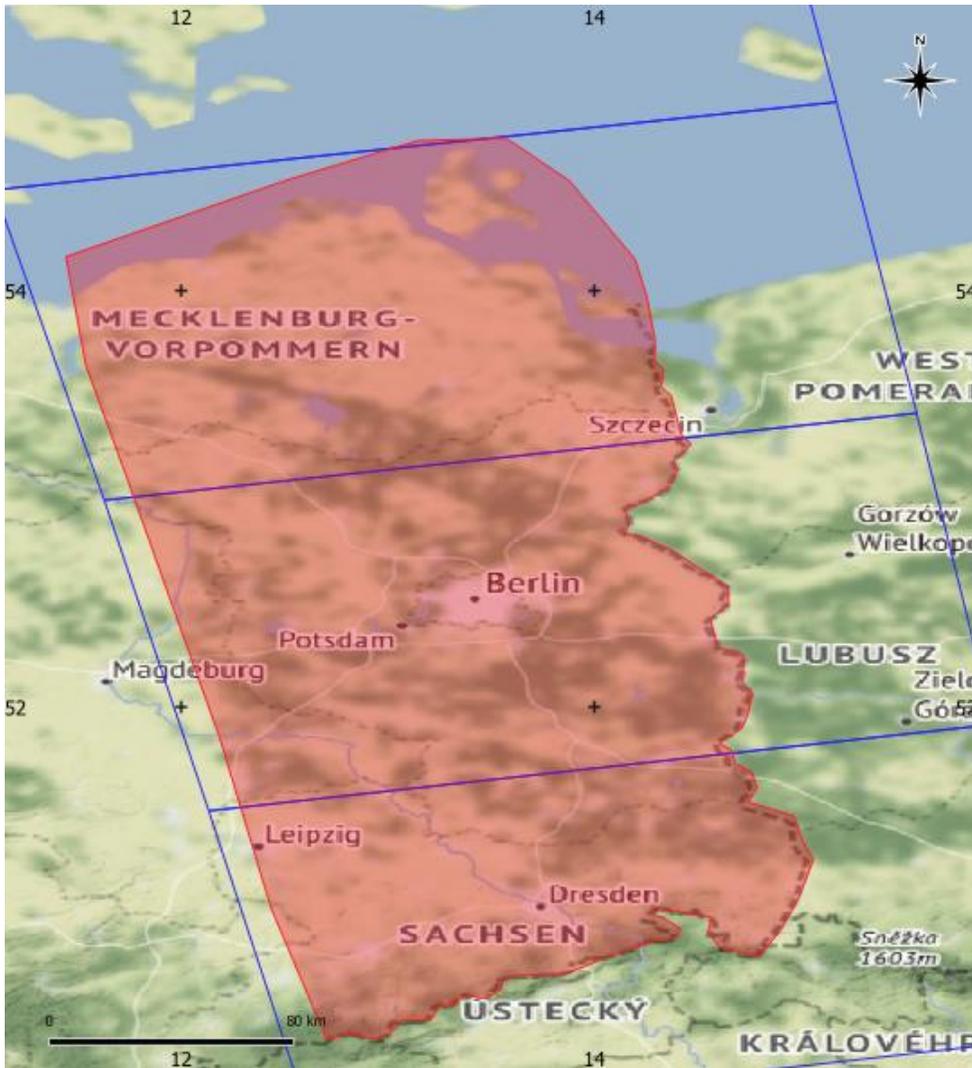
Hungary: Three orbits ascending 6 days



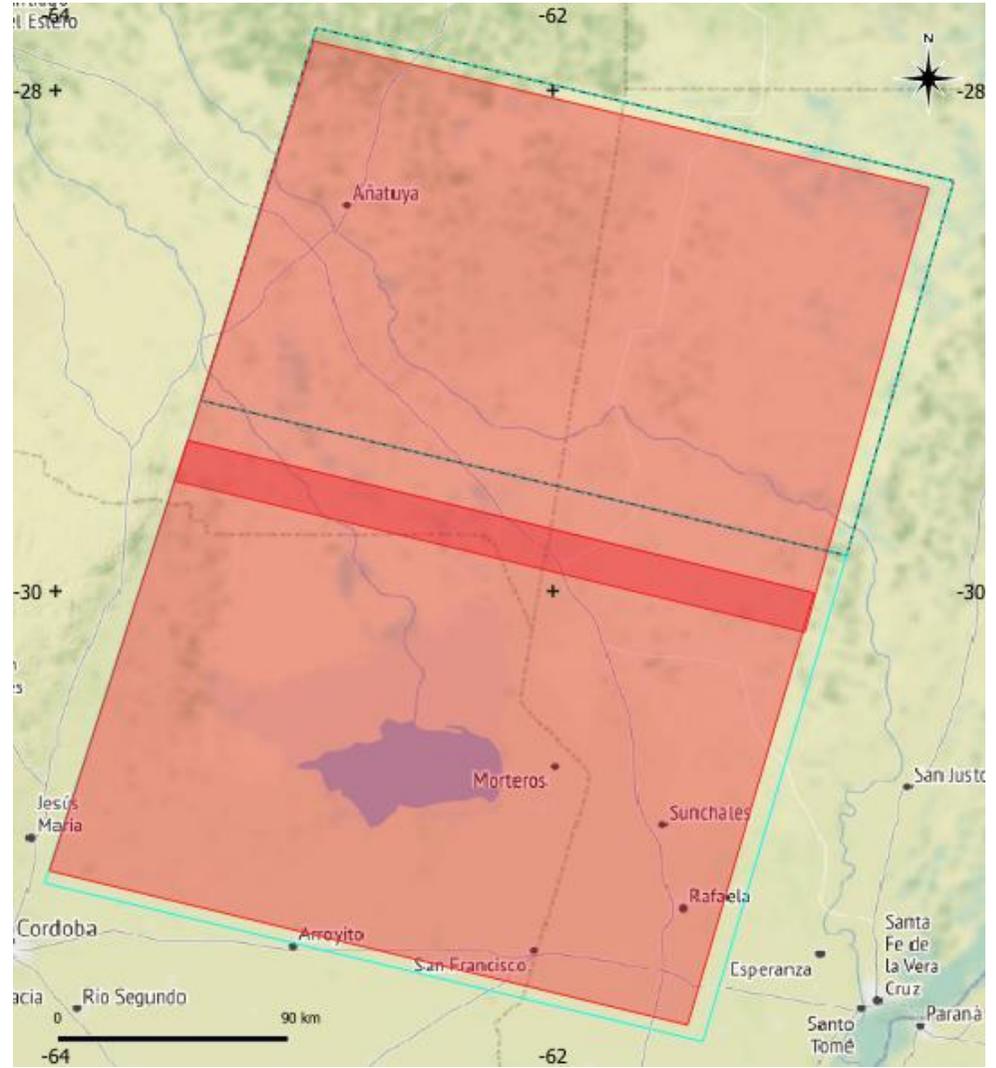
Italy: One orbit ascending 6 days



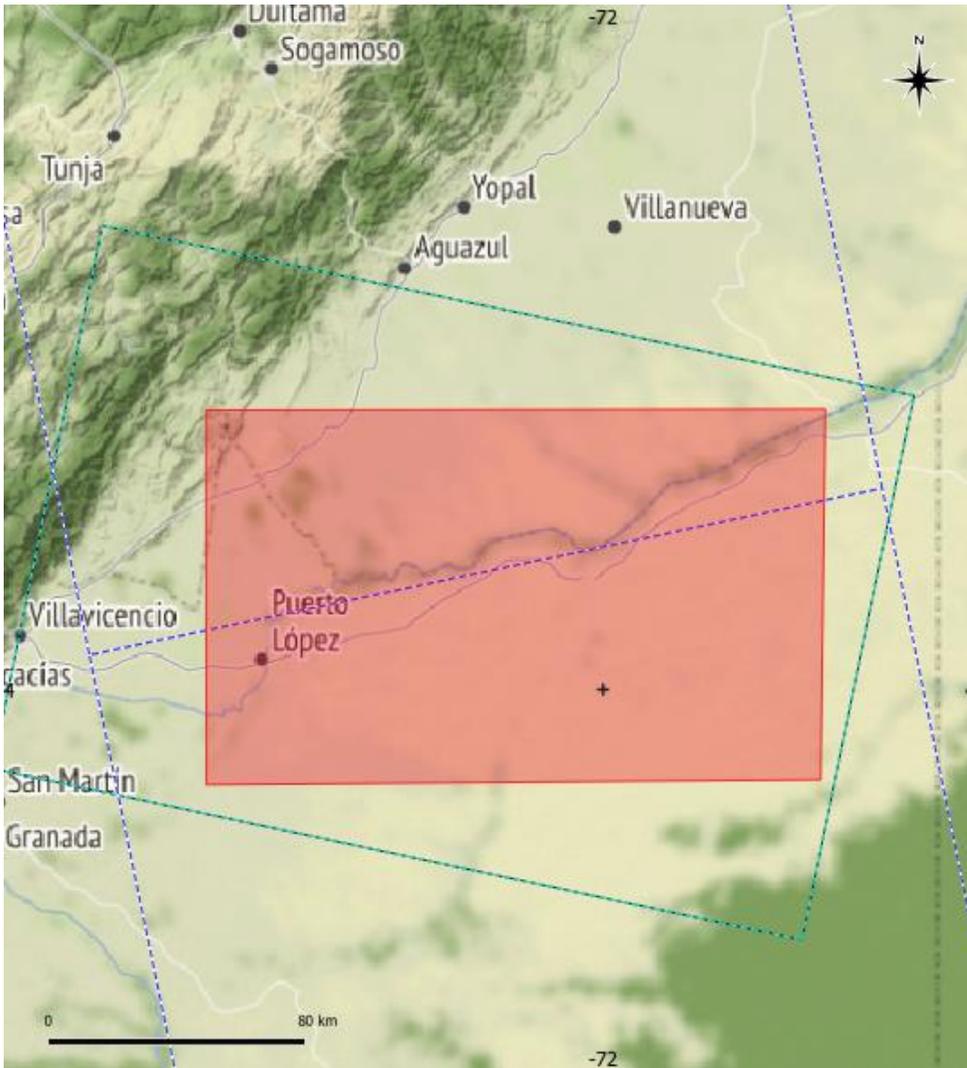
Germany: One orbit ascending 6 days



Argentina: One orbit descending northern frame 12 days southern frame 6 days



Colombia: One orbit ascending 12 days and one orbit descending, 12 days



Chili: Two orbits descending 12 days

