

Supplementary Material

Potential and Limitations of Open Satellite Data for Flood Mapping

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Supplementary material – Satellite Dataset used for this study

In the following tables and figures are reported:

- The bounding box coordinates (WGS 84 decimal degree) for each study area used to search satellite data (table 1);
- The list of satellite acquisition date divided for satellite sensors and location (Tables 2 – 6);
- Some representative pre- and co/post flood images for each satellite used and dived for study areas (Figs. 1-4);

Table 1. Bounding box coordinates for satellite images search

Study area	Co-Flood date	NW Corner	SE Corner	Sample figure
Tanaro (Alessandria)	25-26/11/2016	45.01° N; 8.38° E	44.08° N; 8.76° E	Fig. 1
Po (South Turin)	25/11/2016	45.01° N; 7.54° E	44.08° N; 7.73° E	Fig. 2
Ebro (Zaragoza)	01-05/03/2015	41.85° N; 1.20° W	41.20° N; 0.46° W	Fig. 3
Arahal	29/11/2017	37.31° N; 5.74° W	37.16° N; 5.50° W	Fig. 4

Table 2. List of LANDSAT-8 images. <https://earthexplorer.usgs.gov/> (last-access 29/08/2018)

Ebro (Zaragoza)	
Acquisition date	flood stage
29/12/2014	pre-flood
03/03/2015	co-flood
04/04/2015	post-flood
Arahal	
Acquisition date	flood stage
17/11/2017	pre-flood
03/12/2017	post-flood

Table 3. List of MODIS Terra/Aqua images. <https://ladsweb.modaps.eosdis.nasa.gov/> (500 m SR data); SCP plug-in for QGIS (for 250 m SR data) (last-access 29/08/2018)

Tanaro (Alessandria) and Po (South Turin)	
Acquisition date	flood stage
12/11/2016	pre-flood
26/11/2016	partial co-flood
30/11/2016	post-flood

Ebro (Zaragoza)	
Acquisition date	flood stage
25/01/2015	pre-flood
05/02/2015	co-flood (minor flood)
19/02/2015	co-flood (minor flood)
02/03/2015	co-flood (major flood)
05/03/2015	partial-co-flood
16/03/2015	post-flood
27/03/2015	co-flood (minor flood)

Table 4. List of Sentinel-2 images - <https://scihub.copernicus.eu/dhus/#/home> (last-access 29/08/2018)

Tanaro (Alessandria) and Po (South Turin)	
Acquisition date	flood stage
8/11/2016	pre-flood
01/12/2016	post-flood for South Turin area
08/12/2016	post-flood for Alessandria area
Arahal flood	
Acquisition date	flood stage
18/11/2017	pre-flood
08/12/2017	post-flood

Table 5. List of Sentinel-1 images <https://scihub.copernicus.eu/dhus/#/home> (last-access 29/08/2018)

Ebro (Zaragoza)	
Acquisition date	flood stage
09/02/2015 18:02 UTC	pre-flood (ascending geometry, SLC format)
05/03/2015 18:02 UTC	co-flood (ascending geometry, SLC format)
Tanaro (Alessandria) and Po (South Turin)	
Acquisition date	flood stage
22/11/2016 05:35 UTC	pre-flood (descending geometry, SLC format)
28/11/2016 05:35 UTC	post-flood (descending geometry, SLC format)
Arahal	
Acquisition date	flood stage
23/11/2017 06:27 UTC	pre-flood (ascending geometry, SLC)
29/11/2017 06:27 UTC	near co-flood (ascending geometry, SLC format)

Table 6. List of Proba-V images <http://www.vito-eodata.be/PDF/portal/Application.html#Home> (last-access 29/08/2018)

Ebro (Zaragoza)	
Acquisition date	flood stage
25/01/2015	pre flood
01/03/2015	co-flood
06/06/2015	post-flood
Tanaro (Alessandria) and Po (South Turin)	
Acquisition date	flood stage
06/11/2016	Pre-flood
26/11/2016	Co-flood
01/12/2016	Post-flood

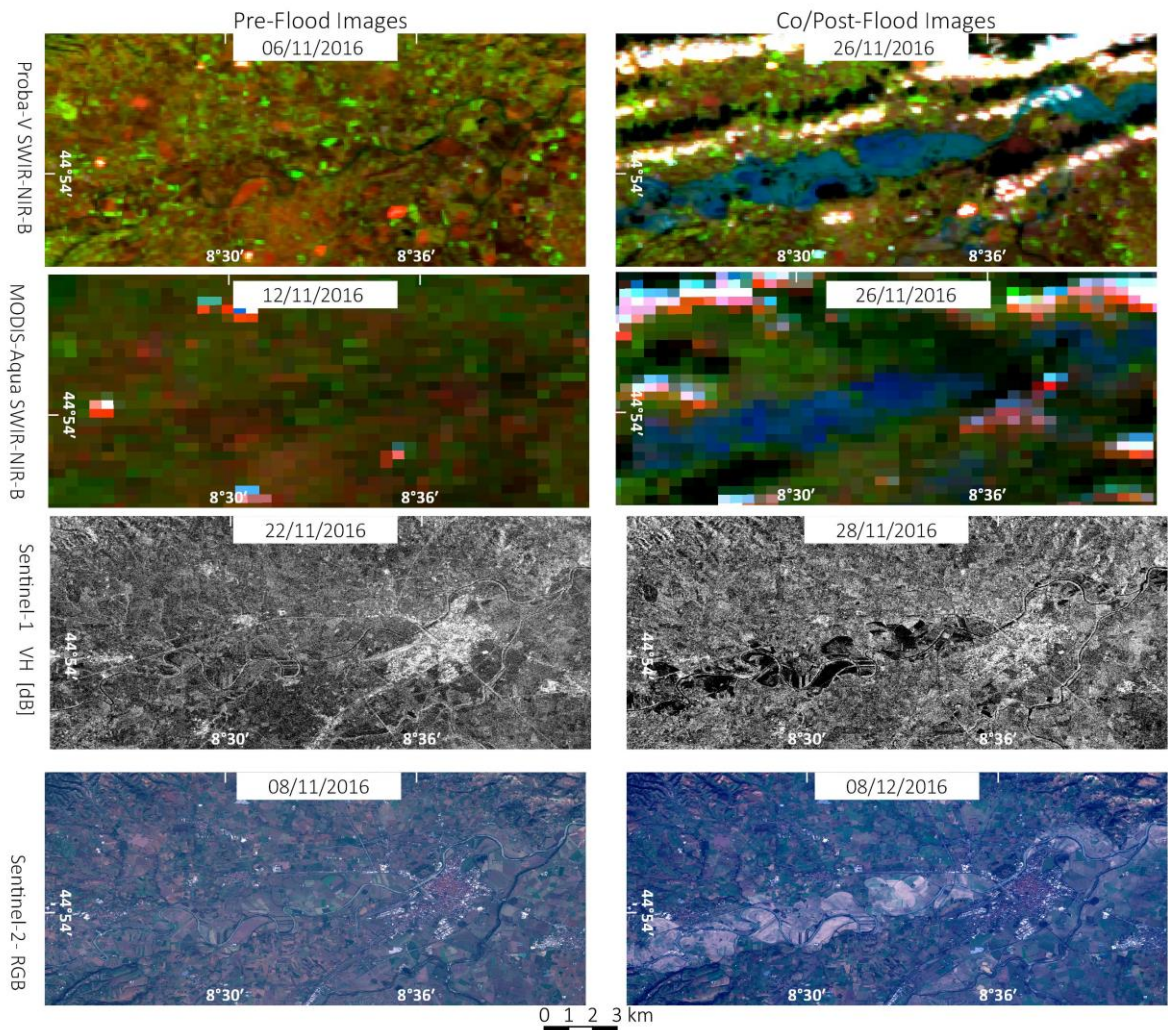


Figure 1. A sampling of satellite images used for Alessandria area

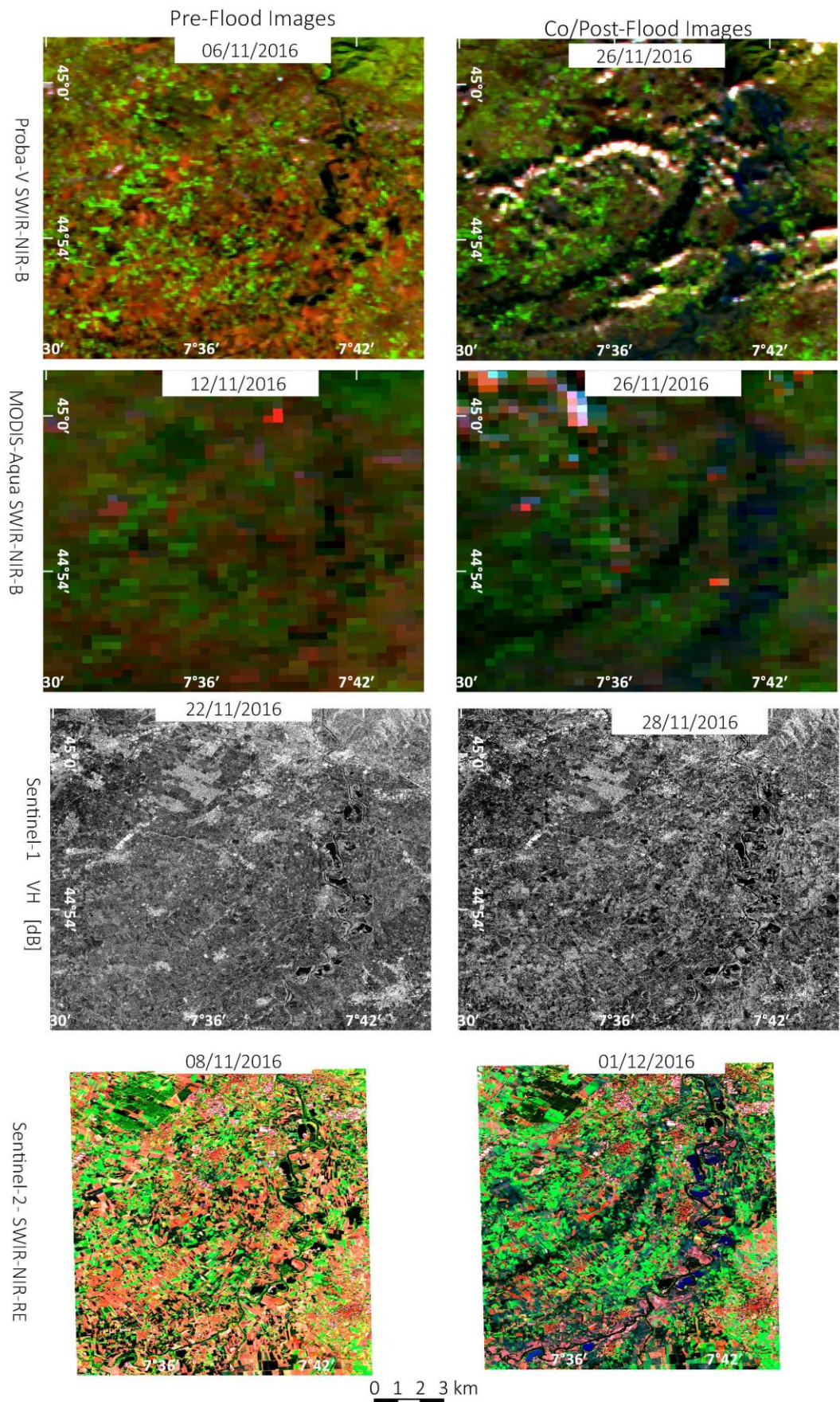


Figure 2. A sampling of satellite images used for South Turin area

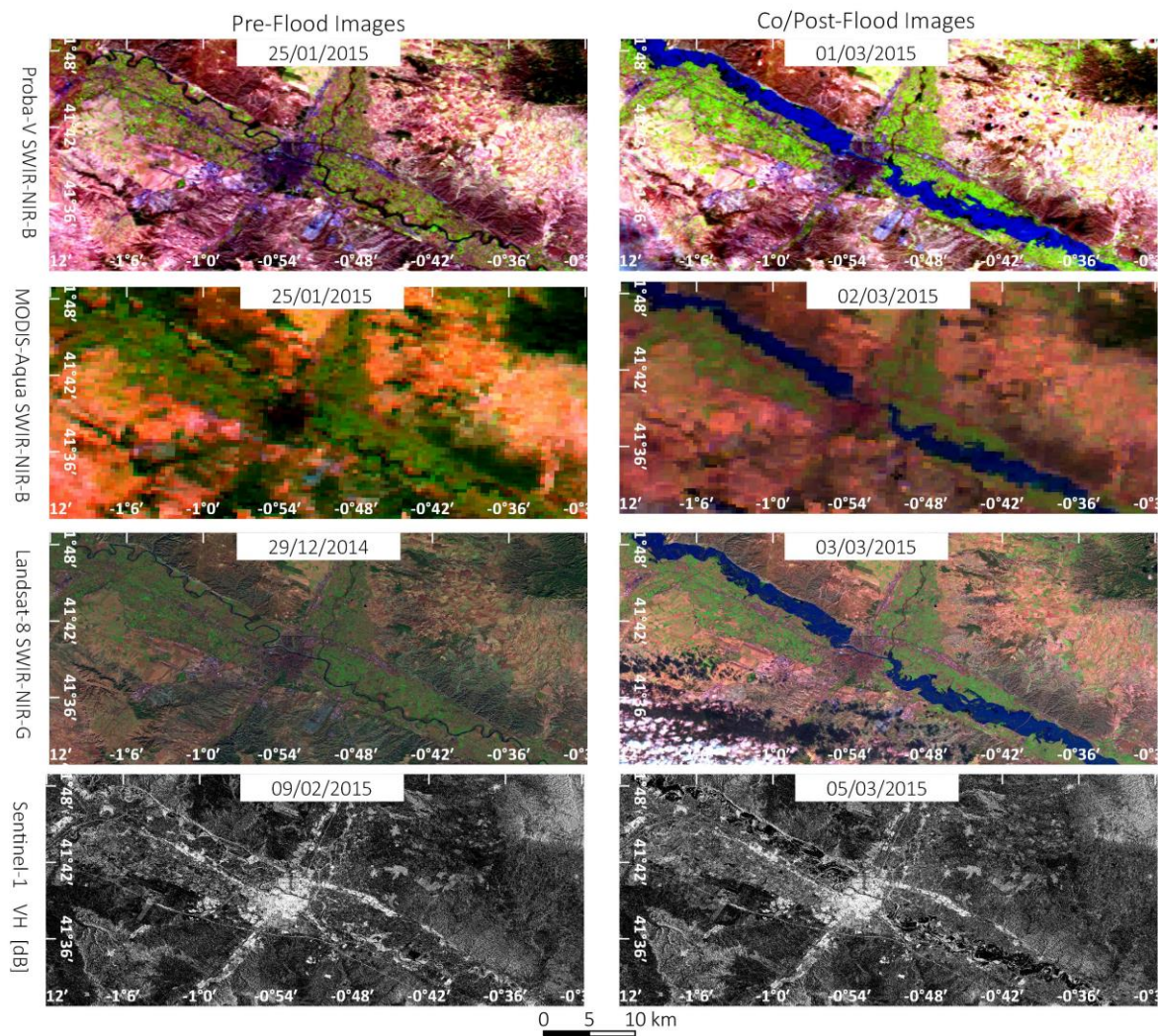


Figure 3. A sampling of satellite images used for Zaragoza area

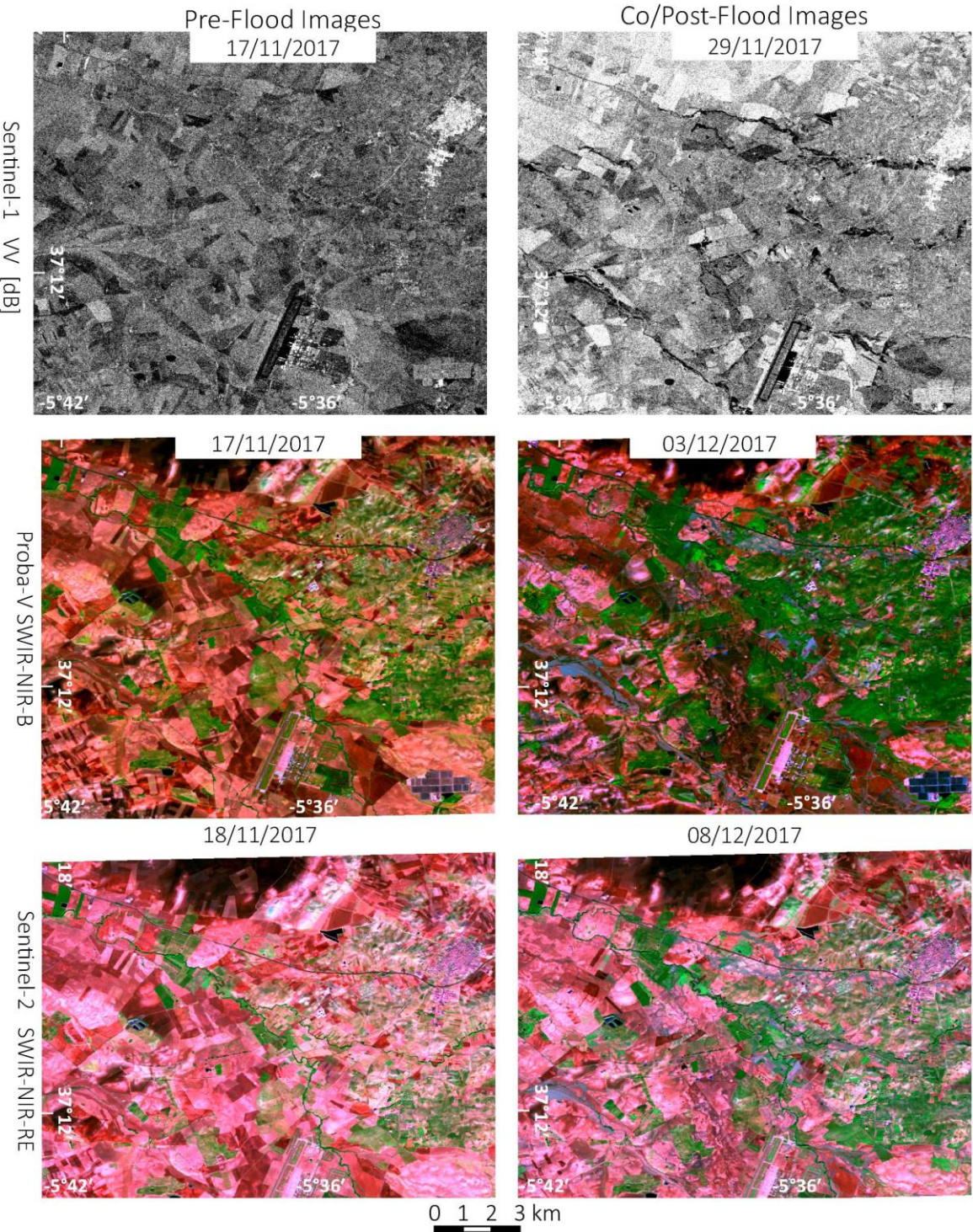


Figure 4. A sampling of satellite images used for Arahall area



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