

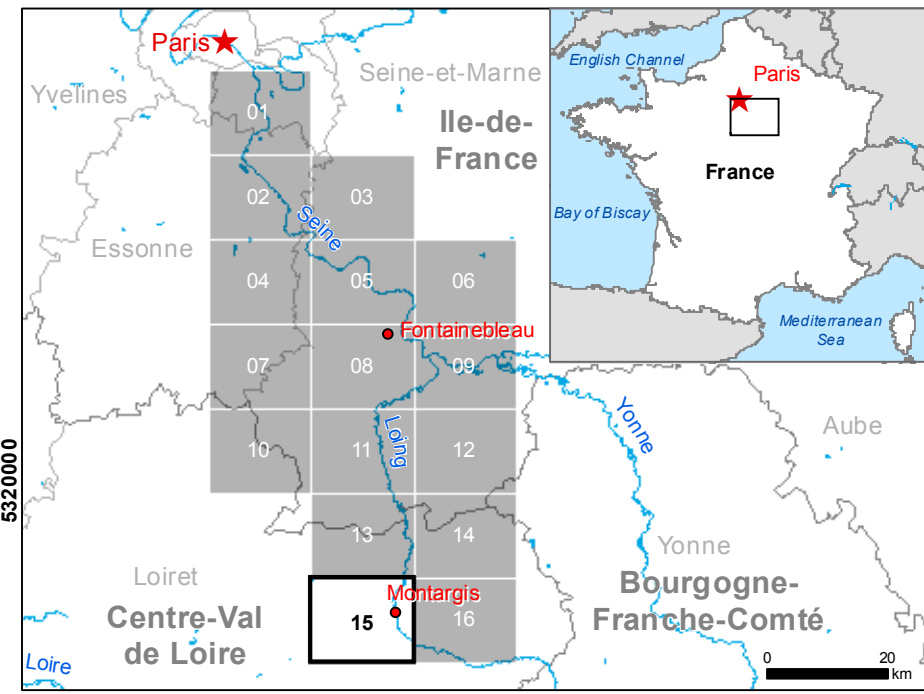


# Montargis - FRANCE

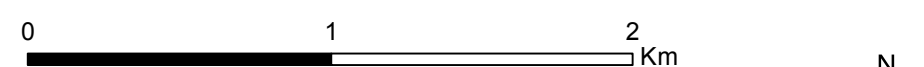
## Flood - June 2016

### Observed flood extent - Detail

Production date: 07/09/2016



**Cartographic Information**  
 1:25 000 Full color A1, high resolution (100dpi)



Grid: WGS 1984 Zone 31 N map coordinate system  
 Tick marks: WGS 84 geographical coordinate system

**Legend**

<b>Crisis Information</b>	<b>Settlements</b>	<b>Transportation</b>
Flooded Area (from 31/05 to 09/06/2016)	Populated Place	Aerodrome
<b>General Information</b>	Buildings	Bridge
Area of Interest	Quarry	Harbour
<b>Administrative boundaries</b>	Power Station	Helipad
Region	<b>Physiography</b>	Heliport
Province	Spot elevation point (m)	Railway
<b>Point of Interest</b>	Contour lines and elevation (10m spacing)	Motorway
Institutional	<b>Hydrology</b>	Primary Road
Medical	River; Stream	Secondary Road
		Local Road

**Map Information**

From the 31st of May to early June 2016, exceptional flooding occurred after several days of heavy rain in France. The Loire and Seine rivers burst their banks and 4 000 people were evacuated from the town of Nemours. Some areas reported the worst flooding seen in a century.

The Emergency Management Service Risk & Recovery activation "EMSN-028 : Flood delineation and damage assessment, France" has been requested by the French authorities in order to map flooding, infer maximum flooding and flood water depths, and assess the damages of the floods occurred over the Seine River located upstream to Paris, and its tributary the Loire River, from Fontainebleau to Montargis.

**Data Sources**

Observed flood extent extracted from:  
 Sentinel-1A Interferometric Wide acquired on 31/05/2016 and 04/06/2016 (GSD 10 m) provided by the European Space Agency.  
 Radarsat-2 Extra Fine acquired on 02/06/2016 (GSD 5 m) and Radarsat-2 Wide UltraFine acquired on 04/06/2016 (GSD 15 m) © MacDonald, Dettwiler and Associates Ltd. (2016) – RADARSAT is an official mark of the Canadian Space Agency – provided under COPERNICUS by the European Union and ESA, all rights reserved.  
 COSMO-SkyMed StripMap © ASI (2016), distributed by e-GEOS S.p.A. acquired on 03/06/2016 (GSD 1.5 m), provided under COPERNICUS by the European Union and ESA, all rights reserved.  
 Landsat-8 © USGS acquired on 09/06/2016 (GSD 15 m).  
 Pélouses-HR1A © CNES (2016), distributed by Airbus DS acquired on 09/06/2016 (GSD 0.5 m), provided under COPERNICUS by the European Union and ESA, all rights reserved.  
 Demos-2 © Deimos Imagine S.L.U (2016), acquired on 09/06/2016 (GSD 1 m), provided under COPERNICUS by the European Union and ESA, all rights reserved.

Reference Imagery:  
 SPOT6 and SPOT7 © AIRBUS DS (2015), acquired on 10/09/2015 and 30/06/2015 (GSD 1.5 m). This work was supported by public funds received in the framework of GEOSUD, a project (ANR-10-EQPX-20) of the program "Investissements d'Avenir" managed by the French National Research Agency.

Vector layers: Administrative Boundaries, Transport Network, Hydrologic Network, Settlements based on BD TOPO © IGN and Physiography based on BD ALTI © IGN refined by SERTI.

Inset maps based on: Administrative boundaries (JRC 2013, GISCO 2010, © EuroGeographics, © IGN), Hydrology, Transportation (Natural Earth, 2012, CCM River DB © EU-JRC 2007), Settlements (Geonames, 2013).

All Data sources are complete and with no gaps.

The data provided is subject to the terms outlined in the arrangements concerning access to authoritative geospatial reference data for Copernicus emergency management service.

**Dissemination/Publication**

Due to sensitivity of this activation's data, access to maps is limited to authorized end users who can access it via our secure platform. For further information and/or data access requests you might want to contact [ems-risk-recovery-mapping@ec.europa.eu](mailto:ems-risk-recovery-mapping@ec.europa.eu). Delivery formats are GeoTIFF, GeoPDF, GeoJPEG and vectors (shapefile and KML formats). RESTRICTED USE

**Disclaimer**

The products elaborated in the framework of current mapping in Risk and Recovery mode activation are realized to the best of our ability, optimising the available data and information. All geographic information has limitations due to scale, resolution, date and interpretation of the original data sources. The products are compliant with Copernicus EMS Risk and Recovery Product Portfolio specifications.

**Map Production**

The present map shows the observed flood extent over the area of Montargis (AO15) between the 31st of May and the 9th of June 2016. This flood extent is a compilation of the flood waters and flood traces visible on high to very high resolution satellite images acquired during the flood event. The flooding phase and the flood peak over Loire and Seine rivers are mainly covered by radar data because of the cloud coverage; hence the thematic accuracy might be lower in urban and forested areas due to inherent limitations of the radar analysis techniques. Optical data have been acquired during the draw-off process, allowing the detection of remaining flood waters and traces, especially near urban areas. The observed flood extent has been generated via a semi-automatic classification method validated by photo-interpretation. The estimated geometric accuracy of this product is 0.5 m, from native positional accuracy of the background satellite image. The estimated thematic accuracy of this product is 85% or better, based on internal validation procedures and visual interpretation of recognizable items over very high resolution optical imagery.

**Contact**

The map was produced (under the Service Contract nr. 259811 of the European Commission) on 07/09/2016 by SERTI.  
 Name of the release inspector (quality control): JRC.  
 E-mail: [ems-risk-recovery-mapping@ec.europa.eu](mailto:ems-risk-recovery-mapping@ec.europa.eu)  
<http://emergency.copernicus.eu/mapping>

