



In situ

The importance of NMCA's data for Copernicus Services (Land and Security)

Jose Miguel Rubio, Henrik Steen Andersen
European Environment Agency





In situ

Copernicus' Access to In Situ Data

The Copernicus Services require in situ data to produce and validate their products.



The Copernicus Space Component requires in situ data for calibration and validation of Sentinel observations.

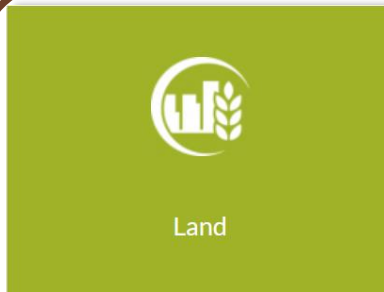
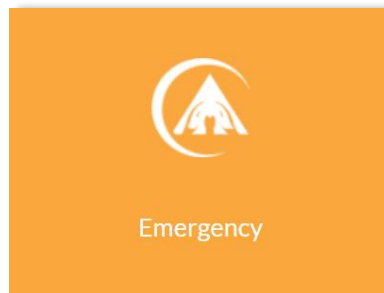


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Data from NMCAs are essential for Copernicus

Settlements
Industry and Utilities
Hydrography
Transport infrastructure
Elevation
Land cover
Population/Census







BORDER SURVEILLANCE COMPONENT
MARITIME SURVEILLANCE COMPONENT
SUPPORT TO EU EXTERNAL ACTION



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EEA activities in Copernicus In Situ

Determine State of Play	CIS² https://insitu.copernicus.eu/state-of-play
Provide access to data	 https://corda.eea.europa.eu/
Engage with data providers	  https://insitu.copernicus.eu/data-access/agreements
Provide support and advice	 https://insitu.copernicus.eu/library/reports





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Requirements from Land Services



Land



Global



Pan-European



Local

Key data requirements

- VHR **orthoimagery** and **DEMs**
- **Topographic** and **reference info** (transport network, hydrography, admin boundaries, settlements)
- **LC/LU** datasets and masks
- **Land Parcel Information System** data
- **Phenological** and other relevant thematic **observations**

Why do we need access to this data?

- Improving the **reliability** and **thematic** accuracy of products (integration of national data in reference/training data, support visual interpretation and feature delineation)
- Improving **calibration** quality of density products
- **Validation** of products and internal QC steps





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Requirements from Security Services



Security

BORDER SURVEILLANCE COMPONENT
MARITIME SURVEILLANCE COMPONENT
SUPPORT TO EU EXTERNAL ACTION

Key data requirements

- Administrative **boundaries**
- **Population** data and distribution
- **Industry** and utilities, **harbour** infrastructure
- Topography, **Ortophotos** and **DEM**
- Hydrography and **bathymetry**
- **Land Cover** and **Ice** masks
- **Observations** and measurements
- **POIs**

Why do we need access to this data?

- **Increased situational awareness**
(timely data for an up-to-date and reliable situational picture)
- **Improved reaction capability**
(reducing reaction times)
- Increased **thematic and geometric accuracy of products**, area coverage, observation times





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Examples of requirements – Urban Atlas



Land



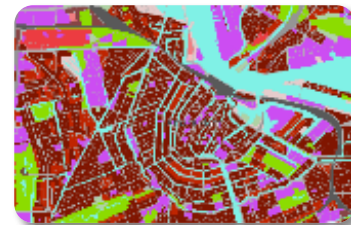
Global



Pan-European



Local



UID	Requirement	Level of definition	Relevant for	Criticality	Barriers	Note
144	Administrative Boundaries	Firm	Product generation	Essential	Availability Coverage Data policy	used for creating a backbone structure for the object geometry
146	Land Cover	Firm	Product generation	Essential	Resolution	sealing level information from the HRL IMD complements the results of the EO data interpretation in terms of sealing density
218	Topographic maps	Firm	Product generation	Essential	Accuracy Availability Coverage Data policy Format Resolution Update Frequency	used for interpretation and classification
219	Orthoimagery - Very High Resolution - Up-to-date - Homogenous	Firm	Calibration and validation	Desirable	Availability Costs Coverage Data policy Timeliness Update Frequency	used for complementing the database concerning calibration and validation
219	Orthoimagery - Very High Resolution - Up-to-date - Homogenous	Firm	Product generation	Useful	Availability Costs Coverage Data policy Timeliness	Potential additional data for creating a backbone structure for the object geometry as well as for interpretation and information on land cover/land use



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Examples of requirements – EU-Hydro



Land



Global



Pan-European



Local



UID	Requirement	Level of definition	Relevant for	Criticality	Barriers	Note
213	Digital Elevation Model	Firm	Product generation	Essential	Resolution	Required for the calculation of the drainage network with catchments and drainage lines. Resolution of EU-DEM (30m), which was used for the calculation, is actually too low.
219	Orthoimagery - Very High Resolution - Up-to-date - Homogenous	Firm	Product generation	Useful	Availability Costs Coverage Data policy Timeliness Update Frequency	For river network derivation and feature data extraction, photo interpretation of very high resolution (VHR) satellite imagery is required, which can be supported by ortho imagery.
264	Land Cover - Water	Firm	Product generation	Essential	Availability Costs Coverage Metadata Update Frequency	
276	Hydrography infrastructure	Firm	Product generation	Essential	Accuracy Availability Coverage Update Frequency	



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Examples of requirements – Coastal monitoring



Security

BORDER SURVEILLANCE COMPONENT
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UID	Requirement	Level of definition	Relevant for	Criticality	Barriers	Note
232	Hydrography network	Reasonable	Product generation	Essential	Data policy Update Frequency	
235	Hydrography network	Reasonable	Product generation	Essential	Accuracy Update Frequency	
243	Paths and tracks	Reasonable	Product generation	Essential	Accuracy Update Frequency	
246	Administrative boundaries	Firm	Product generation	Essential	Update Frequency	
248	Border protection utilities	Reasonable	Product generation	Essential	Data policy Update Frequency	
308	Toponyms (Place Names)	Reasonable	Product generation	Essential	Update Frequency	
316	Orthophotos and Orthomosaic	Firm	Product generation	Essential	Costs Update Frequency	
473	Border Crossing Points	Reasonable	Product generation	Essential	Data policy Update Frequency	

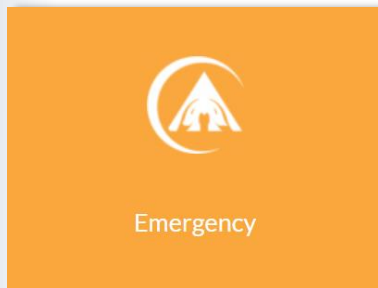


More on CIS2

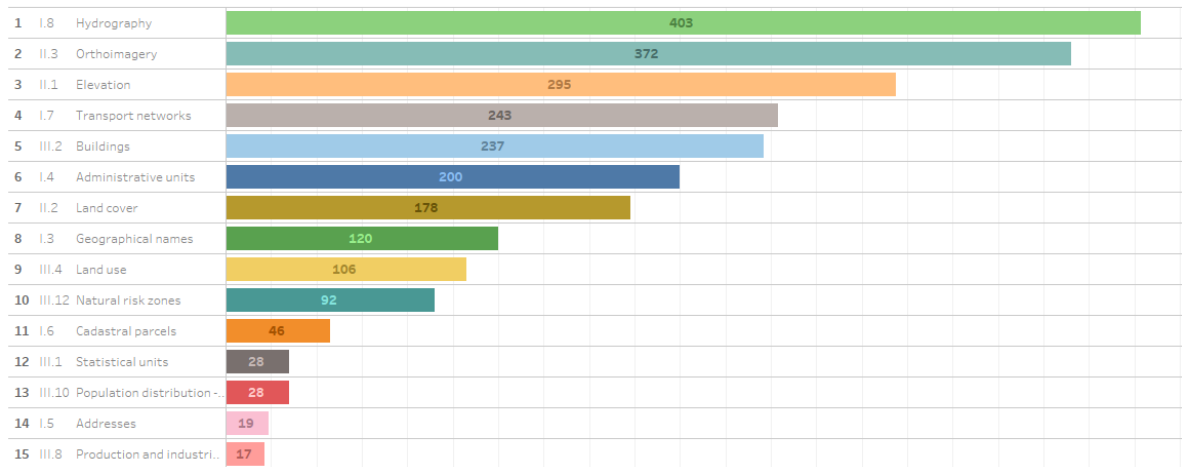


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C O R D A : W h a t d a t a a r e t h e S e r v i c e s l o o k i n g f o r ?



Ranking by INSPIRE themes for Emergency Services



Rank	Dataset Name	Data Provider	Country	Hits
1	Topographic Map of North Rhine-Westphalia	Geobasis NRW - Surveying and Mapping, Cologne Government Regional Office	Germany	63
2	Base map 1: 5000	State Geodetic Administration of the Republic of Croatia (DGU)	Croatia	45
3	DTK25 Digital Topographic Map 1:25000	Federal Agency for Cartography and Geodesy (BKG)	Germany	40
4	Topographic Database	National Land Survey of Finland (NLS) / (MML)	Finland	35
5	BDTRE - Geo-topographic database 2016 of Piedmont	Piedmont Region	Italy	35
6	Buildings multi-country	European Environment Agency (EEA)	European Bodies	34
7	EuroGlobalMap	EuroGeographics	European Bodies	33
8	GSD-General Map	The Swedish mapping, cadastral and land registration authority	Sweden	32
9	Digital orthophotos 0.4 m	Federal Agency for Cartography and Geodesy (BKG)	Germany	31
10	Basic Landscape Model	Federal Agency for Cartography and Geodesy (BKG)	Germany	30



European Commission

Copernicus
Europe's eyes on Earth



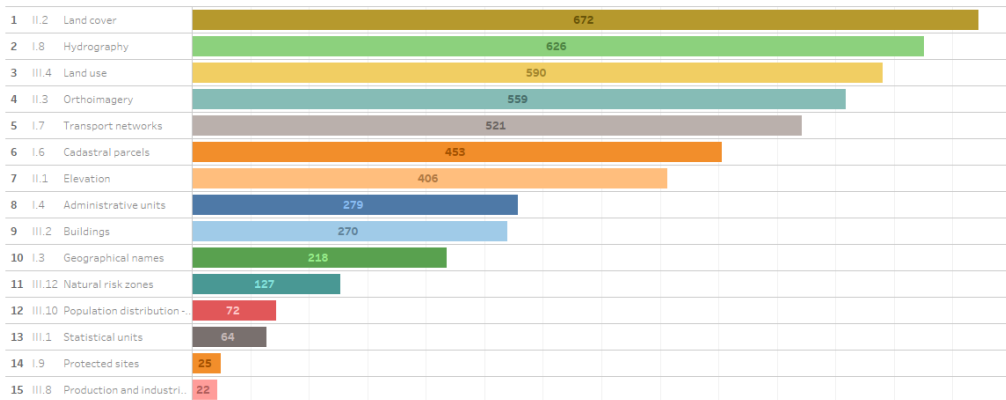
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C O R D A : W h a t d a t a a r e t h e S e r v i c e s l o o k i n g f o r ?



Land

Ranking by INSPIRE themes for Land Monitoring Services



Rank	Dataset Name	Data Provider	Country	Hits
1	GSD-General Map	The Swedish mapping, cadastral and land registration authority	Sweden	112
2	Basic Landscape Model	Federal Agency for Cartography and Geodesy (BKG)	Germany	66
3	Agricultural Land Use 2015 of Flanders	Department of Agriculture and Fisheries	Belgium	64
4	EuroGlobalMap	EuroGeographics	European Bodies	60
5	GRBgis - Large-scale Reference File of Flanders	Flanders Information Agency	Belgium	54
6	Topographic Database	National Land Survey of Finland (NLS) / (MML)	Finland	49
7	Topographic Map of North Rhine-Westphalia	Geobasis NRW - Surveying and Mapping, Cologne Government Regional Office	Germany	49
8	TOP10NL Digital topographic map 1:10000	The Netherlands' Cadastre, Land Registry and Mapping Agency	Netherlands	48
9	FranceRaster®	National Institute of Geographic and Forest Information (IGN)	France	48
10	DTK25 Digital Topographic Map 1:25000	Federal Agency for Cartography and Geodesy (BKG)	Germany	

More on CORDA



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Towards a single agreement

- Members signing bilaterally Copernicus Services Framework Agreements with EuroGeographics
 - Annex I – Emergency Service ready
 - Other Annexes (Land and Security) **under preparation**
- One single license agreement between EuroGeographics and EEA
- Key instrument to increase use of data and strengthen cooperation between NMCAs and Copernicus Services



Copernicus Services Framework Agreement

Annex 1

Between: EuroGeographics AISBL, an international non-profit organisation under Belgian Law, with its registered office at address Rue du Nord, 76, 1000 Brussels, Belgium.
Registration N° 833.607.112

Hereafter "EuroGeographics" or "the Association";
Hereby duly represented by [.....];

And: [Name], a national organisation having the status of a [.....] registered under the laws of [.....] with its registered address [.....]
Registration N° (if any)
VAT N° (if any)
Hereafter "the Member";
Hereby duly represented by [.....];

Parties is governed by the Agreement, as 1 forms an integral part of the Agreement. The have the same meaning in this Annex. In case Agreement and this Annex, the terms of the

ee to enable the access and use of authoritative cus Emergency Management Service "EMS".

Data for EMS

be granted:

to or better than 0.5 m
s 1:50 000 or larger
vector format with an accuracy equivalent to a please select all you give permission for)

ndaries

- ☐ transportation infrastructure
- ☐ built up areas
- ☐ toponyms / place names
- ☐ hydrography
- ☐ buildings
- ☐ addresses
- ☐ cadastral parcels
- ☐ other (please detail)



In situ

Thank you for your
attention

jose.rubio@eea.europa.eu

