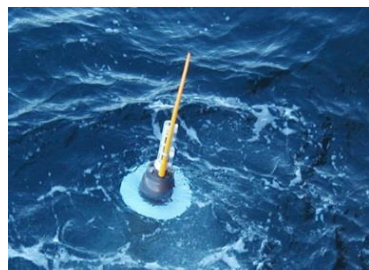


# Copernicus in-situ and INSPIRE: Perspectives on reference data activities



# Copernicus in situ component

- **Art. 7 of the Copernicus Regulation:**
- ...the Commission may entrust, in part or in full, the activities of the in situ component to the service operators, referred to in Article 11(1) of this Regulation or, when an overall coordination is required, to the European Environment Agency.



# Copernicus in situ component implementation

## ★ Copernicus service operators

- Operational management and data access
- Pre-processing
- Ingestion of data



## ★ European Environment Agency

- Overall coordination in situ component
- Overview of in situ data requirements, availability and to identify data gaps
- Ensuring a common and standardized approach
- Single (or group of) data provider(s) for multiple services



# EEA in-situ coordination tasks

## 1. In situ data requirements meta database

- Overview of the in situ data requirements for all services
- in-situ data availability, needs, data gaps

## 2. Operational provision of certain in situ data types

e.g. NRT air quality data, geospatial reference data

## 3. Managing partnerships with European in situ data providers

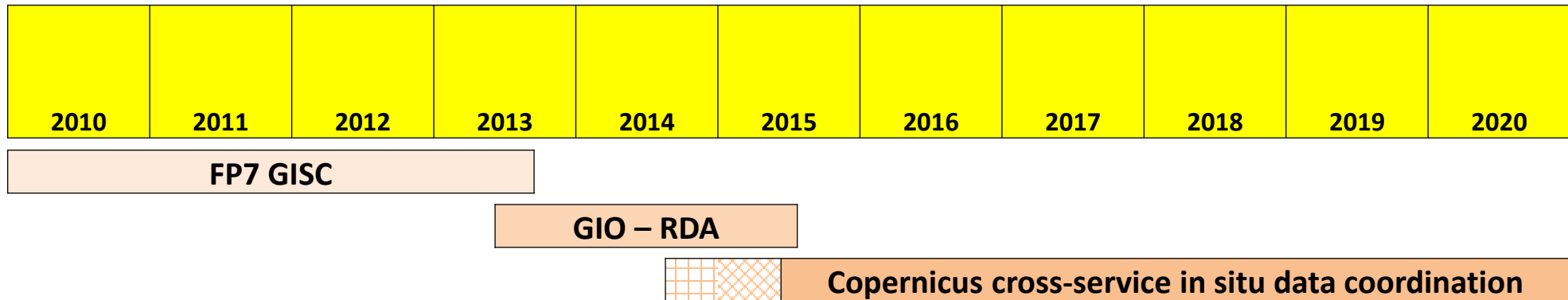
EIONET, EUMETNET, EuroGOOS, EuroGeographics, EuroGeoSurveys, etc.

## 4. Support to the EC on in situ component issues

Copernicus in situ data workshop, etc.



# Progress so far on Copernicus in situ coordination



- ★ Recruitment ongoing
- ★ EIONET National Focal Points Working Group Copernicus
- ★ In situ data requirements database revision (update of GISC)
- ★ Partnerships discussions ongoing
  - EUMETNET, EuroGOOS, EuroGeographics
- ★ Procurement so far:
  - Framework contract development Copernicus Reference Data Access (CORDA) (Bilbomatica, DHI GRASS)
  - Call for expression of interest Task Force in situ data coordination

# Copernicus

## cross-service in situ coordination work plan 2015

Cross-cutting in situ coordination work plan		2014	2015												2016
Activity	Tasks (M – milestones)	D	J	F	M	A	M	J	J	A	S	O	N	D	To be continued
	Preparatory phase														
Overview of the state of play of in situ data for Copernicus services	Revision of in situ data inventory								M						
	Set up of a database of Copernicus in situ data requirements and in situ data used	<b>M: user requirements collected and analysed</b>							M						
		<b>M: Design of the database ready</b>													M
	<b>M: Database v.1 operational</b>														
Operational provision of cross-cutting in situ data including access to reference data for Copernicus services	CORDA content management														
	Maintenance of CORDA ensuring 24/7 availability														
	Extension of the scope of the data provided through CORDA	<b>M: Feasibility study</b>													M
		<b>M: Extended scope of the data provided through CORDA</b>													
	Operational provision of NRT air quality data through EIONET														
Managing partnerships with in situ data providers	Negotiations with national and regional in situ data providers														
	Revision or establishment of framework agreements with the European and International organisations	EuroGOOS					M								
		EuroGeoSurveys							M						
		EUMETNET											M		
EuroGeographics														M	
Support to the EC on in situ matters	Cooperation with GEO/GEOSS activities on in situ														
	Ad hoc support (organising and contributing to relevant events)														

# Assessment of cross-service in-situ data needs e.g. meteorological data needs for Copernicus services

## **Atmosphere Service**

air temperature, wind direction, wind speed, precipitation, air pressure, humidity, long wave radiation, shortwave (UV) radiation

## **Emergency Management Service**

precipitation, air temperature, wind direction, wind speed, humidity, river discharges

## **Land Monitoring Service**

air temperature, water vapour, global solar radiation, infrared radiation, snow cover

## **Marine Service**

temperature/global ocean, wind information/global ocean

## **Climate Change Service and Security Service**

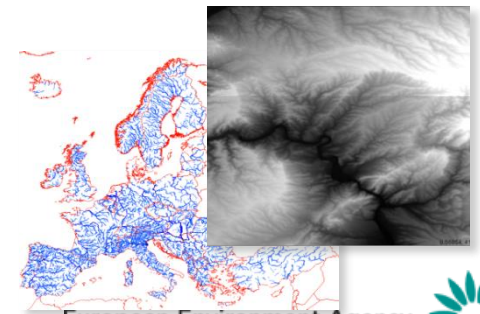
t.b.d. - different data types - time series/historical data...

- Requirements on: coverage, timeliness, accuracy/uncertainty, meta data



# Geospatial reference data access needs for Copernicus services

- ★ Over 20 reference datasets already identified by Copernicus services as essential
- ★ In EU Member States, reference data is owned and hosted by national/regional authorities
- ★ Reference data is accessible under differing specifications and conditions, through a variety of interfaces (e.g. national or regional INSPIRE spatial data infrastructures, institutional portals and other sources)
- ★ Service providers of Copernicus services themselves organise access to required reference data
- ★ Gap filling is ensured by pan-European datasets





# Generalised list of reference data requirements of Copernicus services

- Ortho-imagery
- Administrative units
- Building information (building, building footprints, building blocks, built-up areas)
- Hydrographic network
- Land cover
- Land use
- Transport networks
- DEMs
- Agricultural parcel information
- National/regional forest inventories
- National/regional grassland inventories
- National/regional wetlands inventories
- Conservation and Protected Areas
- Soil data
- Geomorphological data

# Where do we stand now – stepwise introducing INSPIRE

- Initial uptake by the Copernicus Emergency service
- Reference data access systems (CORDA, ELF ...) in place
- INSPIRE services provided by EU Member States slowly growing

# Activations of Copernicus Emergency Management Service by national authorities in Central Europe in 2013-2015

## Provision of reference data agreements

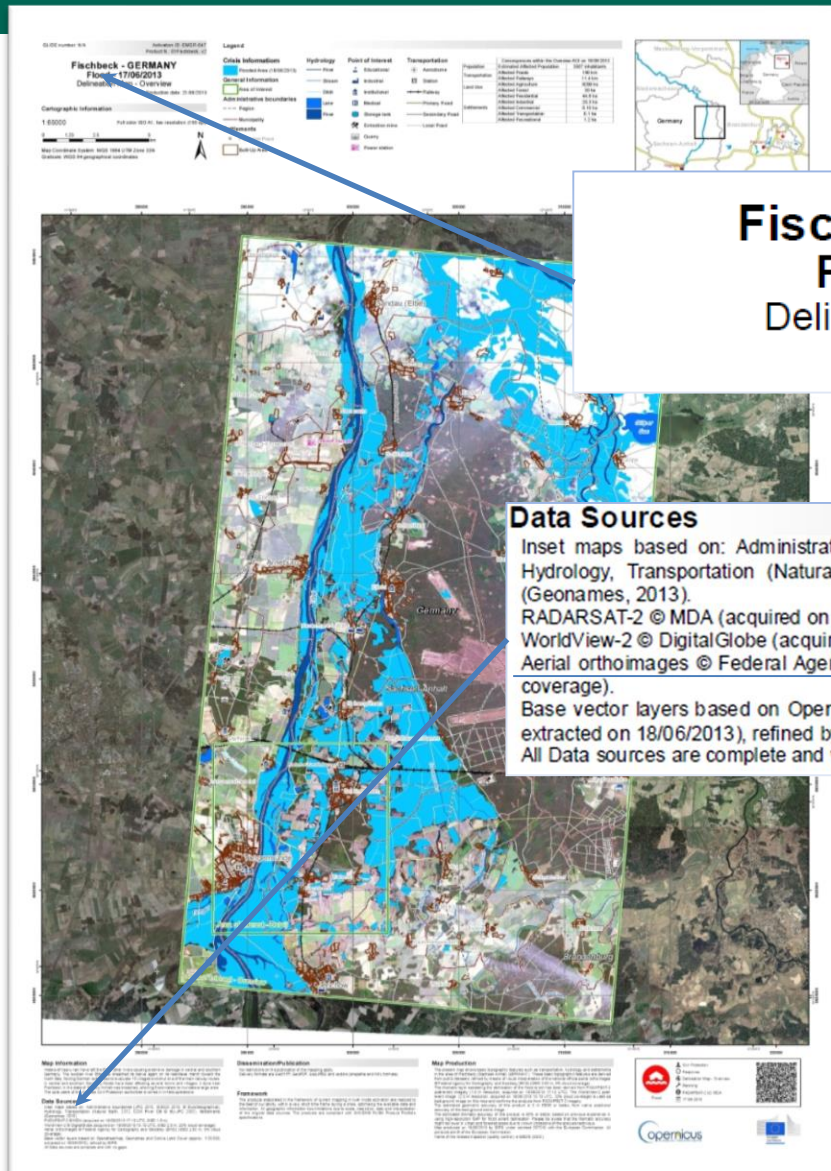
19.12.2012 Czech Republik signes - activated June 2013

13.01.2013 Slovak republik signes – so far not activated



The screenshot shows the Copernicus Emergency Management Service website interface. At the top, there is a navigation bar with the European Commission logo and the text 'COPERNICUS Emergency Management Service'. Below this is a search bar and a navigation menu with links like 'Home', 'What is Copernicus', 'EMS - Mapping', 'EMS - Early Warning System', and 'News'. A news ticker at the bottom of the navigation bar displays recent events: 'cyclone in Philippines on 17/10/2015', '2015-10-08 | [EMSN017] Forest Fires 2015, Portugal', and '2015-10-20 | Copernicus Emergency Man...'. The main content area is titled 'List of EMS Rapid Mapping Activations'. On the left, there are three sidebar menus: 'EMS - MAPPING' (with links like Service Overview, Who can use the service, etc.), 'RAPID MAPPING' (with links like List of Activations, Map of Activations, GeoRSS Feed), and 'RISK AND RECOVERY' (with links like List of Activations, Map of Activations, GeoRSS Feed). The 'OTHER' menu at the bottom has a link for 'Map of Activations of Other Organizations'. The main list table has columns for Act. Code, Title, Event Date, Type, Country, and Feed. The table lists various activation events such as 'Flood in Croatia', 'Fire in Hungary', 'Industrial Accident in Vr̂b̂tice', 'Flood in Slovenia', 'Floods in Slovenia', 'Floods in Croatia', 'Floods in Poland', 'Flood in Sachsen-Anhalt, Germany', 'Floods in Hungary', 'Floods in Czech Republic', and 'Floods in Germany'.

# Emergency management service - concrete usage example



## Fischbeck - GERMANY Flood - 17/06/2013 Delineation Map - Overview

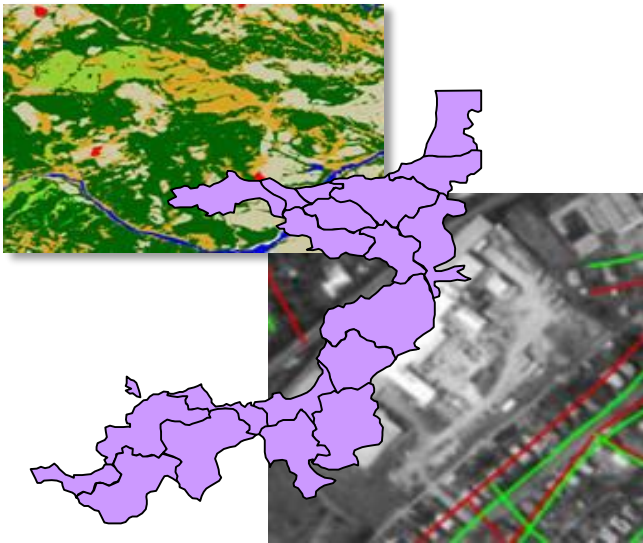
Production date: 21/06/2013

More information on:

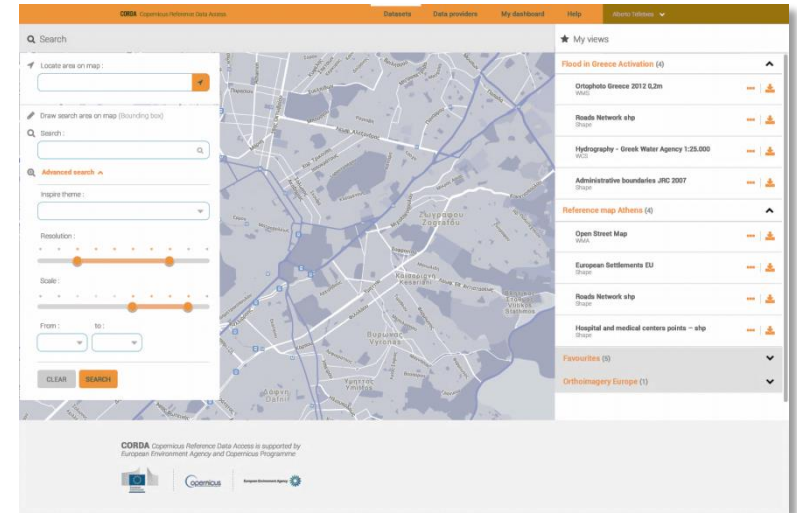
<http://emergency.copernicus.eu/mapping/list-of-activations-rush>



# COpernicus Reference Data Access

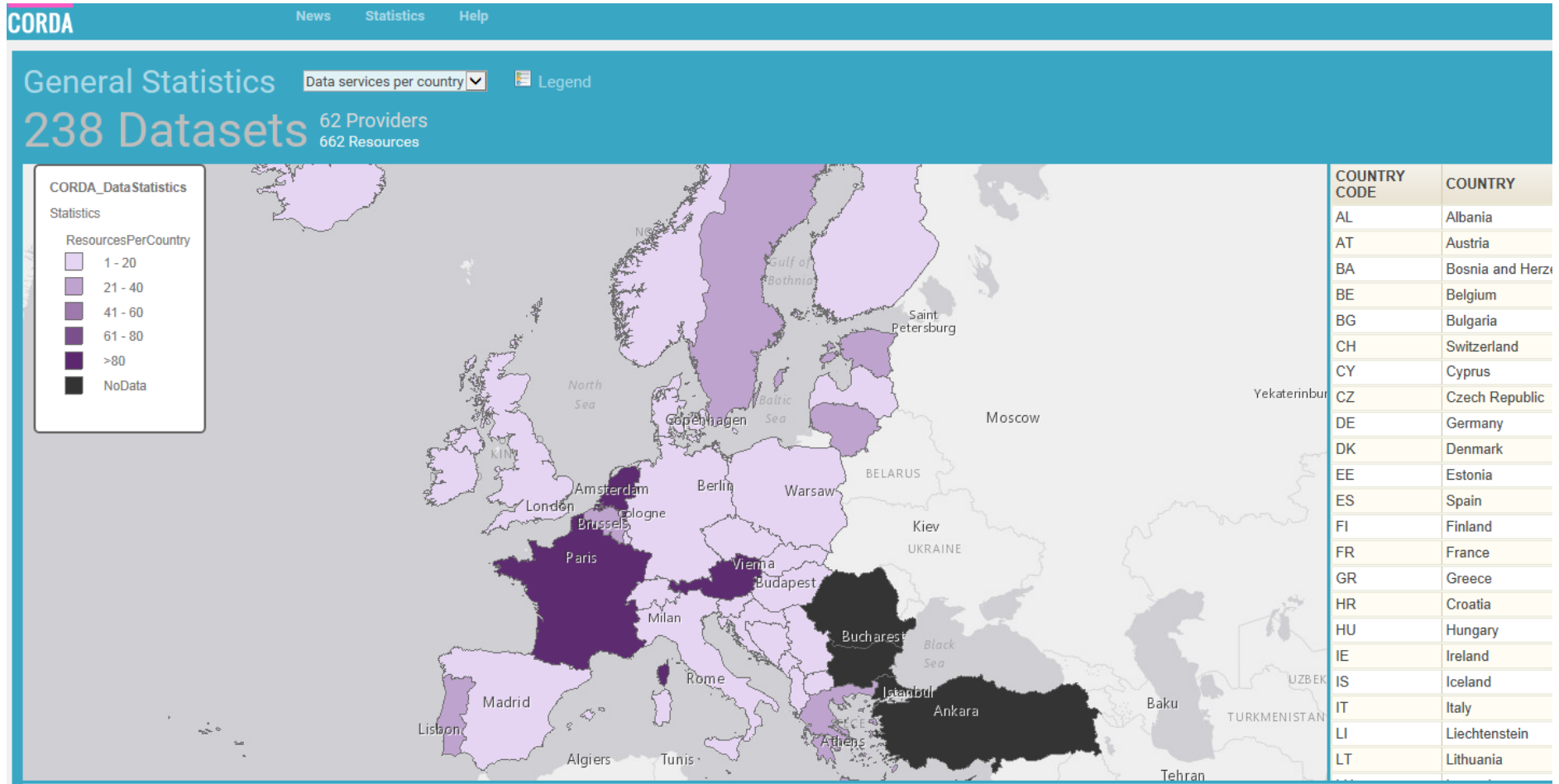


## CORDA



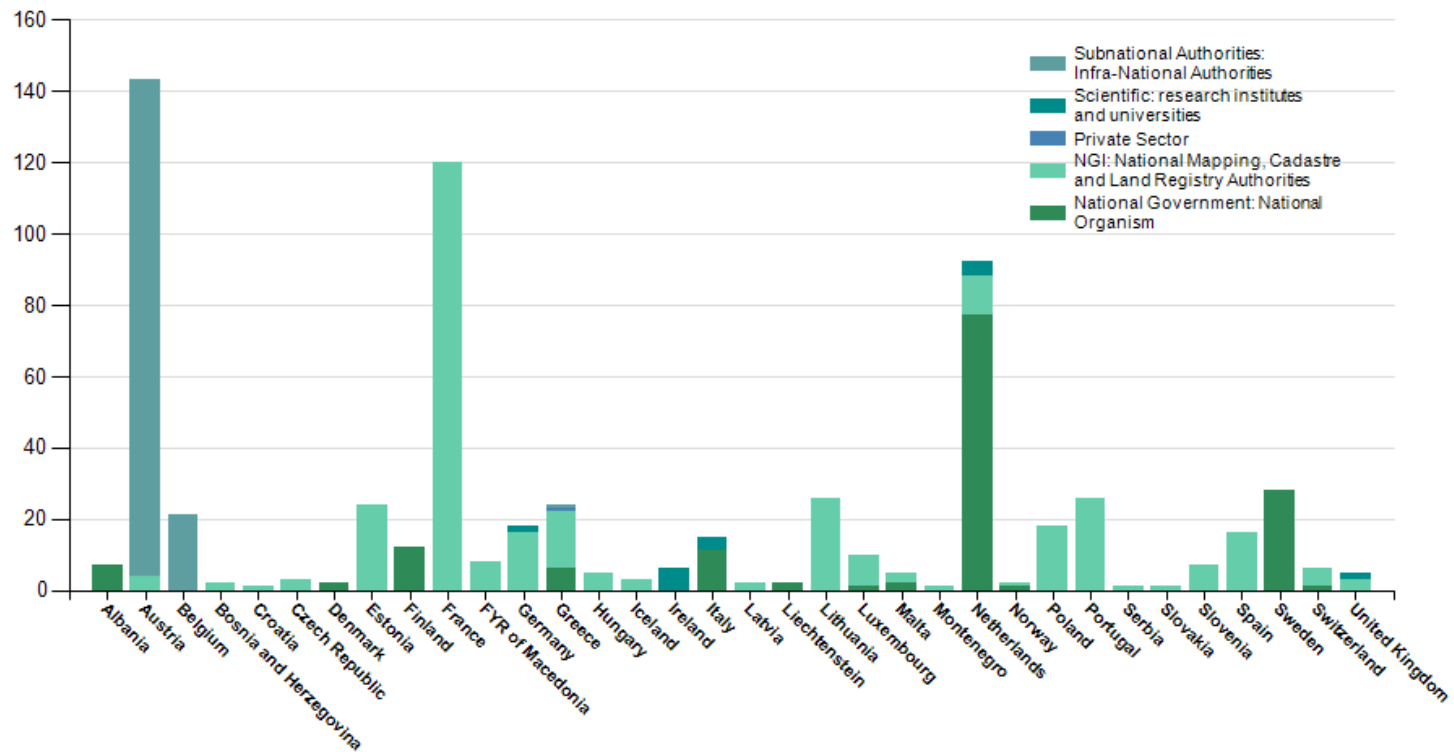
- ★ A single entry-point node for Copernicus service operators to facilitate quick and easy access to the required local, national and regional geospatial reference data in European countries that have established online web services, **ideally INSPIRE conform**.

# Preview of CORDA user interface



# Preview of CORDA user interface

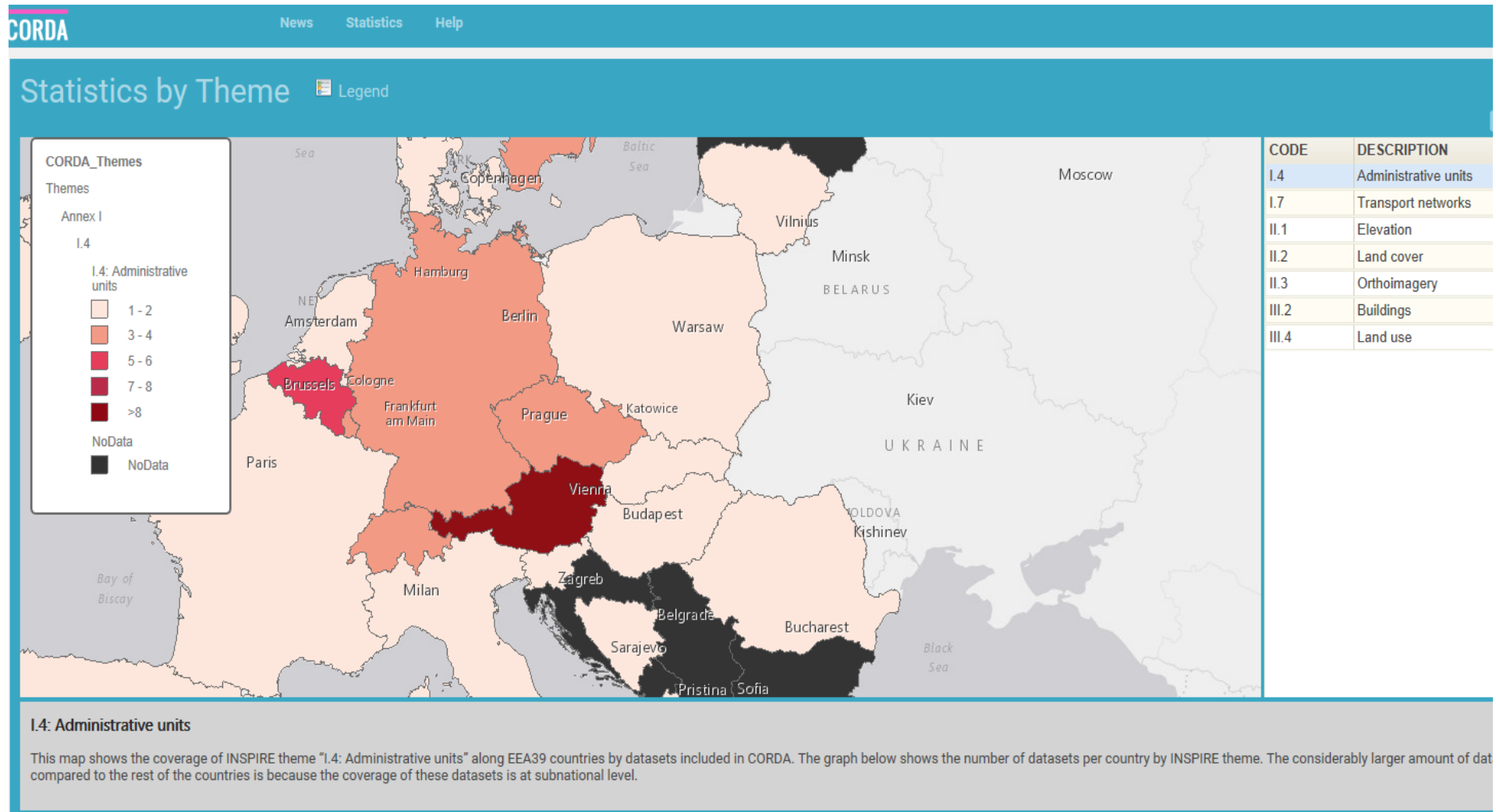
## Resource Classification per Country



CORDA Copernicus Reference Data Access is supported by European Environment Agency and Copernicus Programme



# CORDA – some statistics using INSPIRE structuring





# Future steps

- Thorough analysis of the needs by the Copernicus services under way
- Development of needs along use cases (incl. above process)
- Better define needs and relationships related to Eionet by the Eionet Copernicus working group
- Benefit from increased availability of INSPIRE services provided by EU Member States