Highlights

Where the amount of data made available under the INSPIRE Directive has remained stable in Croatia, more data was made accessible for viewing. There was a small decline in data made accessible for download. Overall conformity of metadata, services and data to maximize interoperability has slightly decreased.

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Introduction

The INSPIRE Directive sets the minimum conditions for interoperable sharing and exchange of spatial data across Europe as part of a larger European Interoperability Framework and the e-Government Action Plan that contributes to the Digital Single Market Agenda. Article 21 of INSPIRE Directive defines the basic principles for monitoring and reporting. More detailed implementing rules regarding INSPIRE monitoring and reporting have been adopted as COMMISSION DECISION regarding INSPIRE monitoring and reporting on the 5th of June 2009.

This country fiche highlights the progress in the various areas of INSPIRE implementation and presents an outlook of planned actions for further improvement of the INSPIRE implementation. The country fiche includes information **until May 2019** as an update of the information acquired through:

- member states update,
- monitoring report in May 2019.

State Of Play

A high-level view on the governance, use and impact of the INSPIRE Directive in Croatia. More detailed information is available on the INSPIRE knowledge base.

Coordination

National Contact Point

Name of Public Authority: State Geodetic Administration
Postal Address: Gruška 20, 10000 Zagreb

Contact Email: Click to email
National INSPIRE Website: http://www.nipp.hr/?id=30
https://dgu.gov.hr/
MIG Contacts: **Contact Person:** Maric Ljerka
Email: ljerka.maric@dgu.hr
Contact Person: Tomislav Ciceli
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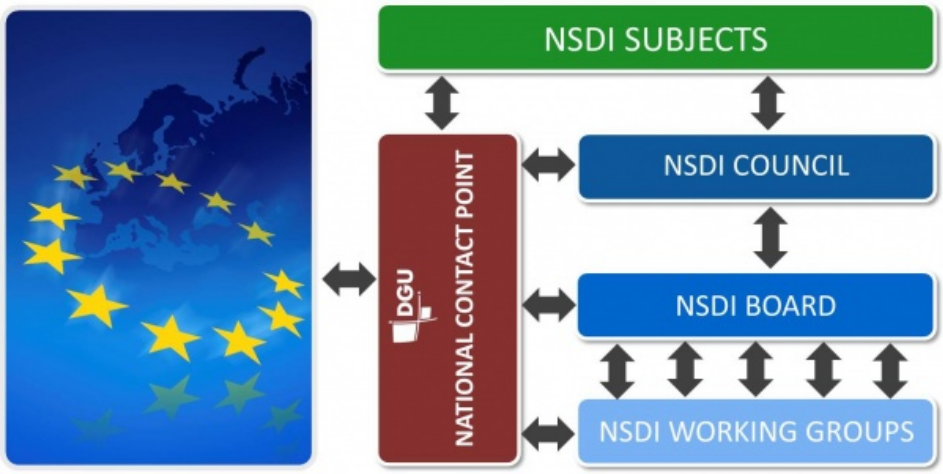


Coordination Structure & Progress:

- **National Contact point**

Name of the public authority	State Geodetic Administration
Contact information:	SGA Sector for Spatial Data Infrastructure
Mailing address	Gruška 20, 10000 Zagreb, Croatia
Telephone number	+385 (0)1 6165404
Telefax number	+385 (0)1 6165484
Email address	infonipp@dgu.hr
Organisation's website URL	https://dgu.gov.hr/
Contact person (if available)	Ljerka Marić
Telephone number	+385 (0)1 6166533
Email address	Ljerka.Maric@dgu.hr
Contact person - substitute (if available)	Tomislav Ciceli
Telephone number	+385 (0)1 6166535
Email address	Tomislav.Ciceli@dgu.hr

- **Coordination Structure**
  - The main governing body of NSDI in the Republic of Croatia is the NSDI Council. It is a body which implements the NSDI within the Republic of Croatia and coordinates the activities of NSDI subjects within the scope and with rights and obligations determined by the Law on National Spatial data infrastructure (OG 56/13, 52/18). Governmental authorities at the level of ministries mainly join this NSDI Council, but also relevant (branch) associations as well as National Contact Point (NCP). The Croatian Government at its 26th session on 16 March 2017 adopted a Decision on the appointment of members of the 5th NSDI Council assembly and as the NSDI Council president has appointed Milan Rezo, PhD. Due to personnel changes, on 23rd November 2017 as well as 28th March 2019 the Croatian Government has resolved some of the members of the NSDI Council and has appointed new members.
  - At the managerial level is the NSDI Board, a permanent body for NSDI implementing which serves as the coordination link between the NSDI Council and NSDI working groups. The NSDI Board is appointed by the NSDI Council and consists of three representatives from the NSDI Council, three from the NCP, and the heads of NSDI working groups.
  - At the operational level, there are NSDI working groups established for the purpose of elaborating certain tasks and obligations within the scope of the NSDI implementation. Currently, there are three workgroups, dealing with specialized tasks:
    - Workgroup for NSDI technical standards
    - Workgroup for NSDI capacity building
    - Workgroup for NSDI spatial data.
  - The NCP is responsible for leading the implementation of the NSDI and the coordination of the activities of the NSDI subjects within the scope and with rights and obligations determined by the Law.
- **Progress**
  - As the Republic of Croatia became official EU member 1 July 2013, it was not obliged to submit the INSPIRE monitoring and reporting forms before that date. First Reporting was submitted in 2016 and a lot of progress has been made in the period from 2016-2019. The number of identified spatial datasets, as well as documentation of data through NSDI geoportal and Metadata Catalogue, has grown from 85 in 2016 to 214 in 2019. Accessibility of data through network services is also much higher than in 2016 when Croatia had 49 services while in 2019 it has 100 network services. Interoperability of spatial datasets has also

increased but still not enough. Thus, NCP has planned a project regarding the increase of availability and interoperability of spatial datasets in Croatia which is funded from the European Regional Development Fund.

Functioning and coordination of the infrastructure

- The Law on National Spatial Data Infrastructure (OG 56/13) was adopted by the Croatian Parliament in May 2013.
- Progress from the last Reporting 2016 includes the adoption of the following acts and documents:
  - In September 2017 the government of the Republic of Croatia adopted the Decision on the adoption of the National Spatial Data Infrastructure Strategy 2020 and the Strategic Plan of the National Spatial Data Infrastructure for the period 2017-2020 (OG 96/17). The adoption of the NSDI Strategy will help all stakeholders, primarily NSDI subjects, to achieve compliance with the INSPIRE Directive. It will further emphasize the centralized access to spatial data of the public bodies through the NSDI geoportal, which will result in greater efficiency of state administration in areas directly or indirectly linked to spatial data. Fulfilment of the strategic goals will increase the number of spatial data present, primarily at the regional and local level, where the largest number of new NSDI subjects are expected.
  - The Law on Amendments to the Law on National Spatial Data Infrastructure (OG 52/18) was adopted by the Croatian Parliament in May 2018. The current Law on National Spatial Data Infrastructure (OG 56/13, 52/18) is in line with Directive 2007/2 / EC of the European Parliament and of the Council of March 14th 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE).

Usage of the infrastructure for spatial information

- Quantitative information about the use of the spatial datasets exists only for those datasets for which are developed network services. NSDI subjects which have developed such services for their datasets are State Geodetic Administration, Ministry of Environmental Protection and Energy, Croatian Highways, Ministry of Construction and Physical planning, City of Zagreb, Croatian Forest, Croatian Water and PSP. All of the data regarding the usage of network services and data they serve are annually reported in Monitoring reports. The most used network services are State Geodetic Administration's Digital orthophoto, Topographic Map 1: 25 000 and Cadastral parcels and Cadastral municipalities.
  - The view services of the State Geodetic Administration are annually requested 100 000 000 times through its geoportal. Gazeeter of Geographical Names is annually downloaded 4000 times.
  - The view and download services of the Ministry of Environmental Protection and Energy are annually requested approx. 8000 times.
  - The view services of the Ministry of Construction and Physical planning are annually requested from 1500-10000 times depending on the county which data they provide.
- NCP has encouraged NSDI subjects to implement their own metadata catalogues based on NSDI Metadata Specification and now NSDI geoportal is harvesting two such catalogues from Ministry of Environmental Protection and Energy and Croatian Bureau of Statistics.
- The use of the infrastructure for spatial information has grown a lot in the past three years which can be seen in the development of many geoportal and metadata catalogues.
- NSDI is also used in education in the Republic of Croatia. A research made on several high schools and universities in Croatia showed that NSDI is used for educational purposes in at least 2 faculties and 1 high school.
- Communication Plan of National Spatial Data Infrastructure was written in December 2018 and its goal is to define the best methods for communication with different stakeholders including the general public and further raise the awareness on benefits of spatial data infrastructure.

Data sharing arrangements

- The goal of the Republic of Croatia is to share the data between public authorities and to re-use it for different purposes. Data sharing agreements exist among public authorities and define the terms of use for datasets that are being shared, therefore reducing the obstacles in data sharing. State Geodetic Administration has 33 data sharing agreements with 29 different public authorities.
- There is also a practice of co-financing the major projects of data acquisition between two or more institutions that also leads to data sharing and cost reduction. The best example is the creation of Digital orthophoto, which is co-financed by two institutions, State Geodetic Administration and Agency for Payments in Agriculture, Fisheries and Rural Development.
- Data exchange and sharing are common among some Croatian public authorities and European Community institutions and bodies. For example, the Meteorological and Hydrological Service exchange daily data in the context of the European Flood Awareness System and World meteorological services.

Costs and benefits

Although no quantitative values of the INSPIRE implementation benefits can be given, there are many positive feedbacks to INSPIRE implementation and using National Spatial Data Infrastructure:

- Using NSDI has led to cost reduction as data can be re-used in other institutions and duplication of data acquisition can be avoided.
- Many stakeholders use the Metadata Catalogue and NSDI geoportal for their needs regarding spatial data since all necessary information regarding the data can be found there (e.g. terms of use, resolution, data coverage).
- Many NSDI subjects when providing INSPIRE services for their spatial datasets decide to make them free of charge, thus allowing companies to use these data to create new products and expand the spatial data market.

Key facts and figures

In addition to the above mentioned issues, the implementation of INSPIRE Directive requires Member States to take four main steps in

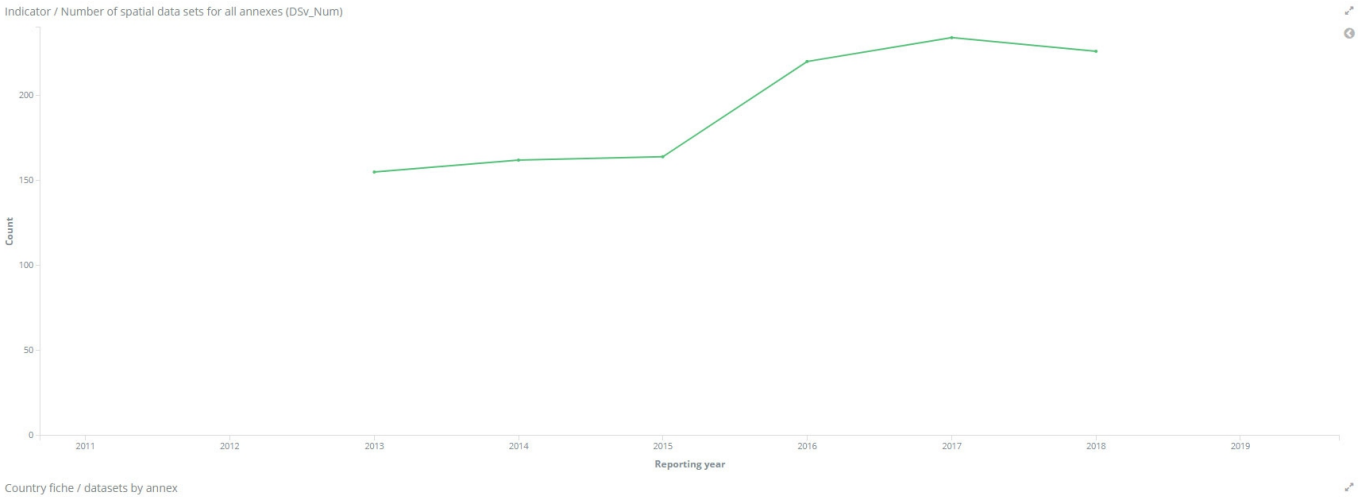
relation to management of spatial datasets which fall under the Directive:

- Step 1: Identify spatial datasets
- Step 2: Document these datasets (metadata)
- Step 3: Provide services for identified spatial datasets (discovery, view, download)
- Step 4: Make spatial datasets interoperable by aligning them with the common data models.

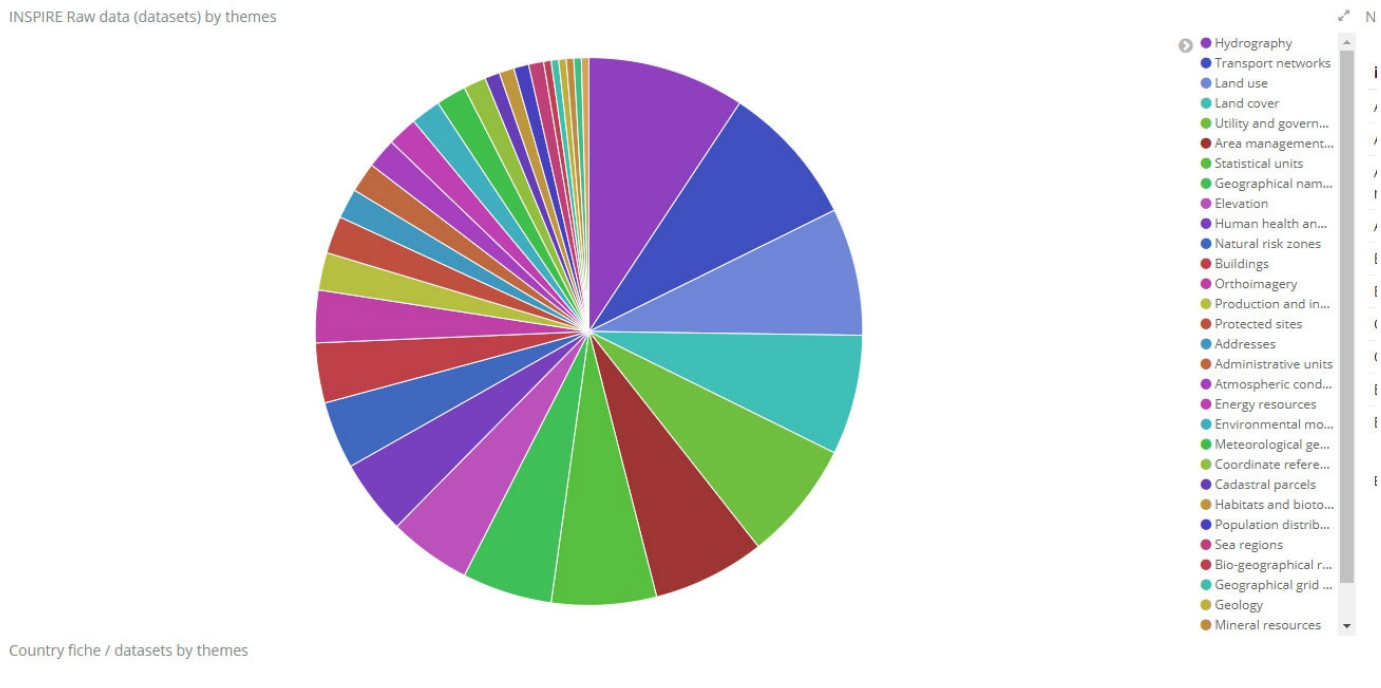
The key facts and figures presented in this country fiche are based on the information provided by Croatia on the INSPIRE dashboard. **The provided statistics is not reflecting the data available on** INSPIRE geoportal. The INSPIRE geoportal is updated on a regular and ongoing basis, whilst the INSPIRE dashboard is typically updated after every reporting round, on a yearly basis.

The conformity of the implementation is assessed against the full set of legal specifications set out by the Directive and the Implementing Rules and the commonly agreed good practices set out by the technical guidelines.

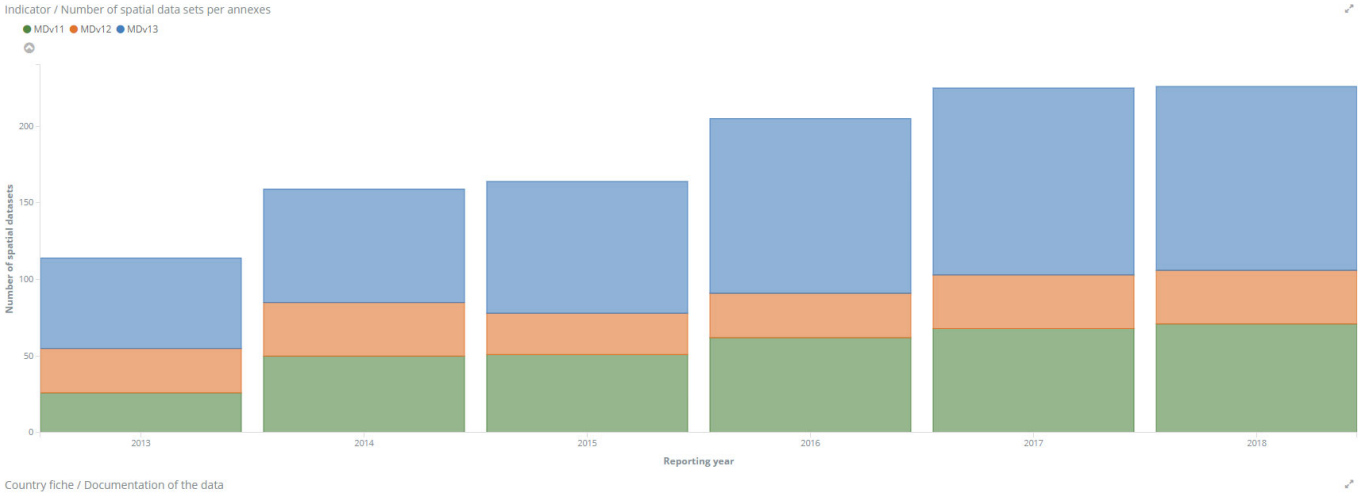
Identification of spatial data with relevance to the environment (step 1)



Data sets made available per INSPIRE theme (reference year 2018)



Data sets made available per INSPIRE theme



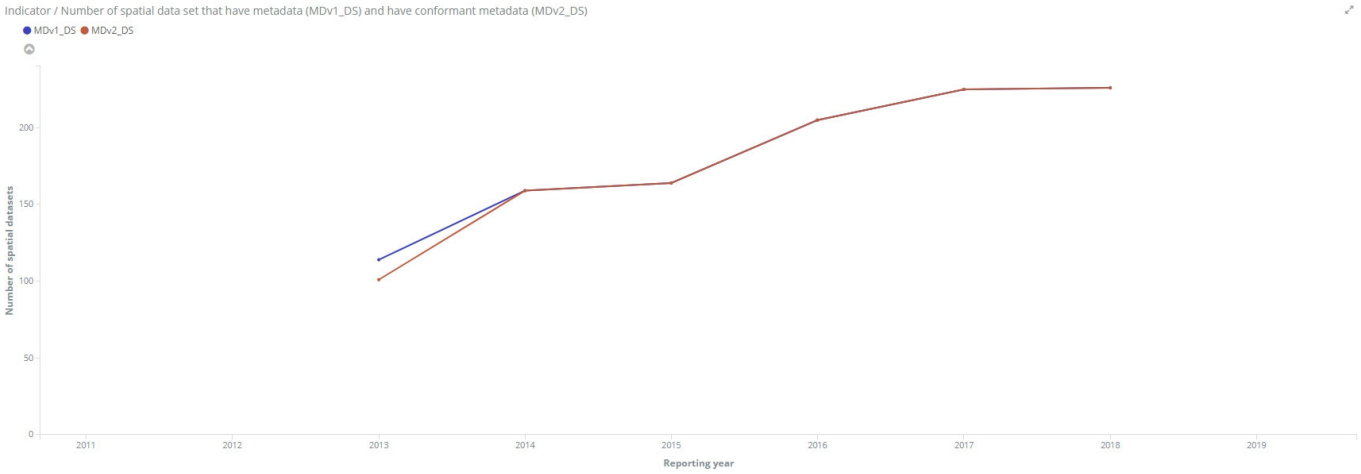
MDv1.1: number of spatial data sets for Annex I that have metadata

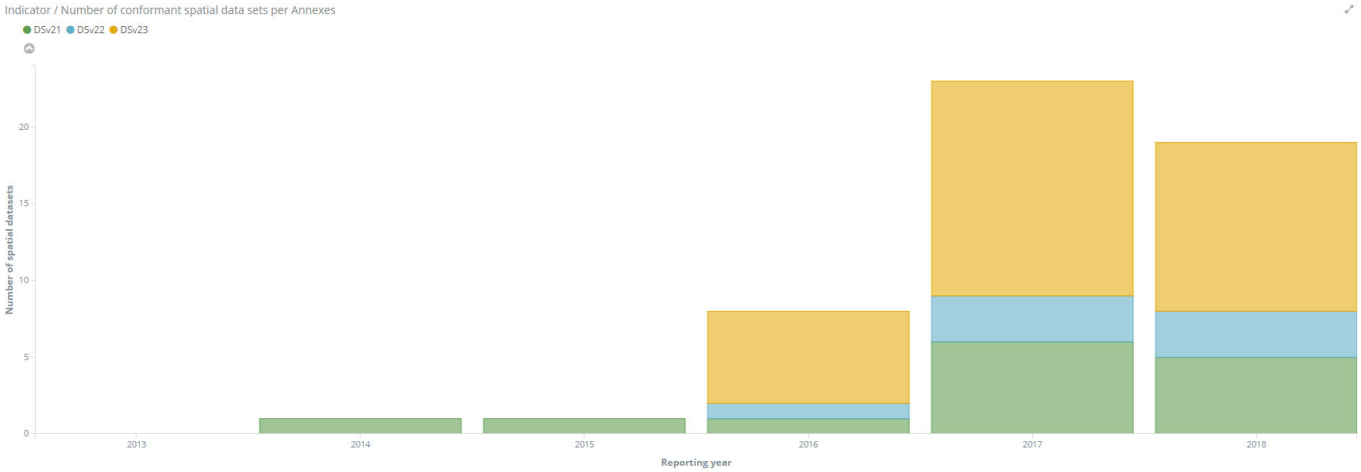
MDv1.2: number of spatial data sets for Annex II that have metadata

MDv1.3: number of spatial data sets for Annex III that have metadata

Documentation of the data (metadata) (step 2)

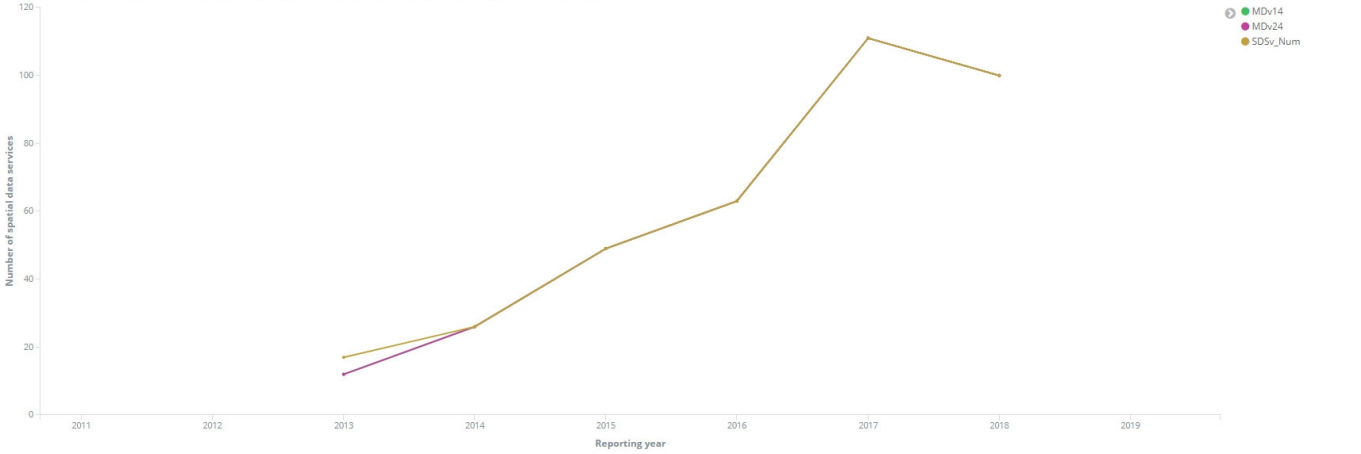
Evolution of documented data and conformity of the documentation





Evolution of documented services and conformity of the documentation

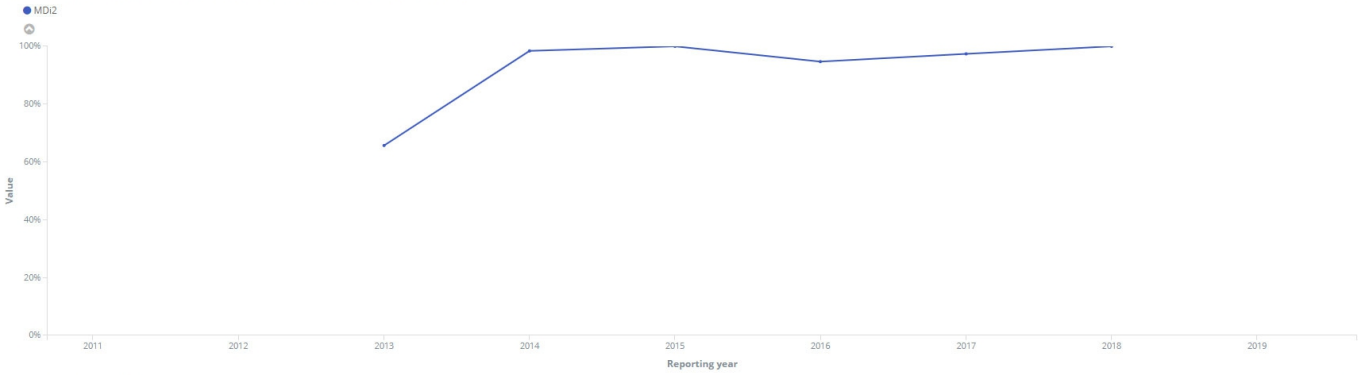
Indicator / Number of spatial data services (SDSv_Num) with metadata (MDv14) and conformant metadata (MDv24)



Country fiche / Evolution of the overall conformity of the documented metadata

Evolution of the overall conformity of the documented metadata

Indicator / Percentage of spatial data sets and services with conformant metadata (MDi2)

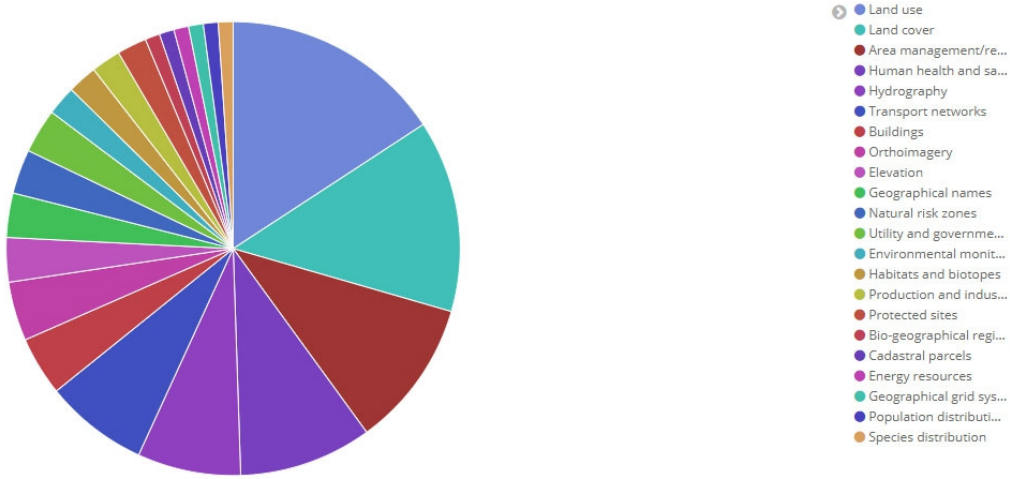


Country fiche / accessibility

Accessibility of the data through digital services (step 3)

Digitally accessible spatial data per INSPIRE theme (reference year 2018)

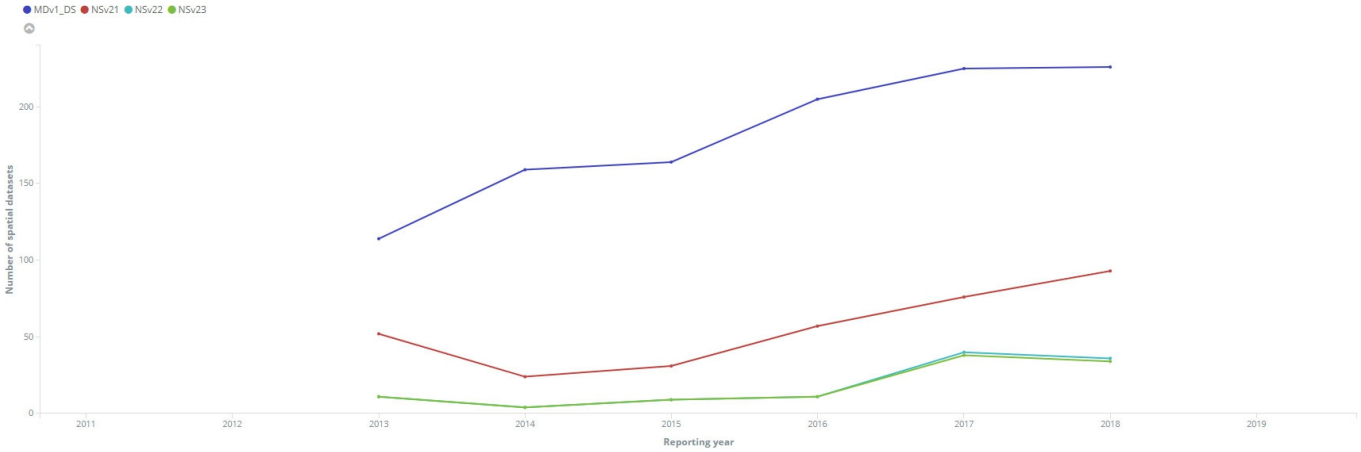
INSPIRE Raw data (datasets available through services) by themes



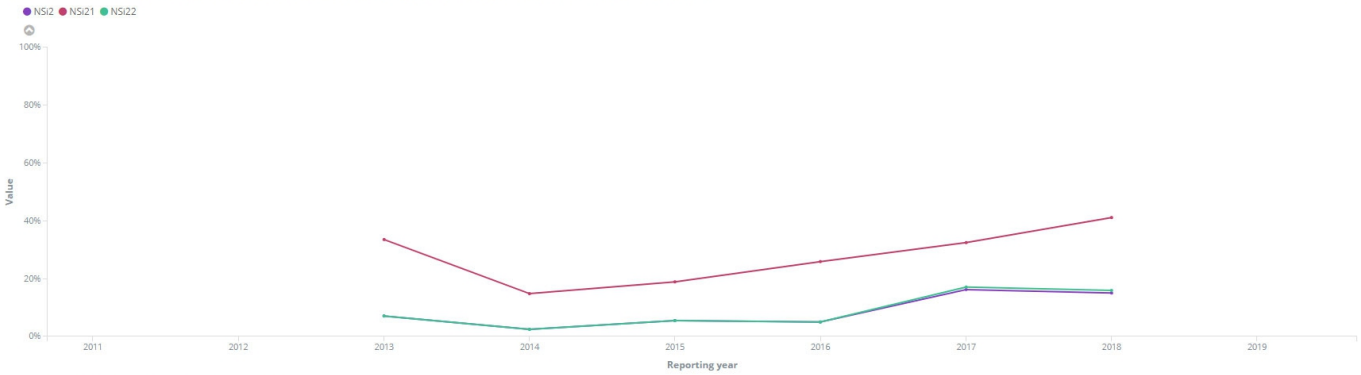
Country fiche / Evolution of spatial data accessible through services

Evolution of spatial data made accessible through digital services

Indicator / Number of spatial data sets for which a view (NSv21) or download (NSv22) or both (NSv23) service exist and the total number of metadata (MDv1_ds)



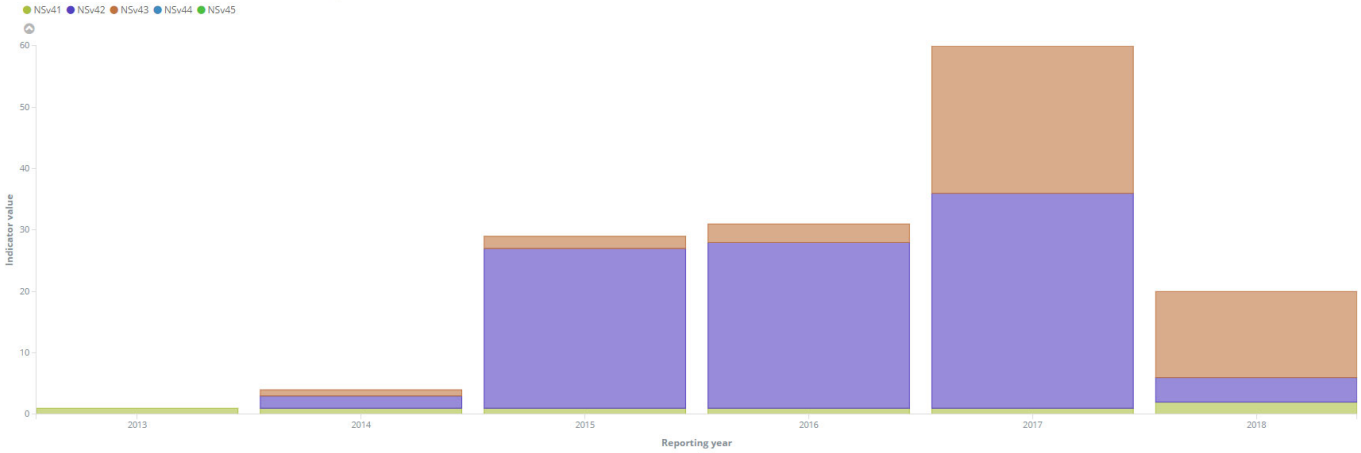
Indicator / Percentage of spatial data sets for which a view service (NSi21), a download service (NSi22) or a view and download (NSi2) exist



Country fiche / Evolution of the conformity of the digital services

Evolution of the conformity of the digital services

Indicator / Number of all conformant network services: discovery (NSv41), view (NSv42), download (NSv43), transformation (NSv44) total (NSv4)

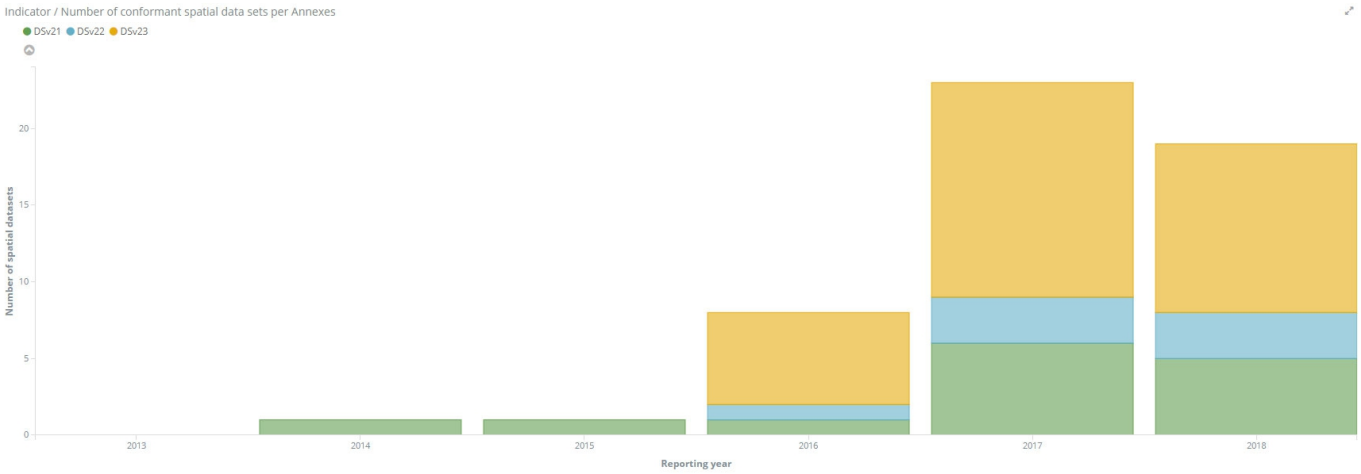


Country fiche / Interoperability

Interoperability of spatial data sets (step 4)

The interoperability of spatial data sets is an outlook on the readiness of Member States to make their spatial data interoperable according to the interoperability specifications laid down in the INSPIRE interoperability implementing regulation (Commission Regulation (EU) No 1089/2010http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02010R1089-20131230&qid=1400675738563). The deadlines for implementation of the spatial data interoperability are 23/11/2017 for Annex I data and 21/10/2020 for Annex II and III data.

Evolution of the conformity with INSPIRE interoperability specifications for spatial data



DSv2.1: number of conformant spatial data sets with conformant metadata for Annex I

DSv2.2: number of conformant spatial data sets with conformant metadata for Annex II

DSv2.3: number of conformant spatial data sets with conformant metadata for Annex III