



Status of implementation of the INSPIRE Directive – 2016 Country Fiches

COUNTRY FICHE Spain

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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 of Spain 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 2016** as a summary of the information acquired through:

- the 2016 [tri-annual INSPIRE implementation report](#),
- [monitoring report](#) in May 2016,

- a [bilateral meeting](#) on the implementation of the INSPIRE Directive between the Commission and Spain representatives.

1. State of Play

A high-level view on the governance, use and impact of the INSPIRE Directive in Spain. More detailed information is available on the [INSPIRE knowledge base](#).

The content of the chapter is tagged according to 5 criteria of better regulation:

- **[Effectiveness]** How successful has the INSPIRE implementation been in achieving, progressing towards its objectives; progress made, gaps, what factors have influenced or why it has not yet been achieved regarding availability of services, data interoperability, sharing, data policy obstacles
- **[Efficiency]** Costs (numbers or difficulties to evaluate them); benefits (qualitative or quantitative) already visible.
- **[Relevance]** Is it still relevant to make data interoperable, remove obstacles of data sharing, drive collaboration between public services, necessary for National SDI, use cross-sector, requested by eGovernment, modernisation of public admin, etc.; support given by National Institutions for implementation
- **[Coherence]** Internal coherence of INSPIRE provisions proved by implementation; cross-border applications; coherence with other National and EU policies
- **[EU-added value]** Improvement of EU cross-border data management and use; use for environmental monitoring and reporting, use for and with Copernicus data; use cross-sector.

1.1 Coordination

- National Contact point

| | |
|---------------------------|---|
| Name of public authority | Consejo Superior Geográfico |
| Mailing address | Secretaría Técnica del Consejo Superior Geográfico Instituto Geográfico Nacional. General Ibáñez de Ibero, 3 28003 – Madrid |
| Telephone number | +34 91 5979648 |
| Fax number | +34 91 5979764 |
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| Website address | http://www.fomento.es/MFOM/LANG_CASTELLANO/ORGANOS_COLEGIADOS/MASORGANOS/CSG/ |
| Contact person | Emilio López Romero |
| Telephone number | +34 91 5979646 |
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| Contact person substitute | Antonio F. Rodríguez Pascual |
| Telephone number | +34 91 5979661 |
| E-mail | afrodriguez@fomento.es |

- Coordination Structure
 - Consejo Superior Geográfico (CSG) is the director body of the National Cartographic System (SCN), having consultation and planning role for the official geographic information and cartography. CSG is the NCP for INSPIRE and the coordination and direction for the National SDI - Infraestructura de Información Geográfica de España (IIGE);
 - CSG created the Consejo Directivo de la Infraestructura de Información Geográfica de España (CODIIGE) for managing and controlling IIEG. It has executive power;
 - Depending on CODIIGE, there are 31 Thematic Working Groups (GTT), (one per INSPIRE Theme although some are grouped) with representation of all institutions with responsibility for data and/ or services under scope of INSPIRE. Furthermore, there are four transversal Working Groups (Metadata and catalogue; architecture, standards and web services; monitoring and reporting; data policy and services);
 - The CODIIGE deal with interinstitutional coordination: the organization of National SDI (IDEE) is based on 8 national nodes and 17 regional nodes; each regional node establishes the

necessary coordination with the local administration and other agents. The coordination structures of the nodes have different typologies;

- Finally, there is a Working Group for the NSDI (GTIDEE) with representatives from public and private sector and academia.
- **Progress**
 - Set up of coordination structure (CODIIGE and GTT- Working groups technical) to generate long term cohesion of thematic communities. **[Effectiveness]**
 - Big effort on training, seminars, events at regional and local levels; electronic monthly bulletin "SobreIDEs" <http://www.idee.es/boletin-sobre-ides>
 - Further development & implementation of the corporative SIG (geographic information system) of MAGRAMA (Ministry of agriculture and environment) using standard technologies / INSPIRE and the SDI MAGRAMA with geoportal & web services
 - Unified coordination of inventory of data sets related with INSPIRE themes & their obligations regarding the EEA. **[Coherence]**

1.2 Functioning and coordination of the infrastructure

- Geoportal (of NSDI) IDEE. (See www.idee.es)
- Each Autonomous Community (Region) has at least one reference geoportal. **[Effectiveness]**
- National INSPIRE Geoportal accesses to 30 catalogues from national departments and autonomous regions, including data and services from local administration. (See <http://www.idee.es/csw-inspire-idee/srv/spa/catalog.search#/home>)
- There is an Official Catalogue for INSPIRE dataset & services (CODSI). This catalogue is the base for the monitoring process and for feeding the INSPIRE Geoportal.
- All INSPIRE compliant services available in Spain are available in European INSPIRE Geoportal. Not many users of IDEE use the European one.
- Much more OGC services are available but not all are INSPIRE compliant services.
- Datasets will be available, discovered with keyword in the MD with associated services and MD to get full compliance. The current problem is to identify the list of key spatial data sets required for other environmental policies and this is delaying the all process.
- The GTT (Technical Groups) was asked to produce Guidelines how to make compliant with INSPIRE the already implemented OGC standard services. There are already some available. (<http://www.idee.es/web/guest/guias-implementacion>)

1.3 Usage of the infrastructure for spatial information

- The National open data portal (<http://datos.gob.es/>) use the WMS of IDEE and its catalogue is federated with IDEE catalogue
- Use of the services increased and generalised: in 3 years, 132 million requests services provided by MAGRAMA (Ministry of Agriculture and environment), 950 million services IED Catalunya; from IGN, >7000 million and from DG Cadaster 6000 million per week, since 2015 also in GML and INSPIRE compliant data.
- Cross-border SDI Jornadas Ibéricas with representatives of PT, ES and Andorra. **[EU-added value]**
- National geoportal has links with the geoportals of PT, FR and Andorra and it has versions in FR and PT
- Other examples of European projects: ELF, EUREF, Copernicus, HLANDATA, SIGPAC, Red EIONET, EAGLE, INGENIO, GBIF Spain,

1.4 Data Sharing Arrangements

- Existence of big projects of collaborative data production and harmonisation, which include sharing of resulting data; the on-going production of georeferenced reference data increased the sharing of data between public admin. **[Effectiveness]**
- Sharing data for the public: in a sampling of 50 public organisations, 32% publish open data, 20.5% publish semi-open, 12% closed data and 36% do not declare the use conditions.
- The data that can be downloaded, only 16% use a Creative Commons license or any other "standardised" license.

1.5 Costs and Benefits

- There is no recent detailed and complete study on cost of IDEE; annual maintenance and operation costs of IDEE Geoportal are known, as well the ones of MAGRAMA and the average costs/year of 9 hydrographic Confederations;
- Diversity and heterogeneity on costs from node to node;
- The balance cost/benefits is positive although in many cases the benefit is difficult or impossible to quantify; **[Efficiency]**
- Benefits: the geoportal for hydrocarburos of the ministry of industry, commerce and tourism allows to citizens savings of 60 million/year. **[Efficiency]**
- SDI (IDE) and web services became daily working tools in many public admin, generalised culture of sharing data and information, increasing of open data available in the web, incentive to produce very expensive data like the national coverage of LiDAR are among the benefits.

2 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 Spain 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.

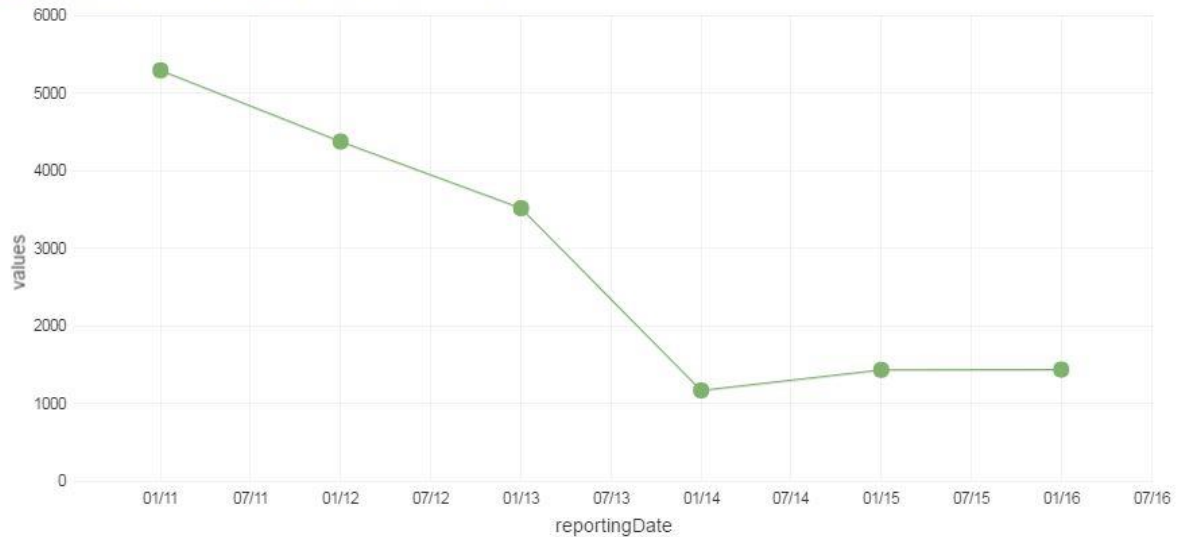
2.1. Identification of spatial data with relevance to the environment (step 1)

a. Evolution of the data offering

DSv_Num: number of spatial data sets for all Annexes

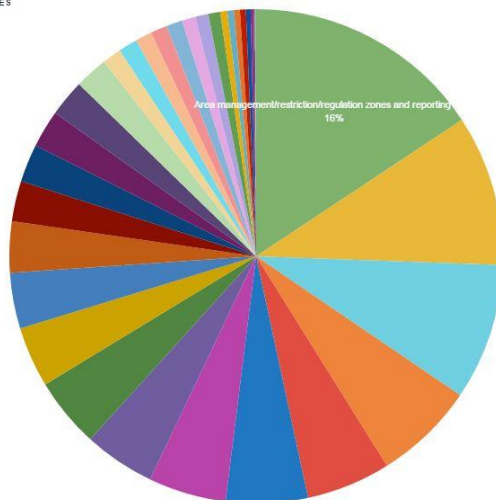
NUMBER OF SPATIAL DATA SETS FOR ALL ANNEXES (DSV_NUM)

(6) indicator/Value values per 1y | (6 Hits) | Time correction: browser



b. Data sets made available per INSPIRE theme in 2015

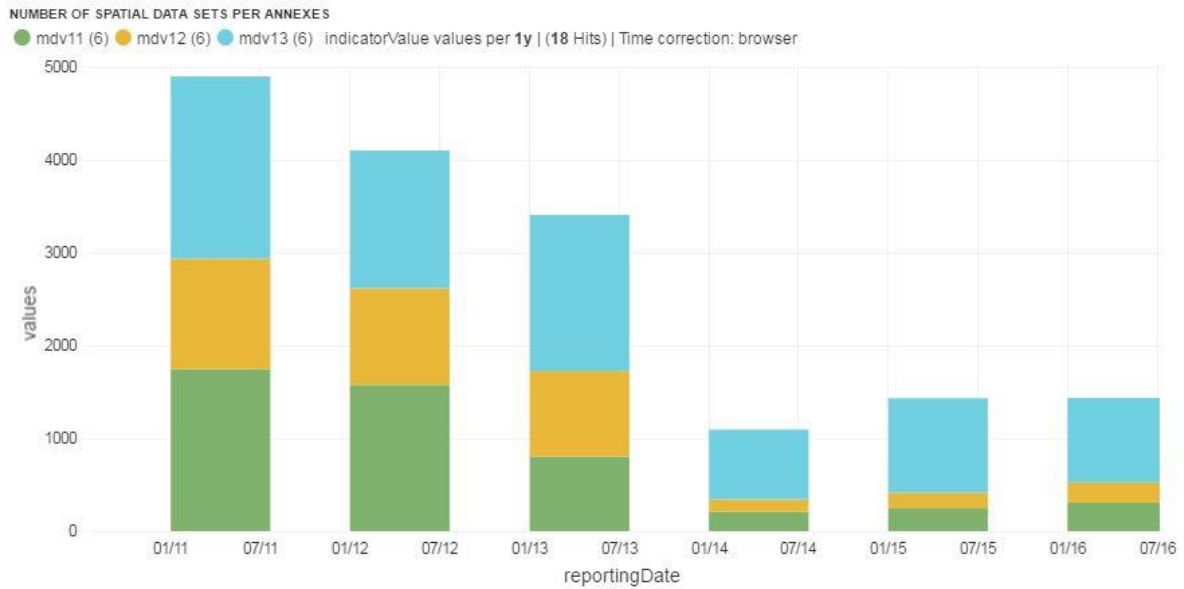
NUMBER OF RECORD PER THEMES



| | |
|--|-----|
| Area management/restriction/regulation zones and reporting units | 404 |
| Utility and governmental services | 254 |
| Meteorological geographical features | 230 |
| Environmental monitoring facilities | 170 |
| Elevation | 142 |
| Land use | 138 |
| Protected sites | 131 |
| Orthomagery | 120 |
| Natural risk zones | 118 |
| Land cover | 102 |
| Production and industrial facilities | 94 |
| Hydrography | 86 |
| Agricultural and aquaculture facilities | 88 |
| Transport networks | 64 |
| Geology | 63 |
| Energy resources | 62 |
| Soil | 56 |
| Species distribution | 32 |
| Habitats and biotopes | 32 |
| Mineral resources | 28 |
| Buildings | 28 |
| Sea regions | 27 |
| Geographical names | 23 |
| Human health and safety | 22 |
| Statistical units | 20 |
| Administrative units | 12 |
| Addresses | 11 |
| Bio-geographical regions | 10 |
| Atmospheric conditions | 10 |
| Oceanographic geographical features | 8 |
| Cadastral parcels | 5 |
| Geographical grid systems | 2 |
| Coordinate reference systems | 2 |

c. Data sets per annex (Annex 1 & 2: spatial reference data; Annex 3: environmental spatial data)

MDv1.1 (green): number of spatial data sets for Annex I that have metadata
MDv1.2 (yellow): number of spatial data sets for Annex II that have metadata
MDv1.3 (blue): number of spatial data sets for Annex III that have metadata



Evaluation of progress for step 1:

Spain has identified a total of 1435 spatial data sets with relation to the themes listed in the INSPIRE annexes.

The interesting trend is that number of spatial data sets has decreased from 2011 to 2013 and is slowly growing up from 2014 onwards.

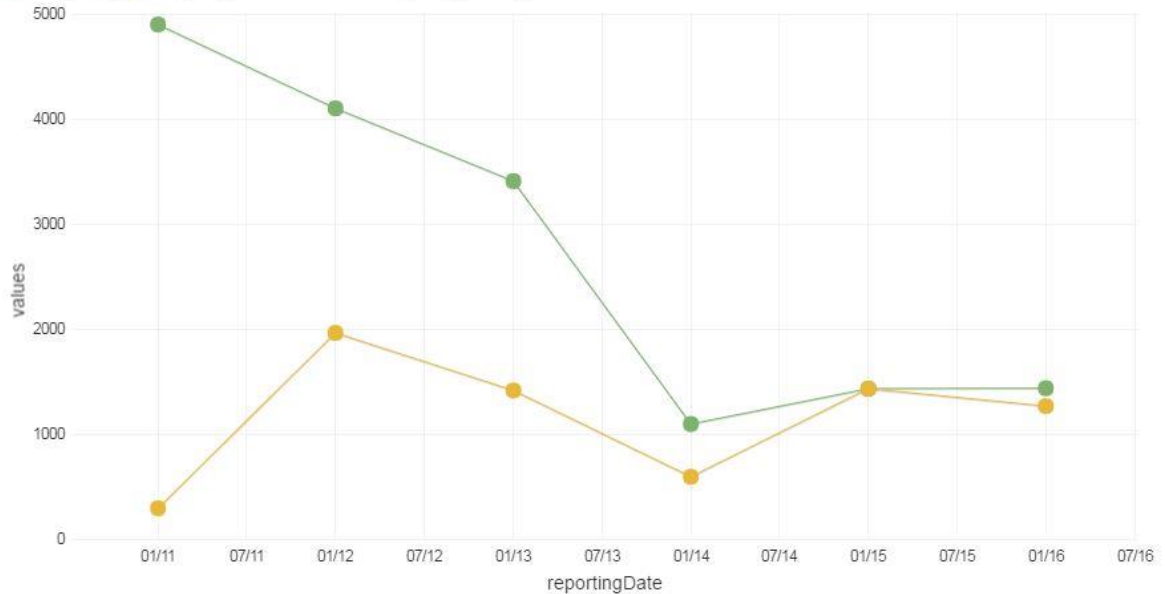
2.2 Documentation of the data (metadata) (step 2)

a. Evolution of documented data and conformity of the documentation

MDv1_DS (green): number of spatial data sets for all Annexes that have metadata

MDv2_DS (yellow): number of spatial data sets for all Annexes that have conformant metadata

NUMBER OF SPATIAL DATA SET THAT HAVE METADATA (MDV1_DS) AND HAVE CONFORMANT METADATA (MDV2_DS)
 ● mdv1_ds (6) ● mdv2_ds (6) indicatorValue values per 1y | (12 Hits) | Time correction: browser



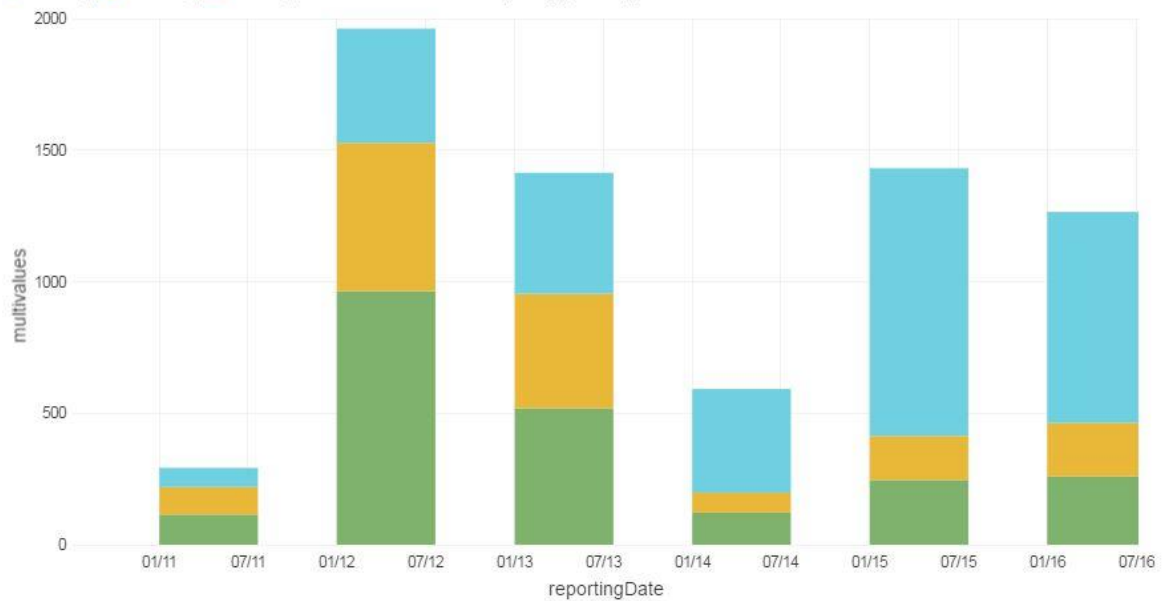
b. Documented data per annex in 2015

MDv2.1 (green): number of spatial data sets for Annex I that have conformant metadata

MDv2.2 (yellow): number of spatial data sets for Annex II that have conformant metadata

MDv2.3 (blue): number of spatial data sets for Annex III that have conformant metadata

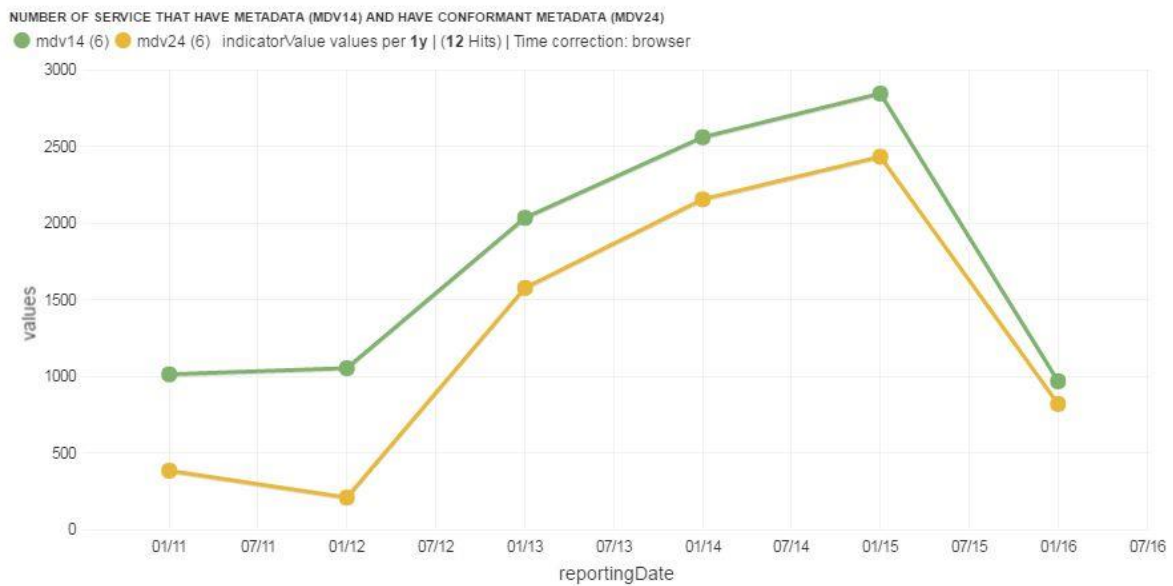
NUMBER OF SPATIAL DATA SETS THAT HAVE CONFORMANT METADATA PER ANNEXES
 ● mdv21 (6) ● mdv22 (6) ● mdv23 (6) indicatorValue multivalues per 1y | (18 Hits) | Time correction: browser



c. Evolution of documented services and conformity of the documentation

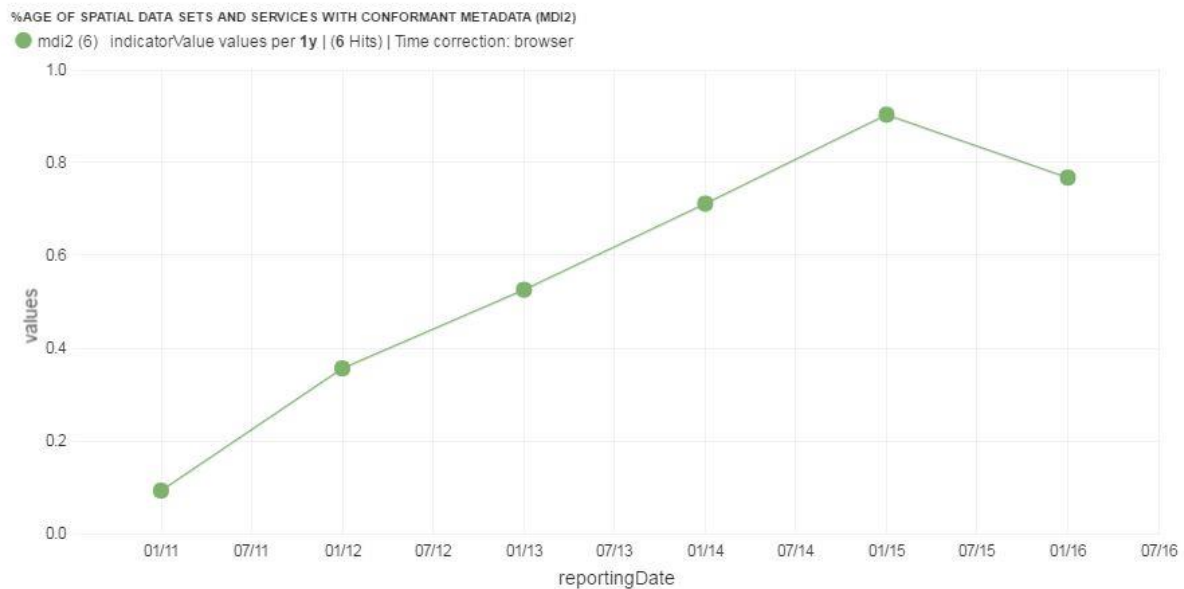
MDv1.4 (green): number of spatial data services that have metadata

MDv2.4 (yellow): number of spatial data services that have conformant metadata



d. Evolution of the overall conformity of the documented metadata

MDi2 = (number of spatial data sets for all Annexes that have conformant metadata + number of spatial data services that have conformant metadata) / (number of spatial data sets for all Annexes + number of spatial data services)



Evaluation of progress for step 2:

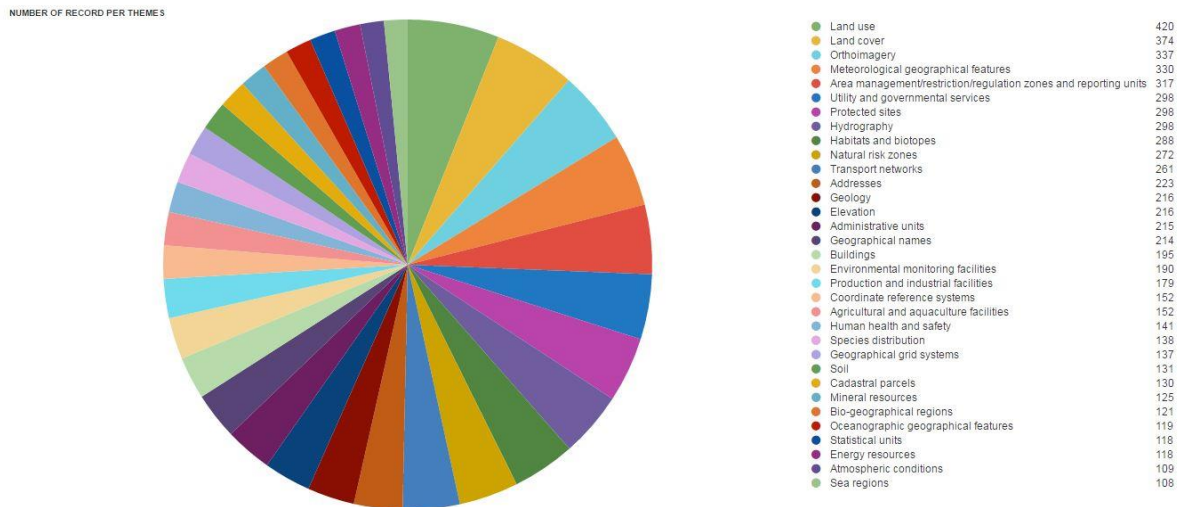
Spain has documented and published metadata through a digital discovery service for 100% (1435) of the identified spatial data sets and 80,84% of the digital services (967 out of 1279). Overall, 76,78% of the metadata conforms to the INSPIRE metadata specifications.

It shows a high level of maturity. To support data discovery for the end-users of the INSPIRE infrastructure, Spain should aim to achieve better technical conformity of the available metadata.

2.3. Accessibility of the data through digital services (step 3)

a. Digitally accessible spatial data per INSPIRE theme in 2015

Note: This figure reflects the amount of spatial data sets made available through a digital service, not the amount of available digital services. A digital service can make several spatial data sets available.



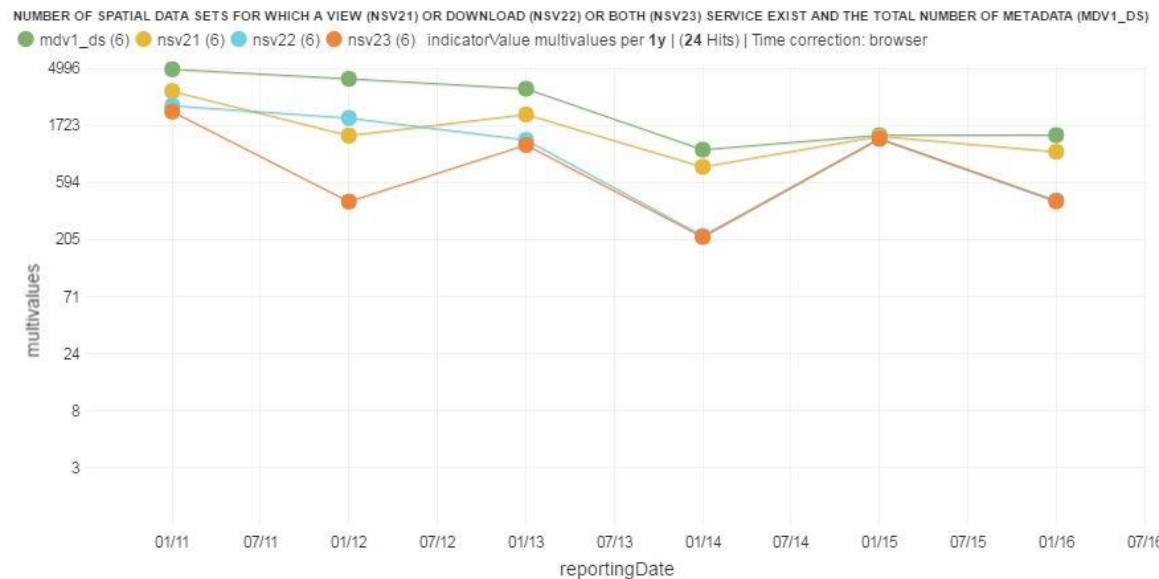
b. Evolution of spatial data made accessible through digital services

MDv1_DS (green): number of spatial data sets for all Annexes that have metadata

NSv2.1 yellow): number of spatial data sets for which a view service exists

NSv2.2 (blue): number of spatial data sets for which a download service exists

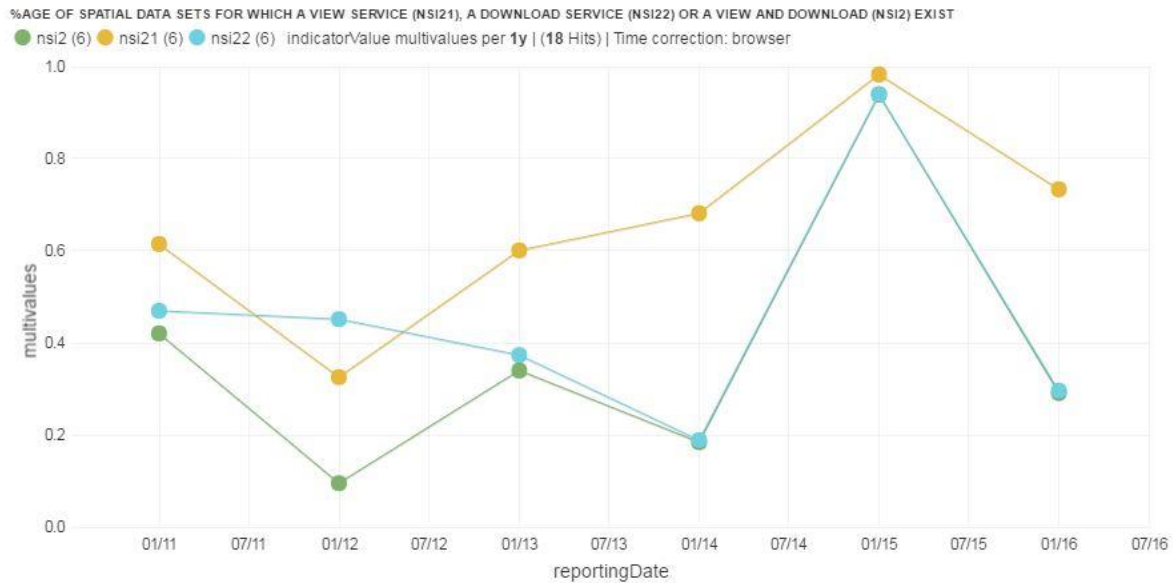
NSv2.3 (orange): number of spatial data sets for which both a view and a download service exists



NSi2 (green) = number of spatial data sets for which both a view and a download service exists / number of spatial data sets for all Annexes

NSi2.1 (yellow) = number of spatial data sets for which a view service exists / number of spatial data sets for all Annexes

NSi2.2 (blue) = number of spatial data sets for which a download service exists / number of spatial data sets for all Annexes



c. Evolution of the conformity of the digital services

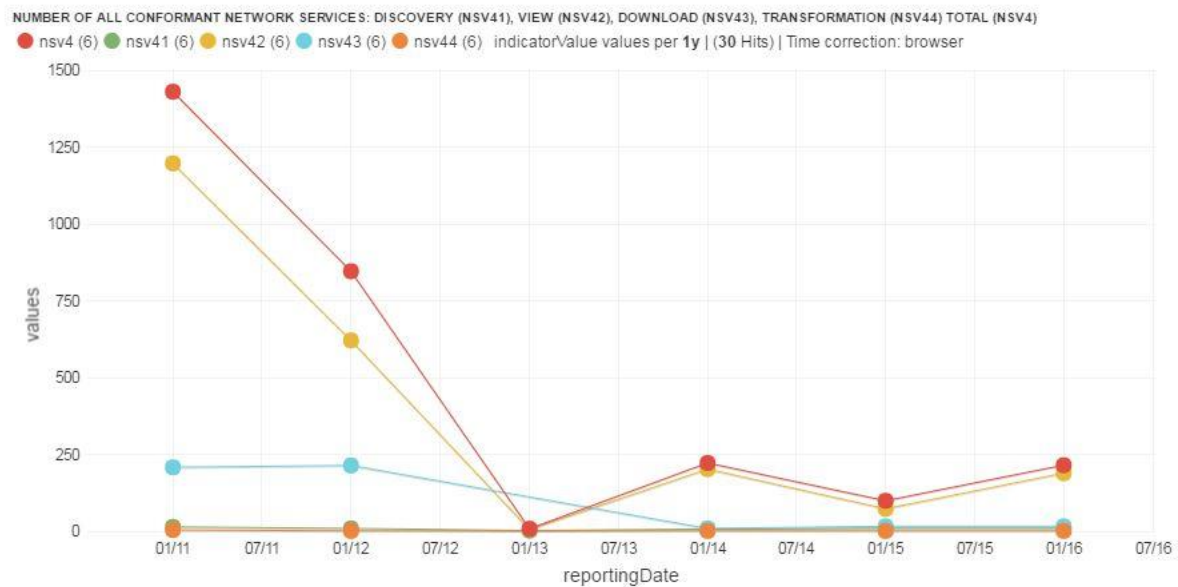
NSv4 (red): number of all conformant network services

NSv4.1 (green): number of conformant discovery network services

NSv4.2 (yellow): number of conformant view network services

NSv4.3 (blue): number of conformant download network services

NSv4.4 (orange): number of conformant transformation network services



Evaluation of progress for step 3:

Spain has:

- 73,37% of its data sets accessible for viewing through a view service;
- 29,61% of its data sets accessible for download through a download service.

Small number of the available digital services are conform to the INSPIRE network service specifications (16,81 % (215 out of 1279)).

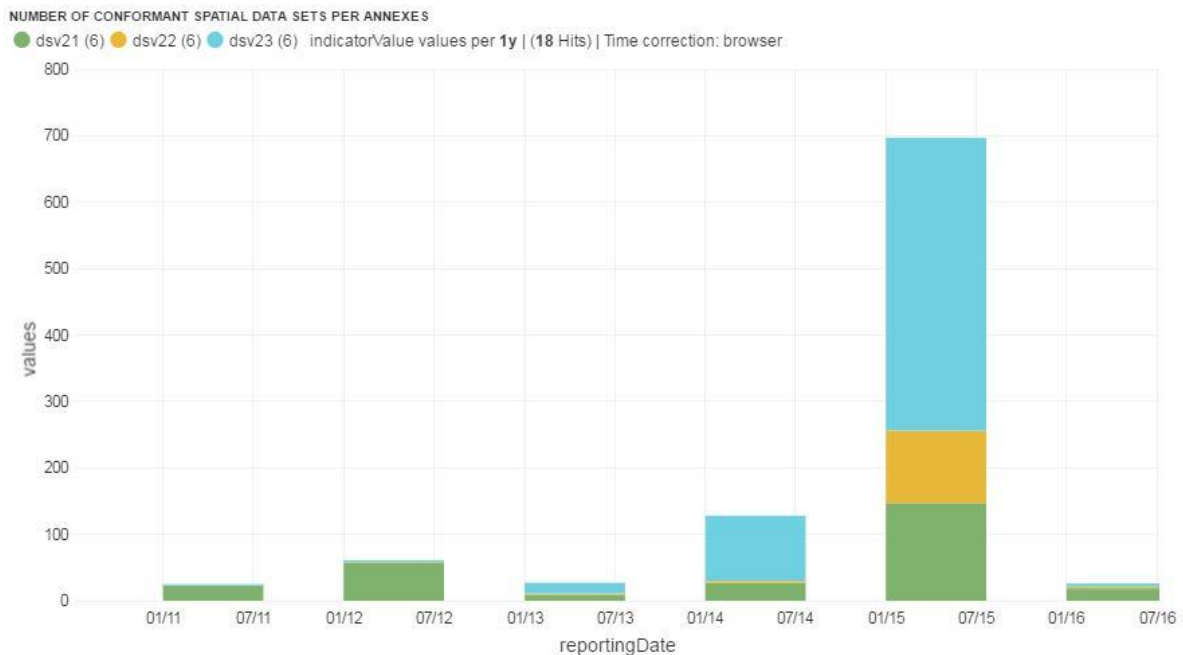
Spain shows that it has built the necessary capacity and competences to make data accessible through digital INSPIRE network services. The technical conformity of the available services with the INSPIRE network service specifications is poor. Spain should boost their effort to further improve the accessibility of their spatial data through digital INSPIRE services and their conformance.

2.4. 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 1089/2010](#)). The deadlines for implementation of the spatial data interoperability are in the future: 23/11/2017 for Annex I data and 21/10/2020 for Annex II and III data.

a. Evolution of the conformity with INSPIRE interoperability specifications for spatial data

DSv2.1 (green): number of conformant spatial data sets with conformant metadata for Annex I
DSv2.2 (yellow): number of conformant spatial data sets with conformant metadata for Annex II
DSv2.3 (blue): number of conformant spatial data sets with conformant metadata for Annex III



Evaluation of progress for step 4:

Spain reported 697 data set to be conform to the INSPIRE interoperability specifications in 2015.

We can conclude that Spain started its preparations for the 2017/2020 data interoperability deadlines. Particular progress could be seen in 2015.

3. Outlook

Spain has critically reviewed their INSPIRE implementation and provided an [action plan](#) in 2016 to remediate existing implementation issues and further improve the overall conformity of the implementation.

Action plan is an alive document that will be revised according to the accomplishment of actions and resources made available; revision may be done considering not only the Theme as minimal unit of information, but also the application schema, which requires more detailed information.

The following actions are set up to directly address previously identified issues:

a. Coordination (1.1; 1.2)

- **INSPIRE is seen as the key tool to contribute for the efficiency of the information processes, reducing the amount of work for monitoring and reporting through revising the information requirements.**

b. Data sharing and exchange (1.4)

- **It's necessary that at each working group (Expert Groups) of each Directive to specify how to do reporting completely adapted to INSPIRE requirements.**

c. Metadata (2.2)

- **The 2020 deadline will be achieved for all data themes, metadata and services.**

d. Network services (2.3)

- **The 2020 deadline will be achieved for all data themes, metadata and services.**

e. Data Interoperability (2.4)

- **For each theme of Annex I and II it's guaranteed that the basic datasets will be available conform and before the deadline obligation.**
- **For priority datasets the objective is identifying the spatial data sets, to create the related metadata, data interoperability and services, the actions necessary to obtain these objectives in due time and the necessary resources.**

4. Summary - How is Country doing?

| INSPIRE key obligation | Overall implementation status and trend | Outlook | <p align="center">Dashboard Legend</p> <p>Implementation Status:</p> <p>😊: implementation of this provision is well advanced or (nearly) completed. Outstanding issues are minor and can be addressed easily.</p> <p>😐: implementation of this provision has started and made some progress but is still far from being complete. Outstanding issues are significant and need to be addressed to ensure that the objectives of the legislation can still be reached by 2020.</p> <p>😞: implementation of this provision is falling significantly behind or has not even started. Serious efforts are necessary to close implementation gap.</p> <p>Trend:</p> <p>↗️: the trend of the implementation is positive.</p> <p>➡️: the trend of the implementation is neutral.</p> <p>↘️: the trend of the implementation is negative.</p> <p>Outlook:</p> <p>🟢: clear and targeted actions have been identified which allow reaching the objectives of the legislation in an effective way.</p> <p>🟡: No real progress has been made in the recent past or actions which have been identified are not clear and targeted enough to predict a more positive outlook.</p> <p>🔴: no actions have been identified to overcome identified implementation gaps.</p> |
|---|---|---------|--|
| Ensure effective coordination | 😊 ↗️ | 🟢 | |
| Data sharing without obstacles | 😊 ↗️ | 🟢 | |
| Step 1: Identify spatial datasets | 😐 ↘️ | 🟢 | |
| Step 2: Document 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. | 😐 ↗️ | 🟢 | |

Specific recommendations:

For each Member State, the accessibility of environmental data (based on what the INSPIRE Directive envisages) as well as data-sharing policies have been systematically reviewed.

Spain has indicated in the 3-yearly INSPIRE implementation report that the necessary data-sharing policies allowing access and use of spatial data by national administrations, other Member States' administrations and EU institutions without procedural obstacles are available and implemented. In Spain, sharing of information between public bodies is well defined by law. In case of environmental information, data is made available under Law 27/2006. More than 30% of the Spanish administrations have already released and published their spatial data as open data.

Assessments of monitoring reports issued by Spain and the spatial information that Spain has published on the INSPIRE geoportal indicate that not all spatial information needed for the evaluation and implementation of EU environmental law has been made available or is accessible. The larger part of this missing spatial information consists of the environmental data required to be made available under the existing reporting and monitoring regulations of EU environmental law, though some elements are available.

Suggested action

- Identify and document all spatial data sets required for the implementation of environmental law, and make the data and documentation at least accessible 'as is' to other public authorities and the public through the digital services foreseen in the INSPIRE Directive.