INSPIRE Data Harmonization and Network Services at the German Federal Agency for Nature Conservation (BfN)

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Agenda

- Introduction of BfN
- Goals of the SDI@BfN
- SDI Components and Data Workflow
- INSPIRE Solution Pack for FME and ArcGIS for INSPIRE
- Matching, Mapping and Publishing
  - Protected Sites
  - Species Distribution
- Conclusion
German Federal Agency for Nature Conservation (BfN)

- **General**
  - Central scientific authority of the federal government for the national and international nature conservation
  - located in the German Federal Environment Ministry

- **Main Tasks**
  - Provision of a scientific basis for policy and administrative Decisions
  - Performing important enforcement work under international agreements on species conservation and nature conservation
  - collecting, maintaining and organizing spatial data from the field of nature conservation (diversity of species, habitats and landscapes)

- **Offices**
  - Bonn (Headquarter), Field Offices Leipzig und Island of Vilm

- **Employees**
  - about 340 employees
Goals of SDI@BfN… more than INSPIRE

- Modernisation of the existing GIS Infrastructure
  - Service-based SDI using Standard Technology from Esri, Safe Software and con terra

- Implementation of a workflow for BfN`s spatial monitoring data
  - Import of raw data --> publish results as OGC, INSPIRE Services

- Simple access to the spatial data via metadata search and Web-Mapviewer (Intranet, Internet)
  - Based on Spatial Network Services and Metadata Services

- Setup INSPIRE Node located at an external Hosting-Partner
  - Professional data centre operation
  - Connect to GDI-DE and MDI-DE on basis of OGC-/INSPIRE-compliant Network Services
Data workflow

Monitoring results [original raw data]

Data Preparation [prepared raw data]

Import prepared raw data [processing data]

GIS processing [result data]

Publish result data ArcGIS for Server

INSPIRE Transformation of result data

Collection Metadaten

Publish result data INSPIRE Network Services

Publish result data OGC Network Services

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Quelle: http://www.naturschutz-sylt.de
Prototype - INSPIRE Solution Pack 2.0
INSPIRE Solution Pack for FME

Option 1 – Annex I „Protected Sites“

Option 2 – Annex III „Species Distribution“
Publishing ArcGIS for INSPIRE 10.2.1/2 - Implementation Options

- INSPIRE compliant View Service based on
  - OGC WMS
  - OGC WMTS
  - ... with or without harmonized data

- INSPIRE compliant Download Service
  - INSPIRE Feature Download Service (WFS 2.0 - direct access / stored query)
  - INSPIRE Predefined Dataset Download Service (Atom – Service-, Dataset Feed, GML-File, Open Search Description)
    ... with or without harmonized data

- INSPIRE Discovery Services (Geoportal) based on
  - OGC CSW

- All significant options to meet the current INSPIRE requirements are available
Protected Sites Data – Option 1

- **Matching**
  > Based on INSPIRE matching tables

- **Mapping**
  > FME & INSPIRE Solution Pack
  > harmonized results stored in the Esri INSPIRE Geodatabase

- **Publishing**
  > INSPIRE View Services and INSPIRE Feature Download Services (WFS 2.0) based on ArcGIS for INSPIRE 10.2.1
Protected Sites Publishing

- Publishing
Species Distribution Data – Option 2

- **Matching**
  > Based on INSPIRE tables

- **Mapping**
  > FME & INSPIRE Solution Pack to write GML

- **ISO metadata to generate the Service & Dataset feeds**
  > Use FME to create Atom feeds from metadata via CSW

- **Publishing**
  > INSPIRE Predefined Dataset (GML) Download Service via Atom Feeds using ArcGIS for INSPIRE 10.2.1
Species Distribution Publishing

- Publishing

ArcGIS REST Services Directory

InspirePredefined

Datasets atom links in qml

BfN Monitoring - Seevögel

Opening V_SV_GRIDCELLVALUE_AREA.qml

You have chosen to open:
V_SV_GRIDCELLVALUE_AREA.qml
which as gml file (4,1 MB)
from: http://vsei.d52-1107.de/inspire/metadata/6000

What should Flexor do with this file?
Open with: Browse...
Open file:
Save file:

OK Cancel
Conclusion

- The results of the ISP 2.0 Prototype – especially the predefined GML-Mapping of species distribution – will be used in the further product development.

- The complexity of mapping writing INSPIRE compliant data structure into GML is hidden from the user.

- ISP 2.0 for FME and ArcGIS for INSPIRE 10.2.1/2 will complement each other ideally.
  > 2 approaches: via Esri INSPIRE GDB(-Template), via GML/Atom
  > The requirements of INSPIRE planned for 2017/2020 are fullfilled - INSPIRE View and Download Services on harmonized data.

- Based on these products, data harmonization will be one of the main challenges for BfN in the next years.
Thank you for your Attention!

For more details

Please visit our experts at booth 1
in the exhibition area