



Background:

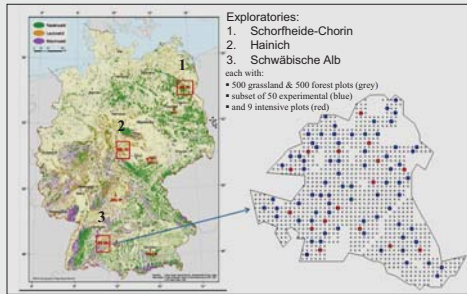
- Biodiversity Exploratories (DFG - SPP 1374), a long-term, interdisciplinary open research platform for functional biodiversity.
- about 40 projects commenced since 2008
- turnover of 40% per project phase
- currently ~80 PIs & 300 members

What is BExIS:

- data repository for all project data,
- exchange platform for all data,
 - searchable metadata,
 - access control to primary data by owner,
- information platform for further resources,
- and to interactive maps.

BExIS in a nutshell:

- users: ~ 230
- meta datasets: ~ 475 (non-archived)
- primary datasets: ~ 373 (non-archived)
- primary data tuple: > 30million
- downloads: > 7500
- 2 servers (web server, database server)
- RAID 10 with fibre channel controller



BExIS

Resources

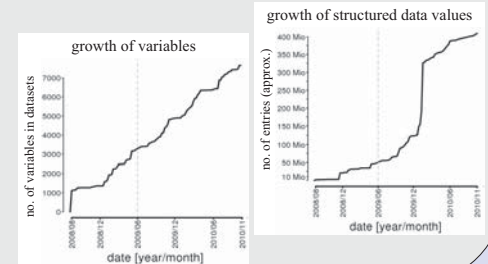
- Fieldbook
- Mowing scheme
- Black boards
- Publication list
- Event Registration

Maps

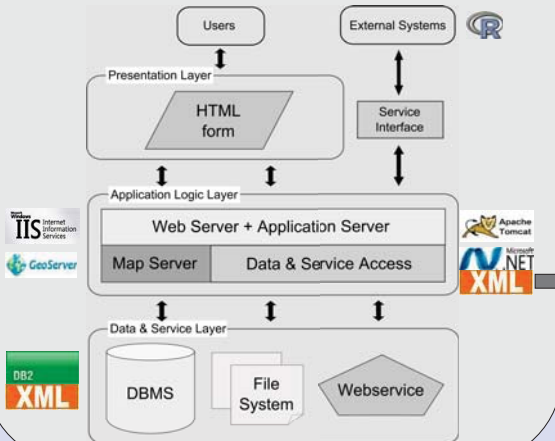
- plot maps
- interactive & editable
- downloadable
- data maps
- data retrieval
- Google Maps visualized

Data

- diverse file formats & syntax
- upload & update via file
- direct online edit
- query, filter, merge online
- download diverse formats
- online R analysis
- version control



3-tier architecture with basic techniques



(Meta)data configuration and storage with XML

Metadata configuration

BExIS XSD – XML schema for BExIS metadata

```

<?xml version="1.0" ?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://www.bgi.de/bgi-xml"
  xmlns:bgi="http://www.bgi.de/bgi-xml"
  xmlns:base="http://www.bgi.de/bgi-xml"
  base="http://www.bgi.de/bgi-xml"
  >
  <xsd:include base="http://www.bgi.de/bgi-xml"
    xmlns:base="http://www.bgi.de/bgi-xml"
    type="baseType" />
  <xsd:element name="researchObject" type="researchObjectType" />
  <xsd:element name="metaProfile" type="metaProfileType" />
  <xsd:element name="general" type="generalType" />
  <xsd:element name="researchObjects" type="researchObjectsType" />
  <xsd:element name="list" type="listType" />
  <xsd:element name="data" type="dataListType" />
  <xsd:element name="references" type="referencesType" />
  <xsd:element name="comment" type="stringType" minOccurs="0" />
  <xsd:complexType
    base="baseType"
    name="metaProfileType" />
  <xsd:complexType
    base="generalType"
    name="researchObjectType" />
  <xsd:complexType
    base="researchObjectType"
    name="researchObjectsType" />
  <xsd:complexType
    base="listType"
    name="listType" />
  <xsd:complexType
    base="dataListType"
    name="dataListType" />
  <xsd:complexType
    base="referencesType"
    name="referencesType" />
  </xsd:schema>
                
```

XSLT driven interface for metadata creation, based on xml-template or metadata recycling

high flexibility: changes possible without need of re-programming

work in progress / outlook

semantic data integration

mapping of data to Dwc, TAPIR as access protocol

BExIS ontology, see Poster by D.Heimann

Metadata stored as XML

Primary data stored as XML too

Primary data configuration

specified during metadata creation:

- data structure mapping from metadata

flexibility for structure (variables) given by:

- user defined quantity and arrangement
- user defined names, types (shortlist), units, & description

