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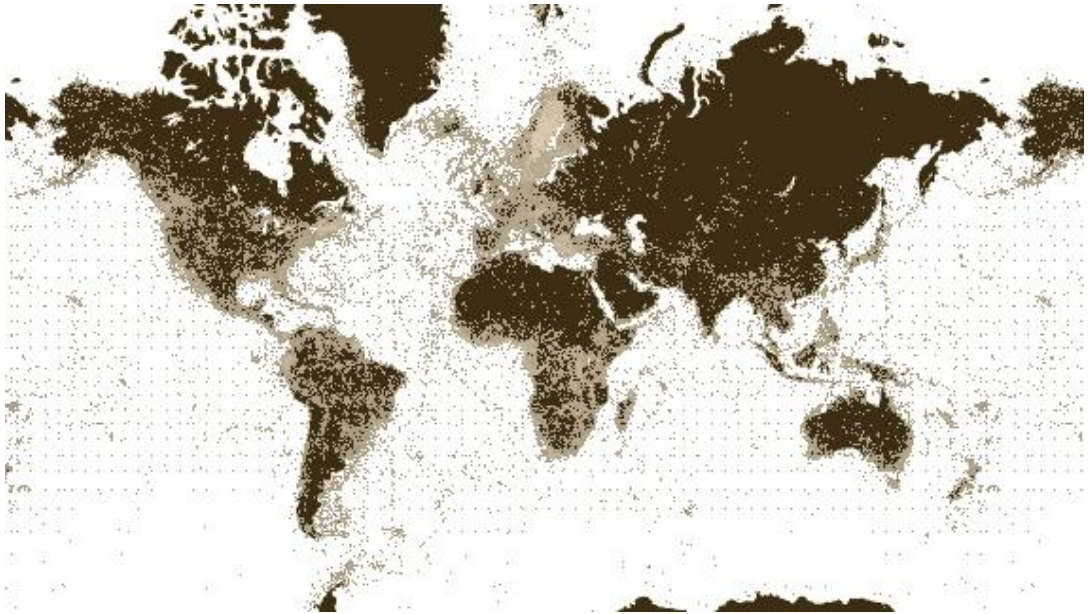
Spatial Portal & Spatial Interfaces

ALA-LAs Technical Workshop, Madrid 2025



Rasa Bukontaite
Manash Shah
Mats Bovin

SBDI
SWEDISH BIODIVERSITY DATA INFRASTRUCTURE

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Spatial analysis (Spatial Portal)

Spatial Portal focuses on *where* a chosen species is located, what species were *found in a defines area* and what are the *environmental conditions* in that area.

Spatial Portal combines three basic data types - *species, areas, layers and facets* - to provide a suite of powerful visualisation and analysis tools.

https://www.archaeologynow.org/blog/hedgehogs

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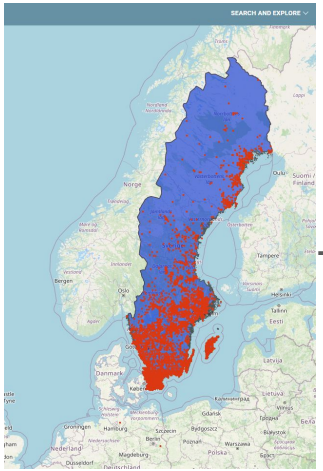

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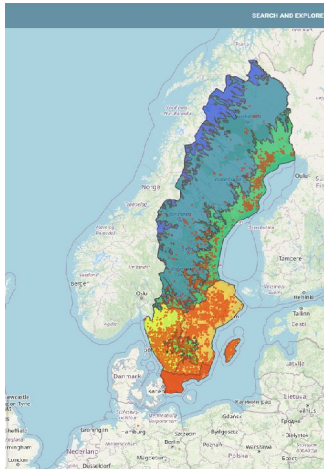

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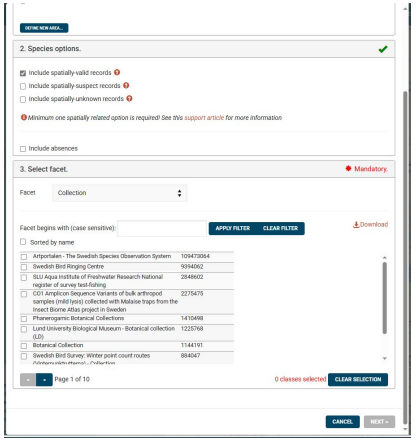

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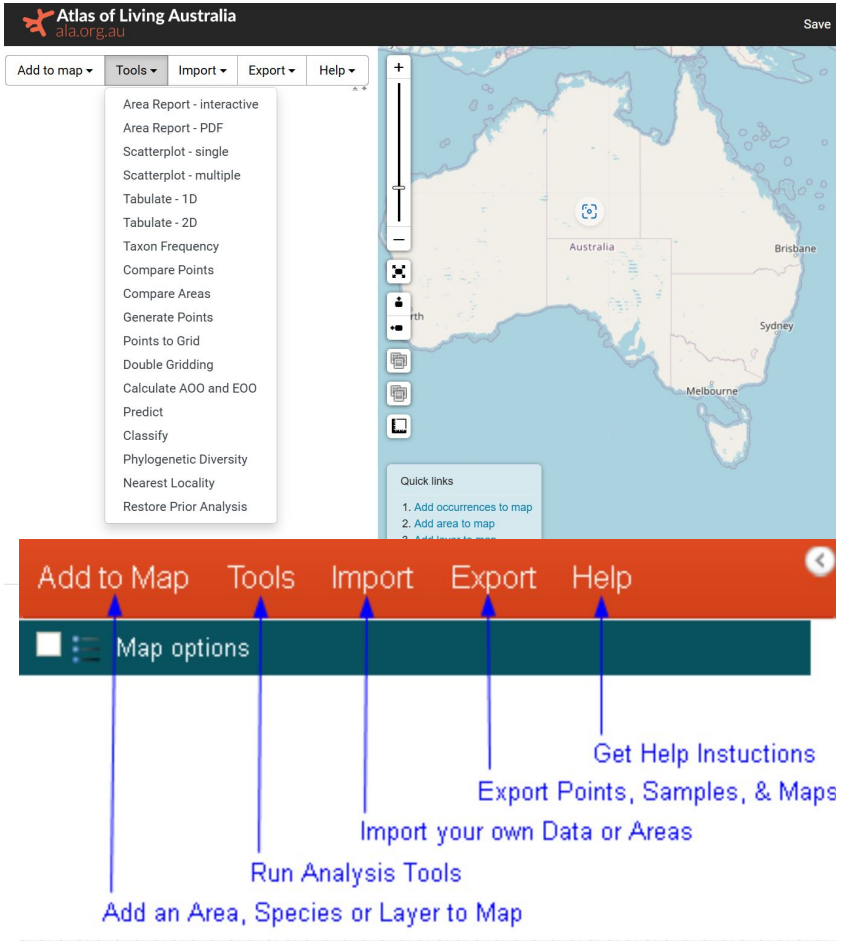
Spatial analysis (Spatial Portal)

FUNCTIONALITY

- **Defining Areas of Interest:** Draw polygons, search by area, define environmental envelopes.
- **Mapping & Visualization:** Display species occurrences, geographic features, and environmental layers.
- **Data Analysis & Insights:** Generate area reports, classify environmental domains, and sample environmental/contextual data.
- **Predictive & Statistical Tools:** predict species distribution, create scatterplots, and generate gridded data.

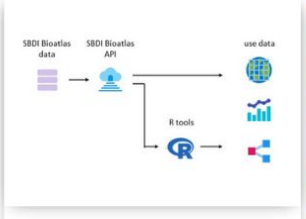


Spatial analysis - SBDI

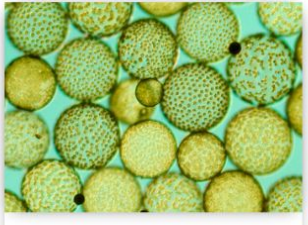
Swedish Biodiversity Data

Explore by Location

Searching and Mapping



R Tools and APIs



Molecular Biodiversity Data

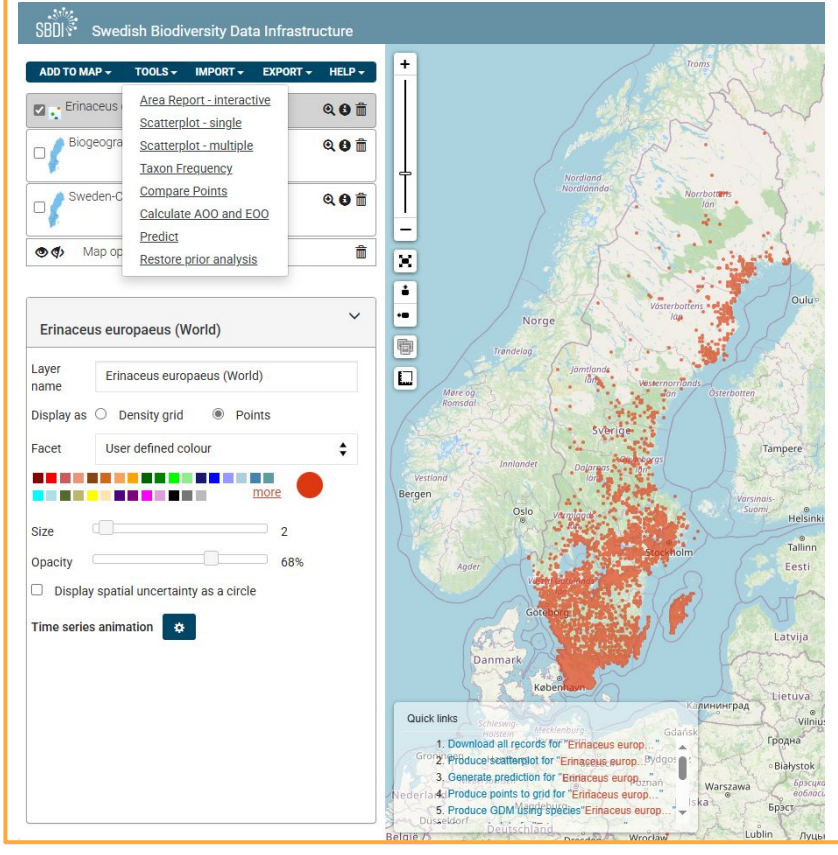
Systematic Monitoring and Citizen Science Tools

Marine Data Tools

Biologging Data Tools

Archaeological Biodiversity Data Tools

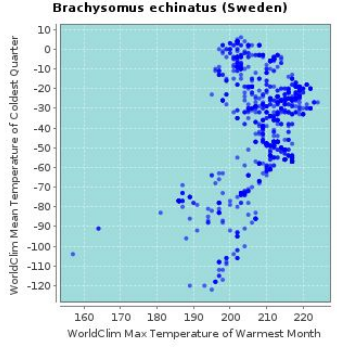
Spatial portal

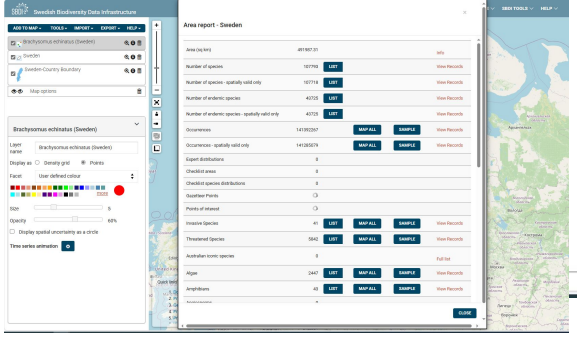


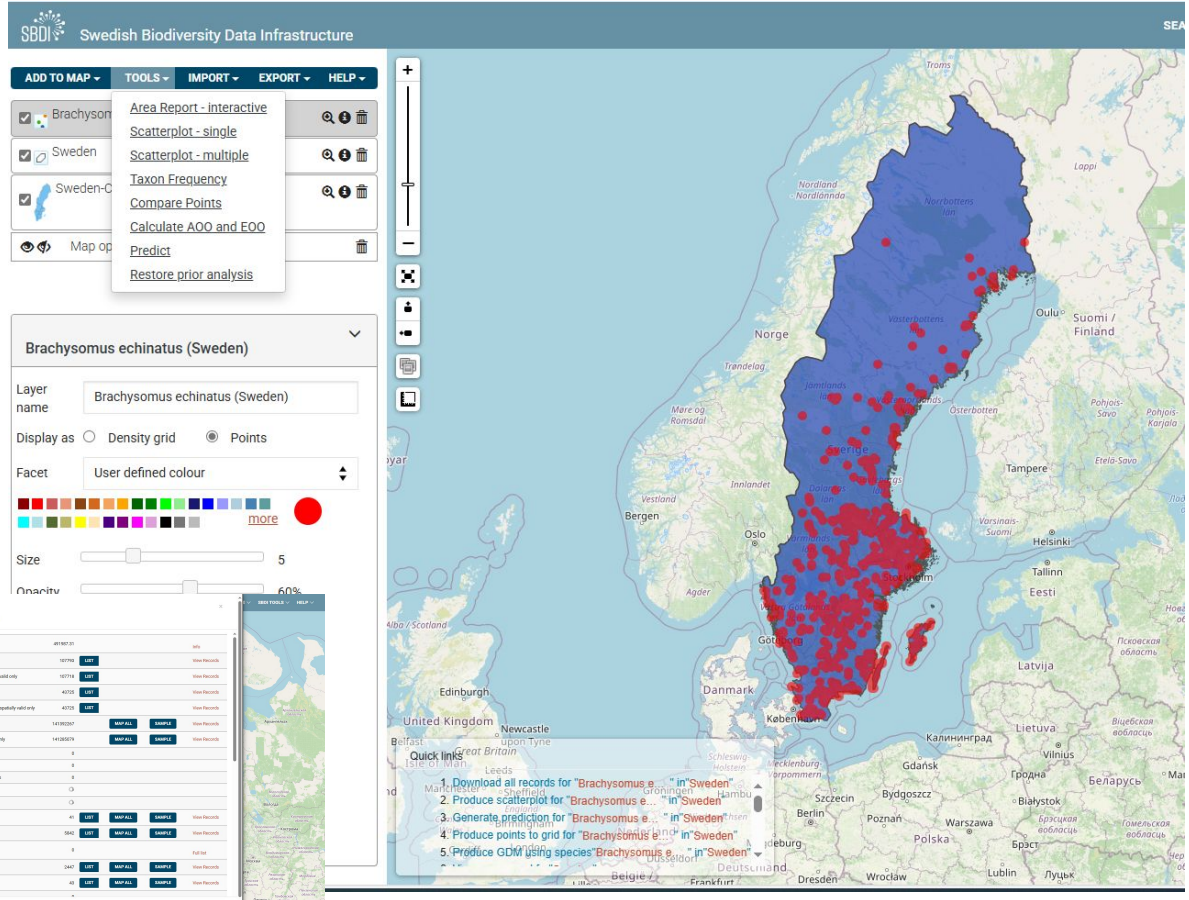
Spatial analysis - SBDI

FUNCTIONALITY

- Area Report - interactive
- Scatterplot - single
- Scatterplot - multiple
- Taxon Frequency
- Compare points
- Calculate AOO and EOO
- Predict
- Restore prior analysis







Importance of Spatial Portal

- **Key Element in Service Delivery at Country Level**
  - Facilitates integration of diverse datasets
  - Enhances decision-making for biodiversity and conservation

- **National Species Lists**
  - Enables tracking of species across regions
  - Supports conservation and monitoring efforts

- **Climate Models**
  - Analyzes climate impacts on biodiversity
  - Assists in predicting species' distribution changes

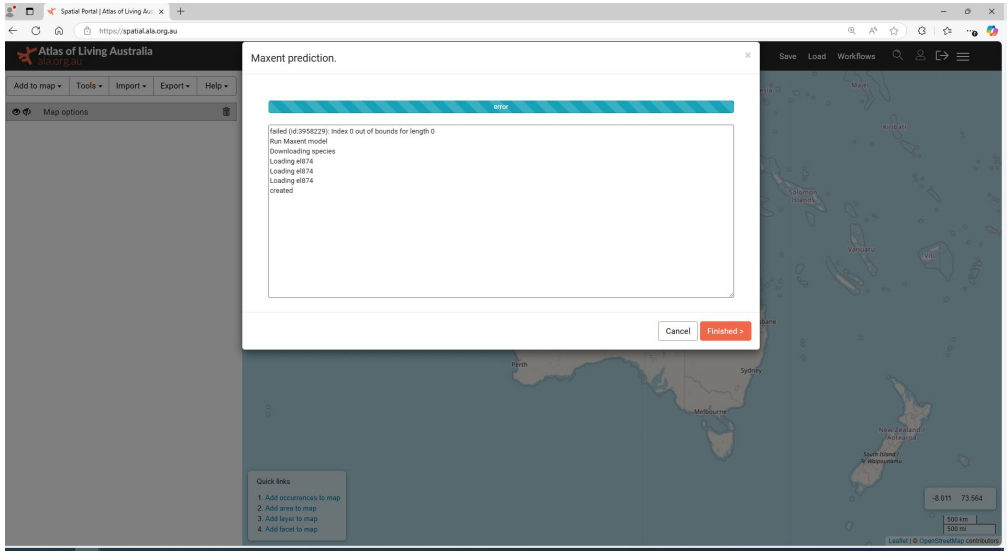
Importance of Spatial Portal

- **Land Use Data**
  - Links biodiversity with land management and development
  - Helps identify habitat changes and threats

- **Protected Areas**
  - Integrates conservation areas into the portal
  - Ensures proper management and monitoring

- **Administrative Boundaries**
  - Coordinates conservation efforts across regions
  - Aligns biodiversity management with local governance

However… EXPORT…

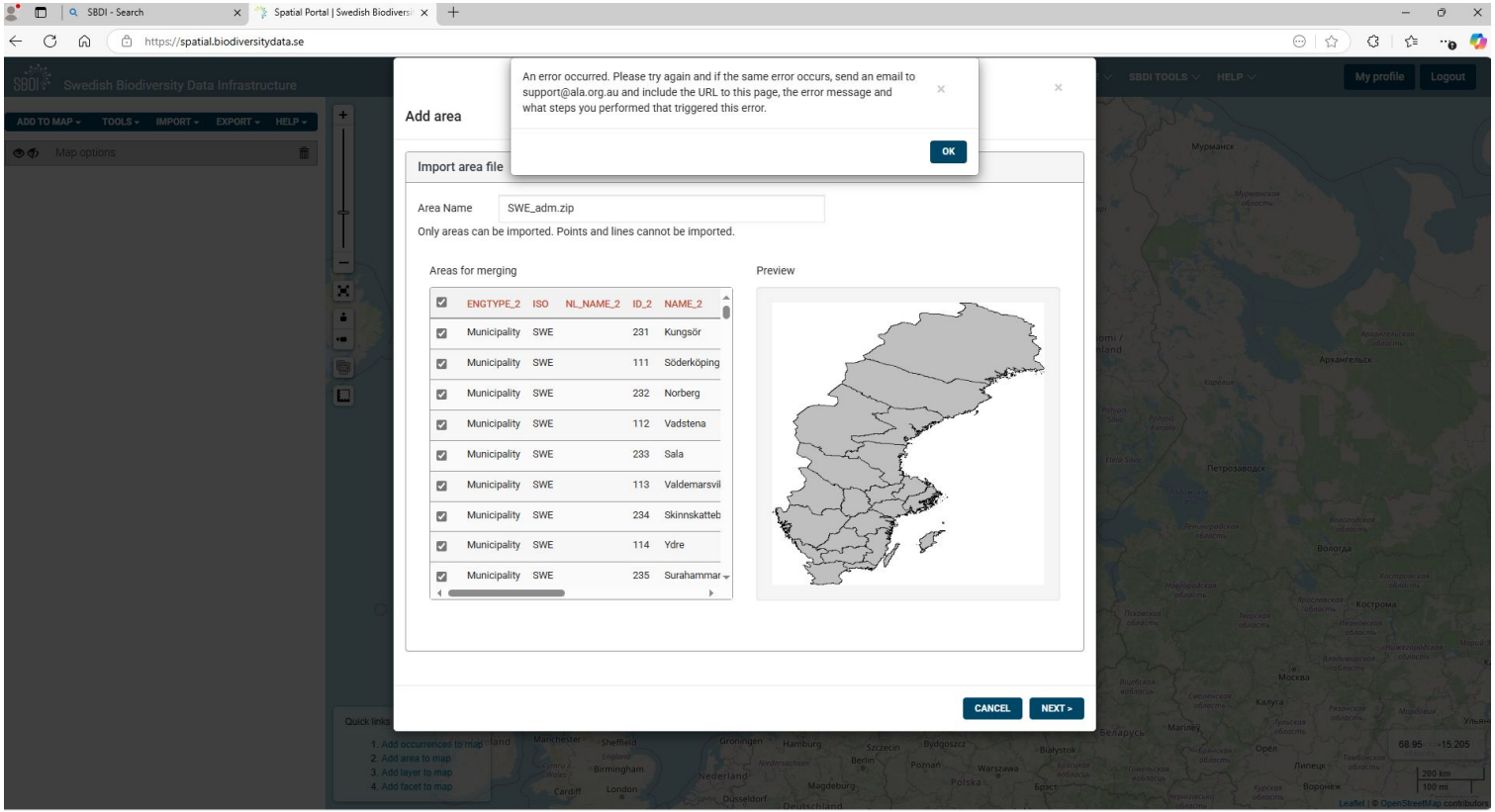


Export menu options

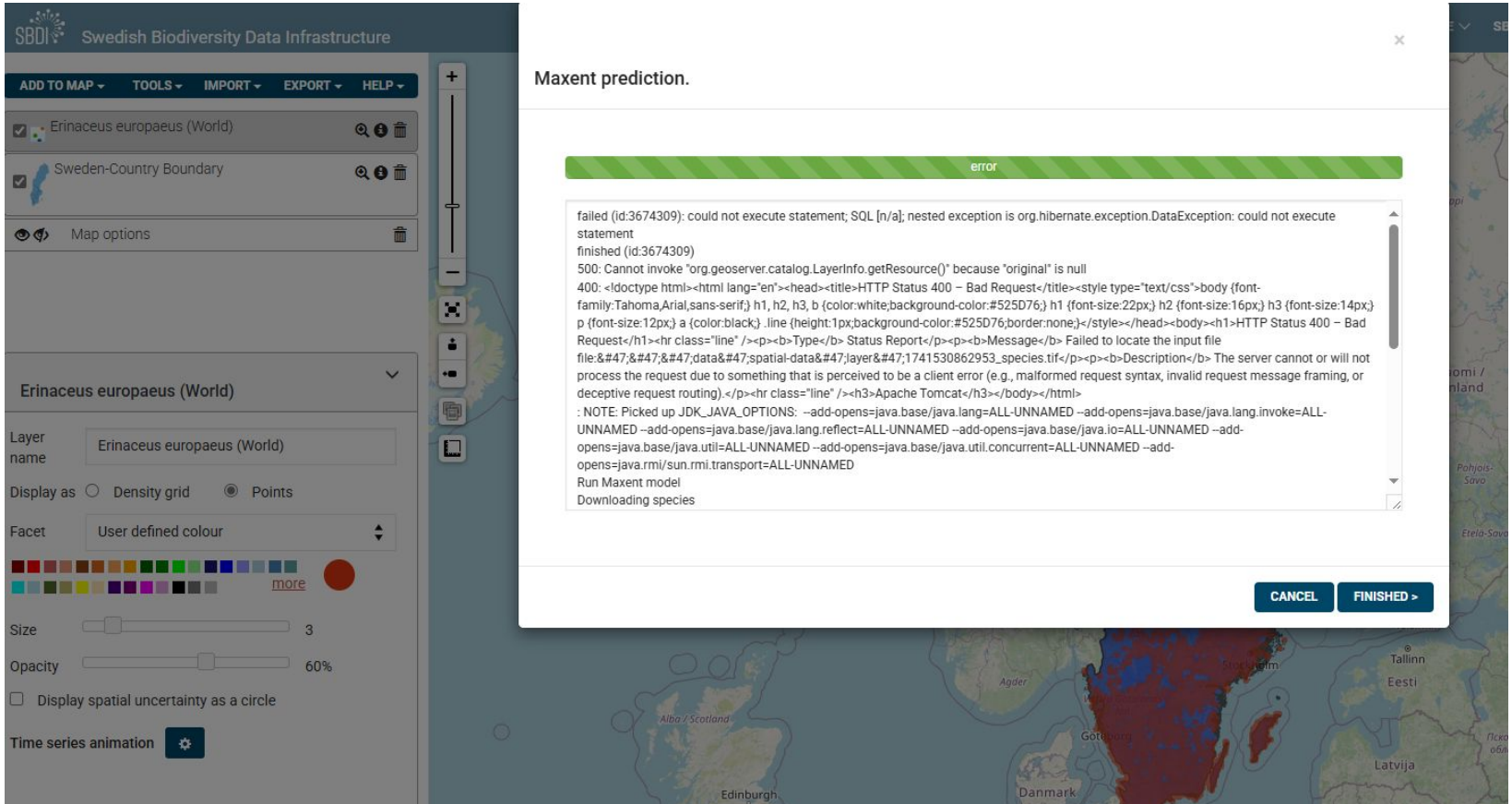
The list of layers in the top left of the Spatial Portal window are layers in the Geographic Information System (GIS) sense. Each layer can be related to either species/assemblage, an area or an environmental/contextual layer. You can export information related to most of these mapped layers:

- Species can be downloaded as points in CSV format (but will soon also be available as Shapefiles, KML and WKT).
- Environmental and contextual layers provided by external data providers cannot be downloaded, only sampled by points. The main reason for this is licensing arrangements for the supplied layers.
- Environmental layers produced by analysis as in MaxEnt and Points to grid (and soon GDM), and contextual layers that are produced by Classification are all downloaded as a part of the output.

However… IMPORT SHAPEFILE



However… PREDICT



How active is it?

Who are the users?

What tools are used the most?

Future vision?