Impact of Global Warming on Species

Team76
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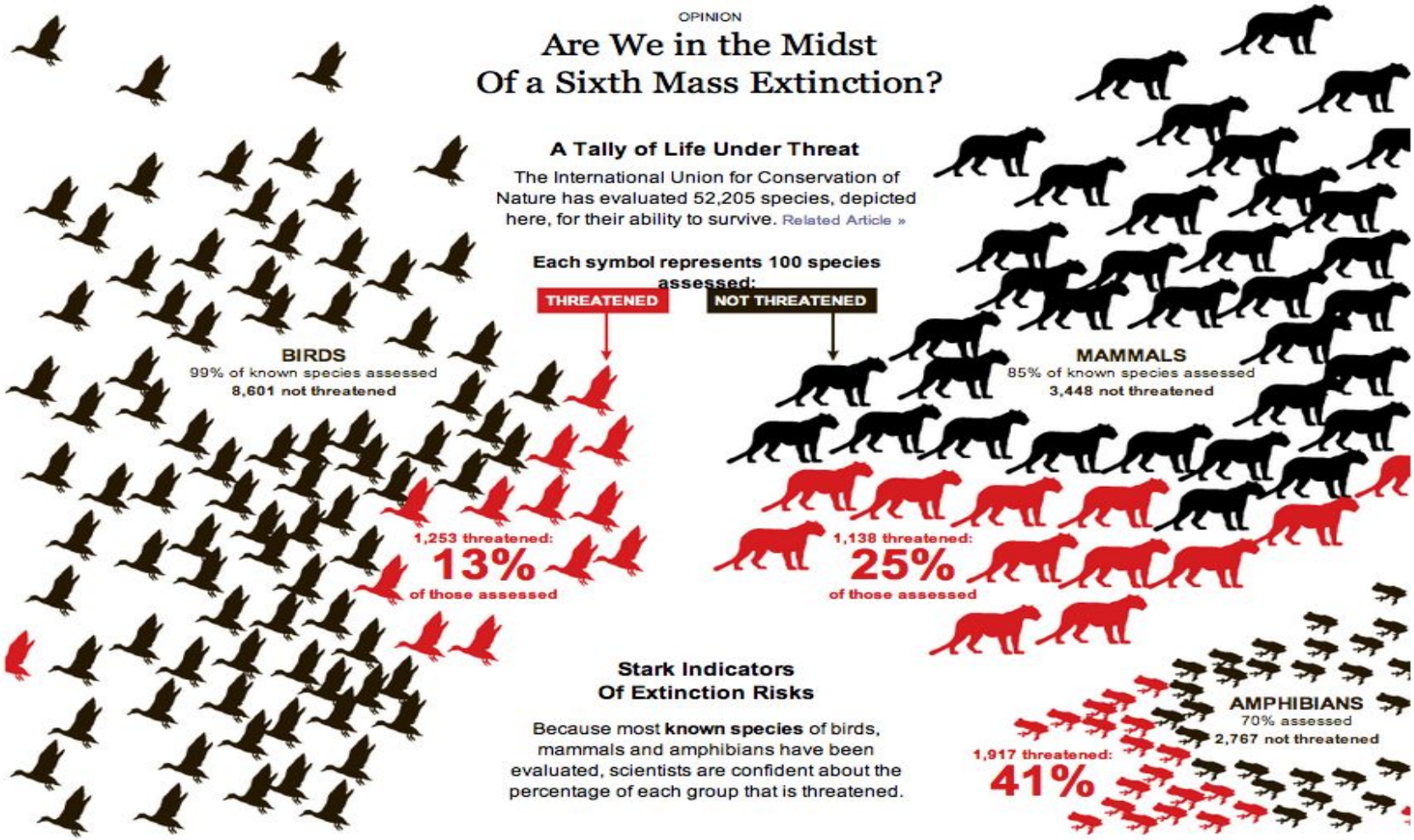
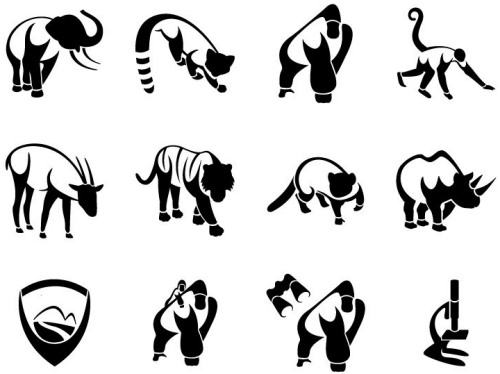
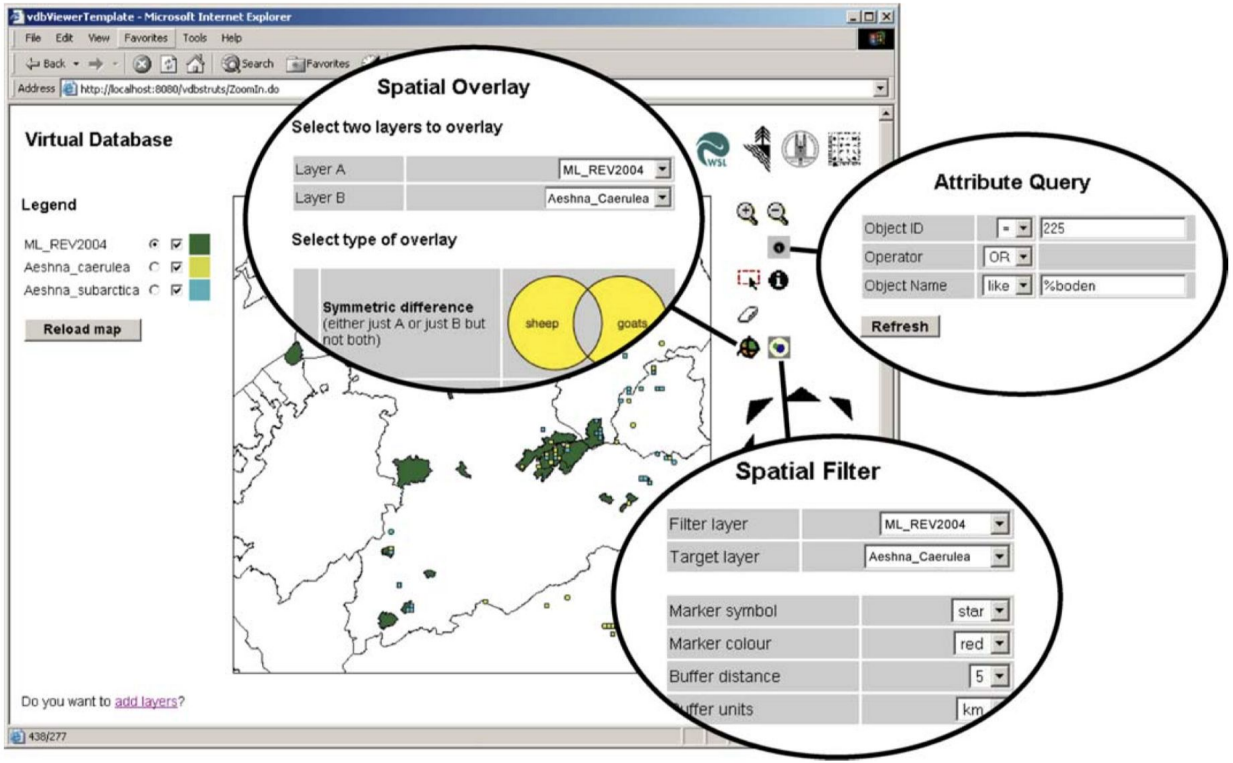


New York Times. “International Union for Conservation of Nature”. 2012.

Objectives



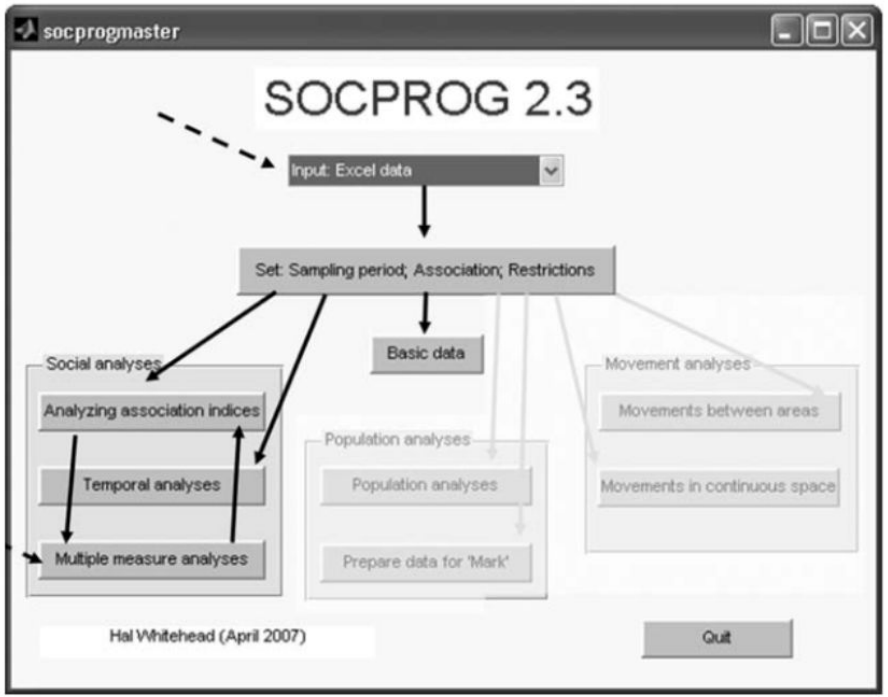
Related Work - **Virtual Database**



User interface for cartographic mapping and spatial analysis. Analysis tools are implemented for attribute queries, spatial queries and spatial overlays. [3]

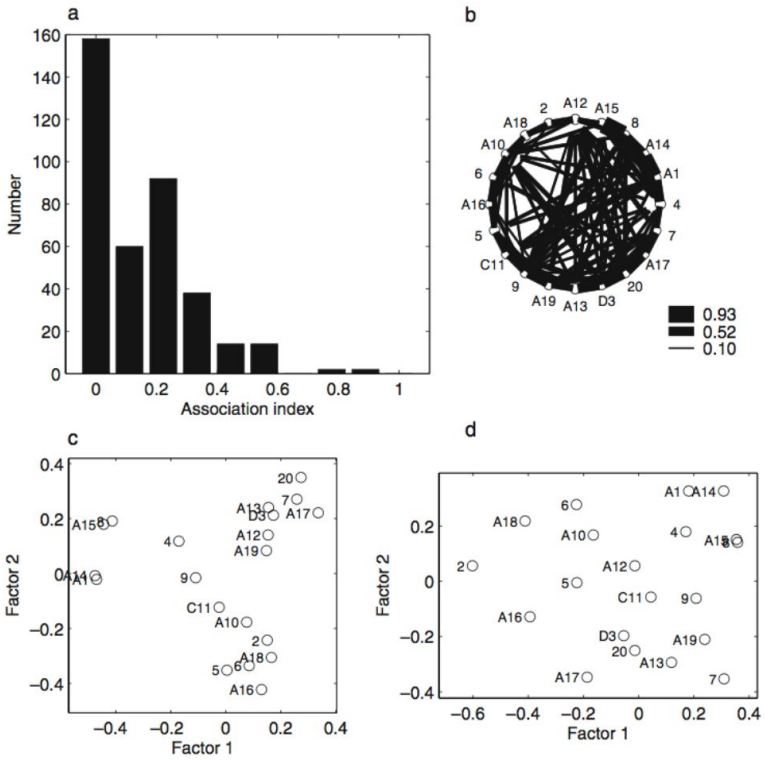
Related Work - **SOCPROG**

Fig. 1 Master graphical user interface of SOCPROG, showing the modules and the routes by which data are input, and flow between modules. The social analysis modules (*not faded*) are those described in this paper. Clicking on any of the pushbuttons starts that module



Related Work - **SOCPROG**

Fig. 2 Displays of an association matrix of 20 individuals from SOCPROG (example data set simgrpa.xls): **a** histogram of association indices; **b** sociogram; **c** principal coordinates analysis (first two dimensions contain 29% of variance); **d** non-metric multidimensional scaling (stress=0.21)



Related Work - **Data Mining for Sustainability**

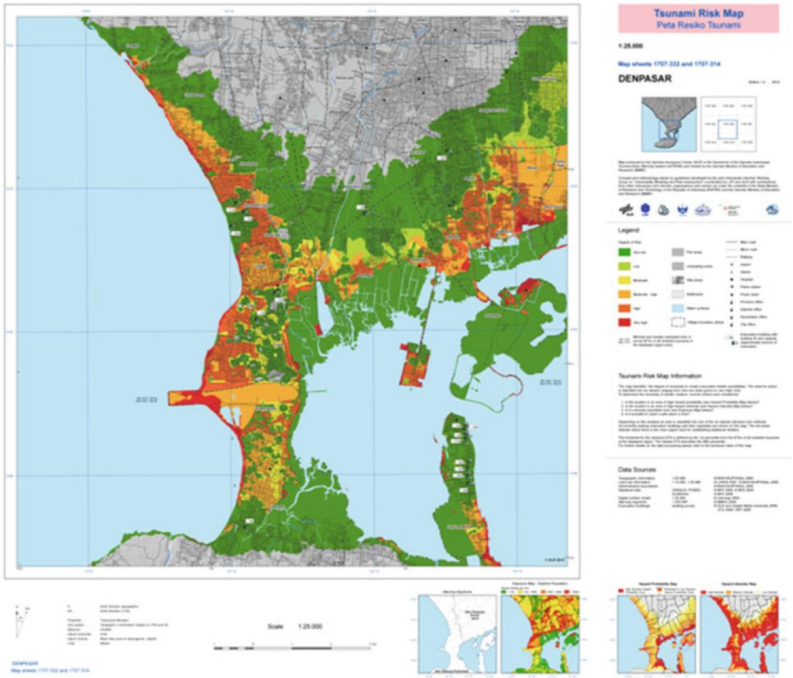


Fig. 1 The Tsunami risk assessment mapped on the map of Denpasar (Bali) (http://www.zki.dlr.de/system/files/media/filefield/image/risk_map.jpg), a result of the German-Indonesian Tsunami Early Warning System project

Related Work - **Data-driven science with Biodiversity Data**

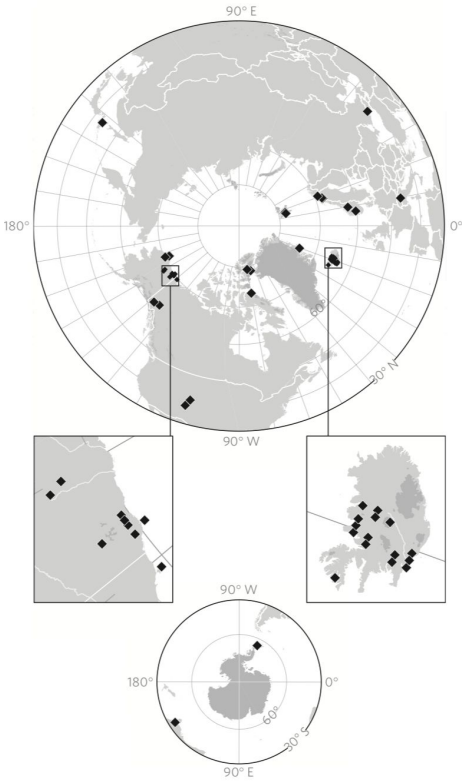


Figure 1 | Study site locations. Study sites spread across the tundra biome in the Arctic, alpine and Antarctic regions. Black symbols represent the grid-cell centres of the 46 locations into which the 158 studies were grouped for the analysis.

Related Work - **Data-driven science with Biodiversity Data**

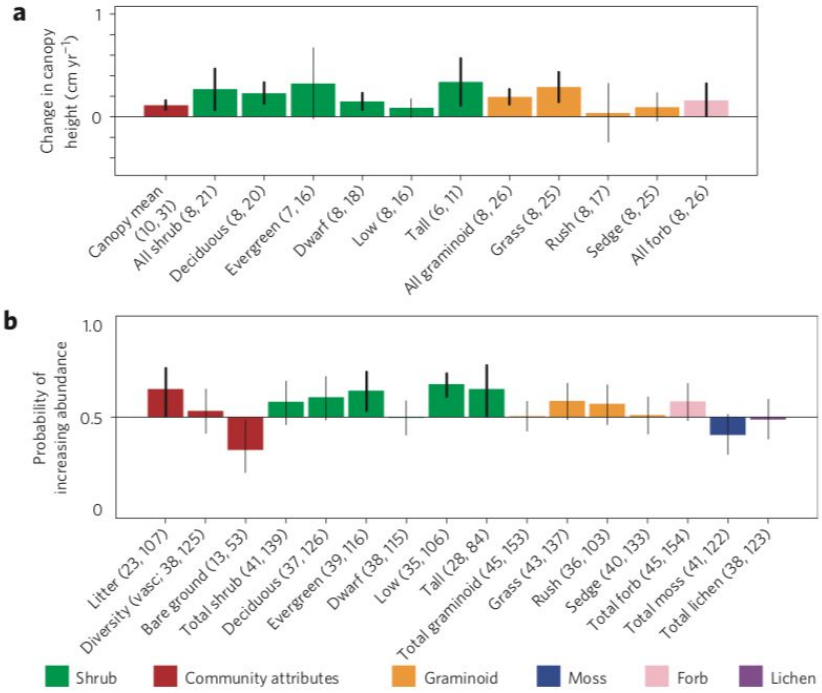
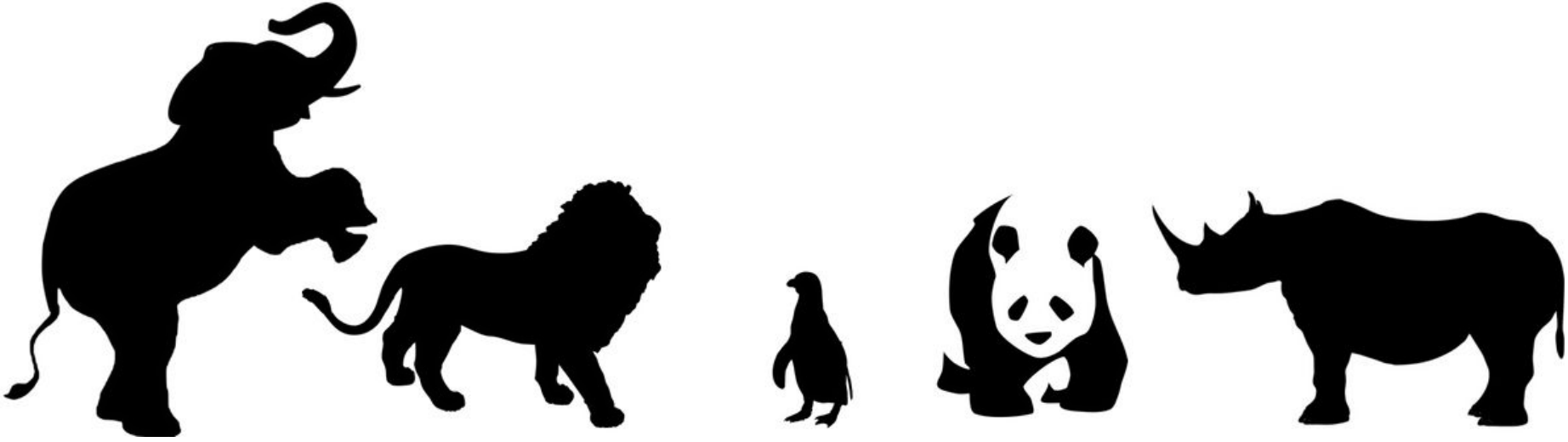


Figure 2 | Biome-wide changes in vegetation height and abundance. Biome-wide changes in vegetation height (**a**) and abundance (**b**) of each vegetation response group. Vegetation height is expressed as the plot canopy mean and the maximum of each taxon and abundance is expressed as the probability of increase. Error bars show ±2 s.e.m. based on intercept-only GEEs and are emboldened where mean change rates were significant at $P < 0.05$ using Wald tests. Sample sizes (number of studies, number of locations) and response groups are indicated on the *x* axis.

ENDANGERED SPECIES



Our Approach

Notice:

The BISON Web Service APIs have been updated. A summary of the enhancements to the APIs include:

The OGC WMS API includes changes to parameter values and additional parameters.
The OpenSearch API includes changes to parameter values and additional parameters.
The Solr API schema has changed; including modified parameter names and new parameters.

BISON supports several data interchange formats to enable developers to write custom applications. The BISON and Solr search APIs support JavaScript Object Notation (JSON) and JSON with Padding (JSONP). The Web Mapping Services support Portable Network Graphics (PNG) . The web services APIs (OpenSearch & WMS) do not provide the ability to disambiguate species as does the BISON web based UI. When homonyms (names that map to multiple TSNs) exist for either a common name or scientific name OpenSearch or WMS search, a combined query is performed (e.g. Ficus maps to TSNs 73159 and 19081). The resulting combined web service query will return results that include either TSN. Example applications have been written using OpenLayers, and HTML 5 and we are working on mobile applications that will be available shortly.

BISON Search

Web Map Service (WMS)

Extended Search 'params' Argument

REST API

Provider and Resource Identifiers

Provider Statistics API

Apache Solr API

Data Use Agreement

Impacts & Who cares?

Risk & Payoffs

Plan of Actions

Week 1 (March 3 - March 10)
Collect data including weather data since 1880, endangered and extinct species lists and numbers from various sources.
Week 2 (March 11 - March 18)
Data cleansing and streamline for analysis. Explore and design visualizations.
Week 3 (March 19 - March 26)
Use various data analysis such as regression, time series and other machine learning techniques.
Week 4 (March 27 - April 3)
Design and build interactive visualizations, graphs of the result.
Week 5 (April 4 - April 11)
Write the report, work on the poster and slides for the project.
Week 6 (April 12 - April 19)
Work on project presentation videos.