



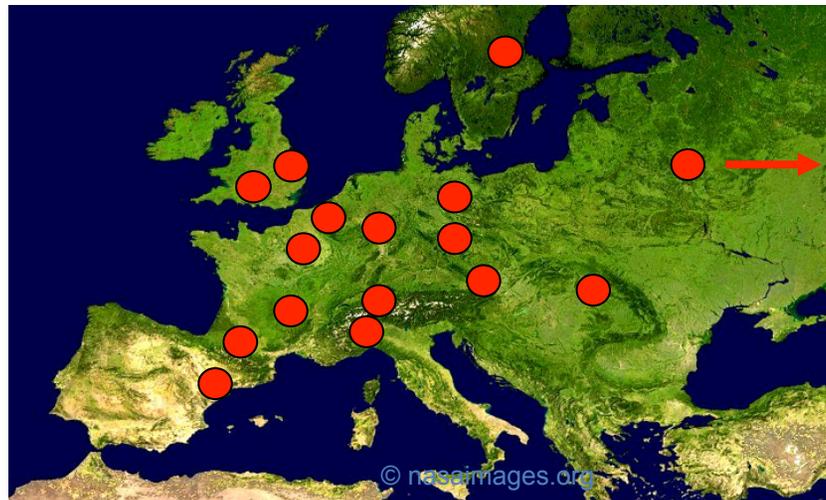
# The BioFresh project (2010-2014)



## Biodiversity of Freshwater Ecosystems: Status, Trends, Pressures, and Conservation Priorities

EU FP7 project, 18 partner institutions,  
Co-ordination: Klement Tockner at IGB Berlin

<http://www.freshwaterbiodiversity.eu/>

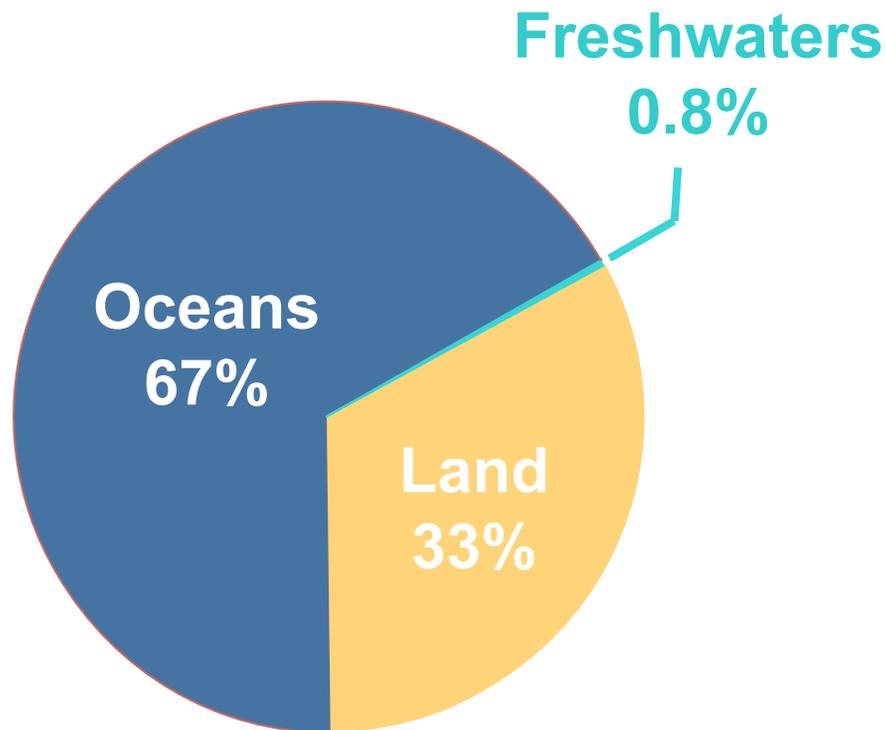


Why freshwaters?

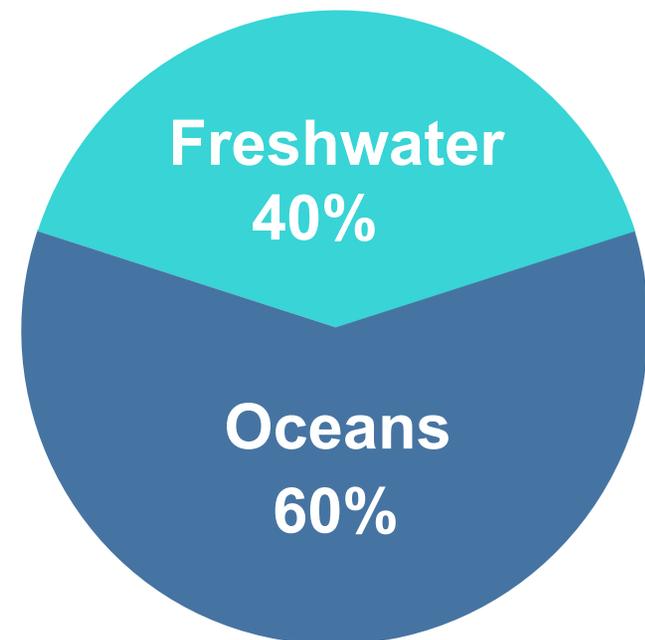
Why biodiversity?

# Freshwaters: tiny extent – biodiversity hotspots

Area



Fish species

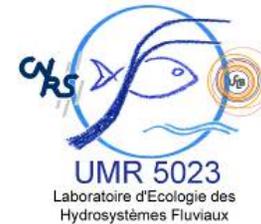




# BioFresh: Science network



Biodiversity.be



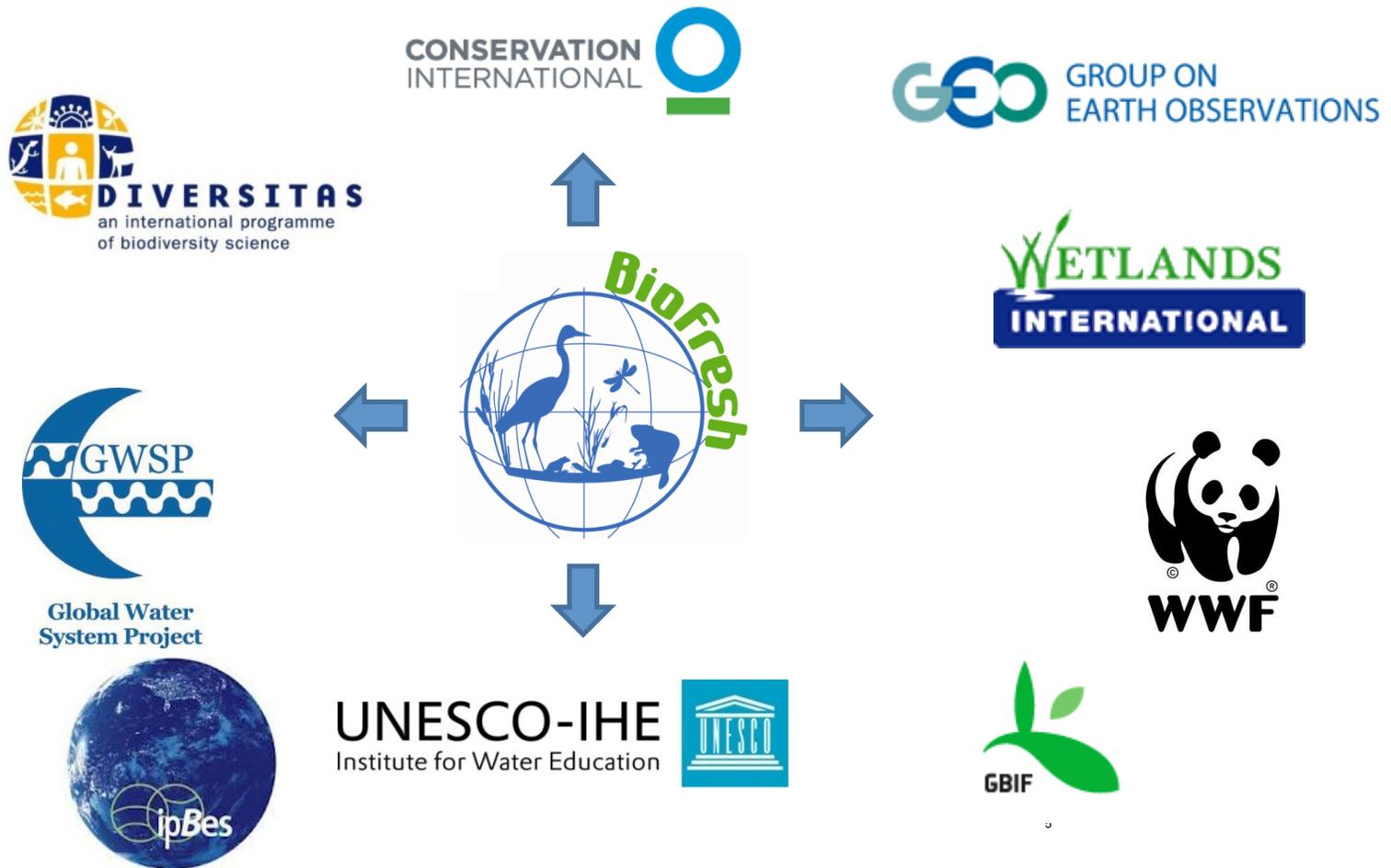
[www.freshwaterbiodiversity.eu](http://www.freshwaterbiodiversity.eu)



EU Nodes · [www.biodiversity.be](http://www.biodiversity.be) · [www.ox.ac.uk](http://www.ox.ac.uk) · [www.ird.fr](http://www.ird.fr) · [www.nhm.se](http://www.nhm.se) · [www.uisi.de](http://www.uisi.de) · [www.jrc.ec.europa.eu](http://www.jrc.ec.europa.eu) · [www.igb.cn](http://www.igb.cn) · [www.boku.ac.at](http://www.boku.ac.at) · [www.ucl.ac.uk](http://www.ucl.ac.uk) · [www.ecologic.org](http://www.ecologic.org) · [www.sensuu.com](http://www.sensuu.com)



# Central part of wider biodiversity community



# Key goals of BioFresh



## Improve capacity to protect and manage freshwater biodiversity in the face of global change

- **Build a freshwater biodiversity information platform**  
Data portal and metadatabase: [data.freshwaterbiodiversity.eu](http://data.freshwaterbiodiversity.eu)
- **Predict freshwater biodiversity responses to multiple stressors** (modeling), disseminate results through scientific publications and other means
- **Improve awareness on freshwater biodiversity status, trends, conservation,**  
from [biofreshblog.com](http://biofreshblog.com) to policy briefs



# BioFresh rationale

---

## Freshwater biodiversity information hub

- Thematic GBIF node / Freshwater SCAR-MarBIN/OBIS

## Main components of the “BioFresh-platform”

- Data portal comprising metadata database and occurrence database
- Global Freshwater Biodiversity Atlas
- Resources and research outputs, blog,...

### BIOFRESH PROJECT



Biofresh  
Research Project

### BIOFRESH DATA PORTAL



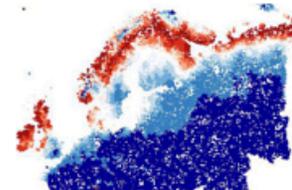
Distribution of  
Freshwater Species

### BIOFRESH ATLAS



Global Atlas of  
Freshwater Biodiversity

### BIOFRESH RRO

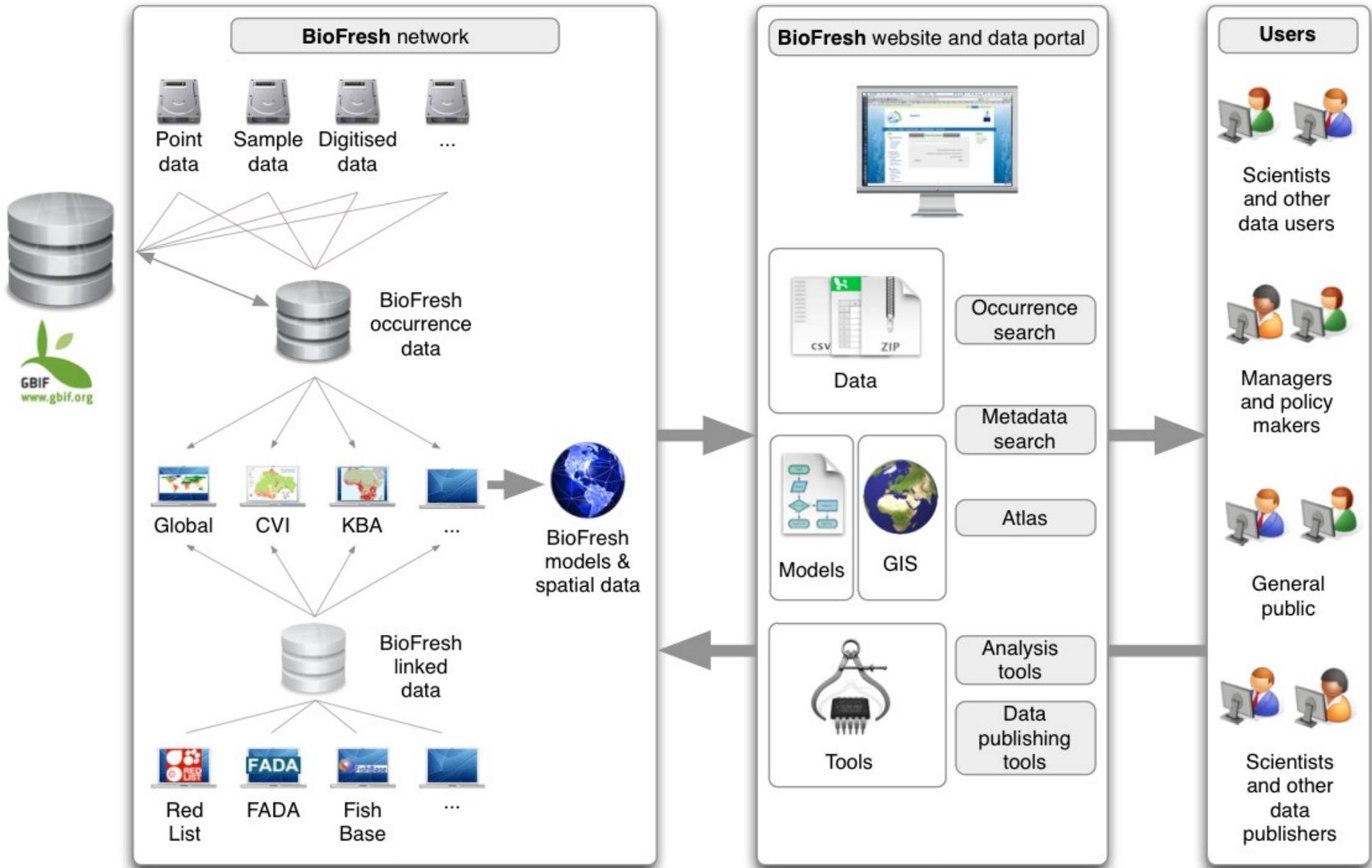


Resources and  
Research Outputs

### BIOFRESH BLOG



Science, Policy &  
Conservation Blog





## Key products of BioFresh

---

- Freshwater Biodiversity Matrix
- Contemporary and Climatic Freshwater Biodiversity Models
- Climate Vulnerability Index
- Comparative biodiversity trend analysis
- Invasive species spread
- Response signatures
- AquaMaps
- .....

© J. Freyhof, A. Hartl





## Global Freshwater Biodiversity Atlas

---

- **information** and **visualisation** tool to communicate research **results from BioFresh** and the greater **freshwater community** to scientists, policy makers and the public
- website containing **interactive maps**, accompanied by an **article**, additional information, links to **data source, publication** and map provider **institutions**
- Features **thematic** maps from the areas of freshwater **biodiversity, resources** and **ecosystems, pressures** and **drivers** as well as **conservation** and **management**

# THE GLOBAL FRESHWATER BIODIVERSITY ATLAS



### Riverine Fish Biodiversity

Map Article

max extent | **nav** | previous | next | menu ▾

**NAVIGATION** +

**LAYERS** +

**LEGEND** -

Riverine Fish Biodiversity (No. of native species per catchment)

- 0 - 50
- 51 - 100
- 101 - 250
- 251 - 500
- 501 - 1000
- 1001 - 2578

**Source**

Global patterns of riverine fish diversity:  
Sébastien Brosse, Thierry Oberdorff, Pablo Tedesco  
see also: "Fish-SPRUICH: a database of freshwater fish species richness throughout the World" Brosse et al., Hydrobiologia 2012 ([link](#))

Data CC-BY-SA by [OpenStreetMap](#)

„The Global Freshwater Biodiversity Atlas“ website, *under development*,



# BioFresh – Policy Interface

---

Support **IPBES**, **GEO-BON**, and **EU-biodiversity** programs  
– as an authoritative network in freshwater biodiversity  
research and application

Complement the **water-energy-food nexus**

Link with **marine** and **terrestrial** biodiversity initiatives and  
programs (e.g., LifeWatch)





# BioFresh Information Platform

---

Bring freshwater biodiversity data together in a network of interoperable databases and make these (meta)data public

- Primary biodiversity data / species occurrences (data available through GBIF and mobilised by BioFresh, which are to be exchanged with GBIF)
- Implies use and promotion of GBIF tools such as Integrated Publishing Toolkit (IPT) and possibly the Harvesting and Indexing Toolkit (HIT)
- Topical freshwater GBIF node





# BioFresh: Science network

