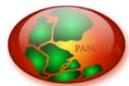


# German Federation for Biological Data

Michael Diepenbroek

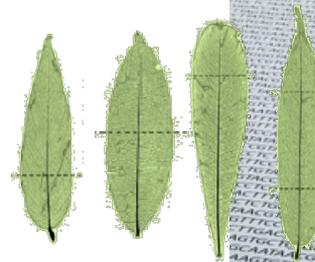


PANGAEA, MARUM – University Bremen

GEO-BON, Leipzig 2015-10-29

# Overall goal

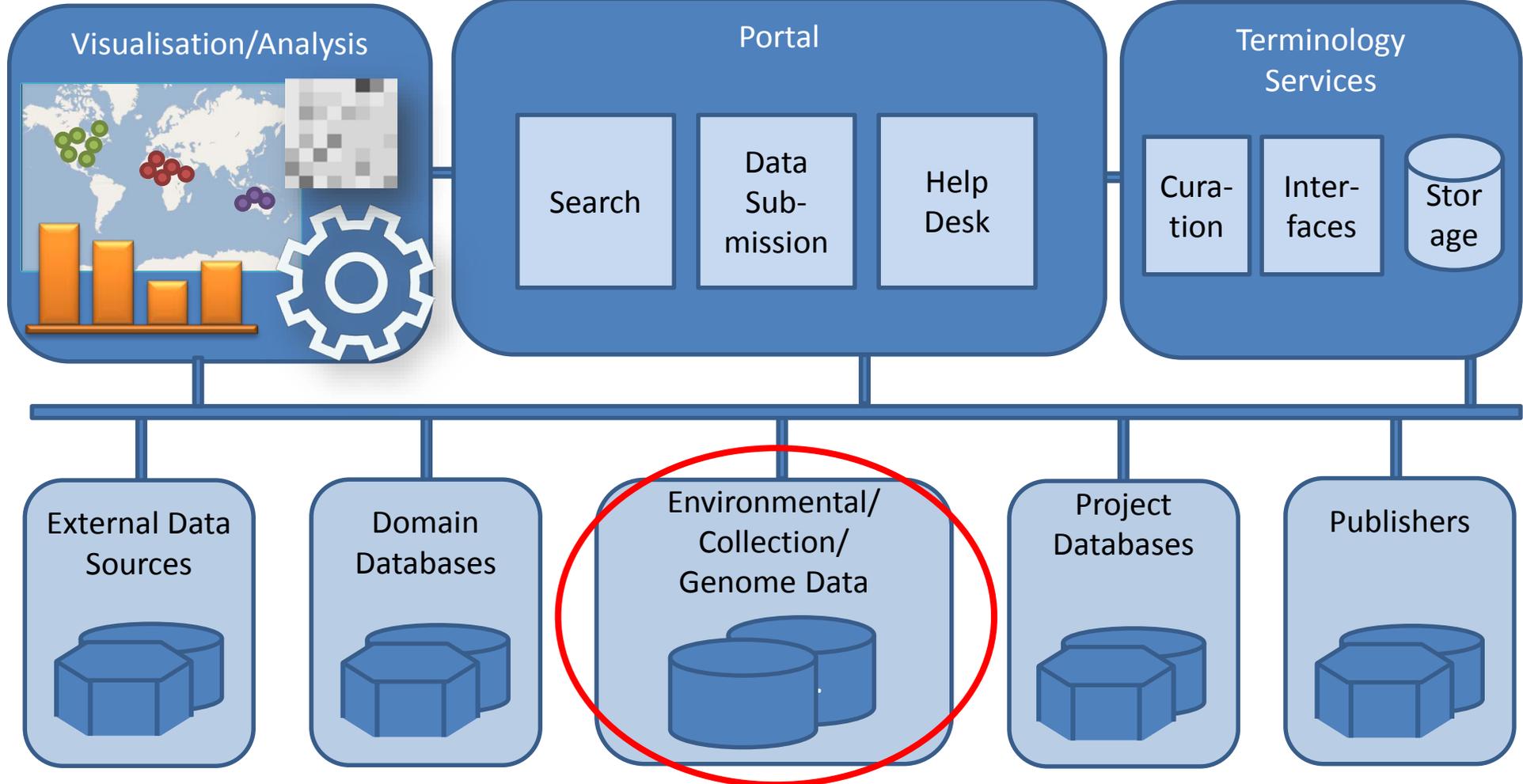
- Sustainable, service oriented, national data infrastructure facilitating data sharing & usage of biological and environmental research



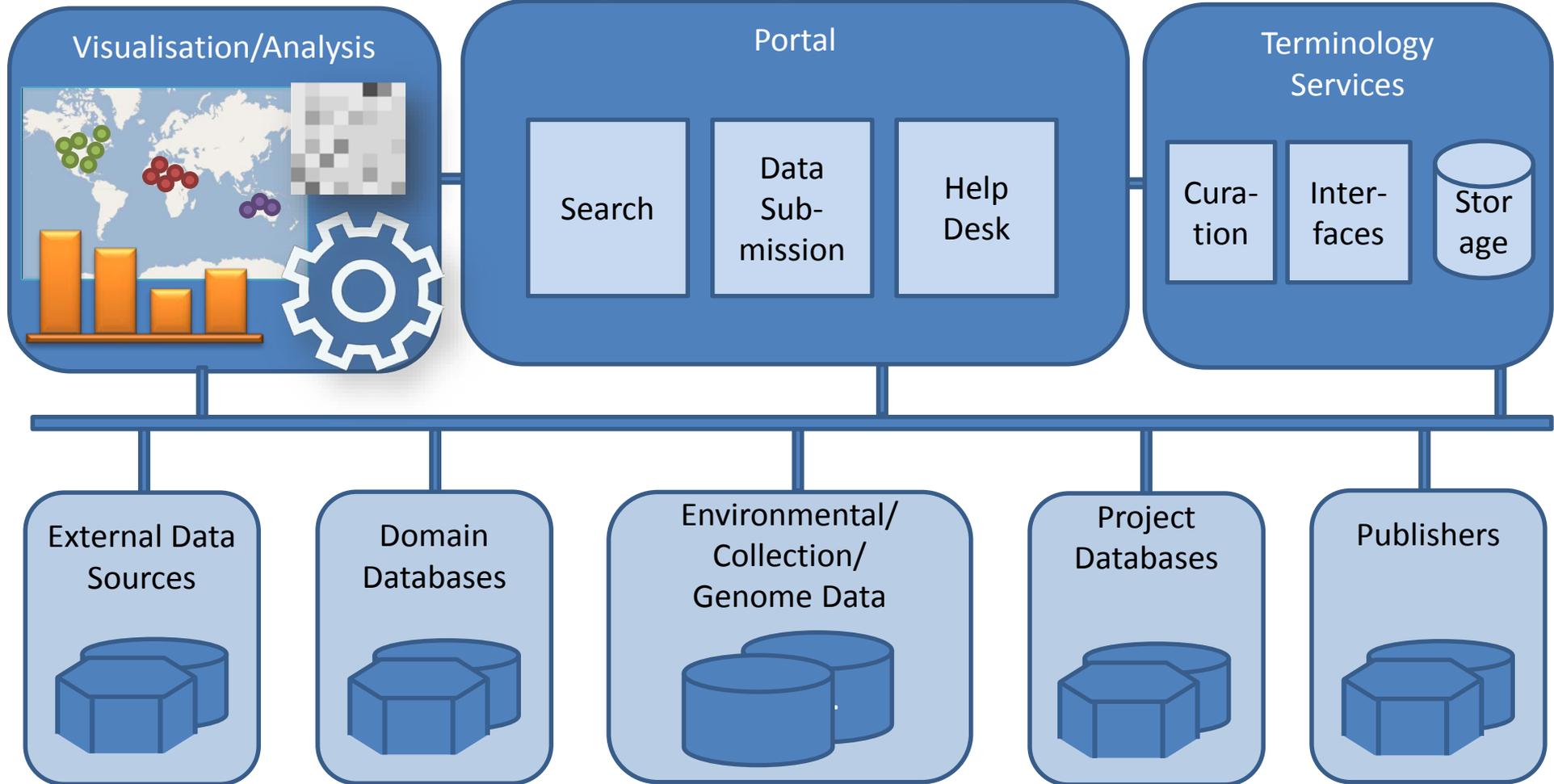
- **Data intensive science**

- Long term data preservation – the archive backbone
- Interoperability & standards
- Data discovery & access
- Data integration & (analysis)
- Data management as integral part of research !
- Management & sustainability

# Long term preservation – the archive backbone



# Interoperability & standards



# Interoperability & standards

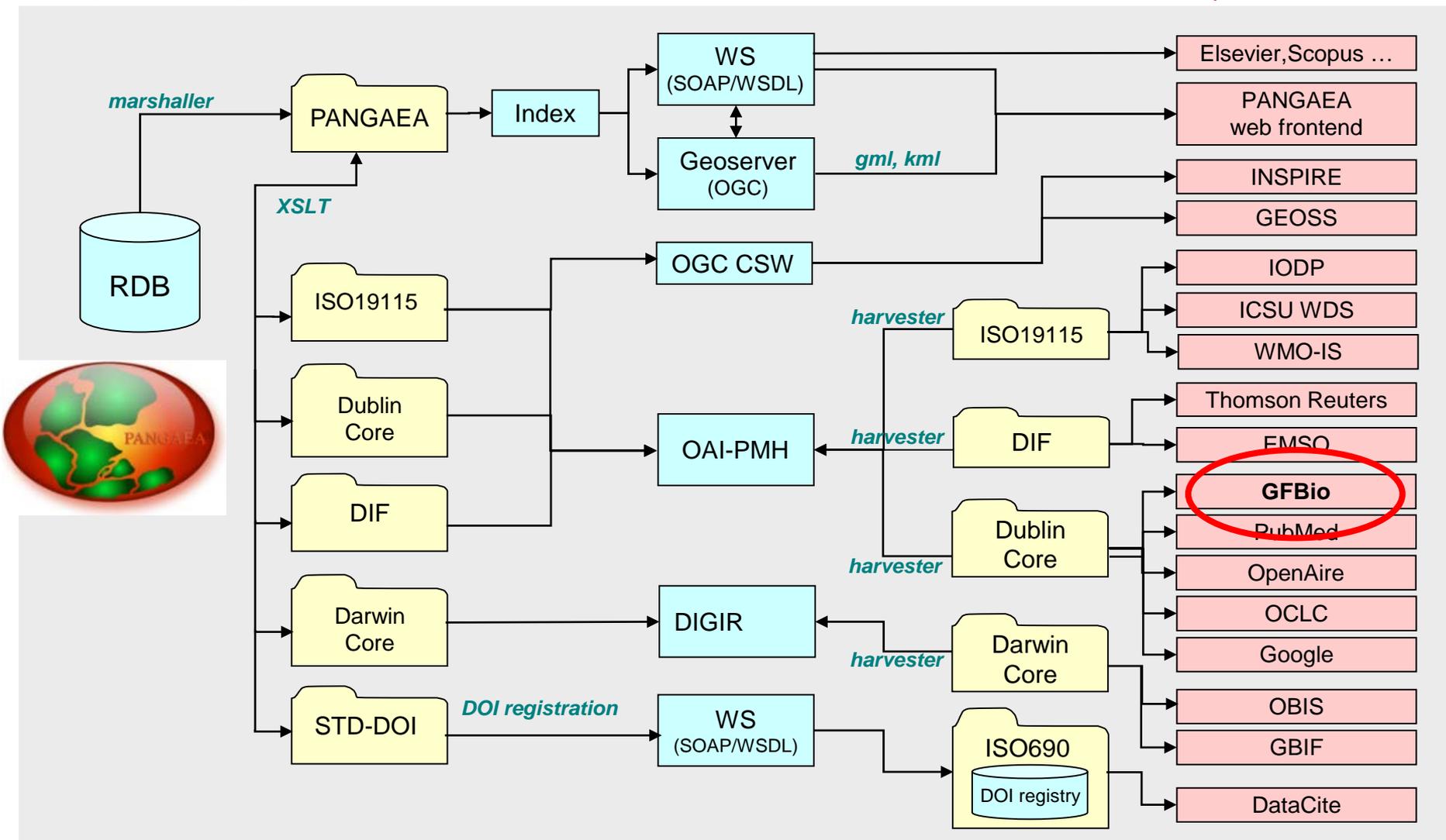
*data management & longterm archiving*

*catalogues*

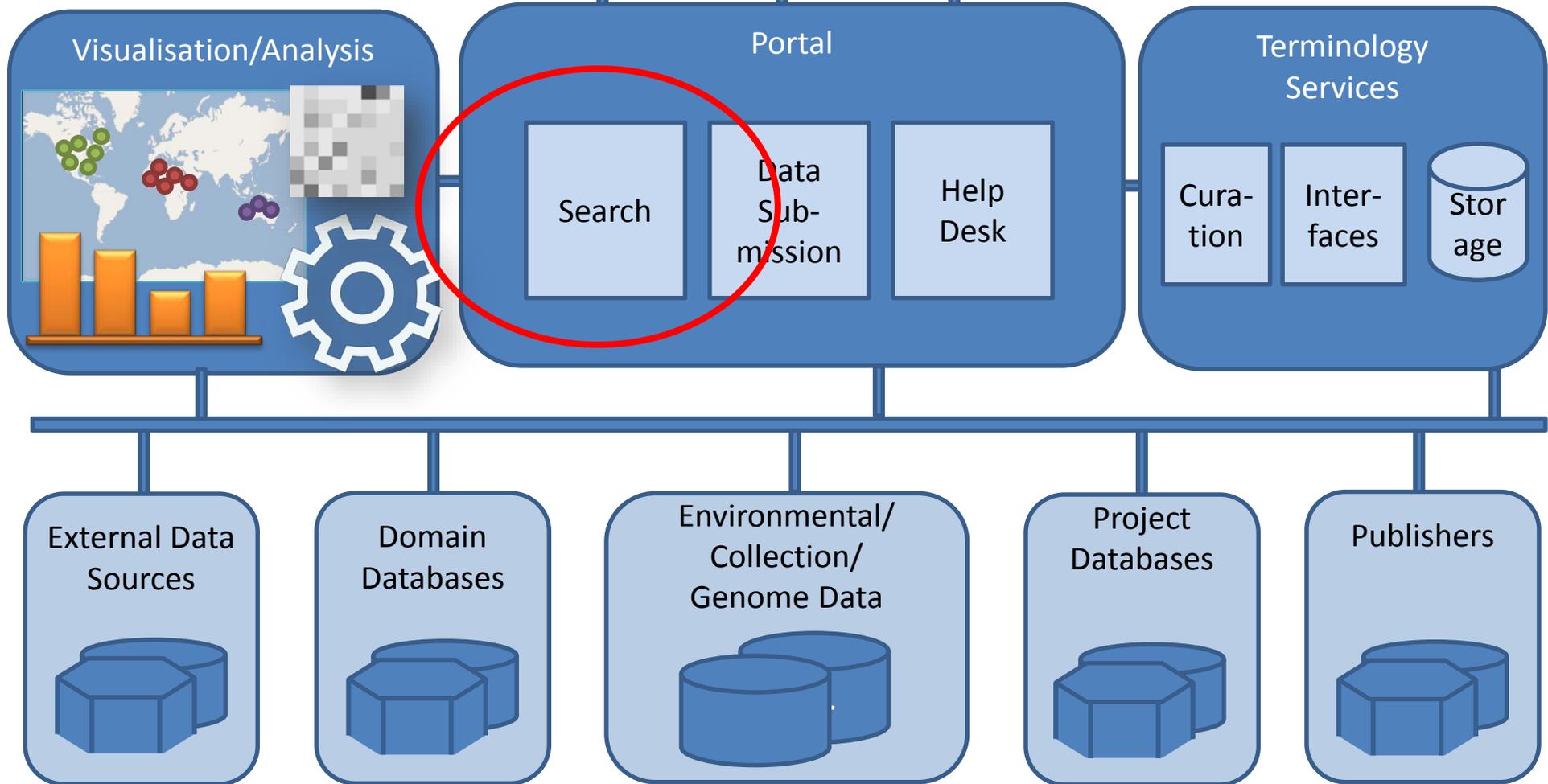
*protocols*

*catalogues*

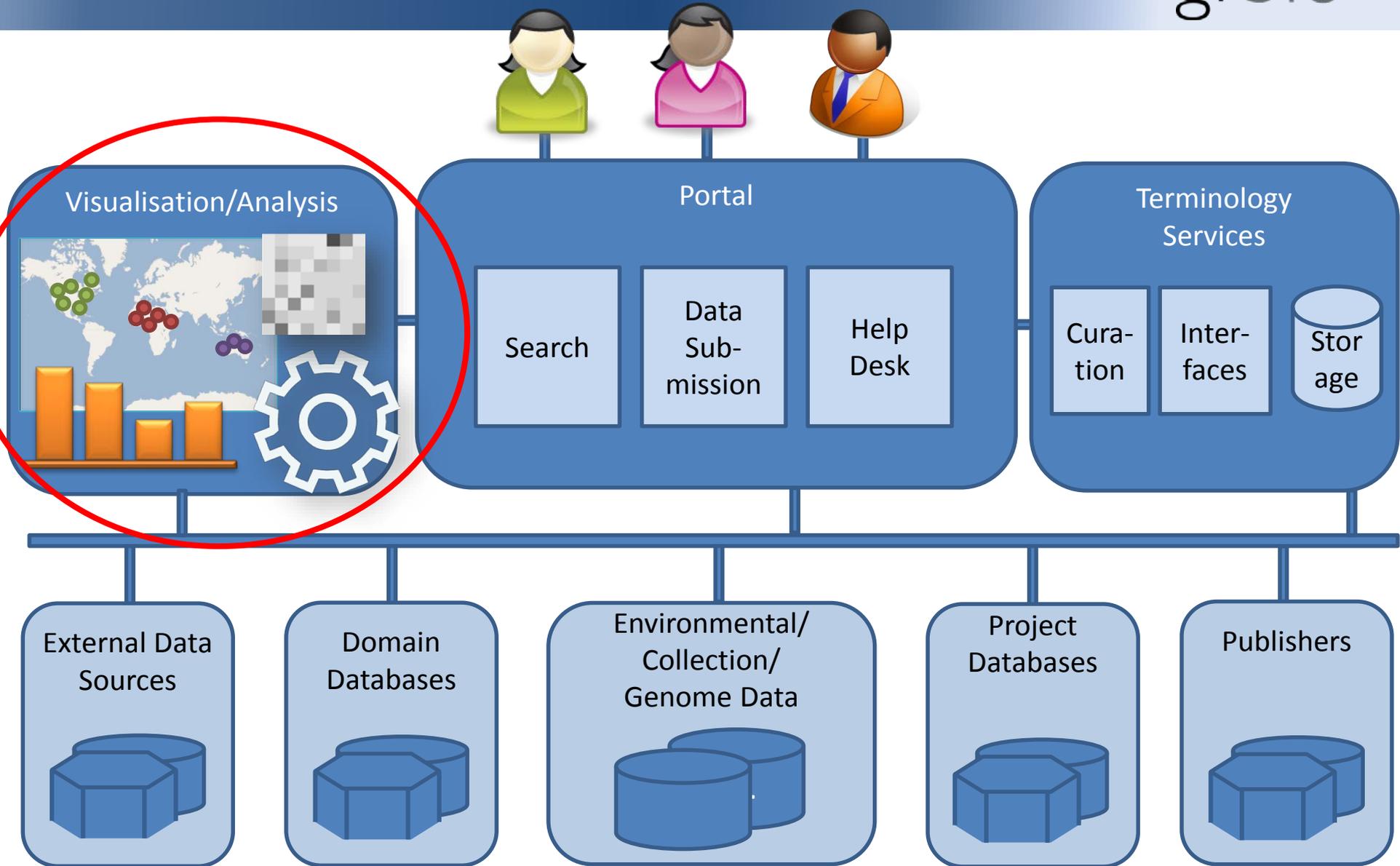
*Frontends / portals*



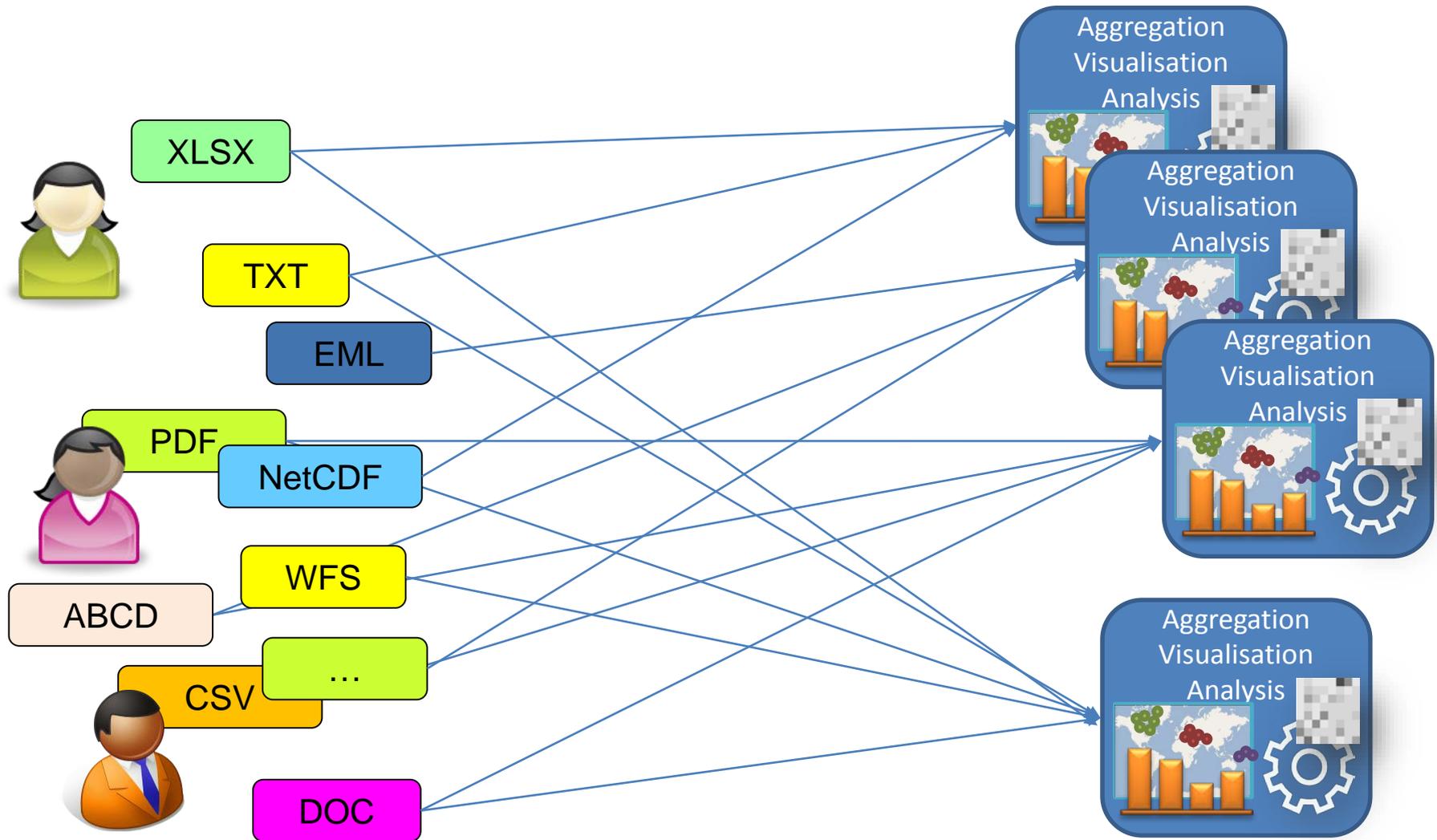
# Data discovery & access

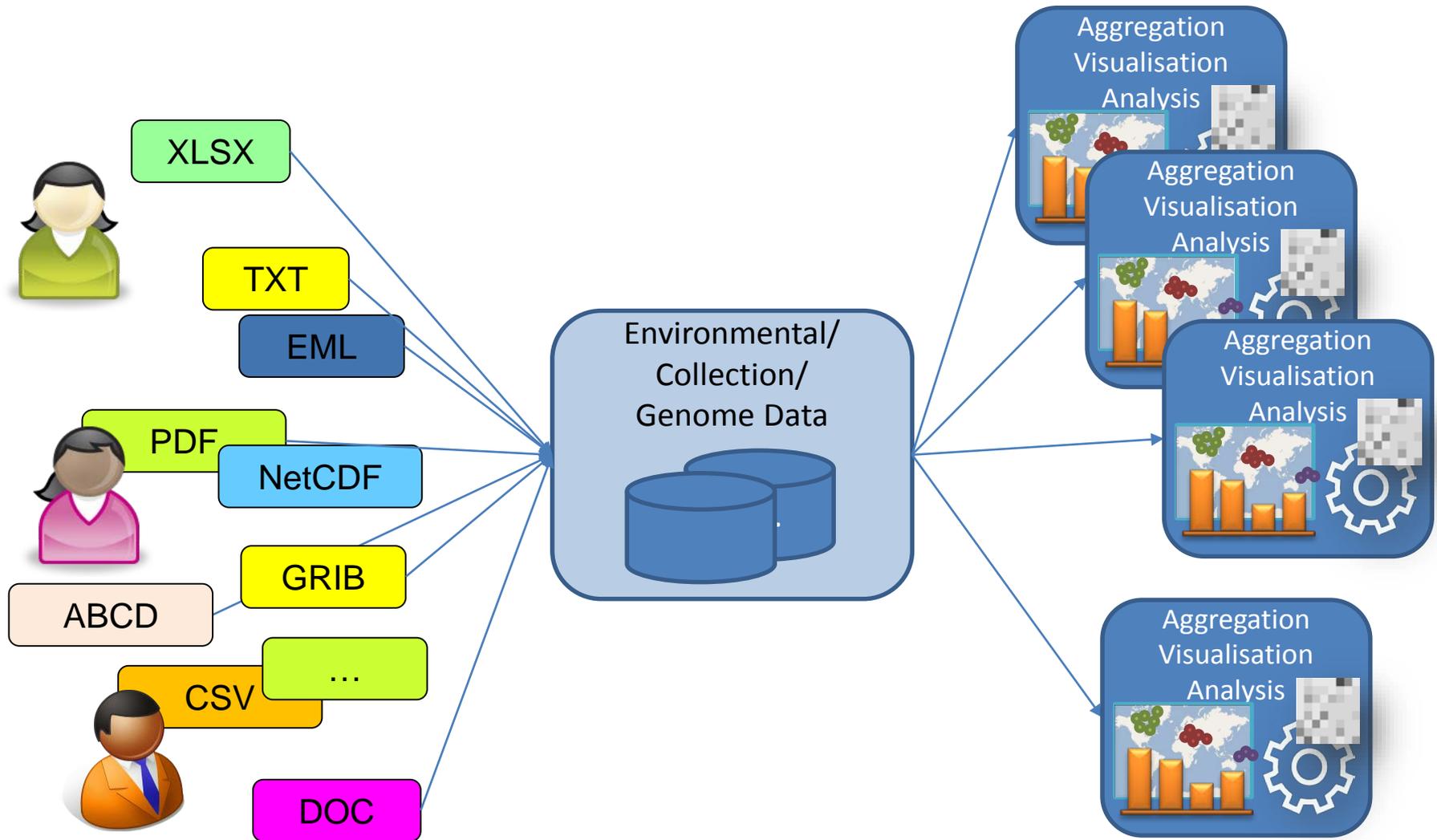


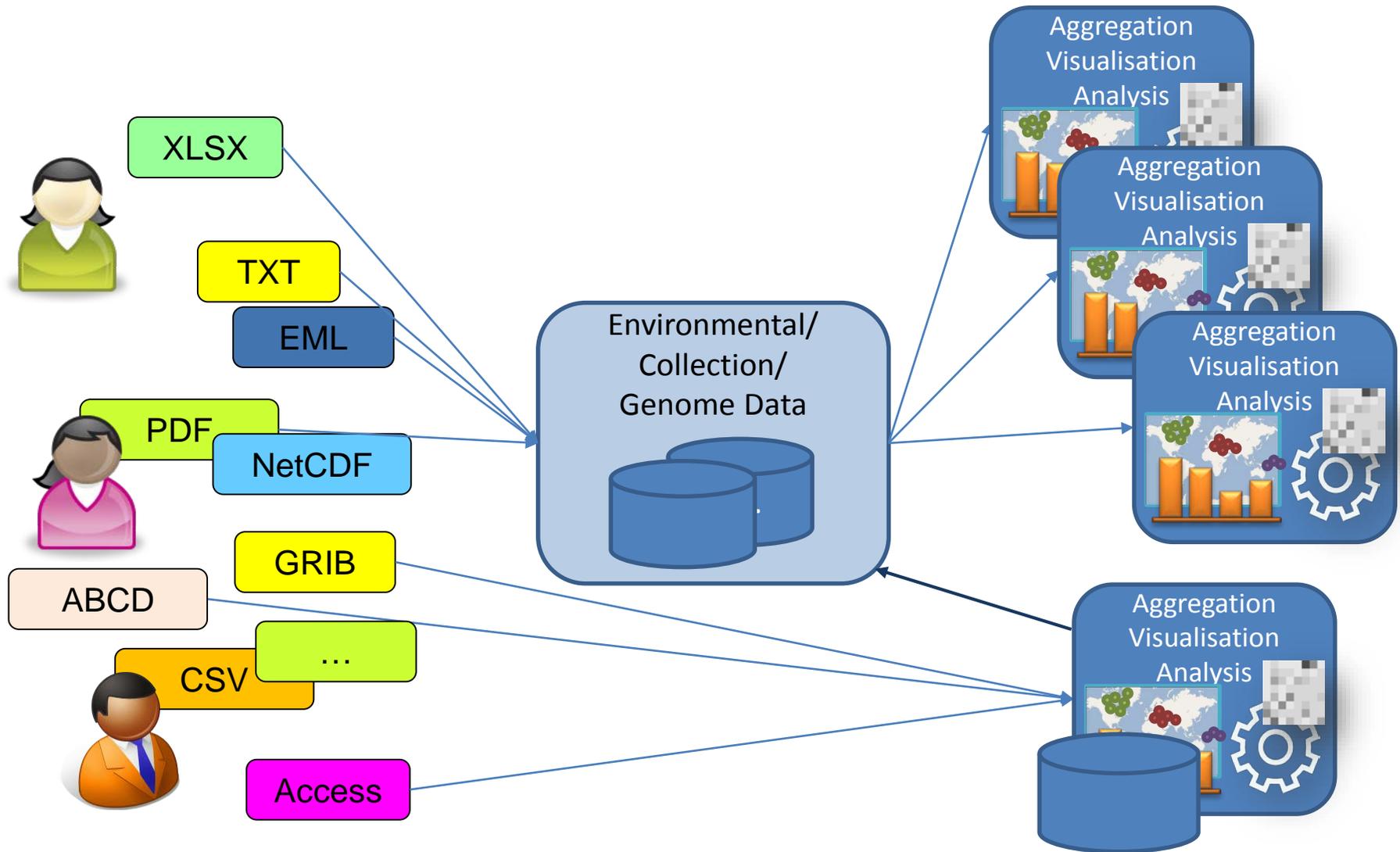
# Data integration



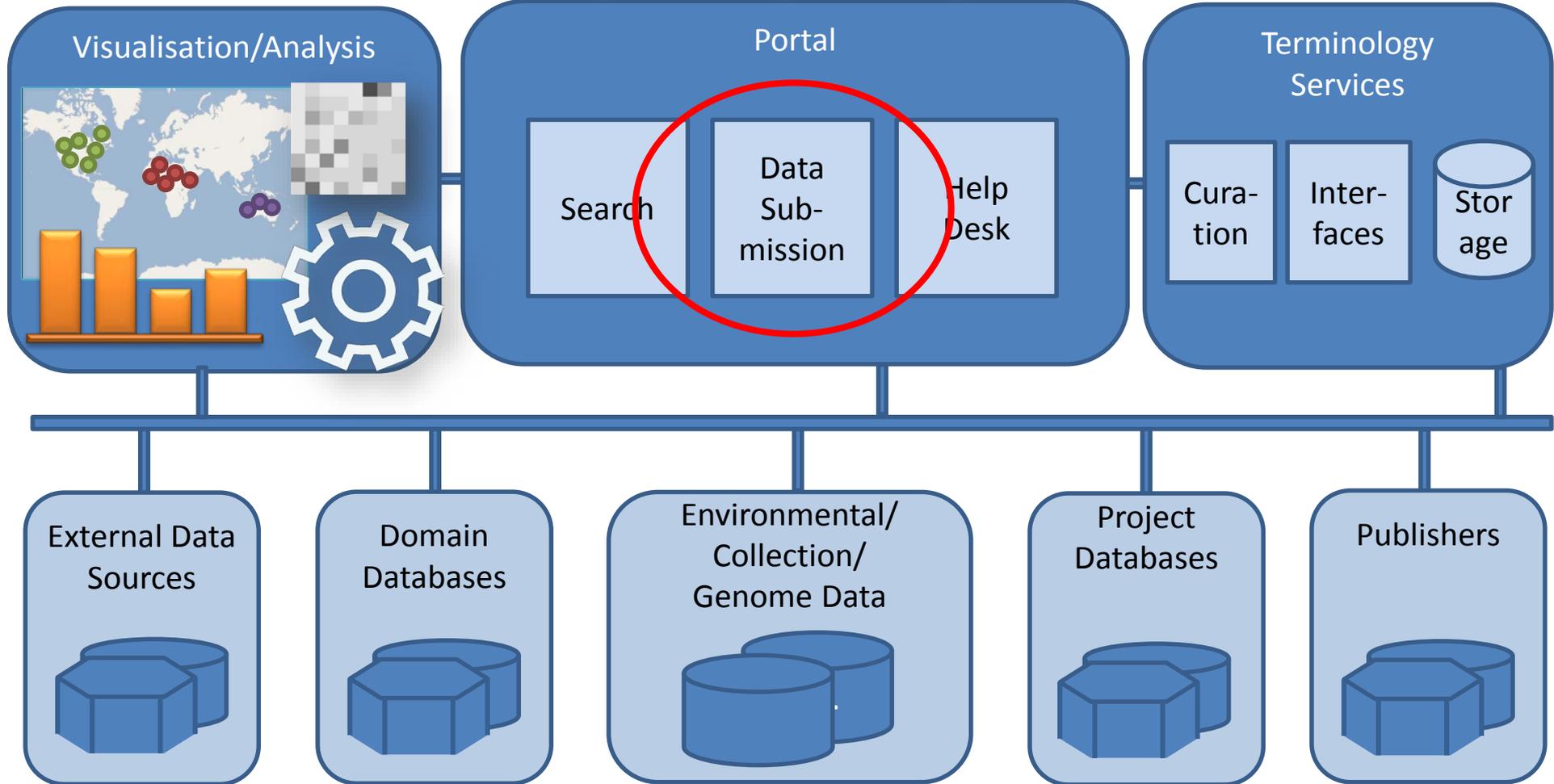
# Data integration

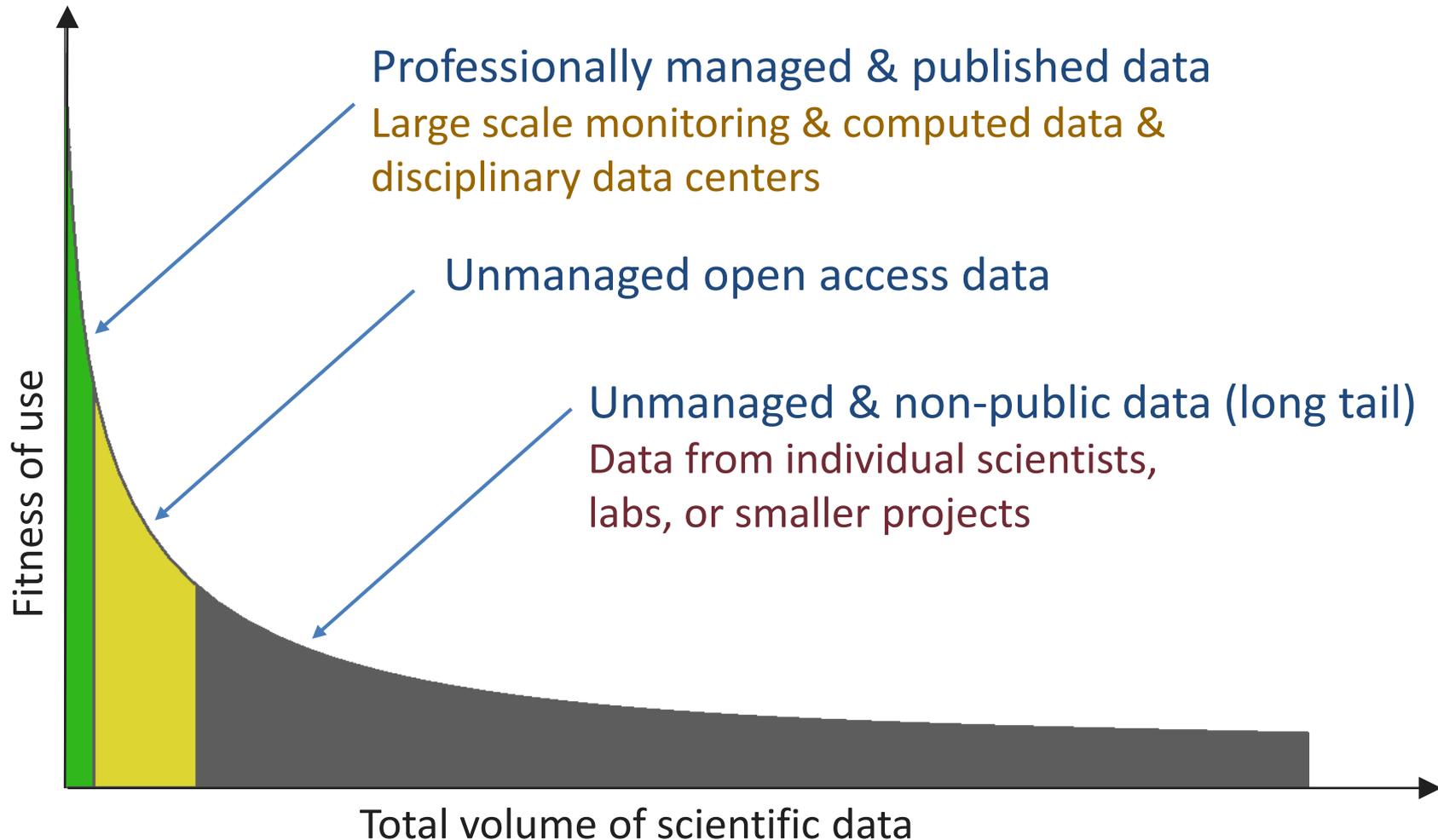






# Data management as integral part of research





# Data Publishing – Cross-referencing

Modern environmental con x

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## Marine Micropaleontology

Volume 65, Issues 1–2, 29 October 2007, Pages 96–112



### Modern environmental conditions recorded in surface sediment samples off W and SW Indonesia: Planktonic foraminifera and biogenic compounds analyses

Mahyar Mohtadi<sup>a, b</sup>, Lars Max<sup>b</sup>, Dierk Hebbeln<sup>a, b</sup>, Anne Baumgart<sup>c</sup>, Nils Krüick<sup>c</sup>, Tim Jennerjahn<sup>c</sup>

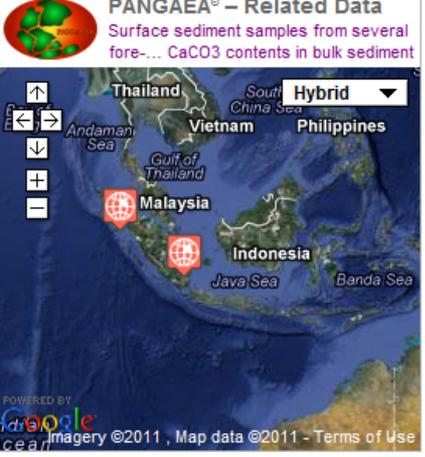
<sup>a</sup> Center for Marine Environmental Sciences (MARUM), University of Bremen, 28359 Bremen, Germany  
<sup>b</sup> Geosciences Department, University of Bremen, 28359 Bremen, Germany  
<sup>c</sup> Center for Tropical Marine Ecology (ZMT), Fahrenheitstr. 6, 28359 Bremen, Germany

Received 23 April 2007. Revised 19 June 2007. Accepted 20 June 2007. Available online 6 July 2007.

<http://dx.doi.org/10.1016/j.marmicro.2007.06.004>, How to Cite or Link Using DOI  
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#### Abstract

A total of 69 surface sediment samples from several fore-arc basins located west and southwest of the Indonesian Archipelago was analyzed with respect to the faunal composition of planktonic foraminifera, the stable oxygen and carbon isotopic signal of a surface-dwelling (*Globigerinoides ruber*) and a thermocline-dwelling (*Neogloboquadrina dutertrei*) species, and the opal and CaCO<sub>3</sub> contents in bulk sediment. Our results show that the distribution pattern of opal in surface sediments corresponds well to the upwelling-induced chlorophyll concentration in the upper water column and thus, represents a reliable proxy for marine productivity in the coastal upwelling area off S and SW Indonesia. Present-day oceanography and marine productivity are also reflected in the tropical to subtropical and upwelling assemblages of planktonic



#### PANGAEA® – Related Data

Surface sediment samples from several fore-arc basins off W and SW Indonesia. CaCO<sub>3</sub> contents in bulk sediment

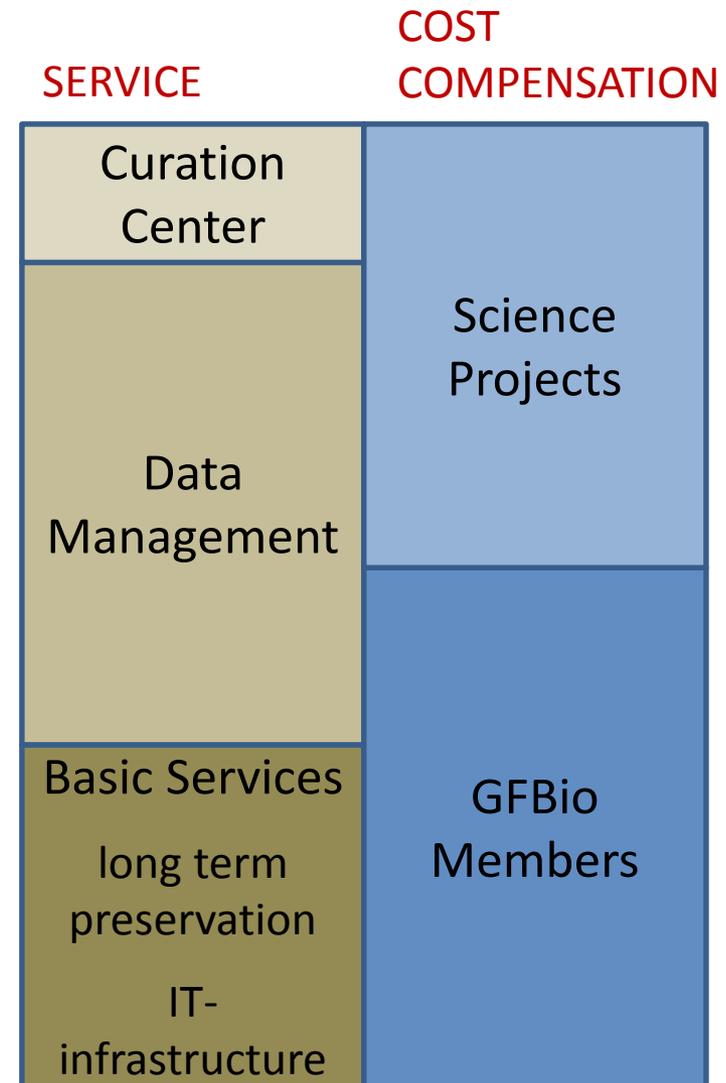
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- Stable isotopes of planktonic foraminifera from the Indonesian Archipelago. *Marine Micropaleontology*
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- A quadra-directional decomposition heuristic for the analysis of planktonic foraminifera. *Computers & Operations Research*
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- Flexible membership & services
- Self-interest of members



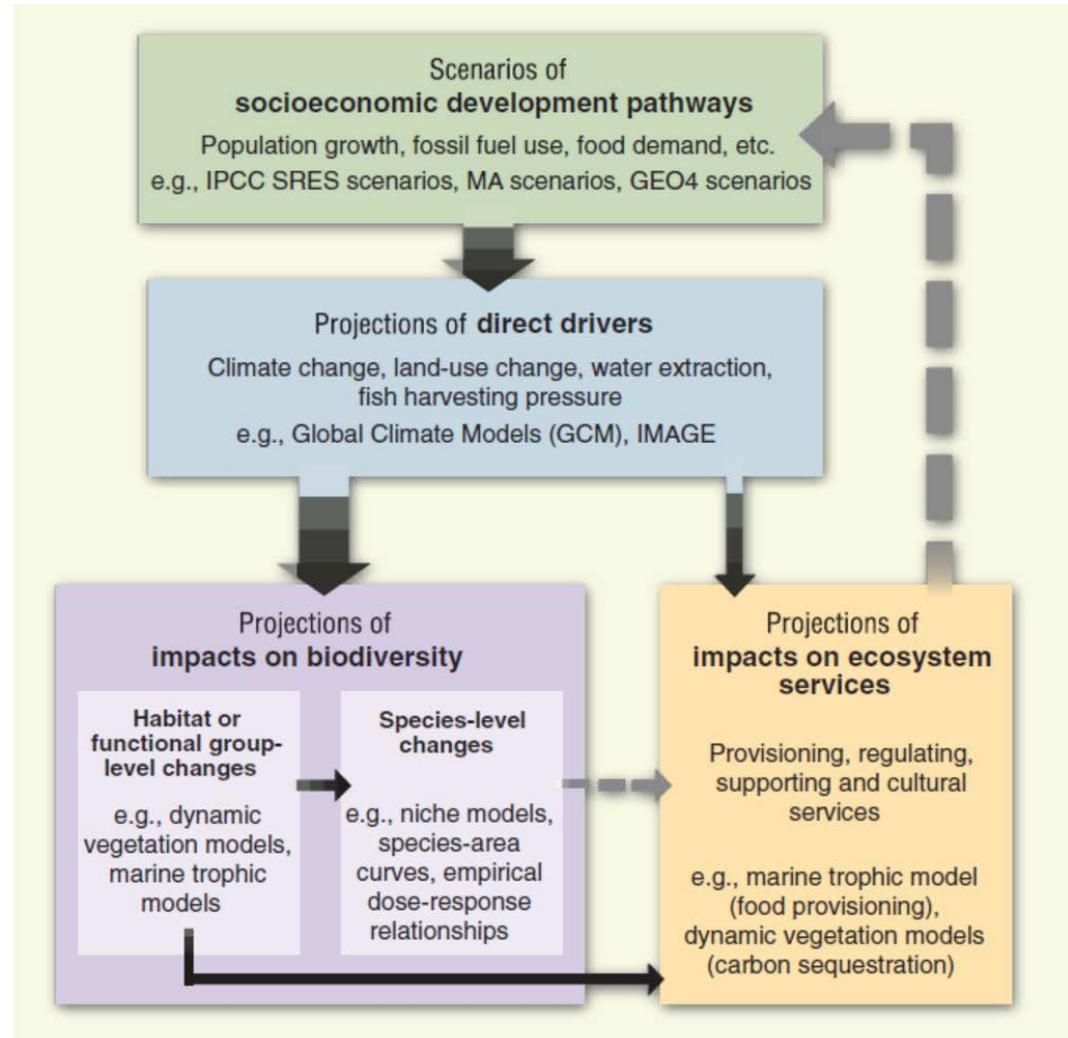
## ScenNet Framework

### Management

- Promotion of data management

Pereira et al. (2010) Science

Fig. 1: Overview of methods and models commonly used for constructing biodiversity scenarios



- Large scale distributed project
- 19 partner institutions
- 81 participants (funded & in kind)
- Multidisciplinary consortium

**Goal:** Operational infrastructure



# Sustainability !

