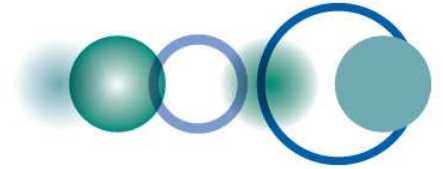


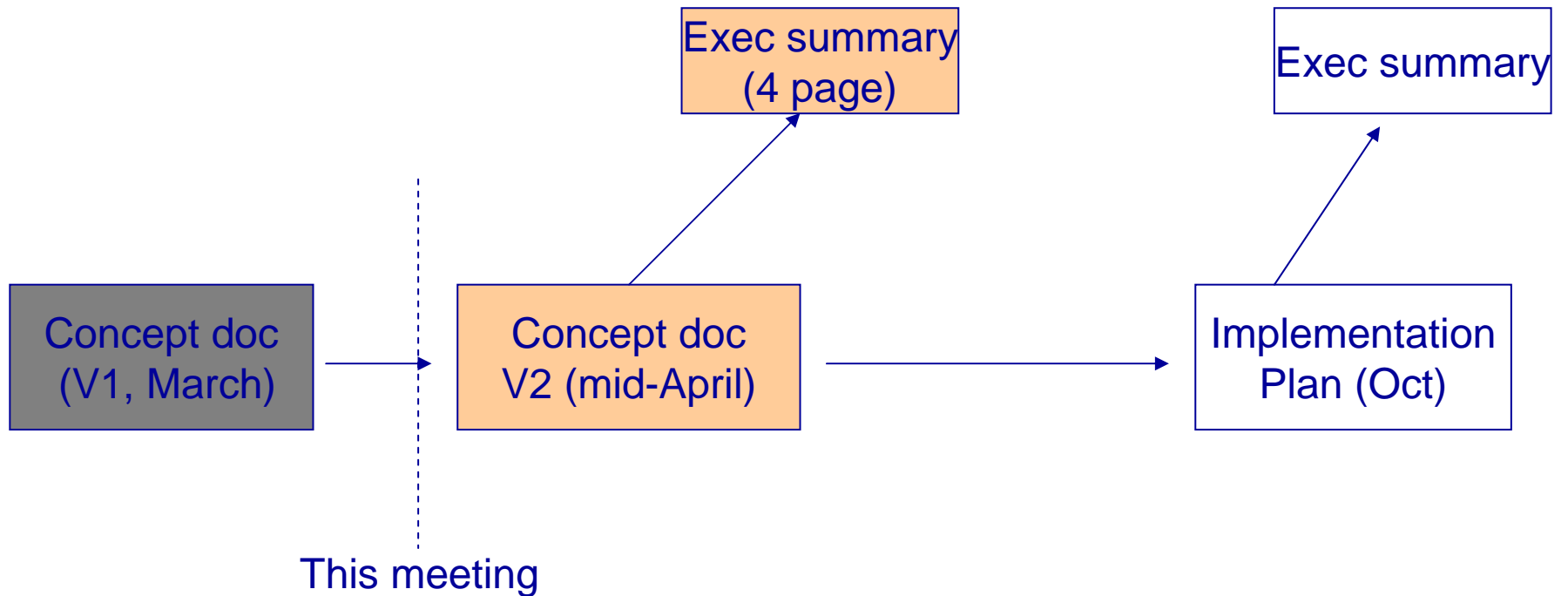
GEO Biodiversity Observation Network

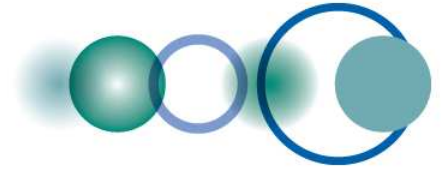
WG Science (2)

**GEO BON Meeting
Potsdam, 8-10 April 2008**



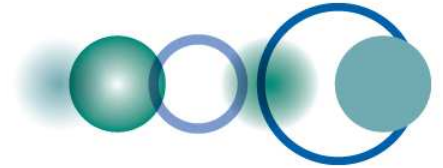
Document evolution





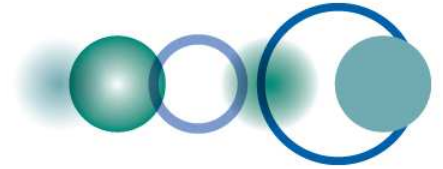
The two big selling points of GEOBON are

1. Access
2. Integration



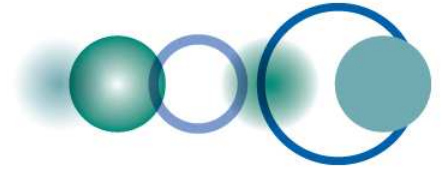
Access

- To the information needed by stakeholders, in a form they can use and understand, when they need it, without unnecessary barriers
 - Decision-makers at a range of scales
 - Researchers
 - Citizens
- To databases from other parts of the world
- To databases from other subdisciplines and disciplines



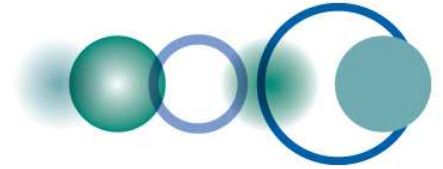
Integration

- In situ, collection and remotely sensed
- Across scales from local to global
- In time – past, present, future
- Across ecosystems, species and genes
- Across biodiversity and non-biodiversity datasets



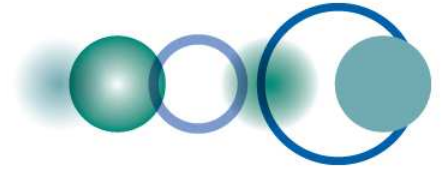
Models are the key to integration

- To connect diverse datasets
- To add value to datasets
- To upscale and downscale
- To gapfill in time and space
- To predict at policy-relevant timescales



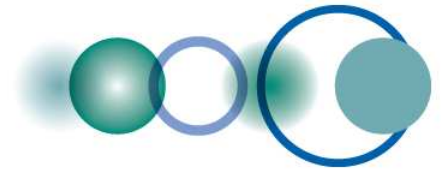
What sort of models?

- Ecological niche envelope models
 - Extrapolates sparse points to probable areas
- Data-assimilation ecosystem function models
 - Infers process, constrained by observations
- Dispersal models
 - Where will things move to, and how fast
- Biodiversity impact models
 - Effects of habitat loss, fragmentation, extraction, pollution, climate change



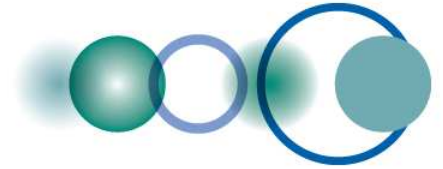
3 important activities connect observations to policy and can help guide the type of data needed

- Assessments, eg IMoSEB, MA+, IPCC
- Forecasting, scenario developing
- Risk assessment



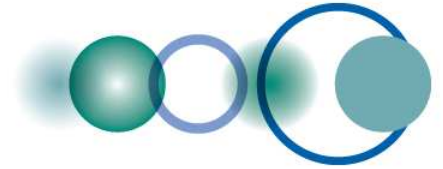
Multipurpose or few purpose?

- Real danger of failure or irrelevance if we try to build something that is not strongly user focussed, or tries to serve everyone
- But the reality is that we have a diverse user community that cant be served with one or two products
- The solution may be to develop a few flagships to ensure the system is built, and then allow the creativity of the community to elaborate it

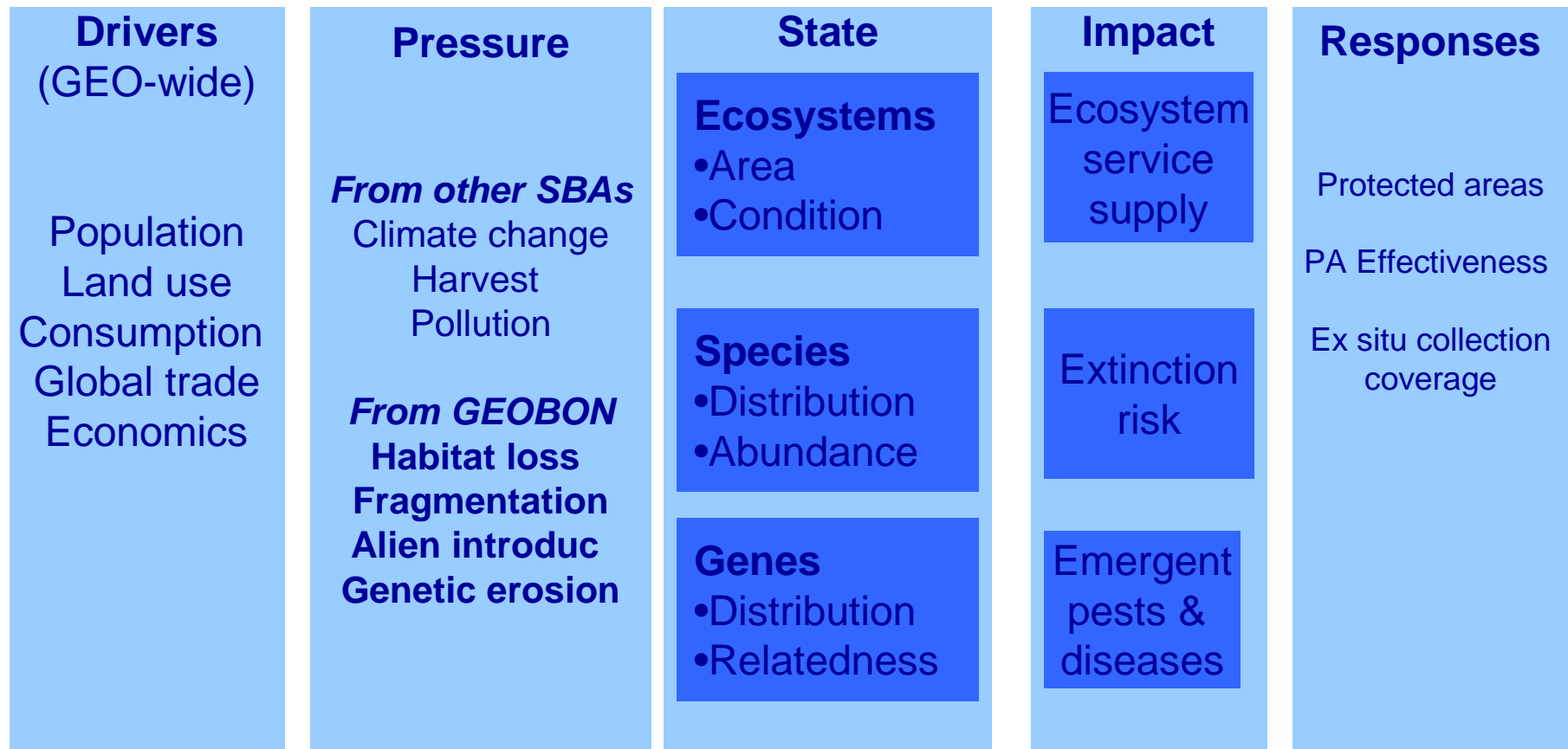


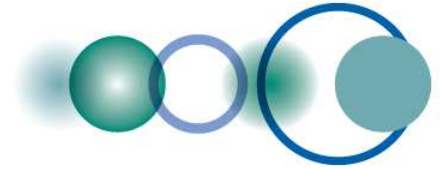
Missing bits in concept doc

- Box elaborating remote sensing for biodiversity: sorts of sensors, sorts of products
- Box on role of LTERs, in ecosystem section
- Move Ecosystem Services section closer to Ecosystems
- Some text/examples of products and their application
- Better coherence between text and appendices
- Text on integration between gene, species, ecosystems
 - Nice example: nitrogenase, N-fixing algae, oligotrophic ecosystems
- Elaborate drivers, pressures, state, impact, response explicitly at each level (ecosystem, species, gene)



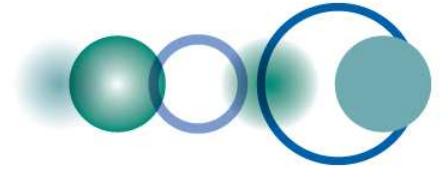
DPSIR for biodiversity





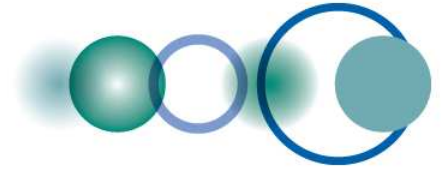
A plan for the Implementation Plan

- How to draft and review it
 - Build on concept document and elaborate
 - Focus on developing the bits that are currently missing
- How to structure task teams
 - By land, water, sea?
 - By ecosystem, species, gene?
 - Work from ecosystems down to genes, rather than from genes up to ecosystems, just because that is easier to do
 - By architecture, user needs, capacity building?
- What is a realistic timeline to produce it?



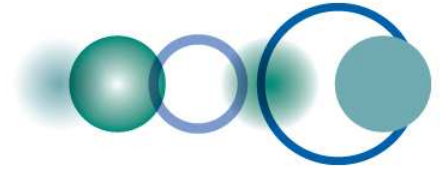
Implementation plan elements

- What (activities and tasks)
- When (begin, end, milestones)
- How (method)
- Who (responsible institution)
- Resources needed (money, infrastructure, people)
- Outcome (product specifications)



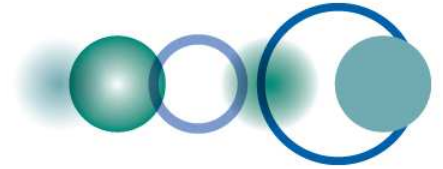
Implementation plan

- Need to define for other GEO SBAs what we need from them
 - And listen to what they need from us
- Clearinghouse mechanism:
 - A database of databases and a brokerage service
- Certain activities need regional networks
 - Also helps with capacity building



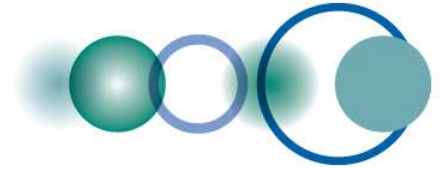
Unique things we could do

- Link to Encyclopedia of Life, especially the currently-missing ecosystem bits
- Design a sampling frame
 - Have the tools to do (sampling) gap analysis
- 'plot' database: what was found to coexist at a particular place and time



Unique selling points of GEOBON

- Ability to upscale and downscale
 - Sufficient detail to work nationally
 - Sufficiently comprehensive cover for global analysis
 - Places the local into global context
 - Validates the global with the local
- Integration of *in situ*, collection based and remotely-sensed information



Least common denominator datasets

- Land and sea cover
- Species distribution (spatial presence/absence)
- Abundance trends for a large and diverse set of species