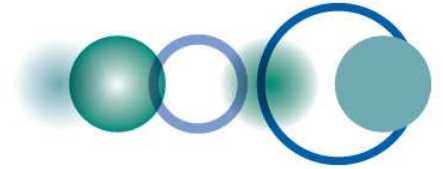


GEO Biodiversity Observation Network GEO BON Concept

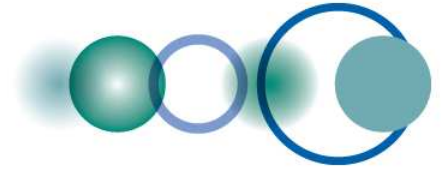
**Biodiversity
Observation
Network**

**GEO BON Meeting
Potsdam, 8-10 April 2008
Bob Scholes, CSIR South Africa**



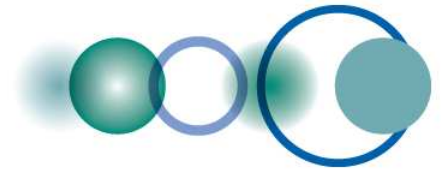
An outline...

- Why is this important?
- The context of GEO BON
- Key principles, design issues, questions
- What we need to achieve at this meeting



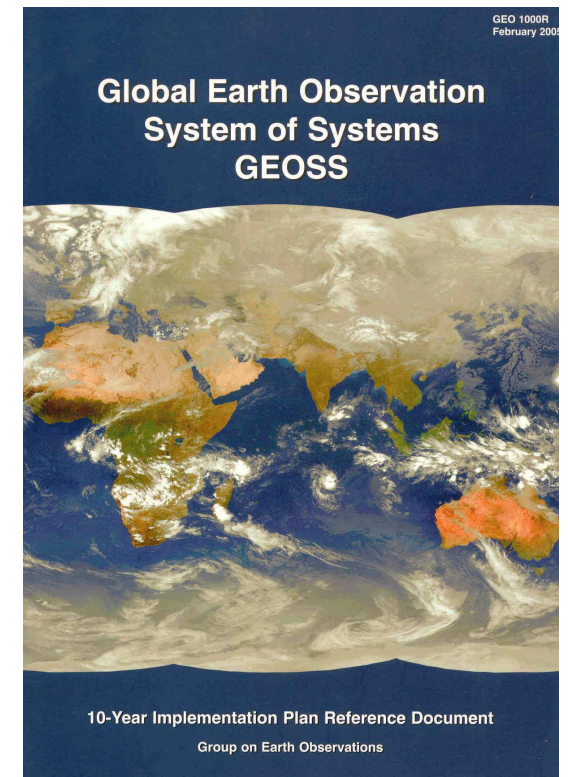
Why do we need to do this, now ?

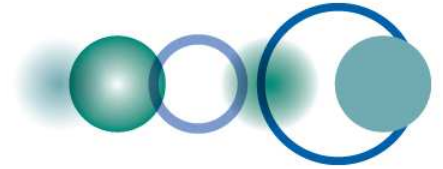
- To provide convincing evidence of the magnitude and importance of contemporary biodiversity loss
- To prioritise and target interventions and evaluate success
- Biodiversity observation system elements exist, but
 - The picture is patchy
 - Geographical gaps
 - Topical gaps
 - Inconsistency in space, time and observing agency
 - The delivery pipeline is blocked
 - Many more data are collected than are used
 - Key constraint is 'interoperability'



A brief history...

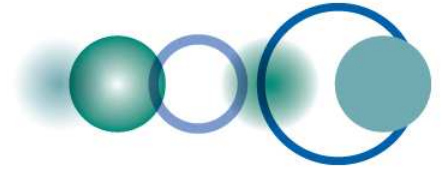
- 2005 Group on Earth Observation establishes Global Earth Observation System of Systems
 - Biodiversity is one of 9 “Societal Benefit Areas”
 - Task BI-07-01(Biodiversity Observation Network Design) assigned to DIVERSITAS and NASA
- 2006 User Needs workshop, Geneva 23-25 Oct
- 2007 GEO Ministerial in Cape Town
- 2008 Interim GEO BON committee formed 14-16 Jan
 - Draft GEO BON concept document produced



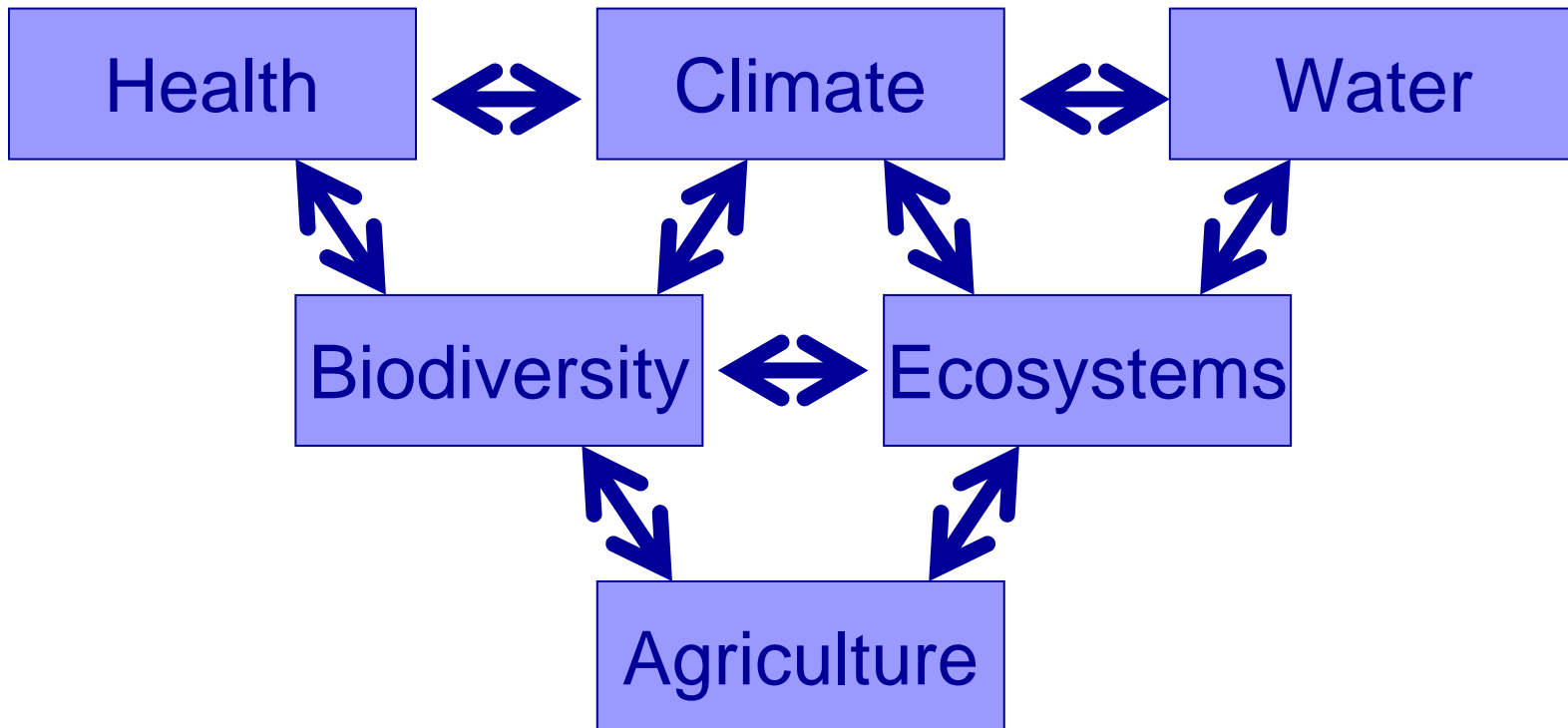


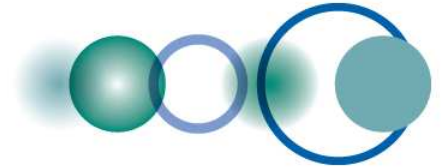
BI-07-01

- Develop a strategy for assessing biodiversity at genetic, species and ecosystem levels
- Facilitate the establishment of monitoring systems that enable frequent, repeated, globally coordinated assessments of the trends and distributions of species and ecosystems of special conservation merit
- Facilitate consensus on data collection protocols and the coordination of interoperability among monitoring programs
- Ensure that biodiversity data collection process will contribute to ongoing global initiatives
- Develop a strategic plan for the periodic assessment of genes, species and ecosystems of merit, taking into account the Millennium Ecosystem Assessment and progress towards the CBD's 2010 Biodiversity Targets
- Consolidate and enlarge the data provider community and define and operationalise the integrated global observation system



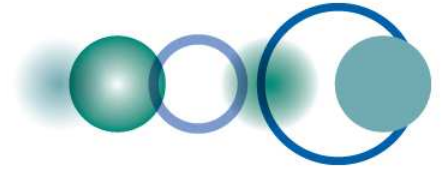
Harnessing the synergies of an integrated system





GEO BON vision

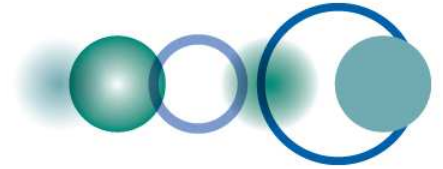
- As soon as possible:
 - The global community of biodiversity data providers and users share an open-access data resource with the best available global biodiversity data, as well as tools and resources for integration and analysis of these data
- Within a decade:
 - A global biodiversity observation system that provides timely and relevant information on biodiversity status and functions so as to improve environmental management and human wellbeing. The system will be open-resource, user-friendly and responsive to changing requirements, providing authoritative and respected reports, updated at appropriate intervals.



Purpose of GEO BON

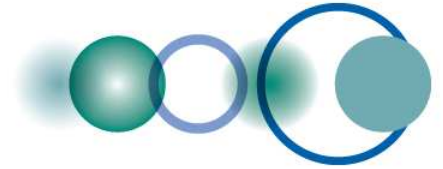
The unique niche and added values of GEO BON will be to:

- Provide a global, scientifically robust framework for observations on the detection of biodiversity change
- Coordinate the data gathering and delivery of biodiversity change information
- Ensure long term continuity of operational observations
- Provide a small set of innovative and relevant biodiversity observation products,
 - based on the integration of data sets, and
 - most effectively achieved by a global network



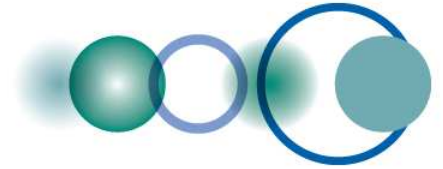
Some principles

- Scientifically rigorous and up-to-date
 - EO needs (repeatability, continuity, responsivity, representivity, integration)
- User-driven and oriented
- Data shared without loss of ownership and responsibility
- Interoperable due to standards and architecture
- Gaps filled by capacity building among users and providers



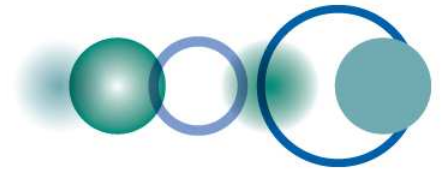
Users of a Biodiversity Observation Network

- International treaty processes and bodies
 - CBD, CCD, CITES, Ramsar, CMS
- Biodiversity and conservation NGOs
 - IUCN, WWF, CI, WCS, TNC etc
- National and subnational biodiversity custodians
 - Conservation agencies, environment ministries
- Researchers, students, lay interested parties



Key design issues

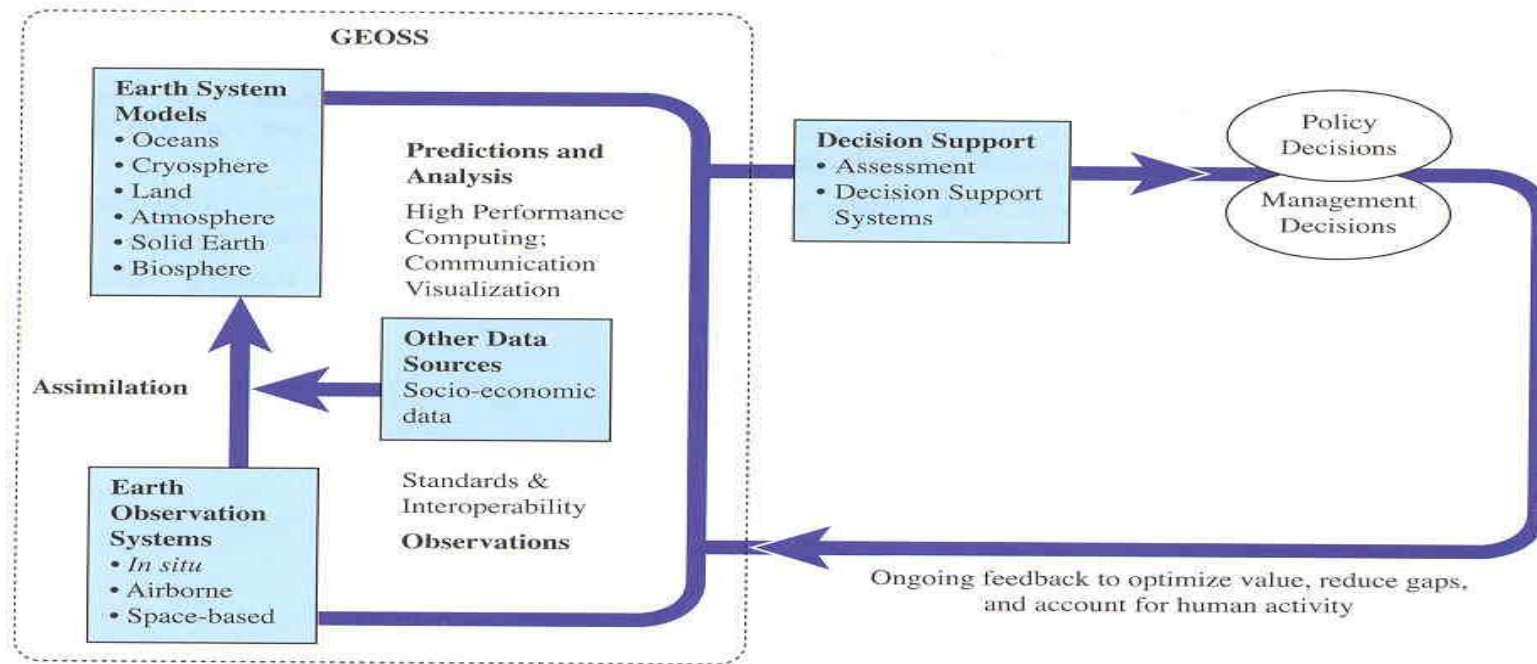
- How far down the value-added path should an observing system extend?
- Should non-biodiversity observations (especially socio-economic ones) be included?
- State only, or Drivers-Pressures-State-Impact-Response?

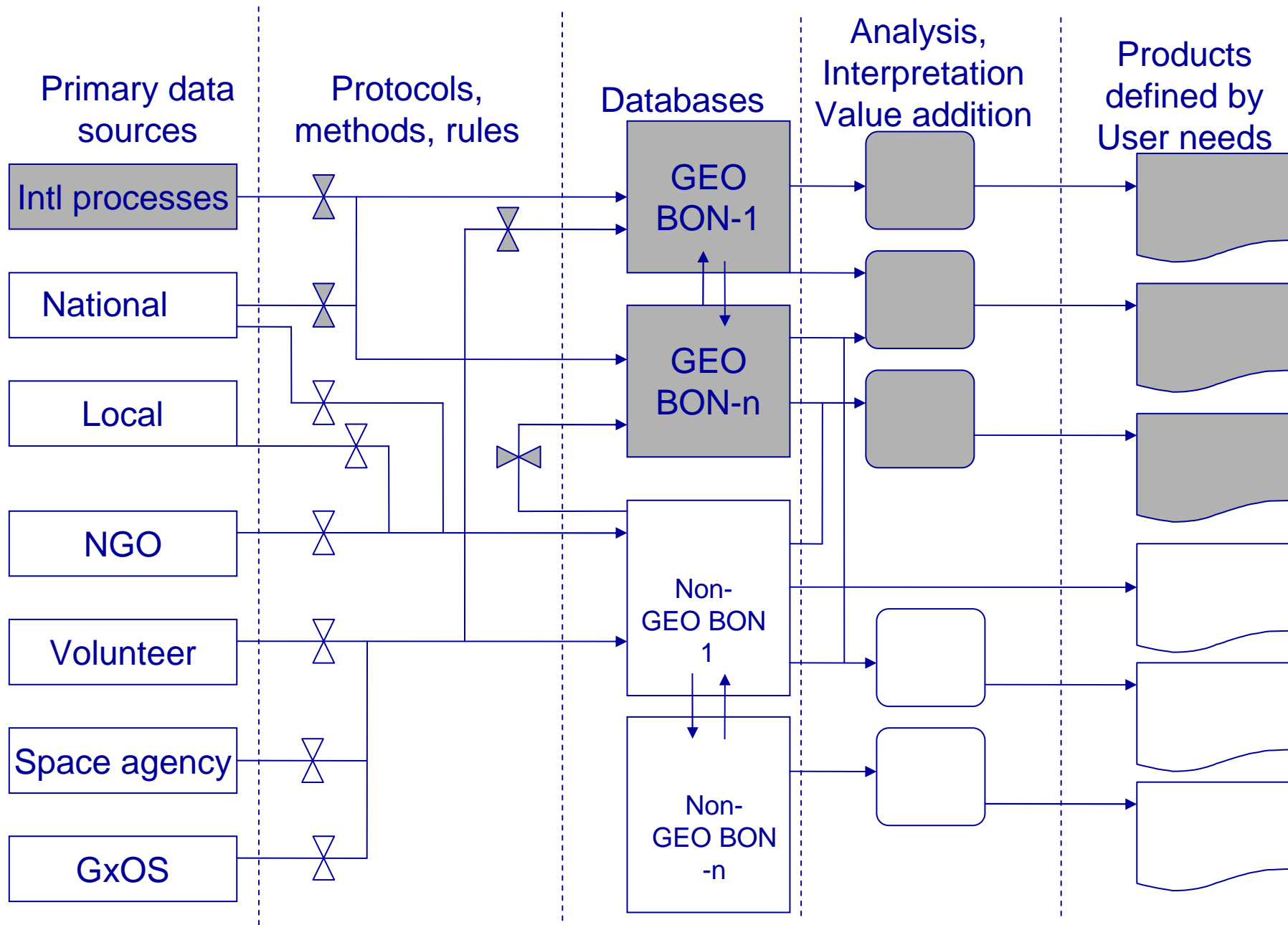


Observing systems

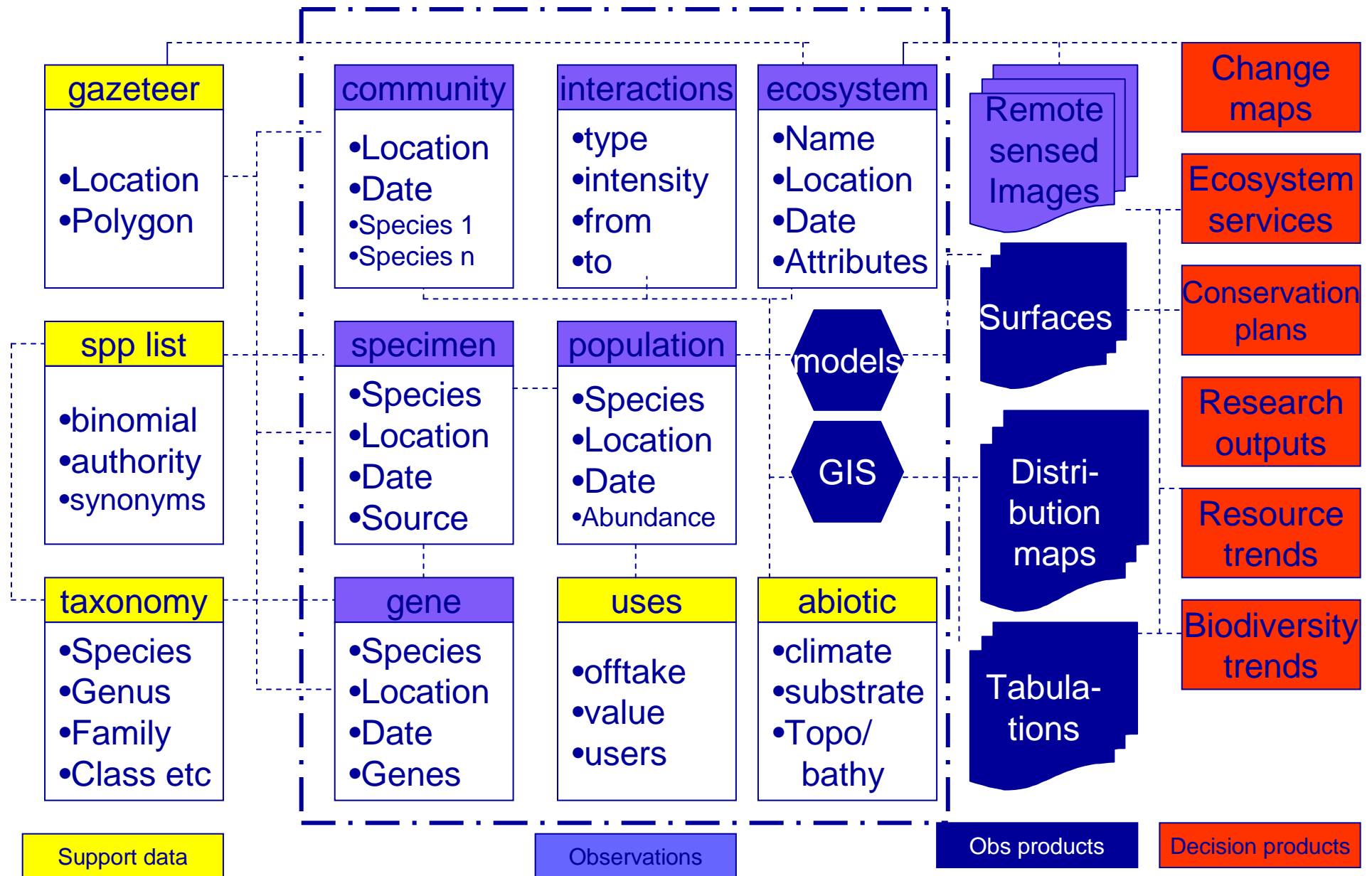
...are more than just ways of collecting data

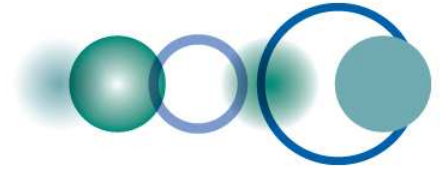
- Complete chain from observation to use
- Seamless continuum from observations to products





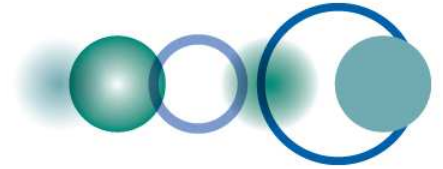
An integrated biodiversity observation system





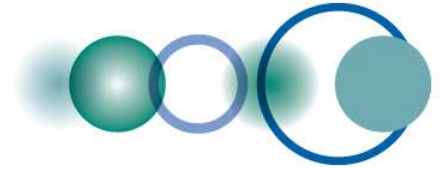
A biodiversity syntax [optional] (quality control)

- **Nouns:** What, where, when, [how many], (by who), (how)
 - Ecosystem extent
 - Species presence/absence/abundance record
 - Genetic record
- **Adjectives:** A is a member of B (says who) (when)
 - Nested taxonomies
 - Cladistics
 - Functional types
 - Communities
- **Verbs:** A performs action C on B [intensity] (where) (when) (by who)
 - Food webs
 - Non-tropic interactions
 - Ecosystem service flows



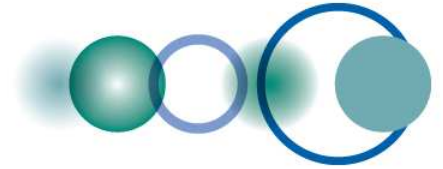
What is an observation product ?

- Standardised datasets
 - Including images, collection records, field observations, remotely sensed observations
- Time series
 - including of selected indicators
 - modeled patches for missing data
- Spatial coverages
 - Including modeled interpolations
- Statistical analyses
 - Trends, change detection, distributions, significance
- Integrated products
 - Combinatorial or inferential products, observation-based

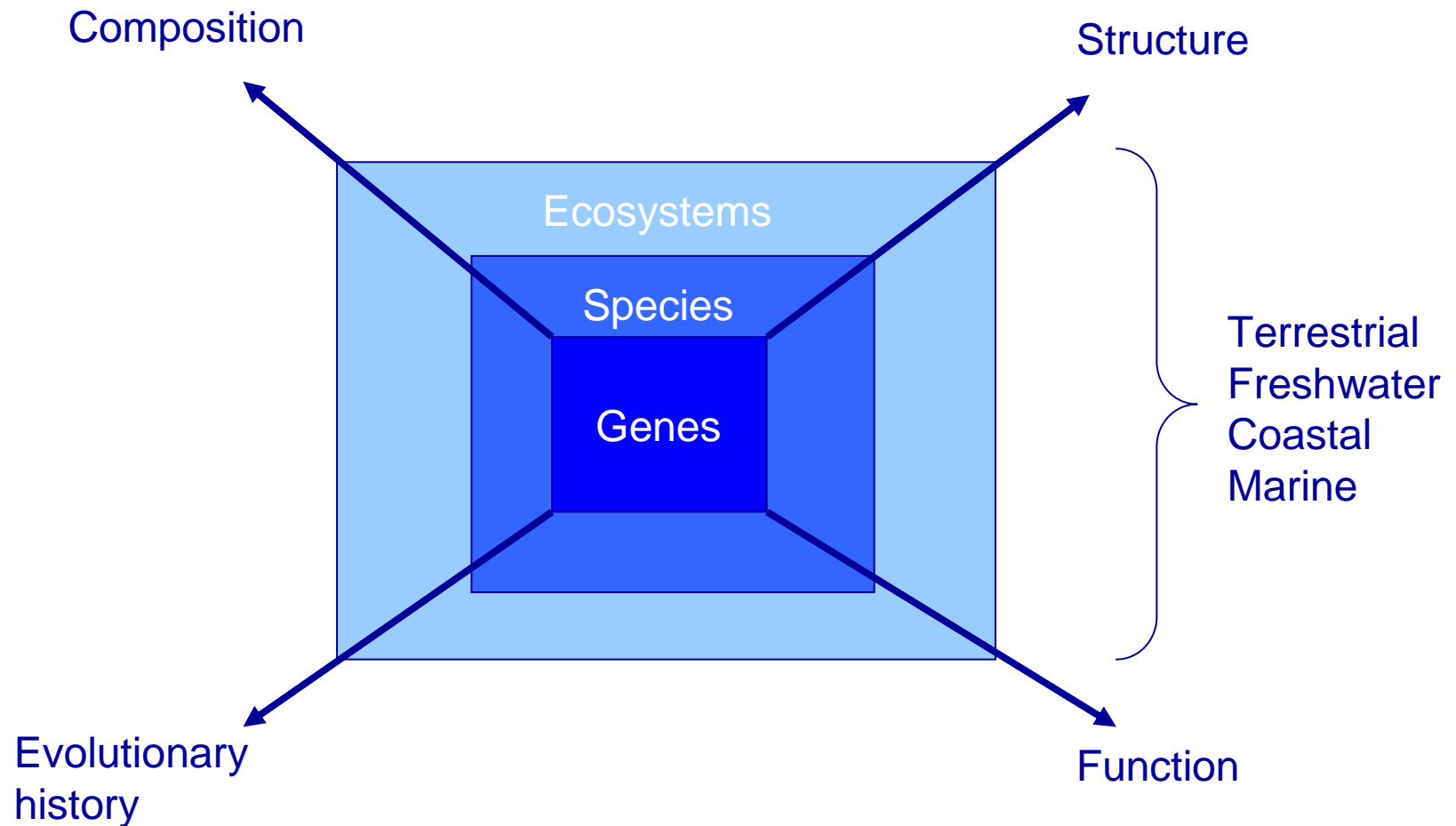


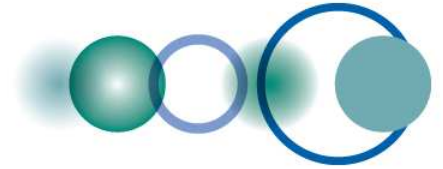
FAQs

- What is 'in' biodiversity?
- Who owns the data?
- Who is responsible for quality control?
- Who will pay for the system?
- How might the system be governed?
- Who might be part of the network?



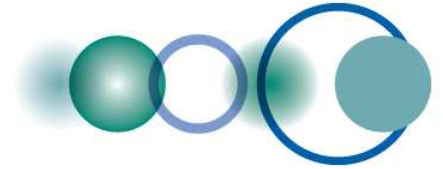
The GEO BON scope





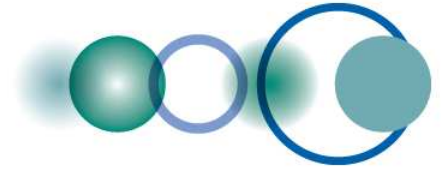
Data policy

- Providers *always* own the primary data
 - And take responsibility for its quality
- The default case is free and open access
 - With limited exceptions to protect biodiversity
- Use must be accompanied by acknowledgement
- Users take responsibility for how they use it

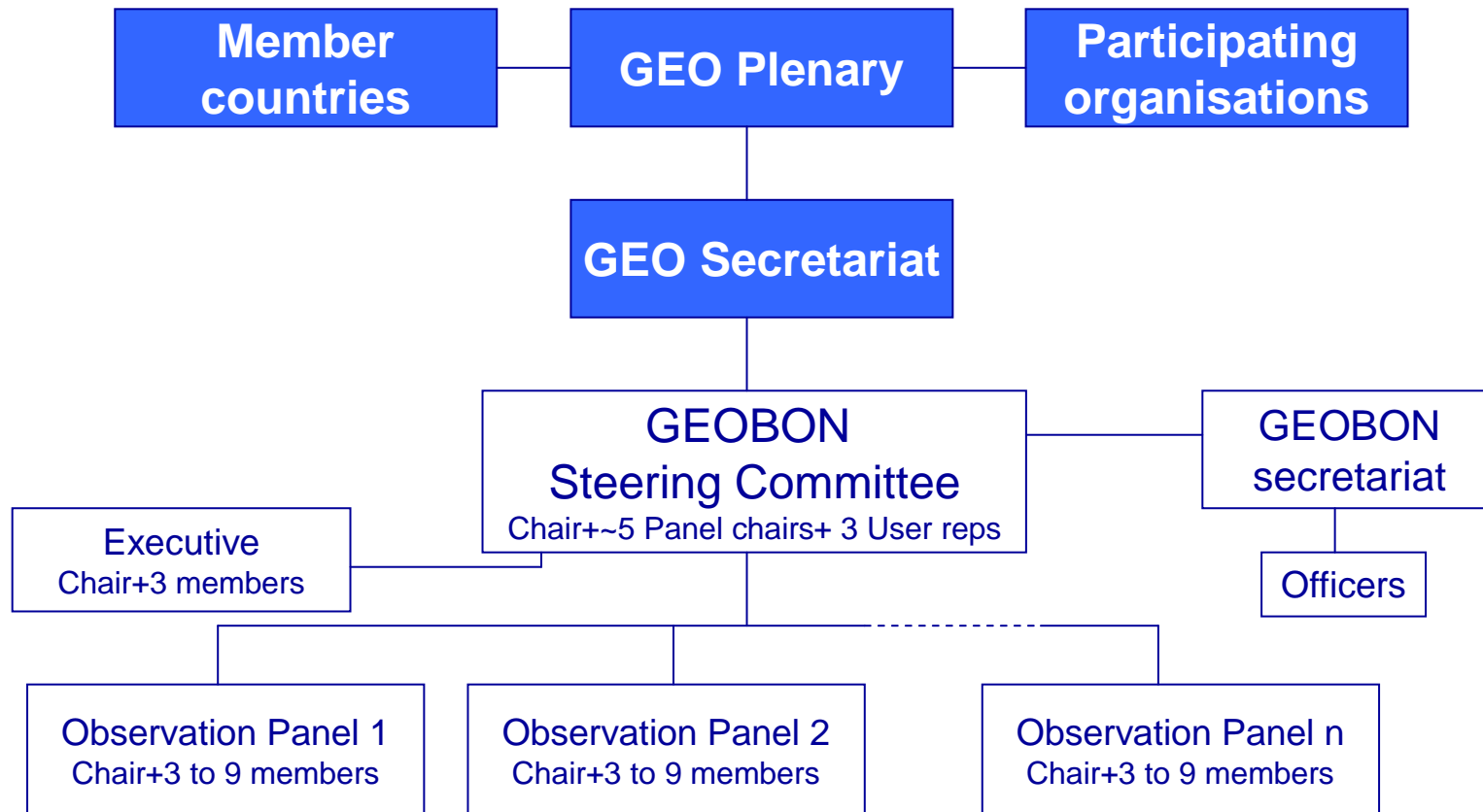


Resourcing model

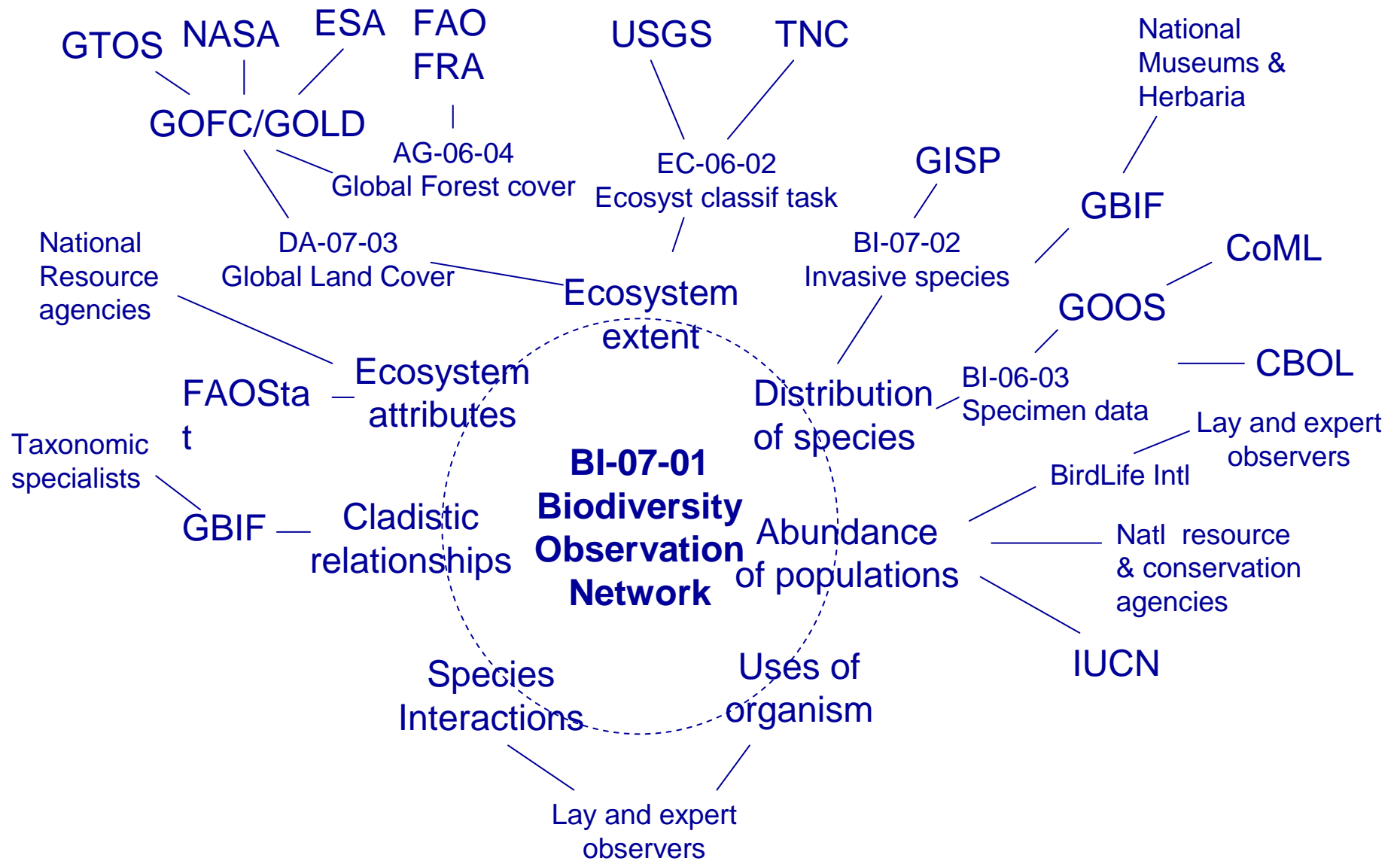
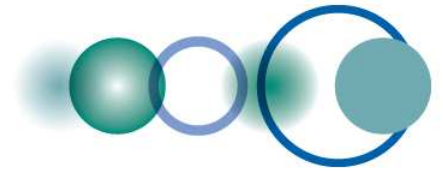
- GEOBON will not primarily reduce the cost of observations, it will increase their benefit
- It is a marginal incremental cost, with high payback due to synergies
- Basic observation costs continue to be paid by the agencies that have that in their mandate
- Incremental costs by voluntary contribution of financial, human or infrastructural resources
 - There may be a suggested scale of contribution

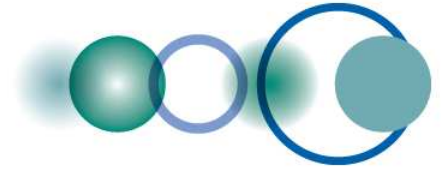


A suggested governance structure



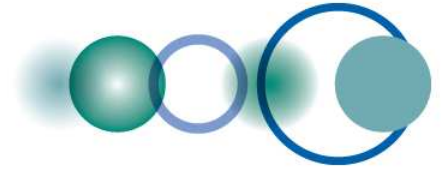
Biodiversity Observation Network





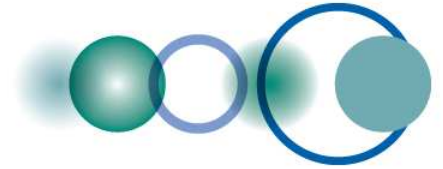
What do we need to achieve at this meeting ?

- Modify, elaborate and provide 'in principle' support to the concept document
- Agree on a plan going forward
 - Coordinate engagement with stakeholders
 - Set an agenda and team to deliver an implementation plan
 - Set a provisional timeline and action list leading to a formal network



Provisional timeline

- 8-10 April 2008 2nd Network Meeting
- 12-14 May 2008 CBD pre- CoP meeting, Bonn
- Oct 2008 Implementation plan publication
- Jun 2009 Deliver some pilot products
- 2009 Approval of plan by GEO Plenary
- 2009 Appointment of GEO BON committee
 - Plus *ad hoc*, limited-period task-oriented panels
- 2010 First operational products



The tabled document is a ***draft***

Nothing in it is not open to discussion, and modification if agreed
Sufficient consensus among the user and provider community is essential
if we want political and resource support

GEO BON Concept Document authors:

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Roger Sayre, Bob Scholes, Melanie Stiassny, Woody Turner, Bruno Walther

...and you!

Now is the time!

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