About the Global Biodiversity Informatics Outlook

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Why do we need a Global Biodiversity Informatics Outlook?

The Global Biodiversity Informatics Outlook (GBIO) offers a framework for reaching a much deeper understanding of the world’s biodiversity, and through that understanding the means to conserve it better and to use it more sustainably.
The GBIO framework

- Understanding:
  - Multiscale spatial modelling
  - Trends and predictions
  - Modelling biological systems
  - Visualization and dissemination
  - Prioritizing new data capture

- Evidence:
  - Fitness-for-use and annotation
  - Taxonomic framework
  - Integrated occurrence data
  - Aggregated species trait data
  - Comprehensive knowledge access

- Data:
  - Published materials
  - Collections and specimens
  - Field surveys and observations
  - Sequences and genomes
  - Automated remote-sensed observations

- Culture:
  - Open access and reuse culture
  - Data standards
  - Persistent storage and archival
  - Policy incentives
  - Biodiversity knowledge network
Focus Area: Culture

• The context for sharing digital knowledge
  – Data must be available for reuse
  – Data must follow standards to support discovery and use
  – Data must be preserved for future uses
  – Policies and practices must reinforce open use
  – The whole community should collaborate to curate data

• Issues shared in common with all research domains

• Investments here will multiply value of other components
Focus Area: Data

- The streams of primary biodiversity data
  - Literature and journals
  - Natural history collections
  - Professional and amateur field observations and surveys
  - Molecular sequencing
  - Remote sensing (including camera traps, acoustic monitoring, etc.)

- All deliver fundamental observations and measurements of biodiversity
- Foundations for analysis and understanding
Focus Area: Evidence

- Organised views of biodiversity data
  - Consistent assessment of quality and fitness-for-use
  - Comprehensive digital nomenclature and taxonomy
  - Access to all evidence for recorded species occurrence
  - Access to species traits, measurements and interactions
  - Services and interfaces to access data as needed

- Provide comprehensive organised views of all relevant data

- Act as a “lens” into primary data
Focus Area: Understanding

- The application of data to address questions
  - Integrate data into **spatial models**
  - Develop **temporal analyses**
  - Incorporate **biological reality** into models
  - Present **compelling representations** of biodiversity
  - Optimise **future investment** in biodiversity informatics

- Data-driven models for science and planning
- Integrate biodiversity with other research and data domains
What to do with the GBIO?

If you’re a...

• policy maker
• Funder
• National node / data centre
• Data custodian / owner
• Researcher
• Informatician / IT Professional
• ....
In conclusion

GBIO must be owned by everybody!