



BIODIVERSITY
BUILDING
BLOCKS FOR
POLICY

Standardising biodiversity data for improved policymaking: Introducing the B-Cubed project



Funded by
the European Union

The image features a dense cluster of bees in the lower half, with many more bees in flight against a green background. The text 'The B-Cubed Project' is centered in white.

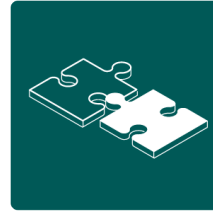
The B-Cubed Project

About



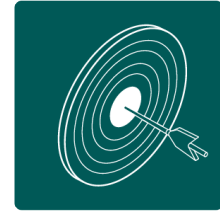
Challenges

The global biodiversity crisis requires **rapid, reliable and repeatable biodiversity monitoring data** which decision makers can use to evaluate policy.



Opportunities

Such information – from local to global level and within relevant timescales – calls for an **improved integration of data on biodiversity** from different sources.

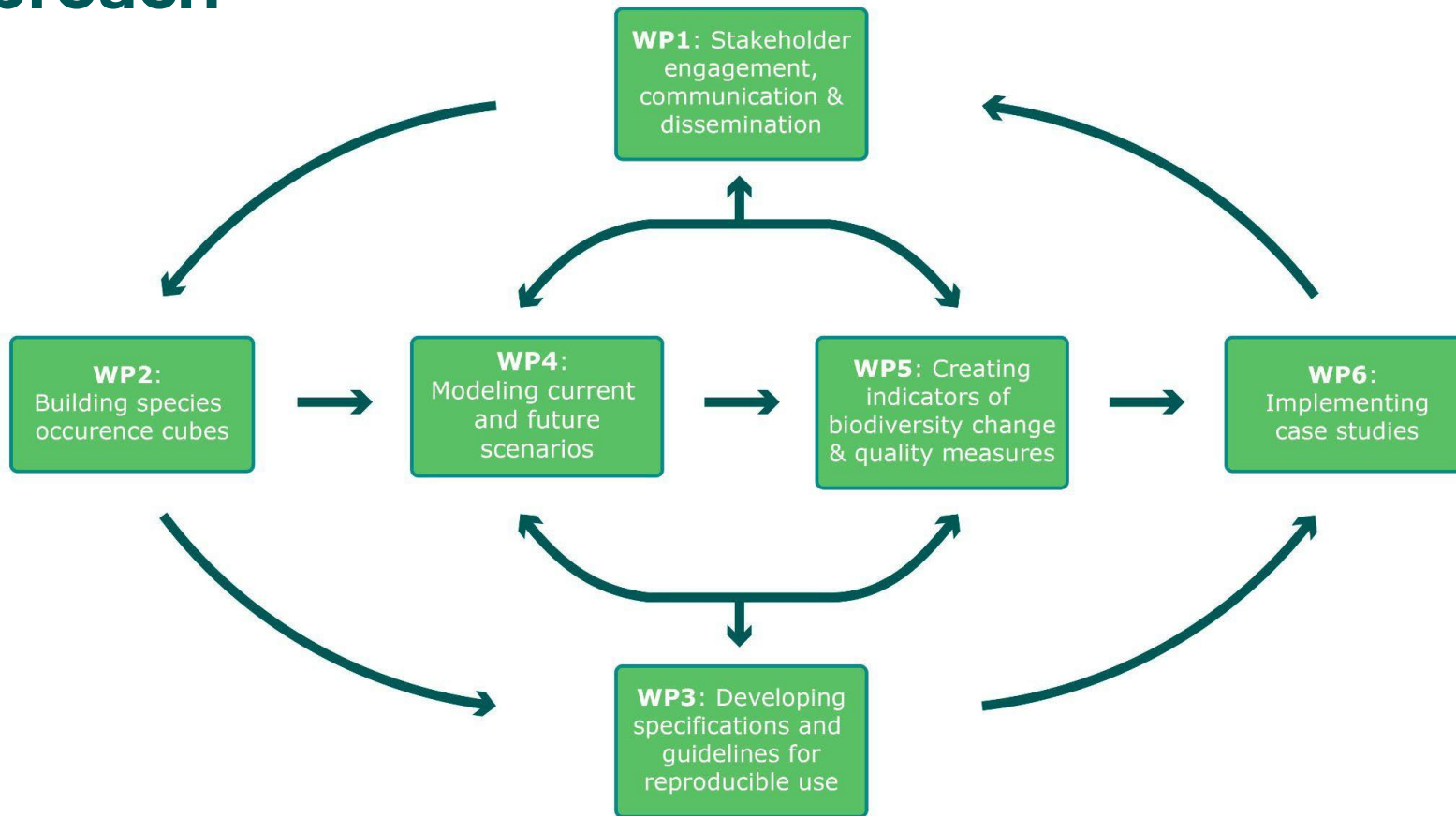


Aim

B-Cubed is **standardising access to biodiversity data**, empowering policymakers to address the impacts of biodiversity change.



Approach



Consortium



RESEARCH INSTITUTE
NATURE AND FOREST



Biodiversity Building Blocks for policy



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Solutions & Activities



Policy alignment to enhance the use of biodiversity indicators in policy decisions



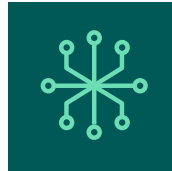
Evidence base to provide fast access to up-to-date biodiversity data for policy



Automated workflows to facilitate automated data aggregation and output



Cloud computing to enable models of biodiversity at high resolution and frequency



Capacity building to train in biodiversity informatics and cloud computing



Case studies to test solutions' applicability and unite biodiversity informaticians





B-Cubed Solutions

Data & Evidence

B-Cubed aims to improve the existing policy evidence base and contribute to better alert systems by providing fast access to **pre-aggregated and modelled biodiversity data** and **standardised biodiversity indicators** responsive to the addition of new data.

BIODIVERSITY CUBES



Species occurrence cube



Suitability cube



Dissimilarity cube

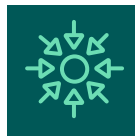


Network invisibility cube

BIODIVERSITY INDICATORS



Phylogenetic indicators



Impacts of alien taxa indicators



Robustness indicators



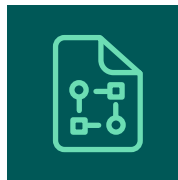
Workflows

To improve the access to rapid biodiversity data at a low cost, B-Cubed is **packaging known methods together into standardised workflows**. They can be run by anyone for any region and can be updated according to advances in data, methods and models.



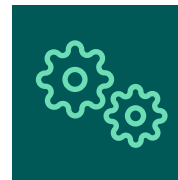
Exemplar workflows

Repeatable workflows to create data cubes



Deep learning

Automated workflows to calculate indicators from biodiversity data cubes



Automated workflows

Deep-learning to discover long-term spatiotemporal dependencies in species distribution models



Cloud computing

To enable users to run more ambitious models of biodiversity at high resolution and frequency, B-Cubed is taking advantage of the flexibility and scalability of a **cloud computing environment for biodiversity and environmental data**.

B-Cubed is building software to help develop services and community access models that allow researchers to configure and calculate species occurrence cubes on demand based on their parameterisation, resulting in a cube that is stored in the cloud and accessible via a DOI.



A large number of bees are shown in various states of activity against a green background. Some bees are in flight, while others are clustered together in a dense swarm at the bottom center. The overall scene is busy and dynamic, representing a hive or a large group of bees.

B-Cubed Activities

Policy alignment

To ensure an improved match between policy and the biodiversity data used to inform it, B-Cubed works closely with existing European and international biodiversity initiatives to **identify and address policy needs**.



European biodiversity initiatives

B-Cubed works closely with other European projects to identify data needs for policies and targets aligned with the new European Green Deal.



International science-policy convergence

B-Cubed is reviewing the existing policy and reporting needs by conducting a landscape analysis and consultation.



Capacity building

To ensure B-Cubed's tools meet openness standards and to **build better capacity in biodiversity informatics and cloud computing**, the project is developing a number of guidelines, training programs and activities.



**Software requirements
and assessment**



FAIR data products



Hackathon



Tutorials



Training and support



Case studies

The application and usefulness of B-Cubed's algorithms and software are demonstrated through the project's **four case studies**.

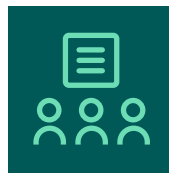
They cover different locations varying in geographical extent, biodiversity richness and data availability.



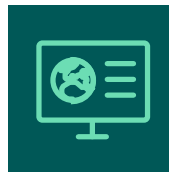
**Regional indicators
in Europe**



**Biological invasions
in South Africa**



**Stakeholder-driven
case study**



**Global and continental
biodiversity change**



Thank you!



B-Cubed Newsletter



b-cubed.eu



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Biodiversity Building Blocks for policy

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