

Explanation

The total number of occurrences is calculated by summing the occurrences of all species observed for each cell or year. For maps, the value is calculated for each spatial cell. For time-series analyses, the value is calculated per time step over the complete data cube.

-  **High value:** A high number of occurrences has been submitted, signalling a hotspot for human outdoor activity or nature reporting.
-  **Low value:** Relatively few occurrence records have been submitted, potentially indicating data “blind spots” where few people pass by and report observations. These ‘blind spots’ are also not part of long-term monitoring programs.

Applicability for policy

This metric indicates the degree and locations of citizen science engagement. It also helps to interpret other metrics more correctly by highlighting biases in survey effort over time and space.

While not itself an indicator, it is vital for interpreting the results of calculated indicators.

Limitations

It indicates which locations are preferred for outdoor recreation and nature recording, rather than which locations are of conservation value. Though you will tend to get lower numbers of observations in an area with fewer species.

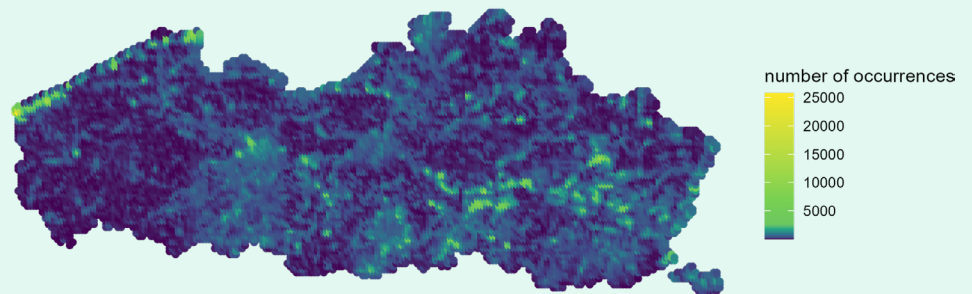


Figure 1: Spatial distribution of the total number of occurrence records of native flowering plants in Flanders reported since 1975. GBIF Occurrence Download <https://doi.org/10.15468/dLknsn44> Accessed from R via rgbif (<https://github.com/ropensci/rgbif>) on 2026-03-16.

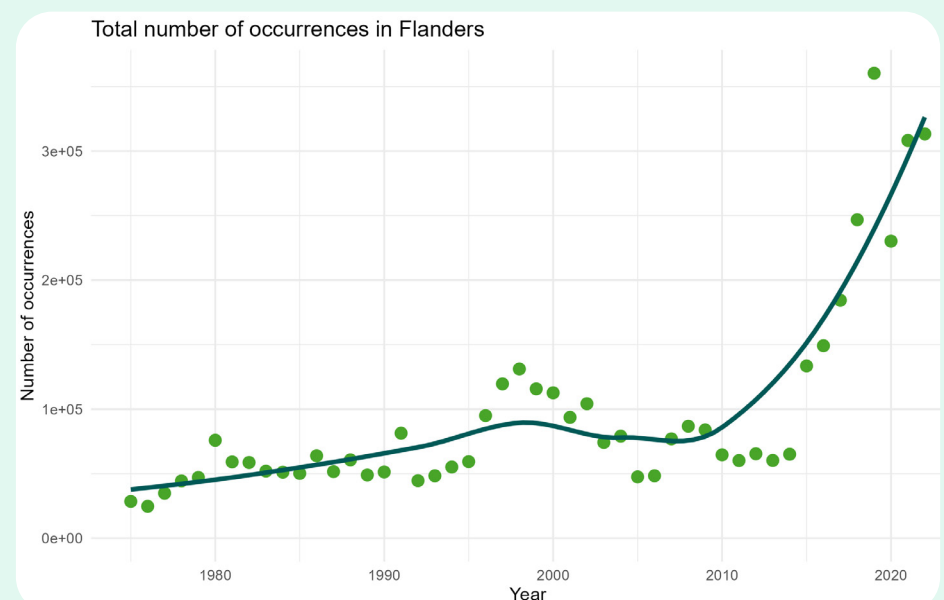
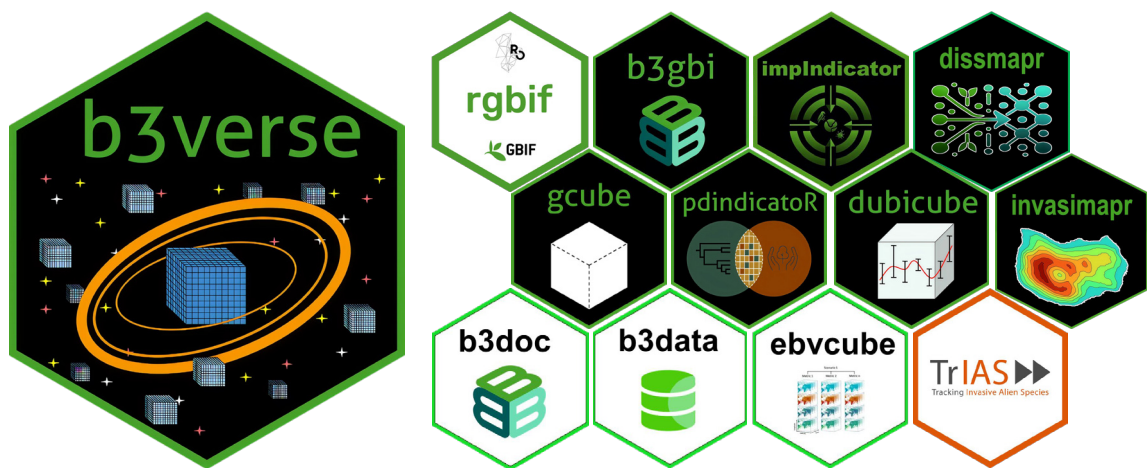
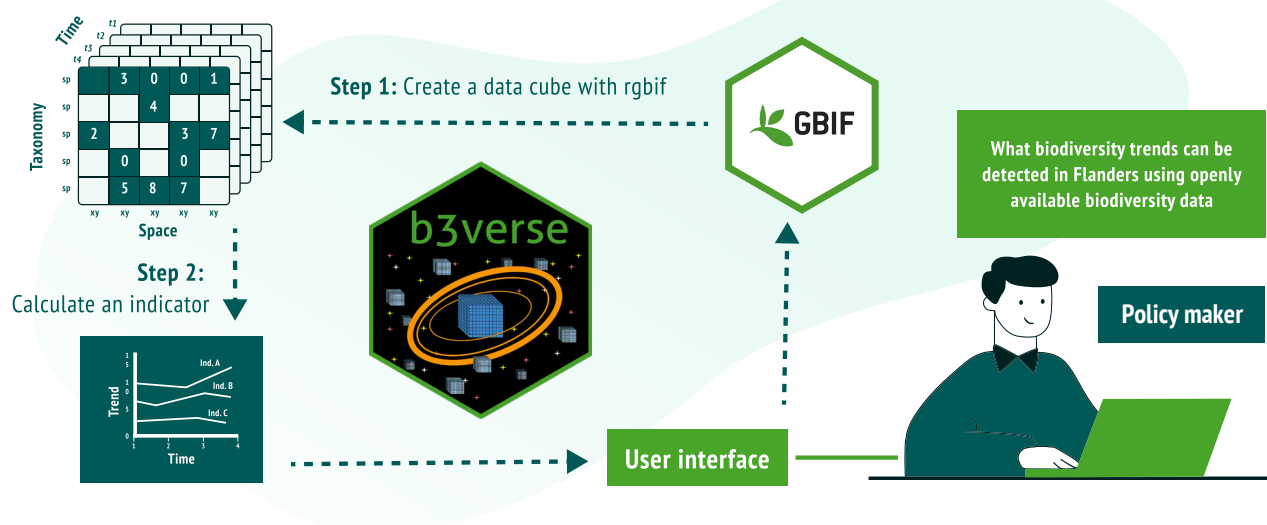


Figure 2: Annual total number of occurrence records of native flowering plants in Flanders. GBIF Occurrence Download <https://doi.org/10.15468/dLknsn44> Accessed from R via rgbif (<https://github.com/ropensci/rgbif>) on 2026-03-16.

The B-Cubed workflow supports the creation and analysis of a data cube based on GBIF data. Further documentation is available at <https://docs.b-cubed.eu/>. Overview of all available packages at <https://b-cubed-eu.r-universe.dev/builds>.



BIODIVERSITY
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b-cubed.eu

B-Cubed aimed to standardise access to biodiversity data, helping transform fragmented biodiversity records into timely, policy-relevant indicators. This was achieved by developing a service to create “species occurrence cubes”, which then served as the basis for models and indicator of past, current and future biodiversity. To ensure its results can be reused, the project created exemplary workflows for modelling and indicator calculation, as well as a suite of guides, tutorials and hands-on training sessions. The application and usefulness of B-Cubed’s algorithms and software are demonstrated through the project’s four case studies.

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