

## Ignorance Scores for Primary Biodiversity Data

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Primary Biodiversity Data (observations of species; PBD) stored in biodiversity databases such as GBIF or Artportalen offers a constantly growing source of data that is available for a wide range of uses. But, where and when is data enough? Because it often include non-systematically collected data (e.g. museum collections and citizen science data) PBD has limitations which include sampling bias in favour of recorder distribution, lack of survey effort assessment, and lack of coverage of the distribution of all organisms. These limitations are not always explored, but any technical assessment or scientific research should include an evaluation of the uncertainty of its source data and researchers should acknowledge this information in their analysis. Ignorance maps are an easy way to visually explore the quality of the data and to filter out unreliable results.

I developed an algorithm meant for managers and users of primary biodiversity data to identify gaps, assess the bias inherent to the data, and evaluate the relative gain in knowledge added from new observations. This approach represents the availability of data into a scale 0 to 1 (0 being a theoretical absolute knowledge and 1 being absolute ignorance). The potential of this tool lies in the simplicity of its algorithm and the few assumptions required, giving the user the freedom to tailor analyses to their specific needs. This tool can aid data providers to set priorities on data mobilization for areas of particular interest, observers to identify under-sampled areas to be targeted on their next campaign or excursion, and data end-users to evaluate the fitness-for-use of the data to the intended use.