

Development and Management of IT Infrastructure for a Citizen Science Project on Climate Research and Science Communication

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Citizen Science is nowadays used in various fields, such as history, health, natural disaster management and ecology. BAYSICS (Bavarian Citizen Science Information Platform for Climate Research and Science Communication) is a multidisciplinary project from Bavaria, in the south-eastern part of Germany. Leibniz Supercomputing Centre (LRZ) is responsible for the development and maintenance of the IT infrastructure for the project. There are three main online tools offered to citizens: Website, web app and mobile app, the latter being implemented in the form of Progressive Web App based on web technologies.

On the project's web app / mobile app, citizens can submit observations in four main research areas: animals, plants, allergenic species, tree lines. Data collection started in spring 2020, and so far more than 630 observations have been submitted (as of the end of February 2021). The observation data have relevance to the Sustainable Development Goals (SDGs), such as the SDGs 11 and 15. The data can also be used to validate remote sensing information (Batsaikhan et al, 2020).

The observation data can be downloaded in Excel/CSV format along with the metadata. Application Programming Interface (API) is also available for interaction with an external database. In future, in order to process increasing amounts of data collected, high performance data analytics methods and tools can be useful. Artificial Intelligence (AI) can be applied to develop trust metrics for the observation data.

Presenter: BATSAIKHAN, Anudari (LRZ)

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