Citizen Science in ENFORCE

Factsheet

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What is Citizen Science?

Citizen science primarily involves the engagement of non-professional scientists in scientific research and the generation of knowledge.

Citizen Science for Environmental Compliance

The **European Commission** (EC) has recognised the importance of **public involvement** in strengthening **environmental compliance** across the EU. While environmental regulatory compliance relies on effective monitoring, enforcement, and **policy** promotion, many Member States face challenges due to **limited resources** and jurisdictional constraints.

To address these gaps, the EC introduced an Action Plan on Environmental Compliance and Governance, built on three pillars: **promotion**, **monitoring** and **enforcement**. A key element of this plan is enhancing **transparency** and access to environmental information for citizens.

Why does Citizen Science Matter?

Though citizen science is not yet fully integrated into formal monitoring systems, it is increasingly viewed as a **cost-effective way** to expand data coverage and **empower the public**. This reflects the EC's broader commitment to inclusive, transparent, and **participatory environmental governance**.

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Environmental Citizen Science

Environmental citizen science refers to activities in which **non-professional** participants contribute to data collection and in some cases to data analysis to advance **public knowledge and scientific research** in the environmental field.

How can ENFORCE utilize Citizen Science?

ENFORCE leverages citizen science to support the European Green Deal objectives, with particular emphasis on biodiversity protection, forest monitoring, and **pollution reduction**. The project will deliver **tools and applications** related to citizen science, ranging from environmental monitoring to validation, to strengthen the role of citizen science in ensuring **compliance with environmental policies**.

Examples include assessing the **Data Readiness Level** (DRL) for classifying **fitness-for-purpose** data, as well as performing technical analyses by combining citizen science data with **Earth Observation** (EO) and **explainable AI**. These outputs aim to boost the EO downstream market, especially in climate services, biodiversity, and forestry.

The Data Readiness Level (DRL)

Citizen science generates valuable environmental data, but it is not always ready to be used by public authorities. The **Data Readiness Level (**DRL) shows how citizen-generated observations can progress from early signals to **verified and certified data**. This helps ensure that citizens' contributions can meaningfully support environmental **monitoring**, **compliance**, and **enforcement**.

"The integration of citizen science into official monitoring and environmental compliance is still a work in progress. While the benefits of citizen participation, ranging from research and data collection to decision-making in support of environmental protection, are well recognized, much remains to be done to achieve full integration and effective use of these data and information. In ENFORCE we are working on defining what state for fit-for-purpose citizen science (CS) data within the data readiness level scale for practical use. "

Vanessa-Sarah Salvo, CSIC

Partner involved

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