GLOBE Schweiz Suisse Svizzera Switzerland

PH LUZERN PÄDAGOGISCHE HOCHSCHULE

Collaboration Group: Discussion on the Swiss initiative on data literacy

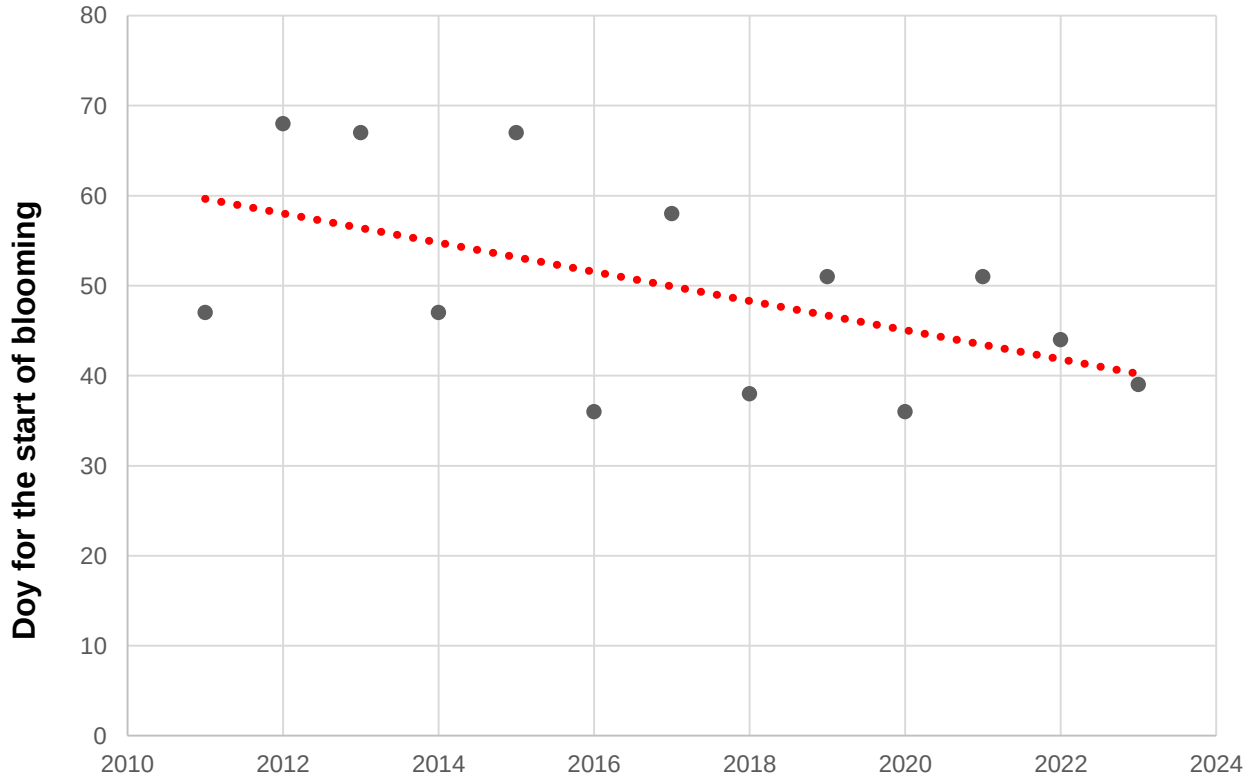
Eric Wyss & Sebastian Stuppan

Data literacy?!

Perception of the Swiss student Ladina

The task to analyse our own phenological data and comparing them to national phenological data was very exciting!

*We always hear about **global warming** and that plants start to bloom earlier. But for me it is **difficult to understand this matter**. To work on the **trend line** helped me to visualize data to **understand** and to **comprehend what global warming causes to nature and humankind.***



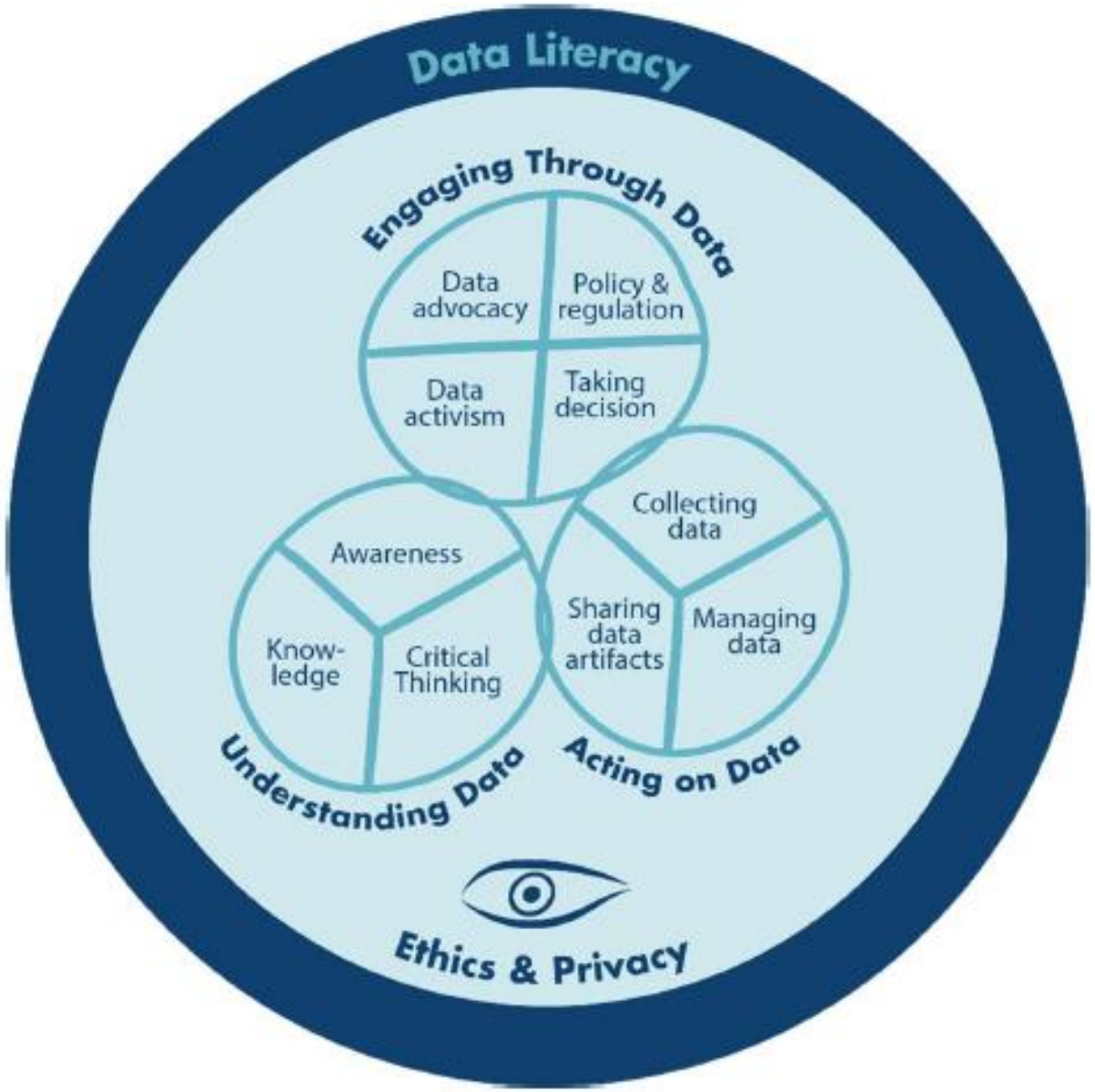
Trend line for the start of blooming of hazel
(Median of doy of the years 2011 to 2023)

Initial situation

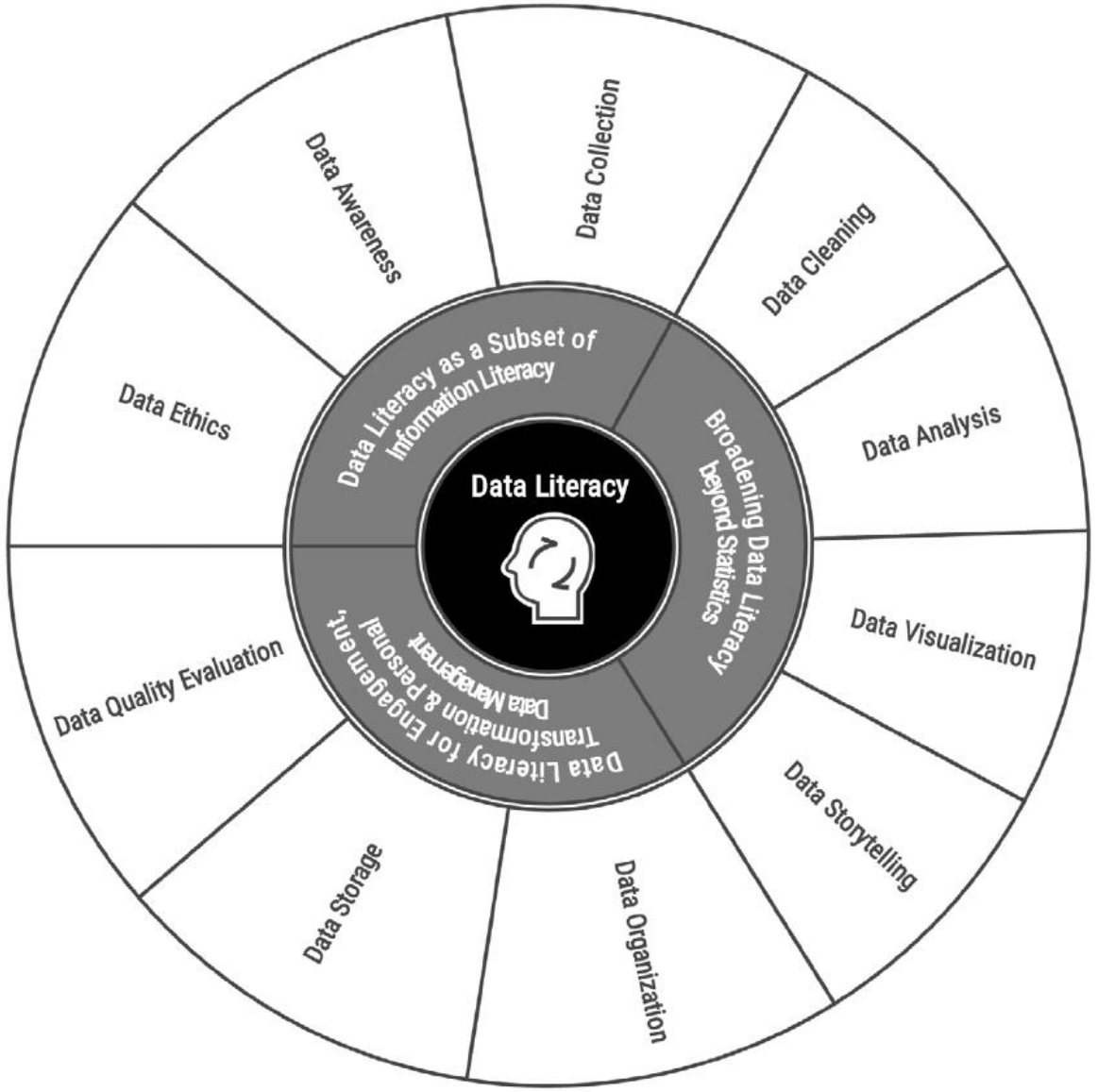
- GLOBE and GLOBE Switzerland have **various citizen science projects**
- Citizen science projects are **strongly promoted in science education**
- **Data literacy should be part of science education**

Nevertheless:

- In (Swiss) science education, **data** are **rarely interpreted or translated into concrete actions** with social, economic and environmental considerations (Planetary Boundaries or SDGs)
- Only few studies have **addressed students' understanding of data literacy**
- Only little is known about **how students process**, **analyze**, and **interpret data from citizen science projects**
- This stands in **contrast** to the increasingly **data-driven society**
- In Switzerland a **Data Literacy Charta** as the basis for data literacy



Dali Data Literacy for Citizenship Project Number: 2020-1-NO01-KA204-076492, https://dalicitizens.eu/index.php/dali-data-literacy-framework-2



Kim, J., Hong, L., & Evans, S. (2024). Toward measuring data literacy for higher education: Developing and validating a data literacy self-efficacy scale. *Journal of the Association for Information Science and Technology*, *75*(8), 916–931. https://doi.org/10.1002/asi.24934

Initial situation

- First discussions with **GIO GLOBE, NASA and RCO Europe/Eurasia** showed that not only in Switzerland **a detailed understanding of data literacy is needed** and how the effectiveness can be proved (methodology)
- The GLOBE Data Literacy Learning Activities for data competence do **not fully meet the requirements for data literacy** >> discussion is needed on **critical and reflective data use** (e.g. measurement error, accuracy), **principles on data ethics** and **data protection**.

The idea is…

- To gain a more in-depth understanding of **GLOBE's international efforts and concept in data literacy**
- To learn more on how **NASA processes, analyses, and incorporates citizen science data into research, publications, as well as teaching.**
- To learn how **citizen science data** is used in **university education as well as in primary schools**, and how **data literacy understanding** is developed.
- To learn how the **concept of data literacy can be operationalized and measured**

- **A in-person visit** of one person (e.g. Sebastian) or a small delegation **of the responsible experts at NASA and GIO** might be the starting point of a common understanding of data literacy in the GLOBE community
- Decision for January 2025 before end of November 2024