ENSITE
Environmental Socio-Scientific Issues
in Initial Teacher Education

Analysing Data
A module for STEM teacher training

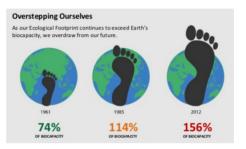Student teachers get experience in dealing with environmental socio-scientific issues involving data

Module 4
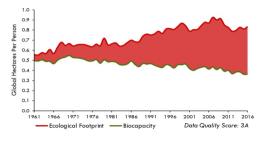
We take two examples from the SDG (Climate Action)

13 CLIMATE ACTION

Sustainable
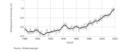Development
Goals

(United Nations)

Global Warming

The target of 1,5ºC is possible but would require "deep emissions reductions"

- Compare the graphs on climate change.
- Which one appeals to you, why?
- What does each graphic evoke? What story?
- For which target group do you think which graph is appropriate?

Ecological Footprint

We need 1,5 planets to sustain current consumption patterns …

Step 1 – Look at a large data set (in Excel)
- Open Excel and choose a country
- Make a step-by-step plan together to make a graph in Excel for that country, just like in the lesson (homework)
- If there is enough time: make the chart

Step 2 – Go to: www.footprintnetwork.org
- Click on 'dive into data'.
- Find the graph of the country you have chosen.
- Also look at the underlying data (Learn more)

Learning outcomes

Dealing with large data sets:
- How do you teach your pupils to look at a large database in an open way?
- Do you give your pupils a step-by-step plan?
- Do the pupils go straight into the data or not?

Students will
- Get experience in dealing with environmental socio-scientific issues involving data
- Develop understanding of the way data can be used to reason about SSI
- Understand how different visualisations influence the 'story the data tells'.
- Acquire knowledge about the role of (big) data, algorithms and data-analysis in dealing with environmental socio-scientific issues
- Expand their skills on how to explore, analyse and visually represent (big) data
- Become aware that dealing with environmental socio-scientific issues can be linked to the goals of statistics education
- Become aware of the possibilities and necessity to connect environmental SSI and statistics (analysing data) in their (math) teaching

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The complete module can be downloaded from Icse.eu

ICSE Consortium
International Consortium for STEM Education