

SDG generation's atlas: maps expressing a generation's view on SDG

Markus Jobst ^{a,*}, Georg Gartner ^b

^a *Research Unit Cartography, Department of Geodesy and Geoinformation, Vienna University of Technology, markus@jobstmedia.at*

^b *Research Unit Cartography, Department of Geodesy and Geoinformation, Vienna University of Technology, georg.gartner@tuwien.ac.at*

* Corresponding author

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Abstract:

In June 2022 we looked back to 50 years of reflection about the balance of environmental protection and human development. The first documented activities of SDG's go back to the United Nations Conference on the Human Environment in Stockholm in 1972, where the relationship between humans and their environment has been addressed (Engström 1972). From the beginning it has been clear that measurable and comparable values are needed in order to observe changes. In many of these topics, maps play an important role in highlighting and communicating measured issues. These past years have had their disappointments, but also instructive phases. One result is a more detailed definition of indicators that describe the status of environment and human development (Sachs 2021). These 231 unique indicators are part of 17 sustainable development goals (UNSD 2020). Not all of them are established in all countries yet, but are in intensive investigation. Several generations, spanning from adults, students to children, are concerned by those stories that affect human environment (Fraisl et al 2020). The younger generation even rises their voices against systems in place and therefore fuel the discussions and even lead to activities or changes (De Moor et al 2020). Many topics are related to space. Maps are a key tool of expression and increasingly used in an effective communication (Pellier 2014).

In 2019 the ICA commission on map production and geoinformation management, together with the research group of cartography of the Vienna University of Technology, some schools and the publisher Jobstmedia, have started an initiative to collect the generation's view on SDG and its expression with maps. The aim is a continuous edited book atlas in print and digital form, which illustrates the range of perspectives on the SDGs and their motivations for establishing a sustainable world (<http://sdggeneration.cartography.at/>).

The production of the atlas "SDG's in action - a generation's view" is confronted with new digital methods of map production processes (Döllner et al 2018). Spatial data become available from an increasing amount of data providers. The quality of data as well as their structures vary depending on their use cases. In most cases the different data are not directly comparable or processable. The importance of an appropriate map production process is rising. The latest developments direct to full automatization of map production, computer-proposed designs and the embedding of artificial intelligence. This industrial production approach for map production could on one hand enhance actuality of maps, but on the other lacks individual expression. This book atlas that is the host for the SDG stories of different generations need to be open for any kind of geospatial expression. The maps, statements, illustrations and biographies of contributors illustrate the range of perspectives on the SDGs and their motivations for establishing a sustainable world. The map or map-like representations are the core tool of expression in order to bring the stories alive. The book atlas is created by common available free and open source software only, which emphasizes free access to map production for the general public.

The participants of the book atlas project are selected in various groups: very small children in the kindergarten, primary and secondary school, students before they access working life and experts at the climax of their career. A general questionnaire allows for a basic understanding of the participants, whereas an introduction to the SDG topic is

done by the educational staff in the kindergarten and school. Depending on the quality of the educational staff, overwhelming examples and responses could be achieved. The selection of a SDG topic is done by participants on their own, depending on their affectedness (SDGgen 2019).

The view of the very young generation in terms of UN sustainable development goals is controversial and important. This young generation shapes their future and makes use of various tools of expression. Depending on the age, the children's view on the SDG topics are almost not biased by media influences and misaligned education (Barrouillet 2015). This viewpoint of "influencing pre-conceptions" mainly depends on the age of children because of the cognitive development, their educational and living environment as well as parental guidance. Nevertheless the cognitive skills that allow for the usage and creation of maps follow the cognitive development steps of Piaget (1964) and have to be considered in the production of this atlas. One main important aspect to include children in the views of SDG is that children may own an intuitive feeling about environmental changes and social injustices depending on their cognitive stage and knowledge (Alerby 2000, Barraza 1999, Bland 2021). Studies indicate that children in an elementary stage have sophisticated perceptions of their environments and are able to identify how different variables, like forest, rivers, fauna, flora, human activities, influence each other (Pellier 2014). Many of them can be observed in the children map collection of the Barbara Petchenik children's map competition (Children Maps 2019).

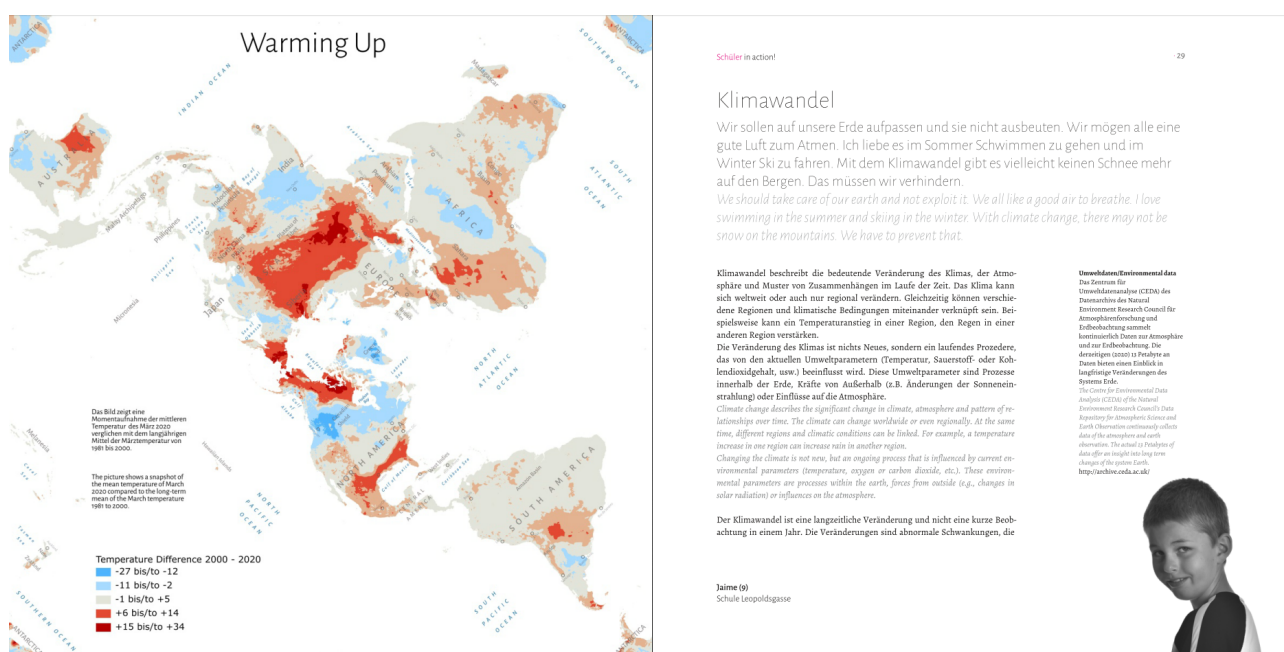


Figure 1. Example for a child statement and chapter on climate change.

The atlas "SDG's in action - a generation's view" is designed as bilingual book. With this work result we have some evidence that the different views on SDG coming from various generations and expressed as maps are a valuable documentation how we experience today's problems. As ICA commission of map production and geoinformation management we will try to support this initiative as good as possible for future editions. For the complex spatial topics of sDG, the map seems to be a very important tool for spatial expressiveness.

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