



Sonification of Climate Data

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Sonification is the acoustic analogue of data visualization and takes advantage of human perceptual and cognitive capabilities. The amount of data being processed today is steadily increasing, and both scientists and society need new ways to understand scientific data and their implications. Sonification is especially suited to the preliminary exploration of complex, dynamic, and multidimensional data sets, as can be found in climate science.

In the research project SysSon (<https://sysson.kug.ac.at/>), we apply a systematic approach to design sonifications to climate data. In collaboration with the Wegener Center for Climate and Global Change (<http://www.wegcenter.at/>) we assessed the metaphors climate scientists use and their typical workflows, and chose data sets where sonification has high potential revealing new phenomena. This background will be used to develop an audio interface which is directly linked to the visualization interfaces for data analysis the scientists use today. The prototype will be evaluated according to its functionality, intuitivity for climate scientists, and aesthetic criteria.

In the current stage of the project, conceptual links between climate science and sound have been elaborated and first sonification designs have been developed. The research is mainly carried out at the Institute of Electronic Music and Acoustics (<http://iem.kug.ac.at/>), which has extensive experience in interactive sonification with multidimensional data sets.