

EGU21-6245

<https://doi.org/10.5194/egusphere-egu21-6245>

EGU General Assembly 2021

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The carbon story: A textile-geoscience collaboration to represent changing atmospheric CO₂ concentrations through time

Fiona Gill and Naomi Bailey-Cooper

University of Leeds, School of Earth and Environment, Leeds, United Kingdom

Dr Naomi Bailey-Cooper, a fashion textiles designer, and Dr Fiona Gill, a geochemist and palaeontologist, are exploring ways of communicating changes in atmospheric CO₂ concentration through geological time and in the future, and its relationship to life on Earth, visually and haptically through beadwork installations.

This collaboration, initially enabled through the Leeds Creative Labs programme at the University of Leeds, draws on the scientist's research into chemical signatures preserved in fossils to contextualise the scale and effect of carbon cycling in the Earth system. The artist's expertise in embellishment, combined with her focus on the environmental impact of fashion and textile production, has driven the physical structure of the proposed works, as well as the focus on future scenarios of increased atmospheric carbon dioxide.

Working with geological materials and yarn representative of CO₂, variations of knitting and weaving techniques are explored in combination with embellishment. The aim is that the first artefact for installation will depict changing CO₂ levels through the Phanerozoic eon, as well as reflecting key species at different time periods and their interactions with changing atmospheric conditions. The second artefact will explore in more depth the Quaternary period, including human history and the Anthropocene, as well as incorporating predictions for future atmospheric CO₂ concentrations and linking those to comparable geological times. Together, these artefacts will invite the audience to consider humans' impact on Earth, including their use and exploitation of natural resources, within a geological context.