

Geosci. Model Dev. Discuss., author comment AC1  
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## Reply on CEC1

Nadine Goris et al.

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Author comment on "The emergence of Gulf Stream and interior western boundary as key regions to constrain the future North Atlantic Carbon Uptake" by Nadine Goris et al., Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2022-152-AC1>, 2022

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Dear Juan A. Añel,

Thank you for your comments and our apologies for not carefully reading the "Code and data policy".

When it comes to the observation-based files, our generic pointing to the data was our mistake, as all these files are archived in trustable long-term archives that provide a DOI. Observation-based estimates for  $p\text{CO}_2^{\text{sea}}$  and  $C_{\text{ant}}$  are archived at NOAA's OCADS (former CDIAC) National Centers for Environmental Information (NCEI) data archive and accessible at <https://doi.org/10.7289/v5z899n6> (version 2.2, Landschützer et al., 2017) and <https://doi.org/10.7289/v5kw5d97> (mapped, version GLODAPv2.2016, Lauvset et al., 2016), respectively. Observational estimates of the contemporary strength of northwards and southwards volume transports are based on data from the RAPID AMOC monitoring project, funded by the Natural Environment Research Council and archived at the NERC EDS British Oceanographic Data Centre NOC (Frajka-Williams et al., 2021, <https://doi.org/10/gwqg>).

Additionally, we have now archived the code of the genetic algorithm including the relevant input and output data at zenodo. It is accessible at <https://doi.org/10.5281/zenodo.6983146> (Johannsen, 2022a) for the 2D case and <https://doi.org/10.5281/zenodo.6983169> (Johannsen, 2022b) for the 3D case.

We will update the "Code and data availability"-section of our manuscript accordingly.

All the best,

Nadine Goris on behalf of the Authors

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