

Interactive comment on “Introduction to the French GEOTRACES North Atlantic Transect (GA01): GEOVIDE cruise” by Géraldine Sarthou et al.

Anonymous Referee #2

Received and published: 17 September 2018

This paper serves as introductory paper for the GEOVIDE special issue and provides a summary of the scientific motivation and objectives for the cruise, as well as an overview of the major findings, presented in detail in the individual papers. The manuscript emphasizes the need for a combined analysis of the physical and biogeochemical processes (currents and water masses on one side, biological production, particle remineralization, particle adsorption/desorption, and fluxes from the atmosphere as well as from/to sediments on the other), and makes the point that the long history of previous OVIDE observations along the same track clearly benefits the interpretation of the present GEOVIDE data.

C1

The manuscript is well written and provides a good context for the other papers. I recommend publication with only minor modifications, as described below.

Line 90f: This sentence is very general and can be hard to understand. Please provide examples for the “specific mechanisms”.

Line 283: Please describe briefly, on what evidence the finding of “a weaker North Atlantic Current” is based on. I understand this is included in the Zunino, 2017 paper, but a short explanation will help readers.

Line 292ff: Please explain how the meridional heat transport can be “largest” despite the lower-than-average temperatures in and the weaker flow of (line 283) its main contributor, the North Atlantic Current. Also please explain how the MOC can be strong (line 293) when the NAC transport is relatively small.

Typos:

line 184: achieve

line 194: TEI

line 210: have

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2018-312, 2018>.

C2