Review, Transport and storage of anthropogenic C in the Subpolar North Atlantic: Model-Data Comparison

All my comments relate to the new manuscript.

General comments:

The authors have put in quite a lot of effort in improving the manuscript. I find this effort has led to very interesting results when it comes to the interannual and long-term variability of Cant storage rate and I am quite happy with the scientific results expressed in Fig. 11-16.

However, to make this article suitable for BG, the science has to be emphasized more and the data-model comparison has to be emphasized less (as specified already in my last review). As it stands now, 12 out of 19 pages are basically a model-data comparison (as indicated in the title). While this is interesting, a model evaluation is more the subject of the journal "Geoscientific Model Development", while Biogeosciences wants to "cut across the boundaries of established sciences and achieve an interdisciplinary view" of "interactions between the biological, chemical, and physical processes in terrestrial or extraterrestrial life with the geosphere, hydrosphere, and atmosphere". Within the first 12 pages, there are a lot of numbers in the text and a lot of detailed sentences about the model-data comparison, which make the paper very lengthy and partly difficult to read. I strongly suggest to not describe too much details in the text but let figures/tables stand for themselves and just provide a summary of the most important features and/or give more details in the appendix. Try to hold technical details like the data/model comparison short and focus on the scientifically important results. The authors should point out very clearly what the scientific novelty of the paper is.

Furthermore, the paper states that that the model simulates Cant storage rate and its variability and driving processes well. I would agree that Cant storage rate and variability are well simulated and strongly disagree that the driving processes are well simulated. Driving processes of the Cant storage rate are (1) anthropogenic air-sea CO2 flux and (2) Cant transport. The model (1) overestimates the anthropogenic air-sea CO2 flux and even simulates to wrong phasing for the seasonal cycle north of 50N and (2) underestimates the Cant transport. I think that the authors should be careful and rather specify that their model shows the key role of transport for the Cant storage rate despite its underestimation of transport. Hence, the "real-life" transport might have an even more important role, while the anthropogenic air-sea CO2 flux might be less important than simulated.

The authors decided to describe the period after 1995 in "Discussion and Conclusion", but I think this should be described in section 4.3 (for consistency). Also, as the division of the time-period into "before 1995" and "after 1995" is quite important, this reasoning behind that should be described in more detail.

In general, the paper would benefit from English language editing.

Specific comments:

(1) Please do not use abbreviation in the abstract without introducing them.
(2) In Line 37, it reads "to supply IW then NADW" – I don´t understand what the authors mean. Consider re-phrasing.

(3) As the authors do not use the pCO2 values from the Landschützer data-base, but the air-sea CO2-fluxes, I would prefer if they refer to "air-sea CO2-fluxes" in Line 163 and Line 200
(4) Line 265-268: I don´t understand the calculation. If the authors want to calculate how much of the incoming Cant fluxes is stored inside the region, shouldn´t the equation sum up the incoming Cant fluxes and divide by the Cant storage, i.e. (0.156+0.044+0.092)/(0.216+0.045)
(5) Figure 13: for north- and southward transport, the size of the arrow is in line with the volume of the transport, this is not the case for vertical arrows. Please change this.

Technical Comments:
The paper would benefit from English language editing. Below is a list of mainly language errors that I spotted, but I am very sure that I have not spotted all errors.
-Figure 4: Please re-structure the figure-description. Though it is a nice figure, the description is confusing and difficult to read.
-Figure 13/15: I am sure that you meant "purple" instead of "purpose"
-Line 39: "Finally, at ~~the~~ multi-decadal scale"
-Line 40: "North Atlantic Cant storage is ~~rather~~ driven by ~~the~~ increasing air-sea fluxes"
-Line 73-74: "the ~~y~~early 2010´s, ~~the region undergoes~~ there is a decline in the NAO index"
-Line 74: "This ~~has~~ caused"
-Line 75: "and a slow~~ing~~ down"
-Line 108: "as follows"
-Line 108: "are ~~detailed~~ described in"
-Line 111: "~~regarding model-data comparison~~"
-Line 155: "The reader is ~~invited to~~ referred to …"
-Line 159: "Observational data sets"
-Line 170: There is a period missing at the end of the sentence.
-Line 229-230: "of ~~each component~~ diffusive, eddy and advective terms, ~~we only derive the advective term from~~ the offline approach only allows for calculation of the advective term."
-Line 276: "our simulated transport of Cant (Fig. 3) is ~~nevertheless~~"
-Line 288-291: Please consider rephrasing the sentence to: "Moreover, the modeled magnitude of the MOC (see Sect. S1 for details of its estimation) underestimates the observational estimate of 15.5+/- 2.3 Sv for both the month June (13.4+/-0.6 Sv) and the annual average (12.7+/-0.6 Sv)"
-Line 295-296: "ORCA-PISCES increases the ~~in~~ cumulative volume transport ~~of~~ by 15 Sv instead of 25 Sv"
-Line 306: "~~It follows that~~ Hence"
-Line 392: "~~As a consequence~~ This implies"
-Line 394: "~~next~~ subsequently"
-Line 492-493: "~~Since~~ From 1985 on, "
-Line 561: "Figure 13 also reveals ~~a~~ positive anthropogenic CO2 fluxes"