Supporting Information for "Arctic Ocean in CMIP6 Models: Historical and projected temperature and salinity in the deep basins"

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1. Figures S1 to S7

Introduction The following figures are referred to in the text and support the findings

and arguments in the manuscript.
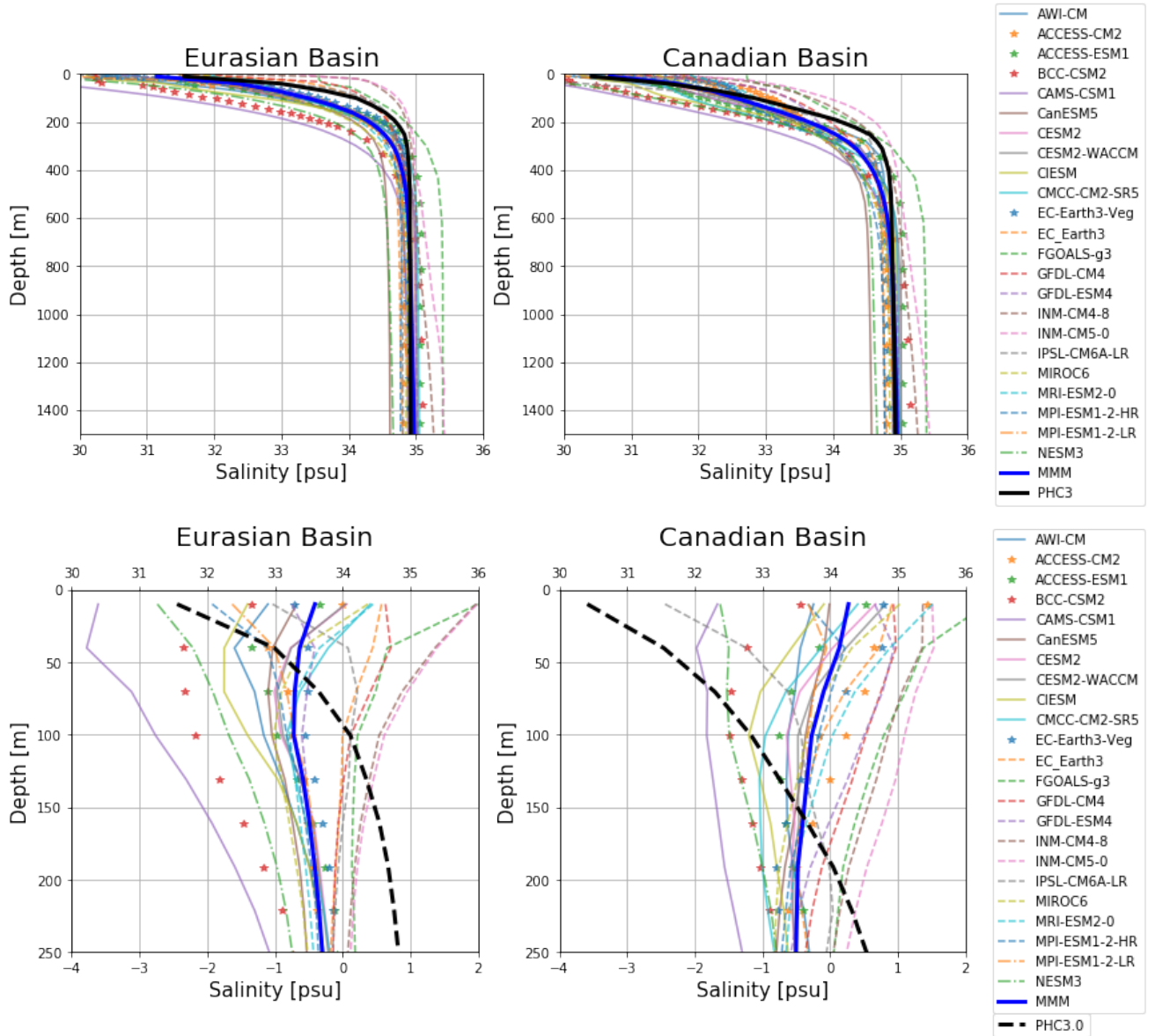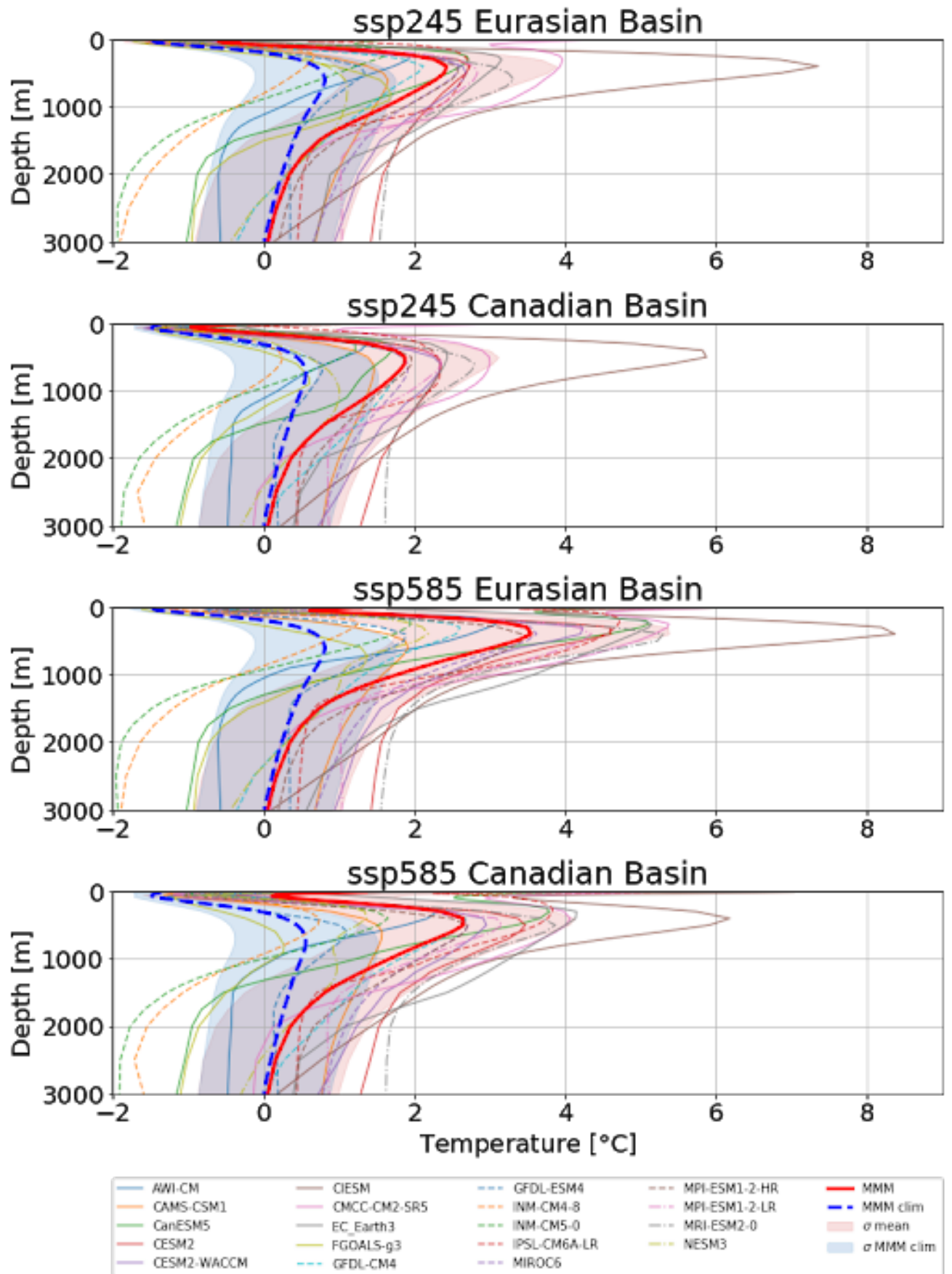
Figures:

June 21, 2021, 8:49am

Figure S1. Top: Climatological (1979-2014) and basin mean and salinity in 23 CMIP6 models. The Eurasian basin is shown on the left and Canadian basin on the right panels. The 19 models, which are taken into account for generating multi-model mean (MMM), are shown as thin solid lines. Bottom: A zoomed-in version of Fig 1b: The black dashed curve is the actual PHC3.0 observed salinity (x-axis on the top). The behavior of the models in the upper ocean can be easier seen here.

Figure S2. The long-term mean (2081-2100) potential temperature in 19 CMIP6 models (scenario ssp245 and ssp585 experiences) in the two deep basins of the Arctic Ocean.
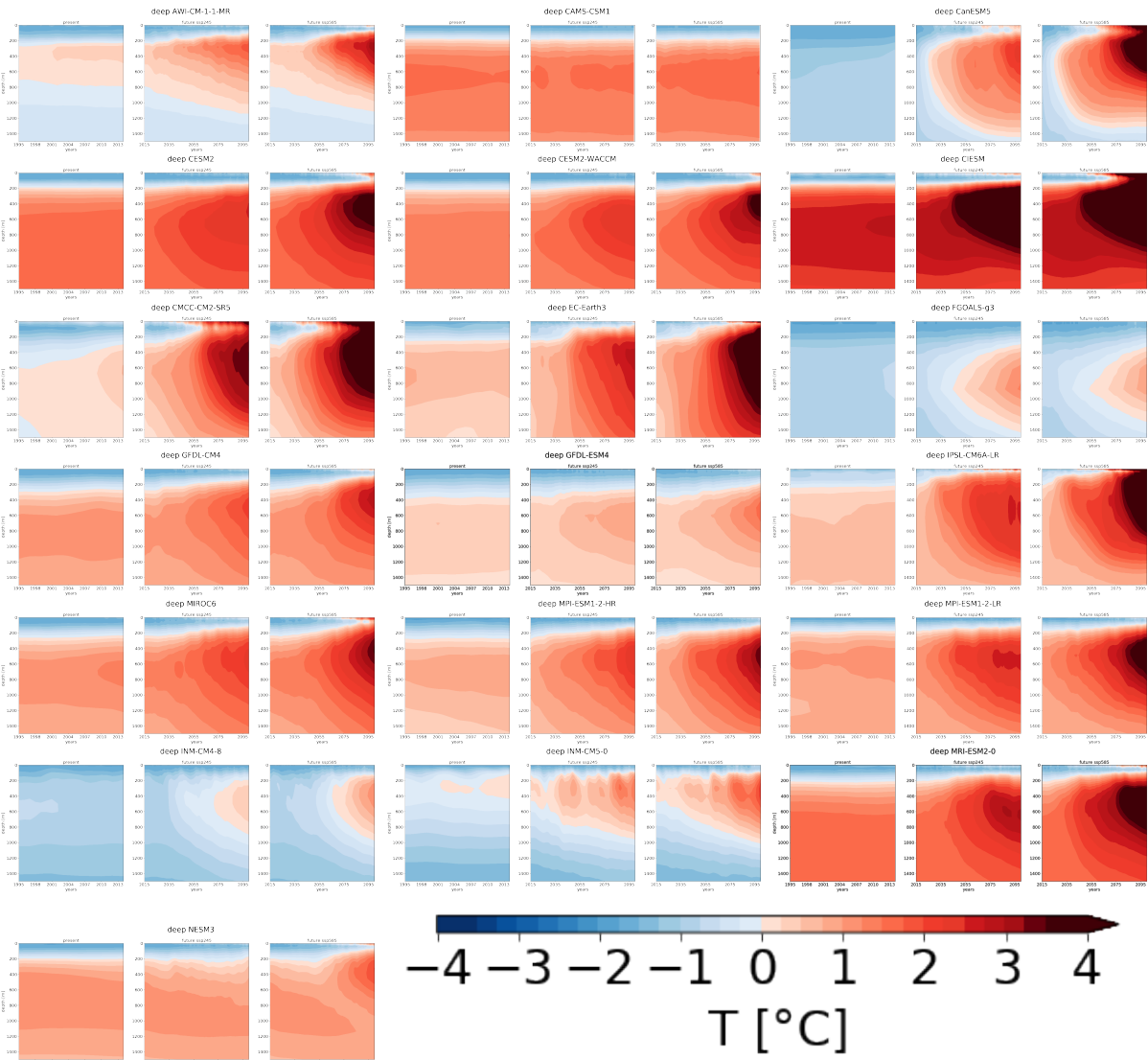
Figure S3.   Hovmöller plot of the deep Arctic for the individual models
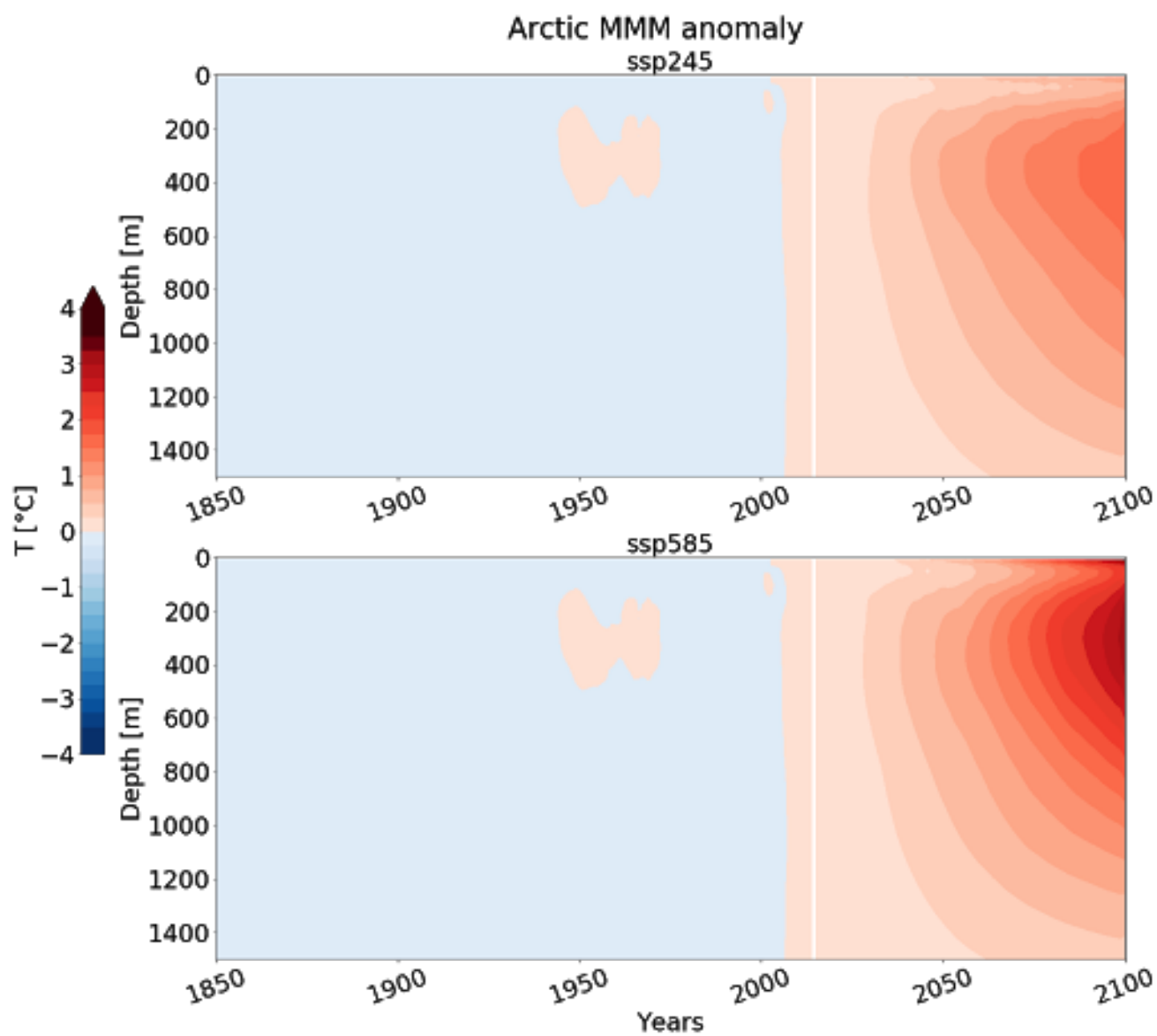
Arctic MMM anomaly

Figure S4. The anomaly of zonal mean temperature averaged in the Arctic deep basin from 1850 to 2100. The anomalies are calculated based on the present (1995-2014) mean.
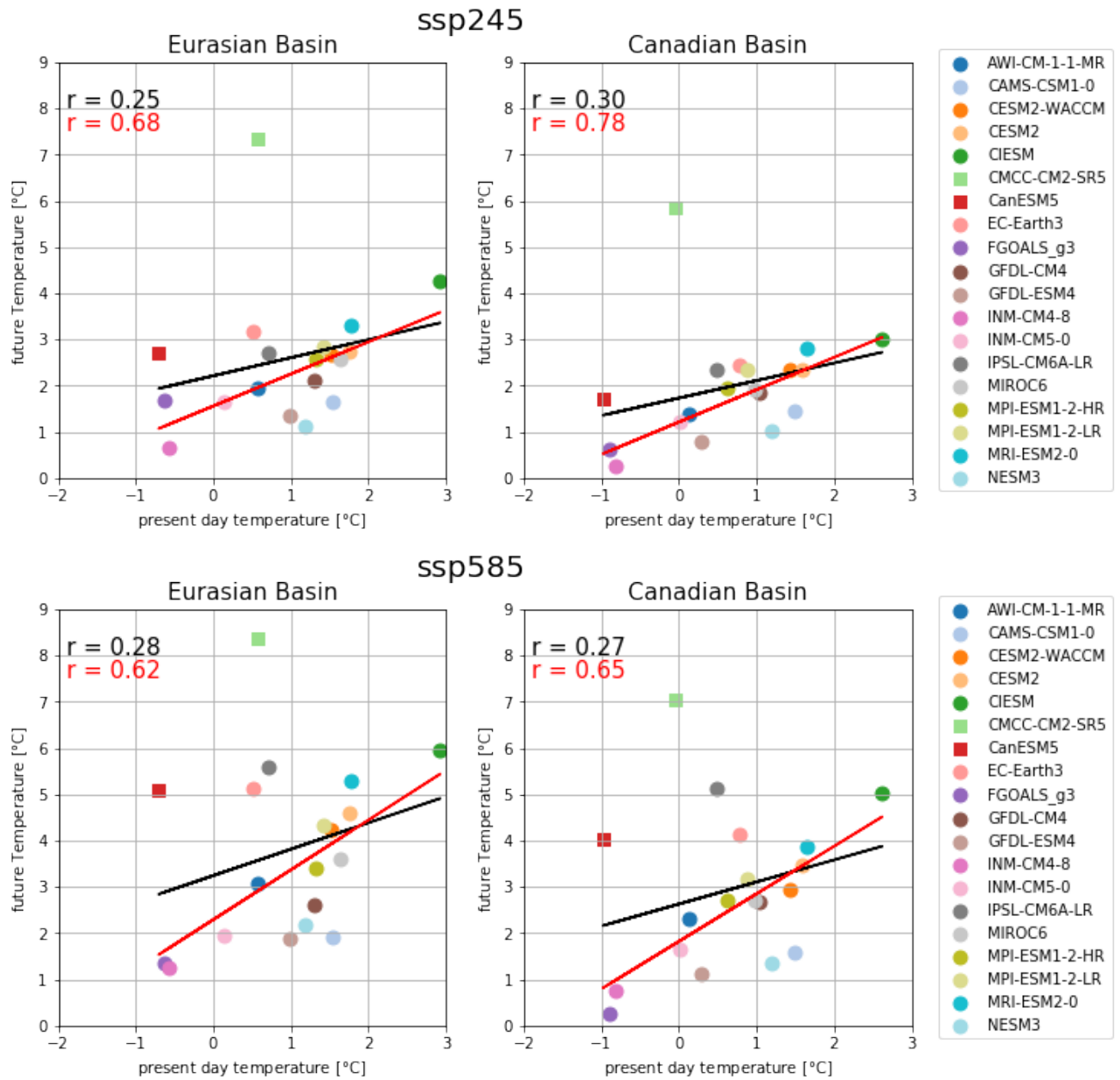
Figure S5. The long-term future Atlantic Water Core Temperature (AWCT) vs. the present day AWCT. The results for Eurasian and Canadian basins and two scenarios are shown. The linear fitting lines and correlation coefficients are also indicated in the plots (black color). Two outlier models (with AWCT climate change signals significantly different from others in at least one of the scenarios, shown by squares instead of circles) are also excluded to calculate the correlation coefficients and fitting lines (red color).