

### PHC 3.0 Overview

- What is PHC?**

Our Climatology provides temperature and salinity data at 1X1 degree intervals for all the earth's oceans, down to a depth of 5500m, at incremental depths identical to those provided in the National Oceanographic Data Center's (NODC) World Ocean Atlas (WOA). This global climatology is the combination of NODC's 1998 world climatology (WOA), the EWG Arctic Ocean Atlas (AOA), and select Canadian data provided by the Bedford Institute of Oceanography (BIO). While the NODC data includes the Arctic ocean, the AOA data provides a better description of this region. Neither of these data fields provides a good representation of the Canadian Archipelago region and nearby bays in the winter months. The data from the Bedford Institute of Oceanography allowed us to bridge this data hole. These three data sets were merged using an optimal interpolation routine such that our PHC retains the high quality world description provided by the WOA while improving the Arctic with the AOA fields and Canadian data.

**In summary, PHC = WOA (Levitus) '98 everywhere except in our arctic domain, where we have blended in the AOA field (from EWG), and the BIO data to produce a more realistic arctic region.**

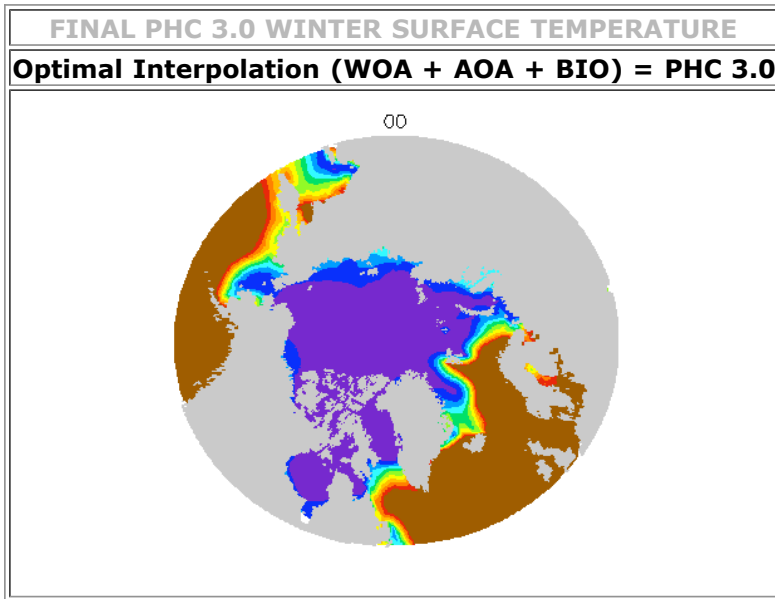
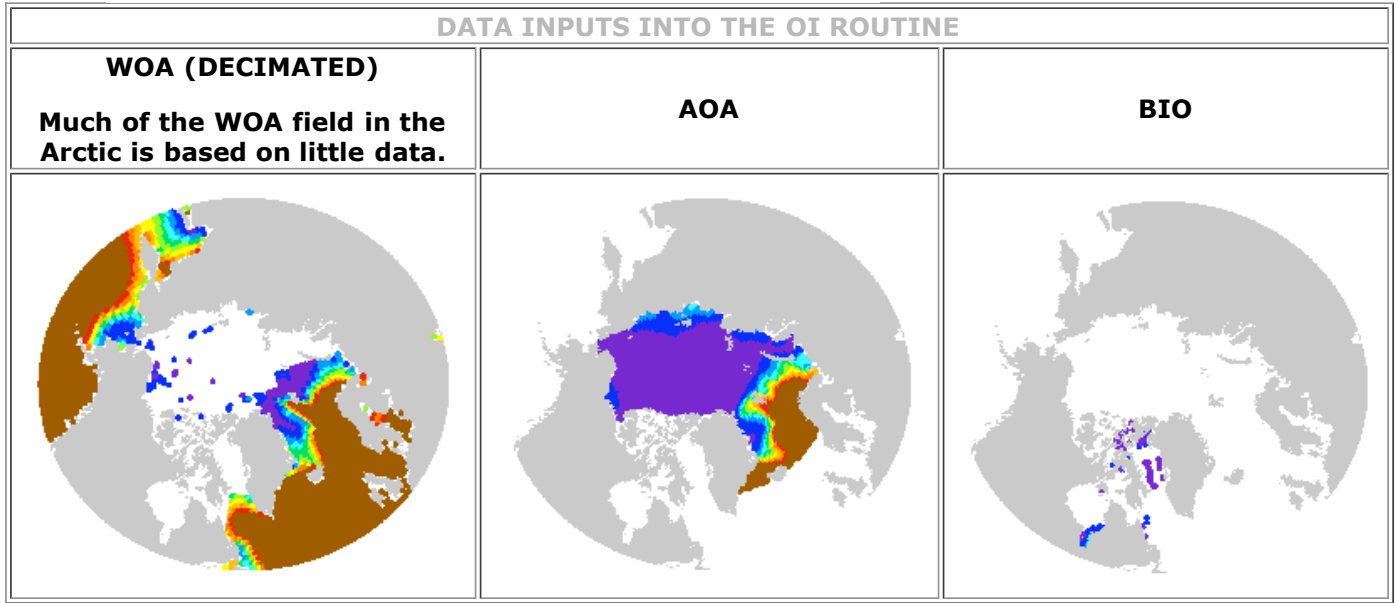
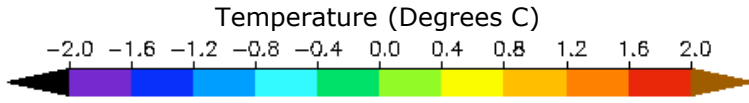
- Product Summary**

	<b>Product I: Annual Fields</b>	<b>Product II: Seasonal Fields</b>	<b>Product III: Monthly Fields</b>
<b>Quantities</b>	Temperature & Salinity	Temperature & Salinity	Temperature & Salinity
<b>Available Depths (same as WOA)</b>	33 total: 0, 10, 20, 30, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1750, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500	33 total: 0, 10, 20, 30, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1750, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500	24 total: 0, 10, 20, 30, 50, 75, 100, 125, 150, 200, 250, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500,
<b>Time Period</b>	Annual Average	Winter (March, April, May) Summer (July, August, September)	January to December
<b>Spatial Distribution</b>	Global 1X1 degree intervals	Global 1X1 degree intervals	Global 1X1 degree intervals

- Example of Inputs and the Resultant Field**

The seasonal PHC 3.0 fields were created by optimally interpolating AOA, WOA, and BIO data. Below is an example of the data inputs that went into the optimal interpolation routine from these three sets of data, and the PHC 3.0 resultant field for Winter Surface Temperature.

#### WINTER SURFACE TEMPERATURE



We thank you for your interest in our database, which may be cited as:

PHC 3.0, updated from:  
 Steele, M., R. Morley, and W. Ermold, PHC: A global ocean hydrography with a high quality Arctic Ocean, J. Climate, 14, 2079-2087, 2001.

