Mean and standard deviation values of satellite chlorophyll-a concentration (chl-a in mg/m^3) and sea ice concentration (in %) were extracted for each OFOS and AGT station. As collocation criterium satellite data were selected, which were measured exactly at the station location and and within the 3x3 pixel box of the direct satellite collocation. The final values presented in the table is the mean value over all the 3x3 pixels mean and standard deviation.

Satellite data were selected within three different time frames for averaging at each station location:

a) The last 10 years prior to the cruise (2003-2012) - for the standard deviation of Chl we also list the standard deviation just considering January and February values
b) The last 5 years prior to the cruise (2008-2012) - for the standard deviation of Chl we also list the standard deviation just considering January and February values
c) The last 30 days and the actual day when the station took place

Chl-a data: Marine phytoplankton Chl-a concentrations were derived from the merged daily Full Product Set (FPS) of the GlobColour Archive (http://hermes.acri.fr/) version 1. For the 31 day means daily data and monthly outputs were used for the 10 and 5 year mean results. Results of the regional and global validation of the CHL product have been published in Maritorena et al. 2010 where the merged GlobColour data were validated through matchup analyses and by comparing them to the validation results of CHL data sets obtained from individual missions. GlobColour data showed the same high similar quality as the standard SeaWiFS empirical CHL algorithm OC4v4 (Maritorena et al. 2010). The uncertainty for the GlobColour product is provided on a pixel-pixel basis and is for the Southern Ocean region mostly far below 20%, but can reach in certain cases (close to sea ice) up to 40%.

Sea ice data: Sea ice concentrations (SIC) are retrieved from Advanced Microwave Scanning Radiometer – Earth Observing System (AMSR-E), Advanced Microwave Scanning Radiometer – 2 (AMSR2) and Special Sensor Microwave/Imagers (SSMIS) 89/91 GHz using the ASI algorithm [Spreen et al, 2008] from daily observations with 6.25 km spatial resolution between 2003 to March 2013. SSMIS data has lower resolution than the grid and was only used in the time when no AMSR* instrument was operational (between 1.10.2011 and 24.7.2012). The uncertainty for the AMSR-E SIC is 25% for O% and 5.7% for 100% SIC (Spreen et al., 2008).

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