

## EBSA - Additional figures

### The Marginal Ice Zone and the Seasonal Ice-Cover Over the Deep Arctic Ocean

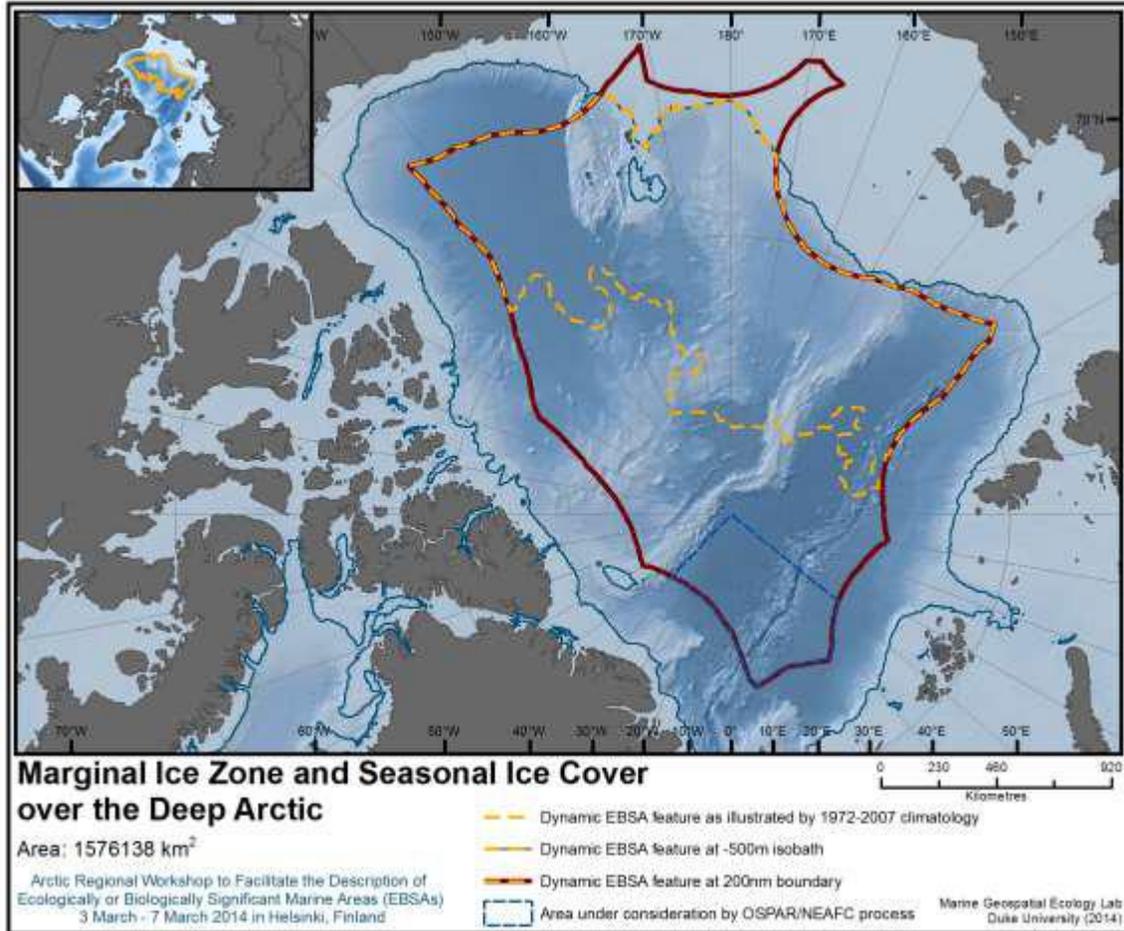


Figure 1. Area meeting EBSA criteria. Map of the maximum observed range (1972-2007) covered by the marginal ice zone and the seasonal ice-cover within the central Arctic in waters deeper than 500 m, beyond national jurisdiction.

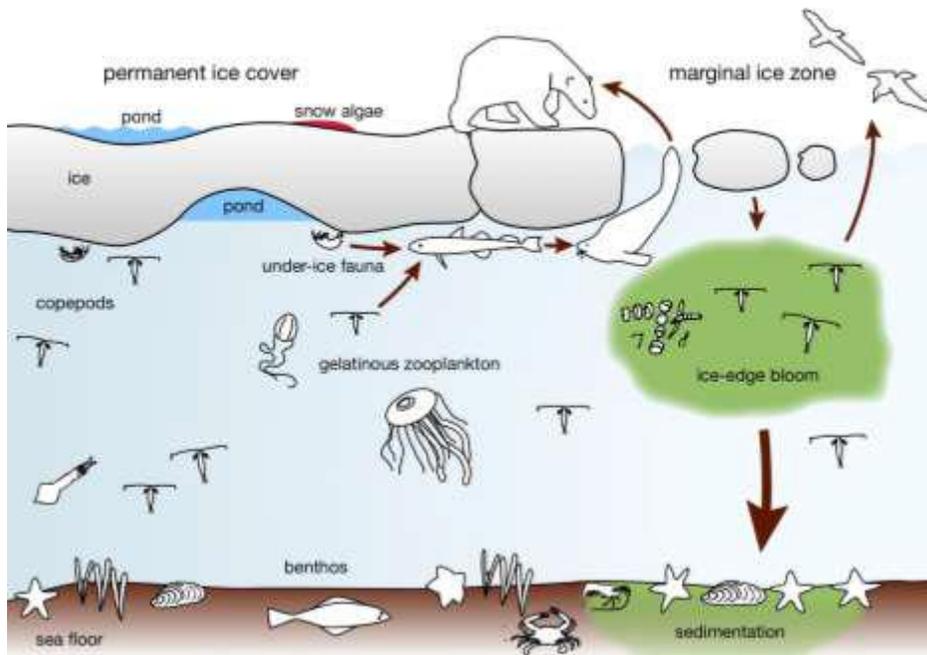


Figure 2. A conceptual model for the ecosystem at the marginal ice zone (CAFF 2010).

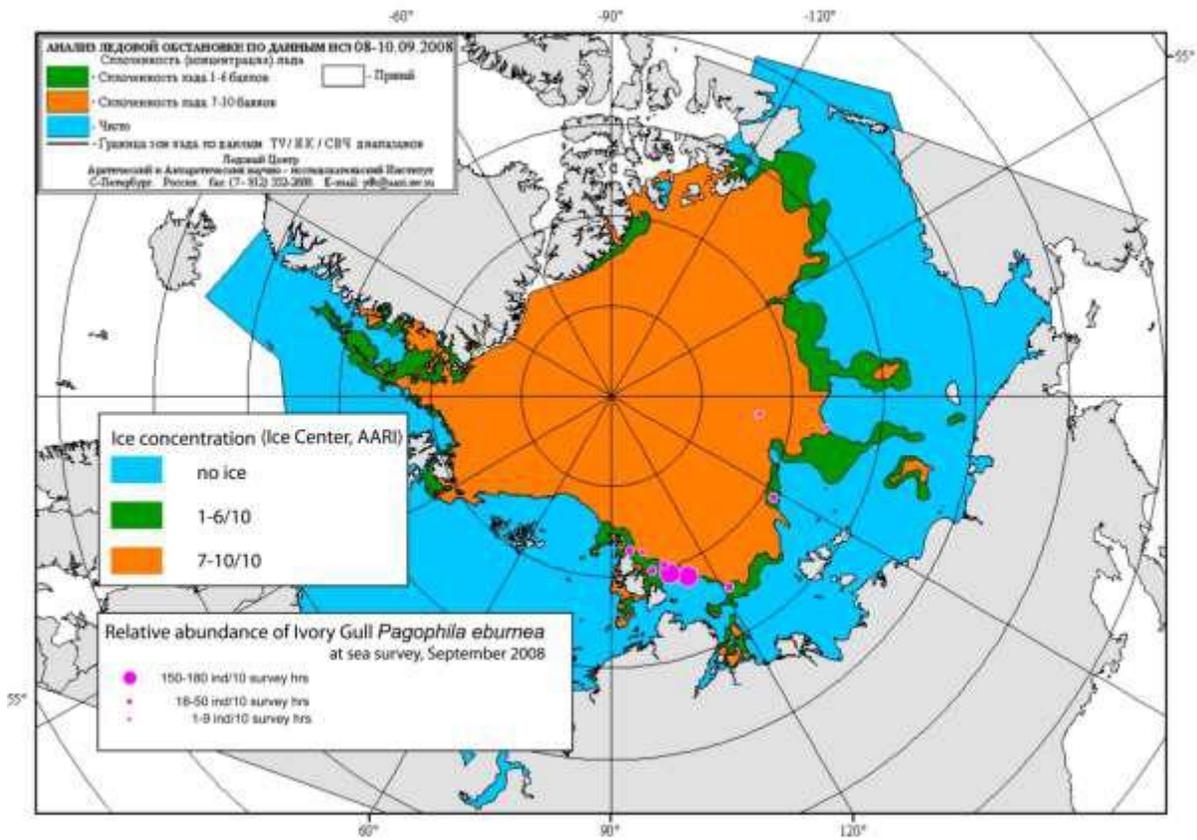


Figure 3. Ivory gull relative abundance during a ship-based survey in September 2008 (Gavrilo, 2010 unpublished presentation).



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Figure 4. Seabird records from August to September 2008 (Gavrilo, unpublished). Pink – Ross's gull, red – ivory gull, bright-rose – black guillemot.

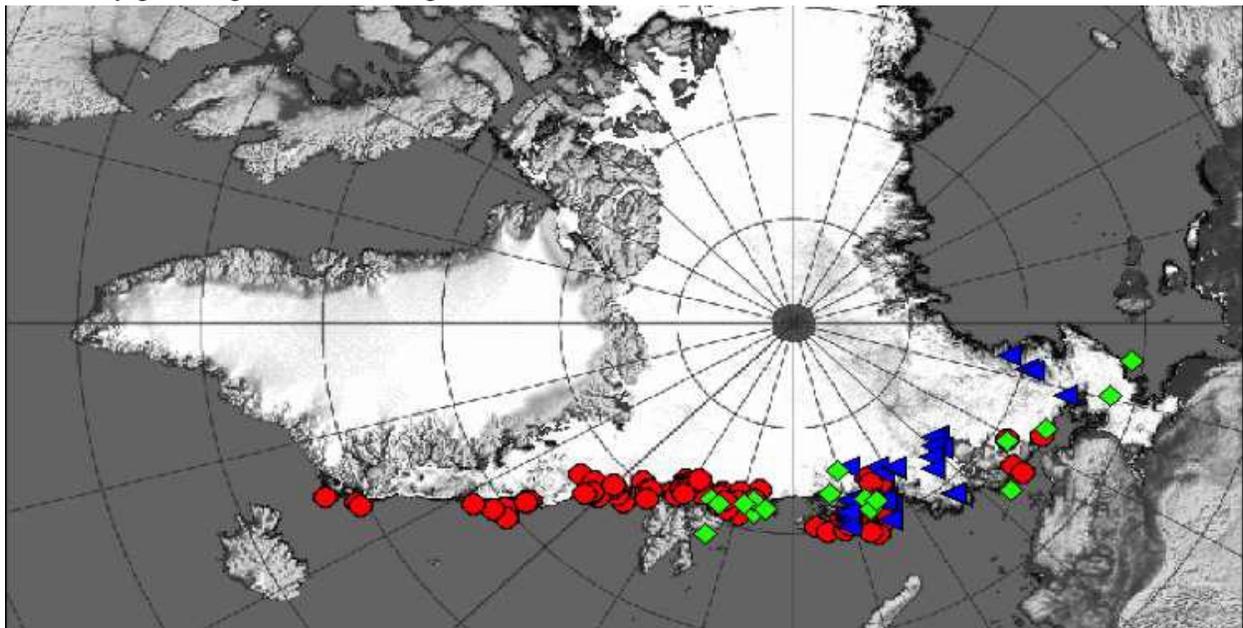


Figure 5. Map from Gilg et al. 2010 (locations of ivory gull according to satellite tagging, October).

**Ringed Seal (*Phoca hispida*) Graduated Quantity in the Central Arctic Based on 'The Russian Arctic Biogeographical Database' of 1957-2011**

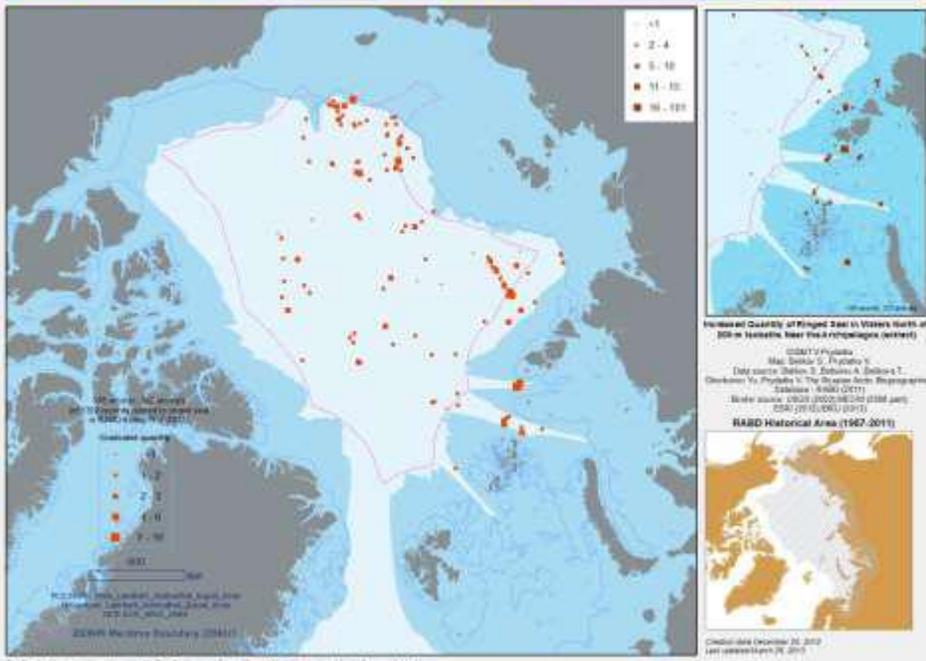


Figure 6. Year-round encounters of ringed seal (*Phoca hispida*) in the central Arctic Ocean. Based on the “The Russian Arctic Biogeographic Database” of 1957-2011. © The Pew Charitable Trusts 2012.

**Polar Bear (*Ursus maritimus*) Graduated Quantity in the Central Arctic Based on 'The Russian Arctic Biogeographical Database' of 1957-2011**

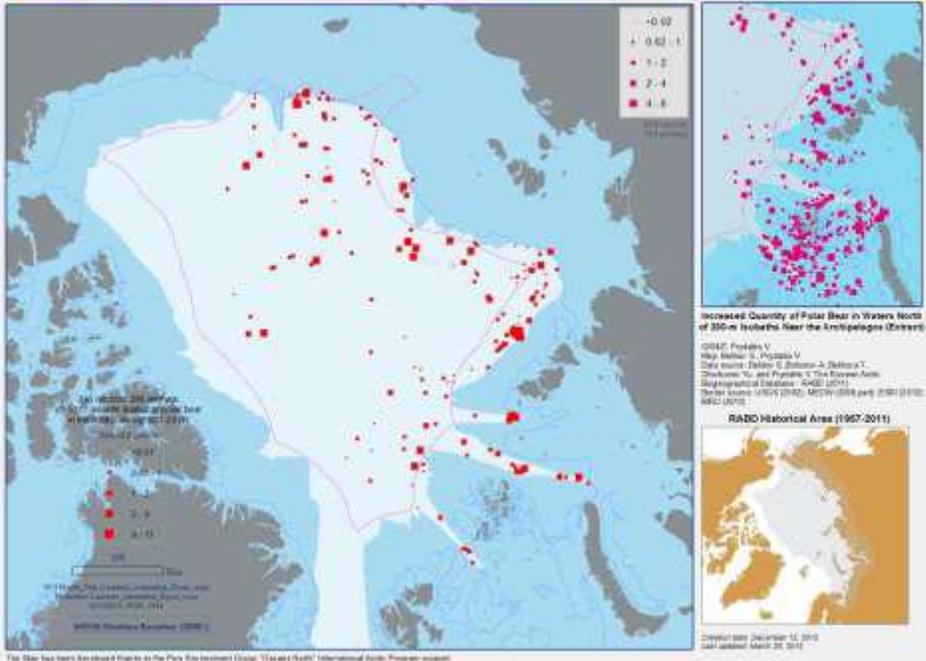


Figure 7. Year-round encounters of polar bears (*Ursus maritimus*) in the central Arctic Ocean. Based on the “The Russian Arctic Biogeographic Database” of 1957-2011. © The Pew Charitable Trusts 2012.

***Special note for Area No. 1: Marginal Ice Zone and Seasonal Ice Cover over the Deep Arctic Ocean***

This special note contains information on the use of sea ice climatologies to identify the location of the features described in areas no. 1 and 2 in the appendix to annex VIII. The primary data sources for these areal definitions are sea ice climatologies from the US National Snow and Ice Data Center.

**Definition of ice margin areas of the Arctic Ocean**

Sea-ice margin areas are extremely dynamic both within and between years. Also, there have been significant changes in their geographic range over the last several decades of observation. Sea-ice margin areas were identified using the NSIDC 1972 – 2007 climatologies.

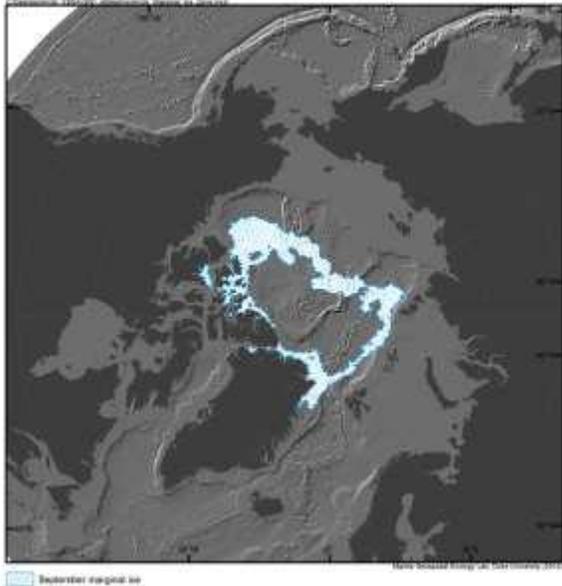


Figure 1. September marginal sea ice range (1972 – 2007).

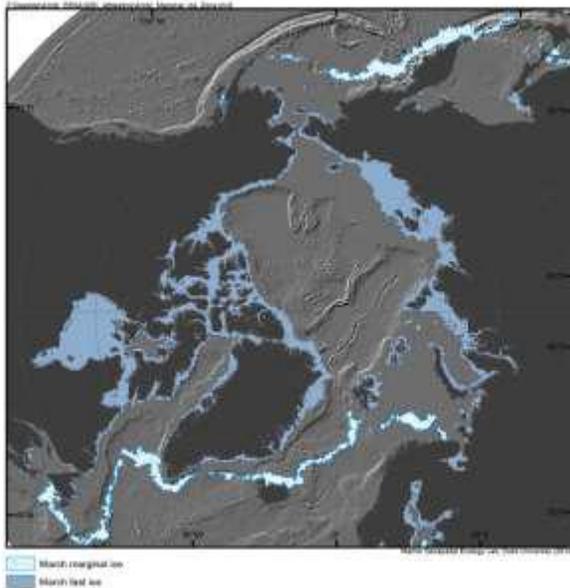


Figure 2. March marginal sea ice and fast ice (1972 – 2007).

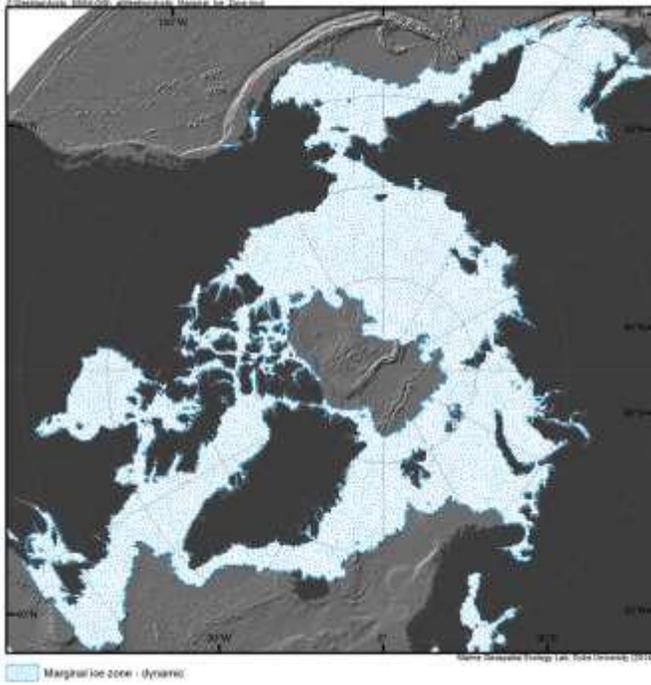


Figure 3. September – March marginal sea ice range (1972 – 2007).

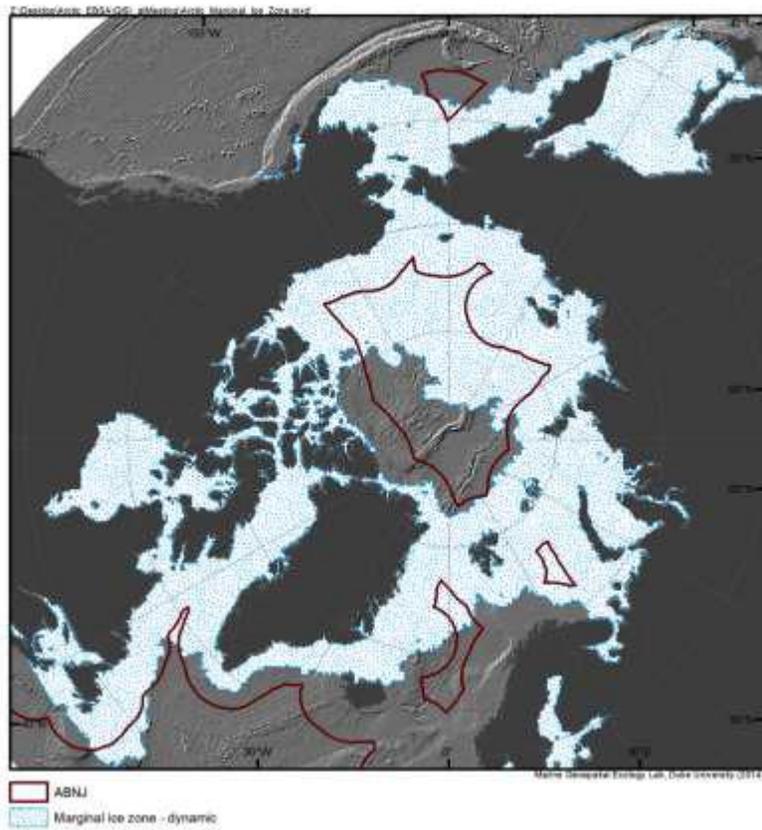


Figure 4. Marginal ice range and areas beyond national jurisdiction.

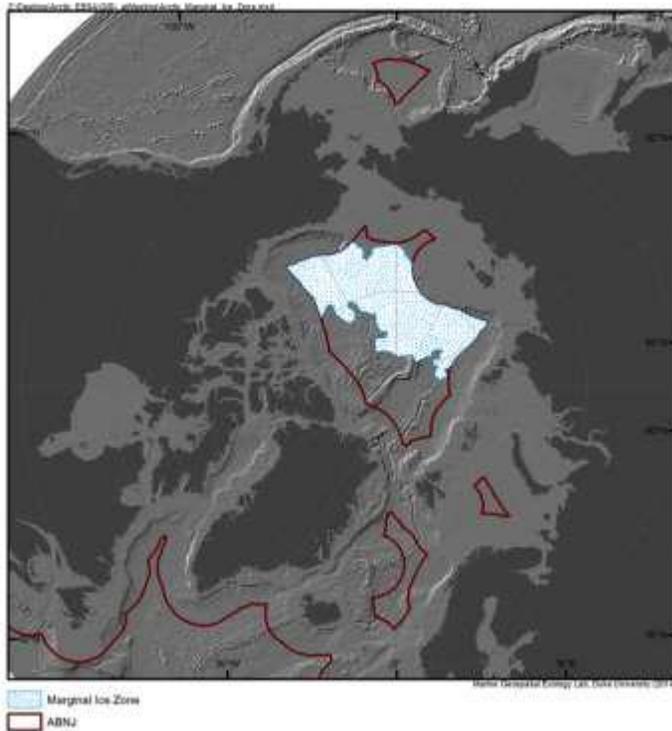


Figure 5. Marginal sea ice range limited to areas beyond national jurisdiction and >500 m depth in the High Arctic.

### ***Location***

This area comprises the surface ice and related water column features associated with the marginal sea ice area. This area is described as a geographically and temporally dynamic feature that is expected to change in area, shape and geographic location from year to year. The area is expected to extend from the minimum seasonal ice margin limit in the central Arctic (~September marginal ice minimum) to the seasonal marginal ice maximum (~March marginal ice maximum). The example climatological marginal ice range provided (September - March climatology 1972-2007) in this description has been restricted to the area beyond national jurisdiction within the described Arctic workshop region.

### **Literature cited**

Maslanik, J., J. Stroeve, C. Fowler, and W. Emery (2011), Distribution and trends in Arctic sea ice age through spring 2011, *Geophys. Res. Lett.*, 38, L13502, doi:[10.1029/2011GL047735](https://doi.org/10.1029/2011GL047735).

National Ice Center. 2006, updated 2009. *National Ice Center Arctic sea ice charts and climatologies in gridded format*. Edited and compiled by F. Fetterer and C. Fowler. Boulder, Colorado USA: National Snow and Ice Data Center. <http://dx.doi.org/10.7265/N5X34VDB>.