SEA ICE PREDICTION NETWORK (SIPN)
Template for Pan-Arctic Sea Ice Outlook Core Contributions
June 2015 Report

*REQUIRED

1. *Contributor Name(s)/Group – Nightvid F. Cole

2. *"Executive summary" – The extent of snow cover over the Arctic sea ice in mid-June is strongly correlated with the extent of Arctic sea ice in September of the same year. This is intuitively a result of the lower albedo (reflectivity) of ice after the onset of surface melting compared to ice before the onset of surface melting. Not only is the extent of ice related to that of snow, but also the shape of the ice pack in mid-September is quite akin to that of the snowpack in mid-June (easy to discern visually). The purpose of this contribution is to utilize the TOPAZ4 snowcover forecast for June 13, 2015 (issued on June 8, 2015) as a proxy variable for NSIDC September (monthly average) extent.

3. *Type of Outlook projection: STATISTICAL

4. *September monthly average projection: 3.26 Million km^2

5. *Short explanation of Outlook method: The forecast map issued 6/8/2015 for snow depth on 6/13/2015 from TOPAZ4 was obtained as a PNG file from the MyOcean website. A computer pixel-counting method using MATLAB was used to obtain the extent of snow with depth >= 5 cm from the image. Reanalysis images from the same source for 2012, 2013, and 2014 were used to obtain their >= 5 cm snowcover extents on June 13th also. A linear regression was performed of NSIDC September ice extent against June-13th TOPAZ4 snowcover for 2012, 2013, and 2014 (data from earlier years not available). Using this regression, and the forecasted snow for June 13th, the projected NSIDC extent for September 2015 is calculated.