SEA ICE PREDICTION NETWORK (SIPN)

June Report (Using May Data)

1. CPOM (David Schroeder, Danny Feltham, Daniela Flocco, Michael Tsamados)

2. Type: statistical

3. Predicted mean September ice extent 2014: 5.4 million km^2

4. Short explanation:
This is a statistical prediction based on the correlation between the ice area covered by melt-ponds in May and ice extent in September. The melt pond area is derived from a simulation with the sea ice model CICE in which we incorporated a physically based melt-pond model[1]. See our publication in Nature Climate Change http://www.nature.com/nclimate/journal/v4/n5/full/nclimate2203.html for details[2].

References:
1. Flocco, D., Schröder, D., Feltham, D. L. & Hunke, E. C., 2012: Impact of melt ponds on Arctic sea ice simulations from 1990 to 2007. *J. Geophys. Res.* **117**, C09032.
2. Schröder D., D. L. Feltham, D. Flocco, M. Tsamados, 2014: September Arctic sea-ice minimum predicted by spring melt-pond fraction. *Nature Clim. Change* **4**, 353-357, DOI: 10.1038/NCLIMATE2203.

5. Uncertainty: 0.50 million km^2

6. The given uncertainty is the mean forecast error based on forecasts for the years 1984 to 2013. For all these forecasts only data from previous years were used (forecast mode). In the hindcast mode the prediction error amounts to 0.33 million km^2.

7. "Executive summary":
We predict the September ice extent 2014 to be similar to last year. The melt-pond area in May is relatively low due to colder air temperatures and slightly thicker ice in the relevant areas of the Arctic in comparison to the last 5 years.