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

*REQUIRED

1. *Contributor Name(s)/Group – how you would like your contribution to be labeled in the report (e.g., Wiggins et al.)
   Qiao et al./FIO-ESM

1b. (Optional but helpful for us): Primary contact if other than lead author; name and organization for all contributors; total # of people who may have contributed to your Outlook, even if not included on the author list.
Name: Qi Shu, Fangli Qiao, Xunqiang Yin, and Ying Bao
Organization: First Institute of Oceanography, SOA, China

2. * Individuals submitting "public" contributions should self-identify here:
   _____ Yes, this is a "public" contribution.
   No, this is not a "public" contribution.

3. *"Executive summary" about your Outlook contribution (max 300 words)
   Say in a few sentences what your Outlook contribution is and why. To the extent possible, use non-technical language.
   Our prediction is based on FIO-ESM with data assimilation. The prediction is 5.33(+/-0.53) million square kilometers. 5.33 and 0.53 million square kilometers is the average and one standard deviation of 10 ensemble members, respectively.

4. *Type of Outlook projection
   FIO-ESM _dynamic model

If you use a model, please specify:
Model Name **_FIO-ESM_**
Components of the model: Atmosphere**_CAM3.0_**, Ocean**_POP2.0_**, Ice**_CICE4_**, Land **CLM3.5**_, Wave**_MASNUM wave model_**

5. *September monthly average projection (extent in million square kilometers. To be consistent with the validating sea ice extent index from NSIDC, if possible please first compute the average concentration for the month and then compute the extent as the sum of area of all cells > 15%.)
   5.33(+/-0.53) million square kilometers.

6. *Short explanation of Outlook method (max 300 words)
   In addition, we encourage you to submit a more detailed Outlook, including discussions of uncertainties/probabilities, including any relevant figures, imagery, and references.
   If this is a model contribution, please include method of method of initialization and variable used.

   This is a model contribution. The initialization is also from the same model (FIO-ESM) but with data assimilation. The data assimilation method is Ensemble Adjustment Kalman Filter (EAKF). The data of SST (sea surface temperature) and SLA (sea level anomaly) from January 1992 to July 2015 are assimilated into FIO-ESM model to get the initial condition for the prediction of the Arctic Sea Ice.

7. Projection uncertainty/probability estimate for September extent (only required if available with the method you are using)

   Our prediction is 5.33(+/-0.53) million square kilometers based on 10 ensemble members. 5.33 and 0.53 million square kilometers is the average and one standard deviation of these 10 ensemble members, respectively.

8. Short explanation/assessment of basis for the uncertainty estimate in #6 (1-2 sentences)