*REQUIRED

1. *Name of Contributor or name of Contributing Organization and associated contributors as you would like your contribution to be labeled in the report (e.g., Smith, or ARCUS (Wiggins et al.))

   UAF: Brettschneider/Walsh/Thoman

   1b. (Optional but helpful for us): Primary contact if other than lead author; name and organization for all contributors; total number of people who may have contributed to your Outlook, even if not included on the author list.

   John Walsh, jwalsh@iarc.uaf.edu

2. *Contributions submitted by a person or group not affiliated with a research organization, please self-identify here: N.A.
   _____ Yes, this contribution is from "Citizen Scientists."
3. *Do you want your contribution to be included in subsequent reports in the 2016 season?

   _____ Yes, use this contribution for all of the 2016 SIO reports (this contribution will be superseded if you submit a later one).
   ___**X**___ No, I/we plan to submit separate contributions for subsequent reports.
   _____ No, I only want to participate this time.

4. *"Executive summary" of your Outlook contribution: in a few sentences (using 300 words or less) describe how and why your contribution was formulated. To the extent possible, use non-technical language.

   The forecast is based on an analog system in which the years with the atmospheric circulation most similar to 2016 (through June) are identified. The five best analog years are chosen from the 1949-2015 period. The departures of September sea ice from the trend line are averaged for those five years, and that average is our forecast (departure from trend line) for 2016.

5. *Type of Outlook projection
   ___dynamic model _**X**_statistical ___heuristic ____mixed or other (specify):

   If you use a model, please specify:
   Model Name ____
   Components of the model: Atmosphere__, Ocean__, Ice__, Land__,
   For models lacking an atmosphere or ocean, please describe the forcing: ___

6. *Dataset of initial Sea Ice Concentration (SIC) used (include name and date; e.g., "NASA Team, May 2016"):

   NSIDC dataset, "Sea Ice Back to 1950 (SIBT1850)"

7. Dataset of initial Sea Ice Thickness (SIT) used (include name and date):

N.A.

8. If you use a dynamical model, please specify:

a) Model name:
b) Information about components, for example:

```
    Component       Name          Initialization (e.g., describe Data
Assimilation)
    Atmosphere      CAM5          2016 RCP8.5 integration
    Ocean           NEMO2         DA - NCODA system
    Ice             TED           DA - EnKF SIC only
```

9. *Prediction of September pan-Arctic extent as monthly average in million square kilometers. (To be consistent with the validating sea ice extent index from NSIDC, if possible, please first compute the average sea ice concentration for the month and then compute the extent as the sum of cell areas > 15%.)

4.36 million km2

10. Prediction of the week that the minimum daily extent will occur (expressed in date format for the first day of week, taking Sunday as the start of the week (e.g., week of 4 September).

N.A.

11. *Short explanation of Outlook method (using 300 words or less). In addition, we encourage you to submit a more detailed Outlook, including discussions of uncertainties/probabilities, including any relevant figures, imagery, and references.

The forecast is based on an analog system in which the years with the atmospheric circulation most similar to 2016 (through June) are identified. The five best analog years are chosen from the 1949-2015 period. The departures of September sea ice from the trend line are averaged for those five years, and that average is our forecast (departure from trend line) for 2016.

Re-running the analysis for all years (a September forecast using June data) we produced an analog forecast for sea ice extend from the trend line value for eack year. We then compared that with the actual September sea ice value for that year to see how far "off" the forecast was. Those forecasted minus actual values were then ranked and we pulled out the 10th and 90th percentile values. The 10th and 90th percentile deviations were applied to the 2016 trend line value so that we have upper and lower bounds to the forecast, i.e., an uncertainty range.

12. If available from your method for pan-Arctic extent prediction, please provide:
   a) Uncertainty/probability estimate such as median, ranges, and/or standard deviations (specify what you are providing).

   Uncertainty range: 4.00 to 5.52 million km2

   b) Brief explanation/assessment of basis for the uncertainty estimate (1-2 sentences).

   See response to #11 above.

   c) Brief description of any post processing you have done (1-2 sentences).

   d) Raw (and/or post processed) forecasts for this year and retrospective forecasts in an excel spreadsheet with one year on each row and ensemble member number on columns (specifying whether raw or post processed).