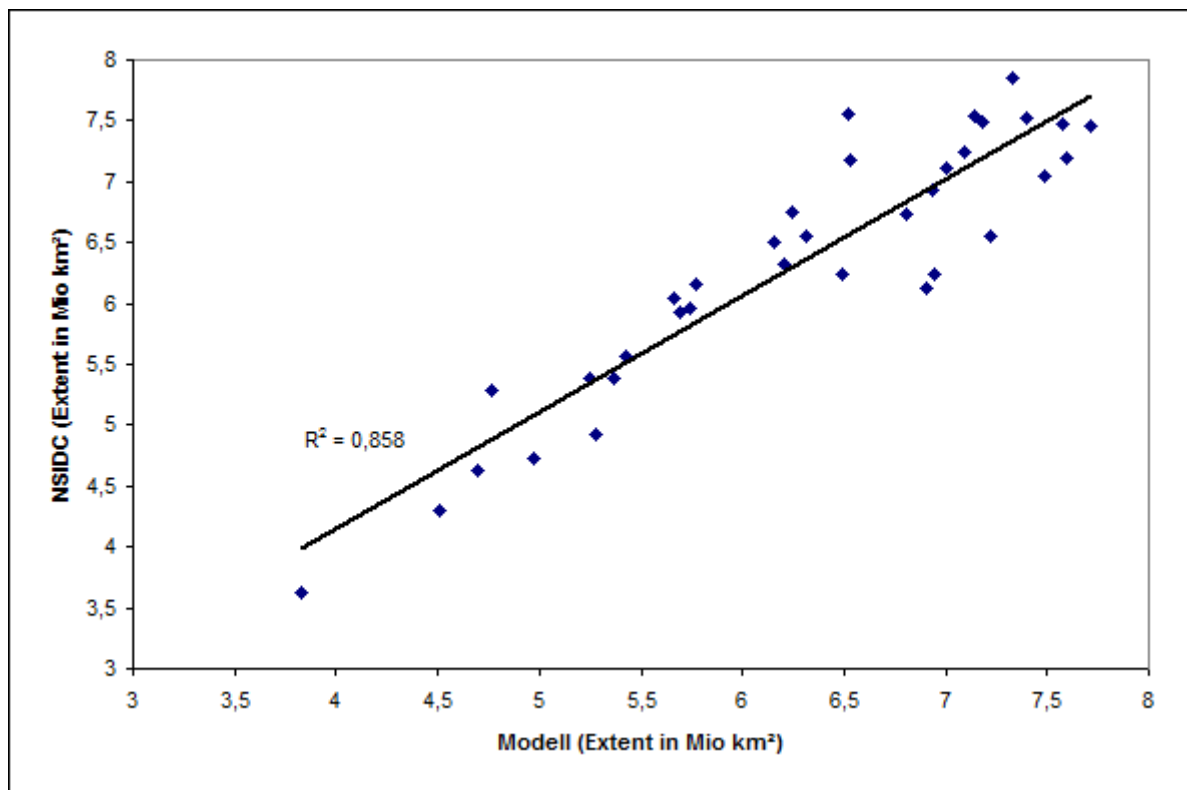


Early Contribution to the Sea Ice Outlook 2015 - from Frank Bosse

As in the last year (<http://www.arcus.org/files/search/sea-ice-outlook/pdf/bosse.pdf>) I used two variables for a forecast of the September 2015 Sea Ice Extent: The Heat Content of the arctic ocean northward 65 deg. N from the summer of 2014 and the amount of sea ice volume (PIOMAS) in the end of the winter (28 February 2015).

After using a multiple linear regression and calculating the errors from all the years 1979 to 2014 one gets this relationship:



There is only one outlier: 1996.

My forecast for the September Extent is 5.6 ± 0.4 Mio km². The uncertainty is the standard deviation of the errors.

Some remarks: In the 2014 season there was some confusion if this forecast is a model or a statistic approach. It doesn't matter too much IMO, anyway I think it's a model because it uses parameters of the past to make a prediction on a physical basis. The involved data are the heat of the year-1 and the amount of sea ice at the beginning of the melting season. What else one needs in physics of melting? The weather of the year has only an influence of the rest to 100%: 14% (see figure above).

In an actual paper (<http://www.pnas.org/content/112/15/4570.short>) summary:

<http://www.gfdl.noaa.gov/news-app/story.110> is mentioned a very good agreement of the Sea Ice Extent of the Atlantic part of arctic with the AMOC when AMOC leads by one year (see part 3 of the figure). This could confirm the used one year lag to OHC in this contribution. The prediction can't change in the following month because the model says: The Extent is defined to 86% in the beginning of the melting season. So please feel free to use my forecast of 5.6 ± 0.4 Mio km² also in the July and August Outlooks.