The manuscript by Nieminen et al. reports on the predictability of new particle formation (NPF) events. Based on weather forecast (relevant parameters are the occurrence of clouds and rain), PM10 concentration (as a proxy for the condensation/coagulation sink), SO_2 concentration (precursor for H_2SO_4) and the air mass history a day is classified either as NPF day, no NPF day or day with a weak possibility of NPF. The algorithm for the decision making is based on long-term measurements at the Hyytiälä/Finland field station. NPF event predictions were made during the PEGASOS (Pan-European Gas-Aerosol-Climate Interaction Study) campaign in central Finland during May and June 2013. The parameters used for the NPF forecast are from the Finnish Meteorological Institute (weather forecast as well as SO_2 and PM10 from the SILAM (System for integrated modelling of atmospheric composition) air quality model). In addition, HYSPLIT trajectories are used for evaluating the air mass history. NPF forecasts were made three days and one day in advance in order to decide whether Zeppelin flights for NPF measurement should be launched or not. Comparison between predicted and observed NPF events is presented to evaluate the predictability of the method. The authors report that out of 11 NPF events 10 were accurately predicted. The manuscript is very clearly written and shows relevant data. Therefore, I recommend publication of the manuscript after some rather minor points have been addressed.

General remarks:

(1) The authors report that 10 out of 11 NPF event days were correctly predicted. However, Fig. 4 (colored bars) reveals that out of 11 observed NPF events "only" 6 were predicted as NPF event days and 4 were predicted to be undefined days with the possibility of NPF. In addition, 19 days classified as undefined days with the possibility of NPF occurred but only 10 of them were correctly predicted as undefined days and 7 were forecast to be non-NPF days (2 were predicted to be NPF days). The following table gives an overview on the statistics:

	observed (# of days)	"NPF" predicted (# of days)	"undefined" predicted (# of days)	"no-NPF" predicted (# of days)
NPF	**11**	6	4	1
undefined	**19**	2	10	7
no-NPF	**10**	0	2	8
sum	**40**	8	16	15

In this regard, could the authors please specify what they ultimately decided in terms of the Zeppelin flights? Was a flight scheduled whenever NPF or an undefined event was predicted? Or was the Zeppelin only launched if a clear NPF day was predicted? As the Zeppelin flights were the motivation to forecast NPF events a bit more information on the actual decisions would be interesting. Maybe the authors could include a third row in Fig. 4 which indicates the Zeppelin flights.

(2) It is not clear how the HYSPLIT trajectories were used. It is mentioned in section 2.2 (page 2463, line 21) that the trajectories were calculated 96 hours backwards in time but this would not allow making a prediction for the next three days.

(3) It is mentioned that predictions were made both 3 days and 1 day in advance. How good are the 3 day predictions in comparison to the 1 day predictions?

Other comments:

page 2461, line 10: please spell out “NT”

page 2461, line 12: “central”

page 2462, line 3: “Lappalainen et al., 2009”

page 2463, line 5: What values for SO_2 and PM10 were actually used for the forecast if hourly values are available? Was a forecast made for every hour of the day and then NPF was predicted if the algorithm yielded a positive outcome for just one specific hour, or was an average created somehow?

page 2463, line 24: insert blank before “but”

page 2465, line 4: delete the word “only”

page 2466, line 20: after “2013”: insert the total number of days (40?) of the campaign as the number of days for certain events is mentioned below

page 2467, line 3: maybe better to write “… a longer period occurred during which transported polluted continental air dominated.”

page 2467, line 12: remove the word “the”

page 2468, line 6: remove the word “the” before “Hyytiälä”

page 2468, line 7: remove the word “the” before “continental”

page 2468, line 9: remove the word “the” before “central”

page 2468, line 19: add the word “the” before “beginning”

page 2469, line 3: please spell out “DMPS” once

page 2469, line 10: add the word “a” before “non-NPF”

page 2469, line 15: It is mentioned that on 10 days no NPF occurred but only one day was forecast to be an undefined day (28th May). However, there is another day with the same characteristics (17th of May, see Fig. 4).

page 2469, line 23: “24” instead of “23”? please check

page 2475, table 1: check the unit of the absolute humidity (ppth); parts per thousand should rather be abbreviated as “‰“ or be spelled out

page 2477, table 3: Could the authors please provide a short summary of the classification (class I and class II) in the manuscript text; a few explanatory sentences are probably sufficient.