

## ***Interactive comment on “Sea ice cover in Isfjorden and Hornsund 2000–2014 by using remote sensing” by S. Muckenhuber et al.***

**S. Muckenhuber et al.**

stefan.muckenhuber@gmail.com

Received and published: 1 September 2015

Dear Referee #1,

Thank you very much for helping us improving our paper. We agree that the significance of the paper would increase if we could include ocean and atmosphere data. However, this work is still in progress and we decided to publish the sea ice cover time series earlier in order to make the time series open for other research groups. The AWAKE-2 team will have a workshop late this autumn to compare time series from the air-cryosphere-sea system where we hope we will be able to see the larger picture through interaction studies that you seek.

Answers to specific comments:

C1523

4045, L9: Note that part of the Fram Strait is in fact covered with ice, so I would be careful about this statement.

We agree and have done the following change to the sentence: 'It is a strong contribution to Svalbard's relatively warm climate and makes eastern Fram Strait contain the northernmost ice-free ocean, also during winter (Onarheim et al., 2014).'

Section 2, Data: It would be good to state what it is you actually measure from the remote sensing data set. It is stated that “sea ice conditions” are studied, would be better to state something like spatial ice extent and ice type.

Thanks, agree. We have done the following changes: 'Investigating sea ice conditions, like spatial extent and ice type, via satellite . . . '

Section 2, Error estimate: Again, here it would be better to state what specifically the error relates to such as spatial ice extent and ice type.

Agree, the following changes has been made: 'Since the time series is based on manual interpretation, defining an exact error value for spatial sea ice extent is not possible.'

4050, L13: Should read “unmistakably”

Thanks, done.

4050, L25: Should read “parameters”

Thanks, done.

4052, L14: The correlation is between the DFI parameter for the short and total season?

Yes, thanks. 'High correlation coefficients (R) between the total and short season DFI time series for both . . . '

Thanks again for your comments. We are looking forward to your reply!

Best regards, Stefan Muckenhuber

C1524

C1525