

Interactive comment on “First year of the new Arctic AWIPEV-COSYNA cabled Underwater Observatory in Kongsfjorden, Spitsbergen” by Philipp Fischer et al.

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Received and published: 3 August 2016

This paper reports about the first experiences obtained with the newly installed cabled underwater observatory installed in Kongsfjorden at the AWIPEV-base in Ny Ålesund, Spitsbergen. The system allows to measure temperature, salinity and turbidity and to make stereoscopic images at depths between 0 and 11 m water depth in the littoral of Kongsfjorden. The observatory works continuously and the image pairs and the hydrographic data are transferred automatically via Internet to the home laboratory in Germany for further processing. I can only congratulate the authors for the installation of this observatory in the Arctic allowing year-round observations of the shallow sublittoral! The results obtained during the first year are breathtaking! For the first time

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a distinct winter community was detected in the shallow littoral, which by far exceeds the summer community in abundance and species diversity. The data show clearly that species abundance and species richness is highest during polar night between December and April. Beside the light conditions water temperature may influence the temporal occurrence of the winter community. The results obtained during the first year can give only a small glimpse of what can be expected in future especially with respect to the temporal and spatial dynamics of the higher trophic levels of the food web such as fish and macroinvertebrates. Therefore, I recommend to accept this manuscript as final paper in OS after minor revision. I recommend the following changes: Title: Change into “First year practical experiences. . .” Page 2, lines 24, 25: cite: Paar M, Voronkov A, Hop H, Brey T, Bartsch I, Schwanitz M, Wiencke C, Lebreton B, Asmus R, Asmus H (in press) Temporal shift in biomass and production of macrozoobenthos in the macroalgal belt at Hansneset, Kongsfjorden, after 15 years. Polar Biol. doi 10.1007/s00300-015-1760-6

Page 14, lines 110, 11: Cite: Müller R, Bartsch I, Laepple, T, Wiencke C (2011) Impact of oceanic warming on the distribution of seaweeds in polar and cold-temperate waters. In: Wiencke C (ed): Biology of Polar benthic algae, de Gruyter, p. 237-270

P14 line 23: This is not only the first data set from Kongsfjorden but for the whole Arctic. Do not hide your light under a bushel. This is a point you should stress!

There are numerous typing errors. Please change! The first letter in “Arctic” is always a capital letter! “Appendicularia” are spelled with a “double p”! Use either the term “Kongsfjord” or “Kongsfjorden”! The upperpanel of Fig. 5 is not necessary!

In the following I list the typos in correct spelling. Page 1, line 19: system Page 1, line 25: underwater Page 3, line 4: zooplankton Page 3, line 24: seasonally Page 3, line 25: Jørgensen and Gulliksen Page 4, line 7: remotely Page 4, line 18: trophic Page 5, line 18: Saccharina, algal, Phycodryas Page 8, line 2: cover Page 8, line 3: litho-pelagic Page 8, line 9: depth Page 8, line 11: allows Page 8, line 14, provides Page 10, line 10:

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oculata Page 13, line 24: insufficient Page 14, line 27: reveal Page 14 line 30: show Page 15, line 1: chaetognaths Page 15, line 11: sunlight Page 15, line 14: column Page 14, line 22: show Page 14, line 24: seaspider Page 15, line 9: appendicularia page 17, line 31: shows page 18, line 18: loosing page 18, line 28: operation page 18, line 29: site page 21, line 20: Jørgensen page 25, line 27: reveal legend Fig. 8: seasonal

Further changes: Page 1, line 32: delete “the” before “polar systems” Page 5, line 17: change “*Alaria esculenta*” into italics Page 7, lines 26-28: Put “(Bartsch et al., 2016)” at the end of the sentence. Page 9, line 3: Insert “also” after “shows”. Page 9, line 11: Exchange “individuals” by “individual organisms” Page 13, line 1: Insert “fish” after “water”. Page 13, line 20: Delete “the” after “that”. Page 13, line 25: exchange “lead to” by “result in”. Page 14, line 13: Exchange “did” by “do”. Page 15, line 29: Exchange “this” by “these”. Page 15, line 30: Change the order of words into: “may also”. Page 16, line 21: Make a full stop after (Pihl, 1982). Delete “and assumed” by “This has been regarded as” Page 17, line 17: Change “*Myoxocephalus scorpius*” into italics. Page 17, line 30: Exchange “those” by “fish with these characteristics”. Page 23, line 21: The paper appeared in “Polar Biol. 24, 2001, 113-121.” Page 23, line 22: Change “*Calanus*” into italics. Page 23, line 13: The correct citation for this issue is: “Ber. Polarforsch. Meeresforsch. 492, 2004, 1-244”

Interactive comment on Ocean Sci. Discuss., doi:10.5194/os-2016-52, 2016.