ESSD- 2021-141 Author Responses – updated figures

Figure related comments (RC1):

Figure 3: I really like this figure, except it is not clear to me which columns go with which pH label. You have 4 labels but 3 columns of squares, so I could not figure out where the delineations were.

Here we wanted to highlight that acidic classes are on the very left, slightly acidic is on the transition from first to second box, neutral is transition from second to third box and alkaline is on the very right hand side. For clarity, we updated and simplified the figure to have acidic under the left most box, slightly acidic/neutral under the middle box, and Alkaline under the right most box

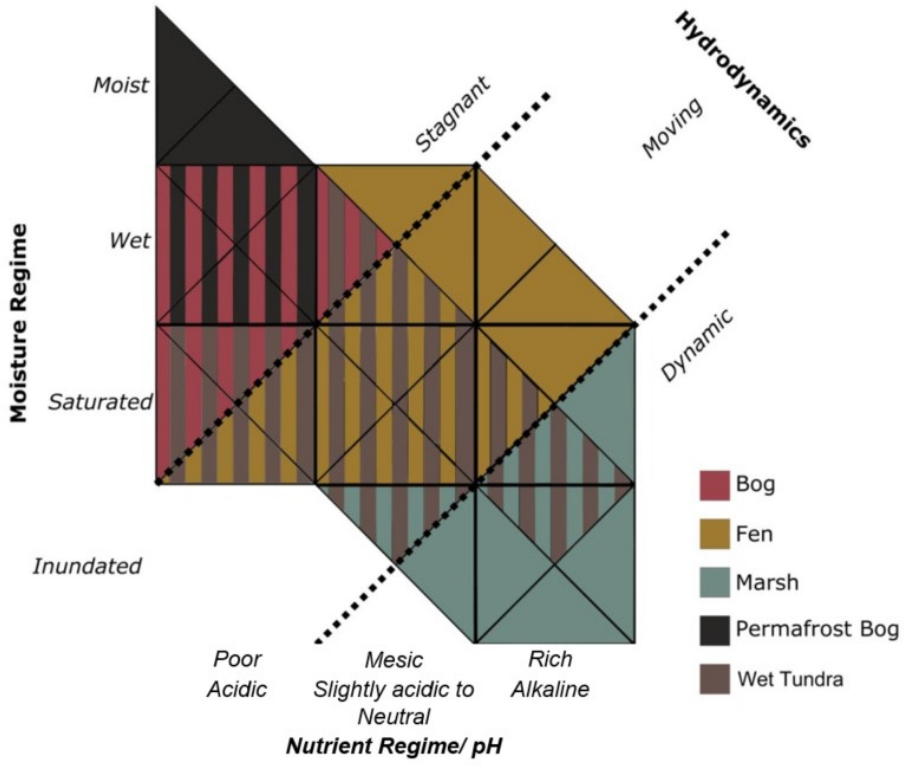

Figure 1. Definitions of the five wetland classes in BAWLD along axes of moisture regime and nutrient regime.

Figure 10: Please increase the contrast between the circle colors by making the ebullition circles darker (as in the color scheme for Figure 11).

We changed the color of the ebullition circles to a darker shade of blue for better contrast

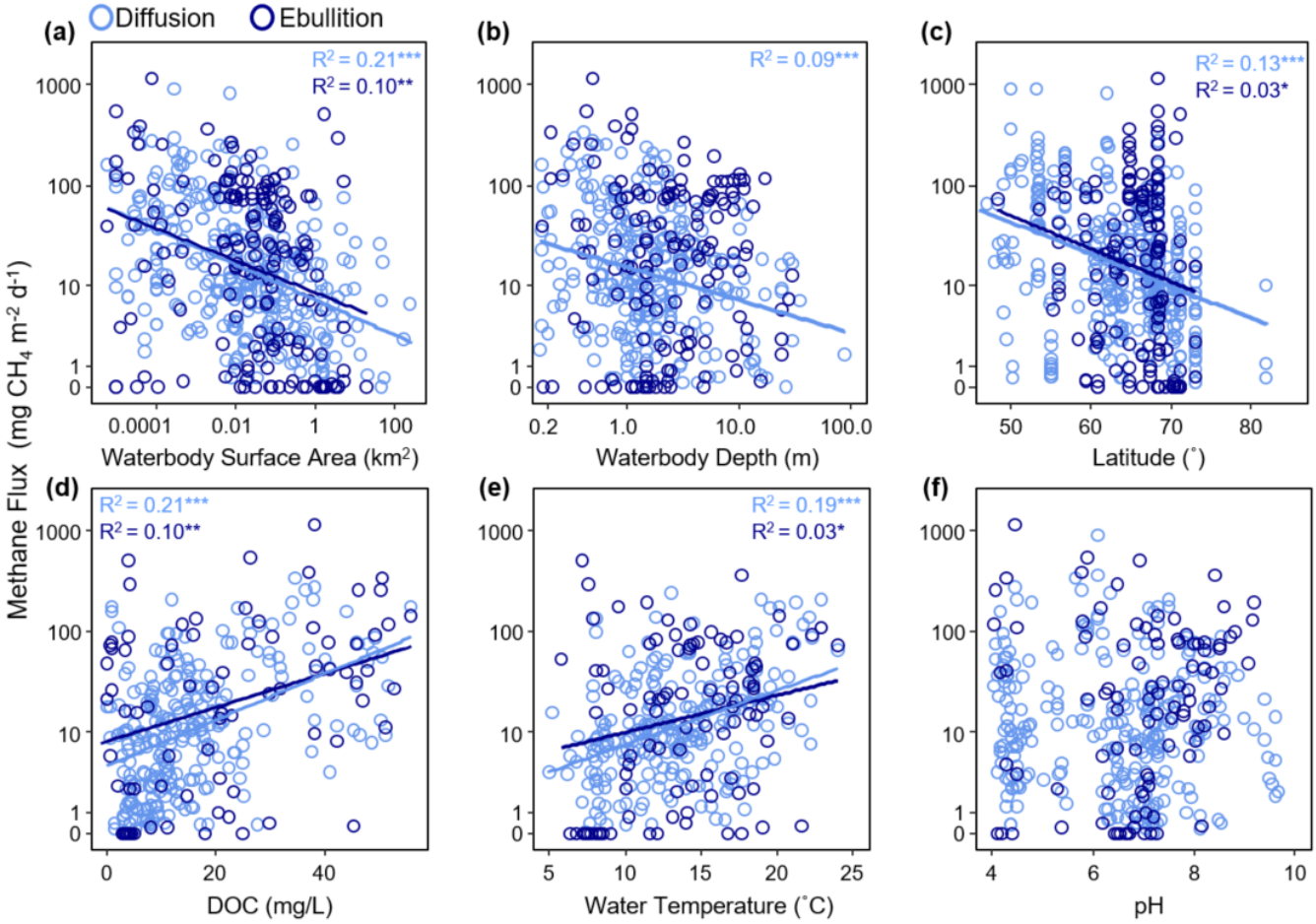

Figure 2. Relationships between site-averaged ice-free diffusive and ebullitive CH_4 fluxes (note the log scale) and environmental variables. Environmental variables include surface area, waterbody depth, latitude, dissolved organic carbon (DOC) concentration, water temperature, and pH. Regression lines and R-square values are shown for significant relationships. Log diffusive CH_4 flux was linearly related to surface area, depth, latitude, water temperature, and DOC. Log ebullitive fluxes were linearly related to surface area, latitude, DOC, and water temperature. * P <0.05. ** P < 0.01. *** P < 0.001.

Figure 12: Having the bar graphs be a single shade of green is mildly confusing since shades of green also represent Relative Land Cover. I would suggest either making your bar graph colors match the legend based on their relative land cover or making them all a non-green color.

We changed the colors of the bar graph to grey to reduce confusion with the relative land cover color.

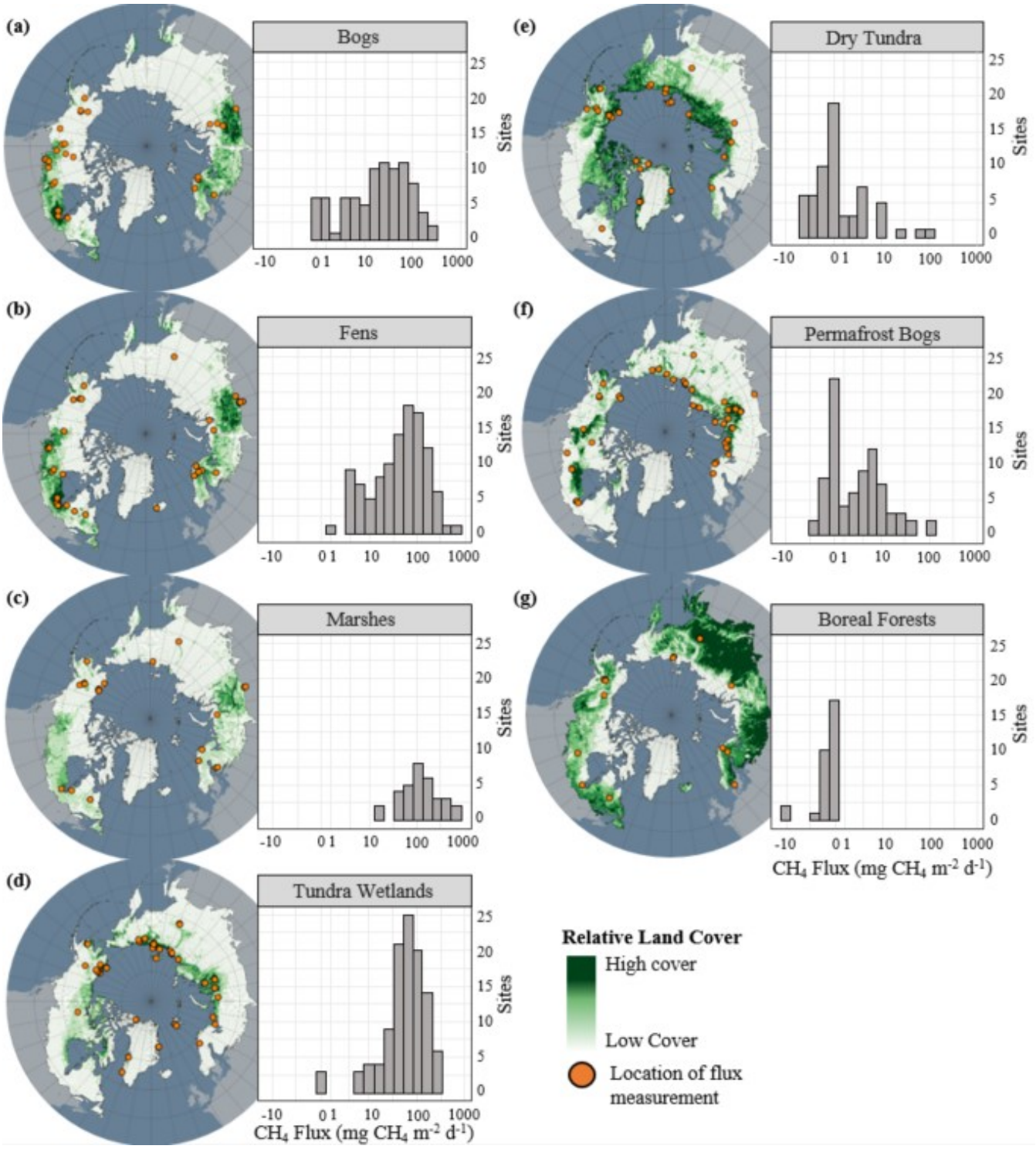

Figure 3. Geographical distribution and flux frequencies and for each terrestrial class. Relative land cover for each type is represented in green on the map. Site locations are represented by orange circles. Note the log scale for CH_4 flux. Land cover distributions from Olefeldt et al. 2021. Histograms of non-transformed flux data can be found in the SI Fig. 3.

Figure related comments (RC2):

Figure 14: As with Figure 12, it is confusing here to have shades of blue mean two different things: either ebullition/diffusion, or relative land cover. I would suggest using a different color scheme for one of these.

We changed the colors of the bar graph to grey and black for diffusion and ebullition, respectively, to reduce confusion with the relative land cover color.

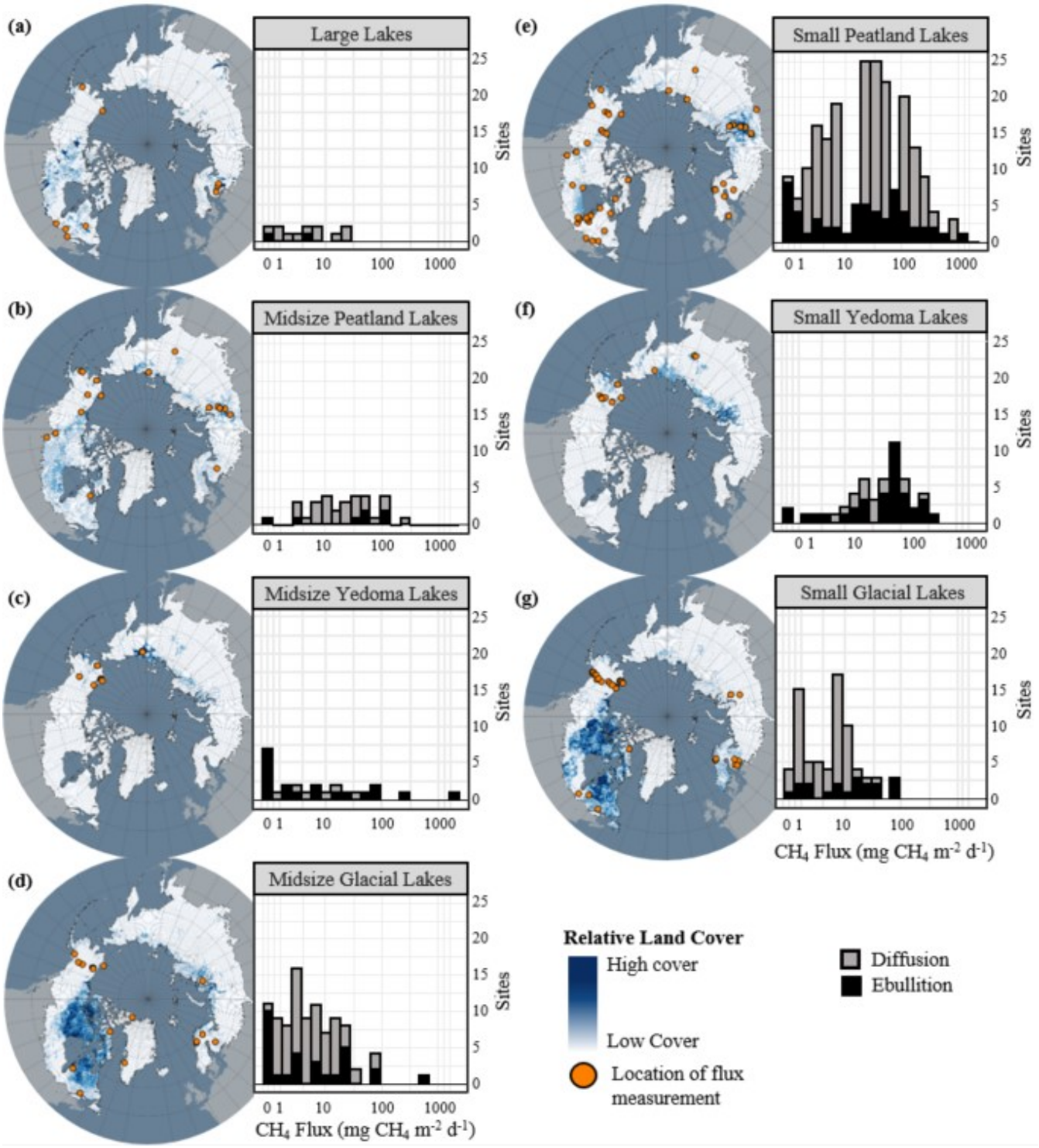

Figure 4. Flux frequencies and geographical distribution for each aquatic class. Relative land cover for each class type is represented in blue on the map. Site locations are represented by orange circles. Note the log scale for CH_4 flux. Land cover distributions from Olefeldt et al. 2021. Histograms of non-transformed flux data are shown in SI Fig. 4.

Section 3.3 figure citations- do you mean Fig. 10 (not fig 2.10) in this section? And re: fig. 10, while the 2 different blues are easily distinguishable in Fig. 9, they are less so in this figure."

We fixed the citations in this section to all be Fig. 10. We also changed this figure to make the colors contrast better with a darker blue color for ebullition (see Figure 10 under RC1 comments).