Reviewed figures (and additional figures only for reviewer2) of the manuscript «**Marine snow morphology drives sinking and attenuation in the ocean interior**» MS No.: egusphere-2024-3302
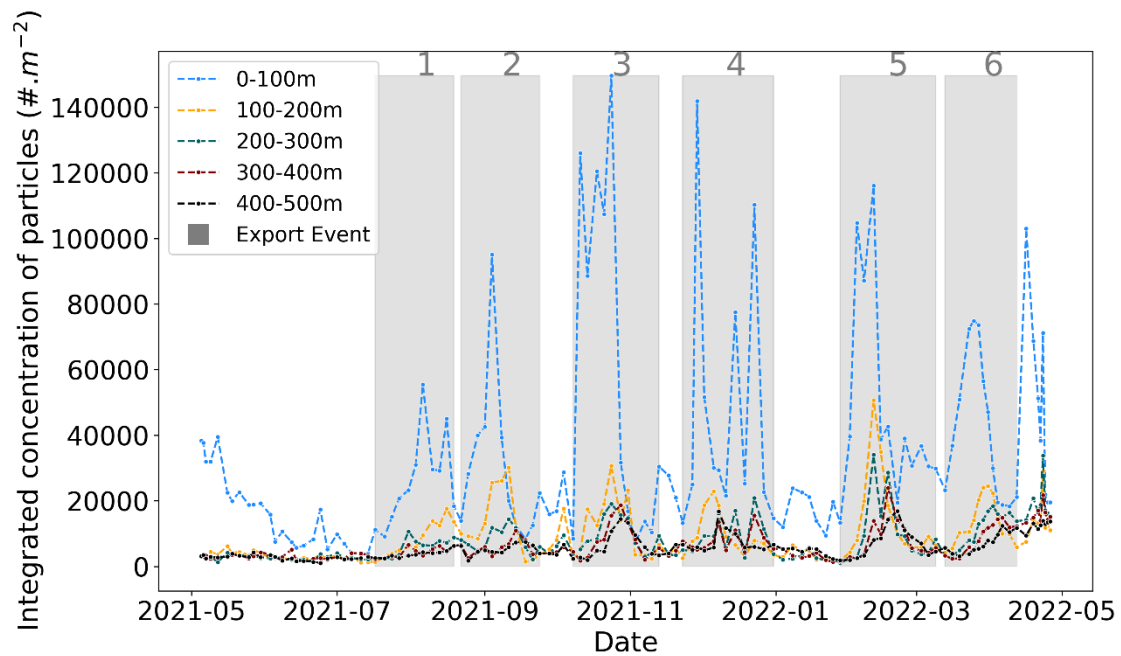

Figure 2: Time series of vertically integrated marine snow (MaP, all particles >600μm) concentrations (# m^{-2}) in 5 layers in the upper 1000 m depth. The 6 bloom periods shaded in gray correspond to six export events that are marked by delayed peaks in the mesopelagic. The periods are defined for the events in 2021 as 07/17-08/19, 08/22-09/24, 08/10-11/13, 11/23-12/31 and in 2022 as 01/28-03/09 and 03/13 to 04/12.
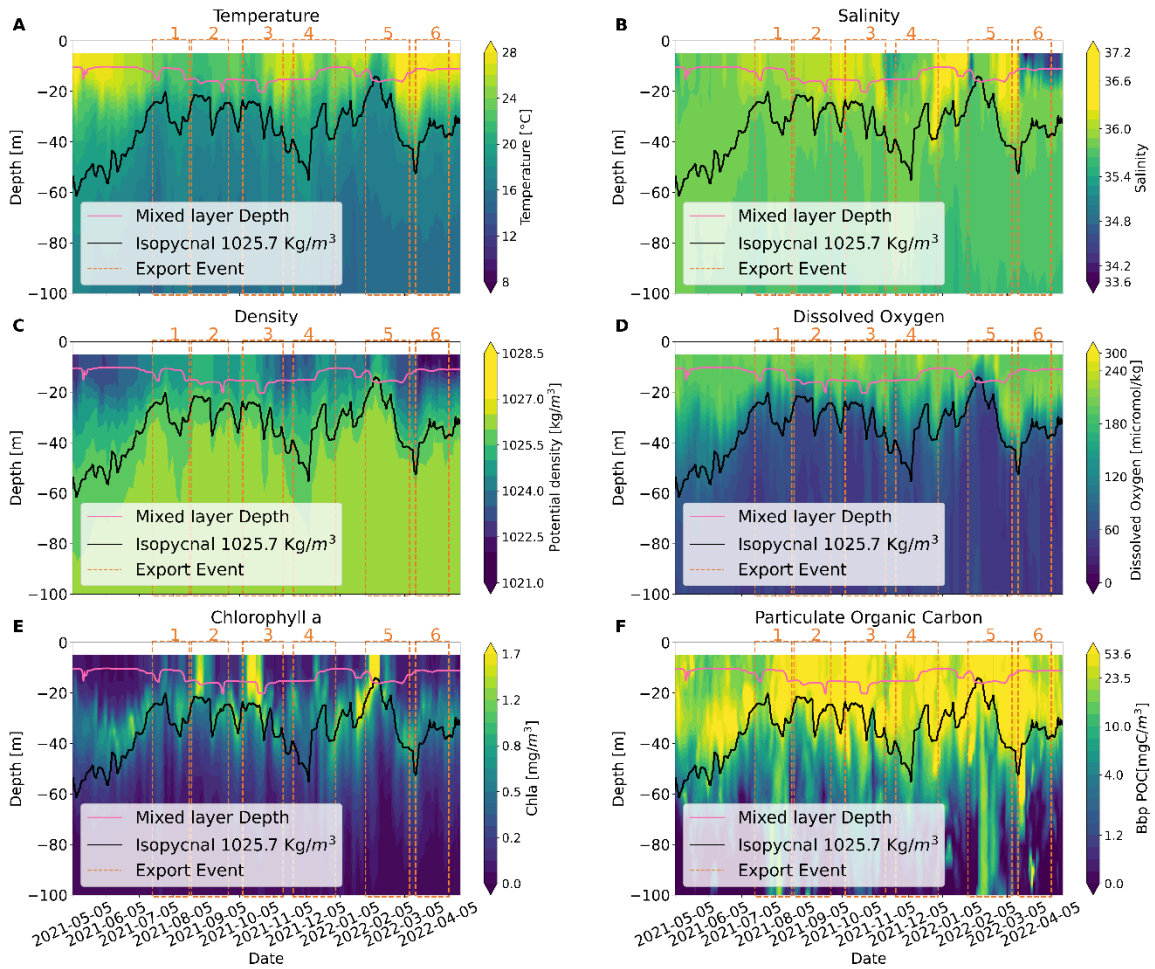
Figure 3 : 0-100 m, 2D time series of A) temperature, B) salinity, C) density, D) dissolved oxygen, E) chlorophyll *a* concentration and F) Bbp POC. The black line depicts the 1025.7 kg m⁻³ isopycnal. The red line represents the mixed layer depth.

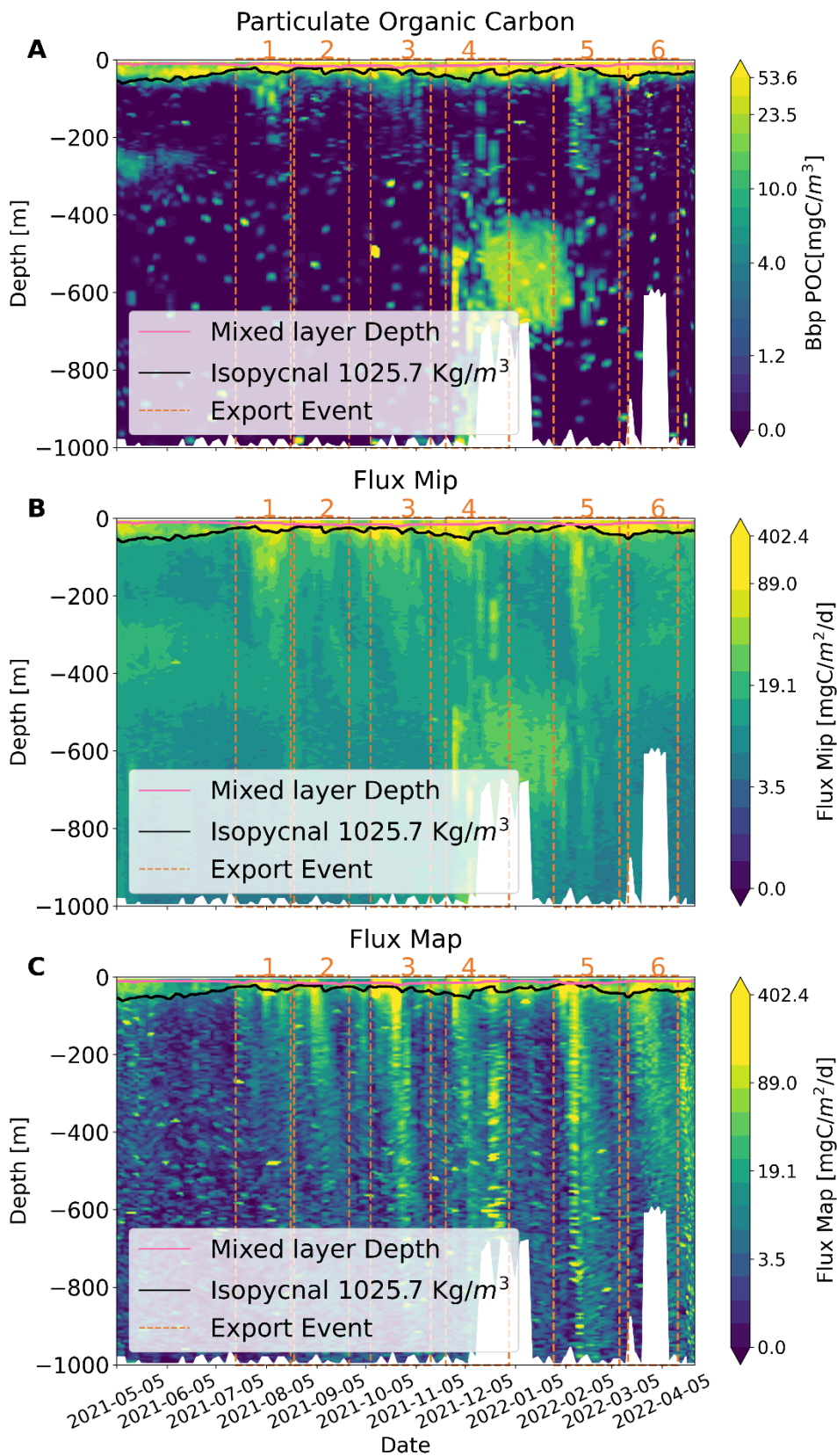## 3.2 Full Depth (0-1000m) time series of Bbp POC, MiP and MaP

Figure 4: Time–depth profiles determined from the BGC Argo float for A) Bbp POC, B) MiP flux, and C) MaP flux (in logarithmic scale) as a function of time and depth with the 6 export periods being illustrated by the red vertical dashed lines. The black line depicts the 1025.7 kg m⁻³ isopycnal. The maximum depth of the float corresponds to the bottom depth, marked by a white mask. The red line represents the mixed layer depth.
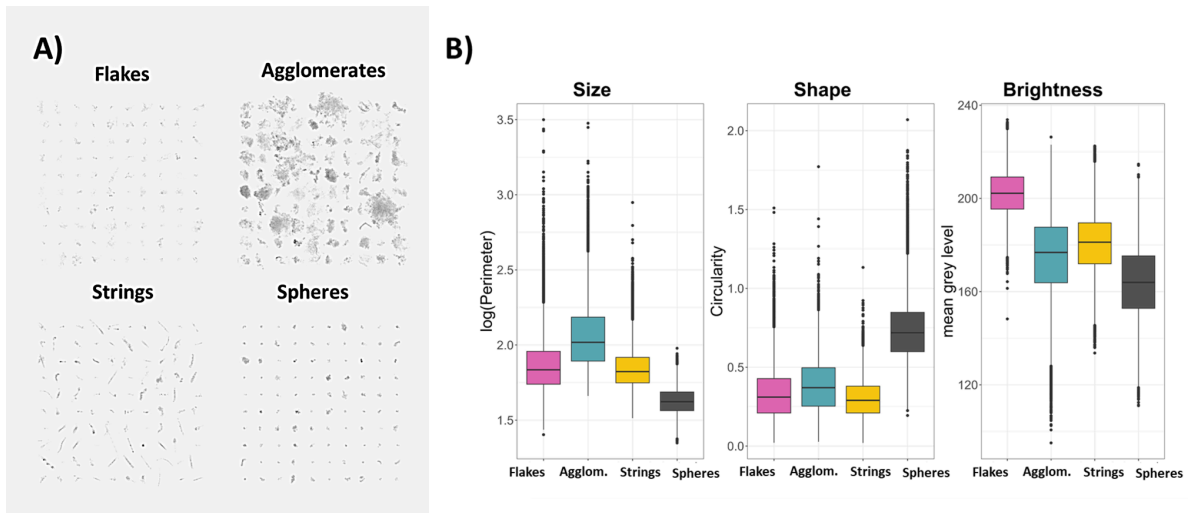
Figure 5: A) Example vignettes of the four defined morphotypes (flakes, agglomerates, strings and spheres), we applied microsoft windows photo software changes to the vignettes with contrast (-40%), brightness (-8%), sharpness (100%) and B) their mean morphological traits describing main aspects of size (via perimeter (μm)), shape (via circularity, dimensionless) and brightness (via mean gray level, dimensionless range 0 black to 256 white pixel).
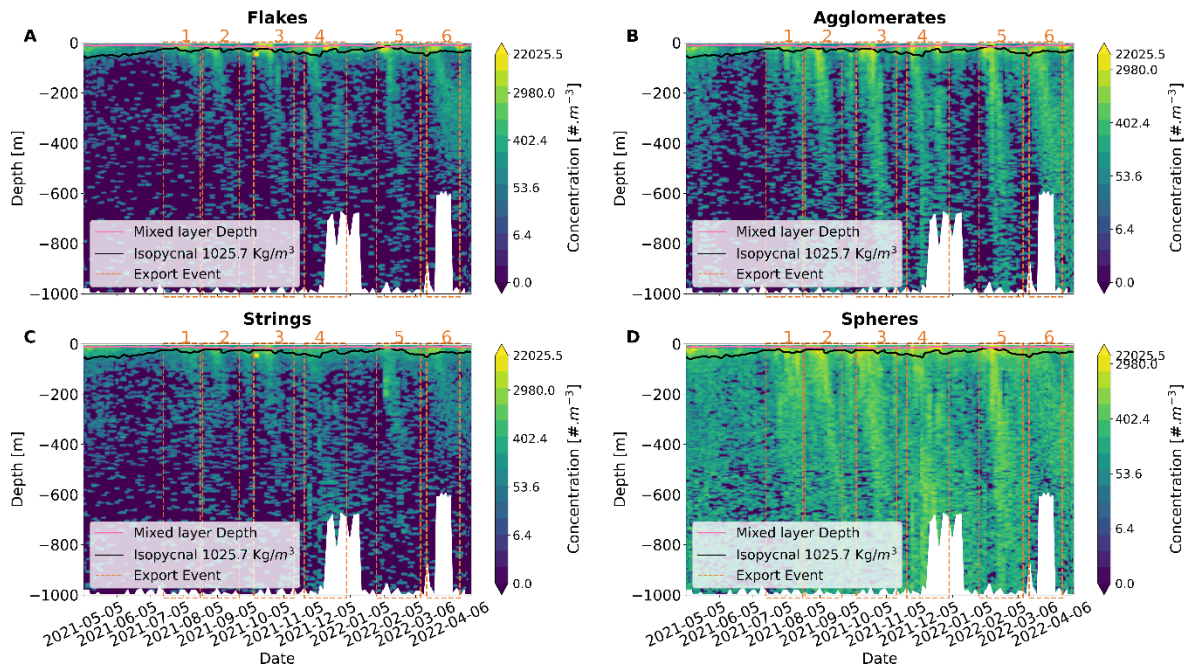

Figure 6: Contour plot of the four marine snow types: A) Flakes, B) Agglomerate, C) Strings, D) Spheres, as a function of time and depth. The 6 export events are depicted by the red vertical dash lines. The black line depicts the 1025.7 kg m^{-3} isopycnal. The maximum depth of the float corresponds to the bottom depth, marked by a white mask.

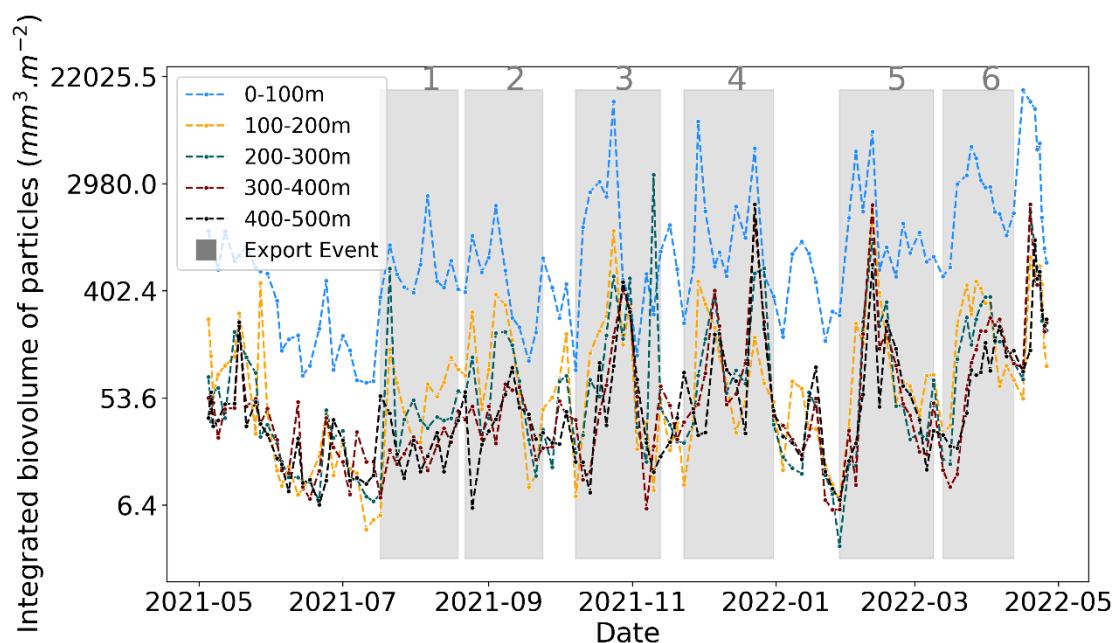**Additional Figures based on particle biovolumes for Review only**

Figure S2: Time series of vertically integrated marine snow (MaP, all particles >600µm) biovolume (mm⁻³m⁻²) in 5 layers in the upper 1000 m depth. The 6 bloom periods shaded in gray correspond to six export events that are marked by delayed peaks in the mesopelagic. The periods are defined for the events in 2021 as 07/17-08/19, 08/22-09/24, 08/10-11/13, 11/23-12/31 and in 2022 as 01/28-03/09 and 03/13 to 04/12.
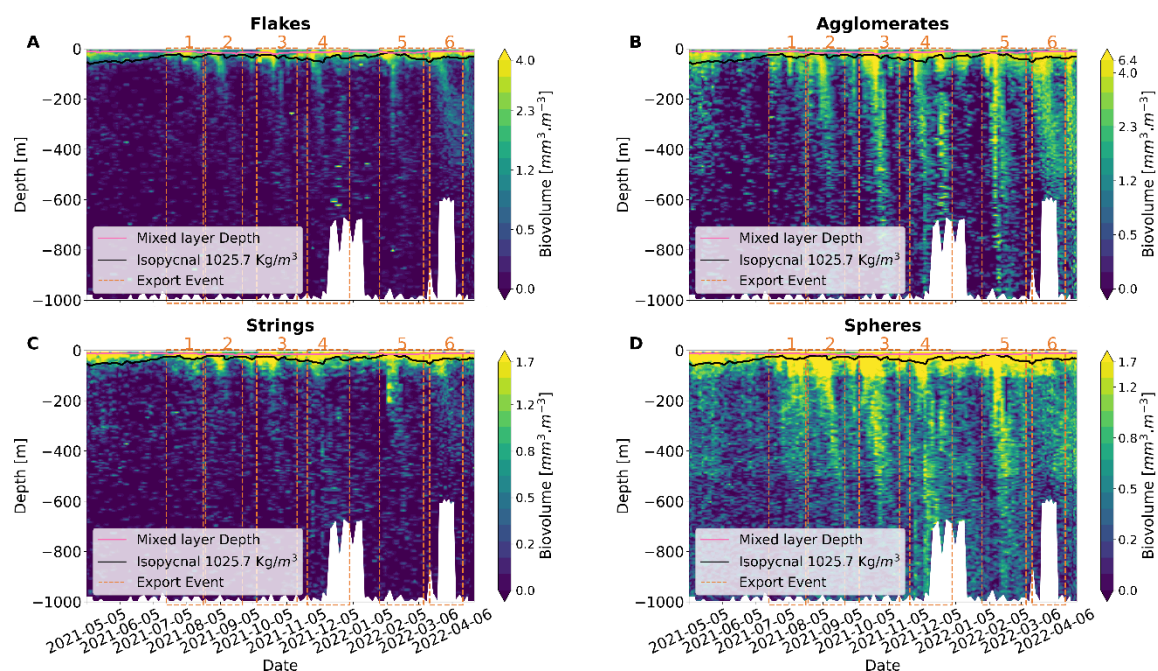

Figure S6: Contour plot of the four marine snow types based on particle biovolumes: A) Flakes, B) Agglomerate, C) Strings, D) Spheres, as a function of time and depth. The 6 export events are depicted by the red vertical dash lines. The black line depicts the 1025.7 kg m⁻³ isopycnal. The maximum depth of the float corresponds to the bottom depth, marked by a white mask.