Supporting Information for "Physical modeling of gelatinous zooplankton sinking in the deep global ocean"

M. Ličer [1,2], M. Vodopivec [2], G. J. Herndl[3,4], T. Tinta [2]

[1]Slovenian Environment Agency, Ljubljana, Slovenia
[2]National Institute of Biology, Ljubljana, Slovenia
[3]Department of Functional and Evolutionary Ecology, Bio-Oceanography and Marine Biology Unit, University of Vienna, Vienna, Austria
[4]NIOZ, Department of Marine Microbiology and Biogeochemistry, Royal Netherlands Institute for Sea Research, Den Burg, The Netherlands

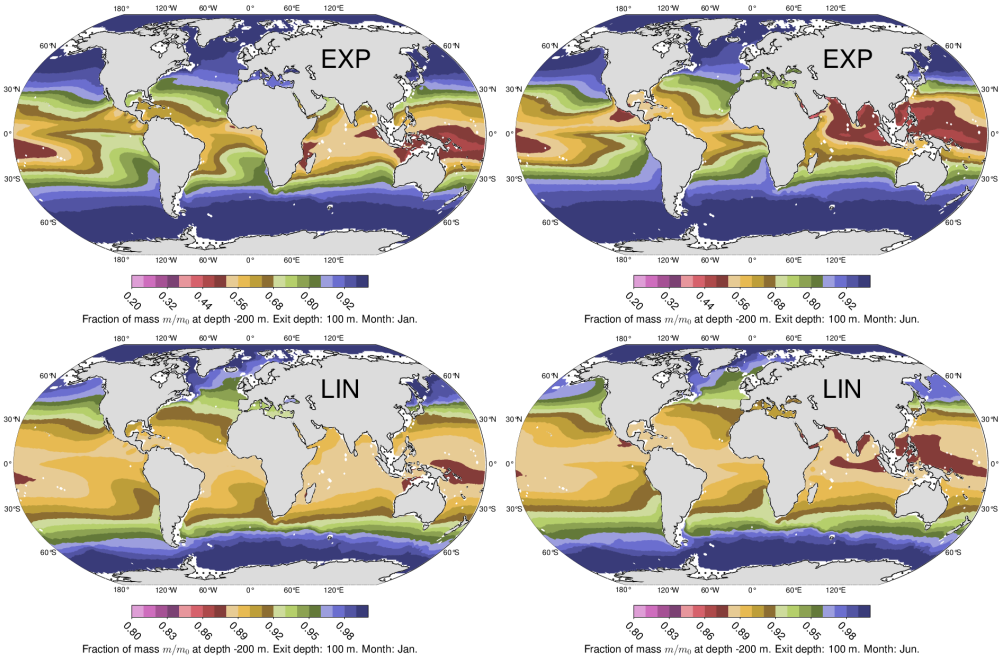

Figure 1. Fraction of mass that arrives at the bottom of the euphotic zone at 200 m (from the exit depth of 100 m), starting with initial surface sinking speed of $w = 1500$ m d^{-1}. **Top row**: solutions with an exponential decay rate $k_{exp}(T)$. **Bottom row**: solutions with a linear decay rate $k_{lin}(T)$. **Left column**: solutions for January ocean temperatures. **Right column**: solutions for June ocean temperatures. Note the different color scales for exponential (top row) and linear (bottom row) decay rates.

Corresponding author: Matjaž Ličer, matjaz.licer@nib.si

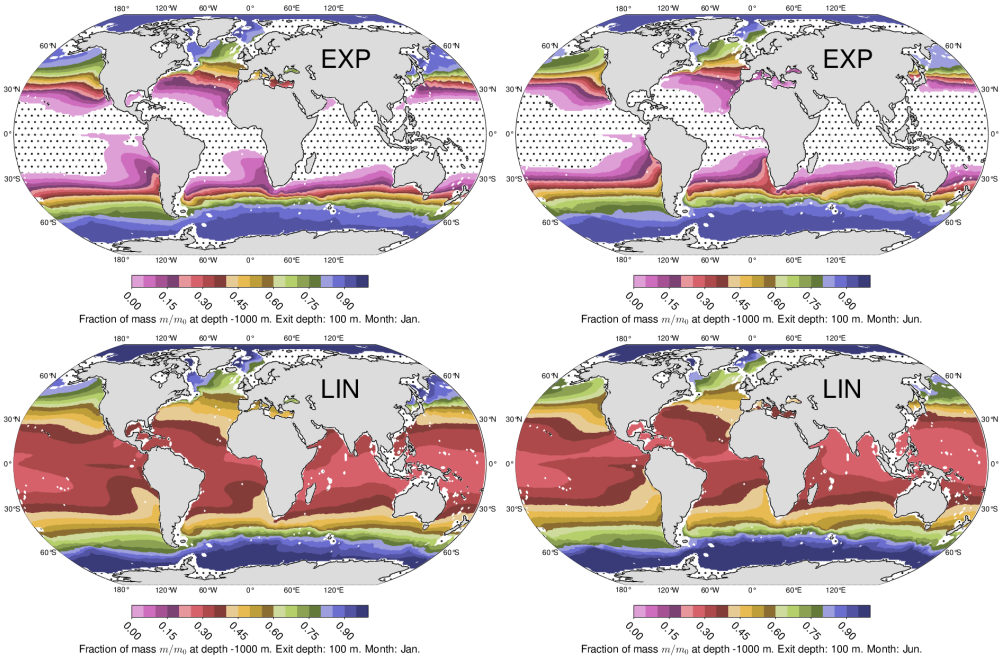

Figure 2. Same as Figure 1 but for a fraction of mass that arrives at the bottom of the twilight zone at 1000 m (from the exit depth of 100 m), starting with initial surface sinking speed of $w = 1500$ m d^{-1}. Dotted regions indicate areas where less than 10^{-4} of surface mass reached the depth of 1000 m.

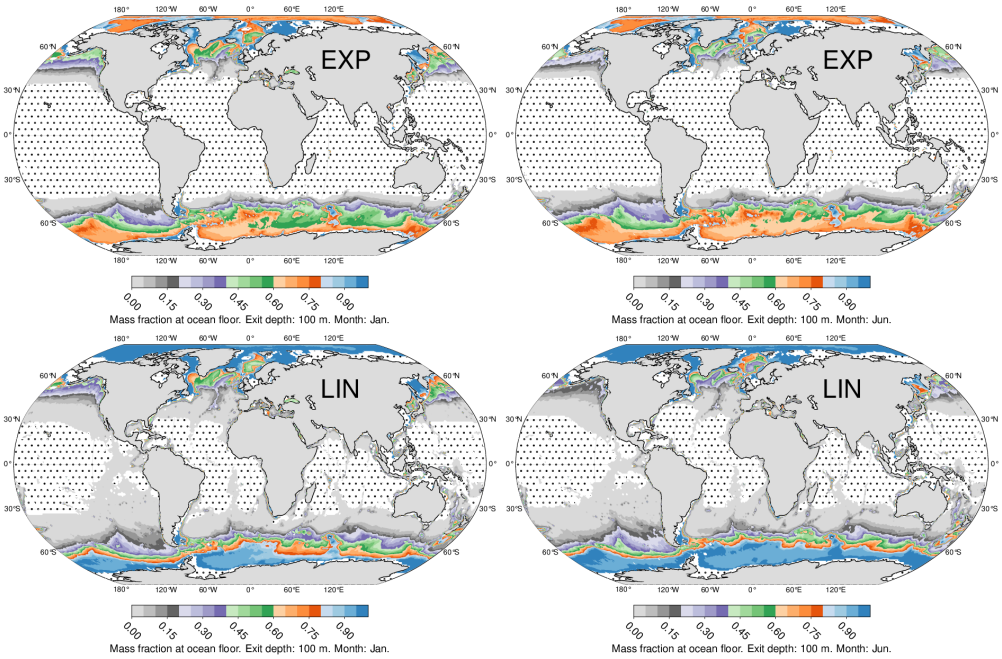

Figure 3. Same as Figure 1 but for the fraction of mass that arrives at the bottom of the ocean (from the exit depth of 100 m), starting with initial surface sinking speed of $w = 1500$ m d^{-1}. Dotted regions indicate areas where less than 10^{-4} of surface mass reached ocean floor.

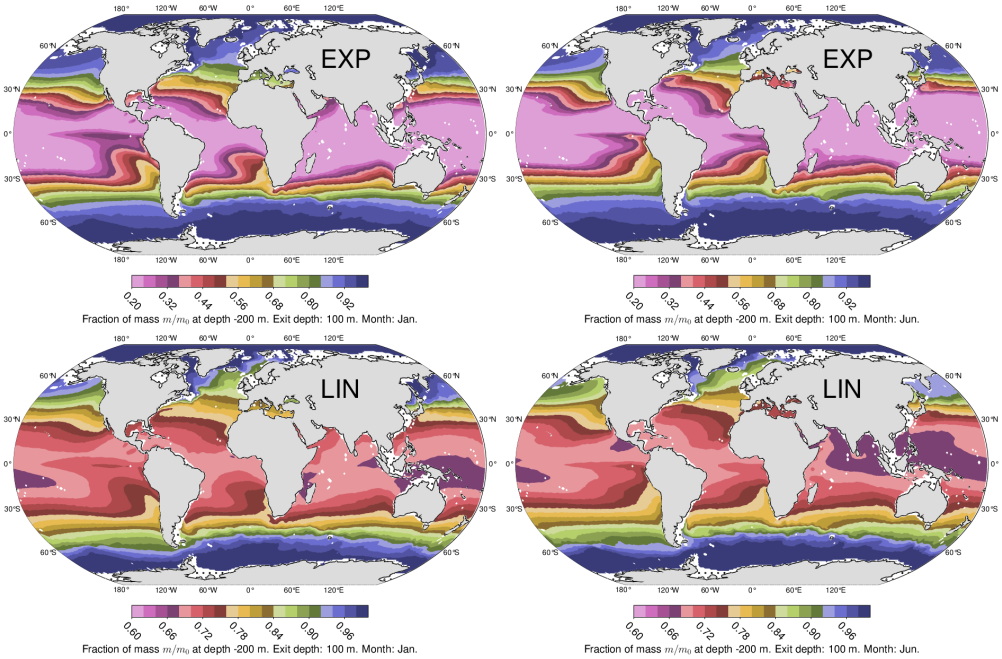

Figure 4. Fraction of mass that arrives at the bottom of the euphotic zone at 200 m (from the exit depth of 100 m), starting with initial surface sinking speed of $w = 500$ m d^{-1}. **Top row**: solutions with an exponential decay rate $k_{exp}(T)$. **Bottom row**: solutions with a linear decay rate $k_{lin}(T)$. **Left column**: solutions for January ocean temperatures. **Right column**: solutions for June ocean temperatures. Note the different color scales for exponential (top row) and linear (bottom row) decay rates.

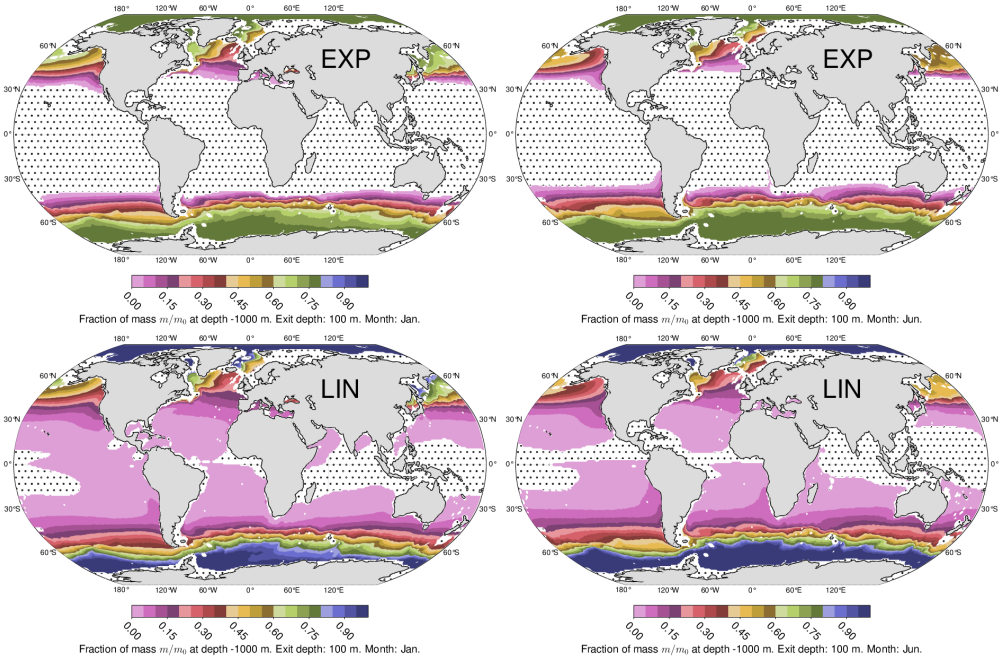

Figure 5. Same as Figure 4 but for a fraction of mass that arrives at the bottom of the twilight zone at 1000 m (from the exit depth of 100 m), starting with initial surface sinking speed of $w = 500$ m d^{-1}. Dotted regions indicate areas where less than 10^{-4} of surface mass reached the depth of 1000 m.

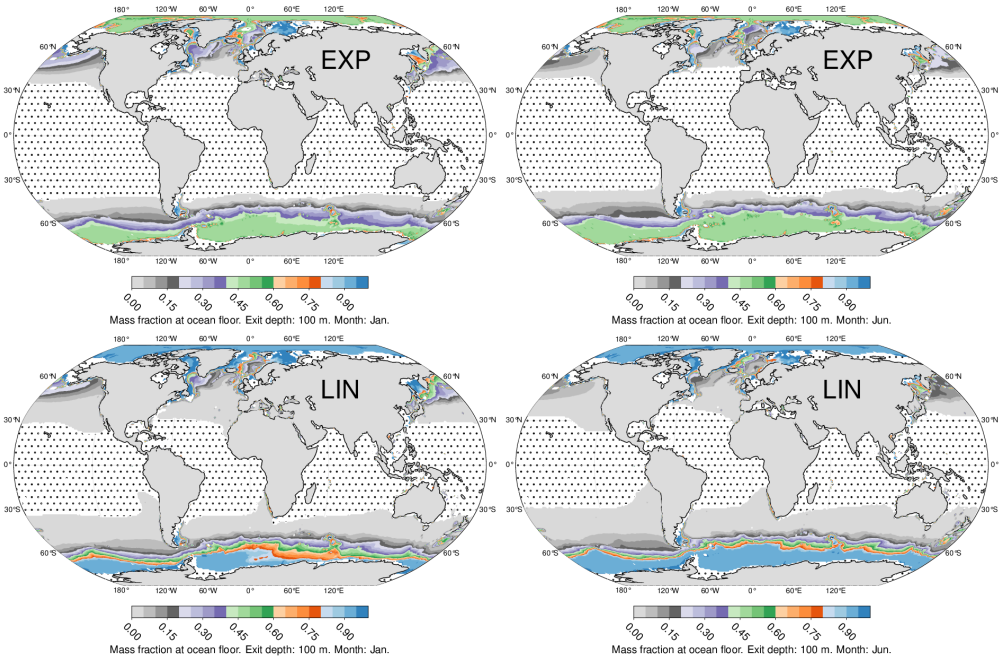

Figure 6. Same as Figure 4 but for the fraction of mass that arrives at the bottom of the ocean (from the exit depth of 100 m), starting with initial surface sinking speed of $w = 500$ m d^{-1}. Dotted regions indicate areas where less than 10^{-4} of surface mass reached ocean floor.

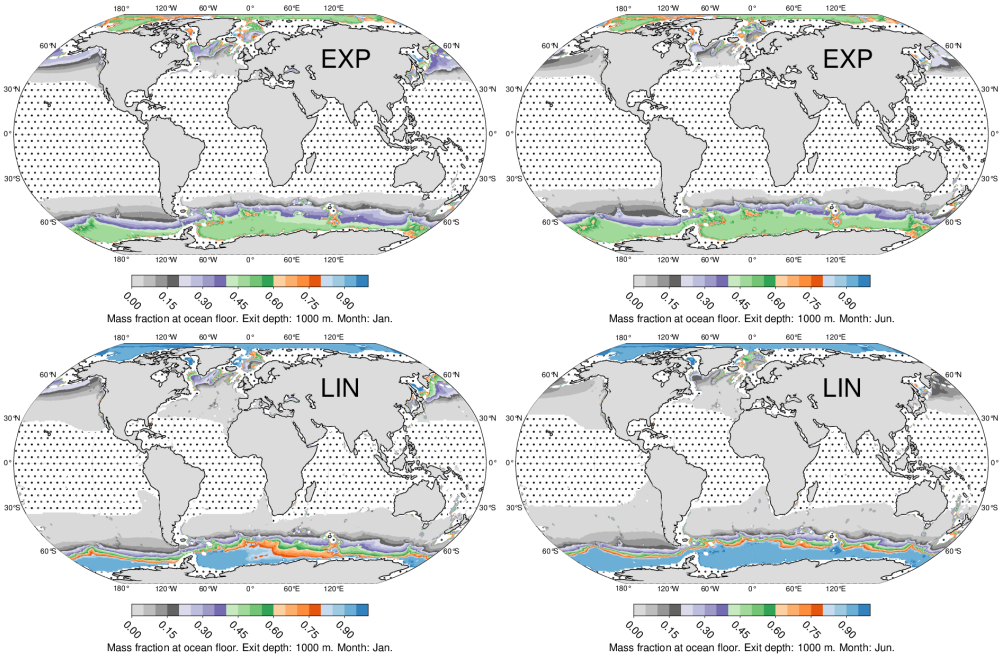

Figure 7. Fraction of mass that arrives to the ocean floor (from the exit depth of 1000 m), starting with initial surface sinking speed of $w = 500$ m d^{-1}. **Top row**: solutions with an exponential decay rate $k_{exp}(T)$. **Bottom row**: solutions with a linear decay rate $k_{lin}(T)$. **Left column**: solutions for January ocean temperatures. **Right column**: solutions for June ocean temperatures. Note the different color scales for exponential (top row) and linear (bottom row) decay rates.

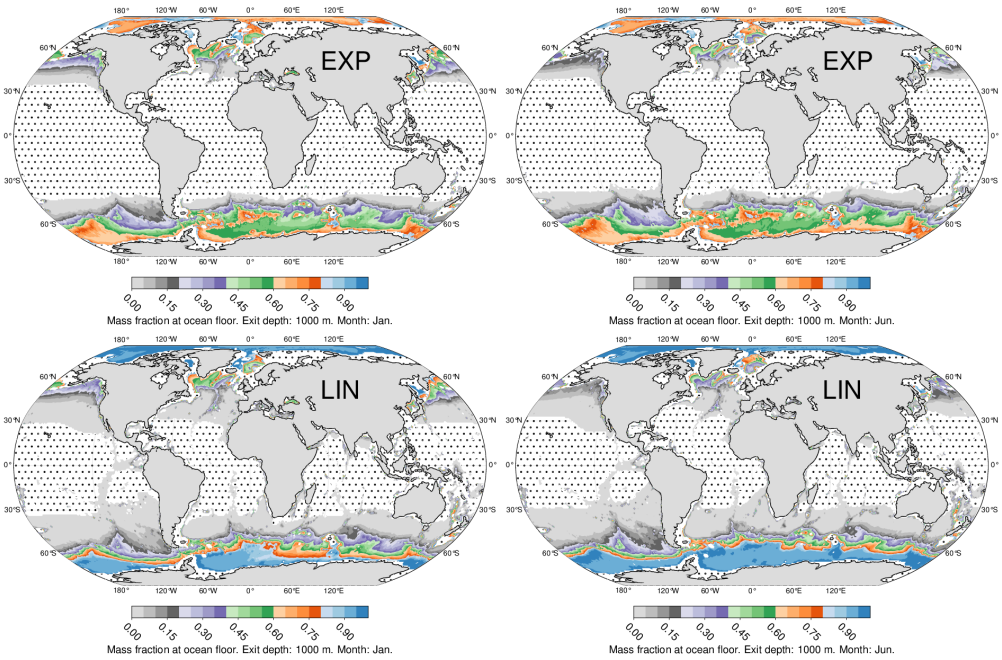

Figure 8. Same as Figure 7 but for the fraction of mass that arrives at the bottom of the ocean with initial surface sinking speed of $w = 1000$ m d^{-1}. Dotted regions indicate areas where less than 10^{-4} of surface mass reached ocean floor.

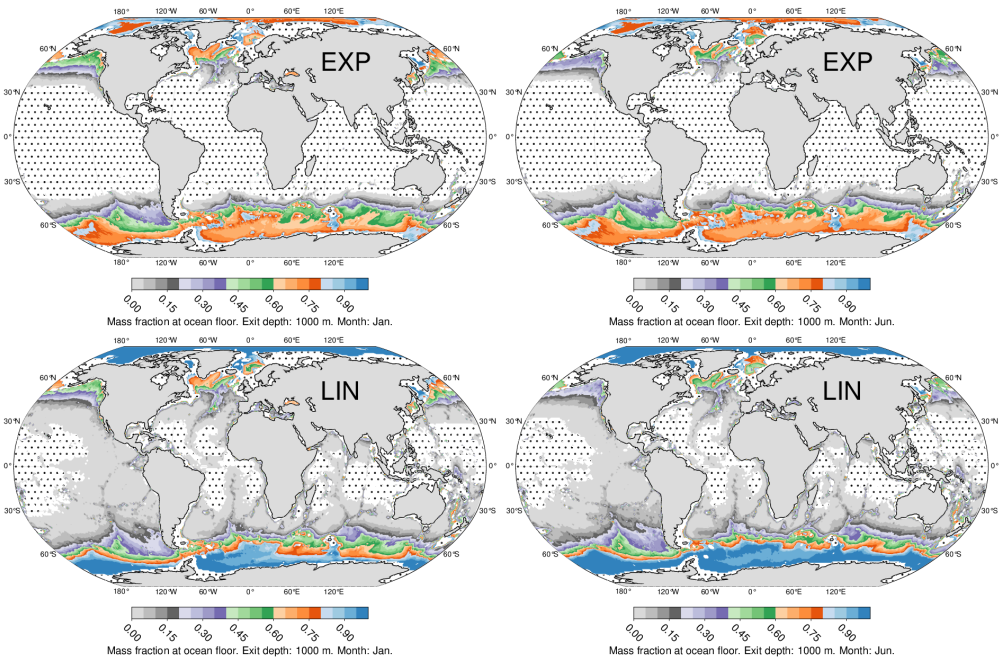

Figure 9. Same as Figure 7 but for the fraction of mass that arrives at the bottom of the ocean with initial surface sinking speed of $w = 1500$ m d^{-1}. Dotted regions indicate areas where less than 10^{-4} of surface mass reached ocean floor.