



Supplement of

Reanalysis of vertical mixing in mesocosm experiments: PeECE III and KOSMOS 2013

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Figure S 1. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #1 of PeECE III. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 2. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #2 of PeECE III. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 3. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #3 of PeECE III. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 4. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #4 of PeECE III. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 5. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #5 of PECE III. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 6. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #6 of PECE III. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 7. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #7 of PeECE III. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 8. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #8 of PeECE III. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 9. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #9 of PEECE III. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 10. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #1 of KOSMOS 2013. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 11. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #2 of KOSMOS 2013. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 12. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #3 of KOSMOS 2013. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 13. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #4 of KOSMOS 2013. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 14. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #5 of KOSMOS 2013. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 15. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #6 of KOSMOS 2013. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 16. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #7 of KOSMOS 2013. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 17. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #8 of KOSMOS 2013. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 18. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #9 of KOSMOS 2013. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).



Figure S 19. Temporal evolution of temperature, salinity, and diffusivity profiles in mesocosm #10 of KOSMOS 2013. The first row shows observed temperature and salinity; the following rows show simulated temperature, salinity, and diffusivity for a) the salinity optimisation (second row), b) the temperature optimisation (third row), and c) the optimisation that depends on both temperature and salinity (fourth row).