Reviewer 1:

(G) *The collection of high-accuracy and robust bathymetric data is of paramount interest for any hydraulic and coastal study. Moreover, because of the complex morphology of river deltas, the bathymetry collection and interpolation are challenging. The paper presents well the analysis of different datasets and their interpolation in the river branches of the Danube Delta. The paper is well written and well structured, and results are clearly presented, with relevant figures and tables. I compliment the authors for their data collection and analysis work.*
I recommend publication, subject to the authors addressing the comments made below.

Response:
Thank you for your feedbacks! We sincerely appreciate your positive comments on our study. We have carefully considered and addressed the specific comments you provided and incorporated the necessary revisions.

(1) *I strongly recommend focusing abstract, section Application (4.4) and Conclusions on the topic of this dataset without digressing on future work on land-sea (modelling) studies (which can be the subject of another paper).*

Response:
As per your feedback, we modified the abstract, section “Application (4.4)” and conclusion to reduce the focus on the hydrodynamic model. We removed the sentence mentioning the model in the abstract, reduced the paragraph mentioning the hydrodynamic model in the application section (lines 204 to 212) and removed the sentence that talked specifically about the hydrodynamic model in the conclusion.

The first paragraph of the application section now reads: One of the possible applications for this dataset is its use in a hydro-biogeochemical model of the Danube-Black Sea continuum. The Danube Delta plays an important buffering role between the river and the sea, but most present-day models do not represent the delta (Beckers et al., 2002; Grégoire and Friedrich, 2004; Kara et al., 2008; Kubryakov et al., 2018; Lima et al., 2020).This oversimplification can lead to inaccuracies in the representation riverine inputs to the sea, which can in turn significantly impact the simulation of coastal processes (Bonamano et al., 2024; Breitburg et al., 2018; Ivanov et al., 2020; Rose et al., 2017). Therefore, having a high-resolution, easily accessible bathymetry dataset for the Danube Delta’s branches is an important step toward improving of Black Sea coastal models and better understanding interactions within the Danube-Black Sea continuum. With that application in mind, future improvements to this dataset could include extending coverage to the shallow coastal waters in front of the delta.

(2) *Moreover, I suggest the author mention that such a dataset could be further improved including the bathymetry of the coastal area in front of the delta*.

Response:
Thank you for your suggestion! We decided to follow it by adding a sentence at the end of the paragraph about the Danube-Black Sea continuum model in the “Application (4.4)” section (see lines 211-212), as a coastal bathymetry would be an essential part for this application. This bathymetry product focuses on the Delta area where a consistent bathymetry dataset is

lacking. It could be extended with coastal bathymetric product (eg. EMODnet, GEBCO) using appropriate procedures.

It reads: With that application in mind, future improvements to this dataset could include extending coverage to the shallow coastal waters in front of the delta.

References

Beckers, J. M., Gregoire, M., Nihoul, J. C. J., Stanev, E., Staneva, J., and Lancelot, C.: Modelling the Danube-influenced North-western Continental Shelf of the Black Sea. I: Hydrodynamical Processes Simulated by 3-D and Box Models, Estuarine, Coastal and Shelf Science, 54, 453–472, https://doi.org/10.1006/ecss.2000.0658, 2002.

Bonamano, S., Federico, I., Causio, S., Piermattei, V., Piazzolla, D., Scanu, S., Madonia, A., Madonia, N., De Cillis, G., Jansen, E., Fersini, G., Coppini, G., and Marcelli, M.: River–coastal–ocean continuum modeling along the Lazio coast (Tyrrhenian Sea, Italy): Assessment of near river dynamics in the Tiber delta, Estuarine, Coastal and Shelf Science, 297, 108618, https://doi.org/10.1016/j.ecss.2024.108618, 2024.

Breitburg, D., Levin, L. A., Oschlies, A., Grégoire, M., Chavez, F. P., Conley, D. J., Garçon, V., Gilbert, D., Gutiérrez, D., Isensee, K., Jacinto, G. S., Limburg, K. E., Montes, I., Naqvi, S. W. A., Pitcher, G. C., Rabalais, N. N., Roman, M. R., Rose, K. A., Seibel, B. A., Telszewski, M., Yasuhara, M., and Zhang, J.: Declining oxygen in the global ocean and coastal waters, Science, 359, https://doi.org/10.1126/science.aam7240, 2018.

Grégoire, M. and Friedrich, J.: Nitrogen budget of the northwestern Black Sea shelf inferred from modeling studies and in situ benthic measurements, Marine Ecology Progress Series, 270, 15–39, https://doi.org/10.3354/meps270015, 2004.

Ivanov, E., Capet, A., Barth, A., Delhez, E. J. M., Soetaert, K., and Grégoire, M.: Hydrodynamic variability in the Southern Bight of the North Sea in response to typical atmospheric and tidal regimes. Benefit of using a high resolution model, Ocean Modelling, 154, 101682, https://doi.org/10.1016/j.ocemod.2020.101682, 2020.

Kara, A. B., Wallcraft, A. J., Hurlburt, H. E., and Stanev, E. V.: Air–sea fluxes and river discharges in the Black Sea with a focus on the Danube and Bosphorus, Journal of Marine Systems, 74, 74–95, https://doi.org/10.1016/j.jmarsys.2007.11.010, 2008.

Kubryakov, A. A., Stanichny, S. V., and Zatsepin, A. G.: Interannual variability of Danube waters propagation in summer period of 1992–2015 and its influence on the Black Sea ecosystem, Journal of Marine Systems, 179, 10–30, https://doi.org/10.1016/j.jmarsys.2017.11.001, 2018.

Lima, L., Aydogdu, A., Escudier, R., Masina, S., Cilibert, S. A., Azevedo, D., Peneva, E. L., Causio, S., Cipollone, A., Clementi, E., Cretí, S., Stefanizzi, L., Lecci, R., Palermo, F., Coppini, G., Pinardi, N., and Palazov, A.: Black Sea Physical Reanalysis (CMEMS BS-Currents) (Version 1), https://doi.org/10.25423/CMCC/BLKSEA_MULTIYEAR_PHY_007_004, 2020.

Rose, K. A., Justic, D., Fennel, K., and Hetland, R. D.: Numerical Modeling of Hypoxia and Its Effects: Synthesis and Going Forward, in: Modeling Coastal Hypoxia: Numerical Simulations of Patterns, Controls and Effects of Dissolved Oxygen Dynamics, edited by: Justic, D., Rose, K. A., Hetland, R. D., and Fennel, K., Springer International Publishing, Cham, 401–421, https://doi.org/10.1007/978-3-319-54571-4_15, 2017.