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Geoscientific Model Development Discussions
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Interactive comment on "The iFlow Modelling Framework v2.4. A modular idealised process-based model for flow and transport in estuaries" *by* Yoeri M. Dijkstra et al.

HHG Savenije (Referee)

h.h.g.savenije@tudelft.nl

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To me this looks like very useful software to analyse tidal motion and sediment dynamics by a 1DV model. The charm of the model is that it allows to derive analytical solutions of different orders of approximation, by which the analyst can see what the contribution of higher order effects is. The paper is well-prepared and the software is described clearly. The fact that it is open-source and modular makes it into an interesting basis for (other) researchers to add further applications.

For instance the way in which the salinity is calculated is rather superficial: merely by fitting a hyperbolic function. It seems to me that this can be done a lot better, since the software already determines a lot of hydraulic parameters that are needed to use

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more physics-based analytical equations for the salinity distribution. It would be useful to explore more physics-based equations for salinity dispersion in real estuaries. But I am sure it is the intention of the developers to facilitate such an expansion.

Minor comment:

p.22, line 2: This equation for the width looks very strange to me. It seems to me that two of the three numbers in the denominator are irrelevant and that the value of 3.2 is appropriate. I am sure that the authors are aware of the meaning of significant decimals. Further, it is easier to divide the two terms in the numerator directly by 3.2 and make the equation simpler.

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