Dear Anonymous Referee#1,

We are very much grateful for your valuable and fruitful comments to improve our manuscript. The referee comment is given in blue font and the answer in black font.

1. The largest question in this manuscript is the paradox between the well-mixed estuary and salinity-driven mechanism. If the estuary is well-mixed, the density driven mixing is not strong. The studied estuary has low salinity gradient (Line 170, Page 7) and is well-mixed during spring and neap tides in the dry and wet seasons (Line201, Page 8). While in your description, gravitational circulation is dominant in both wet (e.g., Line 268-269, Page 11) and dry (e.g., Line 284-285, Line 299, Page 12; Line 358, Page 15) seasons. This may need some correction.

Answer:

To avoid confusion, we revised the sentence (line 169-170, page 7) as following.

"The nominal distance between stations was approximately 3 km along the estuary".

To avoid confusion, we delete the sentence (line 202-203, page 8).

To avoid the confusion regarding gravitational circulation, we have already clarified about gravitational circulation in section 3.2 in the previous revised version (line 260-262, page 11). Gravitational circulation is driven by river discharge and density gradients (Valle-Levinson, 2011). Hereafter, we will use the terms density-driven and discharge-driven gravitational circulation.

In addition, we added following sentence (line 233-235, page 10).

"This salt plug, a region of maximum salinity, separates a zone of positive gravitational circulation near the river/estuary area and a zone of inverse gravitational circulation between the salt plug and the coastal ocean (Valle-Levinson, 2010)".

We keep those (Line 268-269, Page 11; Line 284-285, Line 299, Page 12; Line 358, Page 15) as it is.

2. It is misleading in Line 248-251, Page 10. Actually, the depth-averaged salinity varies between spring and neap tides in dry season (up to ~4 psu), instead, the variation is less than ~1.5 psu in wet season.

Answer: We have revised as following (line 251-253, page 10):
The depth-averaged salinity varied upto ~ 4 psu between spring and neap tides in the dry season (Figs. 4a-b). However, spring-neap variation in the depth-averaged salinity was less than 1.5 psu in the wet season (Fig. 4c).

3. It is necessary to point out the flow direction when demonstrating the methodology section. Page 7

Answer:
we have added the following sentence in the methodology section in line 178, page 7.
The flow is positive in the upstream direction.

4. The reviewer suggests the authors upgrade the citation (Zhang and Savenije, 2016). e.g., Line 95-96, Page 4; Line 224-226, Page 9; Line 259-260, Page 11; Line 288-289, Line 300-301, Page 12; Line 342-343, Page 14. Also, some ideas (from Savnije, 2005), especially about the empirical coefficient, have been upgraded in the publication (Zhang and Savenije, 2017).

Answer:
We have upgraded the citation in the revised version as per valuable comments.

Dear Anonymous Referee#2,

We are very much grateful for your valuable and fruitful comments to improve our manuscript. The referee comment is given in blue font and the answer in black font.

1. What is the relation between D_i (only used in Eq.1) and D and/or D_t?
2. What is D, a diffusion coefficient with the dimension L^2T^{-1} as suggested by Eq.(2) and line 200, or a flux as suggested in line 194 (salinity X velocity)?

Answer: D is the longitudinal dispersion with the dimension L^2T^{-1} and D_t is the tide driven dispersion. The subscript i in $D_i(x)$ (Eq. 1 and line 175-176) and $S_i(x)$ or S_i indicates the number of CTD stations where we calculated D using observed salinity S_i. As it makes confusion and x can clearly represent the CTD stations, we will delete the subscript i in the revised version to avoid this confusion.