

Interactive comment on “Statistical analysis of Lagrangian transport of subtropical waters in the Japan Sea based on AVISO altimetry data” by Sergey V. Prants et al.

Anonymous Referee #2

Received and published: 28 November 2016

In this paper, the authors made a detailed Lagrangian analysis of currents in the Japan Sea for 21 years of AVISO data. An interesting result is the location of “gates” and “barriers” to the transport. The position and timing of these gates is analyzed in detail in terms of the advection currents that affect the Japan Sea.

The paper merits for publication in NPG, however some minor changes should be done that in my opinion may enrich the text.

Colors or gray shades in Fig.2 should be different as it is impossible to see anything.

I do not understand why to compare with real drifters in Fig.3. Drifters and tracers do not match as it is already stated by the authors. The corresponding blue line should be

C1

deleted from Fig.3. Vertical black lines in Fig.3 confuse the reader.

Why do you choose so strange latitudes as 39.875, 40.125, etc in Fig.3 when in the rest of the paper, latitudes are integer numbers as 40N or 42N? Could you re-draw that Figure to be consistent?

Besides, Fig.4 is quite obscure, and the results shown there are already shown in Fig.3. Why do not define the regions (I to VIII) in Fig.3? Clearly, due to the coast line and currents most of the particles should move towards the east as they move northward as it is already shown in Fig.3 and repeated in Fig.4. In my opinion Fig.4 could be deleted.

An interesting result shown in Fig.5 is that gates may be closed during some period of time (white patches at certain longitudes). However the reason for that it is not clear for me. May be the authors should make an effort to explain that more clearly. These patches repeat regularly on time? may be with a seasonal period?

Finally, the English style should be checked, but I suppose the journal will take care of that later on.

Interactive comment on Nonlin. Processes Geophys. Discuss., doi:10.5194/npg-2016-67, 2016.

C2