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## ***Interactive comment on “Modelling Seasonal Circulation and Thermohaline Structure of the Caspian Sea” by M. Gunduz E. Özsoy***

**Anonymous Referee #2**

Received and published: 23 March 2014

This manuscript discusses the structure of seasonal circulation of the Caspian Sea. The subject of this manuscript corresponds to that of this journal.

First of all, the title of this manuscript includes 'Thermohaline Structure', so it is appreciated if the authors show the contour maps or water temperature and salinity in both horizontal and vertical sections. Particularly, it is reported that the cyclonic gyre is formed by the baroclinic process in closed water in the northern hemisphere (e.g., Schwab, O'Connor, Mellor, 1995, J Phys Oceanogr, Kitazawa, Jang, 2012, Journal of Marine Science and Technology). Water density is lower in the northern and southern Caspian Sea due to low salinity (river inflow) and high temperature (climate), respectively. In addition, the horizontal maps of wind vector, solar radiation, etc., are helpful for readers to understand the feature of seasonal circulation and thermohaline structure of

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the Caspian Sea. Finally, the ice dynamic was not modeled in the present study, while its effect should be considered by proper condition. The presence of ice changes the fluxes of momentum, heat and salinity through water surface, and then affects the circulation in the northern Caspian Sea in winter. If the manuscript is corrected according to the above comments, it can be published in this journal.

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Interactive comment on Ocean Sci. Discuss., 11, 259, 2014.

**OSD**

11, C122–C123, 2014

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