

## ***Interactive comment on “The Climatology of Brewer-Dobson Circulation and the Contribution of Gravity Waves” by Kaoru Sato and Soichiro Hirano***

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Dear Dr. Abalos,

Thank you very much for your information on gravity wave drag in JRA-55.

I asked the JRA-55 project members about the gravity wave parameterization used in JRA-55 during the spring meeting of the Meteorological Society of Japan held last week. According to them, JRA-55 used an operational model for the weather prediction of Japan Meteorological Agency (JMA). Non-orographic gravity wave parameterizations were first implemented in the JMA operational model in March 2014, which was

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after the completion of JRA-55 calculation. Thus, it is certain that the model used for JRA-55 does not include non-orographic gravity wave parameterizations.

I agree that the feature of gravity wave drag in the summer middle atmosphere in JRA-55 of your figure is inscrutable as orographic gravity wave drag. I will further examine this issue with JMA people, and describe it in the revised manuscript, if I have the opportunity.

Kaoru Sato

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