

Interactive comment on “Evaluation of ECMWF ERA-40 temperature and wind in the lower tropical stratosphere since 1988 from past long-duration balloon measurements” by T. Christensen et al.

Anonymous Referee #3

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This is a clear presentation of a thorough validation of ERA-40 against independent observations. I expect it to be useful to users of ERA-40 stratospheric data who wish to have error bars on these data.

My only comment is one of surprise that the paper does not make more of one result which is scientifically interesting (more so than error bars). It is clear from figures 4 and 5 that the differences in meridional wind (v) are larger than the signal in ERA-40 v . The figures seem to indicate that ERA-40 analyses are missing a major signal in the variability of v . This is discussed in the paper on p3435: “a relatively large dispersion [in v] ... likely due to waves of different periods not fully captured by the model”, but

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it is not mentioned in the conclusions and abstract. I think the data in figures 4 and 5 justify a stronger statement about a major shortfall in the variability of meridional wind in ERA-40 at these levels and latitudes.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 3423, 2007.

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