

Supporting Information for ”A multifaceted isoneutral eddy transport diagnostic framework and its application in the Southern Ocean”

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Contents of this file

Figures S1 to S8

Introduction

The supporting information contains eleven additional figures (Figure S1 to S8) to support discussions in the main text.

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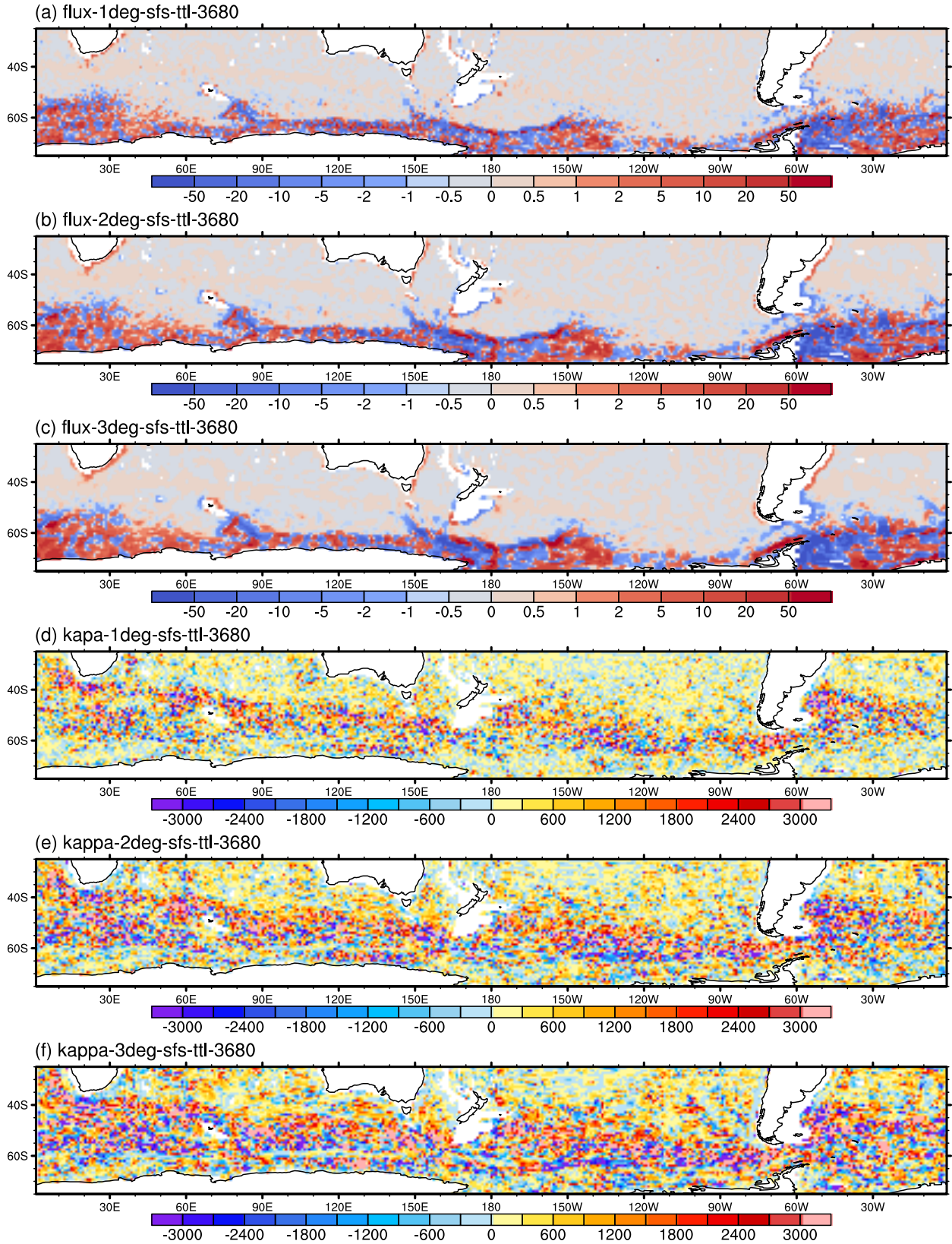


Figure S1. (a) (b) (c) is the total meridional subfilter PV flux with boxcar filters of 1° , 2° and 3° respectively, and (d) (e) (f) is the total subfilter transport coefficient, on the topobaric surface of 36.8 kg/m^3 for SOSE

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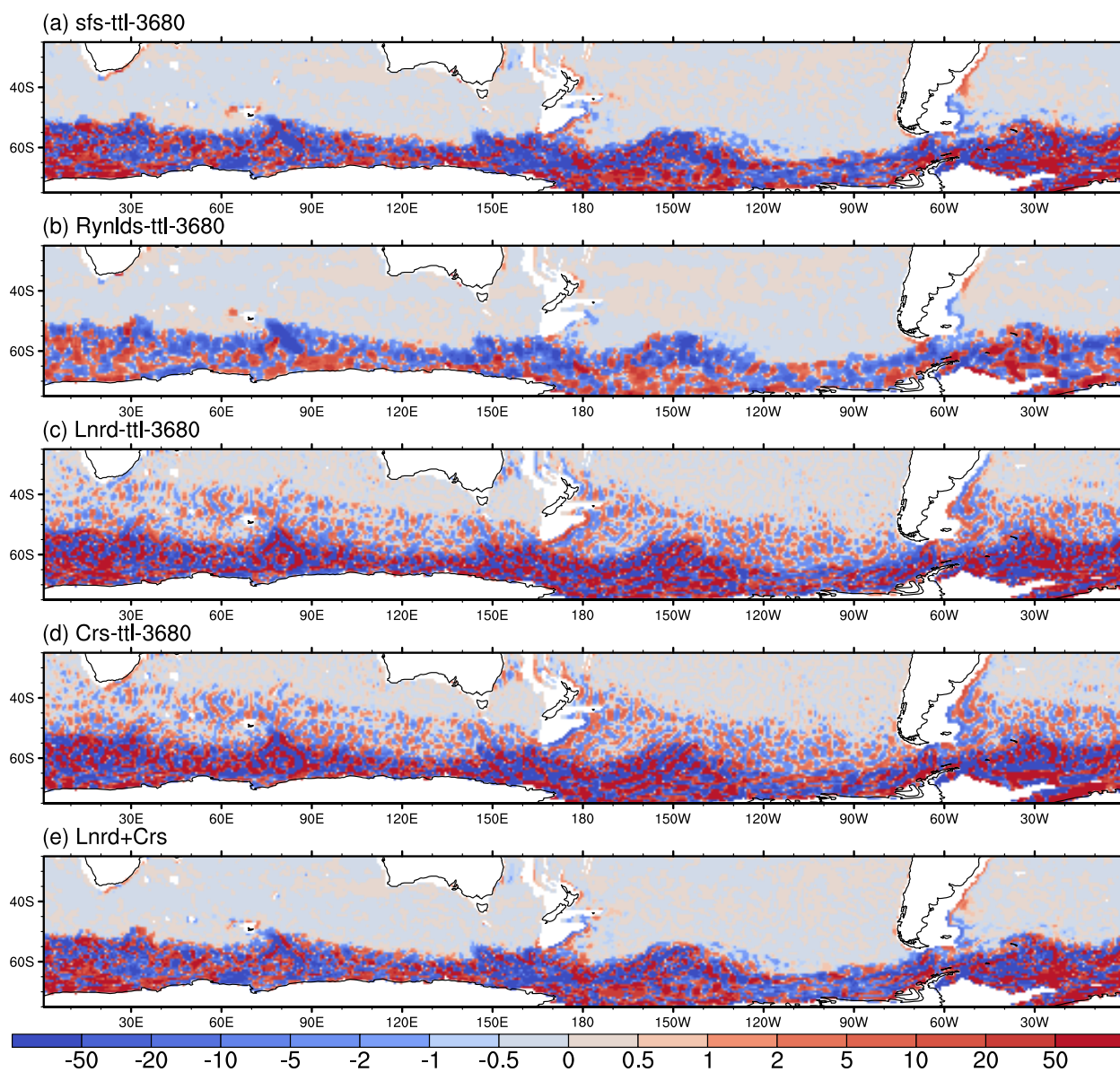


Figure S2. The same as figure 2, but on the σ_2 surface of 36.8 kg/m^3 for LICOM

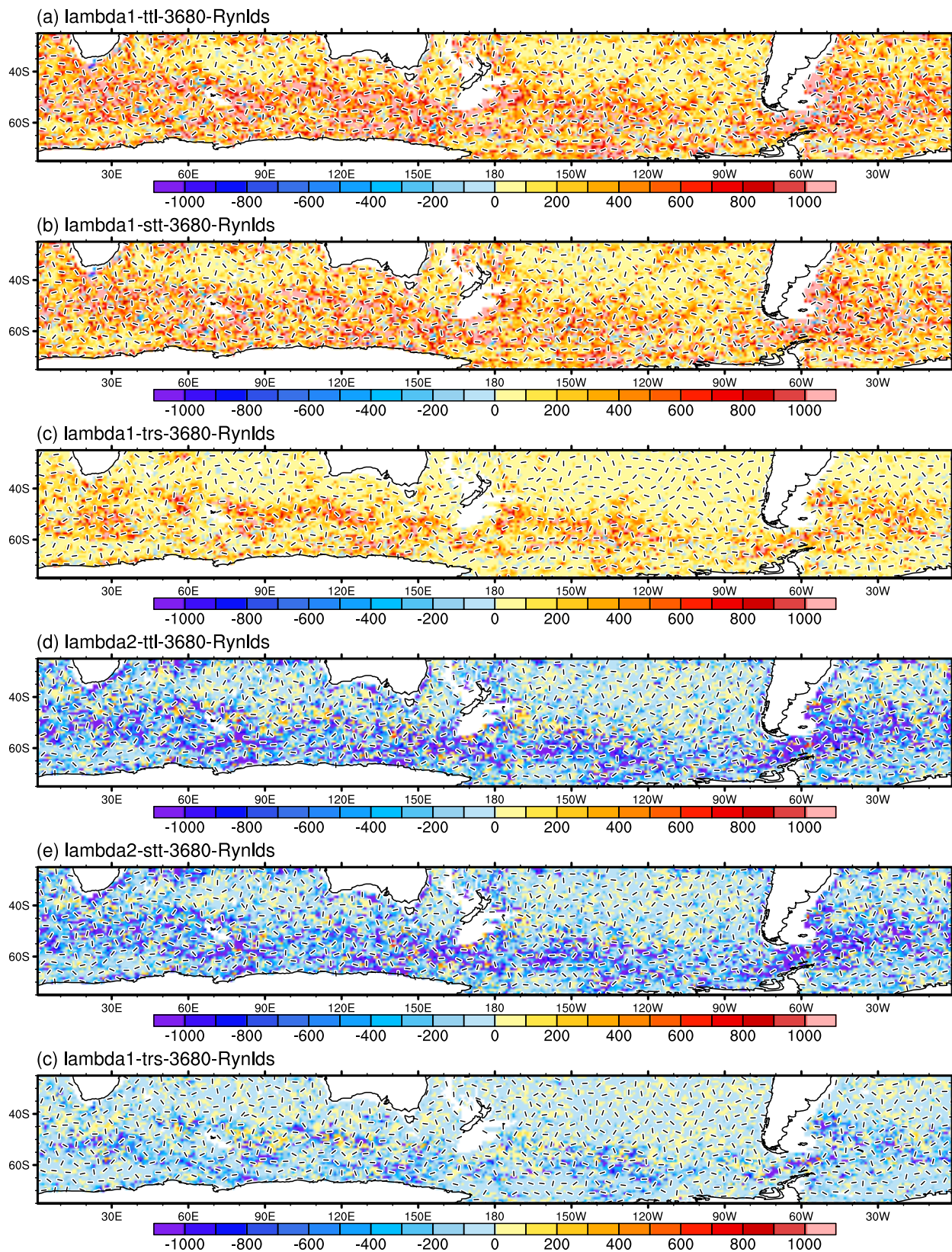


Figure S3. The same as Figure 7, but for the Reynolds term

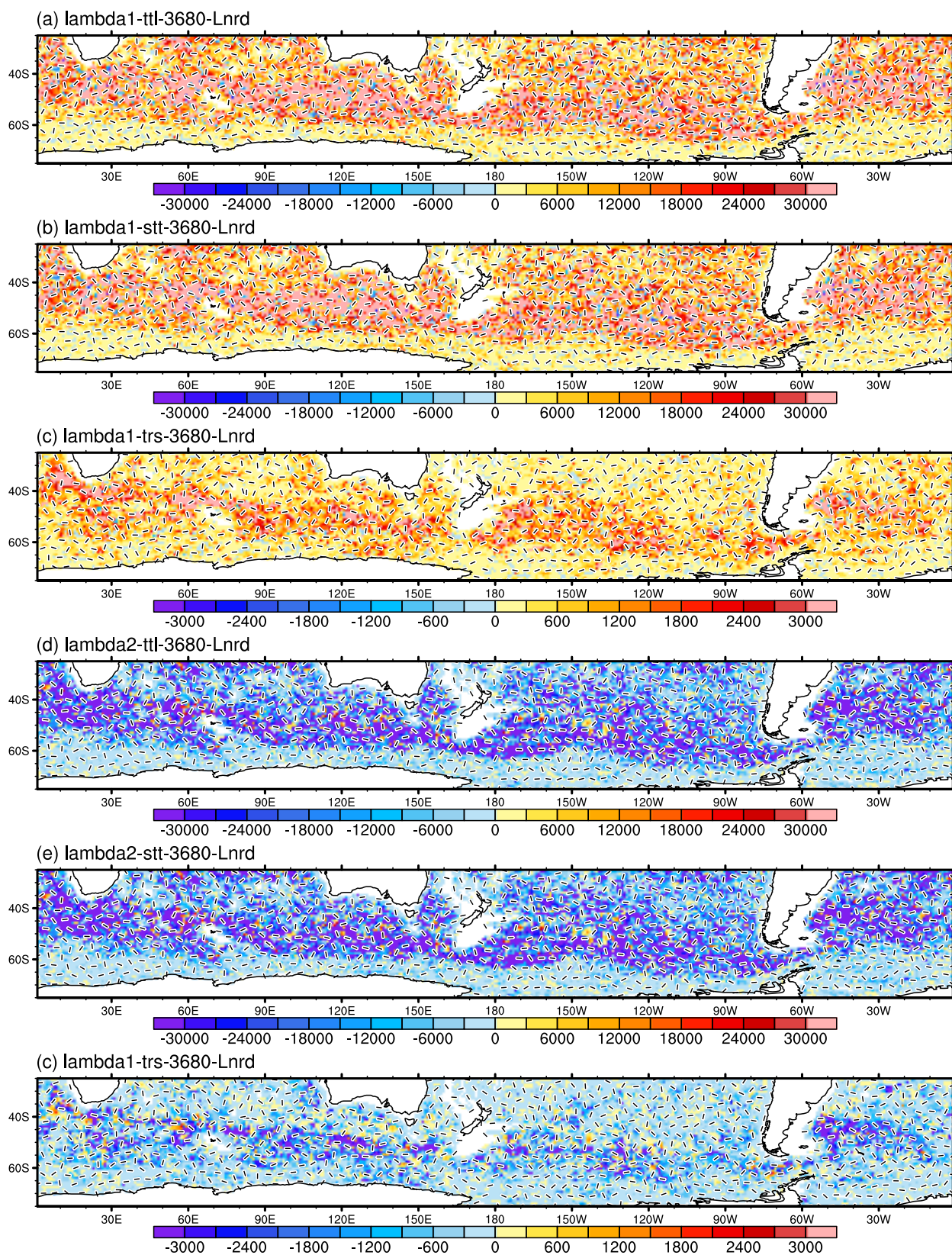


Figure S4. The same as Figure 7, but for the Leonard term

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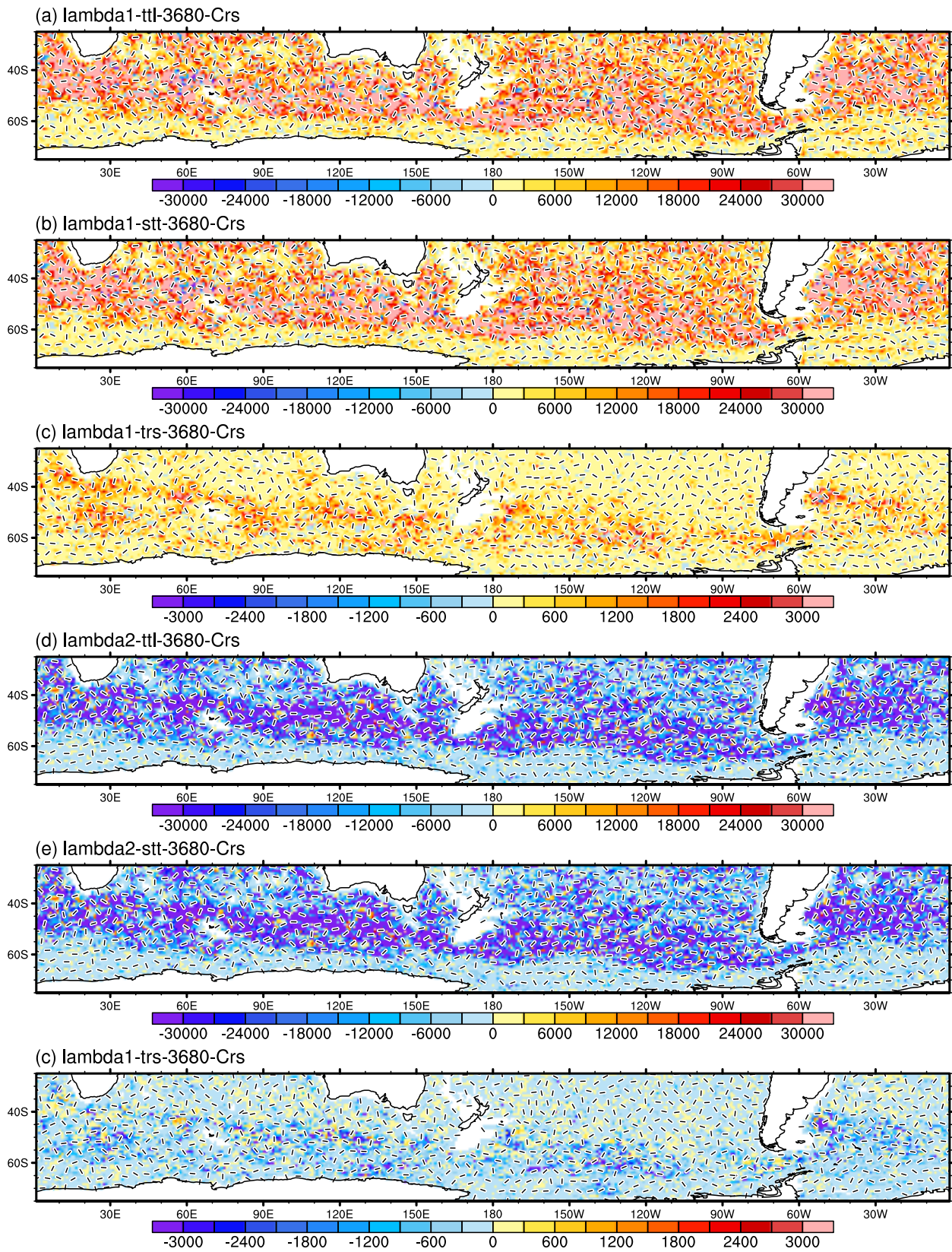


Figure S5. The same as Figure 7, but for the Cross term

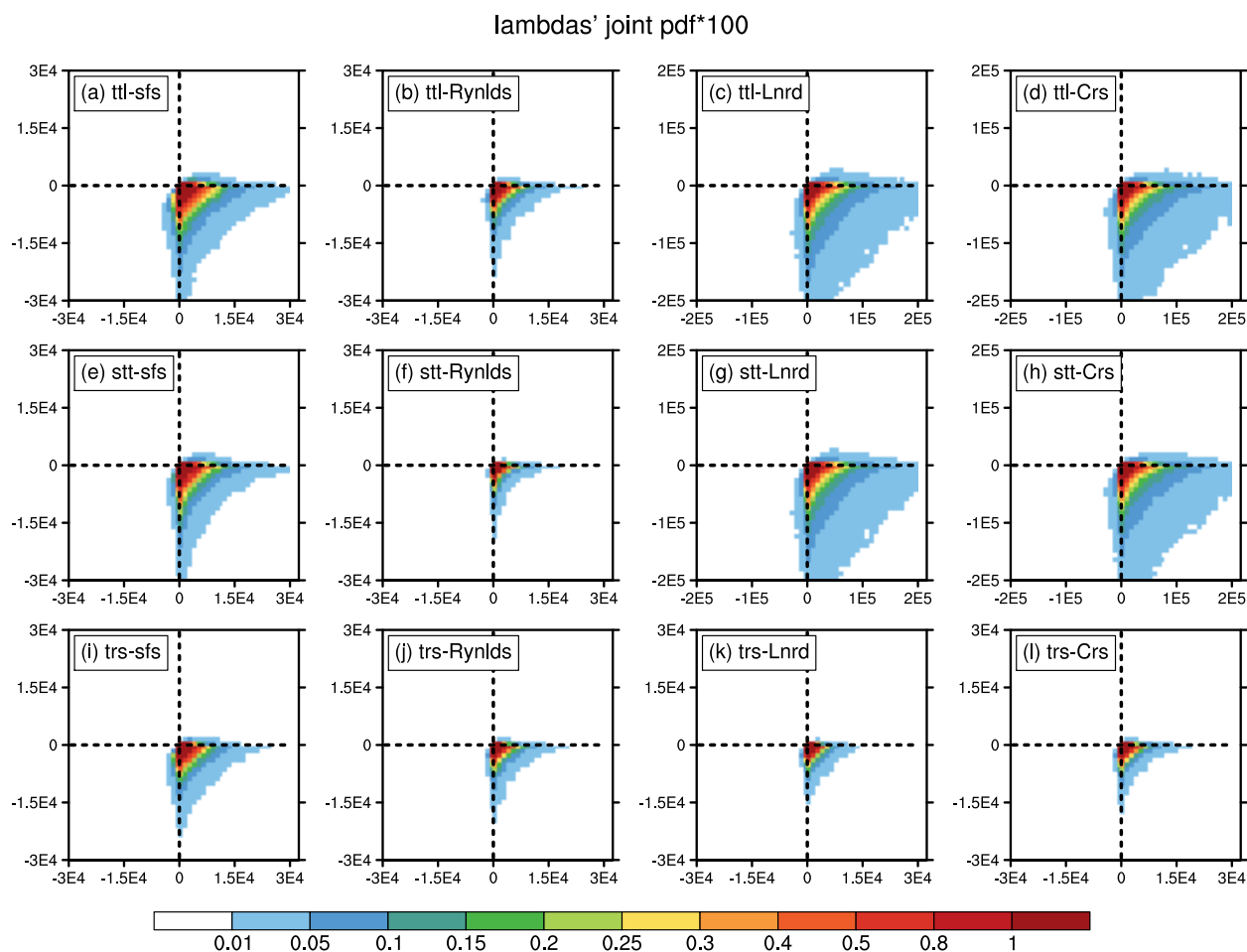


Figure S6. The same as Figure 8, but for LICOM.

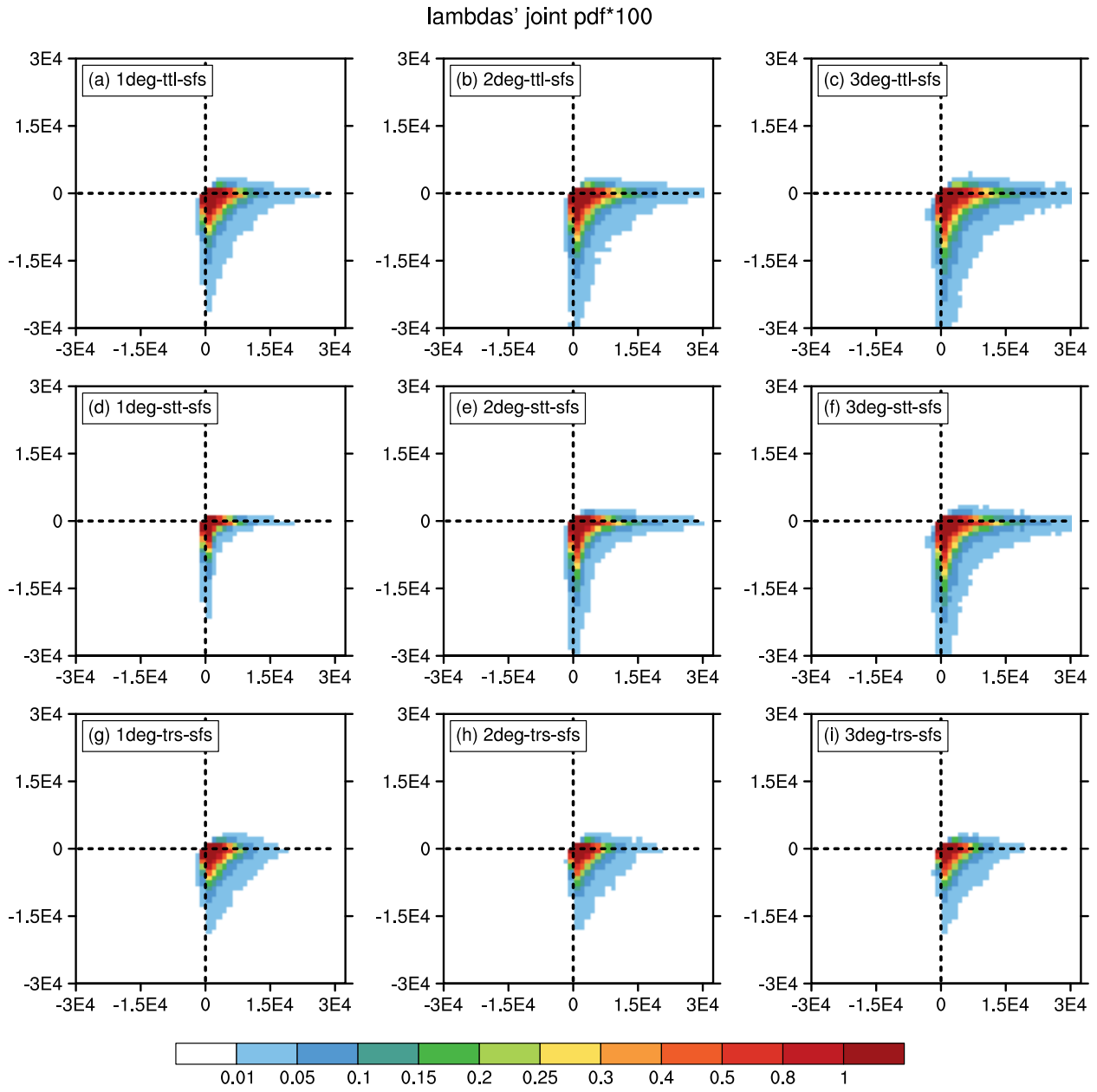


Figure S7. The joint PDF of the two eigenvalues of SOSE under different boxcar filters. The three rows from top to bottom are the total, stationary, and transient, respectively. The three columns from left to right are for 1° , 2° , and 3° , respectively. Other settings are the same as in Figure 8.

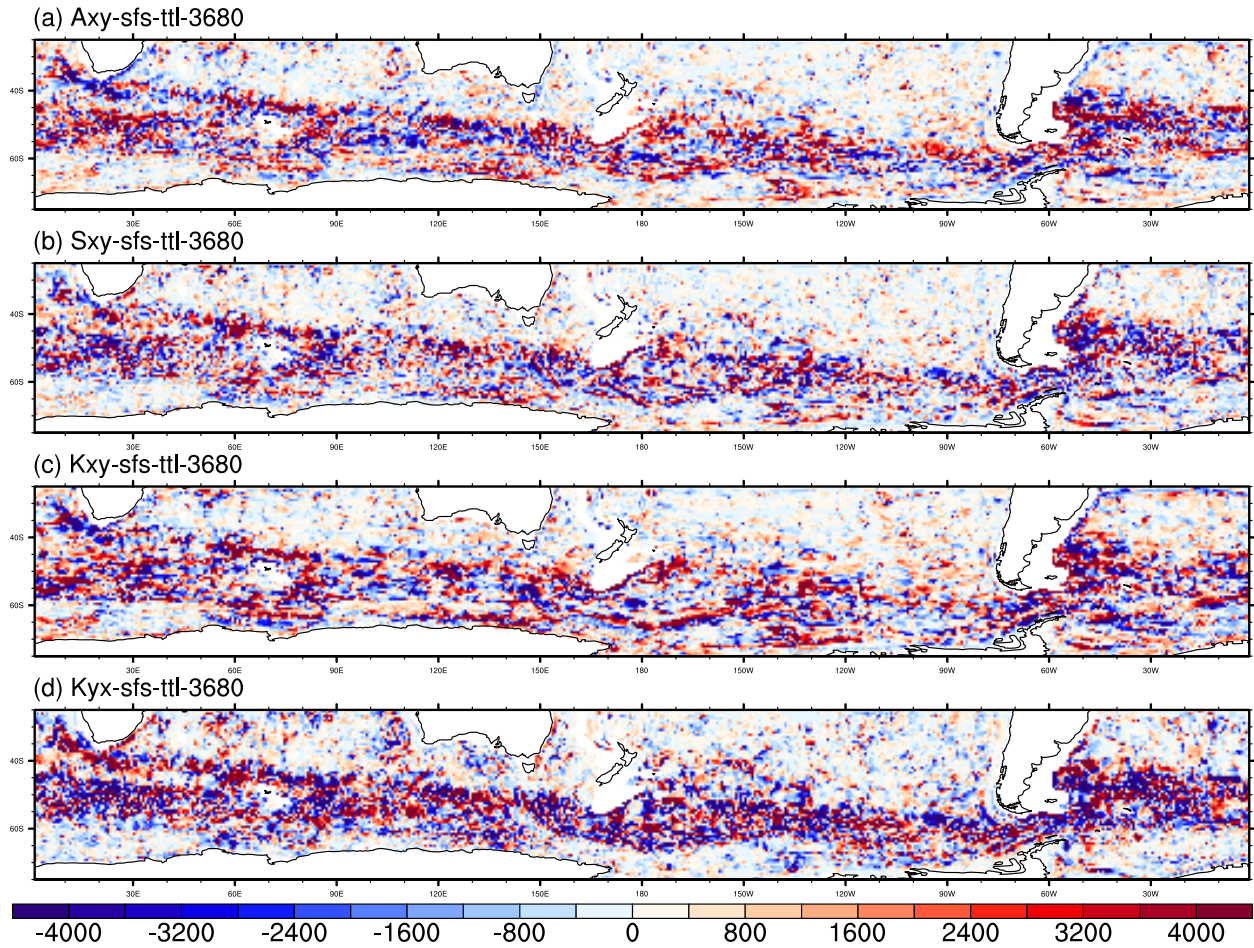


Figure S8. (a) The off-diagonal element A_{xy} of the antisymmetric part, (b) the off-diagonal element S_{xy} of the symmetric part, and (c)(d) the off-diagonal element K_{xy} and K_{yx} of the total subfilter transport tensor on the topobaric surface of $36.8kg/m^3$ for SOSE