

Climate Prediction Division
Global Environment and Marine Department
Japan Meteorological Agency

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An error in the daily mean climatological normal values for 1979-2004

We have recently found that there was a following error in the daily mean climatological normal values for 1979 to 2004 that had been available on the JRA-25/JCDAS web site;

- The seasonal cycle represented in the daily mean climatological normal values was shifted (delayed) one day compared to that of the true values.
- The magnitudes of the error are estimated to be at most one fiftieth of the amplitude of seasonal variation of the normal values (Fig. 1 and 2).

We found that this error resulted from the following problems in the temporal smoothing process;

- The Lanczos filter was applied to the data that were one day behind in the error and
- The response function was improperly normalized.
(Fig 3 shows a comparison between the response function that was incorrectly applied and the correct one.)

We apologize for the distribution of the incorrect climatological normal values.

New climatological normal values for 1981 to 2010 have recently been made available on our web site. We used the correct method and made sure that this type of error was removed.

For inquiries regarding this matter, please contact
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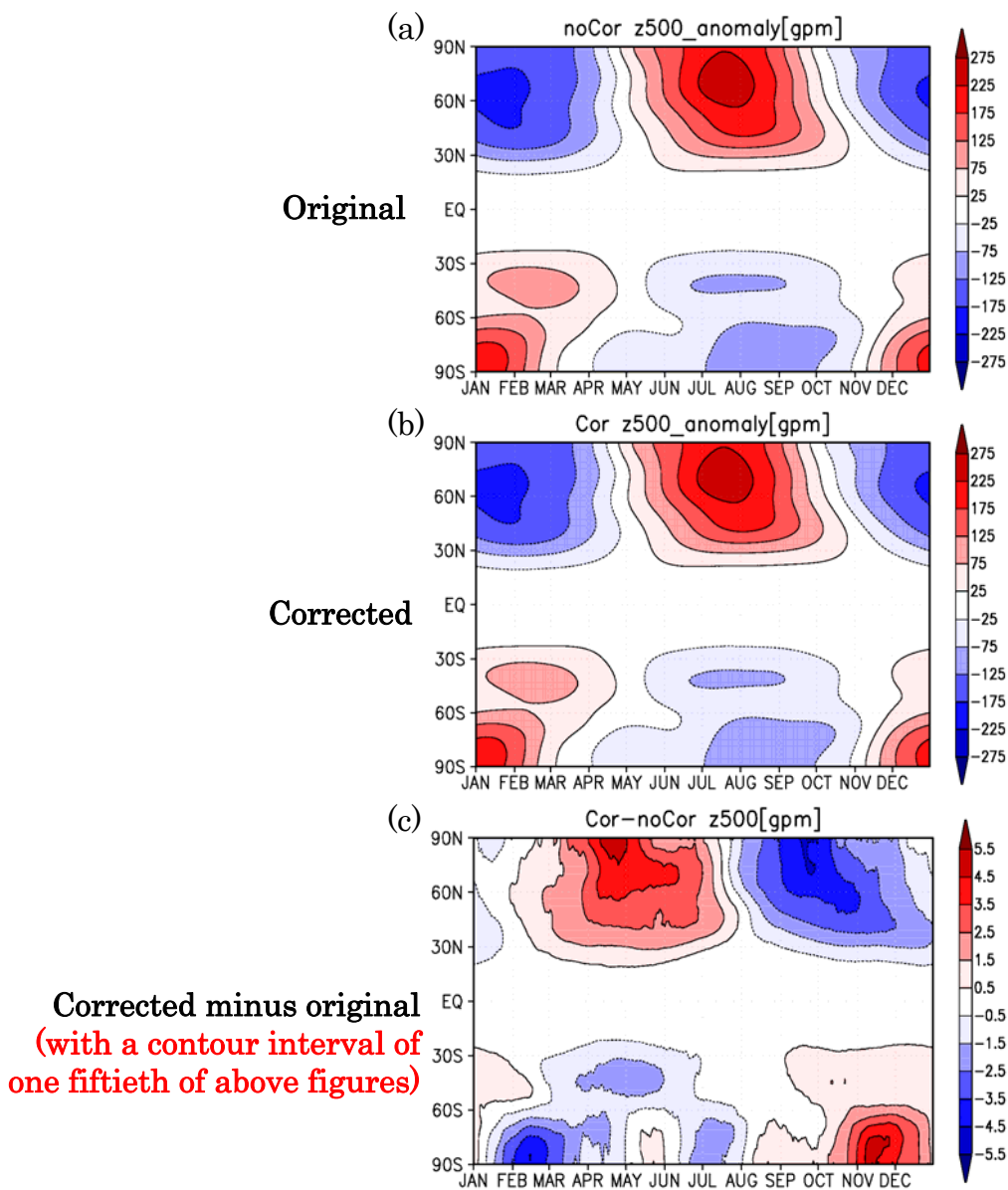


Fig. 1 Latitude-height cross section for seasonally varying component of the daily mean climatological normal values of 500 hPa geopotential height (a) original, (b) corrected, (c) difference (corrected minus original) Note that the figure for difference between the corrected and original normal values (c) is drawn with a contour interval of one fiftieth of that for the full values (a, b).

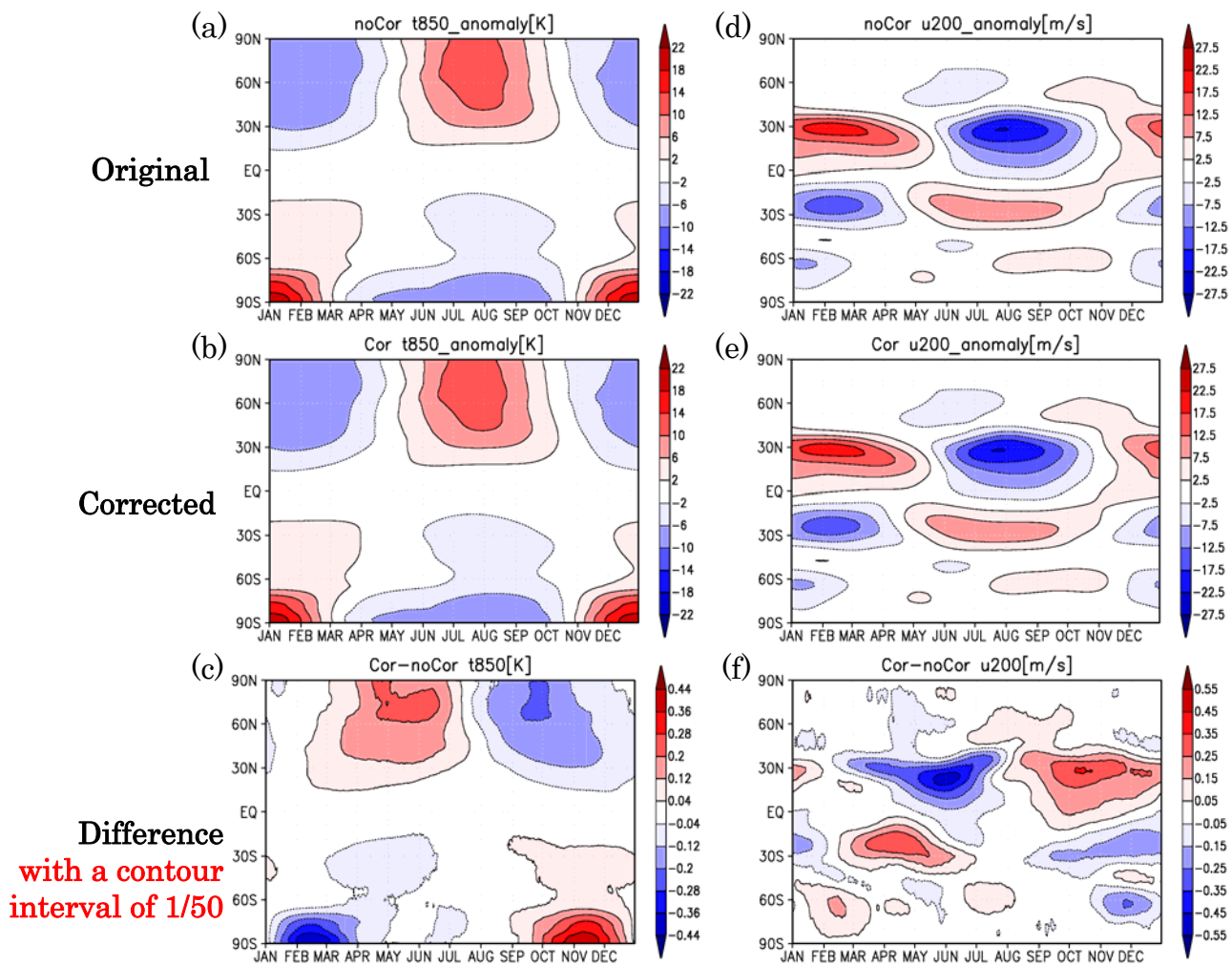


Fig. 2 Same as Fig. 1 but for 850 hPa temperature (a, b, c) and for 200 hPa zonal wind (d, e, f)

(a, d) original, (b, e) corrected, (c, f) difference (corrected minus original)
 Note that the figures for difference between the corrected and original normal values (c, f) are drawn with a contour interval of one fiftieth of that for the full values (a, b, d, e).

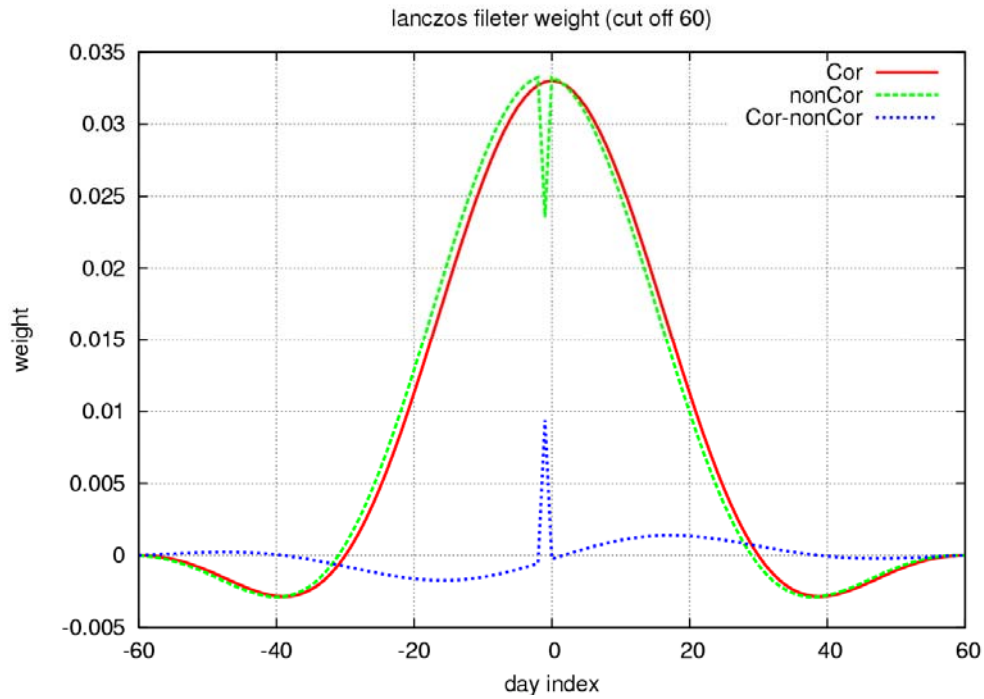


Fig. 3 The response functions used for temporal smoothing (green) original, (red) corrected, (blue) difference (corrected minus original)

The leftward shift of the peak of the original response function is due to the fact that it was applied to the data that were one day behind. The drop at the center of the response function is due to the fact that it was improperly normalized.