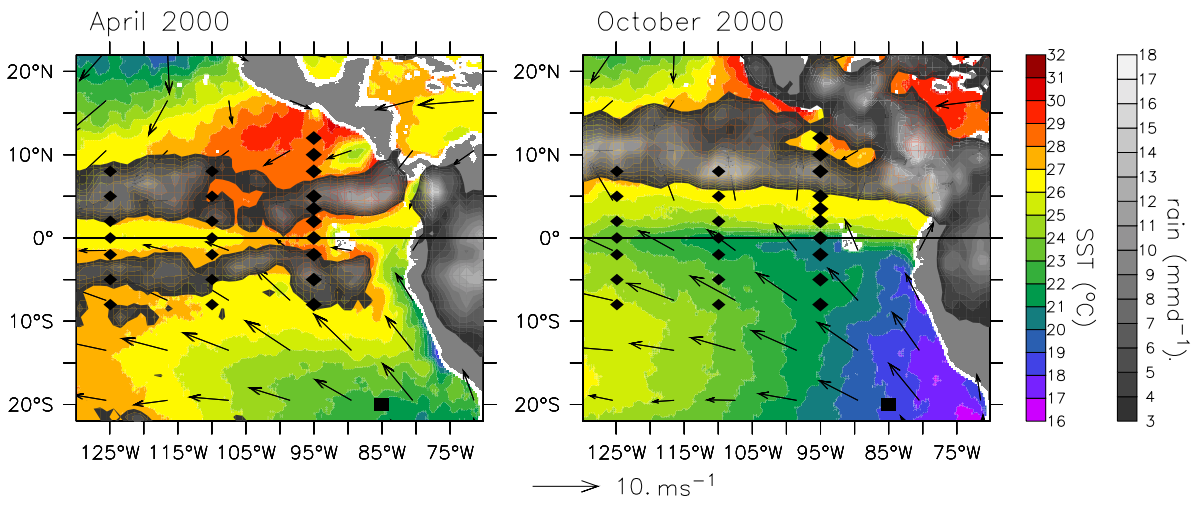

Fig 1. EPIC mooring array shown in relation to Aprill 2000 (left panel) and October 2000 (right panel), TRMM Microwave Imager (TMI) sea surface temperature (SST), TRMM rain rate and QuikSCAT surface winds. Diamonds indicate TAO buoys. Large diamonds indicate EPIC-enhanced 95W TAO buoys. The Woods Hole IMET buoy is indicated by a large square.

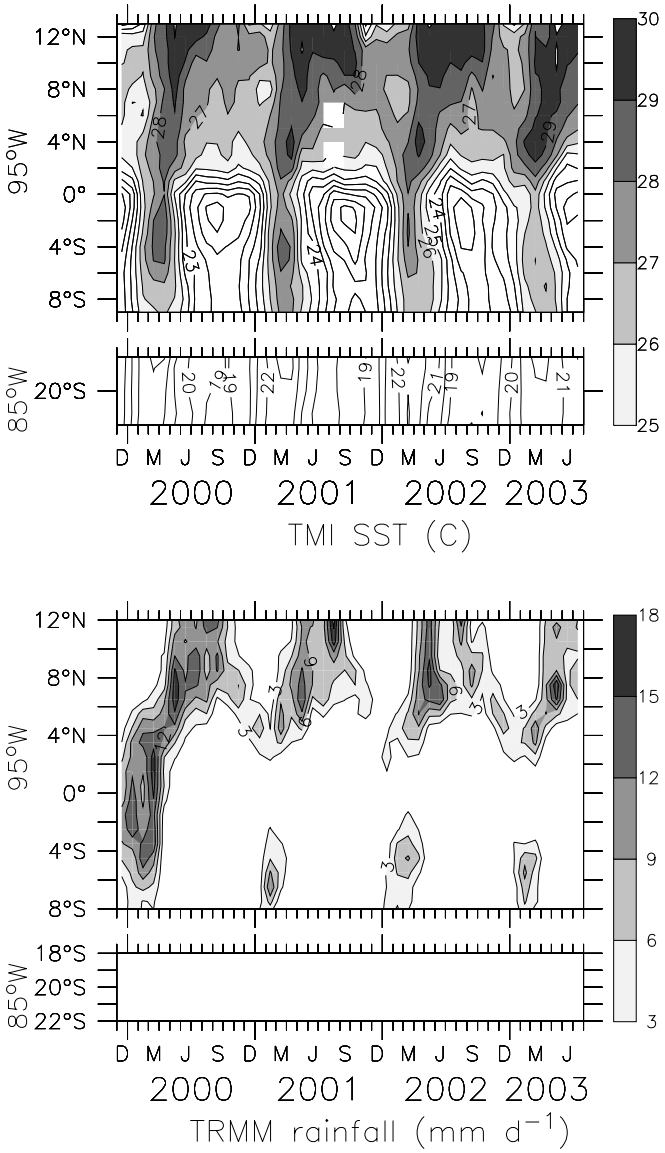

Fig. 2 Monthly averaged TMI SST (upper panel) and TRMM rainfall (lower panel) along 95W from 8S to 12N and at 20S 85W.

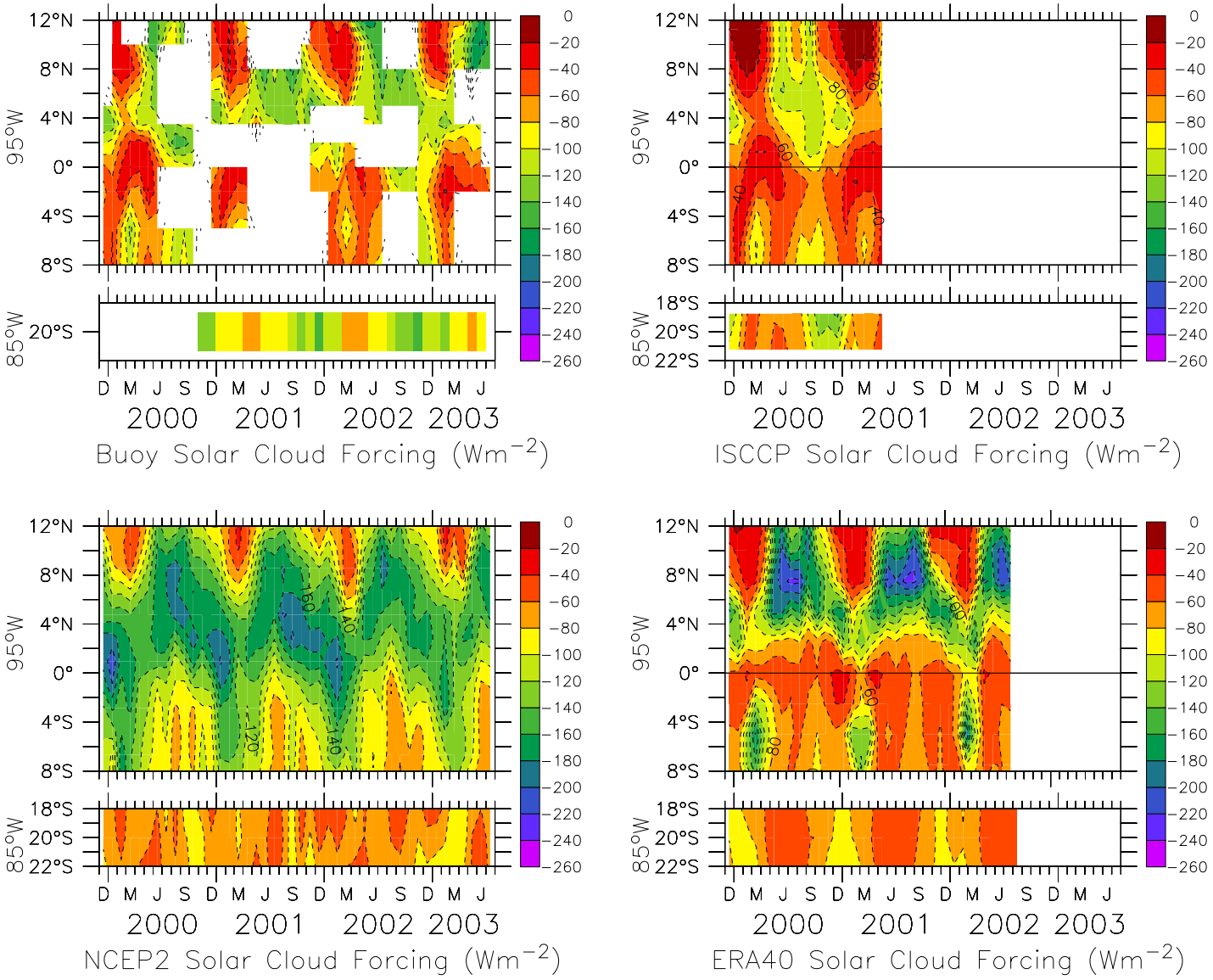

Fig 3. Monthly-averaged solar cloud forcing at the surface along 95W from 8S to 12N and at 20S, 85W from buoymeasurements (upper left), ISCCP (upper right), NCEP2 reanalysis (lower left), and ECMWF Re-Analysis (ERA40) (lower right). Solar cloud forcing is defined by (1) and has units W/m2.

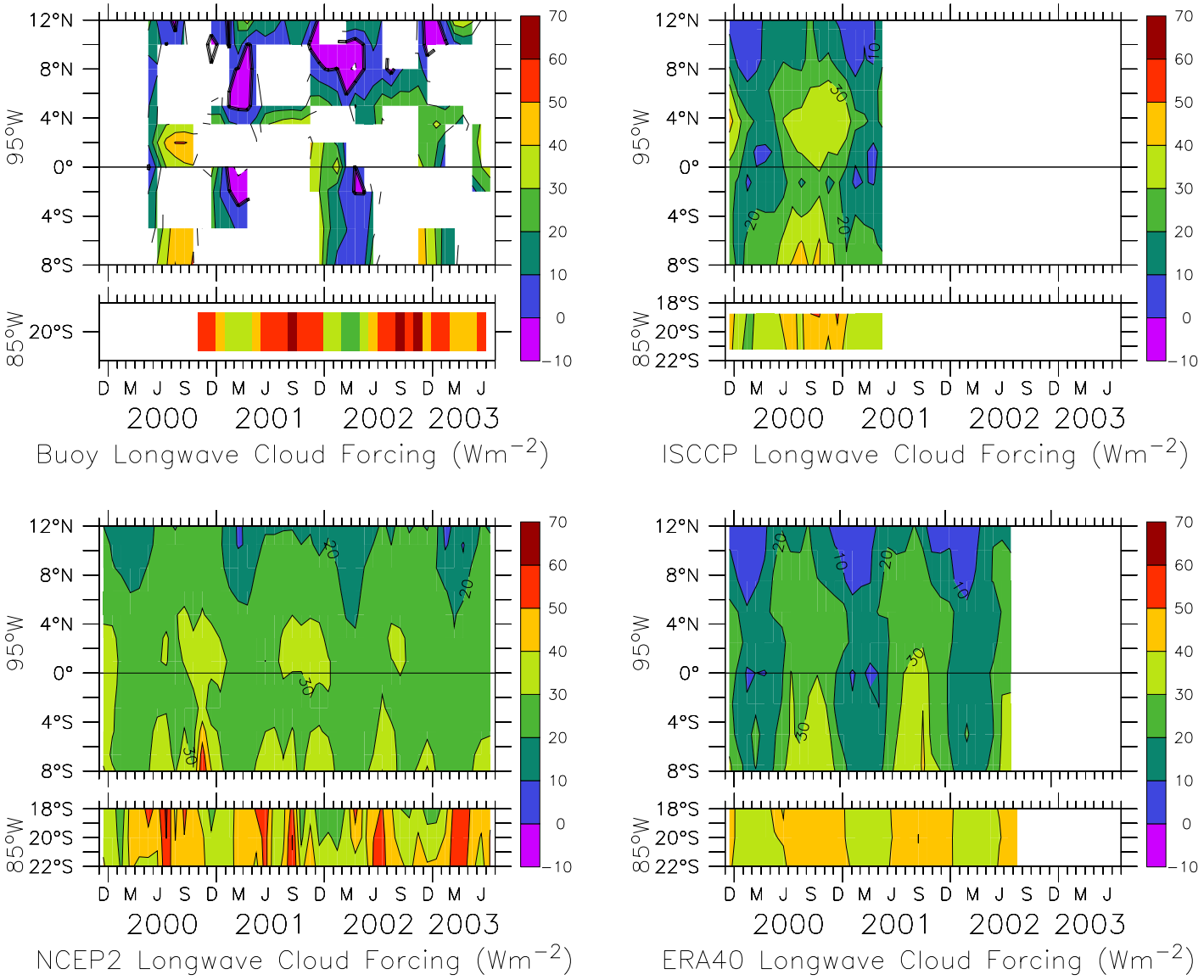

Fig 4. Monthly-averaged longwave cloud forcing at the surface along 95W from 8S to 12N and at 20S, 85W from buoy measurements (upper left), ISCCP (upper right), NCEP2 reanalysis (lower left), and ERA40 (lower right). Longwave cloud forcing is defined by (1) and has units W/m2.

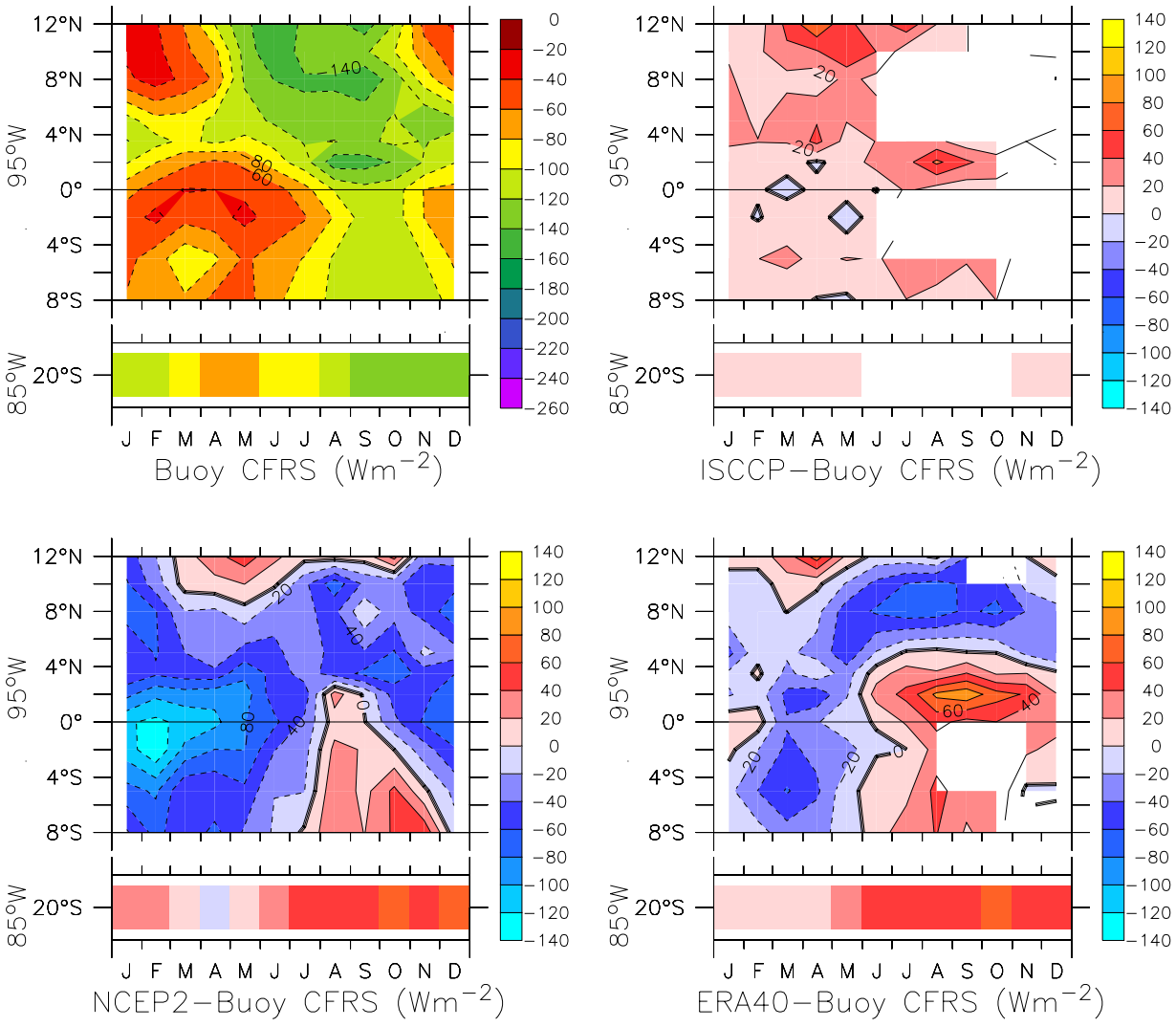

Fig. 5 Mean annual cycle of solar cloud forcing from buoy measurements along 95W from 8S to 12N and at 20S, 85W (upper left), and mean annual cycle of difference between surface solar cloud forcing and buoy field along 95W from 8S to 12N and at 20S, 85W; for ISCCP (upper right), NCEP2 reanalysis (lower left), ECMWF operational (lower right).

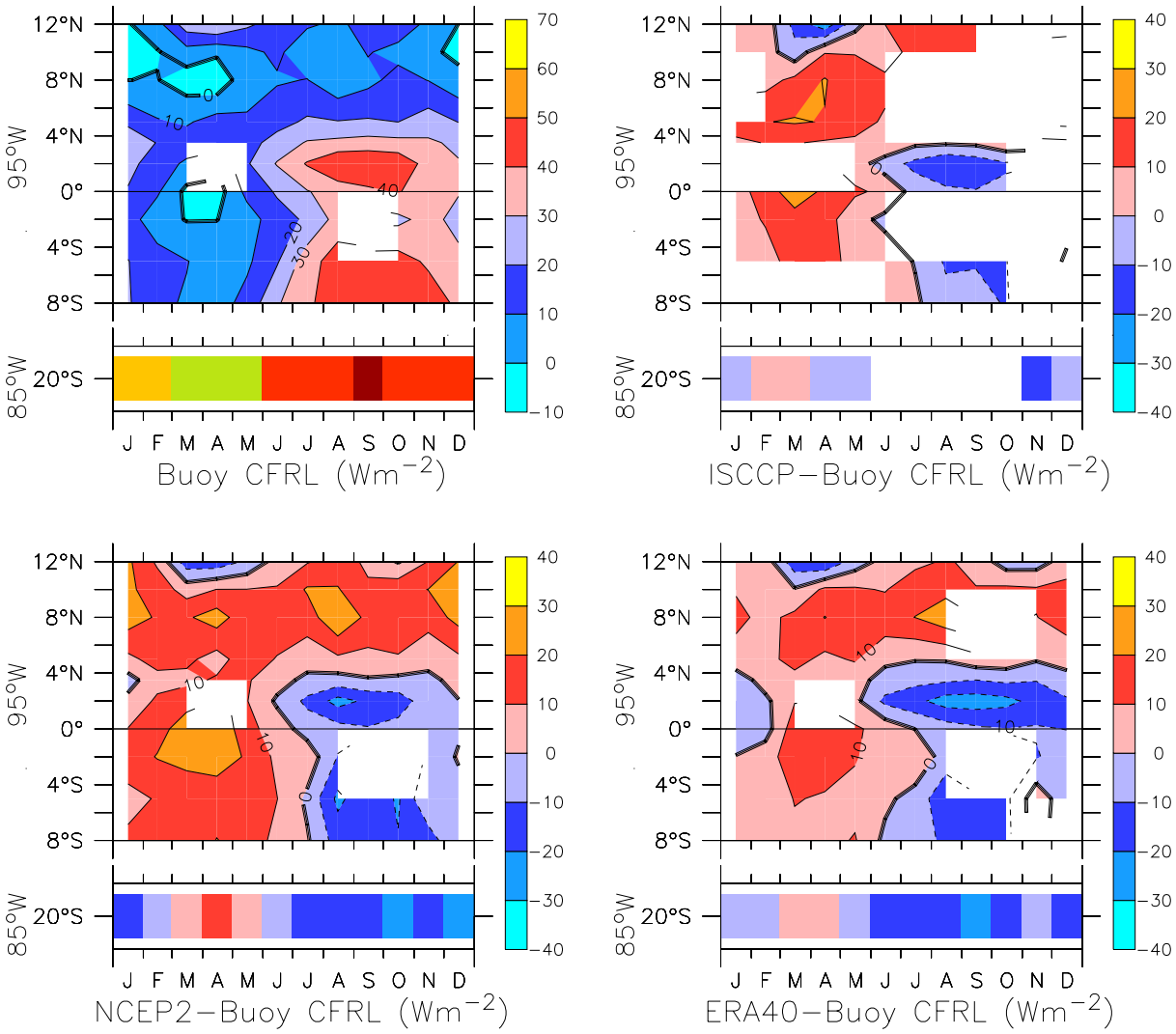

Fig 6. Same as for Fig 5, but for surface longwave cloud forcing relative to buoy field.

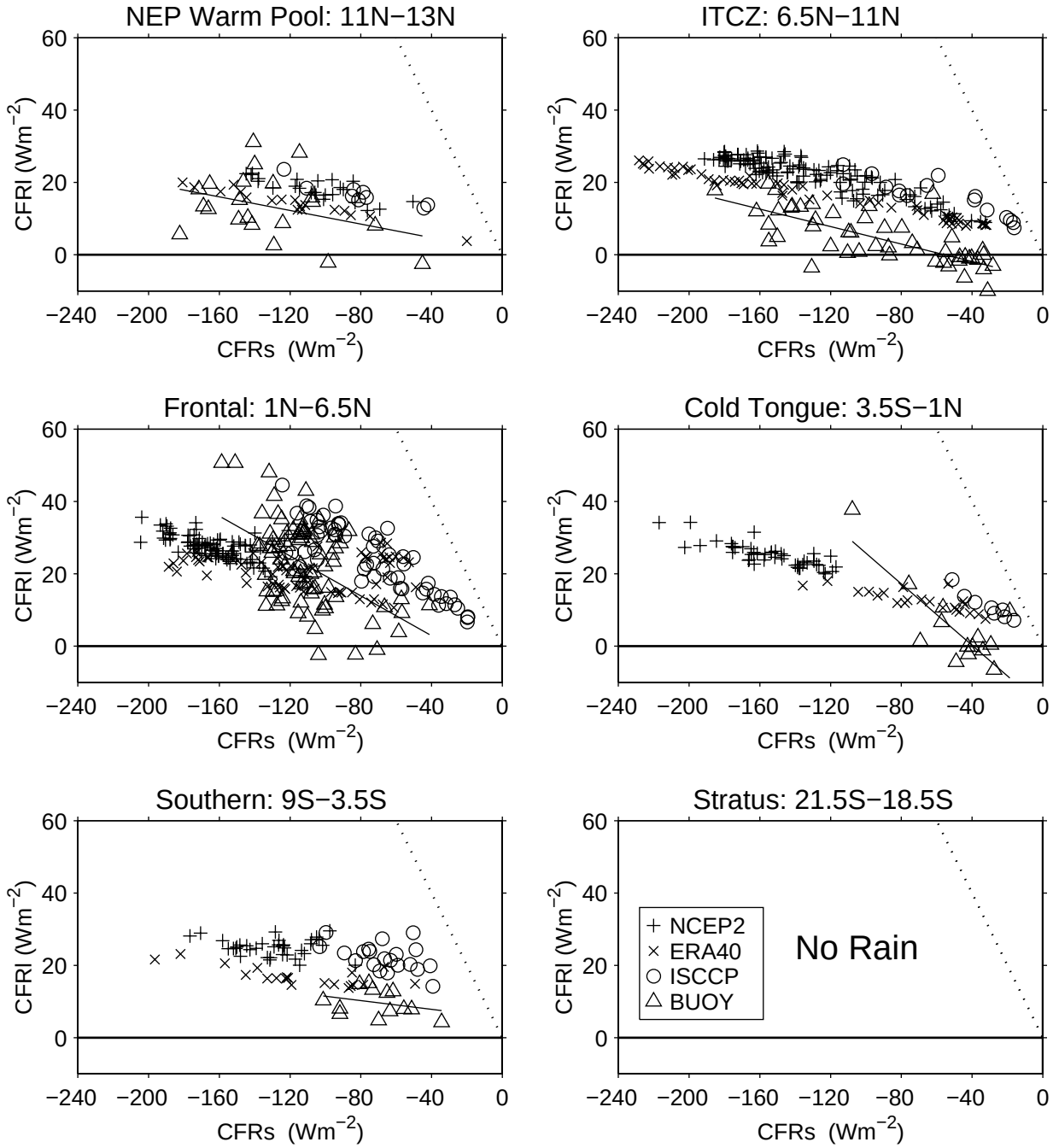

Fig 7. Scatter plots of monthly-averaged longwave cloud forcing versus solar cloud forcing for precipitating clouds in six latitudinal bands defined as north east Pacific warm pool (11N-13N, 95W), ITCZ (6.5N-11N, 95W), frontal (1N-6.5N, 95W), cold tongue (3.5S-1N, 95W), southern (9S-3.5S, 95W), and stratus (21.5S-18.5S, 85W). As shown in the legend in the lower left panel, buoy values are indicated by triangle, NCEP2 by +, ERA40 by x, and ISCCP by o. The negative 1-1 line is indicated by a dashes. The least squares straight line fit of the buoy cloud forcing values is shown by a thick black line extending over the range of the buoy solar cloud forcing. Significant rainfall was determined by TRMM rainfall within each latitudinal bin.

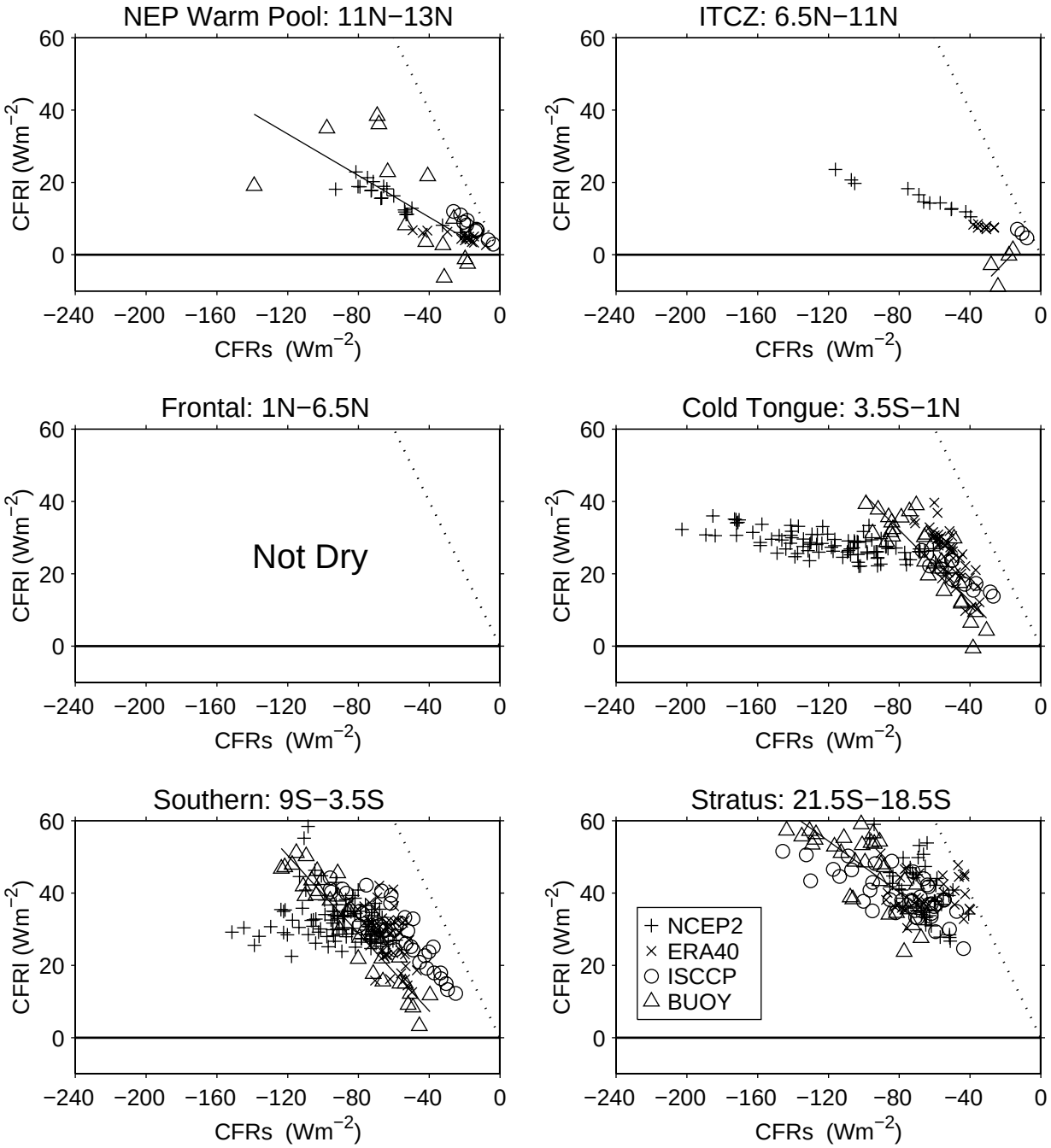

Fig 8. Same as Fig 7, but for months with no significant rainfall.

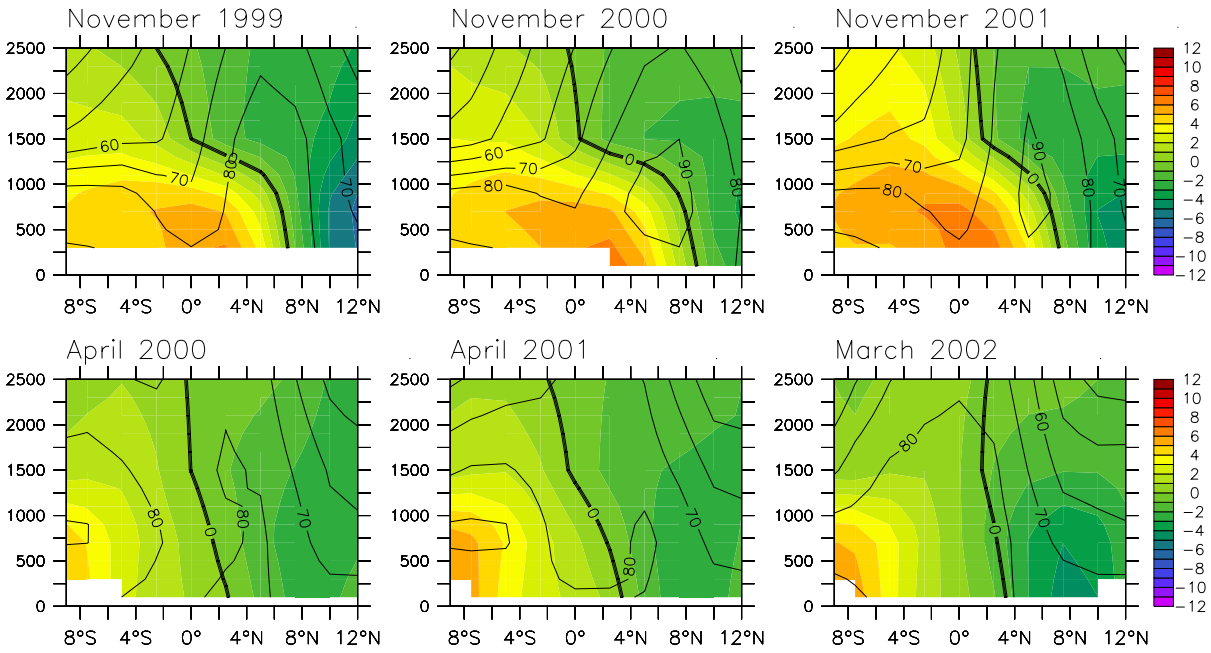

Fig 9. NCEP2 monthly-averaged relative humidity and meridional wind sections along 95W for months corresponding to TAO tender sounding sections. Relative humidity contour interval (CI) is 10%. The meridional wind zero contour is shown as a thick line.

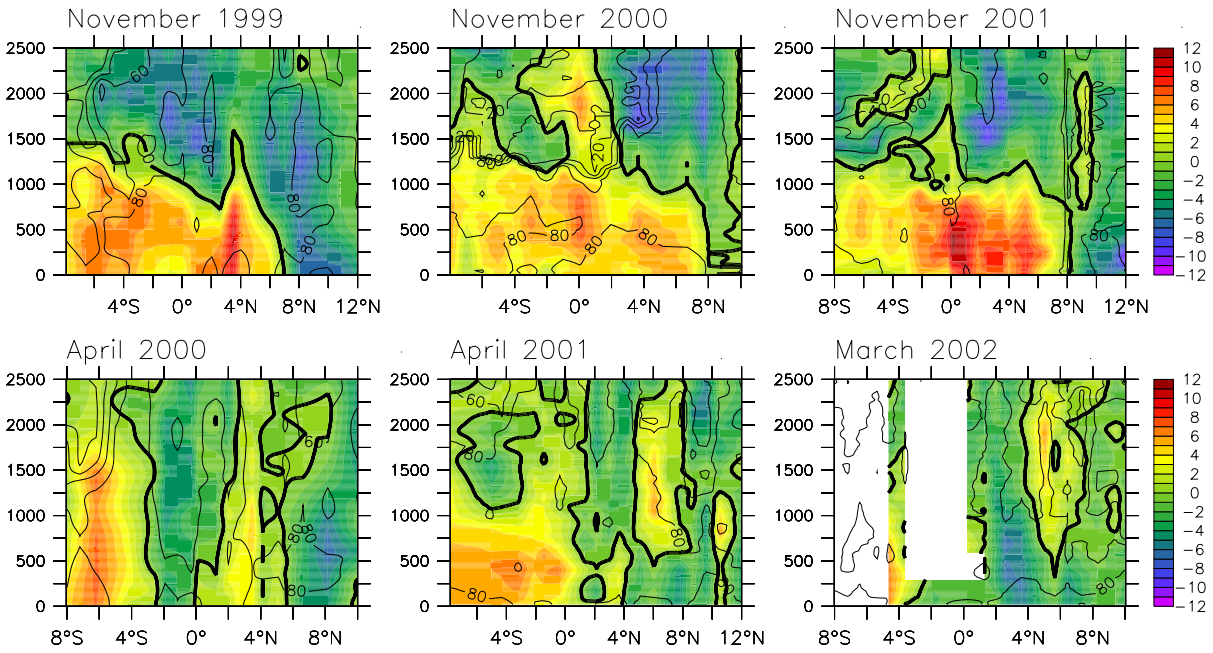

Fig. 10. Soundings sections of relative humidity and meridional winds from 95W TAO tender ship. Relative humidity CI is 20%.

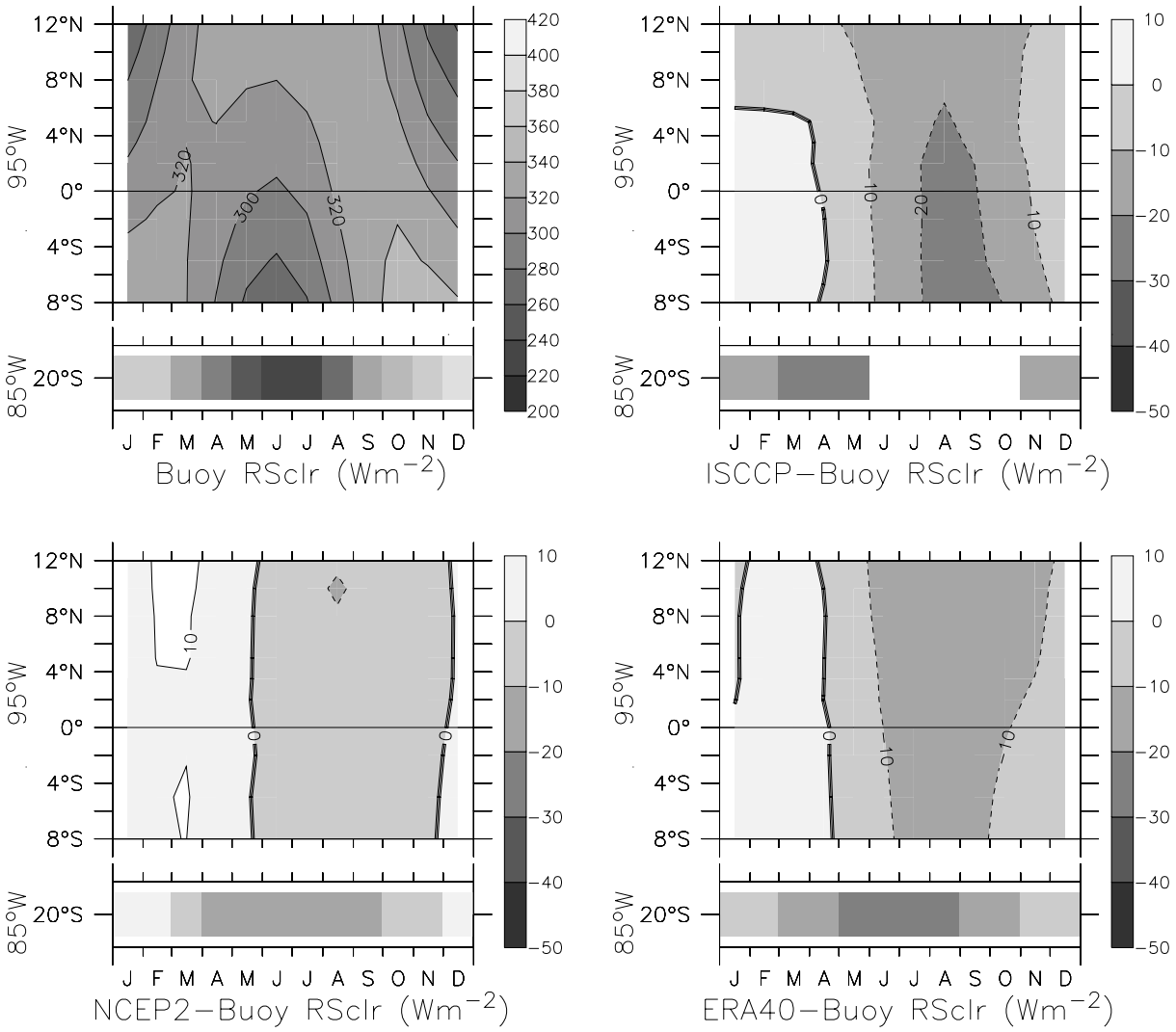

Fig 11. As in Fig. 5, but for clearsky solar radiation at the surface.

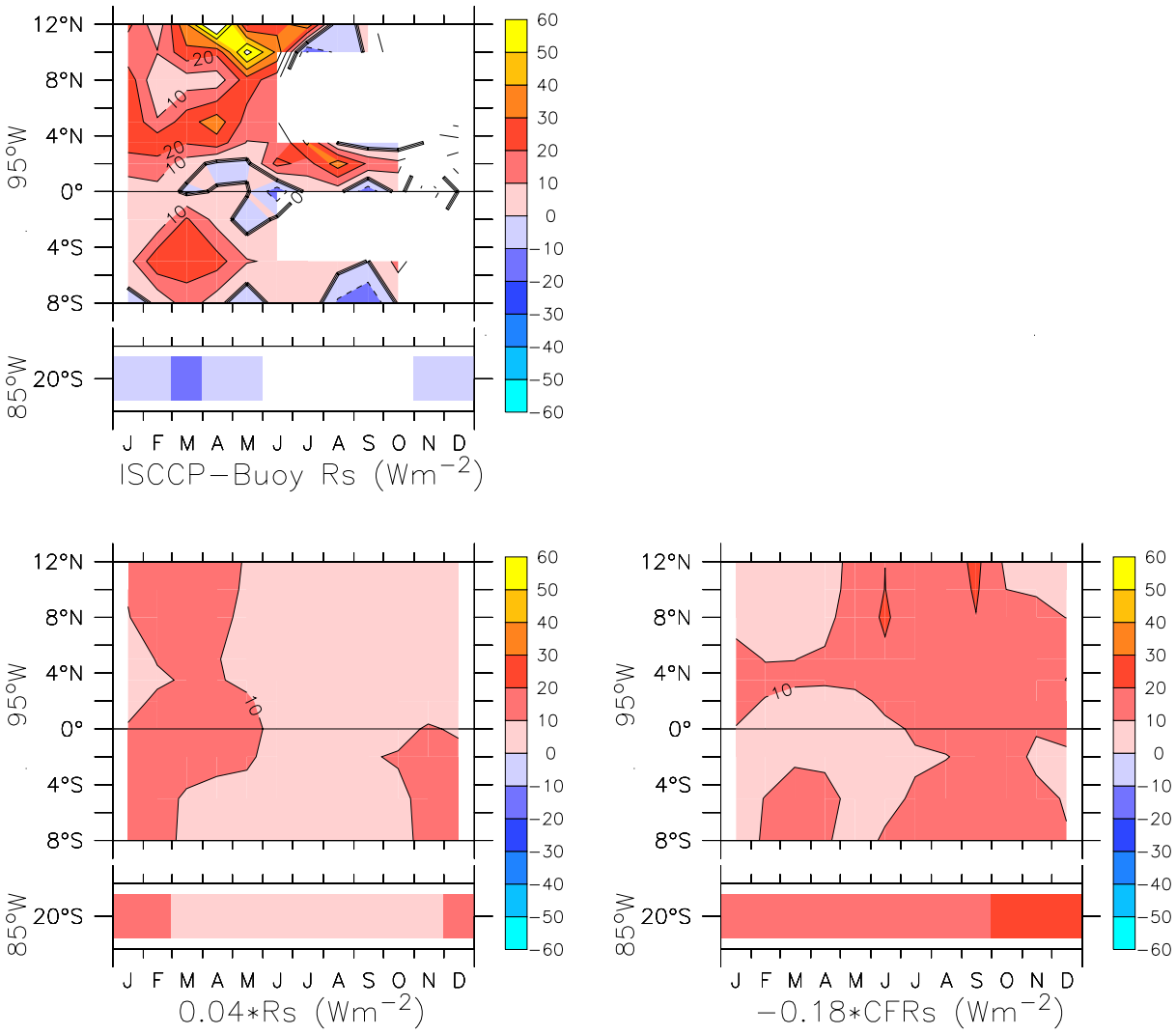

Fig 12. ISCCP downwelling solar radiation relative to buoy measured field (upper left) and ad hoc models of this bias: ISCCP downwelling solar radiation scaled by 0.04 (lower left), ISCCP cloud forcing scaled by -0.18 (lower right). All fields have units W/m2.