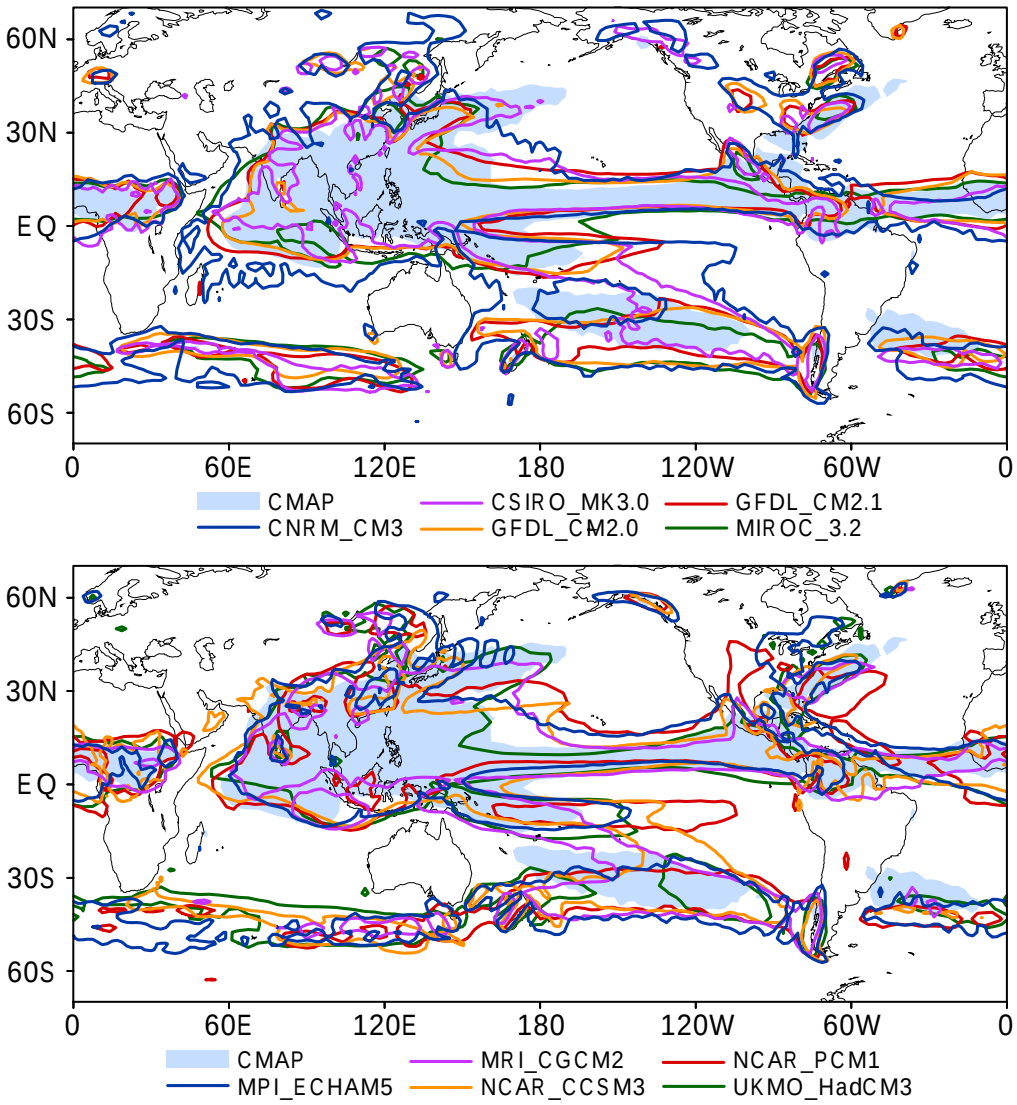

Fig. 7. Climatology of precipitation as summarized by the 4 mm day^{-1} contour line for JJA for each model (contour colors noted in key) and CMAP observations (blue shading over 4 mm day^{-1}). The JJA average of 1979–2000 is used because of the availability of observations.

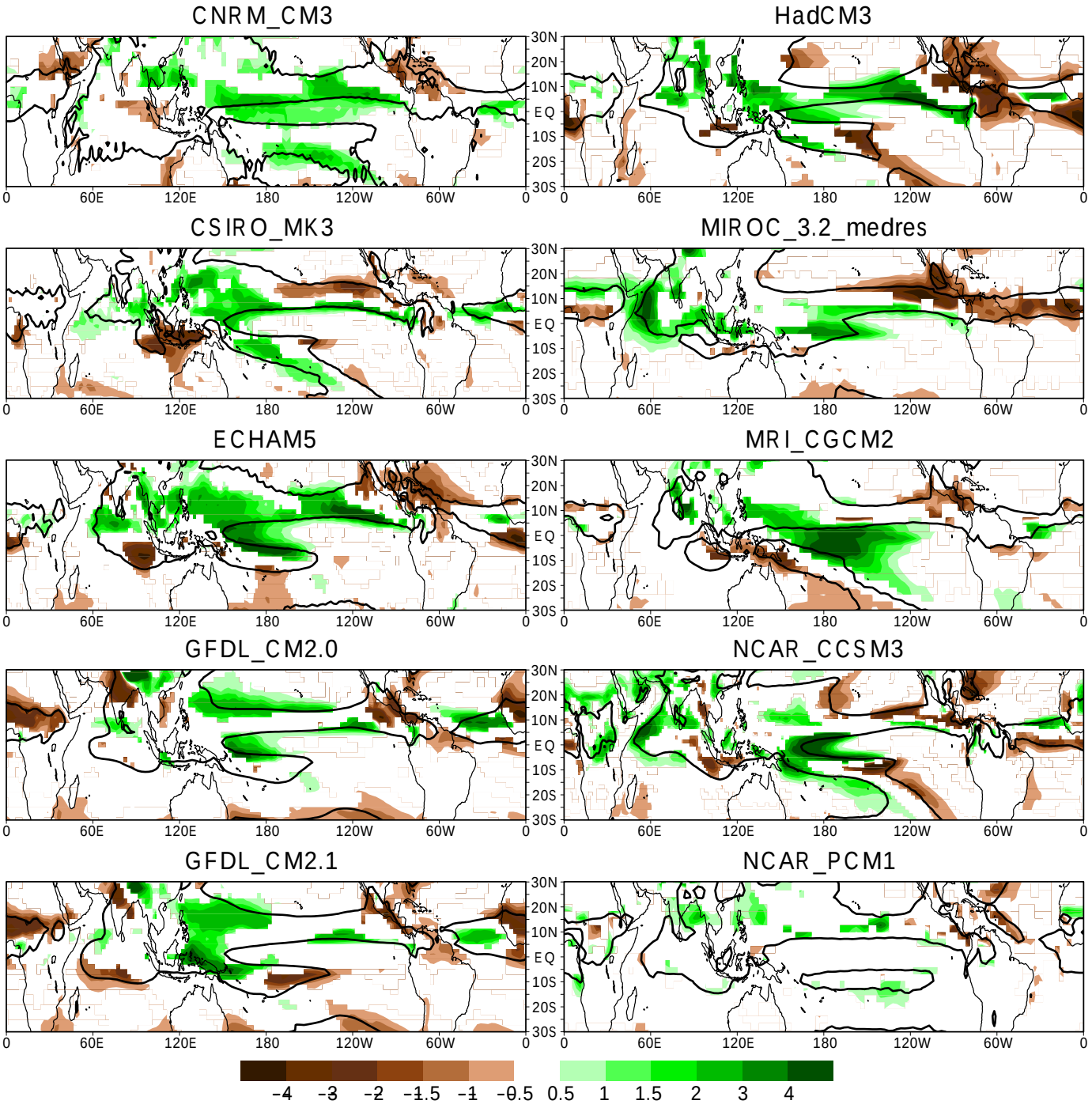

Fig. 8. Precipitation change in the JJA season for 2070–2099 relative to 1901–1960 (mm day^{-1}) from 10 ocean-atmosphere climate models for the SRES A2 global warming scenario. Values are shown only where they exceed the 95% confidence interval for a two-sided Student t test. The variance for the test is estimated at each point in the approximation that 10-year intervals in the control run are independent. One ensemble member is shown for each model because ensemble size varies from 1 to 5. For these 30-year mean values ensemble members bear close resemblance; for instance, for NCAR-CCSM3 spatial correlations of one ensemble member to another all exceed 0.95. The 4 mm day^{-1} contour interval from the 1901–1960 base period is shown for each model.

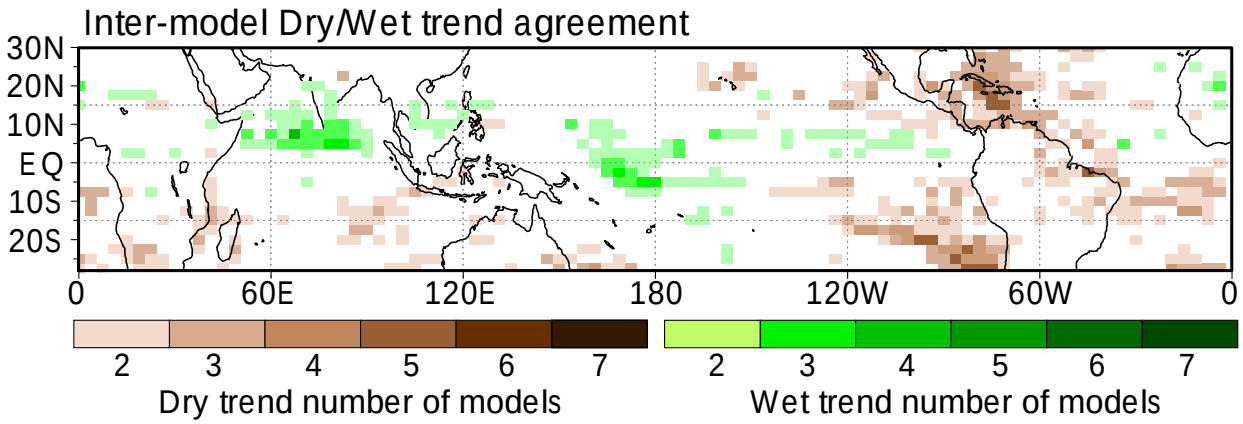

Fig. 9. Model agreement on the predicted local precipitation trend for JJA from 1979 to 2049. The number of models at each location that agree on a dry or wet trend are counted as in Fig. 5b, but for less stringent criteria because of the smaller signal for earlier time. The trend at each point must exceed 95% significance and exceed an amplitude change per century of 20% of the climatology for each model, and regions with 2 or more of the 10 models agreeing are shaded, with the number given by the brown (dry) and green (wet) color bars. Points are excluded if any models pass these criteria for a trend of disagreeing sign. In addition to the Caribbean/Central-American region, a degree of intermodel agreement on drying trends may be noted in the Southeastern Pacific, eastern equatorial South America, and southern Africa. These regions have smaller median trend magnitudes than the Caribbean/Central-American region at this time and can be sensitive to the threshold for minimum trend. Wet trends with local agreement for several models occur in the central Pacific and Indian oceans.

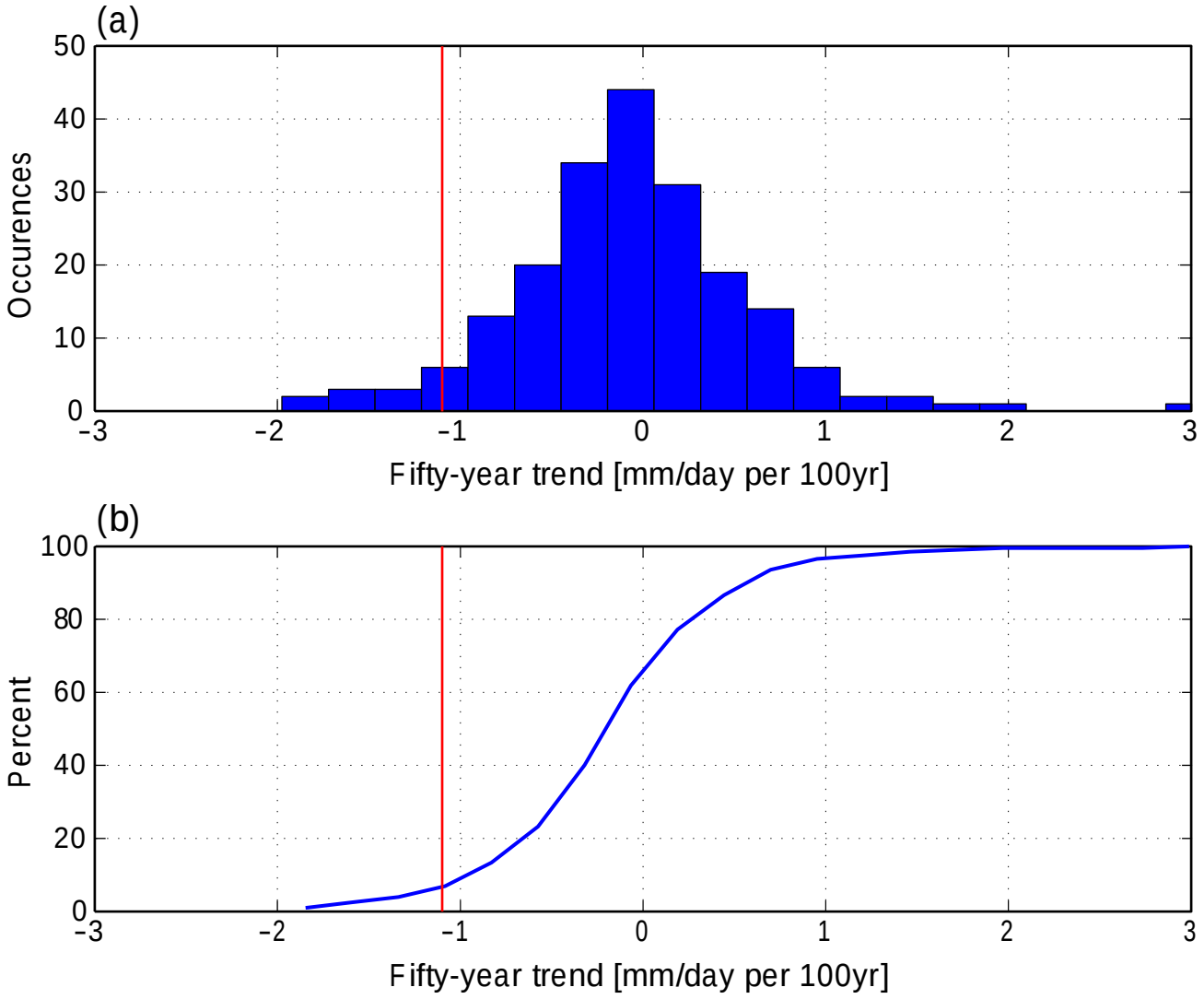

Fig. 10. (a) Multimodel histogram of occurrences of 50-year trend values as an estimate of the probability density function. (b) Resulting cumulative distribution for 50-year trends of an index of Caribbean/Central-American region precipitation, i.e., precipitation averaged over longitudes 91.875–58.125°W and latitudes 11.25–23.75°N. The trends are computed over nonoverlapping 50-year segments from the model control runs and thus provide an estimate of 50-year trends occurring purely by natural variability. The value of the observed 50-year trend from VASClimO data for the same averaging region is shown as a red line.