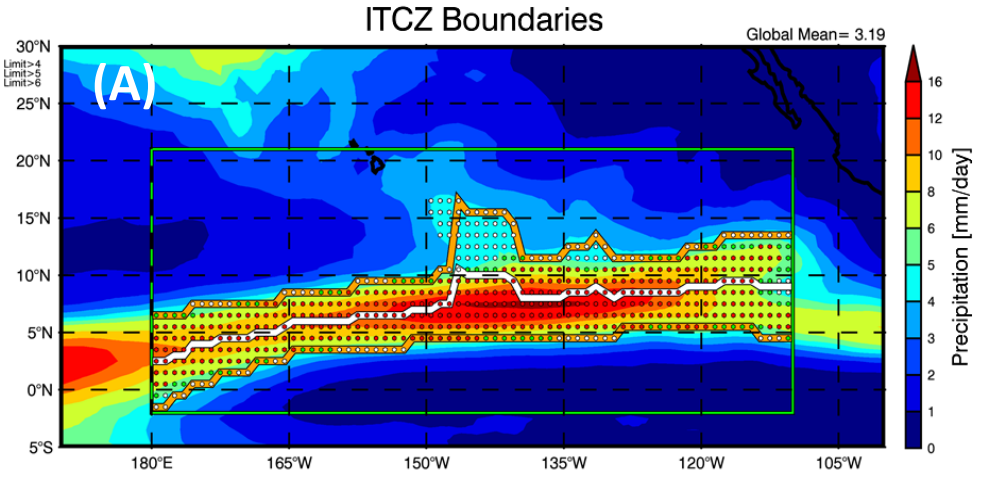
Objectively Identifying the Inter-Tropical Convergence Zone through an Analysis of CMIP5 and GPCP/TRMM data

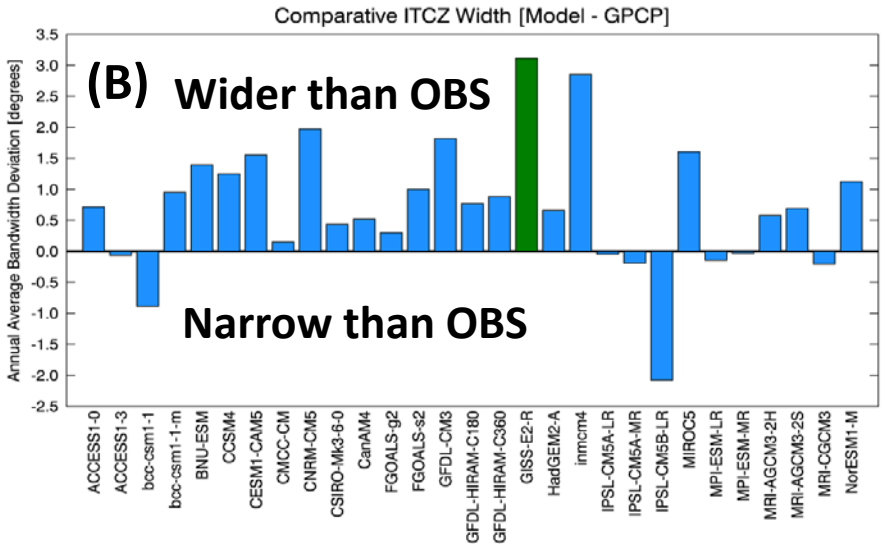
Xiquan Dong, University of North Dakota

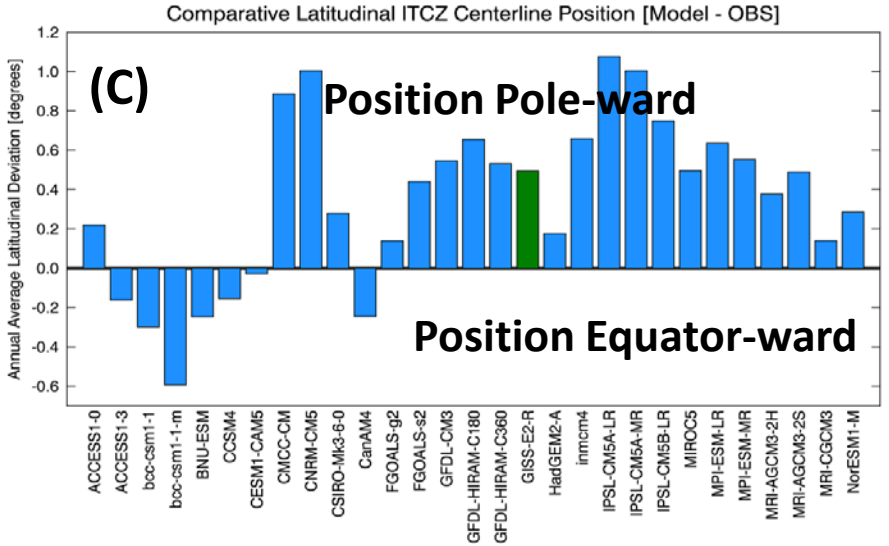
We developed an algorithm to identify the boundaries of the ITCZ and compared model simulations to TRMM and GPCP data.

Green box: Study boundaries.
Orange = Upper/Lower Boundary (Width);
White = Identified center-line position.

[Publication] Stanfield, R. E., J. Jiang, X. Dong, B. Xi, H. Su, and Graham Stevens, 2014: Objectively Identifying the Inter-Tropical Convergence Zone Region through an Analysis of CMIP5 and GPCP/TRMM Observations. In preparation for J. Climate.







Compared to the upper and lower boundaries identified by the GPCP and TRMM, most of GCMs simulated a wider ITCZ region, including NASA GISS CMIP5 [Figure B].

For the identified central-line position (white line in Figure A), most of GCMs are pole-ward, including NASA GISS CMIP5 [Figure C].