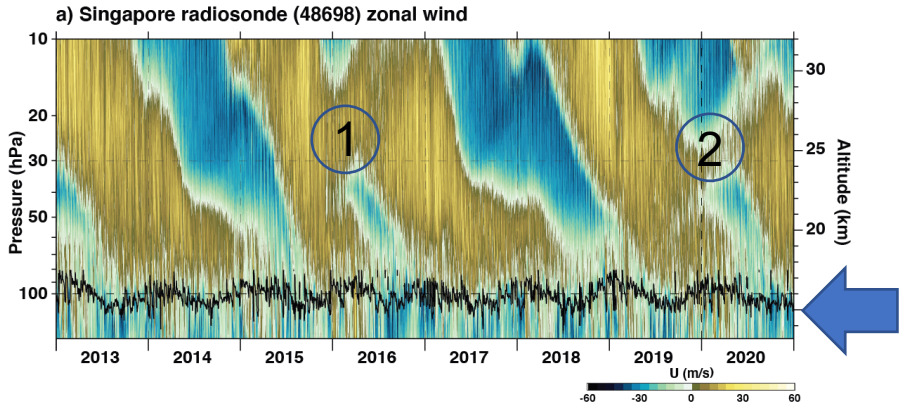
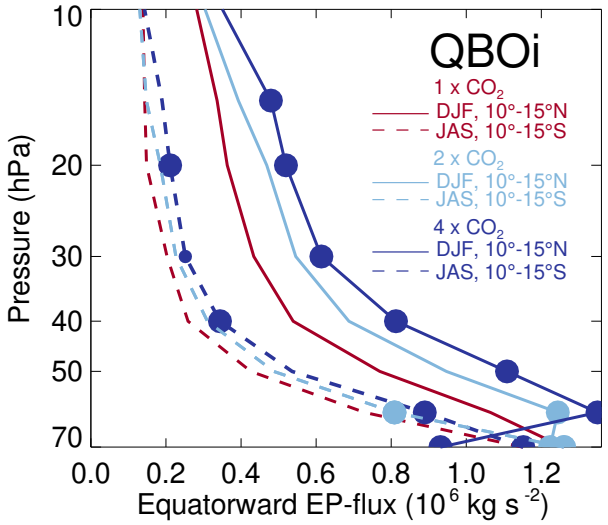
Prospect of increased disruption to the QBO in a changing climate.



The quasi-biennial oscillation (QBO) consists of a regular switching between eastward and westward winds in the tropical stratosphere. The oscillation has persisted at least since its discovery in the 1960s, over which time its period averages about 28 months with some variability from cycle to cycle.

Recently, during the Northern Hemisphere winters of 2015/16 and 2019/20, remarkable departures from this regular behavior occurred that have no precedent in the observational record.



Both the 2015/16 and 2019/20 QBO disruptions occurred when large horizontal fluxes of momentum intruded into the tropics from higher latitudes. Using climate model projections we find these horizontal fluxes are likely to increase in future, suggesting an increased future likelihood of QBO disruptions and a concomitant loss in QBO predictability.

Anstey, J. A., Banyard, T. P., Butchart, N., Coy, L., Newman, P. A., Osprey, S., & Wright, C. J. (2021). Prospect of increased disruption to the QBO in a changing climate. *Geophysical Research Letters*, 48, e2021GL093058. https://doi.org/10.1029/2021GL093058