References

An, S.-I., Heo, E. S., and Kim, S. T. (2017). Feedback process responsible for intermodel diversity of enso variability. *Geophysical Research Letters*, 44(9):4272–4279.

Bjerknes, J. (1969). Atmospheric teleconnections from the equatorial pacific. *Mon. Wea. Rev*, 97(3):163–172.

Boer, G., Flato, G., and Ramsden, D. (2000). A transient climate change simulation with greenhouse gas and aerosol forcing: projected climate to the twenty-first century. *Climate dynamics*, 16(6):427–450.

Cai, W., Wang, G., Dewitte, B., Wu, L., Santoso, A., Takahashi, K., Yang, Y., Carréric, A., and McPhaden, M. J. (2018). Increased variability of eastern pacific el niño under greenhouse warming. *Nature*, 564(7735):201–206.

Chen, L., Li, T., and Yu, Y. (2015). Causes of strengthening and weakening of enso amplitude under global warming in four cmip5 models. *Journal of Climate*, 28(8):3250–3274.

Chen, L., Li, T., Yu, Y., and Behera, S. K. (2017). A possible explanation for the divergent projection of enso amplitude change under global warming. *Climate Dynamics*, 49(11-12):3799–3811.

Deser, C., Phillips, A. S., Simpson, I. R., Rosenbloom, N., Coleman, D., Lehner, F., Pendergrass, A. G., DiNezio, P., and Stevenson, S. (2020). Isolating the evolving contributions of anthropogenic aerosols and greenhouse gases: a new cesm1 large ensemble community resource. *Journal of Climate*, 33(18):7835–7858.

Dewitte, B., Yeh, S.-W., and Thual, S. (2013). Reinterpreting the thermocline feedback in the western-central equatorial pacific and its relationship with the enso modulation. *Climate dynamics*, 41(3-4):819–830.

Emile-Geay, J., Cane, M., Seager, R., Kaplan, A., and Almasi, P. (2007). El niño as a mediator of the solar influence on climate. *Paleoceanography*, 22(3).

Fernández, N. C., Herrera, R. G., Puyol, D. G., MartÍn, E. H., GarcÍa, R. R., Presa, L. G., and RodrÍguez, P. R. (2004). Analysis of the enso signal in tropospheric and stratospheric temperatures observed by msu, 1979–2000. *Journal of climate*, 17(20):3934–3946.

Graham, F. S., Brown, J. N., Langlais, C., Marsland, S. J., Wittenberg, A. T., and Holbrook, N. J. (2014). Effectiveness of the bjerknes stability index in representing ocean dynamics. *Climate Dynamics*, 43(9-10):2399–2414.

Hu, S. and Fedorov, A. V. (2018). Cross-equatorial winds control el niño diversity and change. *Nature Climate Change*, 8(9):798–802.

Jia, F., Cai, W., Wu, L., Gan, B., Wang, G., Kucharski, F., Chang, P., and Keenlyside, N. (2019). Weakening atlantic niño–pacific connection under greenhouse warming. *Science advances*, 5(8):eaax4111.

Jiménez-Muñoz, J. C., Mattar, C., Barichivich, J., Santamaría-Artigas, A., Takahashi, K., Malhi, Y., Sobrino, J. A., and Van Der Schrier, G. (2016). Record-breaking warming and extreme drought in the amazon rainforest during the course of el niño 2015–2016. *Scientific reports*, 6:33130.

Kay, J. E., Deser, C., Phillips, A., Mai, A., Hannay, C., Strand, G., Arblaster, J. M., Bates, S., Danabasoglu, G., Edwards, J., et al. (2015). The community earth system model (cesm) large ensemble project: A community resource for studying climate change in the presence of internal climate variability. *Bulletin of the American Meteorological Society*, 96(8):1333–1349.

Kestin, T. S., Karoly, D. J., Yano, J.-I., and Rayner, N. A. (1998). Time–frequency variability of enso and stochastic simulations. *Journal of Climate*, 11(9):2258–2272.

Kiladis, G. N., Wheeler, M. C., Haertel, P. T., Straub, K. H., and Roundy, P. E. (2009). Convectively coupled equatorial waves. *Reviews of Geophysics*, 47(2).

Kim, S. T., Cai, W., Jin, F.-F., Santoso, A., Wu, L., Guilyardi, E., and An, S.-I. (2014). Response of el niño sea surface temperature variability to greenhouse warming. *Nature Climate Change*, 4(9):786–790.

Kohyama, T., Hartmann, D. L., and Battisti, D. S. (2018). Weakening of nonlinear enso under global warming. *Geophysical Research Letters*, 45(16):8557–8567.

Levine, A. F., McPhaden, M. J., and Frierson, D. M. (2017). The impact of the amo on multidecadal enso variability. *Geophysical Research Letters*, 44(8):3877–3886.

Liu, Z. and Alexander, M. (2007). Atmospheric bridge, oceanic tunnel, and global climatic teleconnections. *Reviews of Geophysics*, 45(2).

Lorenz, E. N. (1963). Deterministic nonperiodic flow. *Journal of the atmospheric sciences*, 20(2):130–141.

Lübbecke, J. F. and McPhaden, M. J. (2014). Assessing the twenty-first-century shift in enso variability in terms of the bjerknes stability index. *Journal of Climate*, 27(7):2577–2587.

Maher, N., Matei, D., Milinski, S., and Marotzke, J. (2018). Enso change in climate projections: Forced response or internal variability? *Geophysical Research Letters*, 45(20):11–390.

Nowack, P. J., Braesicke, P., Luke Abraham, N., and Pyle, J. A. (2017). On the role of ozone feedback in the enso amplitude response under global warming. *Geophysical research letters*, 44(8):3858–3866.

Phillips, A. S., Deser, C., and Fasullo, J. (2014). A new tool for evaluating modes of variability in climate models. *Eos, Transactions American Geophysical Union*, 95(49):453–455.

Rashid, H. A., Hirst, A. C., and Marsland, S. J. (2016). An atmospheric mechanism for enso amplitude changes under an abrupt quadrupling of co2 concentration in cmip5 models. *Geophysical Research Letters*, 43(4):1687–1694.

Ropelewski, C. F. and Halpert, M. S. (1987). Global and regional scale precipitation patterns associated with the el niño/southern oscillation. *Monthly weather review*, 115(8):1606–1626.

Son, S.-W., Gerber, E., Perlwitz, J., Polvani, L. M., Gillett, N., Seo, K.-H., Eyring, V., Shepherd, T., Waugh, D., Akiyoshi, H., et al. (2010). Impact of stratospheric ozone on southern hemisphere circulation change: A multimodel assessment. *Journal of Geophysical Research: Atmospheres*, 115(D3).

Stevenson, S. (2012). Significant changes to enso strength and impacts in the twenty-first century: Results from cmip5. *Geophysical Research Letters*, 39(17).

Stevenson, S., Capotondi, A., Fasullo, J., and Otto-Bliesner, B. (2019). Forced changes to twentieth century enso diversity in a last millennium context. *Climate Dynamics*, 52(12):7359–7374.

Stevenson, S., Fox-Kemper, B., Jochum, M., Neale, R., Deser, C., and Meehl, G. (2012). Will there be a significant change to el niño in the twenty-first century? *Journal of Climate*, 25(6):2129–2145.

Stevenson, S., Fox-Kemper, B., Jochum, M., Rajagopalan, B., and Yeager, S. G. (2010). Enso model validation using wavelet probability analysis. *Journal of Climate*, 23(20):5540–5547.

Vecchi, G. A., Soden, B. J., Wittenberg, A. T., Held, I. M., Leetmaa, A., and Harrison, M. J. (2006). Weakening of tropical pacific atmospheric circulation due to anthropogenic forcing. *Nature*, 441(7089):73–76.

Vega-Westhoff, B. and Sriver, R. L. (2017). Analysis of enso's response to unforced variability and anthropogenic forcing using cesm. *Scientific reports*, 7(1):1–10.

Wang, C., Deser, C., Yu, J.-Y., DiNezio, P., and Clement, A. (2017). El niño and southern oscillation (enso): a review. In *Coral reefs of the eastern tropical Pacific*, pages 85–106. Springer.

Wang, Y., Luo, Y., Lu, J., and Liu, F. (2019). Changes in enso amplitude under climate warming and cooling. *Climate Dynamics*, 52(3):1871–1882.

Yeo, S.-R., Yeh, S.-W., Kim, K.-Y., and Kim, W. (2017). The role of low-frequency variation in the manifestation of warming trend and enso amplitude. *Climate Dynamics*, 49(4):1197–1213.

Zhang, R., Sutton, R., Danabasoglu, G., Kwon, Y.-O., Marsh, R., Yeager, S. G., Amrhein, D. E., and Little, C. M. (2019). A review of the role of the atlantic meridional overturning circulation in atlantic multidecadal variability and associated climate impacts. *Reviews of Geophysics*, 57(2):316–375.

Zheng, X.-T., Hui, C., and Yeh, S.-W. (2018). Response of enso amplitude to global warming in cesm large ensemble: uncertainty due to internal variability. *Climate Dynamics*, 50(11-12):4019–4035.

Zheng, X.-T., Xie, S.-P., Lv, L.-H., and Zhou, Z.-Q. (2016). Intermodel uncertainty in enso amplitude change tied to pacific ocean warming pattern. *Journal of Climate*, 29(20):7265–7279.

Zhu, J., Liu, Z., Brady, E., Otto-Bliesner, B., Zhang, J., Noone, D., Tomas, R., Nusbaumer, J., Wong, T., Jahn, A., et al. (2017). Reduced enso variability at the lgm revealed by an isotope-enabled earth system model. *Geophysical Research Letters*, 44(13):6984–6992.