

## ENSO life cycles and the potential usefulness of multi-year predictions for agriculture

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Life-cycles of the El Niño Southern Oscillation (ENSO), and the associated climate teleconnections, tend to evolve at a global scale over 2-3 years. These large-scale climate teleconnections can impose a spatial and temporal structure on crop yield anomalies. The tendency for La Niñas to be preceded by El Niños and to persist for two years is, for example, reflected in crop yield anomalies of southeast South America (among other regions) such that the three-year life-cycle of sea surface temperature anomalies in the Niño 3.4 region is mirrored by an analogous three-year life cycle of maize yield anomalies. In other regions, however, multi-year ENSO life cycles are unlikely to translate into multi-year crop yield anomalies due to the importance of other ocean basins or due to the spatiotemporal evolution of SST anomalies during ENSO life cycles. Despite understanding how ENSO life cycles affect crop yield distributions, producing multi-year forecasts that have operational value for the agriculture sector is likely to be a significant challenge. This presentation will discuss when and where multi-year forecasts have the greatest potential to produce useful information for agriculture.