## Codes for Computing ARX Correction of Forecasts

**`spear.github.R`** Main code that reads data, performs all calculations, and outputs all figures of the paper. The figures are piped into the subdirectory `figures`.

**`arx.correction.R`** Computes the ARX correction given forecast, observation, and forcing time series. The ARX model is trained over the period `train.str`-`train.end`.

**`traditional.correction.R`** Computes traditional correction given forecast and observation time series. The correction is trained over the period `train.str`-`train.end`.

### Auxiliary Functions

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| `timeseries2arx.cyclo` | given time series, specify X,Y matrices for writing ARX model in the form $Y = XB + E$ |
| `simulate.arx.cyclo` | given ARX coefficients, integrate the ARX model |
| `n.to.monthly` | map indices of a uniformly-spaced time series to non-uniform array |
| `lm.TrendPlusCycle` | fit time series to trend-plus-annual cycle regression model |
| `pdf.eps` | plot figure to PDF file |