Nuclear Nino
in the 5 Tg Ensembles
13-Month Running Mean SOI Index During 6 Nuclear War Scenarios in WACCM

- **150 Tg US-Russia**
- **46.8 Tg India-Pakistan**
- **37 Tg India-Pakistan**
- **27.3 Tg India-Pakistan**
- **16 Tg India-Pakistan**
- **5 Tg India-Pakistan**
- **0 Tg Control**
Monthly SOI Timeseries after 5 Tg India-Pakistan Ens 2 BC Injection on May 15th, Year 0

- **La Nina Conditions**
- **El Nino Conditions**
- **Neutral Conditions**

- **Southern Oscillation Index**

- **Years of Model Run**

- **Graph** shows the monthly SOI timeseries after the injection of 5 Tg India-Pakistan Ens 2 BC on May 15th, Year 0.
Why does SOI differ?

- Initial ENSO state likely plays a role
  - What would SOI look like if the beginning of the run was a strong La Nina state (like May, Yr14 of control)

- Based on Khodri 2017, there may be a relationship between continental cooling and westerly wind anomalies.
  - Does different SOI evolution depend more on initial ENSO state or how the continents cool?