Understanding of Processes in Decadal Climate Variability
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The new German research project “MiKlip – Decadal Predictions” (http://www.fona-miklip.de/en/) aims to develop a system for climate predictions for up to a decade ahead. One part of MiKlip (Module B) deals with the incorporation of those processes in climate models that are important for the realistic representation of decadal climate variability, and the understanding of the important processes in the numerical prediction system.

**Processes dealt with in MiKlip Module B**

- **Stratosphere Processes**
  - solar forcing and internal variability (STRATO)
  - fast ozone module (FAST-O3)
  - improved model formulations related to aerosols, clouds and ozone (LiCoS)

- **Arctic Sea-ice Processes**
  - parameterization of processes in atmospheric boundary layer (SPARCS)

- **Land Processes**
  - adaptive soil module (MCRA)

- **Mechanisms of Decadal Variability**
  - air-sea interaction over the Atlantic (ATMOS)
  - dependency of feedbacks and processes on model properties (MultiCLIP)

**Involved Projects from MiKlip Module B** (http://fona-miklip.de/en/251):

- **ALARM**: Alert for large volcanic eruptions in medium term climate prediction (MPI-M: C. Timmreck, H. Schmidt; GEOMAR: K. Krüger)
- **FAST-O3**: Fast stratospheric ozone chemistry for global climate models (AWI: M. Rex; FUB: U. Langematz)
- **LiCoS**: Linking composition and circulation of intermediate spatio-temporal scales (MPI-C: J. Leilieveld; MPI-M: B. Stevens)
- **MCRA**: Model complexity reduction approach (Uni Bonn: S. Kollet, C. Simmer, V. Venema; FZ Jülich: H. Bogen)
- **MultiCLIP**: Mechanisms of inter- to multidecadal variability and their implications for climate predictions (MPI-M: J. Jungclaus, W. Müller, J. Bader)
- **SPARCS**: Scale dependent parameterization of processes in the atmospheric boundary layer over Arctic sea ice (AWI: C. Lüpkes; Uni Hamburg: L. Kaleschke)
- **STRATO**: The role of the stratosphere for decadal climate prediction (FUB: U. Langematz; DLR: M. Dameris; GEOMAR: K. Matthes)
- **TORUS**: Towards regionally focused modeling of decadal climate predictions (AWI: D. Handorf, K. Dethloff, T. Jung, W. Hiller)

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