# The Climate Laboratory
Bringing hands-on interactive climate modeling into the classroom

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CLIMLAB
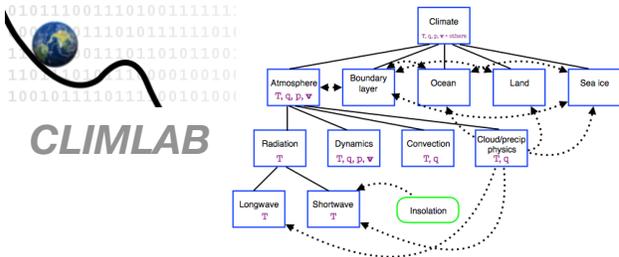
- Software toolkit for building **climate models** from **modular components**
- Enables interactive investigation with **Python** code
- **Free** and **open-source**
- Created at UAlbany; used in research and education worldwide
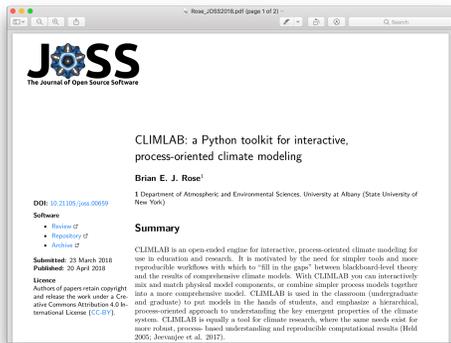
CLIMLAB: a Python toolkit for interactive, process-oriented climate modeling

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The Climate Laboratory book https://brian-rose.github.io/ClimateLaboratoryBook
- An **online, interactive** textbook on fundamentals of climate science
- Powered by CLIMLAB software
- **Free** and **open-source**

What determines the size of seasonal temperature changes?

https://brian-rose.github.io/ClimateLaboratoryBook/courseware/seasonal-cycle.html
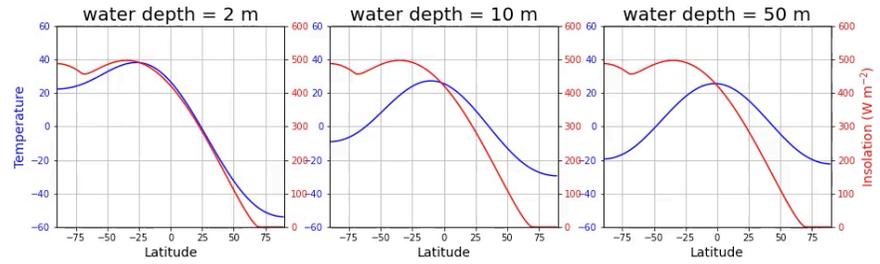
*We use CLIMLAB to build a **toy model** that includes **basic building blocks**:*
- *Seasonal changes in sunlight*
- *Heat storage by the ocean*
- *Heat transport by the atmosphere*

*The animation shows resulting **temperature changes** and **phase shifts** for different amounts of **land** vs **ocean**.*

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