

# Impacts of the Atlantic Multidecadal Variability (AMV) on the tropical Pacific: a multi-model study

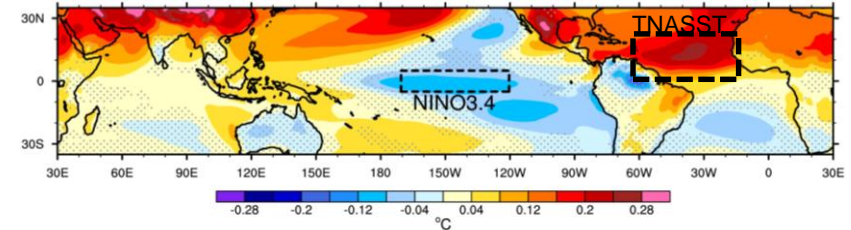
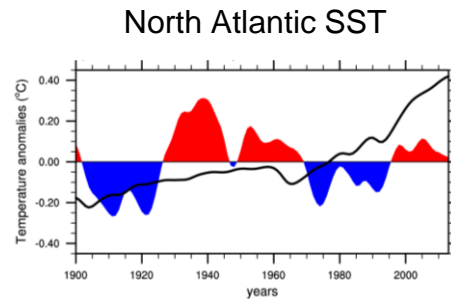
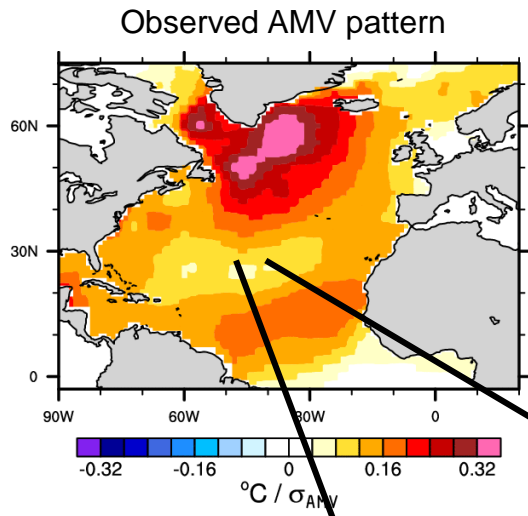
Yohan Ruprich-Robert and 24 co-authors

➤ Question: What are the impacts of the AMV on the tropical Pacific?

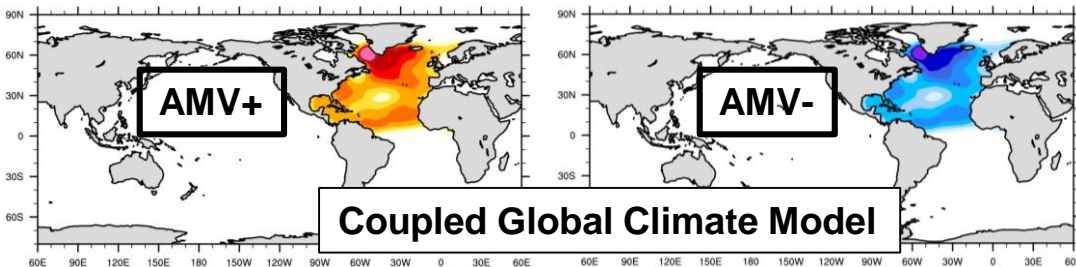
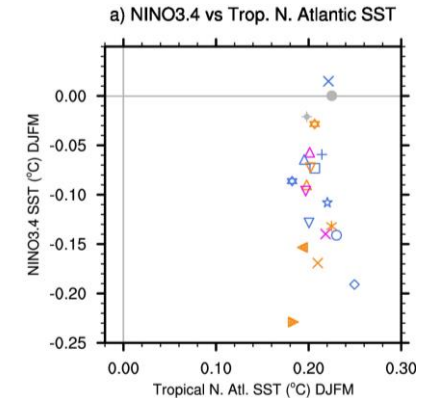
➤ Results:

➤ Method:

Surface temperature – AMV+ - AMV-: DJFM



- ◇ CESM1\_1Sig
- ★ CMCC-CM2\_1Sig
- ▽ CNRM-CM5\_1850\_1Sig
- ▽ CNRM-CM5\_1850\_2Sig
- ▽ CNRM-CM5\_1850\_3Sig
- △ CNRM-CM5\_1990\_1Sig
- △ CNRM-CM5\_1990\_2Sig
- △ CNRM-CM5\_1990\_3Sig
- ★ CNRM-CM6\_1Sig
- ★ CNRM-CM6\_2Sig
- + EC-Earth3\_1Sig
- × EC-Earth3P\_1Sig
- × EC-Earth3P\_2Sig
- × EC-Earth3P\_3Sig
- ★ EC-Earth3P-HR\_2Sig
- △ ECMWF-LR\_2Sig
- △ ECMWF-LR\_2Sig
- HadGEM3\_1Sig
- IPSL-CM6\_1Sig
- MetUM-GOML-HR\_2Sig
- MetUM-GOML-LR\_2Sig



10yr long large ensemble experiments  
21 simulations / 13 CGCMs

**Large inter-model spread in winter tropical Pacific response driven by:**

- Different atmospheric response during the summer
- Due to differences of surface moist static energy responses over the tropical Atlantic and how they are injected into the upper-troposphere
- Ultimately because of different tropical precipitation mean states