Sea-ice free Arctic contributes to the projected warming minimum in the North Atlantic
(Suo Lingling, Gao Yongqi, Guo Dong and Bethke Ingo 2017. ENVIRON RES LETT.)

Model experiments design

- **Arctic sea ice sensitivity Exp**
  - Autumn sea-ice free Arctic
  - Climatological SST and sea ice in Arctic
- **Control**
  - Climatological SST and sea ice in Arctic
  - Climatological SST in other regions

- **Coupled BCM**
  - Autumn sea-ice free Arctic
  - Free coupled in other regions
- **AGCM ARPEGE**
  - (ocean-atmosphere interaction)

Conclusion

- Sea-Ice free Arctic contributes to the projected North Atlantic warming minimum by weakening the Atlantic Meridional Overturning Circulation (AMOC).
- The weakened AMOC is driven and sustained by the weakened wind stress over the sub-polar gyre associated with a weaker Icelandic low in autumn.
- The study presented here emphasizes the role of ocean–atmosphere interaction on the sea-ice free impact, implies a lagged teleconnection through the ocean bridge.