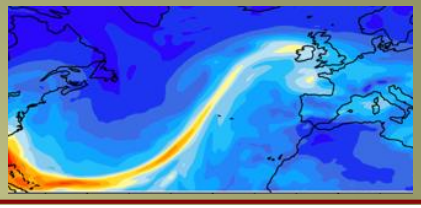
A proposal to the AR scientific community



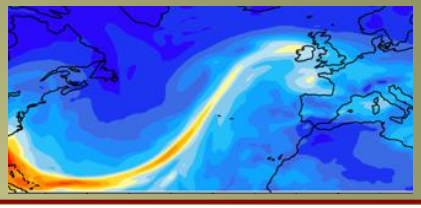
Atmospheric River Tracking Method Intercomparison Project (ARTMIP)

How robust are AR statistics and the resulting scientific conclusions to differences in AR identification methods?

We aim to engage the AR community to design a set of tests to understand the differences in AR identification methods and their implications.

Loosely based on IMILAST, a similar intercomparison of extra-tropical cyclone detection methods.

Proposed ARTMIP experimental design.



A common dataset: 1980-2015 ERA interim reanalysis.

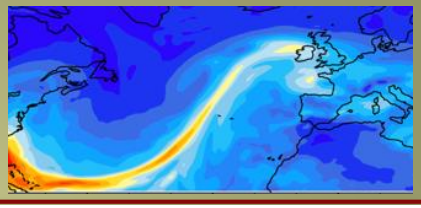
AR tracking methods require a variety of different combinations of fields and frequencies. ERA interim should fulfill everyone's needs.

Three different test problems.

1. Northeastern Pacific
2. North Atlantic
3. Global

- Chosen to evaluate the implications of different tracking methods in different regions with distinct large-scale environments and AR impacts.
- Not all methods are expected to be applicable to all 3 tests. But some may be.
- Principal diagnostics should include the seasonal mean IVT and IWV, in addition to the event dates and frequencies. Other identification relevant diagnostics are solicited.

Proposal for a US CLIVAR AR working group.



US CLIVAR has limited support available for targeted temporary working groups.

Support for a workshop and publication charges.

We will propose an Atmospheric River Working Group to launch the ARTMIP but intend the group to have a somewhat larger scientific interest.

Organizers: Michael Wehner (LBNL), Ruby Leung (PNNL), Christine Shields (NCAR)

Soliciting 9 other “core” members plus other interested parties.

Proposals are accepted annually in September.