

## ST2.2: Large-scale atmospheric drivers

**Proposal:** Compact KE activity (3 months):

- communicate SINATRA work on FFIR precursor indices
- contribute to flood risk tool
- define optimal index/lead times

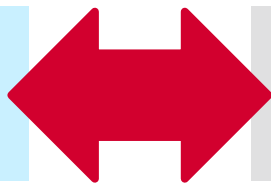
**To discuss:** Since key scientist involved (Adrian Champion) is not joining TENDERLY and SINATRA ST1.3 outputs are ongoing, what is the most profitable use of this resource?

Brief update of finalised and ongoing outputs...

# SINATRA ST1.3 advances

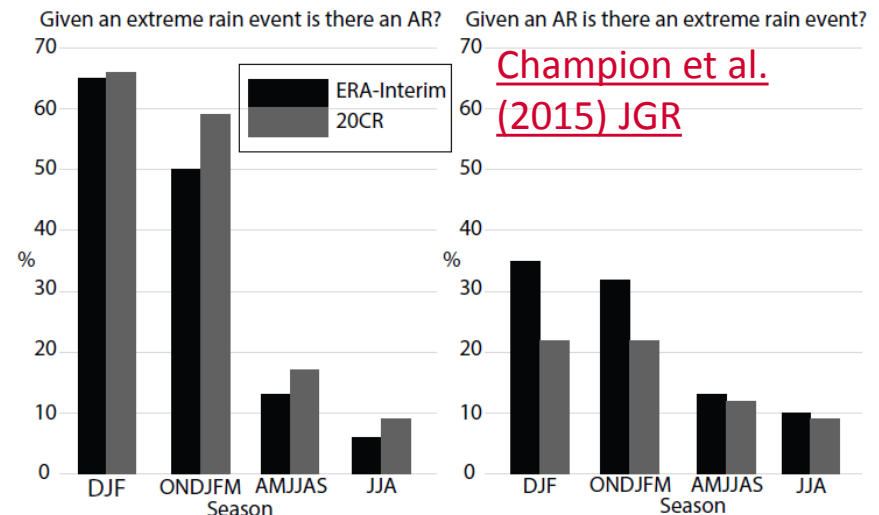
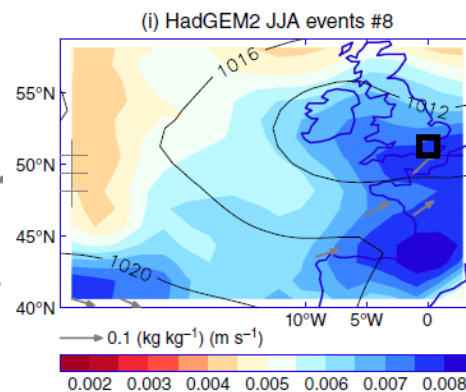
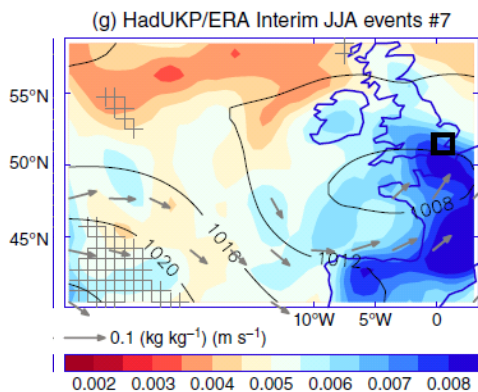
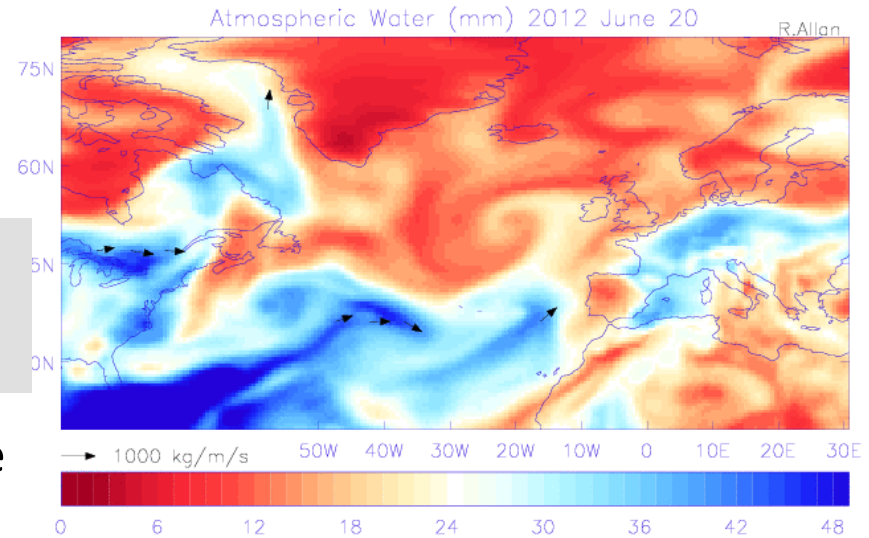
- Development of framework for analysing links between precursors/events

Extreme event?



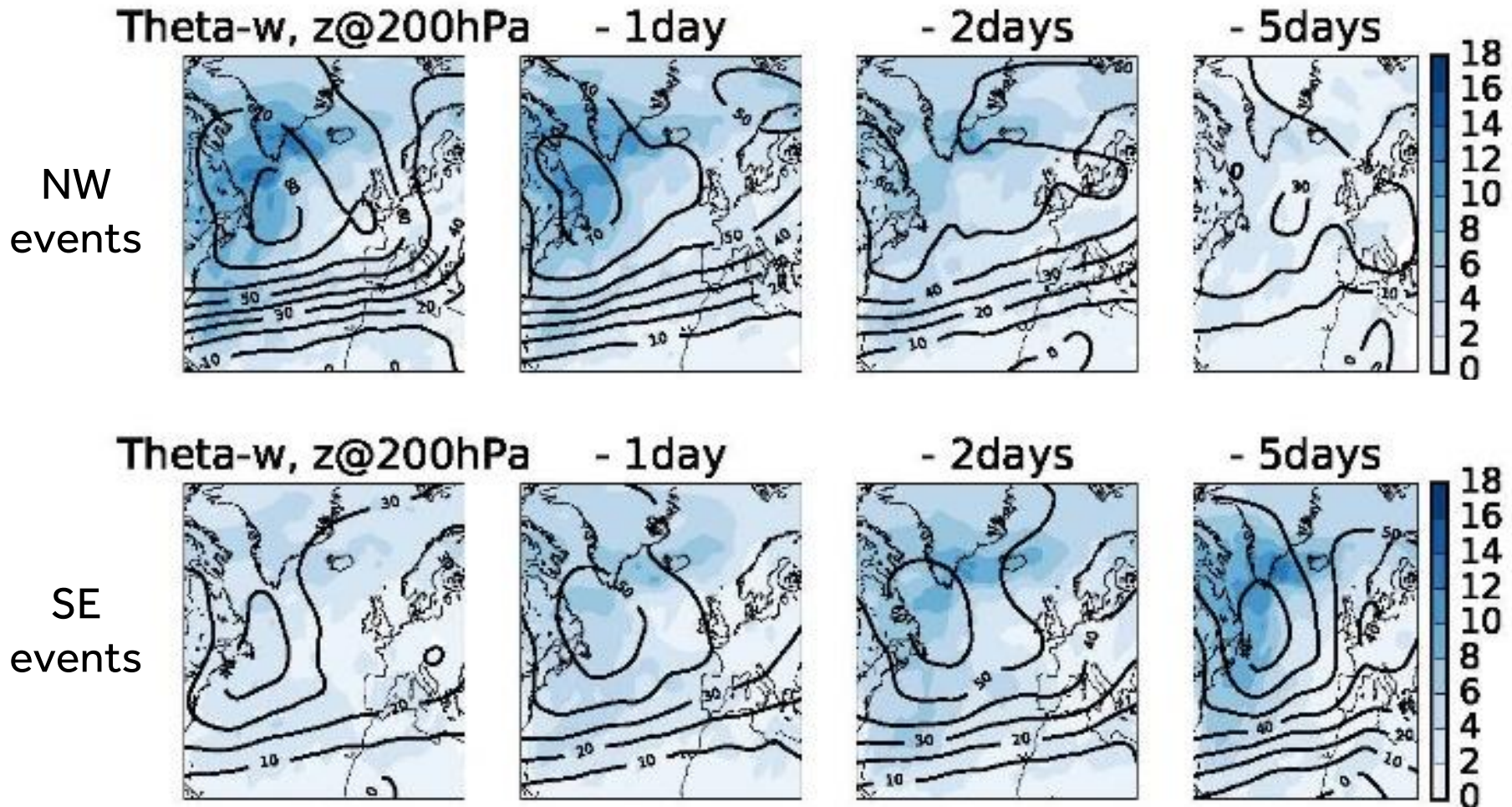
Atmospheric precursor?

- Atmospheric rivers/intense moisture transport situations less important for summer flooding (as expected)



[Allan et al. \(2015\) IJOC](#)

# ONGOING: INVESTIGATING LINKS BETWEEN 3HR JJA RAINFALL EXTREMES & GEOPOTENTIAL ANOMALIES IN NW ATLANTIC





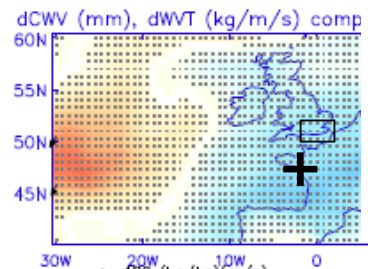
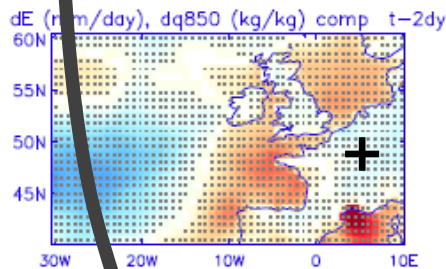
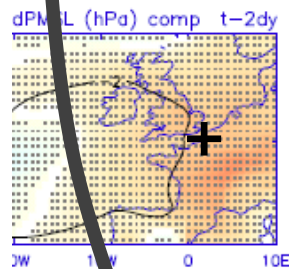
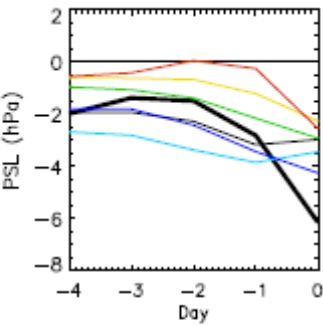
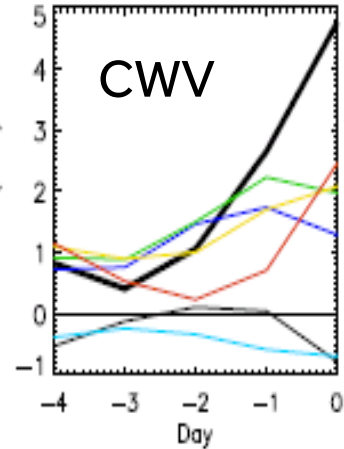
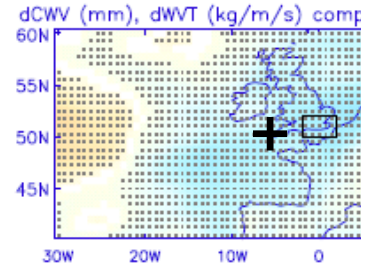
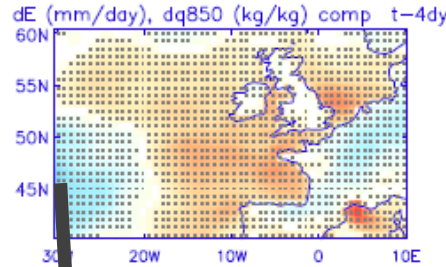
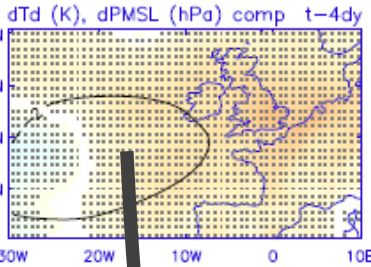
# ONGOING: LOCAL THERMODYNAMIC FIELDS

Td, PMSL (contours)

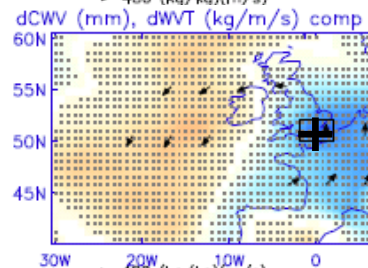
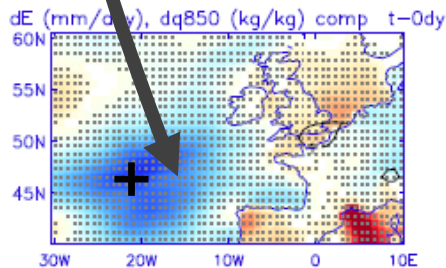
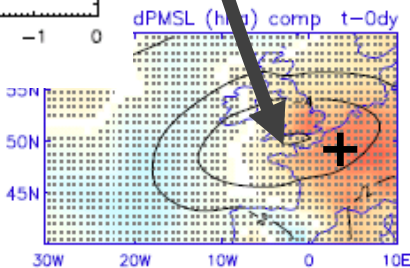
Evaporation

CWV, →WVT

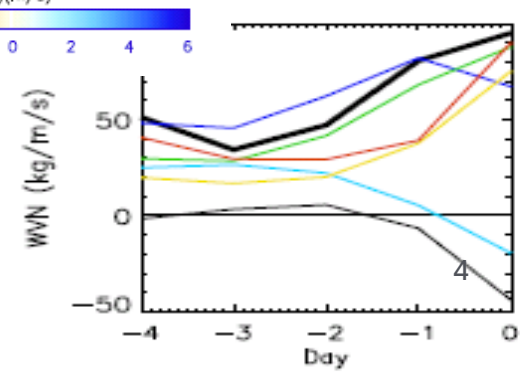
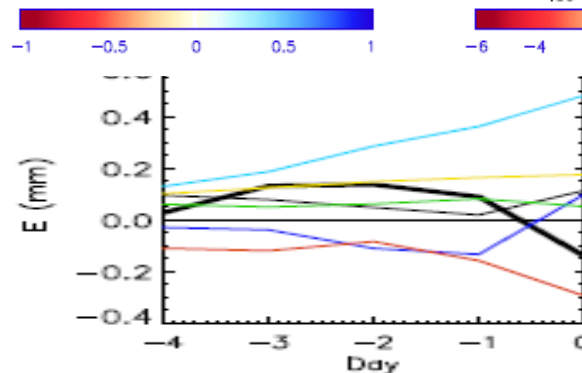
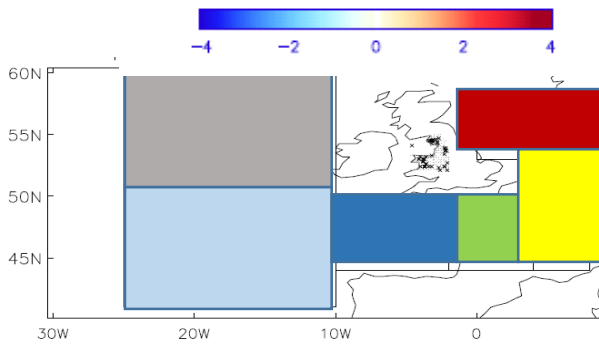
t - 4 days



t - 0



Composite  
of 2000  
heaviest JJA  
3hr rainfall  
events (SE)



# IDEAS FOR TENDERLY WORK

- To discuss...
- KE to communicate finalised SINATRA work to FFC/EA as planned
- 3 months to extend SINATRA work to usable outputs?
  - add to existing PDRAs tasks, e.g. Newcastle PDRA in collaboration with Reading
  - Apply precursor diagnostics:
    - TENDERLY case studies
    - Flood events/impacts rather than intense rainfall?