Richard Allan, Adrian Champion (University of Reading)
Stephen Blenkinsop, Hayley Fowler (Newcastle University)
ST1.3/ST2.2 ATMOSPHERIC PRECURSORS

- Atmospheric precursors to heavy 3hr summer rainfall events (Blenkinsop et al. 2016); extends daily analysis (Allan et al. 2015; Champion et al. 2015)
- e.g. August 1990 Monthly Weather Reports: “During the 28th and 29th part of a trailing cold front crossed most areas... Thundery outbreaks occurred... more extensively in Eastern parts on 29th...” [+British Rainfall]
- Composite analysis of anomalous atmospheric conditions prior to heavy rainfall events as context for end to end system (see also Lavers et al. 2014)

*this is on “Hailstone Hill” near Bacup!
NW UK COMPOSITES (TOP 25 EVENTS)

Td’ (K), PMSL’ (hPa)

E’ (mm), Z200’ (m)

WV’ (mm), IVT’ (kg/m/s)

Day -4

Day -2

Day 0
SE ENGLAND COMPOSITES (TOP 25 EVENTS)

Td' (K), PMSL' (hPa)
dTd (K), dPMSL (hPa) comp

Day -3

E' (mm), Z200' (m)
dE (mm/day), dZ200 (m) comp

Day -2

WV' (mm), IVT' (kg/m/s)
dWV (mm), dIVT (kg/m/s) comp

Day 0

m

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-4 -2 0 2 4

-1 -0.5 0 0.5 1

-6 -4 -2 0 2 4 6
OUTPUTS/DELIVERABLES

- **Dissemination**: Various talks on SINATRA work (e.g. EMS conference)
- **Outreach**: schools events, talks to general public, development of online courses, twitter, media interviews
- **Additional Activities**:
  - Meetings with FFC, Nigel Roberts and Newcastle to discuss diagnostics
  - 2 MSc projects: daily/hourly rain gauge datasets (inc. link to XL Catlin)

**Publications/Reports**: