

CSIP: Convective Storms Initiation Project (UK)

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Goals

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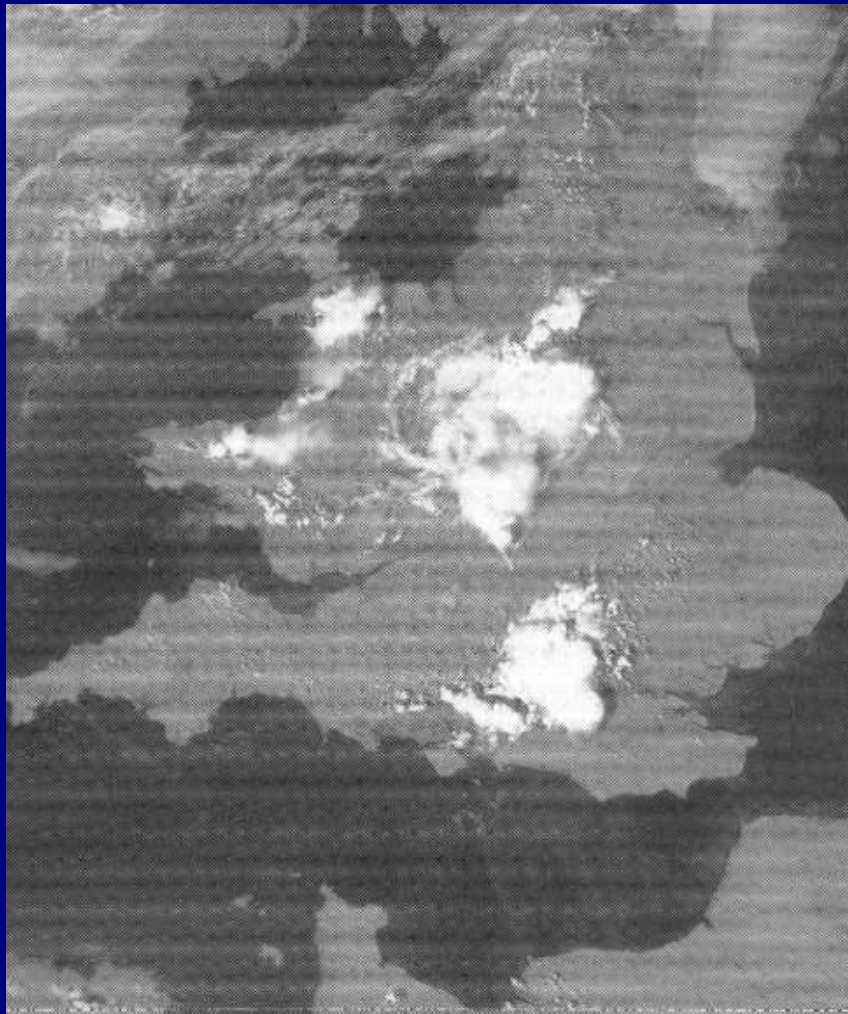
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- How do local modifications of the atmosphere by previous convective cells influence or even dominate over the other perturbations?

Convective clouds produce cold pools with associated lifting, as well as tropospheric moisture anomalies and transient static-stability variations.

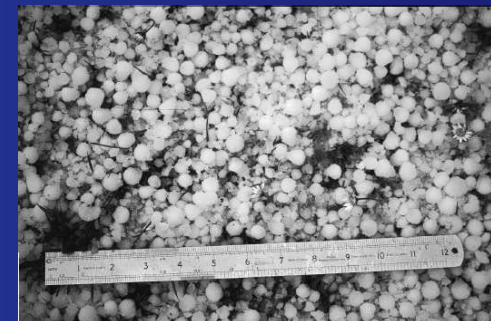
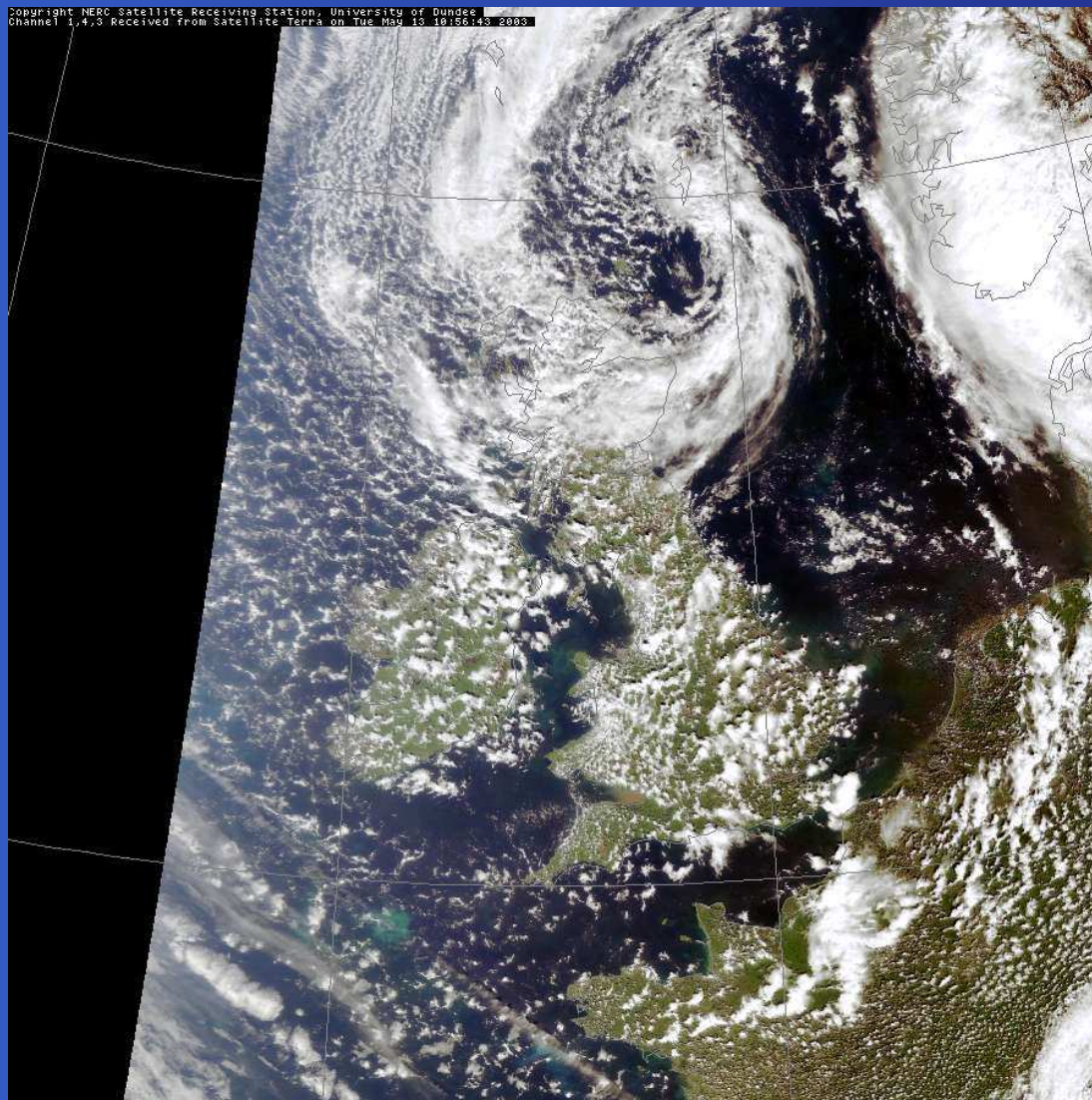


Mesoscale Convective Systems over the UK
- 1243 UTC, 24 May 1989



Landsat images of
precipitating convective
clouds at head of
River Exe, 28 Sept 2000.

13 May 03

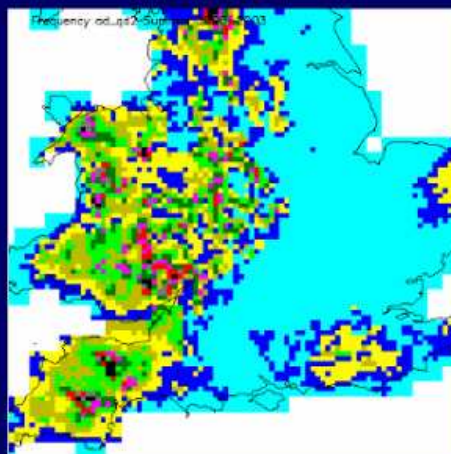


William Pike

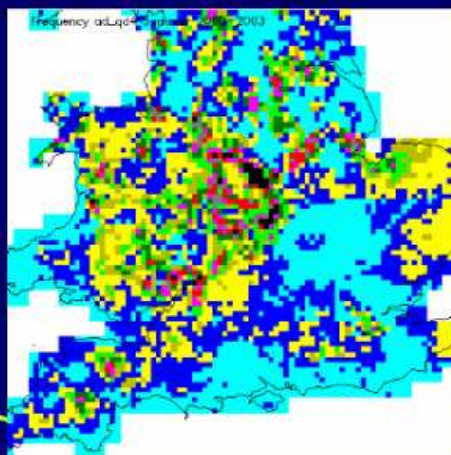
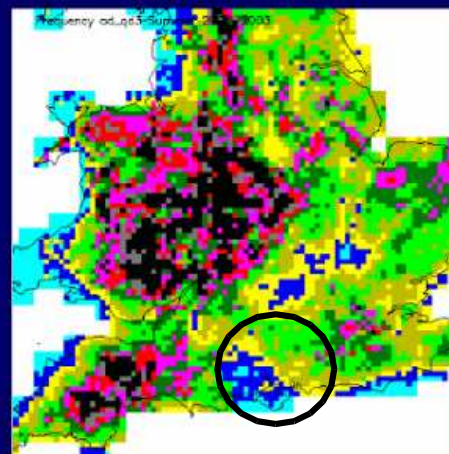
Lindsay Bennett

Will Hand analysis

00:00 - 11:45



12:00 - 17:54



18:00 - 23:45



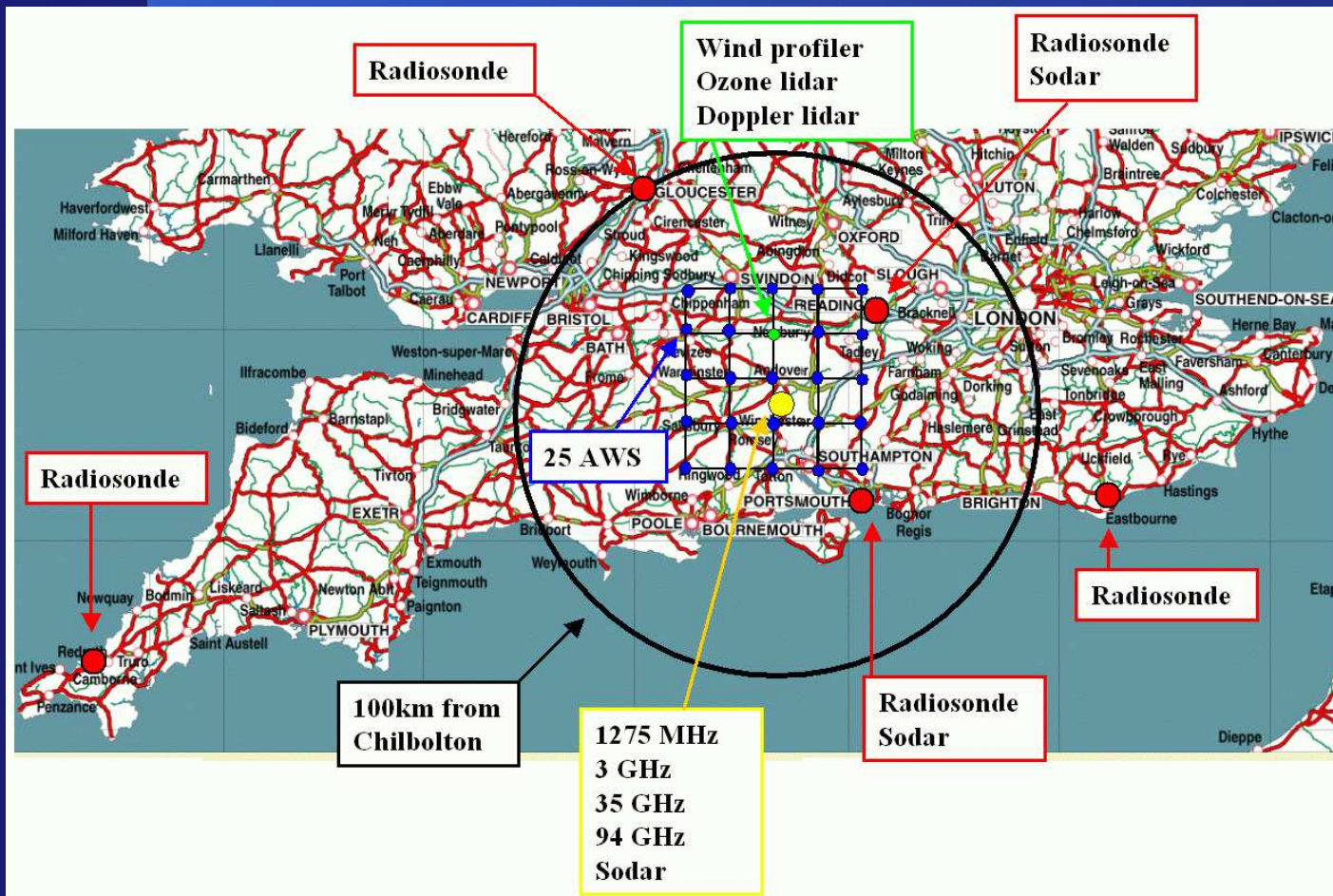
Will Hand, MO

Convective rain, June, July, August, 00 - 03: All wind directions

Phenomena of Interest

Feature of Interest	Scale	Measurement	Instruments
Upper-level vortex; dry intrusions; fronts	>100 km	T, RH, winds	MO Wind profilers and Radars; Meteosat SG; Radiosondes
Convergence Lines and Areas	1-100 km	BL depth, T, RH, winds; Reflective index and gradients	Chilbolton UHF radar; Wind profiler; 3 Sodars; Automatic weather stations; Cessna aircraft
Precipitating convective cells	1-10 km	Reflectivity; Doppler velocities; polarization parameters; in-cloud parameters	Chilbolton S-Band radar; MO radars; BAE 146 aircraft (ICEPIC)
Thermals; cumulus clouds; pre-storm convective cells	1 km	BL depth, T, RH, winds; Gradients in T, RH, aerosol	UHF radar; Sodars; Doppler lidar; Meteosat SG; Aerosol lidar; Cessna aircraft

CSIP map



UFAM 35 and 94 GHz radars
 Radiometers Chilbolton
 UFAM Cessna with TDL
 NERC MST Radar Aberystwyth
 2 GPS water vapour stations
 Met Office network

Possible Instruments/Platforms:

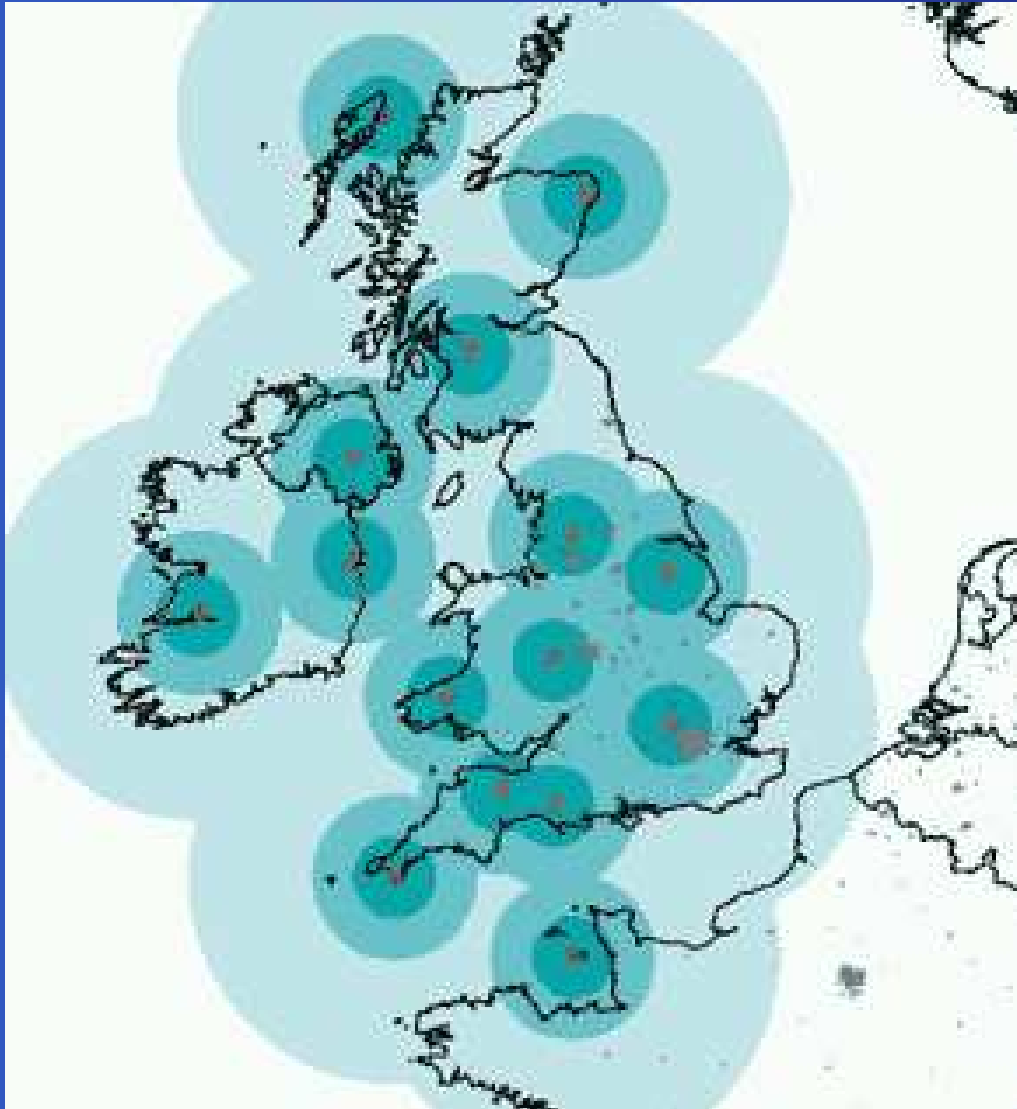
MO/FAAM BAE 146 aircraft

Radiosonde system, drop-up sondes, Doppler lidar, sodar, cloud radar, DO 128 - Karlsruhe

DOWs, MGLASS, ISS - US

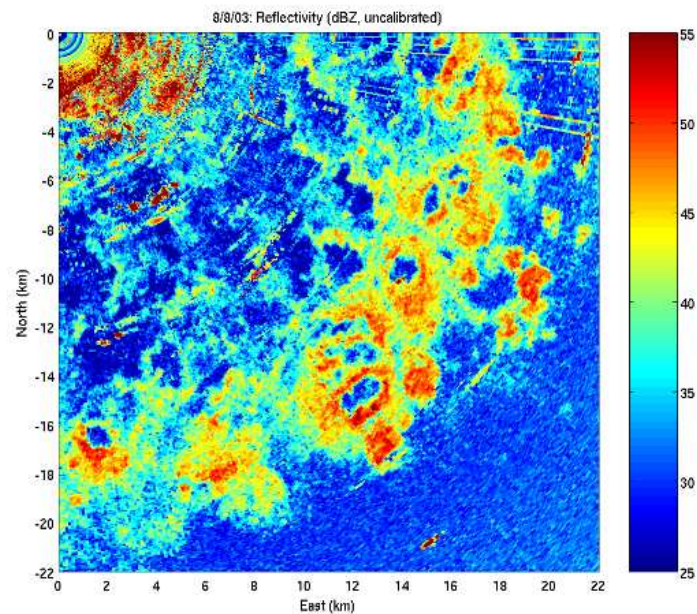
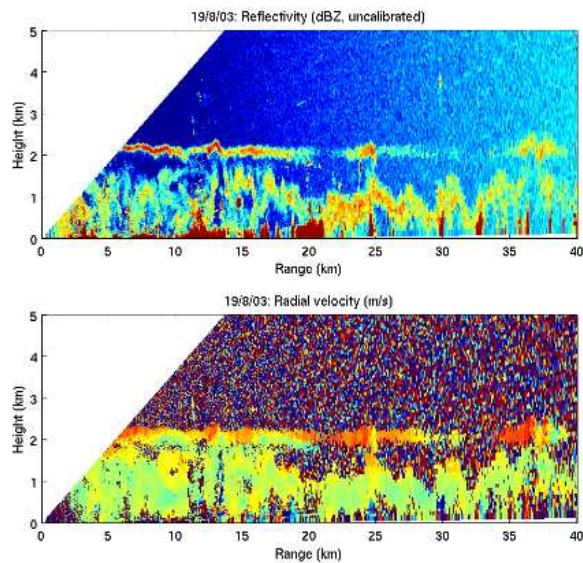
wv DIAL, Falcon aircraft - Germany

Met Office radars



Location of radars
Rings denote: 1km, 2km and 5 km
resolution

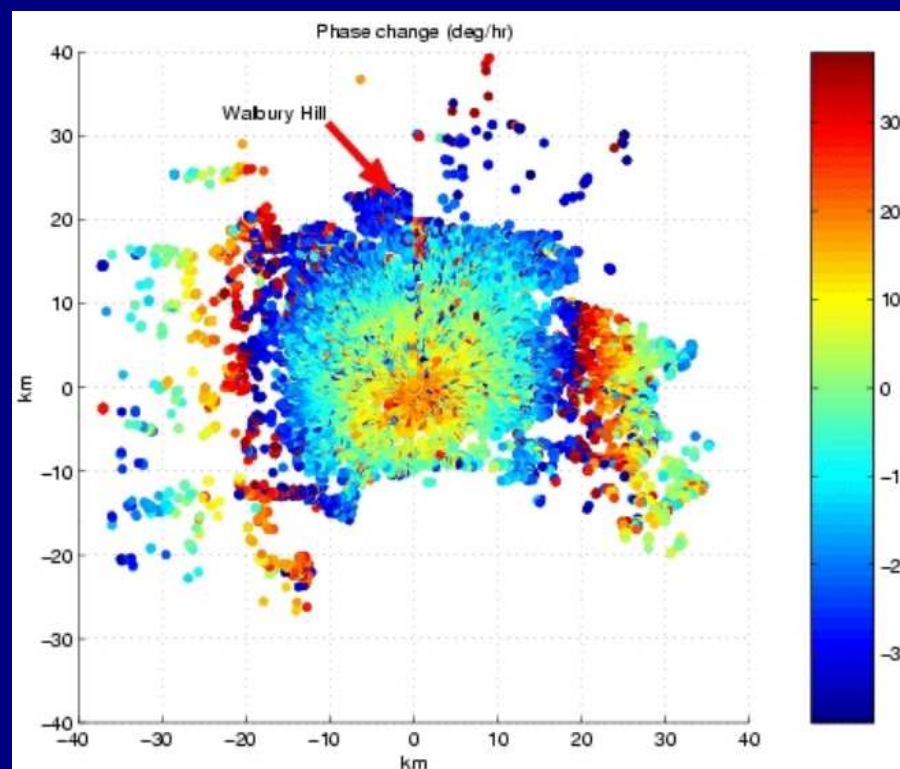
1275 MHz clear-air radar



Ed Pavelin

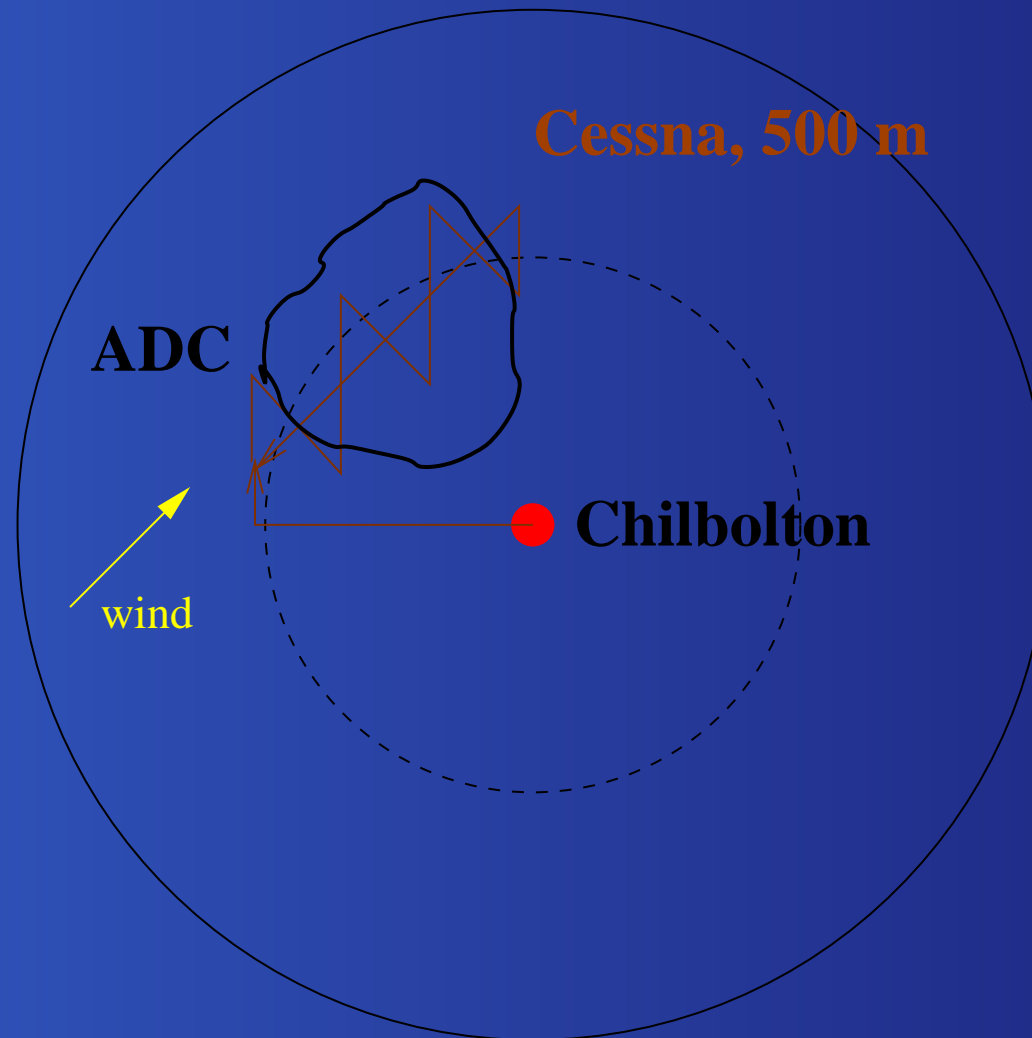
1275 MHz radar clutter targets

Clutter targets



Ed Pavelin

Cessna flight tracks



Details

www.env.leeds.ac.uk/csip

Pilot Project: 5 - 30 July 2004

Main Project: June - August 2005

Forecast Centre:	University of Reading	Browning, Clark, Morcrette
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Operations Centre:	Chilbolton radar site	Blyth, Illingworth, Bennett
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