

*** STFC (~vircuser@193.63.181.154) has joined #APPCLOUDS

*** Mode change [+nt] on #APPCLOUDS by proc-2ds.seaes.manchester.ac.uk

[STFC] Is it raining?

*** jonnyC (~jonnyC@host86-153-16-34.range86-153.btcentralplus.com) has joined #APPCLOUDS

Cycling the channel...

*** STFC (~vircuser@193.63.181.154) has joined #APPCLOUDS

*** TomC (vircuser@twc.ge.man.ac.uk) has joined #APPCLOUDS

<TomC> Hello

<TomC> I have JonnyC and STFC showing as in the chat room, is anyone able to communicate ?

<jonnyC> cant determine status of connection on aircraft till taxi time

<jonnyC> fingers crossed

*** jonnyC (~jonnyC@host86-153-16-34.range86-153.btcentralplus.com) has left #APPCLOUDS

*** PaulWilly (~vircuser@193.63.181.141) has joined #APPCLOUDS

<TomC> Hi Paul, aircraft may be having problems with this software we' have to wait, how are things at Chilly Bolton

*** PaulWilly (~vircuser@193.63.181.141) has quit IRC [Quit: User pushed the X - because it's Xtra, baby]

*** PaulWilly (~vircuser@193.63.181.141) has joined #APPCLOUDS

<PaulWilly> MORNING tOM

<TomC> Paul, Did you get my message about the aircraft, maybe having probnlems with this software

<PaulWilly> not checked my email recently.

<TomC> The meassage was on here just before you quit 5 minutes ago

<PaulWilly> ah right. I was having trouble logging in. Beginners idiocy so I havent seen any messages

<TomC> Cloud tops over Chilly Bolton just below 4 km

<PaulWilly> excellent.

<PaulWilly> Filters are running here, AMS abou to begin. So all good

<TomC> If aircraft joins us in the next 30 mins (take-off is 11.15 it may long on as JonnyC but Jonny is not in mission 2 seat so be carefull what you say

<PaulWilly>

<PaulWilly> am going to run both AMS for about 1 hour after TO

<TomC> Good idea

<TomC> aircraft taken off but no communication on here

[STFC] Mid level cloud layer still going strong here, with stratocu beneath. Top is incrediby flat at 3600m. Larkhill sounding shows top is about -12C. Whacking great inversion above.

*** FAAM_MSci (~vircuser@203.52.191.241) has joined #APPCLOUDS

<FAAM_MSci> Hi This is bae146

<FAAM_MSci> update from Chilolton is required

<TomC> Cloud top 3.6 km temperature at Cloud to -12C

<FAAM_MSci> Thanks

<TomC> base of upper cloud currently about 2.5km with Sc layer beneath, microphysis of upp layer should be very interesting

<FAAM_MSci> Passed the message to Keith

<TomC> STFC FAAM can't read your description as posted before aircraft joined

[STFC] Latest conditions overhead are thin layer of ice crystals top 3800m about 1200m fall streaks below, intermittently seeding stratocu 1500m ish. Cloud top T about -12, strong inversion capping the layer.

[STFC] Reflectivities up to about +5dBZ in places so probably a reasonable ice water content

[STFC] (and almost certainly supercooled water at the top). Some evidence of convective overturning at cloud top from spectral width, typical of supercooled.

<FAAM_MSci> Approaching boscombe down for low level approach overshoot now 1140

<PaulWilly> have you any low level over passes of Chilbolton planned?

<FAAM_MSci> We are profiling up to about 4000m, then working S&L runs through cloud in descending levels.

[STFC] We are now scanning along 255 radial - layer seems to be pretty consistent out to at least 60km W of Chilbolton. Seems to be a region of stronger reflectivities out at 15-22km range - maybe more active in this region

<FAAM_MSci> PaulWilly: current thoughts are that significant low level cloud along legs will prevent us from coming below 2300ft (min safety alt). probably in cloud at that height.

[STFC] Lidar indicates stratcu cloud base about 600m to yeah you'd be in cloud at that height

<TomC> Going to see some students, I will stay logged on

<FAAM_MSci> 1157L: We are just starting leg ABOVE cloud at FL130 inbound to you. Upper cloud layer tops here @ 11200 ft. Plan thereafter: follow with outbound leg @ FL110 in cloud top, then S&L legs at 1000 ft intervals descending.

[STFC] Recent radar scans available as usual www.met.reading.ac.uk/~sws04cdw/realtimeCAMRA.html

[STFC] looks like a little shower 18-22km out

<FAAM_MSci> Passed the message to M. Sci.

<FAAM_MSci> O/H Chilbo @120718 @ FL 130 heading NE.

[STFC] does it look like liquid cells at the top?

<FAAM_MSci> Getting some good cloud here, although thinning in places along this run. Most cells are mixed phase - predom s/c water, but some ice crystals.

[STFC] Great - is that 11kft?

<FAAM_MSci> 1219 still on w'ward leg at fl110.

<FAAM_MSci> We're working on Flight Levels (Roughly equiv to 000's of feet) - so this run FL110 = approx 11,000ft.

<TomC> Very interstesting that the radar shows seeding of the Sc by the mid level cloud at times with precip apparently getting to the surface

[STFC] Yes, PPI scan suggests patchy light precip, presumably produced by this mechanism. latest RHI shows a patch of high ZDR (oriented planar crystals) very clearly 18-22km range W Chilbolton in top 300m of cloud

<FAAM_MSci> Update from 146: end run at FL110 122513; descend to FL100 & return along inbound reciprocal towards Chilbo now (start 1227).

<TomC> Cloud structure getting more complex at low levels but main cloud base stil at 2 to 2.5 km

[STFC] Latest RHI - streak of high ZDR around 20-22km W Chilbolton. Plenty of seeding of low cloud going on out to 25km range.

<PaulWilly> Paul signing off.

*** PaulWilly (~vircuser@193.63.181.41) has left #APPCLOUDS

[STFC] any news on what kind of ice you're seeing?

<FAAM_MSci> O/H Chilbo @FL100 - time 124004 heading ENE.

<FAAM_MSci> Small needles & large dendrites (few) nowas turning at E end of pattern. Will descend to FL090 for next run outbound, may limit length of run if run out of cloud ...

<FAAM_MSci> O/H Chilbo outbound (FL100 desc to FL090): Mixed phase, predom liquid ppn, with v few cloud drops

[STFC] Really?? What's the temperature?

*** FAAM146 (~vircuser@203.38.13.2) has joined #APPCLOUDS

*** FAAM_MSci (~vircuser@203.52.191.241) has quit IRC [Ping timeout: 240 seconds]

[STFC] So is this feature 20km out quite convective then - large supercooled drops & needles? Any Hallett-Mossop?!

<TomC> liquid precipitation !

<FAAM146> 20km feature: bit bumpy as we traversed, yes. Plenty of water; v. small 'irregulars' - so some Hallett-mossop going on ...

<TomC> Interesting that there is no brightband above Chilbolton in the precip

[STFC] It's not obvious directly overhead (although you can see a step change in Doppler velocity at 1800m), but if you look at the RHI you can see strong layer of ZDR and some increase in Z associated with melting

<TomC> OK then the precip must be ice ?

<TomC> Is it possible we are missing snowfalkes in the online probe data ?

<FAAM146> 146: 130004 start R 5.1 @ FL080, in bound.

[STFC] ZDR signature is amazing, must be loads or oriented crystals in top 600m 20-30km West Chilbolton, and a streak on the edge of the system down to 2200m (FL070)

<FAAM146> 131115: passing thro centre of narrow feature - bumpy, with slt turbulence; CPI Pristine cols; much s/c water. some rise in CO2 values.

<FAAM146> 1. Missing snowflakes comment ? - we believe we're seeing large dendrites on CPI = pristine snowflakes.

<FAAM146> 2. 132145: just passed thro 'convective embedded' feature; some slt turb. At FL070, heading W.

<FAAM146> 3. 20km feature (W Chilbo): CVI shows needles & water drops.

<TomC> Understood re dendrites I was questioning the liquid precip comment above

<TomC> looking on the operational radar precip over Chilbolton quite localised

<FAAM146> 133427: starting r 71 @6000ft, inbound.

[STFC] yes scanning around it appears to be a single band - however it seems pretty much stationary sitting at 20km range for past hour and a half. (the bulk mid-level cloud band seems to be pretty much stationary too looking at IR sat picture).

Rainrates at surface likely very low.

<FAAM146> Approx: 80 - 90 km W Chilbo into top of (lower) cloudband on this run. Almost exclusively 'water'.

[STFC] Is the plan to keep going down into the stratocu to investigate the seeding effect?

<FAAM146> o/h chilbo 134835 6000ft, heading ENE.

<FAAM146> Interesting 'double feature' of echoes at 20 km w of you. Outer band mainly ice(falling from above); inner band water, LWC = 0.25 g/m3 max.

[STFC] maybe liquid water in updraught in the middle, ice spreading out at the top as it glaciates and falling down sides? seems consistent with our ZDR obs

[STFC] looking at most recent RHI on aircraft radial, seems to be fizzling out a bit and becoming more layer like - lower Z, ZDR and less ice falling through to lower levels

[STFC] Lots of layer ice cloud seeding strato cu overhead at the moment - what level are you flying at now?

<FAAM146> OK. Inbound now at 3000ft; next run (lowest) @2300ft likely ...

<FAAM146> oops sorry now inbound at 3500 ft ...

[STFC] grand - we were just on radio, said you were going to profile up after the FL23 run - sounds good.

<FAAM146> Start R 10.1, O/h Chilbo @142916L. 2300ft, heading Westwards..

<FAAM146> FYI: On this current run (10.1) at W end have had to depart from usual 255 deg radial to be sig further N (conflicting air traffic).

[STFC] no problems we have been scanning slightly north of 255 to get a more general idea of what's going on, so should have some RHIs in that direction too

<FAAM146> 144945: Just commencing profile ascent 2300 ft to FL 150 (approx 15000 ft) inbound along radial.

<FAAM146> Cloud tops about FL110, so next inbound run will be at FL105. Starting 150139L .

[STFC] latest RHI: convective cloud has thinned out a bit at this stage, but still evidence for updraft & liquid at 20km range W chilbolton and high ZDR ice spilling out.

<FAAM146> Looks like we will have time for another 3 or 4 runs on radials (after this one) ... do you have any preferences for height for one or more of these runs ???

<FAAM146> O/H Chilbo at FL105 @ 151415L.

[STFC] There is high ZDR between FL85-105 - maybe FL95?

<FAAM146> 151850: start of next run (o/h Chilbo) at FL110 heading W,wards.

[STFC] To clarify high ZDR ice is only at 18-25km range; rest of ice at these levels is probably just virga from the more stratiform stuff

[STFC] reflectivity is also much lower than the earlier runs, definately weaker feature than before

<FAAM146> FYI: next run inbound will be at requested FL095 - visually in relatively cloud free zone, but with falling ppn/crystals from above.

[STFC] Did you see any ice?

<FAAM146> 1545: just passed o/h chilbo, will descend soon & fly final leg w'bound at 5000ft; with final e'bound leg at 6000 ft before returning to base ...

<TomC> still here

[STFC] cloud <0C definately much thinner on aircraft radial now - real juicy stuff is West to WNW direction - convective with +30dBZ of reflectivity

<FAAM146> O/h Chilbo @154855 descending FL095 to 5000 ft. Snowing O/h Chilbolton at FL095.

<FAAM146> 155351: now at 5000ft & heading along radial W'bound run 14.1, mainly at cloud top so far ...

<FAAM146> 155545 descending to keep in cloud tops (to about 4000 ft)

<FAAM146> Shame we haven't got another 1-2 hours on task to investigate 'real juicy stuff' - alas we must head home to Cranfield after next run inbound ...

[STFC] Yep, can't win em all. Data from the runs earlier on should be very interesting

[STFC] LOOKING ALONG 255 RADIAL - SUDDEN PUFF OF CONVECTIVE CLOUD +10dbZ - any chance of going up to investigate for last run?

[STFC] Peak Z is approx FL100

[STFC] 20-23km West Chilbolton

<FAAM146> Sorry - we're capped at 6000 ft. along this leg ... but we should pass through plume (from what we acn see) at about 20 km range at this height on our final leg at this height.

[STFC] OK fair play. Yes, looks like you should pass through the plume.

*** FAAM146 (~vircuser@203.38.13.2) has quit IRC [Ping timeout: 240 seconds]

