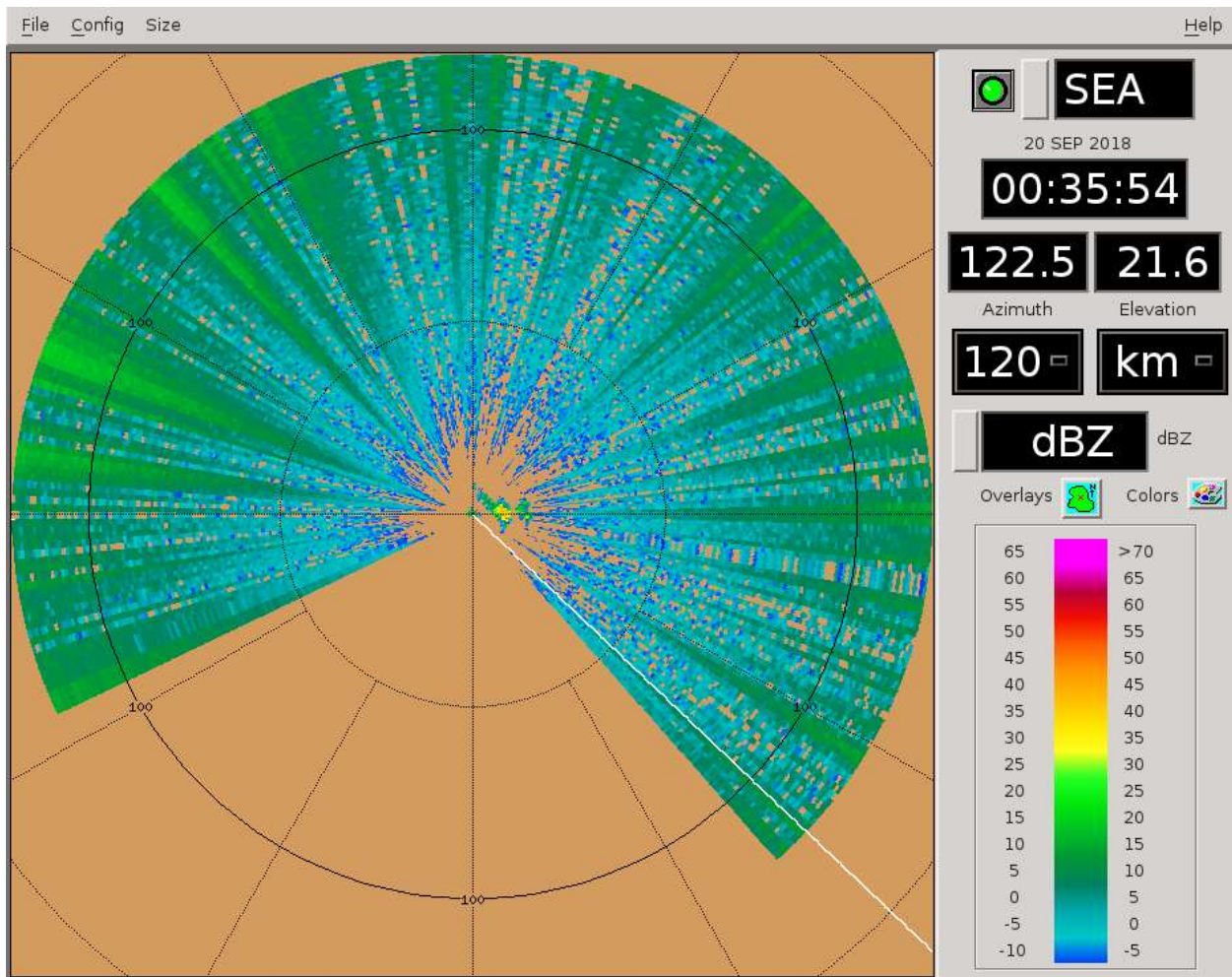


20180920
Morning Shift (9A-1PL)
Ben Trabing

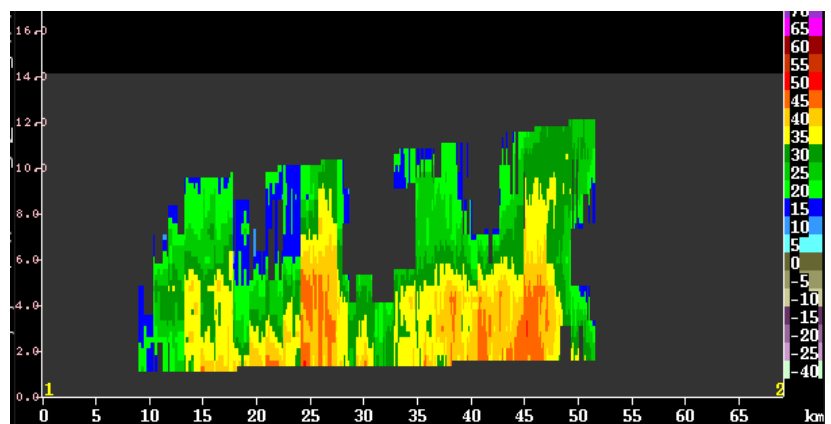
0000 – Continue high angle far PPI.

0030 – We have see spray clutter in the 21 degree scan which is above 2 km!



0115 – switch to surveillance and lower angle PPI.

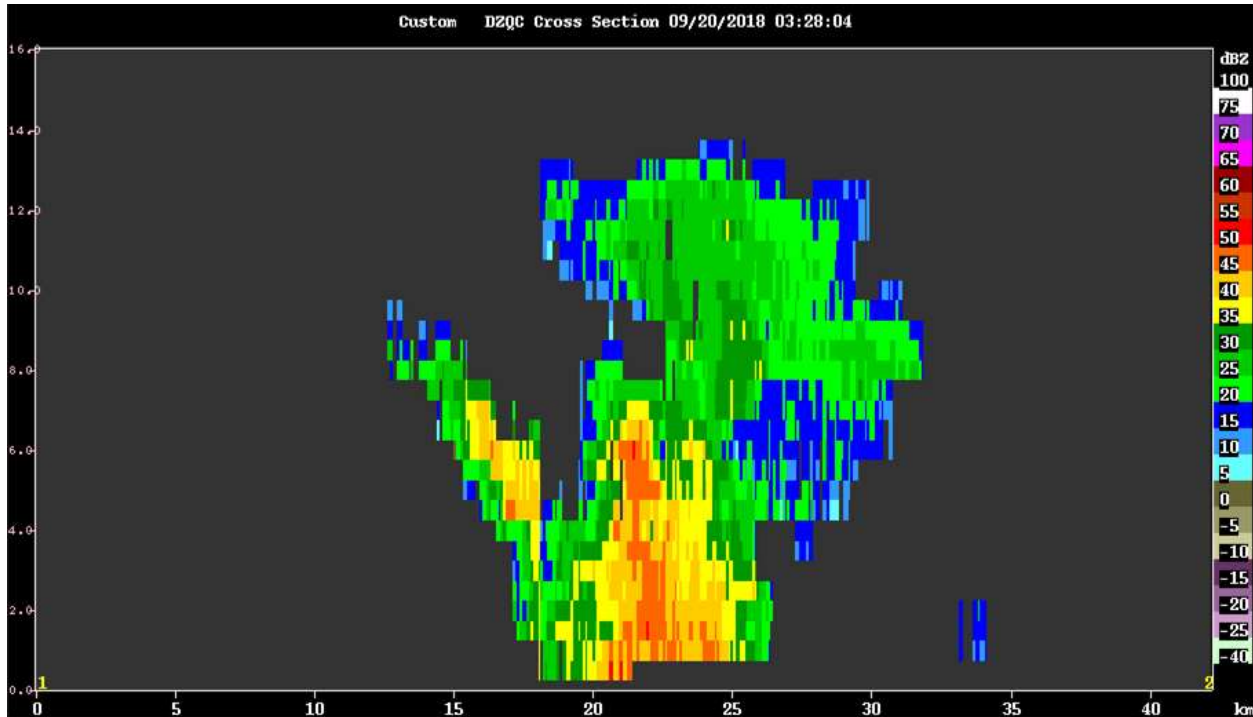
0130 – Switch to high angle far PPI to see storm to our east.



Afternoon Shift (12P-9P L)

Weixin Xu

0330 – Scan in the FAR PPI mode. Scattered convection approaches from the east and south, as the ship moves eastward. Some of the convective cores are actually quite deep, with echo tops extending up to 14-15 km. This same convective cell was quite intense, having 35 dBZ extended up to 8-9 km, but no lightning can be seen 80 km away.



0400 – Switch to NEAR PPI scans. deep convective cells appear close to the radar (40 km), and the FAR scan can't top the storm.

Big rain drop signature (high dBZ and ZDR) in growing convective cells is also seen during this time. The echo-top height of this cell only extends to 3-4 km (well below the freezing level) but induces a ZDR value of 3-4. This signature, however, only last 15 min (one radar volume), as compared to the next radar volume.

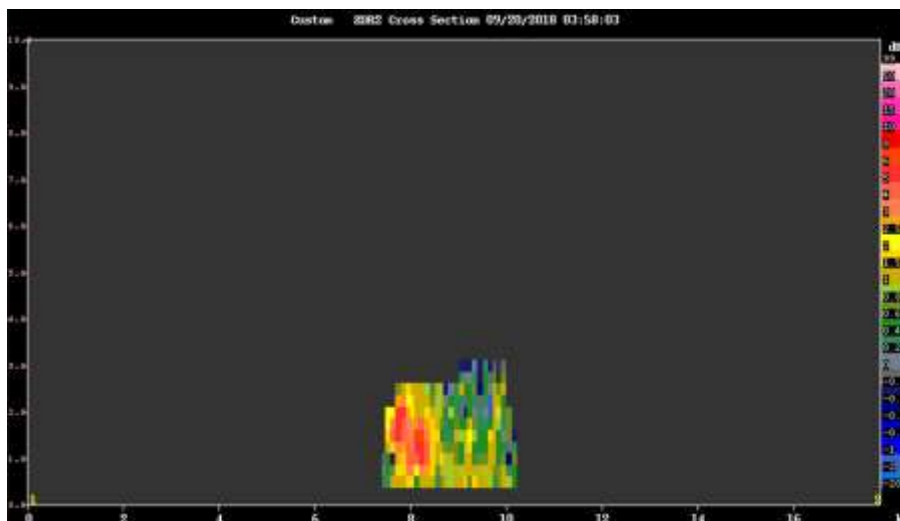


Figure. High ZDR features for a convective cell with echo-top heights of only 3-4 km. Radar volume time at 0345UTC.

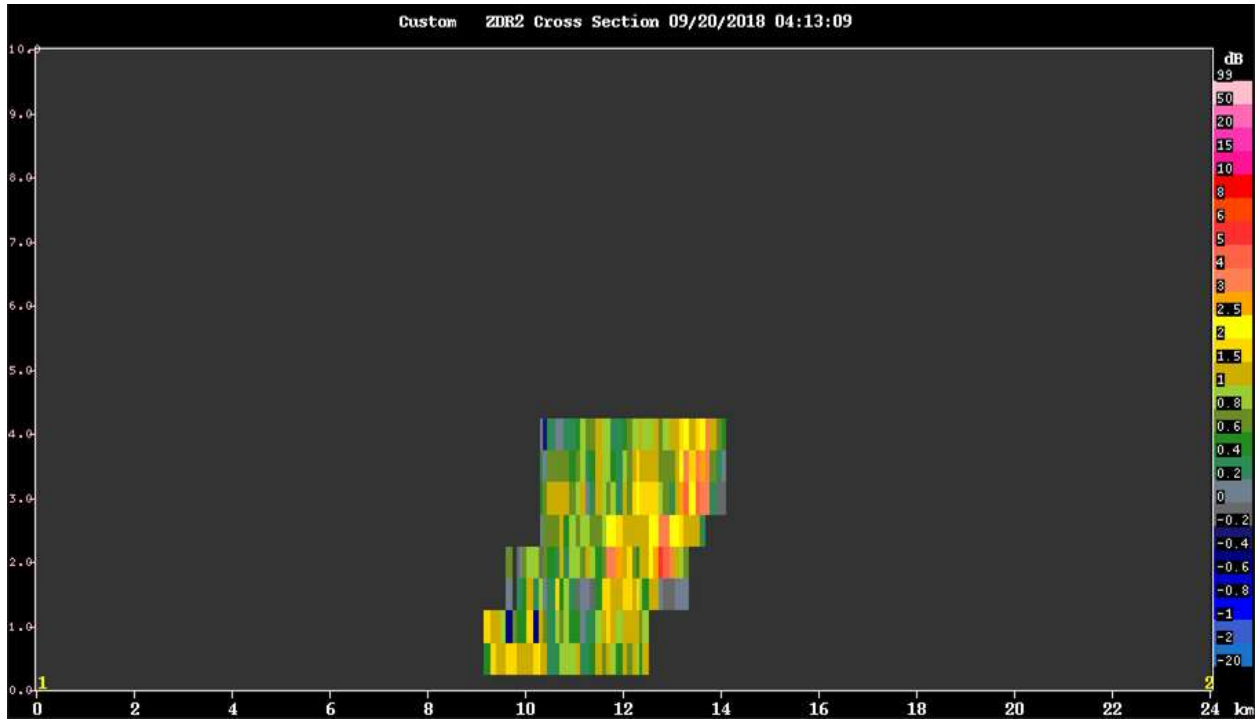
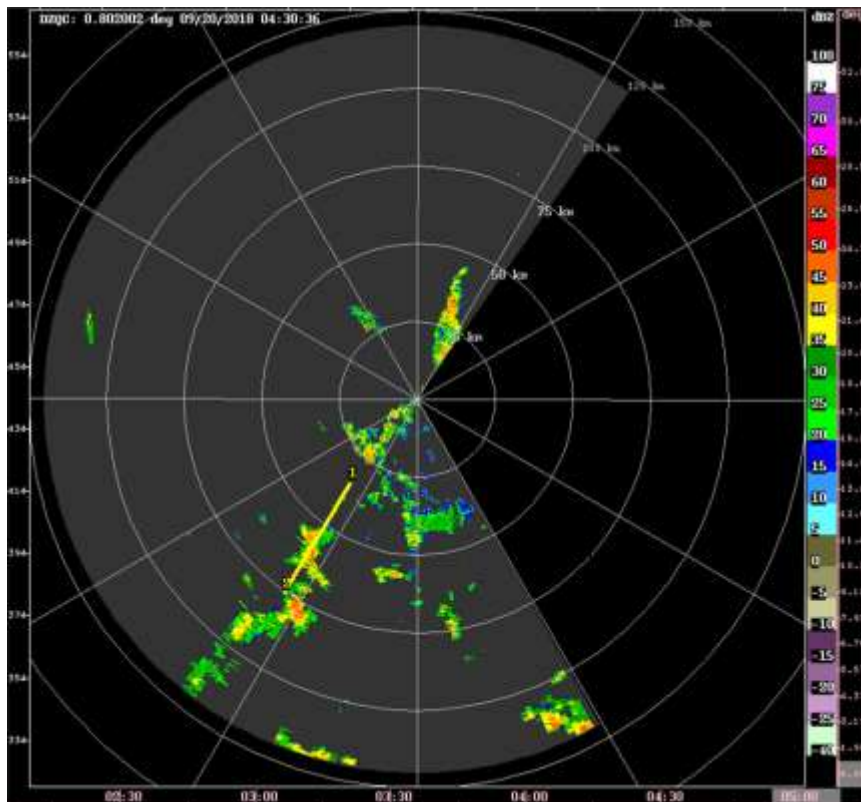
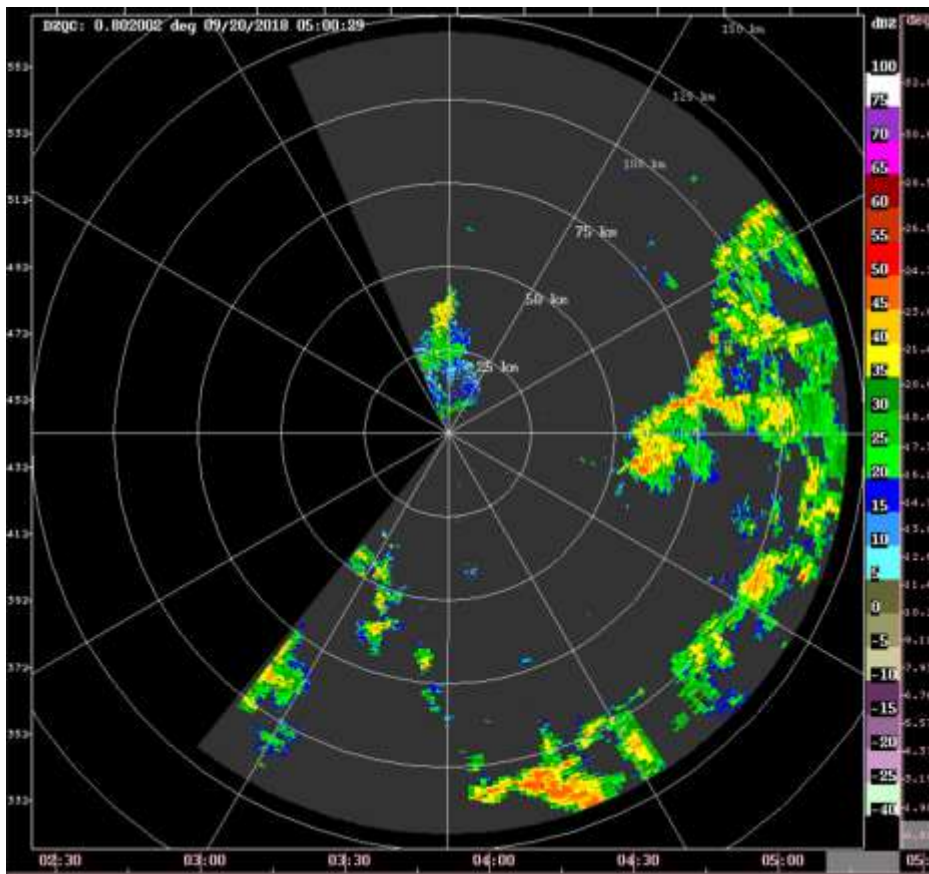


Figure. The same convective cell in above plot, but for 15 min later. The high ZDR signature disappears with the deepening of the convection.

0500 – Keep running in the NEAR PPI scan mode to top the deeper convection close the radar.

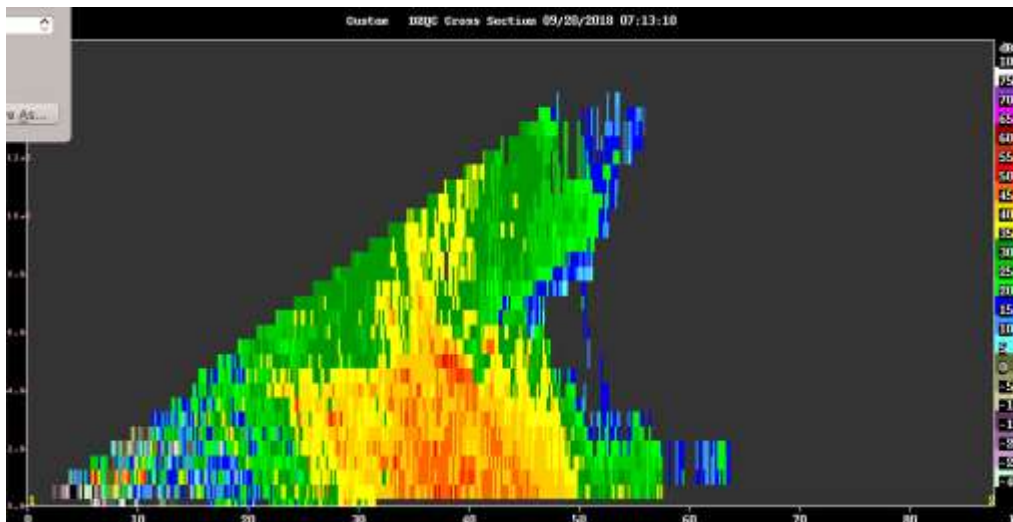


0530 – Switch to FAR PPI mode. Some widespread precipitation areas appeared 100-120 km from the radar in the east and southeast direction. The FAR scans will provide better resolution for these relatively remote convection. Significant portion of stratiform precipitation forms at this time, although bright band signature is still not obvious.



0600 – NEAR PPI scans in operation, with deep convection close to the radar, as the ship moves eastward.

0715 – deep convection persist through the afternoon. Even the NEAR PPI can't top the deep convection (14-15 km high) close to the radar.



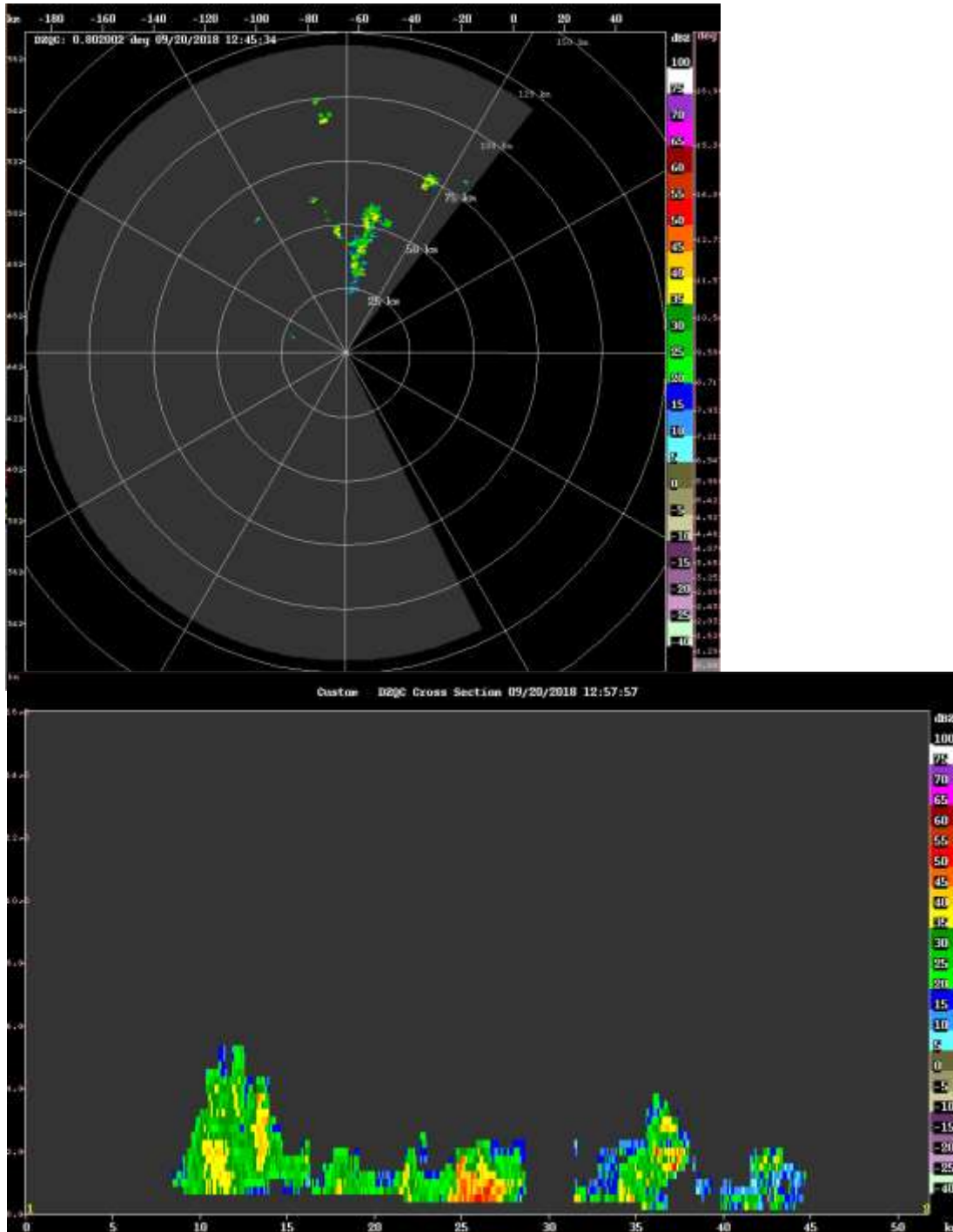
0915 – Change to scan in the FAR mode. Ship is moving eastward, and most convection is out of the 100km range.

Night Shift (9P – 4A L)
Chelsea Nam

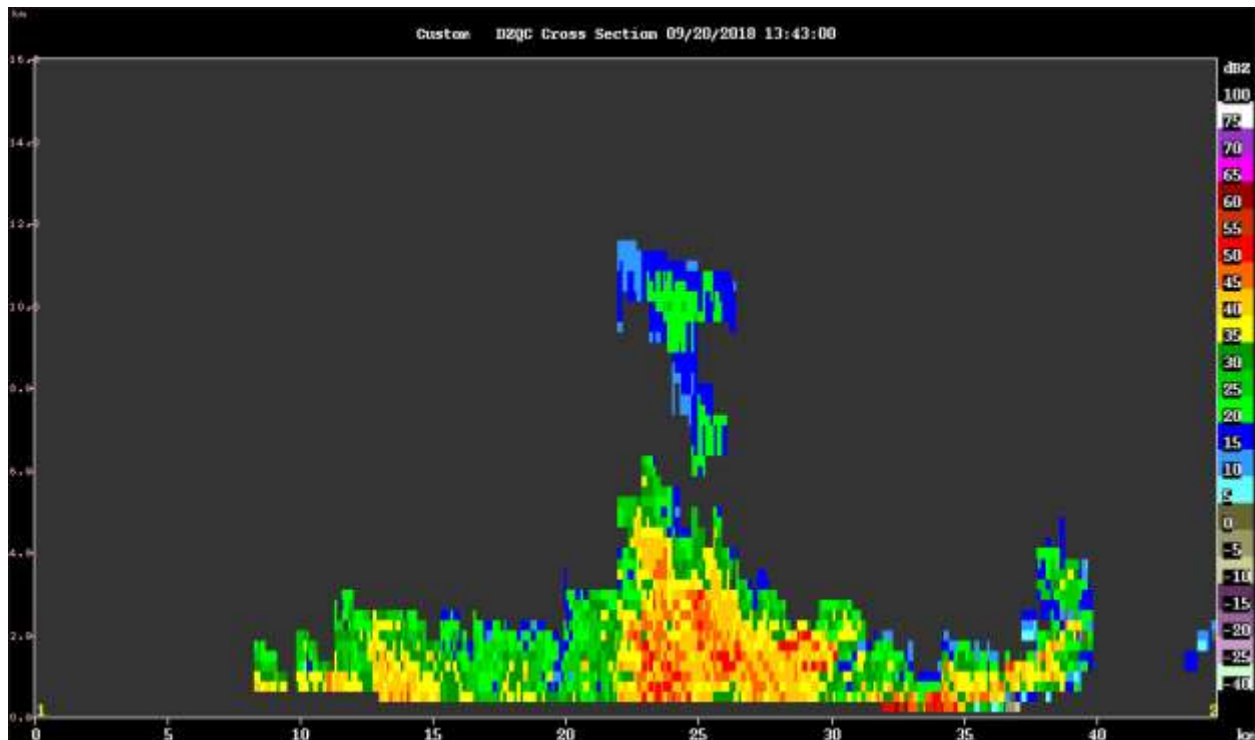
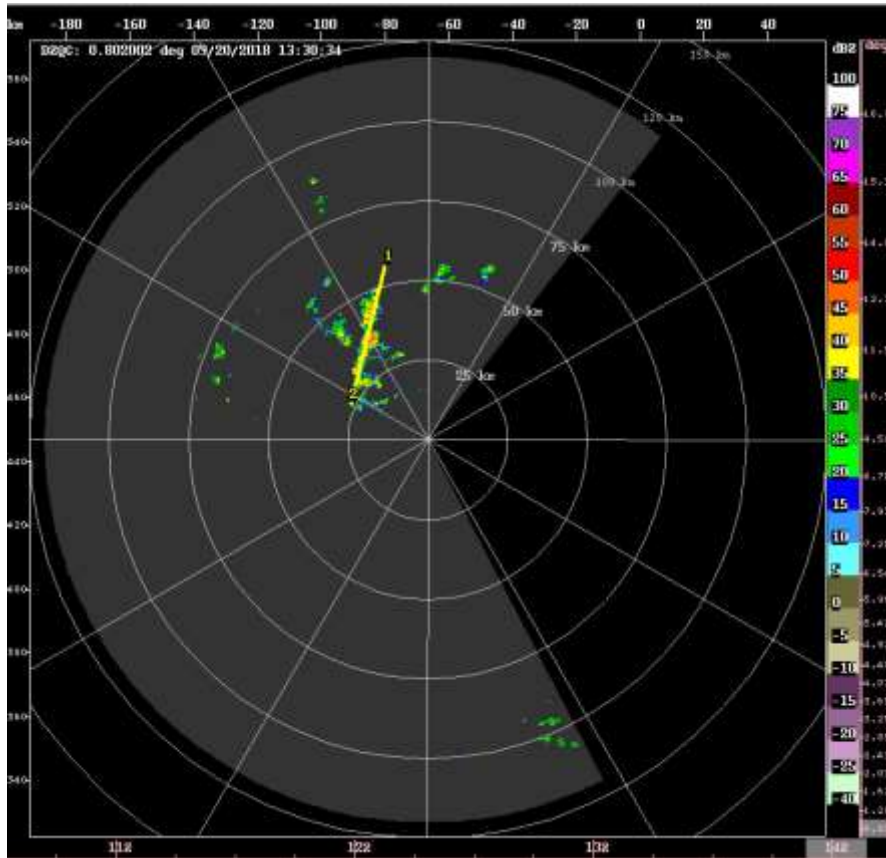
1200 – Suppressed convection – keep FAR mode.

1230 – Run Surveillance scan – no convective cells in the range 120 km – 300 km detected. Switched to LOW mode.

1300 – Shallow linear convective system at north (see below snapshot of 1245 UTC scan)



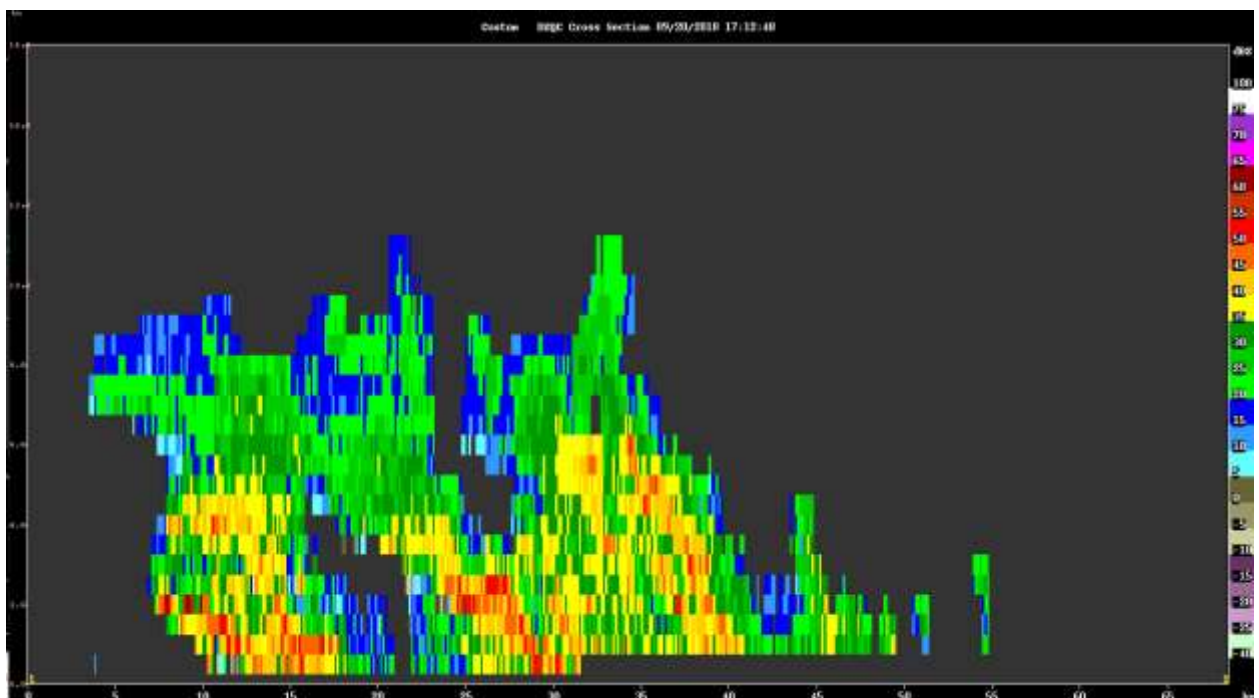
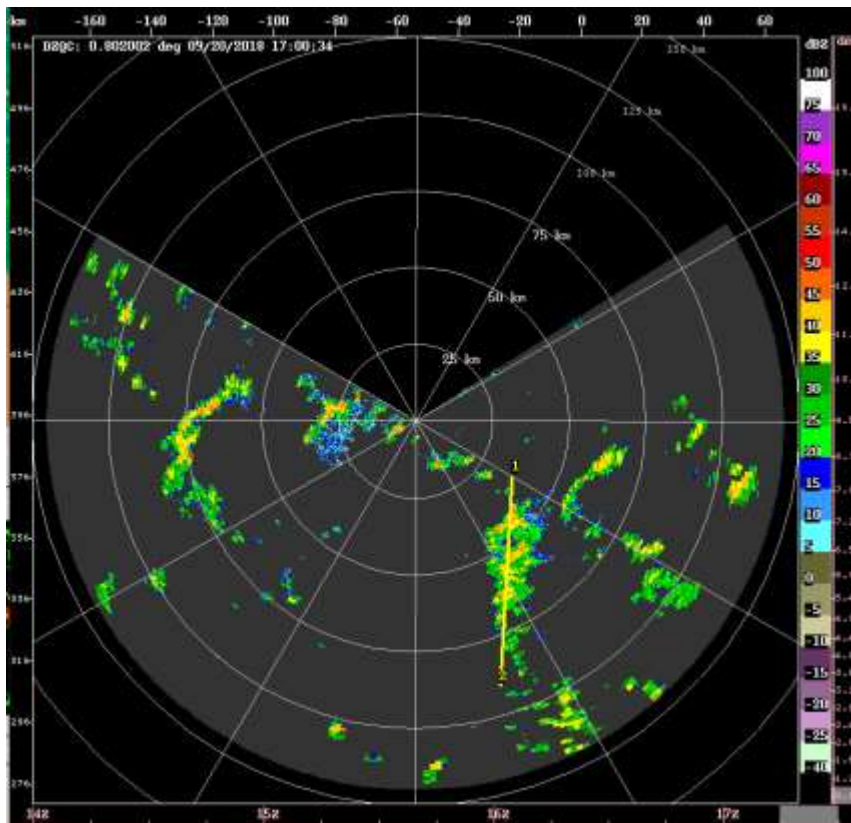
1330 – The linear convective system is propagating westward and intensifying showing higher echo top and higher reflectivity. The ship is retrieving the mooring, so it is stationary at 15.48 N, 134.28 E. (see below snapshot of 1330 UTC scan)



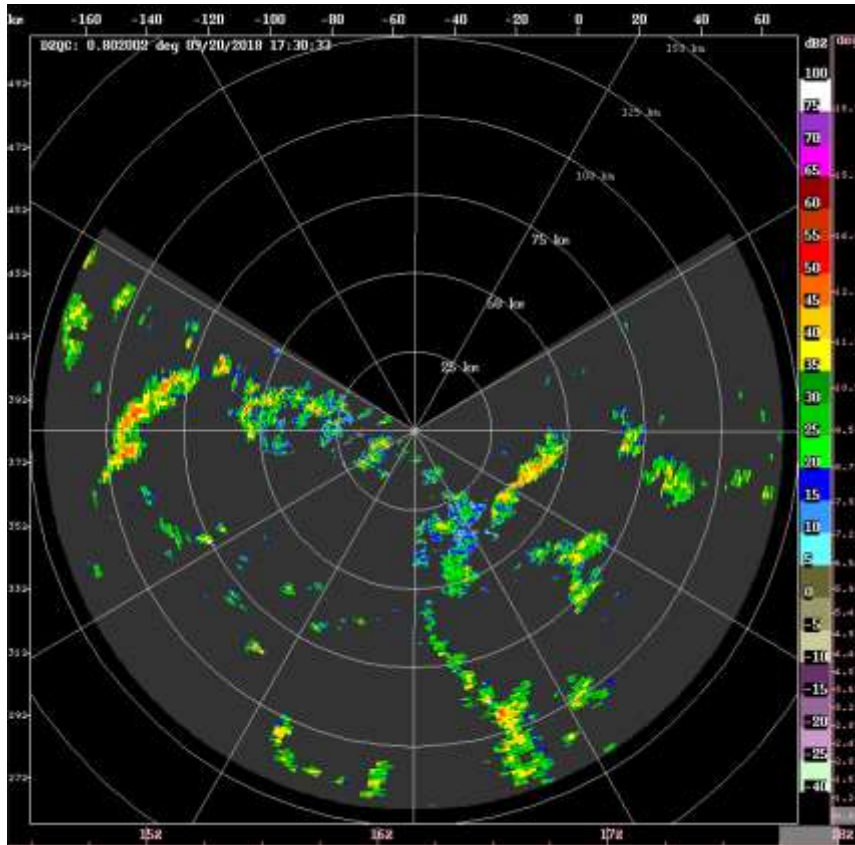
1440 – The system northwest to the radar generated some lightning. The ship started to move southeastward.

1530 – Light rain over the ship.

1715 - Scattered warm convection over the domain, the ship is moving southward and there is a westward propagating linear convective system to our southeast.

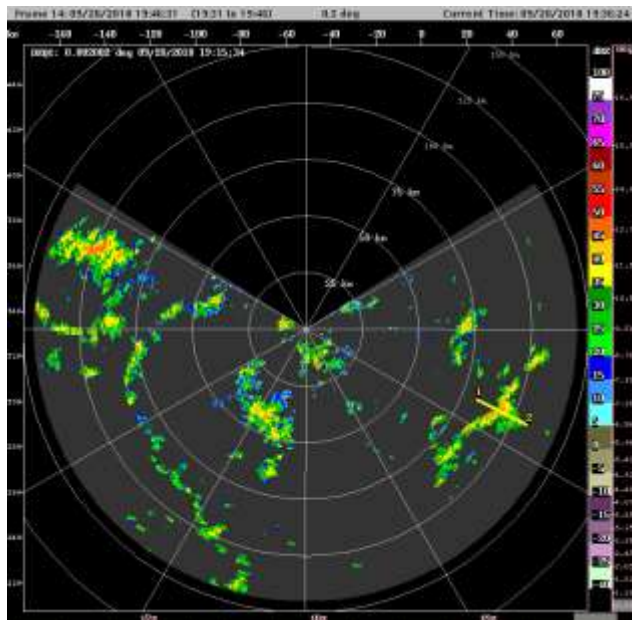


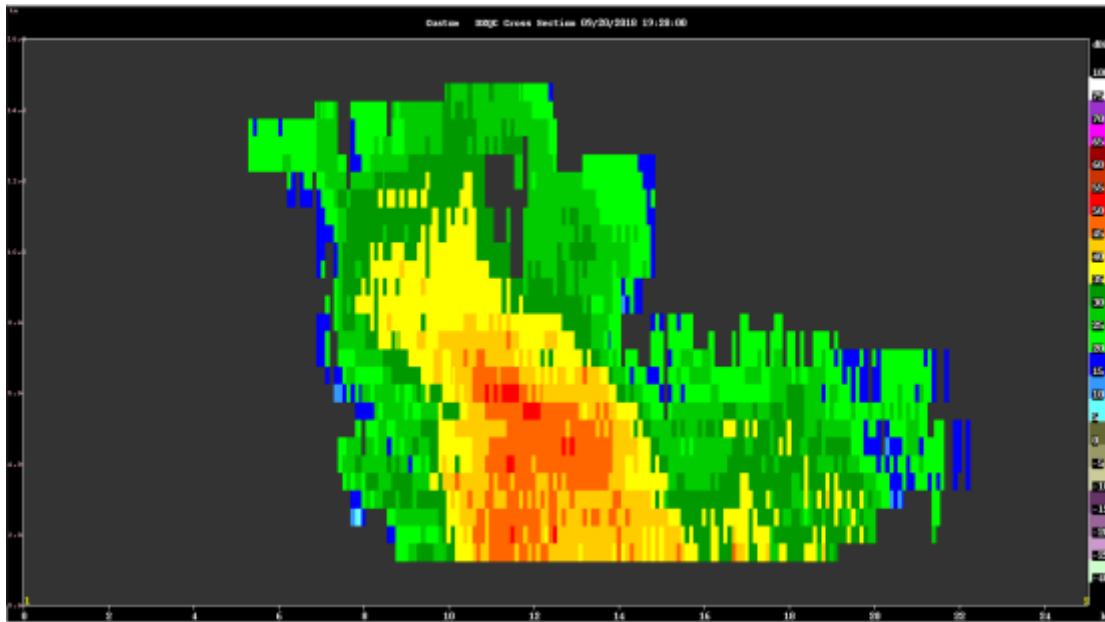
1730 – Raining and lightning outside. Chain of convective cells near the ship.



Morning Shift (4A-9A L)
Ben Trabing

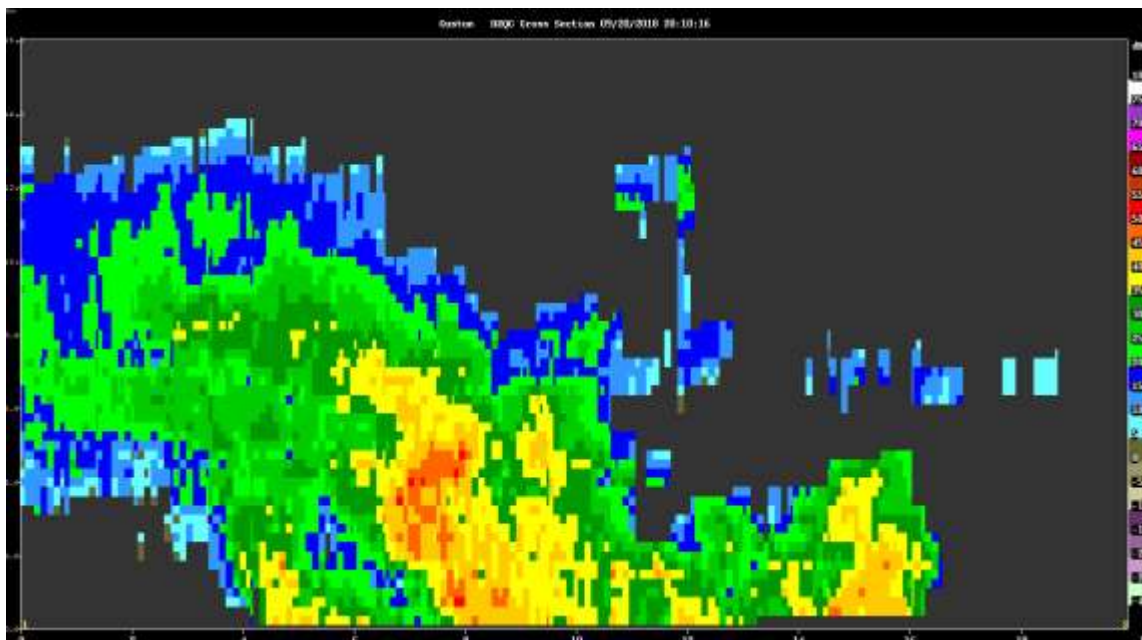
1930 – most of the convection nearby has been tilted towards the northwest direction. Deeper convection has shown noticeably less tilt.





1945 – Switch to near PPI volume scan to resolve convection towards the southwest of the ship.

2015 – Scan reveals that this storm is reaching up to ~10 km with northeast side showing 15 dBZ reflectivity up to 14 km.



2200 – Predominantly shallow convection near the ship, switch to far PPI.

2330 – Continue far PPI. There is some deep convection farther away from the radar to the southwest.