

20180927

Morning Shift (9A-1P L)

Ben Trabing

0000 – There are still some isolated areas of shallow precipitation further away from the radar. Continue LOW volume scan.

0145 – A relatively larger cell has moved into range and is showing echo tops of almost 8 km. This is the tallest storm I have seen so far today!

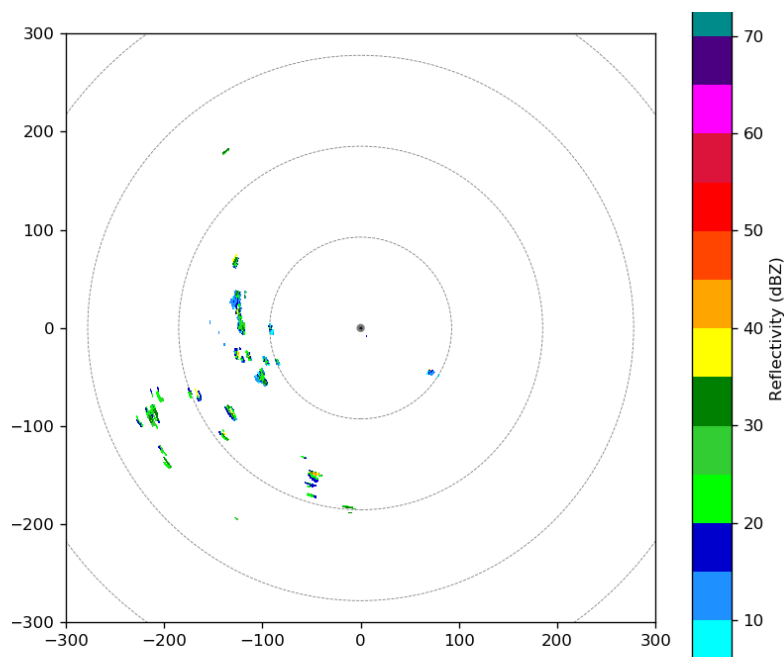
0230 – Cell to the southwest has maintained weak convection near the leading edge with a small area of stratiform precipitation trailing behind. Another cell has developed behind the first and is reaching 8 km

0300 – Cell to the south is persisting but remains shallow.

Afternoon Shift (1P-9P L)

Weixin Xu

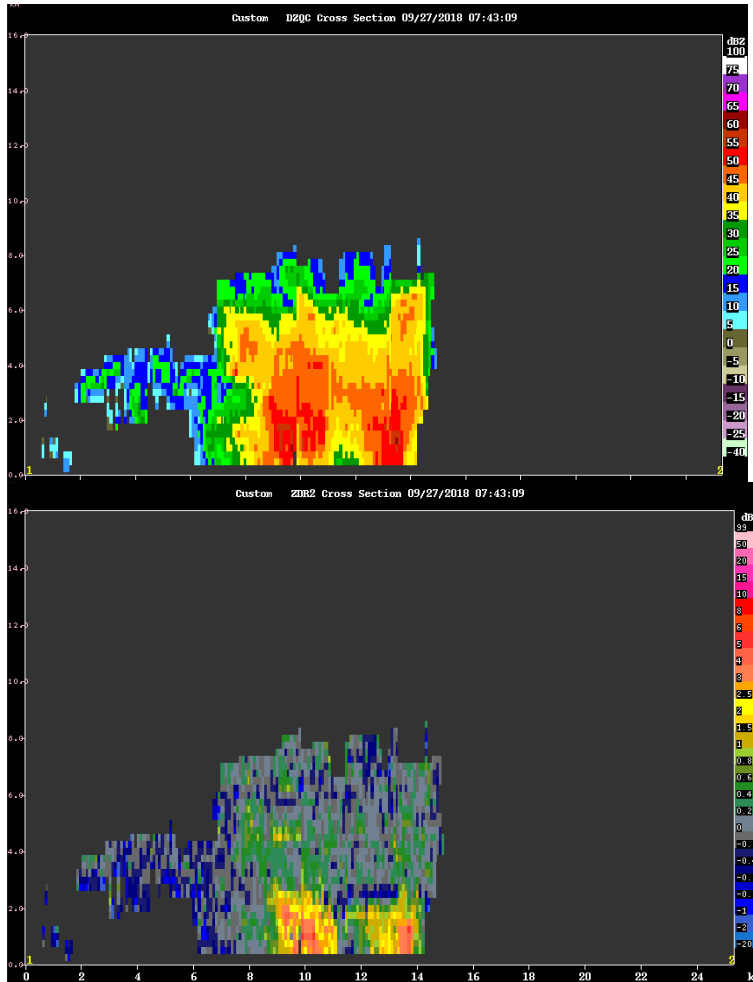
0445 – Run a SURVEILLANCE scan to check out convection in longer range. There are only a few isolated cells within 100 km radar range. Then the radar is operated in the FAR_S PPI scans, as there is virtually no convection close enough to the areas. The SURVEILLANCE scan is also repeated every 15 min.



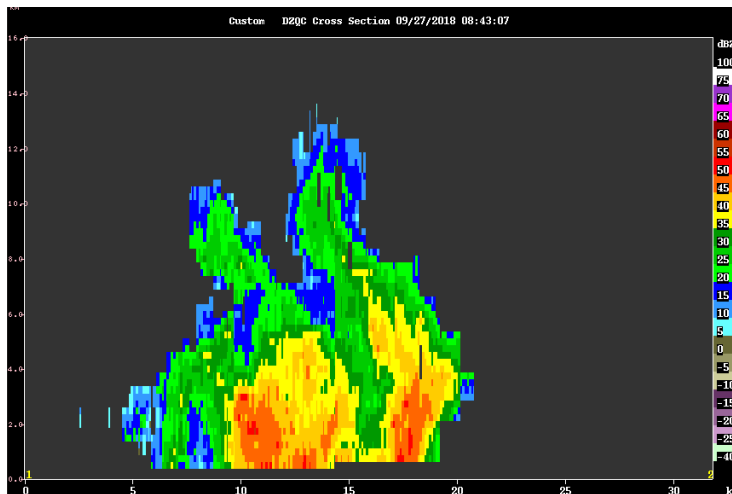
0515 – Switch to FAR PPI scans. Some more scattered convection developed 100-150 km to the

east and southeast of the radar.

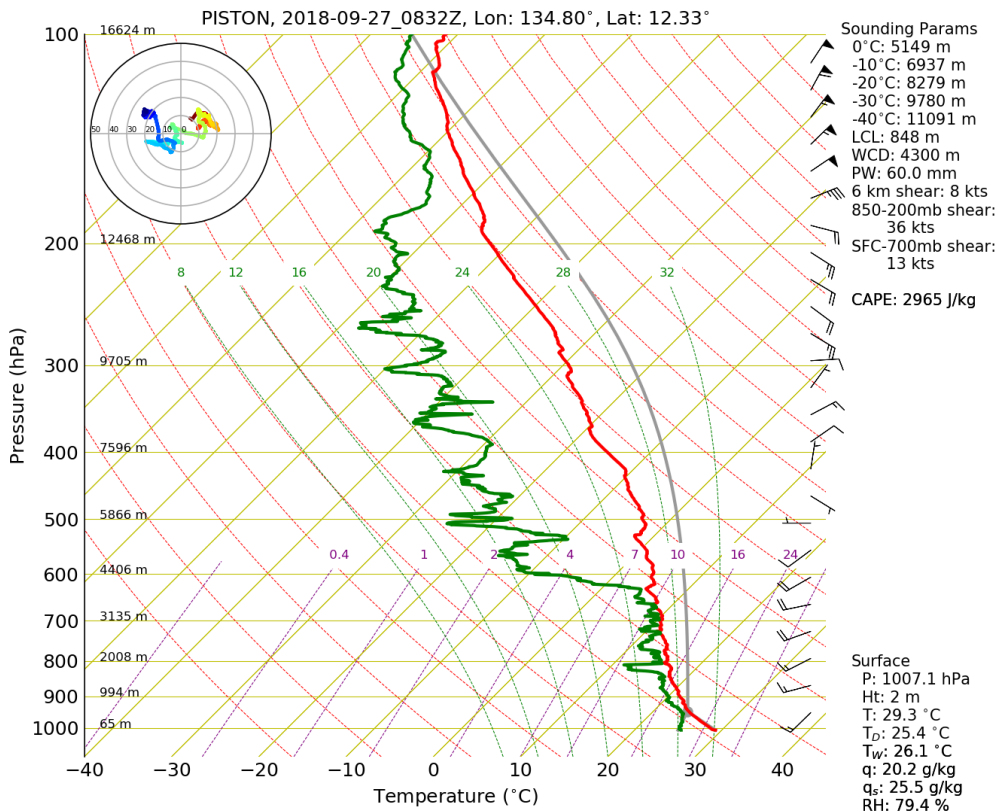
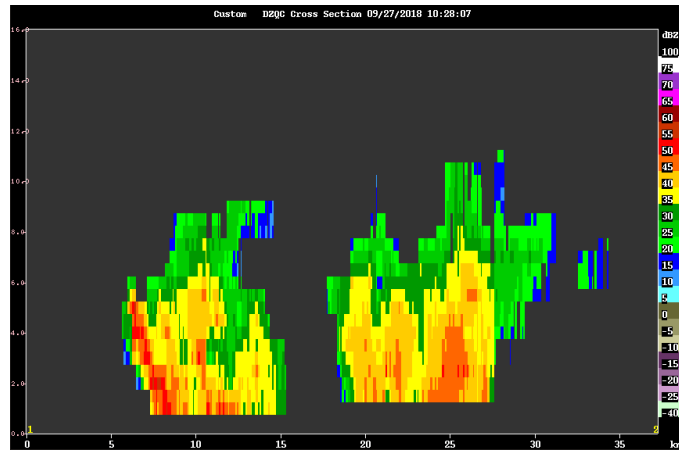
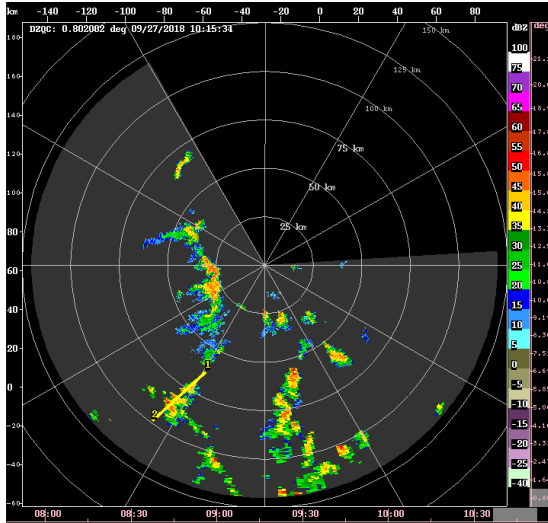
0745 – Stay in the FAR scan mode. Some interesting tiny convective cells develop related to warm rain process.



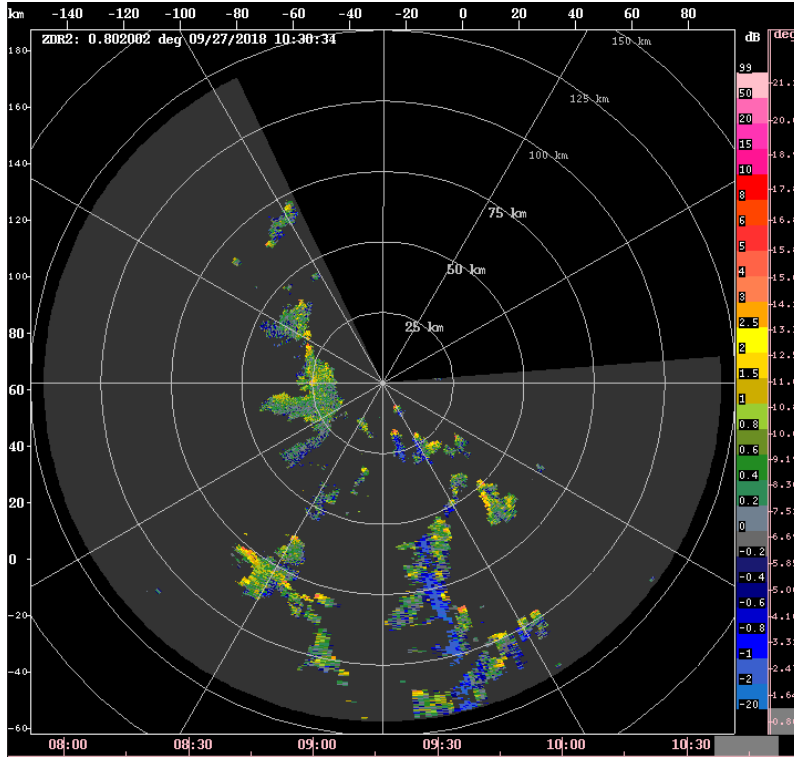
0900 – Keep running FAR scans. Still having just scattered isolated convection. Some of the convective cells are deepening.



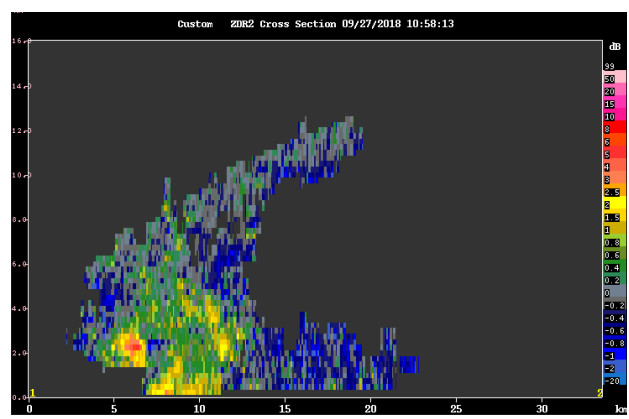
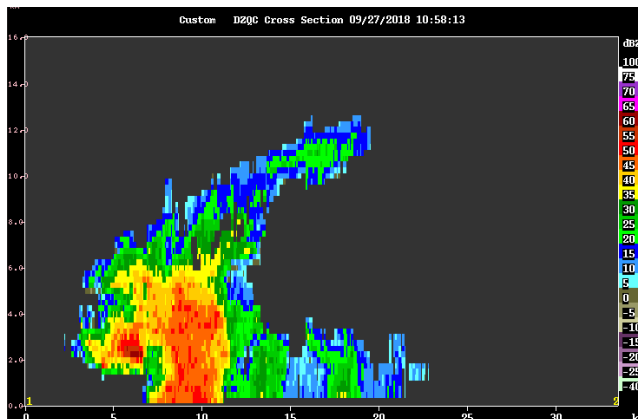
1030 – Still scan in the FAR mode, as it still can top the nearest convection. Scattered convection population increase and deepened starting from the early evening. The nearest-time sounding shows that the lower-levels (<600 mb) moistened and became nearly saturated. This may promote the development of convection. But the middle-to-upper levels remain very dry inhibiting deeper convection.



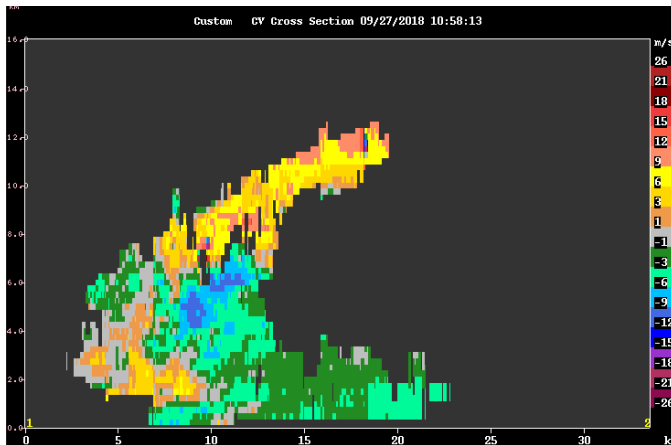
Starting from 0930, many cells at this time showing the high ZDR (3-4dBZ) spots at only a few pixels, located at the edge of these cells. This is possibility due to the newly development nature of these cells.



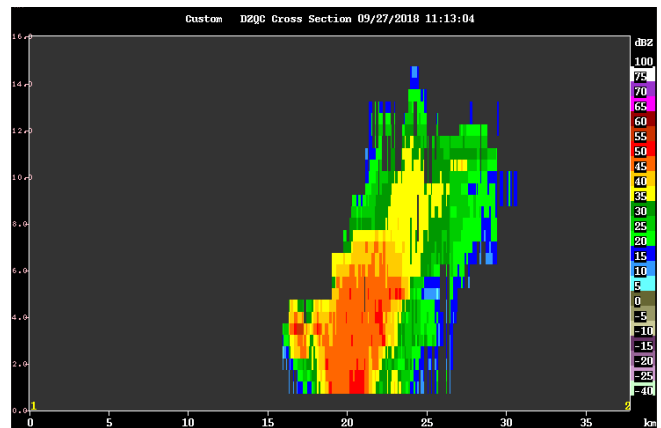
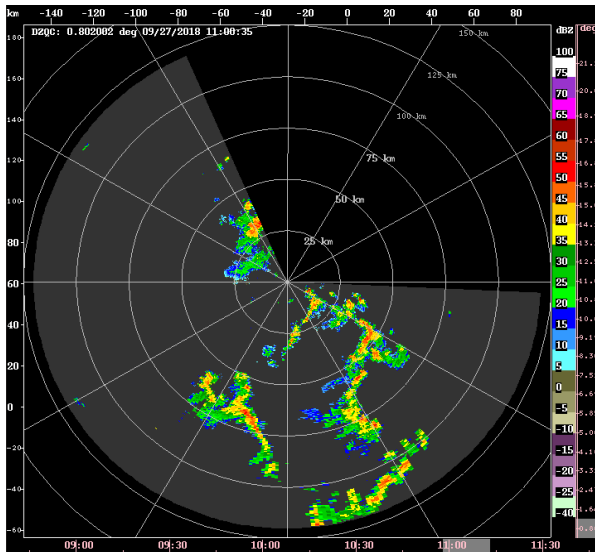
1045 – Convection seems to have strong updraft at low-levels. The following case showed a high dBZ and large ZDR feature loft 2-3km above the ground.



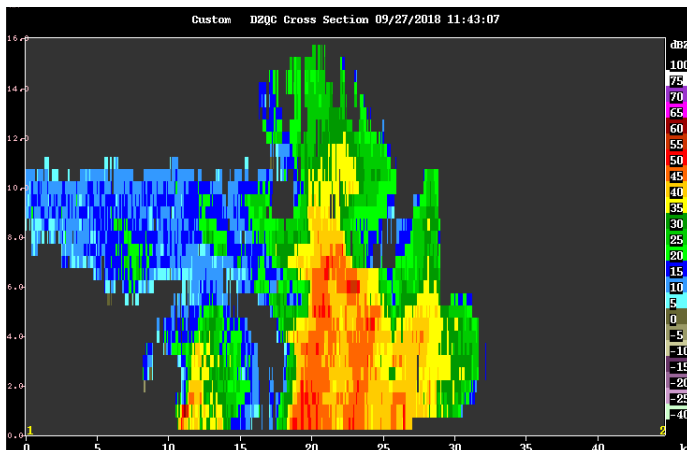
The radial velocity suggests low-level (below the high dBZ/ZDR zone) winds of ~ 3 m/s away from the radar. It seems to be a tilted updraft from the near surface up to 3-4 km.



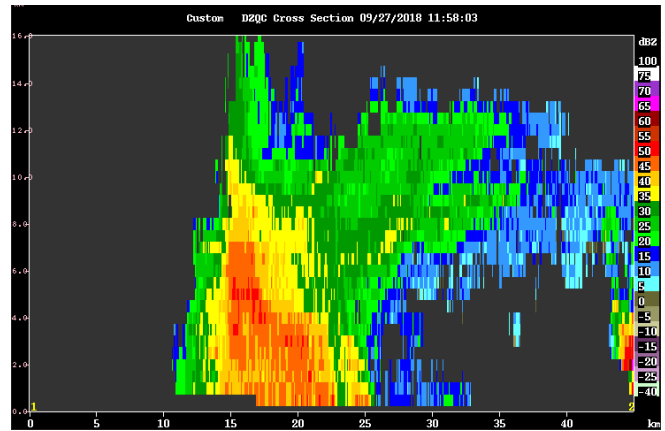
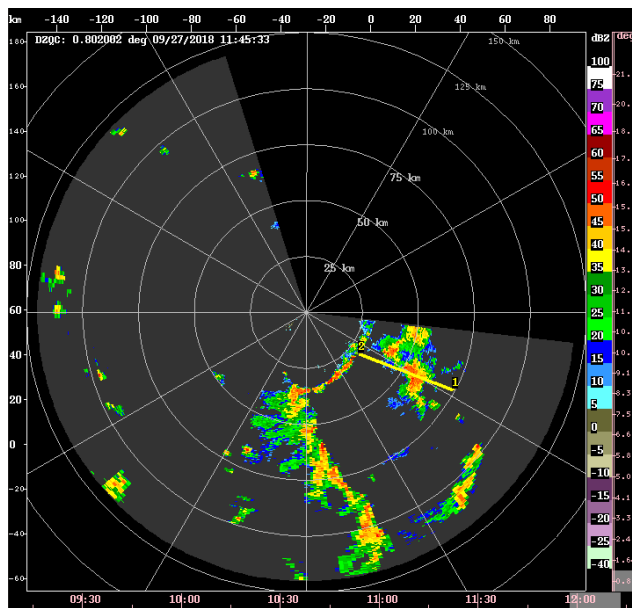
1100 – Convective cells merged into some convective lines, but only limited precipitation areas developed, due to the very dry middle-to-upper levels (inducing strong entrainment). Some of the convective cores are quite intense, with 35dBZ extending higher than 10 km.



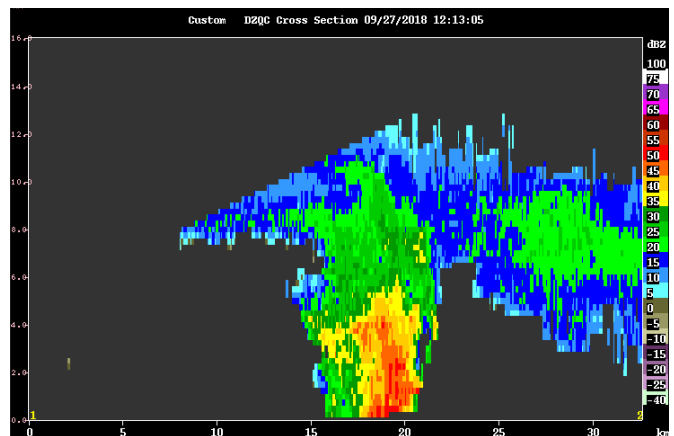
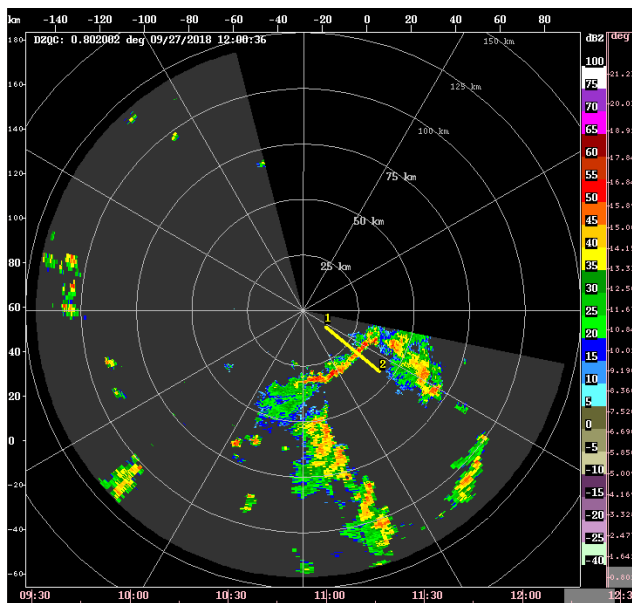
Convection is deepening with 15 dBZ up to 15-16 km. Lightning was seen from the following cell with 1 flash per min or so.



1145 – Significant stratiform precipitation is now growing behind convective cells.



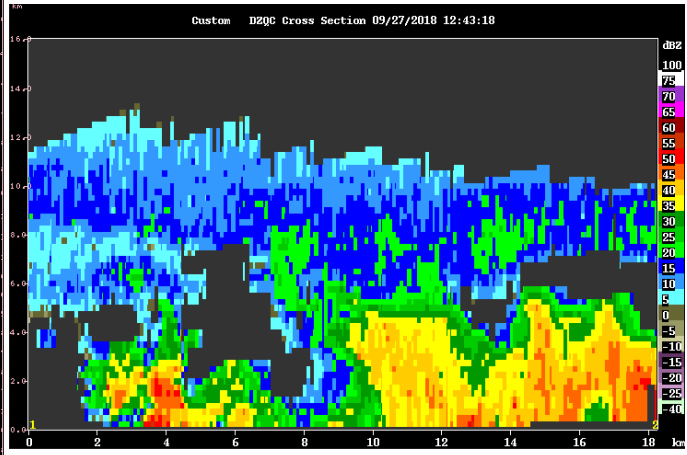
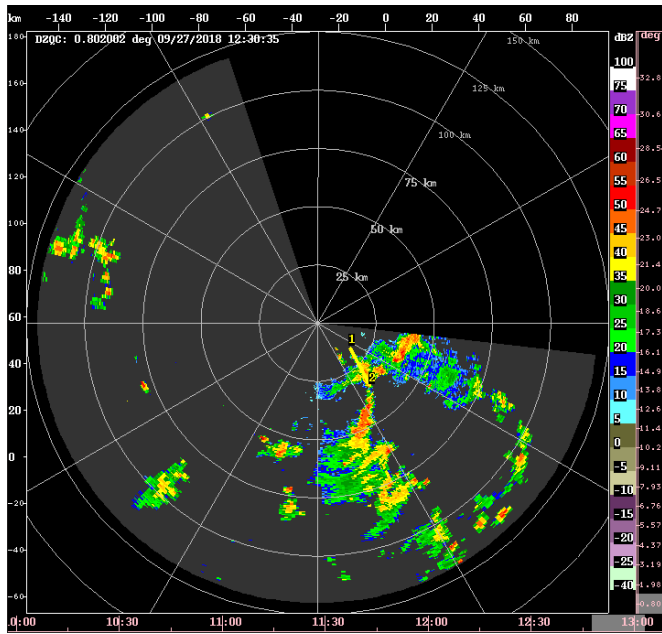
1230 – Schedule to NEAR PPI scans to top the relatively deep (12-13 km tall) convective line (~50 km long) moving close to the radar (25-30 km from the radar).



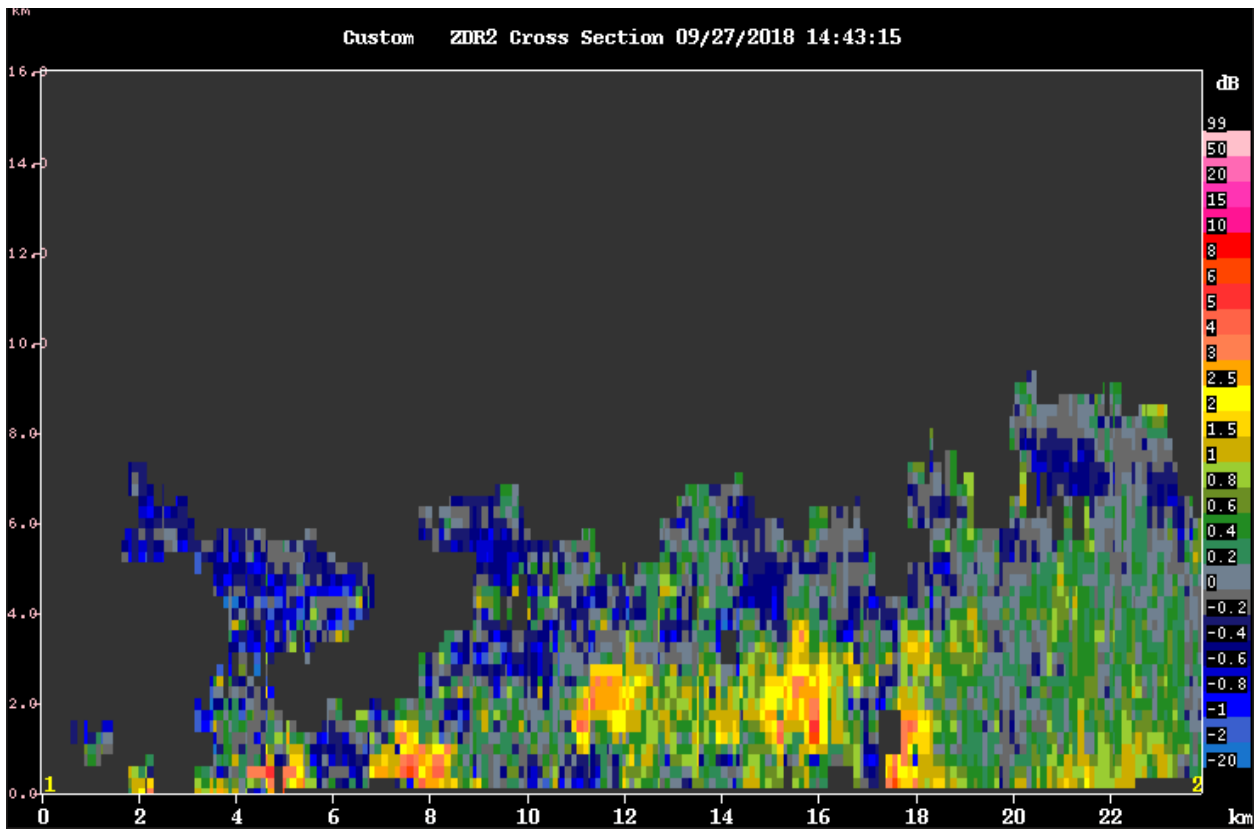
Afternoon Shift (9P-4A L)
Chelsea Nam

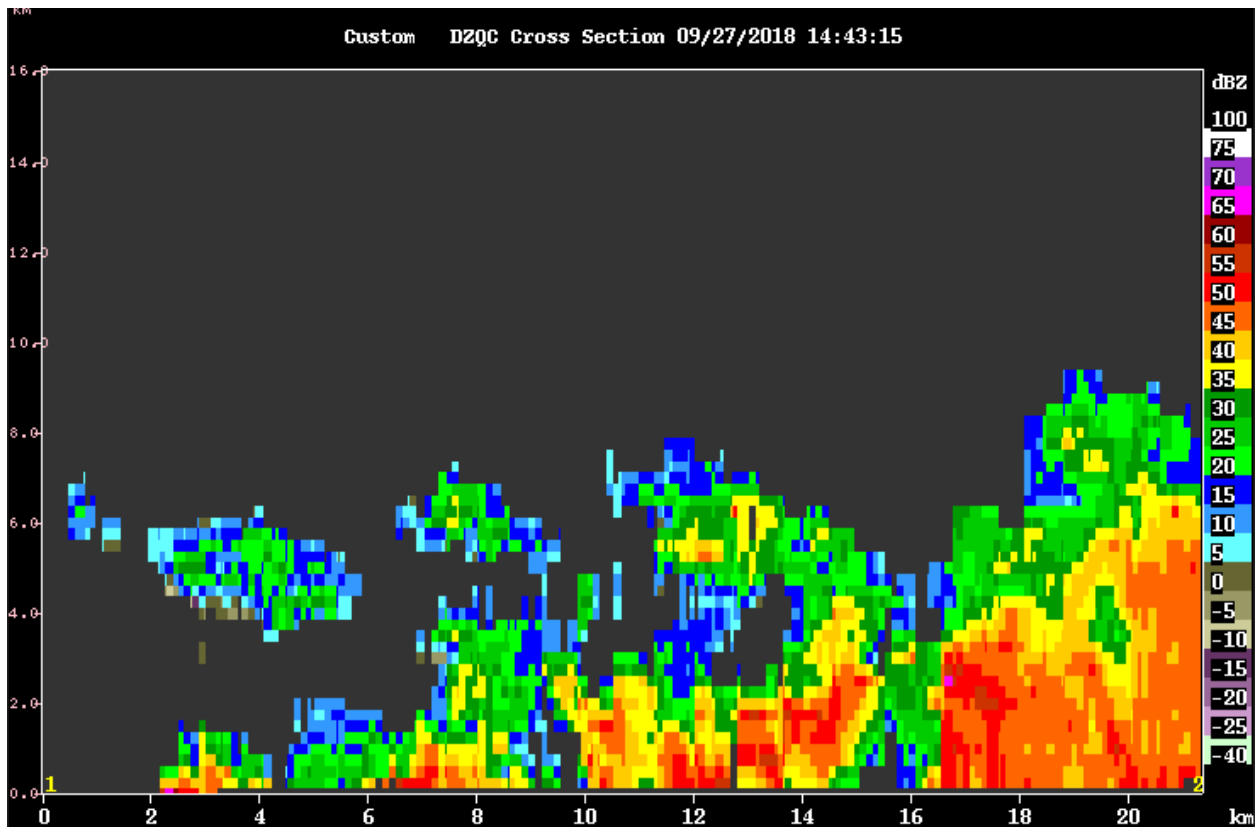
1230 – Convective system near in 30 km range is generating lightning.

1245 – We can top the convection with NEAR mode now.



1430 – High Zdr storm near the radar.





1545 – Change into FAR scan mode from next scan for now we don't have deep convection inside 40 km range.

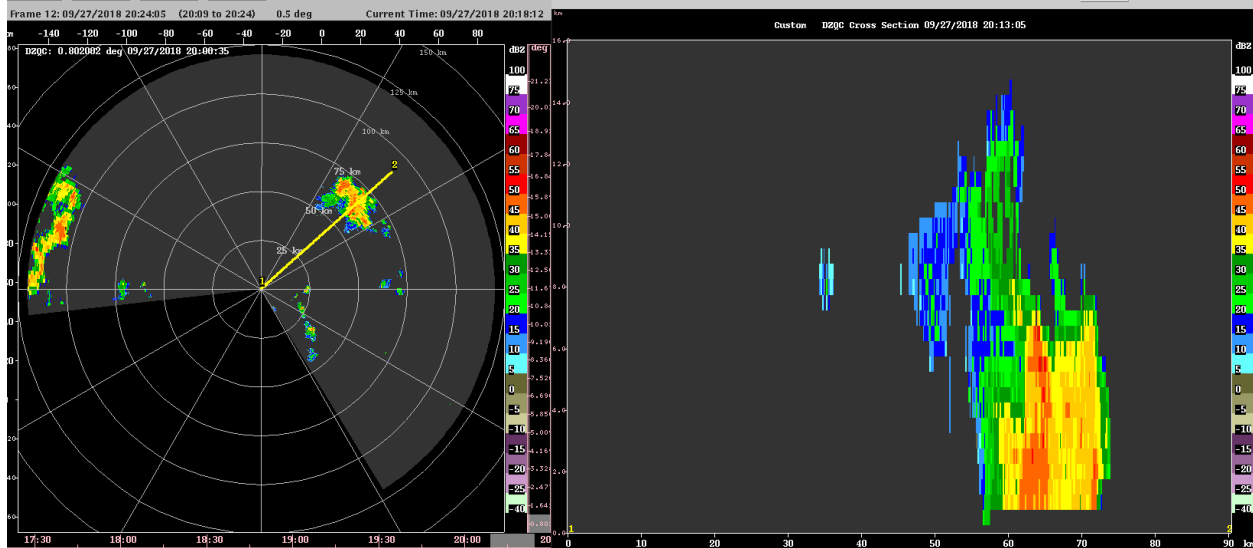
1630 – Now the domain is covered by scattered warm shallow precipitation.

Morning Shift 4A-9A L)
Ben Trabing

1900 – Scattered convection around 50 km away.

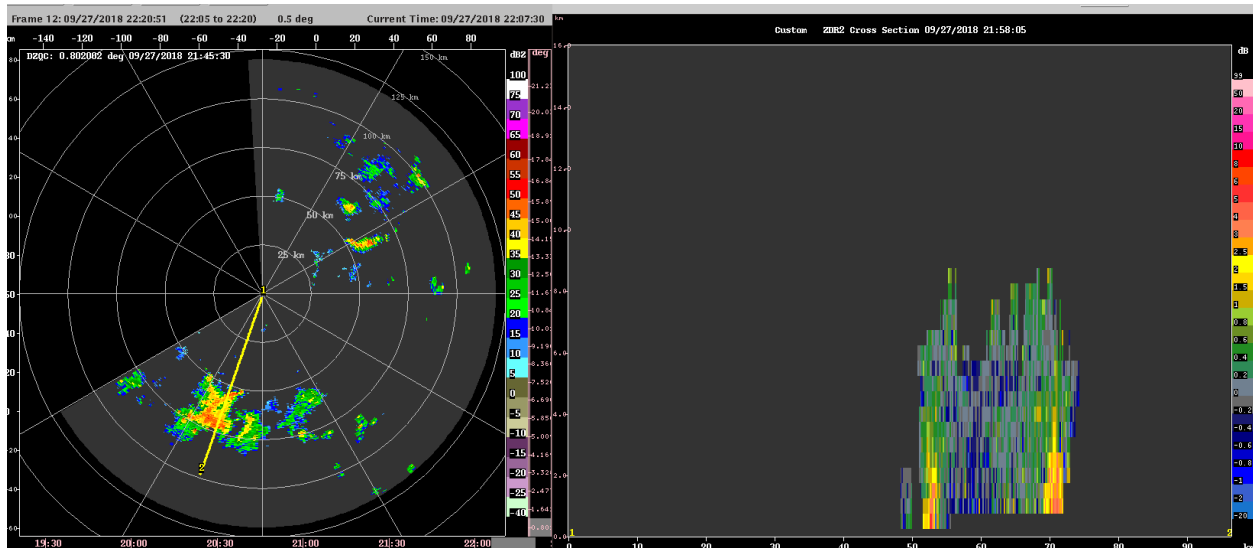
1930 – Convection to the East has echo tops around 10 km. Several areas of convection are reaching above 5 km.

2015 – Another area of convection is moving into the radars domain from the west. Small cluster of storms to the northeast is still present with an elevated reflectivity core.



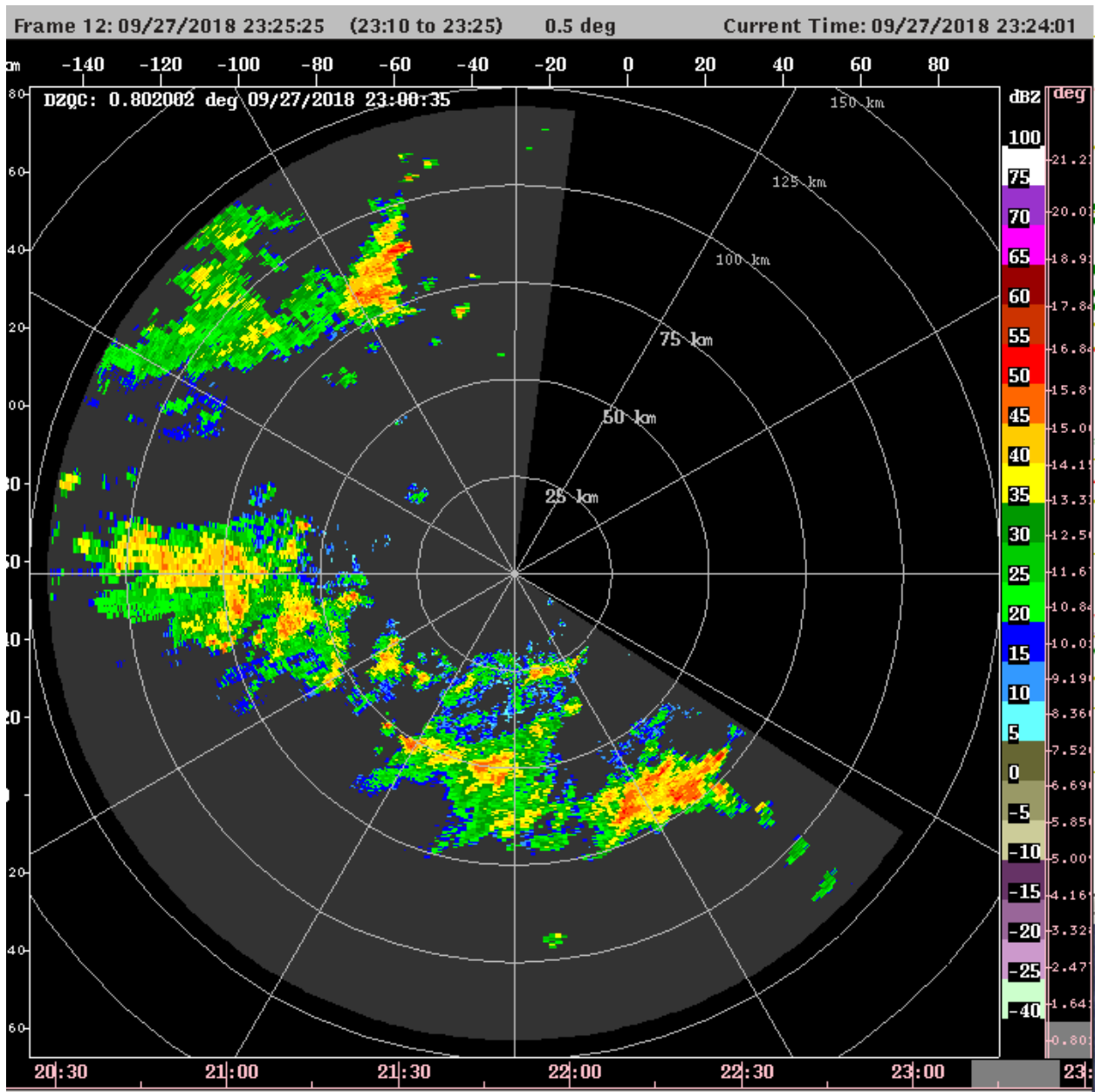
2045 – There is also some deep convection to the south which we won't observe until the ship turns. Looks to be >50 km away. The northeast cells have continues regenerating cells on the leading edge and a trailing stratiform region. There looks to be moderate ZDR values at low-levels in the generating cell but not as high as some of the previous shallow isolated cells; although this could be just due to the temporal sampling.

2145 – Ship has turned blocking deep convection to the west but now we can see the deep convection to the south.



2215 – Ship now has a heading to the southwest meaning we get to see both sets of convection moving in from the southwest. Continue PISTON FAR.

2320 – Convective clusters of storms are getting closer to the ship moving from the southwest. Still running FAR PPI volume scans but will likely switch to a near depending on if the convection is topped that is ~25 km away.



2325 – Switch to Near volume scan