

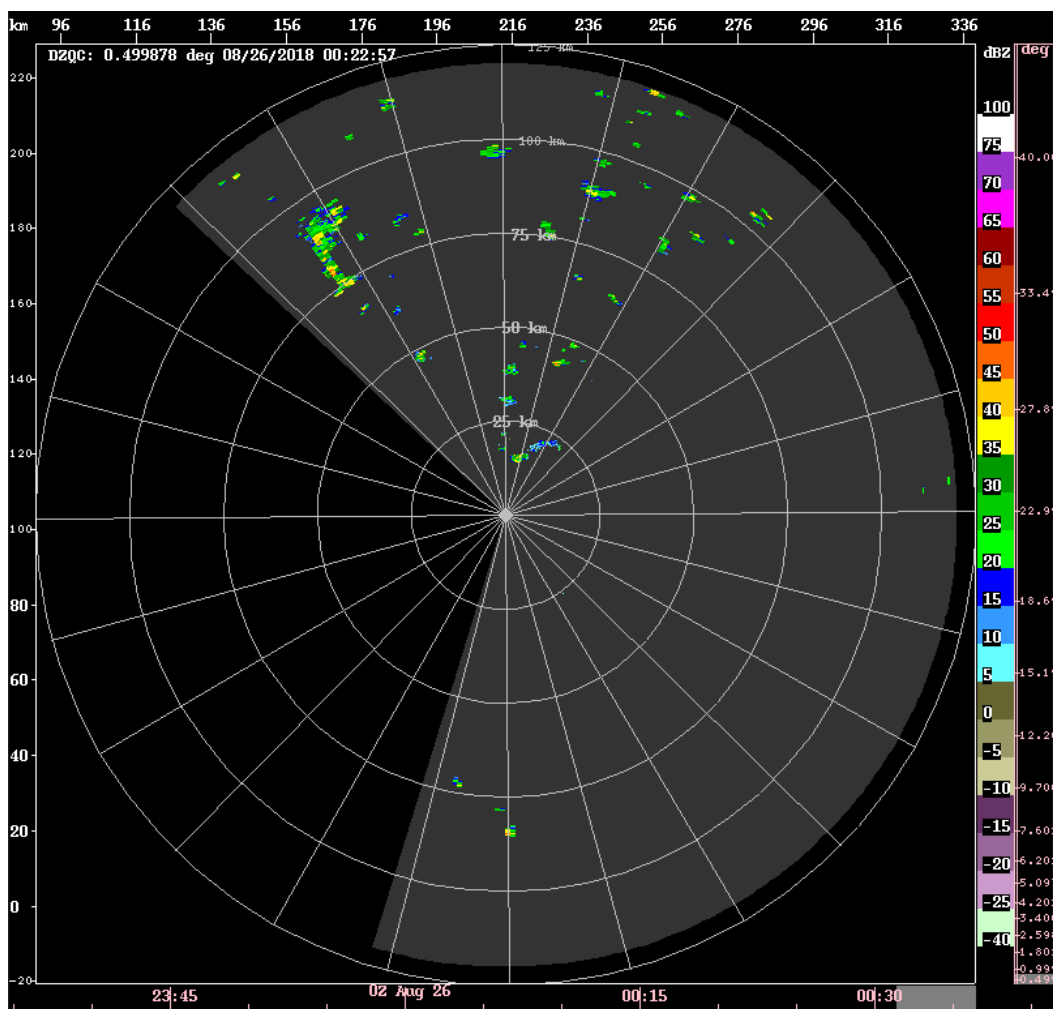
20180826  
Day Shift (4a-4p L)  
Timothy Lang

0001 – Random RHIs continue. Trying 45 az. Still nothing very big that's close. However, some of these small cells may be in DD lobes.

0010 – Turning off RHIs for now. There remains convection in the general area, but too small to keep guess at the one true azimuth that will actually intersect a single tiny cell. Dual-Doppler scans continue.

0019 – DD lobes almost N-S oriented at this point, and we continue to drift east of Mirai – the baseline has now increased to 30 km. Much of the southern lobe, and portions of the northern lobe, are blanked. However, some of these small cells to the NE are visible in the lobes. So still getting occasional dual-Doppler coverage on these tiny things. Not a bad baseline to be working with this kind of convective size.

0034 – Current situation. Something trying to get going in the NW sector. Otherwise, the typical popcorn. Convection is moving toward the NW. Been doing this all day.



0045 – RHI thru distant NW convection at 325. Finally hit something. Still pretty shallow.

0054 - RHI to 10 az. Another cell has gotten big enough to try.

0107 – RHI to 5 deg to match motion – tops up to 6 km.

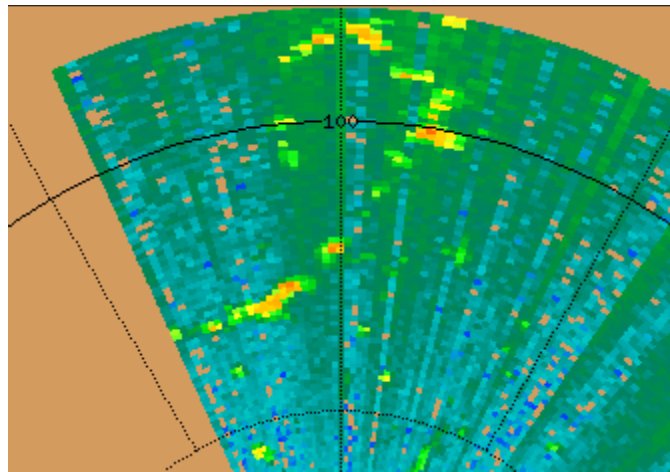
0117 – Continuing to adjust the RHI counterclockwise. Storm is about 60 km out.

0139 – Been keeping the RHIs around 5 az. A SW-NE line is trying to form up that way, beyond 50 km range. There has been a string of cells moving thru that azimuth.

0155 – Trying RHI at 350. Taller storm there.

0159 – 8-km cell revealed by RHI. 6-8 km max heights has been very typical today.

0208 – Interesting loop structure to this convection:



0209 – Our FOV is almost completely clear of the DD lobes.

0218 – Boat is turning clockwise, canceling RHI to avoid a blank one.

0219 – Boat now facing south. Still not moving forward.

0221 – Now facing SW.

0225 – Boat is moving slowly SW, maybe a couple knots. At least we are looking back at the dual-Doppler lobes again! Not much in them though.

0232 – Up to cruising speed now, heading 243. Must be headed to new waypoint for restarting DD/oceanographic ops. Still keeping away from RHIs until I get my bearings. These are pretty small cells to try to hit with one sweep while we are in motion.

0307 – RHI to 345 to hit a small storm beyond 50 km range.

0314 – Can see the Mirai from the O3 deck, toward our north. Canceling RHIs after the next sweep. Only viable cells are small, distant, and perpendicular to our direction of travel. Trifecta makes it not worth the trouble.

0348 – Scope pretty clear right now. Just a few scattered small cells, nearly all at long range.

0438 – Trying an RHI at 320, cell near 100 km that is a bit larger than average. Slight trend toward increasing echo coverage during last hour.

0501 - RHI to 280 az. Still mostly isolated cells around the ship. Visually, skies are partly cloudy with most trade Cu down low, and the occasional Congestus.

0554 – Close to target location, but going to stop a bit further west, around 0630. Should give us a little bit longer baseline to start, but we'll drift. RFI noticeably worse, not sure why.

0600 – RHI to 280.

0618 – Ship turned north and now the RFI is reduced. We suspect mast/smokestack reflections from the satcomm antenna, which occur preferentially on a westward heading.

0621 – Ship is stopped, pointed @70, final resting point is 12.644, 136.226

0627- Raining at ship. Canceling RHIs for now until I finish with a few other planning details.

0629 – Mirai is at 13, 136.7 until 15Z on 8/27; Then it is at 12.88, 136.92 by 21Z on 8/27. It will stay at this location until 6Z the next day, at which time it will be in an unpredictable location in the region until it leaves for Japan at 12Z. We start with a 64-km baseline now, which will slowly shrink over time.

0639 – RHI at 180. Rain tapered off at ship.

### Shift Summary

Multiple passages of small cells and small lines thru the shrunken dual-Doppler lobes early, and then convection quieted down. About halfway thru the shift the ship began repositioning to extend the DD lobes. Occasional RHIs were made during transit, but otherwise there was not much to see. Toward the end of the shift the ship completed its repositioning and echo started to become slightly greater in coverage.

Night (4p-4a L)  
Scott Powell

1024: So far, have been shooting RHIs down just a few radials and letting convection move right up along that radial.

1110: Quieting down a bit. RHIs stopped.

1310: The cells this evening seem to have life times of about one hour or less. Really basic pulse convection.

1520: Still a bunch of short-lived convection out there. But more of it seems like it is getting to 5-6 km deep.

1640: Not much to say. Lots of shallow convection 50-100 km out to north and east of ship.

1755: The echoes seem to be moving very slowly. In fact, even the slow motion of the ship is making the direction of motion of the cells in an animation of PPIs ambiguous.

1852: Still guessing radials for RHIs. Basically fishing. Catching something once in a while. Got a nice high ZDR small echo.

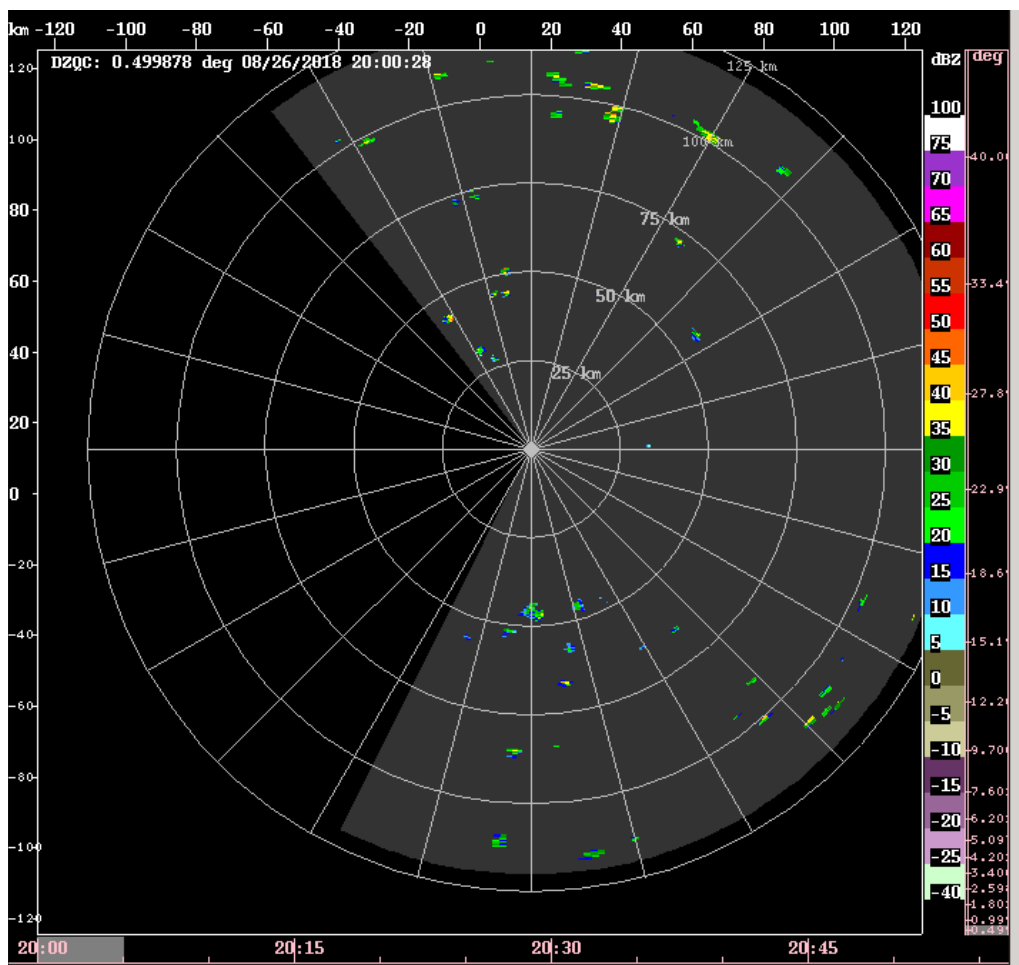
Day Shift (4a-4p L)  
Timothy Lang

1902 - Keeping RHI for now.

1913 – Confirmed that some of these scattered cells are in the dual-Doppler lobes, including a short W-E line ~30 km east of us. RHI to 93 to try to capture that line.

1946 – Canceling RHIs for now, targets too small for this to be productive. The eastern line has petered out.

2001 - GPM overpass. Here is what it looked like. Not super inspiring but there is precip on scope.



2053 – Trying an RHI near 30 az. Small cell near 50 km. Should be in lobes.

2100 – RHI suggests something in the 6-8 km height range.

2104 – Target cell confirmed to be inside northern lobe. Nice!

2115 – Continuing with RHIs, getting a nice lifecycle on this cell in the lobes.

2139 – Canceled RHIs several minutes ago. Cell died out. Scope cleared out a bit.

2217 – CYGNSS overpass nearby @ 0548Z on 8/27. Too far away from ship to bother with RHIs, however. Evidently, currents have changed so ship is pointed more around 80 degrees. We'll see what impact this has in a few hours.

2257 – Remains very dead out there. Tiny, short-lived cells only, and not very many of those either.

2352 – Radar off to allow lidar maintenance.