

HERO IOP12 Mission Summary

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Mission Number: 12b
Start of Mission (UTC): 10 November 2013 1200 UTC
End of Mission (UTC): 10 November 2013 2000 UTC
Submitted at (UTC): November 2013

Summary:

1. Forecast

Forecasted cold front to the northwest moving towards Oahu. Waiting to document passage. Wide-spread pre-frontal showers are expected as well.

2. General Description of the Mission

Radar was deployed during IOP10 in Wahiawa at 21deg 30.8342N and -158deg 3.8134W. As operations teams transitioned there was no precipitation at radar site. Over the southern shores there was wide-spread precipitation which caused flood advisories to be issued for much of the island. There was also precipitation anchored to the Ko'olaus. Shortly after arrival a band of precipitation moved through from the northwest. A period of clearing followed this passage before another band moved through. A third, narrow band formed north of the coast but never passed over the radar site. The last hours of the mission consisted of showers over the Ko'olaus and scattered precipitation in the central valley. Total precipitation recorded at radar site was .39 inches.

3. Report on the Scanning Strategy

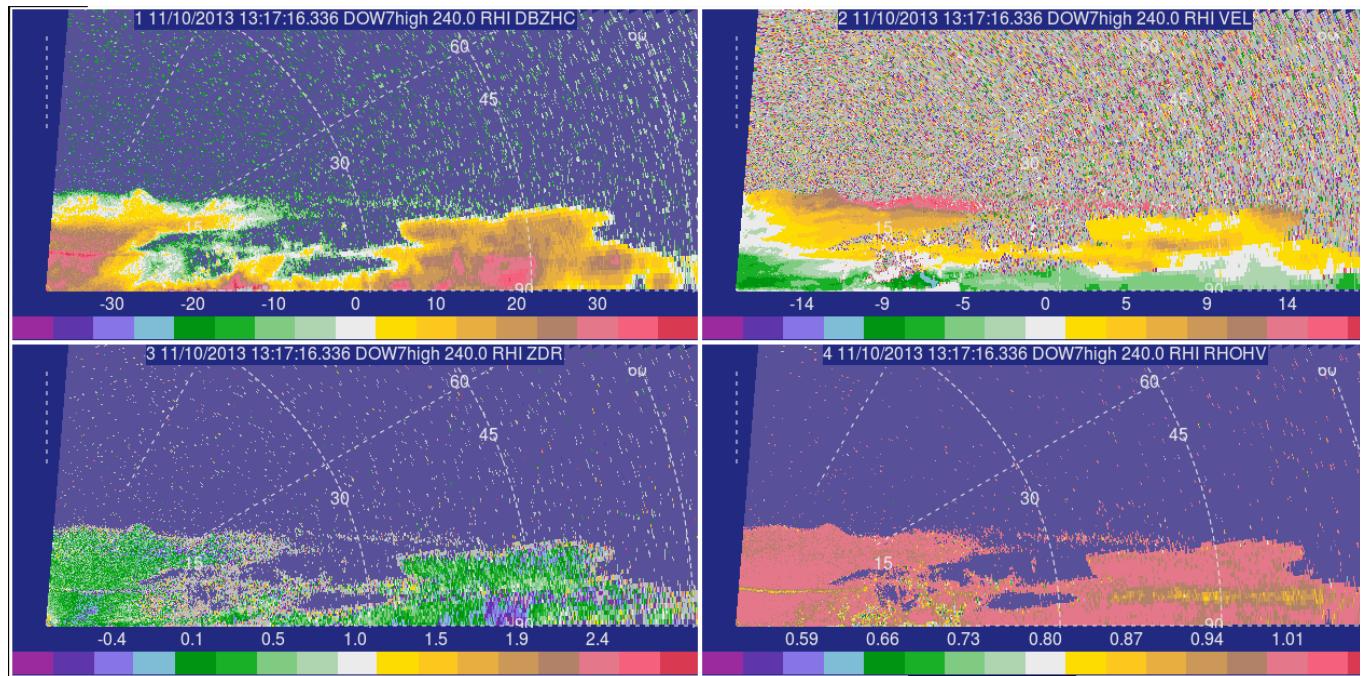
The scanning strategy from the previous IOP was carried over. RHI scans were added into the scans from 60-80 deg. The elevation for the RHI was increased from 40 to 80 deg. RHI scans were added and deleted as needed to cover the areas of precipitation. ZDR scans were added during periods of precipitation.

The GPS time-offset and the transmitter frequencies were exceptionally stable.

4. Report on the Radiosonde System

The radiosonde was launched at 1727 UTC during a period of strong winds and the ascent rate was low. This was a radiosonde of type ABX that included a pressure sensor. The radiosonde reached a height of 1.5km before popping at 1747 UTC.

A second radiosonde, of type ABX, was launched at 1802 UTC. This ascended successfully to 27km before popping at 2011 UTC. This sonde showed very different atmospheric conditions from the previous launch.



Radar reflectivity, Doppler velocity, ZDR, and RhoHV at 240 degrees azimuth taken at 13:17UTC. A bright band echo is visible indicating the freezing height in the cell.