

RF10

Dropsonde Operator: Holger

Flight pattern: B1, Gulf of Panama, Caribbean

Goal: 32 drops along two groups of lawn mower pattern

Actually launched: 32 (17 on Pacific side, 15 on Caribbean side)

Issues: 3

The flight was overall successful. Zeljka asked for an additional drop before we reached the first lawnmower pattern on the Pacific side. In that section, I had to fish out one sonde during the loading process, which did not slide properly to the bottom of the launch tube. This sonde worked properly the second time around. All scheduled Pacific drops were on target.

I had loaded 18 sondes prior to take off and loaded another 16 sondes during the transfer over Panama. By then the baggage compartment was already unpleasantly cold.

The first sonde on the Caribbean side died at 300 hPa. The environmental conditions were very similar to the previous sondes that died in mid flight, i.e. we were flying through a region of strong convection with some lightning in the area. We cut the second run on the Pacific side short due to bad weather, we also skipped the last regularly scheduled drop. Instead we added another leg, where we used the three sondes that were not dropped on schedule.

During the forth to last drop, the sonde did not launch properly (files generated as D20190903_170443.2). I had to go back and fish out the sonde, which had an open parachute inside the launch tube. As a result, I missed that drop. Resetting the launcher, loading another sonde, and launching got us close enough to the next scheduled drop, such that we decided to skip it.

The rest of the soundings were launched as requested.

In preparation of this flight, I had checked all sondes for weak parachute packing and found three, in which the parachute opened on the first slight tap. The rest of the sondes passed.

There is a clear correlation between flight time and how long it takes sondes to exit the aircraft. Early sondes launch basically immediately, later sondes hang on for one to several seconds, before exiting the aircraft. This supports the earlier theory, that the launcher is getting sticky as a result of getting increasingly cold throughout the flight.