

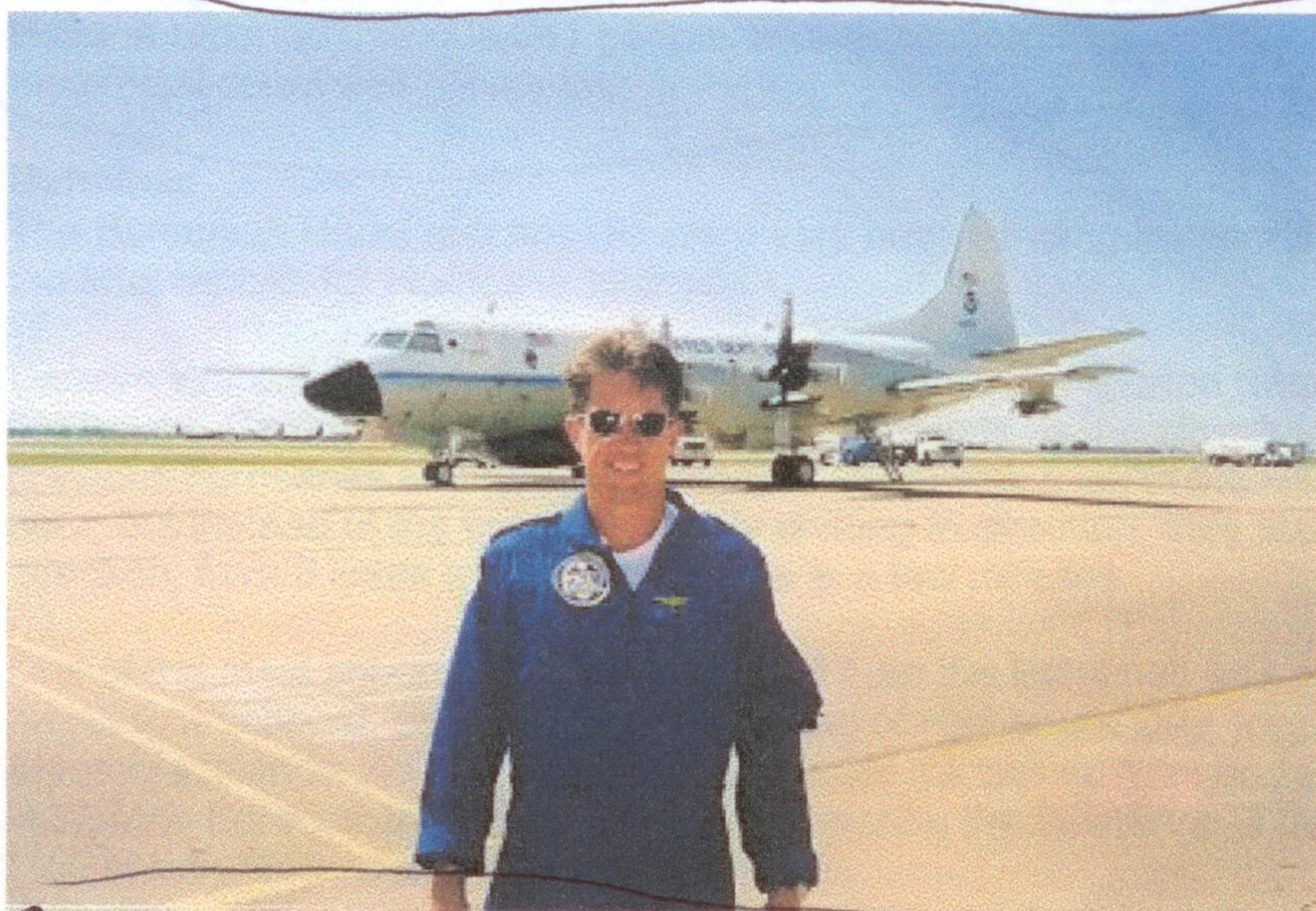
and Matanzas and expected to produce major damage and communications blackout.

The previous Friday, Julio Ripoll WD4JR, Asst. Coordinator for Amateur Radio at NHC, contacted Riley Hollingsworth K4ZDH, FCC Special Counsel for Amateur Radio Enforcement, and explained the circumstances and importance of establishing a back-up communications link and the fact that the Cuban Emergency Net is located in the CW (Morse Code) portion of the U.S. 40 meter band, therefore requesting special permission to allow W4EHW to operate on that frequency using single sideband (voice).

Mr. Hollingsworth understood the urgency and importance of our request and granted permission without any hesitation. This was vital to our operations as it allowed W4EHW to communicate directly with Cuban Hams and Havana Civil Defense to relay the Hurricane Advisories and collect Surface reports, thus increasing the flow of information and the possibilities of saving lives.

W4EHW set up two simultaneous and continuously manned radio stations at NHC for this operation. The main station was on 20 meters on the Hurricane Watch Net and the second was on the 40 meter band for the Cuban Emergency Net. The amount of information and operational demands required two to three operators to man W4EHW at each shift.

Lionel Remigio KC4CLD volunteered to manned a third off-site monitoring station for 40 meters to collect information from Cuba. His very detailed reports were sent directly to W4EHW via email and Fax and were considered a true asset to increasing the effectiveness of the W4EHW operations. Lixion Avila, Hurricane Specialist at NHC, was very impressed by the detailed reports and complimented Lionel's efforts.



NOAA 42 Hurricane Hunter Airplane

During Hurricane Michelle, W4EHW had conducted some pre-planned on-the-air testing with the Hurricane Hunter Airplane, NOAA-42, as it made several eye penetrations and perimeter passes as the hurricane was making landfall over Cuba. These experiments were planned to test the effective frequencies to be used to communicate directly to the Hurricane Center as a back-up link. Captain, Dave Tennesen NL7MT, was able to check into the Hurricane Watch Net, where Bob Botik K5SIV, located in Texas gave Dave a very strong signal report (10db over S-9), however W4EHW could barely hear the Hurricane Hunter. However, when we changed frequencies to 40 meters, W4EHW was able to maintain a comfortable conversation with the Hurricane Hunter for several minutes as his signal was very strong (20 db over S-9). The on-the-air tests were also important to test the HF antenna that was replaced on the Hurricane Hunter airplane after losing the previous antenna to a lightning strike.

The following are some of the significant events and reports that occurred during our operations for Hurricane Michelle.

Cuba

Reports from CL4RP on Cayo Largo, a small island off the southern coast of Cuba, was first to report landfall of the eye of Hurricane Michelle with winds of 210 KMH (130 Mph). This station was located at the airport of Cayo Largo and also reported a minimum pressure of 963 Mb and a storm surge of 6 meters (18 feet) above normal with 15 to 20 waves. They had lost the antenna during the height of the hurricane winds, but were able to repair it and were on the air shortly after the strong winds subsided to report that all 142 people on the island had survived.

Reports also came in from the area on the southern central coast of Cuba (Playa El Cajio) where the ocean had retreated from the shoreline some 300 meters (1000 feet) due to the strong northerly winds pushing the water away from the beach. Warnings were broadcast to keep curious people from venturing out to look at the dry ocean bottom as the waters return quickly and without warning.

As Michelle moved over the mainland of central Cuba, most of the electrical power, telephone and communications were completely out. Ham Radio was the only form of communications left operating to and from the Cuba and within the center part of island nation. During the evening, as Michelle progressively shifted more towards the east of the previous forecasted track, cities in the provinces of Matanzas and Cienfuegos, that may have been on the outskirts of the hurricane winds, if Michelle would have stayed her course, would now be in the direct path of the eye. Some of the Cuban stations on the air, were in blackout areas and had Advisories that were more than 4 hours old. Civil Defense in Havana had also lost their HF antenna, when a large palm tree fell on to it. W4EHW then was the only source of the current Hurricane Advisories on 40 meters. Advisory information was being spread by the Cuban Ham Radio stations on 40 meters to other Hams monitoring on local VHF frequencies, some reportedly in shelters and Hospital buildings. Civil Defense in Havana reported that 604,681 people were evacuated from coastal areas and the loss of life was very low, the official count was 5 lives lost.

Bahamas

The Bahamian Hams and boaters were very busy sending in reports all day Monday, submitting almost half of the total reports for Hurricane Michelle.

Carolyn Wardle C6AGG, from New Providence Island, reported frequently as the eye of Michelle moved over her house. Carolyn described the strange conditions as the strong winds did not shift in direction as in previous hurricanes she had experienced. There was a lull in the winds, to less than 3 knots for more than an hour, but instead of the winds gradually shifting in direction, they started almost suddenly from the opposite direction, from 3 knots to almost 55 knots in a few minutes.

One of the most important communications from the Bahamas was from Wayne Wilkinson KC4CYK/C6A, on his 42 foot sailboat, docked in the tiny island of Highbourn Cay, located between New Providence and Eleuthera islands. As Michelle started to lose its classic form and the eye became difficult to see, the Hurricane Forecasters were considering lowering the Warnings, Wayne had just reported winds of 87 knots (100 Mph) with gust of 100 knots (115 Mph).

This report caught the attention of Max Mayfield and he asked to verify the equipment being used to take these measurements. Wayne quickly replied that he was using an anemometer made by Raytheon mounted 72 feet up on the sailboat's mast. Max Mayfield said that this report made quite an impact in the level of warnings being considered for the next advisory and subsequently the level of warnings were not lowered.

Max Mayfield, Director of the National Hurricane Center, sends this message:
"Please relay my thanks to all of the Ham Radio operators that helped during Hurricane Michelle.
You all did a great job."