British RAF *"Hurricane Hunters"*: *Who Knew?*

By David Reade

Every now and again, historical information emerges from the most unlikely places and sheds light on a little known aspect of history that is both significant as well as interesting. This is the case with recently discovered archival information that has now revealed a little known operational mission of British Royal Air Force *(RAF)* aircraft during WWII; "*Hurricane Hunting".*

Based upon archival document information accidentally discovered *(by the author for an upcoming book project)* in the United States Weather Bureau records at the US National Archives in Washington, and confirmed by archival records from the UK Ministry of Defence's RAF Air History Branch as well as the National Archives in London; it is now revealed that British aircraft flew hurricane reconnaissance flights in the Atlantic during WWII, to support local RAF meteorological service hurricane forecasts and warnings in the Bahamas and Bermuda. These so called RAF hurricane hunting missions comprised weather reconnaissance flights into Atlantic hurricanes to gather the vital data needed by British weather forecasters tasked with keeping military personnel and the civilian populace located in the Bahamas and Bermuda safe from the ravages of tropical hurricanes.

It has been recognised that official *(organized)* hurricane reconnaissance flights in the Atlantic were first established in 1943 by American military aircraft, a mission that was the sole domain of the United States until the mid to late 1980s. With the recent discovery of the RAF's *(albeit brief)* participation in hurricane reconnaissance in 1944, now forever changes the accepted history of hurricane reconnaissance and establishes that the United Kingdom *(the RAF)* as legitimate *Hurricane Hunters* in the annuals of aviation history.

Before the establishment of the RAF hurricane reconnaissance flights, the British forces in the Bahamas were blind to the movements of hurricanes throughout the Caribbean. During the 1943 hurricane season, 6 hurricanes and tropical storms *(of the season's total 10 storms)* affected the Bahamas and Bermuda. Upper air *(weather balloon)* observations alone were not comprehensive enough to provide the needed information required to produce sufficient and accurate hurricane forecasts and warnings. Without adequate warning of approaching storms, the British forces *(facilities, aircraft and personnel)* as well as the civilian populace at large were subject to the potential destructive forces of these devastating storms.

At the time, there was an apparent lack of dissemination of direct hurricane forecast information shared between the joint US AAF/ US Navy / US Weather Bureau Hurricane Warning Center in Miami and British RAF meteorological services in the Bahamas and Bermuda. Apparently international differences in the coding of weather information of meteorological services were at the root of the problem.

Note: *there was even apparently no direct interaction between US Military weather stations in the Bahamas and Bermuda with those of the RAF Weather Services that were often in close proximity to one-another on the same airfields.*

The British forecasting problems were further complicated by a subsequent active hurricane season that would eventually see 11 tropical cyclones during the 1944 season, 7 of which were hurricanes, with 3 or 4 of those becoming of a severe nature. Given these limitations, the British meteorological services in the Bahamas decided to establish their own hurricane reconnaissance capability to derive the vital meteorological data needed on storms that directly threatened their operations and facilities in the Bahamas and subsequently Bermuda.

The RAF Hurricane Hunters

Given that there were no airborne RAF meteorological units in the central Atlantic region and only one flying RAF squadron at hand in the Bahamas, the task of conducting the British hurricane reconnaissance flights fell to RAF No. 111 Operational Training Unit *(OTU)* Squadron. No. 111 OTU Squadron was based in the Bahamas and provided patrol pilot / aircrew conversion training from RAF B-25 aircraft to new US-supplied B-24 Liberators - prior to combat deployment overseas. The Squadron flew mostly from RAF airfields in Nassau *(both at Oakes and Windsor Fields)* and it was from there that most of the hurricane reconnaissance flights would originate. The RAF B-24s *(mostly British variant Liberator GR Vs or Liberator Mk. Is and IIIs)* were equipped with only standard aircraft instruments or no specific meteorological systems added to support the mission.

Note: *it was standard practice for No. 111 OTU Squadron to teach its aircrews how to collect weather observations during long-range training flights throughout the Caribbean. At the time, RAF Maritime Patrol aircraft in different theaters of war were often tasked with weather reconnaissance missions in conjunction to their open ocean patrol flights. Though, the No. 111 OTU instructors had also taught their pilots how to avoid the kind of weather that they were now being asked to fly into.*

Under the subsequent RAF hurricane reconnaissance operation, local British RAF weather officers would request a reconnaissance flight from No.111 OTU Squadron to reconnoitre a storm, once its presence became known. More often than not, No. 111 OTU training flights in the surrounding area would be the first to detect the presence of potential storms and would report them to the base Weather Officer. Once a storm was generally located, a squadron aircraft would be sent out to specifically locate the storm and determine its position, verify its

intensity, determine its course and *(forward)* speed and track it for several hours. If need be, additional flights would be sent out into the storm to maintain its track and monitor any changes.

In review of archival squadron records, a number of hurricane flights were made during the 1944 hurricane season with several flights detailed that were originally seen as a direct threat to the Bahamas and later Bermuda.

The first RAF reconnaissance flight into hurricane seems to have occurred on 15 July 1944, when an unnamed hurricane *(12-19 July 1944)*, that formed just north of the Dominican Republic on the 13th, tracked to the north-northwest and came to within 198 miles *(319 kms)* of the eastern Bahamas. The storm paralleled the Bahamas for several days, before recurving off towards the north – later coming to within 250 miles of Bermuda's west coast on the 18th. Passing by the island, the storm no longer posed a danger to British interests in the Atlantic.

The next storm that warranted British RAF hurricane reconnaissance aircraft attention came on 31 July 1944, when another unnamed hurricane *(30 July – 4 August 1944)* formed as a tropical storm in the eastern Bahamas. By the next day *(31 July*) the storm had intensified into a full-blown hurricane and tracked towards the north-northwestward passing within 175 miles *(282 kms)* to the east of the Bahamas. The storm eventually passed inland *(made landfall)* along the southern North Carolina coast in early August.

The next series of hurricane reconnaissance flights occurred during the "Great Atlantic Hurricane of 1944" *(8-16 September 1944)* during a significant period when the storm was at its peak intensity.

The Great Atlantic Hurricane of 1944

Known as the Great Atlantic Hurricane of 1944 (8-15 September 1944), this storm was the most severe hurricane to have affected the US east coast, and especially New England, since the devastating New England Hurricane of 1938. This hurricane ravaged the US east coast with winds in excess of 140 mph (225 km/h) and higher gusts upwards of 160 mph (257 km/h) with pressure readings of 943mb (27.86") at peak intensity.

The hurricane was first detected as an area of disturbed weather northeast of the Leeward Islands. Moving towards the west-northwest, the storm continued to intensified into a severe hurricane with winds of 145 mph (233 km/h) on or about the 12th, just northeast of the Bahamas. Paralleling the Bahamas, the storm eventually recurved off towards the west, northwest clipping Cape Hatteras (North Carolina) with high surf and heavy rains. Changing direction towards the north, northeast, the storm tracked parallel to the US mid-Atlantic States, up along the shores of Maryland, through Chesapeake Bay and the "Delmarva" peninsula, up to New Jersey and across Long Island (NY) and into New England.

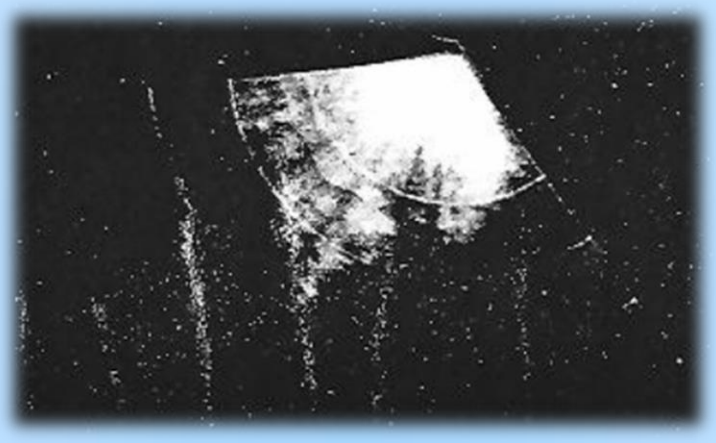

Photo: *Radar image of the Great Atlantic Hurricane of 1944, the first time that a hurricane was ever captured on a radar system. The hurricane was first captured on a radar set located at NAS Lakehurst, New Jersey on 14 September 1944. The storm was later captured on a series of experimental radar sets located at the US Army's Signal Corps radar test facility in Spring Lake, New Jersey and eventually at MIT's Radiation Laboratory (RADLAB) in Cambridge, Massachusetts.*

Fatalities from the 1944 Great Atlantic Hurricane comprised only 46 deaths in the continental US, a low number (as compared to historical averages) directly attributed to the introduction of hurricane reconnaissance flights established the year before and improved for the 1944 hurricane season. The fatalities (on land) were 1/10th the loss of life in the 1938 hurricane which killed more than 600.

Unfortunately the true figure of US-related fatalities from this hurricane was much greater when factoring in the more than 344 US military personnel that were killed or lost at sea in vessels that capsized or sunk during the storm. This hurricane wreaked havoc in the North Atlantic. Five vessels were reported to have been lost in the storm including the US Navy Destroyer "Warrington (DD-383)", US Coast Guard Cutters "Bedloe (WPC-128)" and "Jackson (WPC-142)", the USCG Light Ship "Vineyard Sound (LV-730)" and the US Navy's Minesweeper YMS-409.

The destroyer Warrington capsized and sank in the hurricane on 13 September, just 175 miles east-southeast of Great Abaco Island (Bahamas) during a period of severe storm conditions with hurricane force winds extending out 600 miles (970 km) from the center and waves in excess of 70 feet (21 m) in height.

RAF weathermen directed a No. 111 OTU Squadron Liberator into this hurricane on the 11th, towards the east, where it tracked the hurricane for more than 9 hours flying within the outer fringes around the storm. The Squadron Liberator's crew sent continuous radio reports on the storm's track back to Nassau every 30 minutes.

A second Squadron B-24 was also dispatched into this hurricane on the 11th and flew the storm for over 7 hours into the next day *(12 September)* reporting the storm's course, speed and intensity. The information gathered on the storm prompted the British authorities in Nassau to call for an emergency aircraft evacuation of its bases in the Bahamas later on the 12th. RAF military aircraft flew from the Bahamas out of harm's way to airfields in Florida *(Miami)* and Cuba towards the south.

The storm eventually turned away *(recurving)* towards the north and missed the Bahamas all together and later passed to the far west of Bermuda to presented any viable threat to the island.

In the end, the RAF hurricane reconnaissance flights caught the attention of the Chief of the US Weather Bureau *(Francis W. Reichelderfer)* and with it, the issues that prompted the establishment of the British hurricane flights. After the 1944 hurricane season, the US Weather Bureau Chief met with the British military meteorology liaison officer at the British Embassy in Washington. This meeting prompted another between the Chief of the Weather Bureau and the Duke of Windsor *(who was the Governor of the Bahamas, at the time)* that focused on ways to better coordinate weather reports and hurricane warnings in future. These discussions ultimately led to a teletype circuit established between the US Weather Bureau office in Miami and the British Government in the Bahamas. This teletype circuit subsequently supported the transmission of timely hurricane forecasts and warnings to the British meteorological services in the Bahamas.

The RAF hurricane reconnaissance flight crews were officially commended by the Weather Bureau Chief and there is some indication that the British were asked to participate again in hurricane reconnaissance flights during the upcoming 1945 hurricane season, jointly with US. However, with the issues that prompted the British hurricane flights resolved, there was no further need for the RAF to continue their hurricane reconnaissance operations and there is no indication that RAF aircraft ever participated in hurricane reconnaissance flights in the Atlantic again, during the WWII.

As the unrealized history of hurricane hunting aircraft unfolds *(in near future)*, the discovery of the RAF hurricane reconnaissance flights is a significant component to that revised history. As is the realization that other RAF aircraft additionally flew reconnaissance flights into tropical cyclones in other theaters of operation during the war.

Thus, it is with this new realization that the British RAF are welcomed into that elite fraternity of *"Hurricane Hunters"* and can be recognized in the revised annals of Aviation History as having been one of the very first nations to have ever flown hurricane reconnaissance flights during WWII.