



Missions for
America
Semper vigilans!
Semper volans!

The Coastwatcher

Publication of the Thames River Composite Squadron
Connecticut Wing
Civil Air Patrol

300 Tower Rd., Groton, CT
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LtCol Stephen Rocketto, Editor
srocketto@aquilasys.com
Maj J.Scott Farley, Publisher
Maj Roy Bourque, Paparazzi
Hap Rocketto, 2nd Lt, AUS, (ret'd.), Features
Capt Edward Miller, Features

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12 September, 2017

CALENDAR

See the Squadron Calendar for Meeting Details

19 SEP-TRCS
23 SEP-Scarecrows Festival-Preston
26 SEP-TRCS
30 SEP-Pilot's/Ops Meeting-Hartford
06-07 OCT-AOPA GON Fly-in
14-15 OVT CLC
21 OCT-CTWG Smallbore Rifle Clinic
4-5 NOV-UCC
10 NOV-Armed Forces Nights-Groton Elks
11 NOV-Cadet Ball-Berlin

CADET MEETING

12 September, 2017

Lt Drost initiated a character development session.

SENIOR MEETING

12 September, 2017

Maj Noniewicz discussed hurricane evacuation preparations.

Maj Farley reported details from the last Wing Commander's Call.

The monthly calendar was discussed and plans were made for emergency service training on FEMA downloads and VIRB operations.

ACHIEVEMENTS

The following cadets earned Pro-Markman medals after participating in the 9 September Rifle Safety and Marksmanship Clinic: Ian Diaz, Owen Guilliams, Hayden Kirkpatrick, Daniel Martin, Christopher Munzer, Jack Pineau, and Rhys Thornell. Hannah Ramsey earned the Sharpshooter Bar 4 medal.

Christopher Munzer was promoted to C/SrA and was awarded the Wright ribbon.



Maj Farley assists the Divine Mrs. M pinning senior airman stripes on Cadet Munzer.

C/CMSgt Ryan Schantz completed the requirements for the Armstrong Achievement and was awarded his ribbon.



Cadet Sergeant Schantz reports to accept his Armstrong ribbon.

Matthew Drost, Character Development Officer was promoted to first lieutenant.



WEEK-END RIFLE EVENT

Forty-one people attended the CTWG Rifle Safety and Marksmanship training session held at the Quaker Hill Rod and Gun Club last Saturday. Twenty-seven cadets from Silver City, the 103rd Thames River and New York's Leroy R. Grumman Cadet Squadron earned marksmanship medals.

Shooters from TRCS were Cadets Diaz, Guilliams, Kirkpatrick, Martin, Munzer, Pineau, D. Ramsey, D. Ramsey, H. Ramsey and Thornell. C/Maj Hollingsworth served as one of the four instructors. Lt Col Rocketto was Chief Range Officer.



*Hollingsworth Assists Cadets
Munzer and Ramsey*

AEROSPACE CURRENT EVENTS

Record Setting

Perlan 2 Established New Sailplane Altitude Record.

The research sailplane, Perlan 2, established a new altitude record for gliders reaching 52,172 feet over Argentina.

Piloted by Jim Payne and Morgan Sandercock,

the pressurized Perlan 2 was launched from Comandante Armando Tola International Airport, El Calafate, Argentina.



The Patagonian region in which El Calafate is located in one of the only places on earth where a high altitude polar vortex and mountain waves of the Andes combine. For a few times each year, the conditions are favorable for launching stratospheric glider flights.

*Hinton Sets New Speed Record for an Aircraft
Powered by and Internal Combustion Engine.*

A new speed record over a three kilometer course was set by Steve Hinton, Jr. flying a highly modified Mustang named *Voodoo*.



The new record for an internal combustion powered aircraft, Class C-1e is now an average speed of 531 mph. The fastest of the three laps required for a record attempt was clocked at 555 mph.

AVIATION CHRONOLOGY

13 SEP, 1994-First Flight of Airbus Industries giant *Beluga*, designed to transport Airbus fuselage and wing components from factory to

assembly point.



Loading Airbus fuselages on the Beluga

14 SEP, 1948-The Finnish Air Force retires its last Brewster F2A Buffalo. The Buffalo was obsolescent when the United States entered World War II. Buffalos saw service with the USMC early in the war but were outclassed and suffered heavy losses. However, the Finns used the aircraft successfully in their battles against the Soviet Air Force. Thirty Six Finnish pilots achieved “Ace” status.

(In 1968, while in the Fiji Islands, the Editor met an Australian Buffalo pilot who had been shot down twice during the battle for Singapore.)



The ski-equipped buffalo sports a blue swastika. The symbol is an ancient emblem representing the sun and good luck and bears no relationship to the twisted cross of the Nazis.

15 SEP, 1960-Tasman Empire Airways Ltd. (TEAL) retires its last flying boat, a Short S.45 Solent IV.

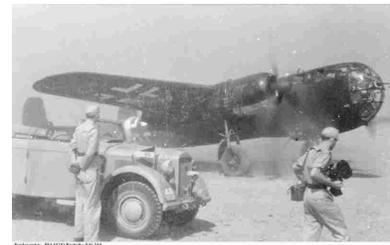


*ZM-AMO
Aparima
Last of the
TEAL Flying
Boats*

16 SEP-1943-The battleship HMS Warspite is badly damaged by German Fritz-X guided bombs while lying off the Salerno beach head.



A Fritz-X Bomb and the specially modified Do-217 from KG100 which carried out the attack.



17 Sept., 1947 The United States Army Air Forces are separated from the United States Army and become an independent armed service, the United States Air Force. The “genealogy of the USAF is as follows:



*Aeronautical Division,
Signal Corps 1907-
1914*



*Aviation Section,
Signal Corps 1914-
1918*

Division of Military Aeronautics 1918

May 20, 1918 – May 24, 1918

No Insignia

*Air Service, U.S. Army
1918-1926*



U.S. Army Air Corps 1926-1941

*U.S. Army Air Forces 1941-
1947*



18 SEP-1984-After a four day flight from Maine, Joe Kittinger lands his helium filled balloon, the *Rosie O'Grady*, in Savona, Italy. The flight marks the first balloon solo of the Atlantic Ocean. Kittinger envisioned and planned the flight while held prisoner in the Hanoi Hilton.

*Rosie O'Grady preparing to
launch from Caribou, Maine.*



19 SEP, 1962-First Flight of the Aero Spacelines Pregnant Guppy. The aircraft, converted from a Boeing 377 Stratocruiser was designed to transport outsized cargo such as components of the Apollo Rocket Program.



*Apollo Rocket
Stage Loading
into the
Pregnant Guppy*

20 SEP. 1946-First Flight of the Martin P4M Mercator. Outwardly powered by two piston engines, the Mercator had two turbo jets mounted in the aft end of the piston's nacelles. Only 21 were built and they found their main employment with VQ-1 and VQ-2, Navy squadrons charged with gathering signal intelligence. Two were shot down and one heavily damaged by Chinese and Soviet interceptors.

*P2V-3 Over
Miami*



Hurricanes

*by
Stephen M. Rocketto*

The Saffir-Simpson scale is used to categorize hurricanes. When a maximum sustained wind is measured at 74 mph, the storm is officially a hurricane. Robert Simpson, Director of the National Hurricane Center and Herbert Saffir, a structural engineers established five categories of hurricanes.

Category One winds range between 74 mph and 95 mph. Trees will be damaged, power outages will probably occur, light structures such as garden storage sheds might be overturned, and roofs may occur shingle damage.

Category Two winds run between 96 mph and 110 mph. Weak structures may be damaged, especially roofs. Trailers can be overturned and anchored boats might break their moorings. Tree and power line damage will result in loss of community electricity.

When the winds hit 111 mph and go as high as 129 mph, the storm is Category Three. Power losses are wide spread and long term, houses are

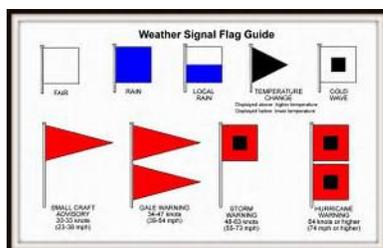
severely damages, and trees might be uprooted. Wind blow debris and a storm surge increase the damage.

Winds between 130 mph and 156 mph can wreck small houses and carry away structures such as sun covers and entrance canopies at businesses. Wave action erodes beaches and shifts sand and the storm surge floods areas, even inland. These Category Four hurricanes have been known to cause enormous casualties.

The 1900 Category Four storm which destroyed Galveston, Texas may have killed over 10,000 people. Carol, the storm referred to below was a Category Four storm. Southeastern Connecticut and the adjoining region of Rhode Island were devastated. The storm surge flooded Norwich. The effects were so pronounced that “Carol” was the first hurricane name retired.

Category Five hurricane winds are greater than 157 mph. Private and industrial building collapse. Forests and orchards are denuded. Flooding and wide damage is, in many cases irreparable.

As a twelve year old, I developed an interest in weather, provoked no doubt by the meteorological forecasts which I listened to on my short wave radio. The weather warning flags at the U.S. Coast Guard Station at Fort Trumbull were visible from my bedroom. It was 1954 and a hurricane was headed up the coast. The weather signal flags at the U.S.Coast Guard Station at Fort Trumbull were visible from my bedroom and when I saw that that a pair of square red flags with square black centers had been hoisted, I laid out my plans.



I had read that you could actually lean into the 64 kt winds of a hurricane and not fall over. I had

also read about the huge waves generated by such a storm and what 12 year old boy could resist such a tempting surf. I had a date with a capricious lady named Carol.

My cunning mind knew that my mother would not go along with my plan to front nature's fury. Heck, she did not even like it if I wanted to gambol in a summer rain shower. The expedition had to be covert. I told her that I would make my storm headquarters in my room and follow the events on my old Hallicrafter shortwave. As the storm moved towards maximum intensity, I made my move. My mother was occupied with housewifely duties and the CBS radio soap operas as I slipped out the front door. I couldn't don my slicker and galoshes since they were kept in the back hall and she would see me so I just had my summer garments and my Brooklyn Dodger baseball hat for protection from the elements. The cold wind driven rain lashed at me as I made my way down the hill, across Caulkins Park and the New York, New Haven, and Hartford railroad lines to the waterfront along Pequot Avenue. What a sight! The storm surge has pushed the water up and over the Thames embankments and the street was flooded. Boats, large boats, had been driven over the street and were now aground on the inland side. Piers were smashed and the strand of Green Harbor Beach was submerged. I was impressed. Now I knew there was danger afoot. Mostly, I was worried about fallen electrical wires because my failed boyish experiments with electricity had already taught me about the invisible dangers of household current. What I did not know was that rain was not the only substance which the wind drove through the air. I noted that various solid objects, tree branches, the components of boats, and household construction materials were airborne.

Mother Rocketto did not raise a complete fool. I beat a hasty retreat along my original path. Reaching home, I peered through a window and noted that my mother was still in the living room with my younger brother and sister, knitting and power having been lost, listened to the portable radio. Shivering from the cold and from fear of discovery, I surreptitiously entered the house and

silently crept up the stairs to my room, utilizing all of the skills of stalking which I had learned in Cub Scouts. I quickly stripped my sodden garments and donned dry clothes. Unfortunately, for some reason, my mother had made a round of the house and noticed the trail of water which I had left from the front door, up the steps, and directly into my room. She was most unhappy with me. My punishment was extreme. She didn't even yell at me but just gave me that "I am disappointed with you" maternal look which mothers have mastered through the ages. And since I couldn't be trusted alone in my room, I had to sit in the living room with her, my younger brother and baby sister, help her wind yarn, listen to soap operas like "The Romance of Helen Trent." Working on the "yarn detail" and having to listen to the CBS soap operas was punishment enough. What was worse, I realized that in my excitement, I had forgot to lean into the wind and see if it would support me against the force or gravity.

The media has been flooded with reports about the damage wreaked by Hurricane Harvey on the Gulf coast and it has been touted as the worst ever natural disaster to strike the United States and if the inflated 2017 dollar is taken as the measure, they may be correct. But consider the loss of human life. Harvey's death count is around 60. Now take a look at some hurricane history. In 1900, Galveston was struck and flooded and the death toll is estimated at 10,000 lives. In 1928, Florida's Lake Okeechobee Hurricane killed 2,400 human beings. The 1938 Hurricane which devastated New England took about 500 lives. Carol's count is about equal to Harvey. Traveling further afield, the 1970 typhoon which struck the Ganges-Brahmaputra Delta in what is now Bangladesh took between 300,000 and 500,000 lives!

Read the accounts of the storms which occurred in the first half of the 20th century and one quickly becomes aware of the many orders of magnitude of progress which we have made in locating storms, predicting their future locations, and warning the threatened populace. The 1900, 1928, and 1938 storms were tracked over water

by their occasional and somewhat random sightings by ships and their passage over islands. Aircraft reconnaissance did not become common and organized until the 1950's and satellite imagery had to await the 1960's.

Meteorological satellites, radars, a vast network of surface weather stations, good public communications, and aircraft reconnaissance are some of the factors that have mitigated the death count in the United States. My deep interest in aviation has led me to research the literature about the use of aircraft to track hurricanes, popularly known as "hurricane hunting." Currently, the United States effort is lead by the "hurricane hunters" of the U.S. Air Force Reserve and the National Oceanic and Atmospheric Administration. But this was not always the case.

During World War II, an Eastern Airline pilot active duty with the Army Air Corps made the first deliberate penetration of a hurricane. Col. Joseph Duckworth ran the Air Corps school for training instrument flight instructors. In order to prove the further usefulness of instrument flight and the toughness of the aircraft, he flew an North American AT-6 Texan through a hurricane and into the eye on 27 July, 1943 just to the north of Galveston, Texas.



*Col Joseph
Duckworth
(Credit: Frank
Passic)*

On 14 September 1944, Col Lloyd Woods deliberately flew a Douglas A-20 Havoc into the eye of a hurricane. Aboard were meteorologists Army Air Force meteorologists Major Harry Wexler and Lt Frank Record. Departing Washington, they entered the storm off Chesapeake Bay and discovered the strong upward air currents on the edge of the eye and the

strong downward air currents around the storm's perimeter.



Dr. Harry Wexler

Wexler went on to become director of meteorological search for the weather bureau. He was an early promoter for meteorological applications of radar, sounding rockets, airborne observations, and satellites.

In December of 1944, Admiral William Halsey's Third Fleet encountered a typhoon, the North Pacific name for a hurricane, which sank three destroyers, wrecked 150 aircraft, and killed almost 800 sailors. Nine ships, including five aircraft carriers, were severely damaged and their services were lost to the war effort.



US Navy photos of storm damage to USS Hornet and USS Pittsburgh.



"Halsey's Typhoon" led to an intensified effort by the United States Navy to increase weather

reconnaissance flights and improve the techniques for gathering and analyzing data and promulgating the information to the fleet.

The Navy efforts were somewhat fragmented with no special units tasked to perform the mission. Different types of aircraft from different bases acted ad hoc in the weather reconnaissance role. Then Patrol Bomber Squadron 114 (VPB-114) out of Miami received the assignment using their Consolidated PB4Y Privateers. The squadron name changed but in 1952, Navy Weather Squadron (VJ-2) was commissioned, the first to bear a "weather" designation. Within a year, the Privateers were replaced with the Lockheed P2V Neptune.



US Navy photos of Privateer and its Neptune Successor



In 1955, the WC-121N entered the arena. The aircraft was a militarized Lockheed Constellation which carried sufficient radars to gather wide range data about storms. Ultimately, the Navy flew the Lockheed Hercules and the Lockheed Orion until budget cuts resulted in the disestablishment of WV-4, the last Navy weather reconnaissance squadron. The Air Force assumed the duties and became and is now, the sole military unit of "hurricane hunters."

away for Curtis LeMay's Strategic Air Command.



WC-121N



Air Force WB-50 (Credit: Picciani Collection)

Air Force involvement began in 1943 with Duckworth's unauthorized penetration of the eye of a hurricane. In 1947, the Air Force placed its aviation weather services under the Military Air Transport Service (MATS). MATS flew a wide variety of aircraft to accomplish its mission, many of them from World War II surplus stocks. These included the Douglas A-20 Havoc, Boeing B-17 Flying Fortress, North American B-25 Mitchell, and Boeing WB-29 Superfortress.



A line of WB-47E aircraft at McClellan AFB. One wonders how they got them away from Curtis Lemay?



A war surplus Navy PB-1W (Boeing B-17) and a WB-29.

(credit: US Navy and George Wintermute)



These were replaced by post-war aircraft. The Boeing WB-50 flew weather missions from 1951-1956 and was superseded by the Lockheed WC-121N which was employed until 1973. For six years, in the '60s, the six engine turbojet Boeing WB-47E Stratojets were used by MATS. It must have taken an act of God for MATS to get these

In 1963, a Lockheed U-2 investigated Hurricane Ginny. But like the WB-47E, there was no penetration to the depths of the storm due to questions about the viability of the structures of each of these aircraft: the fragility of the U-2 and the pod mounted engines on the Stratojet. The Martin WB-57F Canberra was also utilized but for high altitude photography only. Its long wings made it, like the U-2, unsuitable for storm penetration.



An illustration of the damage caused by turbulence. Both tip tanks were ripped off the wings of this WC-121. (US Navy Photo)



*The WB-57E was a rebuild of the B-57 and designed for high altitude. It cruised at approximately the same altitude as the U-2.
(NASA Photo)*

One knows that an event is important if they make a movie about it or crown a beauty queen. So it is with hurricane hunters.



The 1949 Richard Widmark movie is the adventure of a Navy aviator who steals a Grumman Mallard and deliberately flies into a hurricane. He saves Miami, uncovers a drug operation, crashes, survives, and gets back his girl. A good day's work!

Right: Janet Oliver, Miss Hurricane Hunter, 1963 poses with a MATS B-47E at ironically, Hunter AFB.



The WC-130A entered the inventory in 1965 and since that time, it has been the Air Force choice for entering hurricanes. The A model was followed by the B, E, and currently, the H.

Today, United States efforts to survey Atlantic hurricanes from aircraft is being carried out by the U.S. Air Force Reserve's 53rd Weather Reconnaissance Squadron. They fly the specially equipped Hercules out of Keesler Air Force Base near Biloxi Mississippi. Their primary mission is to acquire data for the operational meteorologists in order to predict the tracks and landfalls of tropical storms and hurricanes.



The current hurricane hunter aircraft, the Lockheed C-130H (Credit: USAF TSgt James B. Pritchett)

The Air Operations Center of the National Oceanic and Atmospheric Administration operates a small fleet whose primary purpose is scientific research. These aircraft carry nose art depicting Muppets. Two Lockheed WP-3D Orions, *Ms Piggy* and *Kermit* have carried out the bulk of the work. A Gulfstream V-SP, *Gonzo* joined the fleet in 1997. This new aircraft can fly at higher altitudes than the Orions and collect previously inaccessible data, such as the upper air steering winds which influence the course of hurricanes.



NOAA's Gulfstream and Orion fly together for a publicity shot. (Credit: NOAA)



Miss Piggy's Mission Marks

Part of the story of the Navy effort is chronicled in H. J. Walter's *Wind Chasers: The History of the U.S. Navy's Atlantic Fleet "Hurricane Hunters."* Walter's book is a typical unit history, short on science but long on detailed accounts of missions and personnel. Walter spent three years with Airborne Early Warning Squadron 4 so his first hand account has an authoritative cachet.

For a wider account of the early days of aerial storm chasing, I would recommend that you take a look at Ivan Ray Tannehill's 1955 volume, *The Hurricane Hunters*. Tannehill spent 40 years as a meteorologist and he provides a summary of 20th century storms and a reasonably broad account of the first decade and a half of airborne hurricane investigations. Additionally, he has a nice set of photographs of air views of storm phenomena such as surface waves and some photos of crews at work in both air force and navy equipment.

In 2002, David Toomey's *Storm Chasers: The Hurricane Hunters and Their Fateful Flight into Hurricane Janet* appeared. In January of 1955, Commander Grover Windham and his crew of eight flying a Lockheed P2V-5F, mission code name Snowcloud 5, departed Guantanamo Bay, Cuba and entered the maw of Hurricane Janet. They were never seen again. This incident was one of the very rare instances of the destruction of a "hurricane hunter" aircraft and Toomey's account of the mission is both gripping as well as informative. He provides sufficient background on hurricanes, personnel, and aircraft so that the reader is presented with a yarn, well balanced in human interest, scientific knowledge, and technical detail.



A painting of Snowcloud 5 on its last mission. Snowcloud 5 is one of six hurricane hunter aircraft which have been lost with 56 crewmen.

Snowcloud 5 was the only hurricane hunter which disappeared in the Atlantic. Five others were lost in the Pacific. In October of 1945, a Navy PB4Y-2 went missing in a category one typhoon over the South China Sea. Seven years later, the Air Force WB-29 went down in Typhoon Wilma, category 5, east of the Philippines. In 1953, Typhoon Doris claimed a Navy PB4Y-2S someplace in the vicinity of Guam. This aircraft was the only lost hurricane hunter found. The aircraft crashed on Batan Island but all six crewmen died. The waters near Guam took a second hurricane hunter, an Air Force WB-50 during Typhoon Ophelia. And the South China Sea claimed a second victim during Typhoon Bess, an Air Force WC-130H. However, no aircraft have been lost in the last 40 years.

Follow-UP Readings

The Long Island Express: Tracking the Hurricane of 1938 by Roger K Brickner with David M. Ludlum.

Eric Larson's *Issac's Storm: A Man, A Time, and the Deadliest Hurricane in History*.

Killer "Cane: The Deadly Hurricane of 1928 by Robert Mykle

Follow-up information may be obtained from the listed web sites:

<http://www.nhc.noaa.gov/> (*The National Hurricane Center*)
<http://www.hurricanehunter.com/> 53(rd Weather Reconnaissance Squadron)

<http://www.hurricanehunters.noaa.gov/> (*NOAA Aircraft Operations Center*)