



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
<http://ct075.org>

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CALENDAR

See the Squadron Calendar for Meeting Details

06-07 OCT-AOPA GON Fly-in
10 OCT-TRCS Meeting
14-15 OCT CLC
17 OCT-TRCS Meeting
20 OCT-Elks-Law and Order
21 OCT-CTWG Smallbore Rifle Clinic
24 OCT-TRCS Meeting
31 OCT-TRCS Meeting
4-5 NOV-UCC
10 NOV-Armed Forces Nights-Groton Elks
11 NOV-Cadet Ball-Berlin



(Credit: Ellen Levy Finch)

ANNUAL FRUIT SALE

Our annual citrus fruit fundraiser is in progress. Our supplier has assured us that sufficient quantities of the quality fruit which we com to expect are available.

Navel oranges, pink grapefruit, and mixes of both will be sold in 20 and 40 lb boxes at \$30 and \$40 respectively. The sale ends on November 7th so all cadets and seniors are requested to start immediately and turn in receipts weekly.

Please do your utmost to contribute. We need an all-hands turnout to be successful. Last year, 40% of the membership did not participate and 10% of the membership sold 50% of the fruit!

Squadron expenses for utilities, maintenance, the cadet program, and van fuel are around \$6,000 per year. About \$1,000 comes from grants. Senior squadron dues contribute \$2,500. Cadets pay no squadron dues.

We need a minimum of \$3,000 profit on the fundraiser. If each squadron member sells five cases, we can exceed the \$3,000 minimum and use the funds to enhance our programs.

Let us all make a maximum sales effort.

CADET MEETING

03 October 2017

C/Maj Daniel Hollingsworth spoke about the importance of goal setting as a function of leadership.

A demonstration using Alcohol Impairment Goggles were made manifest the dangers of drunkenness.

Maj Farley spoke about the cadet role in the upcoming regional Aircraft Owners and Pilots Association (AOPA) meeting which will take place at the airport over the weekend. The squadron will supply the color guard, display a CAP Cessna 182, and assist with parking.

Lt Col Rocketto explained the procedures which cadets must follow during the fruit sale. Sales material was distributed.

Two aircraft operations issues were discussed. The first was the use of lighting to improve aircraft visibility, both during ground and air movements.

A second session dealt with techniques of leaning the engines of the C172 and C182 aircraft which CTWG operates. Procedures were discussed and pertinent segments from the POH manuals were distributed.

Col James Ridley, CTWG Commander, reported the the US Coast Guard is “very happy” with the CTWG work on the Long Island Sound Patrol.

Ridley also noted that new aircraft are scheduled for our regional fleet but that a reallocation plan has not yet been announced.

And then there is what the RAF call bumf. Air Force missions must be authorized at Wing level. Form 5 and 91 flights must be authorized by Standards/Evaluation.

TRCS has two Flight Release Officers, Majs Farley and Noniewicz

SENIOR MEETING

03 October, 2017

Lt Col Doucette moderated the meeting.

Lt Heard reported on our role in the upcoming AOPA meeting. Lt Col Valleau, CTWG Chief of Staff, spoke about assistance from other squadrons.

Lt Col Rocketto explained the procedures which cadets must follow during the fruit sale. Sales material was distributed.

UAV TEAM MEETING

submitted by

Lt Adam Spreccace

The team developing the operational manual and doctrine for the CTWG Unmanned Aerial Vehicle (UAV) met on Saturday last at Brainard Airport. Four TRCS members serve with that group: Lt Col Rocketto, Maj Bourque, and Lts Spreccace and Pineau.

Chief Instructor Lt Jay Lavoie from Meriden conducted a session introducing the team to the vehicle, its camera and computer system, and its operational limitations.

The four foot wide aircraft has six rotors, each one foot in diameter and carries a 10 pound payload. Nine of them are under test by Wings scattered around the United States.

PILOTS' MEETING

submitted by

Lt Adam Spreccace

A Wing Pilots Meeting was held on Saturday, the 30th of September. The meeting was chaired by Thames River member, Lt Col Jon deAndrade, Wing Director of Operations. Other TRCS attendees were Majs Keith Neilsen and Roy Bourque and Lt Adam Spreccace.



Lavoie demonstrates the controls. The active sections of the UAV remained in the rear of the van since it could not be flown at Brainard.

The UAV's typically mission is aerial photography and can be pre-programmed to fly specific patterns. Its standard camera is capable of taking approximately 1,000 pictures in 15 min. Pictures are then combined into a large mosaic image using "QGIS" post-processing software and Google maps. Pre- and Post-flight checklists are required when using the UAV.



Maj Bourque practices drone operations with the laptop simulator.

Team members were also introduced to the laptop based simulator system. The computer simulations and small 180QX UAVs which have been supplied will be used to practice before flying the CTWG UAV

WHERE ARE THEY NOW?

Father Daniel Mode, CAPT, USN, Chaplain Corps

Father Mode has spent the last year and a half toiling away in The Pentagon and now claims he can navigate around the Pentagonal Labyrinth. However, he looks forward to getting back to the fleet.



Father Mode, a real skypilot, in the cockpit of a Stearman.

Last month, he was promoted to Captain. One of those present at the ceremony was Captain Paul Flynn, USCG, the father of former TRCS cadet Brendan Flynn.

In May, he celebrated 25 years of priesthood with a trip to Rome and celebrated a private Mass with Pope Francis.

He notes that he gets some flights in with friends who own planes in the Capital area and enjoys flying seaplanes.

Cadet Sgt Michael Molinari



Cadet of the Year Molinari receives a magnetic compass from Lt Col Kinch.

Michael was a very active member of the Squadron and won the Cadet of the Year Award. He was what the Army calls a "dog robber," an individual whom you could count on to manage to secure anything the unit needed.

An early leader in digital electronics, he now works for a national technological firm and is very active in privately exploring the latest ideas in the field.

His current project is the development of the Autodrop3d printer, an open source platform

which allows continuous operation without human interaction.



Michael in the MakerSpace shop demonstrating his 3d printer.

You can find a video of Michael and his amazing machine on You Tube at:

<https://www.kickstarter.com/projects/mmiscool/autodrop3d-unmanned-continuous-3d-printing>

AEROSPACE CURRENT EVENTS

Boeing-Bombardier Dogfight

The sale of 75 Bombardier CS300 regional airliners to Delta Airlines has led Boeing to claim that the aircraft price was well below production costs due to 3.5 billion dollars in Canadian government subsidies. The U.S. Department of Commerce recommends a 220% tariff on the Canadian aircraft.



(Photo Credit: Reuters)

The trade dispute involves not only the United States and Canada but Great Britain. Bombardier's plant in Northern Island produces the wings for the CS300.

If the tariff is imposed, Canada is threatening to cancel a \$5 billion dollar purchase of Boeing's F/A-18 Super Hornet.

AEROSPACE HISTORY

Is Aluminum a Tornado Magnet?

Back in June, a tornado struck Offutt Air Force Base (AFB) in Nebraska and damaged ten aircraft: eight RC-135s and two E-4Bs. The RC-135 family are specialized reconnaissance aircraft capable of on-site real time intelligence collections. At this time, six of them have been repaired.



*E-4B, the "Doomsday Aircraft"
(Photo Credit: USAF)*

The E-4B is a militarized Boeing 747-200. In case of national emergencies, if ground command and control centers are destroyed, the aircraft will serve as a mobile command post. When the tornado alert sounded the E-6Bs were moved to a hangar which was too small to the entire aircraft. The tails were left exposed. High winds weather vanned the the aircraft and damage resulted from collisions with each other and the hangar. There are only four of these aircraft and two of them are airworthy and on-duty.

The news item aroused old memories about air bases which have been struck by tornadoes. One wag suggests that aluminum is a "tornado magnet" which accounts for the phenomenon of tornado damage to aircraft and trailer parks. But there is a history of recurrences of air bases and aircraft damaged by tornados.

One might expect that this is a hazard which the Air Forces faces. Good weather and flat terrain are attributes which the Air Force seeks out to establish bases and two regions of the country have more than their share of air bases and are perfectly located in regions conducive to the thunderstorms associated with tornados.



*Compare this map of tornado active regions with the locations of USAFB opposite.
(Photo Credit: Don Craggs Wiki Commons)*

Tornado Alley encompasses South Dakota, Nebraska, Oklahoma, Kansas, and Texas and The Bible Belt, the southeast quarter of the nation from the east coast to Texas and south of the Ohio River

In March of 1948, Tinker AFB, Oklahoma got hit by two tornados, five days apart. Heavy damage to aircraft resulted in 160 million dollars of damage corrected for inflation.

The climatic conditions which spawn tornados are well known and the tornado prone regions previously mentioned are perfectly situated. However, predicting a storm is a dicey matter.

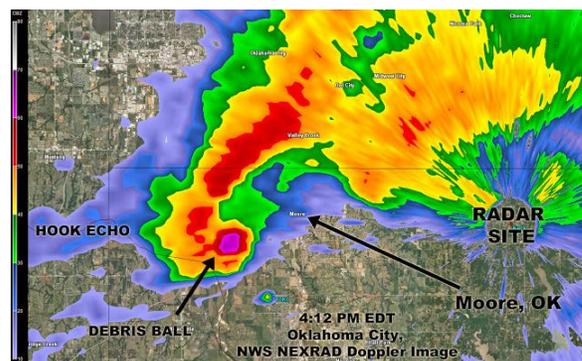


Superforts Tossed About at Tinker

Springtime, March through June is tornado season although the storms can occur at any time of year. In the spring, warm humid air moves north from the Gulf of Mexico. At the same time, hot dry air from the southwest moves over the flow from the Gulf. These two air masses are then overlaid by cold polar air and the conditions for tornado generation are set. This sets the stage for thunderstorm development and violent weather.

The concept of weather fronts was developed by the Bergen School of Meteorology during World War I. The name was adopted because the clash of differing weather masses was analogous to the clash of different armies in Europe.

The warm front moves north and interacts with the cold front moving south. At the same time, warm dry air is moving east and frontal thunderstorms develop. The interaction of varying air temperatures and moisture, updrafts and downdrafts, and vorticity.



The "hook echo" is characteristic of a supercell thunderstorm spawning a tornado.

Arguably the most damaging tornado in Air Force history struck Carswell AFB, Texas on the first of September, 1952. Carswell was the home base of the 19th Air Division's 7th and 11th Bomb Wings equipped with the Convair B-36 Peacemaker. It was also the site of the Convair plant which manufactured them.



Two 85 ton Peacemakers tossed about like a child's model airplanes.

A total of 83 aircraft were damaged, one beyond repair. Seventy-two were on the flight line and 10 aircraft at Convair were effected. Two thirds of the Strategic Air Command's bomber force was put out of action! Within a month, a herculean repair effort made the 11th Bomb Wing Operational and returned 31 other aircraft to service. The last of the damaged aircraft returned to duty in May, six months later.

In April of 1953, Warner-Robins AFB, Georgia. Only two people were killed, one of whom was a amateur photographer named Vince Rupert. He was killed by flying debris as he made of of the first motion pictures of a tornado. In April of 2016, Warner-Robins was hit again.

Perrin AFB, Texas was struck on on Patriot's Day, April 19th, 1957. There was little damage and no loss of life. Notably, a video of the storm may have been the first color film of a tornado.

The New England Air Museum is not an Air Force Base but the on October 3rd, 1979, a tornado swept through Bradley International Airport and destroyed many of the priceless aircraft.

Oklahoma's Altus AFB is particularly attractive to tornados. It has been struck at least five times. In

the 1982 storm, two C-5A Galaxies were pushed together.



Galaxies Nuzzling

On the 26th of April, 1991, McConnell AFB in Kansas. There was lots of property damage but the twister just missed a line of B-1 bombers.

If you visit McConnell you can bowl in Tornado Alley, watch the Tornado basket ball team play, and afterwards, repair to Emerald City, the base club for refreshments.

Florida's AFBs have had their share of tornado strikes. Tyndall, 2003, Eglin, 2008, and McDill, 2013 have all been struck in the fall. Florida tornados are associated with hurricanes and the large number of thunderstorms prevalent. In both cases, damage was light.

Barksdale AFB in Bossier City, Louisiana took a hit on April 9th, 2009 but damage was limited to the west gate of the field.

Three C-130s were damaged in April of 2011 when a tornado struck Little Rock AFB, Arkansas. Over 100 houses on the base were damaged.

And there is one report of a tornado touched down at Anderson AFB, Guam. 2013 was a year of very high typhoon activity in the Pacific and the tornado was most likely associated with a typhoon.

The United States is a world leader in tornado activity with about 1,000 each year. Canada is second with about a dozen, Eh! But tornados are highly unpredictable and can strike anywhere.

CAP's safety program warns you against huddling with a herd of cows under the single tree in the pasture during an electrical storm. Perhaps there should be a warning about huddling with a squadron of planes on the flight line.

SOME HISTORIC & UNUSUAL AIRCRAFT

This summer, the Editor had an opportunity to visit some aircraft museums in England and photographed some historic and unusual aircraft.

Vickers Vimy



The British Science Museum in London houses the Vickers Vimy bomber in which John Alcock and Arthur Brown made the first non-stop transatlantic flight, Newfoundland to Ireland, in 1919.

Gloster E28/39



The Science Museum also displays the Gloster E.28/39, the first British jet aircraft to fly. The aircraft used Sir Frank Whittle's W.1 centrifugal flow engine. Its first flight was on May 15, 1941. This was some 18 months after Germany flew the Heinkel 178 powered by an engine designed by Hans Ohain.

Saunders-Roe SR.A/1



At the end of WWII, both the British and US Navy developed prototype jet fighters capable of operating off water. The Saunders-Roe design utilized the traditional flying boat hull. Convair developed a delta wing aircraft which took-off and landed on hydro skis. The difficulty in maintaining a water bound aircraft, the corrosive effects of salt water, and the rapid development of land based jet fighters spelled *finis* to both projects. The only surviving example of the SR.A/1 sits on its beaching gear in the Sky Solent Museum, Southampton.

General Aviation GAL.49 Hamilcar



Paratroopers are lightly armed and if they face armored units, such as Arnhem, they face disaster. The largest British glider in WWII, the Hamilcar was capable of delivering a light tank or anti-tank artillery into the landing zone. Shock absorbers on the nose could be lowered so vehicles could load and unload from the nose hatch. The only surviving example is in the Museum of Army Flying in Middle Wallop, Hampshire.