



Missions for
America
Semper Vigilans!
Semper Volans!

The Coastwatcher

Official Publication of the Thames River
Composite Squadron
Connecticut Wing
Civil Air Patrol
[300 Tower Rd., Groton, CT](http://ct075.org)
<http://ct075.org>

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Issue 11.44

05 December, 2017

CALENDAR

*See the Squadron Calendar for Meeting
Details*

09 DEC-TRCS SAREX
12 DEC-TRCS Meeting
16 DEC-Wreaths/Elks
19 DEC-TRCS Meeting/Holiday Party

02 JAN-TRCS Meeting
09 JAN-TRCS Meeting
16 JAN-TRCS Meeting
23 JAN-TRCS Meeting
30 Jan-TRCS Meeting

FRUIT

The fruit sold for the fundraiser arrived at Grasso Tech and was transferred to TRCS.

The transfer from Grasso was completed with

the participation of 15 TRCS members: Cadets Wischman, Hannah Ramsey, Benjamin Ramsey, Simmons, Hollingsworth and senior members Thornell, Brightman, Richards, Spreccace, Doucette, Bourque and Rocketto,

The entire operation was completed in under three hours during which time the team moved 237 cases of fruit weighing about 3.5 tons.

Most of the fruit was distributed after the meeting. Customers who need to pick up their fruit will be notified by whomever made the sale.

Pick-up time will be Saturday, 10 AM to 1 PM and Sunday, 10 AM to 1 PM.

CADET MEETING

05 December 2017

Cadets engaged in GES & ICUT testing.

Lt Schmidt and SM Guilliams led the cadets in a leadership activity. A typical activity supplied the cadet teams with a number of common objects and they were challenged to decide what features were unique to each group.

SENIOR MEETING

05 December, 2017

Officers developed an operating plan for the squadron training exercise on December 12th.

TRAINING REPORTS

FIRST AID/CPR

02 December, 2017

submitted by Maj Farley

Last Saturday, Maj J. S. Farley and C/2dLt Ryan Schantz joined 11 other Capsters at a First Aid/CPR training course in Salem CT, sponsored by Lt Tina Trotochaud from the Danielson squadron.

Attendees learned and practiced techniques for

adult, child and infant CPR. They also learned how to use the Automatic External Defibrillator, (AED) a portable device that checks the heart rhythm and can send an electric shock to the heart to try to restore a normal rhythm. AEDs are used to treat sudden cardiac arrest, commonly known as a heart attack.



C/2dLt Schantz (center) practices the fine art of applying a dressing and bandage to stop bleeding

(Photo: Maj Farley)

The First Aid portion of the class covered the required techniques to handle different types of injuries, including bleeding, fractures, stroke, shock, and low blood sugar conditions in those afflicted with diabetes. The First Aid/CPR qualification is good for two years at which point one must retake the course to maintain qualification. This course satisfies the Basic First Aid requirement for the GTM3 and FLM qualifications.

*CTWG UAV CADRE
03 December, 2017*

The CTWG Unmanned Aerial Vehicle (UAV) cadre met at Meriden-Markham Airport on Sunday. LtCol Rocketto, cadre leader, and Lts Pineau and Spreccace represented TRCS. Maj Borque was absent since he was running urban direction finding training in Groton.

CTWG is one of eight wings selected to investigate the uses of camera equipped UAVs in the prosecution of our assigned missions.

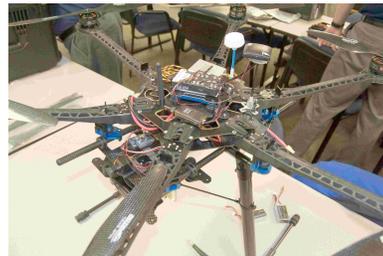
The cadre consists of eight CTWG officers with a wide range of specialties who will

develop a training and operational plan for the wing.



Lts Pineau and Spreccace are on the left engaged in the UAV assembly. Capt Burrows, Maj Kruzshak, and Lt Lavoie observe.

After discussing administrative issues, the officers assembled the UAV, a half-hour process. The aircraft was not flown but plans have been made for flight practice starting in January.



The Assembled UAV

The officers then gathered around a computer and practiced flying a simulated drone according to instructions appearing on the screen. In practice, field operations will require a minimum crew of two, pilot and computer operator.



Spreccace holding the simulated UAV between two green lines which repeatedly shift position.

The meeting adjourned after miniature drones which can be used for practice flying were distributed to some of the cadre.

MISSION PILOT TRAINING

2 December, 2017

Lt Schmidt continued training for the mission pilot rating. Maj Noniewicz flew as training officer in the right seat. Schmidt practiced a number of CAP search patterns which Noniewicz recorded on his iPad. The stored record was used to determine the quality of the flight.

TRCS UDF TEAM

03 December, 2017

On Saturday, Maj Roy Bourque and Lt Steven Schmidt taught a course for seven squadron members who are striking for an Urban Direction Finding qualification.

SM Jennifer Thornell and cadets Rhys Thornell, Rob Guilliams, Owen Guilliams, Jack Race, Dan Martin, and Christopher Munzner attended. SM Martin provided snacks.

Basic tasks were covered: communications procedures, use of the CAP grid system, logging data, operation of the L-Per radio direction finder, and how to perform an airfield ramp check.

CURRENT EVENTS

SOFIA

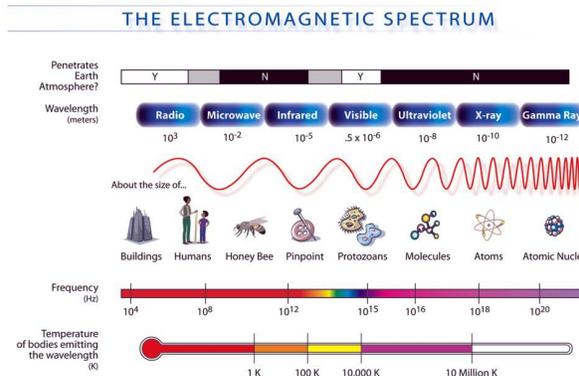
Mirabile dictu!

SOFIA is the acronym for Stratospheric Observatory and Infrared Observatory, a term coined by NASA (the National Acronymic Society of America?). Over two decades, the on-again, off again program has been flying a retired Boeing 747SP, formerly *Clipper Lindbergh*, outfitted as an astronomical observatory to observe infrared radiation sources in space. What is “wonderful to behold” is that SOFIA has a budget surplus and NASA is asking Congress permission for a budget cut, a rare event indeed.



Infrared radiation is found just below the red portion of the electromagnetic spectrum and is associated with heat. It is invisible to the human eye but its effects are not. Imagine a sunny summer day driving down a blacktop road. The visible distortions of distant objects are commonly attributed “heat waves.” What is actually being observed is the result of invisible ultraviolet energy from the sun which has been absorbed by the blacktop and is being re-radiated as infrared energy. The infrared is invisible but it warms the air near the surface of the road causing it to become turbulent which in turn rapidly and randomly changes the path of the light.

The picture below is a simple presentation of the features of the electromagnetic spectrum.



Some of the incoming energy from space is visible, notably light. Much of the incoming energy from space is invisible to the human eye is short-wave, energy on the opposite side of the visible spectrum, just beyond blue.

The atmosphere is opaque to these short waves and also blocks the infrared “light.” Water vapor and dust are primary causes of this blockage. So, to study infrared radiation from space requires that the instruments be placed at high altitude, above the water vapor/dust level.

Once above 39,000 feet, the aircraft is above 99% of the atmospheric water vapor. Hence, SOFIA which normally cruises at 43,000 feet.

The aircraft is a long-range version of the 747 and heavily instrumented but has an unusual modification. A 172-inch-wide by 226-inch-tall door is located on the plane's left side. A telescope with an eight foot mirror is placed behind the door inside an unpressurized compartment.



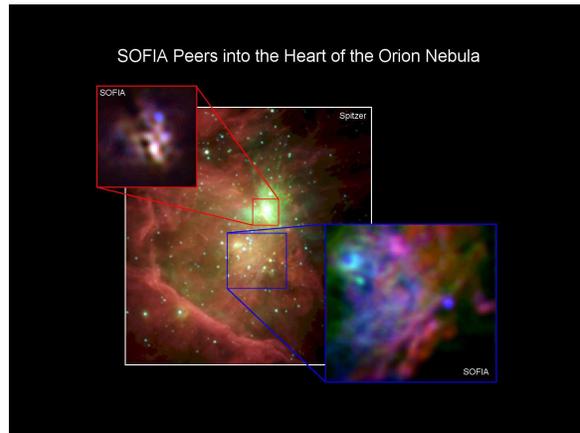
A view of the SOFIA telescope
(Credit: NASA)

When the plane reaches the optimum observational altitude, the door opens and the telescope can be aimed to collect infrared radiation from either an astronomical object or from the background radiation of space. The port door location is deliberate. The aircraft flies west on its mission and this slows the relative motion of the objects which are being observed. Think how a westward flight arrives early in local time due to the earth's rotation.



This is an image, in visible light, of the familiar M42 nebula in Orion, easily seen with the naked eye as a "milky" smudge below the three stars in Orion's "belt." The variable red giant Betelgeuse is visible to the upper left and the double star Rigel is the bright blue object on the right bottom.

Credit: Skatebiker with a Canon F/1.8 lens)



A SOFIA image overlaid with an image taken from the Spitzer Space Telescope of M42 nebula in Orion. (Credits: SOFIA image - James De Buizer / NASA / DLR / USRA / DSI / FORCAST; Spitzer image - NASA/JPL)

A mission lasts for ten hours. The flight crew consists of captain, first officer, navigator, and flight engineer. The 21 members of the science staff are housed in the upper deck behind the cockpit.

The aircraft is based in California during the winter and in New Zealand during the northern hemisphere summer. NASA is allied with the *Deutsches Zentrum für Luft- und Raumfahrt*, abbreviated DLR, the German center for flight and space travel with which they share data and operating costs. An average flight hour costs \$100,000. And then there is the cost of maintaining the personnel and infrastructure to do the data analysis. NASA's share of the annual budget is 85 million dollars and the DLR contributes 20 million.

AVIATION HISTORY & AEROSPACE CHRONOLOGY

07 DEC-, 1942 – First flight of the Bell P-63 King Cobra. The King Cobra never saw combat with the USAAF but over 3,000 were shipped to the Soviet Union and performed successfully.

The two most interesting variants in U.S. service were the P-63 "Pinball" and the L-39. The P-63G "Pinball" was a flying target. Critical areas were armored and gunners fired at it with frangible bullets. When the bullets

struck, the impact was recorded and a red light mounted on the prop spinner illuminated.



A "pinball" P-63

Two King Cobras were modified by Bell for the Navy and rebuilt with swept wings in order to investigate the aerodynamics of swept wings at low speeds.



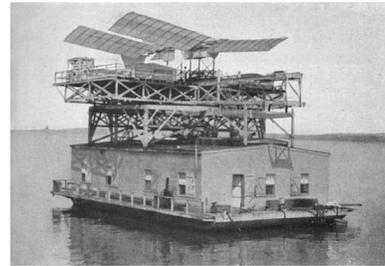
Swept Wing P-63
(Credit: USN)

08 DEC. 1903 – The Langley Aerodrome fails to fly for the second time. Samuel Pierpont Langley was the a noted astronomer and secretary of the Smithsonian Institution.

Langley experimented with flying machine designs for six years. During this time he received \$70,000 in grant money from the War Department and the Smithsonian.

He was supported in his work by his test pilot mechanic, engineer and inventor Charles Manly who piloted the first two attempts at manned powered flight.

The aircraft was launched from a houseboat on the Potomac River but both experiment failed. The newspapers ridiculed Langley and Congress was not amused. Just about a week after the last failure, the Wright Brothers flew successfully at Kitty Hawk.



(Credit: Wright Brothers.org)

About a decade later, Glenn Curtiss modified Langley's Aerodrome and successfully flew it off the waters of Lake Keuka. The Smithsonian then gave priority on "first flight" to Langley and displayed the Aerodrome in the Museum labeling it as the "first heavier than air manned powered aircraft capable of flight."

The Wright Brothers were not amused and this triggered a feud which lasted until the 1940's when the Smithsonian admitted the Wrights were first and the Wright Flyer was brought back from England and put on display in Washington.

Wing and a Prayer Department

09 DEC, 1937 – During air combat in China, PO3/C Kanichi Kashimura Imperial Japanese Navy, flying a Type 97 Clause collides with a Chinese Curtiss Hawk and loses the outer third of his port wing. He returns to base and on his fifth attempt at landing crashes but walks away unharmed.



The picture above was taken during in approach to landing.

He achieves fame in Japan as the pilot who flew a plane with one wing. Kashimura earns Ace status but goes West six years later when

he is shot down by a U.S.M.C pilot.

Thirty-seven years later, January 10th, 1985, a Boeing B-52 flown by a Boeing test crew led by Charles Fisher encountered extreme turbulence which tore the horizontal fin and rudder off the aircraft. Fisher regained control and managed a safe landing six hours later.



<http://www.bing.com/videos/search?q=b-52+missing+vertical>

On June 18th, 2009, Israeli pilot Zvi Nadivi flying an F-15E collided with an A-4 Skyhawk during an aerial combat maneuvering exercise. The starboard wing of the F-15D was destroyed. The wing damage was not visible from the cockpit.



Nadivi resorts to traditional "pilot talk" to explain what happened.

Zvi and his navigator were ordered to bail out but refused and managed to guide the aircraft to a safe landing. Zvi was demoted for failing to obey orders and immediately promoted for saving the aircraft.

<http://www.bing.com/videos/search?q=f-15+lost+wing>

10 DEC, 1941 – The British Battleship *H.M.S Prince of Wales* and the Battle Cruiser *H.M.S. Repulse* are sunk in the South China Sea by Japanese torpedo planes and bombers. Twice before, capital ships had been sunk by aircraft, at Taranto and Pearl Harbor. However they were moored. This is the first occasion when underway capital ships were sunk by aircraft. The day of the battleship draws to a close.

The Japanese Attackers



G3M Nell



G5M Betty

The Royal Navy Targets



*HMS Repulse
departing
Singapore
(Credit: Imperial War
Museum)*



*HMS Prince of Wales (Credit: Australian War
Memorial)*



Bombs straddle Repulse (Credit: USN)

In an unusual tribute, the next day, a Japanese aircraft overflies the site and drops a floral tribute to both the Japanese and British dead. Today, a Royal Navy vessel renders honors when passing near the wreckage of the *Repulse* and *Prince of Wales*.

11 DEC 1941– John Gillespie Magee, Jr. "slipped the surly bonds of earth" for the last time and goes West in a mid-air collision. McGee was an American flying for the Royal Air Force and the author of the poem *High Flight*.



Mcgee in a Spitfire

An accomplished poet, he received much of his early education in England, the land of his mother but just before WW II broke out he returned to the United States. He spent his final preparatory school year at Connecticut's Avon Old Farms and won a scholarship to Yale but never enrolled.

Shortly after the Germans invaded Poland, he joined the Royal Canadian Air Force, received elementary pilot training and was dispatched to England where he completed his training and was promoted to pilot officer and assigned to fly Spitfires. McGee was 19 years old when he died.

12 DEC 1951 – First Flight of the de Havilland of Canada's DHC-3 Otter. The Otter was an extraordinarily bush plane and displayed its versatility on wheels, floats, and skis and is flying with turbo-prop engines



Harbour Air Turbo Otter on floats taxis to its dock in Vancouver, Canada.

The NU-1B is the oldest military aircraft in the U.S. inventory and the Navy's oldest aircraft. This particular aircraft served with the Navy in Antarctica. In 1966, she was transferred to the Navy's Test Pilot School, Patuxent River, Maryland.



(Credit: Karl e. Hayae Collection)

The Army was the largest user of Otters. This Otter was photographed in Groton in the '70s.



The Air Force also used the Otter and transferred some of the to the Civil Air Patrol.

