



Missions for
America
Semper vigilans!
Semper volans!

The Coastwatcher

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

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Issue 10.31

04 October, 2016

CADET MEETING

04 October, 2016

The first part of the meeting was devoted to physical training.

Former cadet commanders Drew Daniels and Brendan Flynn presented information about life as a cadet at a military college and the path to filing an application. They also discussed CAP's contribution to their success at the Coast Guard Academy.

Planning and announcements about the fruit sale

and future events were discussed.

SENIOR MEETING

04 October, 2016

Maj Farley led a TRCS staff conference meeting.

The upcoming Groton Fair manning and time schedule was discussed.

Veteran's Day affair participation at the Groton Elks is scheduled for 11 November. Cadets will present the colors and serve as the dining room staff.

Maj Noniewicz scheduled orientation flights for 26 October. He reported that in the first eight months of 2016, CTWG flew 1900 hours. TRCS has the third highest time of logged flight.

Lt Pineau reported progress in establishing the Squadron website.

SQUADRON FUNDRAISER



Uncle Steve Wants You to Sell Fruit

The fundraiser has entered its second week. Orders are slowly coming in but we need a maximum effort in the next two weeks. Do not wait until the November 1st cut-off date!

Please turn in each week's sales in one of the issued white envelopes to Lt Poe or Major Lintelmann so that Maj Noniewicz can generate a master list of sales, sellers, and varieties of merchandise.

| October 2016 | | | | | | |
|--------------------------|------------|-----------------------------|-----|-----|-----|---------------------------|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| 1/2 Traex CI Month | 3 | 4 Meeting | 5 | 6 | 7 | 8 Groton Fair Rifle |
| 9 | 10 Col Day | 11 CC CALL | 12 | 13 | 14 | 15 |
| 16 OFlight | 17 | 18 Meeting | 19 | 20 | 21 | 22 LISP ST WD |
| 23 LISP | 24 | 25 Meeting | 26 | 27 | 28 | 29 |
| 30 | 31 Hlwn | Sell Sell Fruit Sale | | | | |

| November 2016 | | | | | | |
|-------------------|-----|-----------------------|-----|------------|---------------------|--------------------------|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| Fruit Sale | | 1 Meeting | 2 | 3 | 4 | 5 Cadet Ball Rifle |
| 6 | 7 | 8 Election CC CALL | 9 | 10 | 11 Veterans ELKS | 12 Traex |
| 13 | 14 | 15 Meeting | 16 | 17 | 18 | 19 CLC |
| 20 OFlight CLC | 21 | 22 No Mtg | 23 | 24 Thksgvg | 25 | 26 |
| 27 | 28 | 29 Meeting | 30 | | | |

| December 2016 | | | | | | |
|---------------|-----|------------------------|-----|-----|-------|--------------------------------|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| | | | | 1 | 2 | 3 UCC |
| 4 UCC | 5 | 6 CC CALL | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 Holiday Party | 14 | 15 | 16 | 17 Oflight |
| 18 | 19 | 20 No Meeting | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 No Meeting | 28 | 29 | 30/31 | April OpsEval SLS Mar 11/12 |

| New Year- New possibilities | | | | | | |
|-----------------------------|-----|---------------|-----|-----|-----|---------|
| SUN | MON | TUE | WED | THU | FRI | SAT |
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 Meeting | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 CC CALL | 14 | 15 | 16 | 17 |
| 18 OFlight | 19 | 20 Meeting | 21 | 22 | 23 | 24 LISP |
| 25 LISP | 26 | 27 Meeting | 28 | 29 | 30 | |

Excellence

| Date | Senior | Cadets |
|------|---------------------------|---|
| 1 | Traex Startford | |
| 4 | Staff Mtg | Staff Mtg, Program Development (civ) |
| 8 | | Groton Fair POC Richards |
| 11 | Commanders Call/Pilot Mtg | Drill, CD, Flight Time, Promotions (Blue) |
| 18 | AE - AEO Rocketto | PT, DDR, Guest Speaker (PT) |
| 25 | ES - AP | Drill, leadership, guest speaker (BDU) |

Integrity

| Date | Senior | Cadets |
|-------|-----------------|---|
| 1 | Staff Mtg | Staff Mtg |
| 11 | | Elks |
| 5 | | Cadet Ball- Formal |
| 8 | Commanders Call | No School; No Cadet Meeting |
| 19/20 | | CLC Class Hartford |
| 15 | ES - Winter Ops | Drill, Guest Speaker, Promotions (blue) |
| 22 | | No Mtg |
| 29 | Open training | PT, DDR, Flight Time (PT) |

Volunteer Service

| Date | Senior | Cadets |
|------|------------------------------|--|
| 3/4 | UCC Course Stratford | |
| 6 | Commanders Call | Drill, CD, PT, admin, flight time (PT) |
| 13 | | Holiday Party |
| 20 | Staff Conference Call (2000) | Staff conference Call (1900) |
| 17 | | Oflights |

Respect

| Date | Senior | Cadets |
|------|--------|--------|
| 3 | | |
| 6 | | |
| 10 | | |
| 13 | | |
| 17 | | |
| 18 | | |
| 18 | | |
| 20 | | |
| 24 | | |
| 27 | | |

USCGA CADETS VISIT

Two former TRCS Cadet Commanders, both members of the Class of 2017 at the US Coast Guard Academy attended the cadet meeting and met with cadet and senior members. Brendan Flynn and Drew Daniels are now first class cadets at the Academy and are distinguished by their accomplishments.



Flynn and Daniels

Drew Daniels is majoring in naval architecture and marine engineering. He is working on the redesign of USCG inland construction tenders and is studying the lifetime fuel consumption for the life cycle of computer designed ships. He writes music and is commander of the regimental band.

Brendan Flynn is studying marine and environmental science. He earned his private pilot certificate at TRCS and will be a contestant at the National Intercollegiate Flying Association at West Point later this year. He is applying for military flight training

Both Flynn and Daniels were Mitchell awardees and cadet commanders.

GENESIS & DISSIPATION OF HURRICANES

The Caribbean and South Atlantic oceans are prone to develop hurricanes after the oceanic warming during the summer. Everyone knows that “heat” flows from hot regions to cold regions. The cooling of a hot cup of coffee and the warming of an iced soda demonstrate this phenomenon. When two objects are at the same temperature, the thermodynamic state is called

“thermal equilibrium.” A hurricane is one of nature's way to establish thermal equilibrium on the earth. Let us look at a typical north Atlantic hurricane.

The earth is not heated evenly. Tropical regions receive more solar energy so the surfaces get hotter than middle and high latitude regions. The Second Law of Thermodynamics states that hot objects give up their thermal energy to cold objects, a process which continues until thermal equilibrium is achieved.

North of the equator, specifically north of the inter-tropical convergence zone, five or 10 degrees north latitude and during the summer, the water warms and evaporation occurs. A second law of physics, the Law of Conservation of Energy states that in any system, the quantity of energy remains constant although it may take different forms. When the solar energy evaporates the liquid water, the gaseous water stores the energy. This is called the latent heat of evaporation. As the warm air rises, it reaches the dew point and converts to liquid droplets, the latent heat of condensation. The stored energy is released and under the right conditions, the heat can create instability, evaporating the droplets aloft. The process repeats itself.

Meanwhile, the warm region at the surface develops into a low pressure area. This is because a given volume of warm air is less dense than an equivalent volume of cold air. Think about priming a fireplace flue. Heating the flue reduces the density of the air inside the flue. The cooler and more dense room temperature air flows into the fireplace and an upward draft is created which forces the smoke up the chimney. In the case of our potential hurricane, surface air flows into the low pressure center, more evaporation takes place so more energy is stored and then released when the moist warm low pressure air rises.

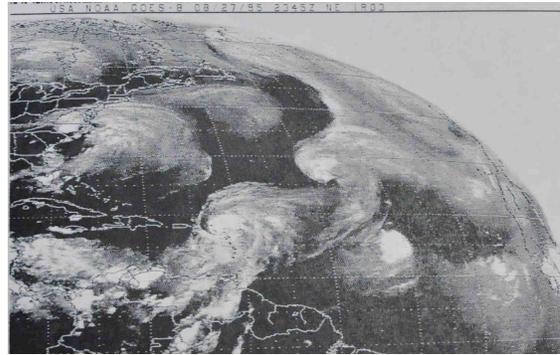
The flow of air into the center of the nascent hurricane turns to the right, counter-clockwise, due to the Coriolis effect, a “force” introduced by the rotation of the earth. Another law of physics comes into play, the conservation of angular

momentum. Think of a whirling figure ice skater increases her rotational speed by bringing her arms close to her body. The air which is drawn into the center travels a shorter circular distance than the air which is further out. This means that the winds strengthen towards the center of the low pressure area. When the winds reach 74 mph, the storm is classified as a category one hurricane.

As the storm moves west and north under the influence of the trade winds it might or might not gain energy from the ocean. A warmer ocean leads to a gain in energy and an increase in wind speeds. By now, the storm has assumed the circular cloud pattern with a central low pressure “eye.” Warm air at the center is pushed aloft by descending cold air on the outer edges of the storm. Now the rising air comes under the influence of the Coriolis effect and turns to the right, clockwise, and moves outward, to the periphery of the storm. It also cools and sinks and under the right condition a feed back loop leads to more flow in at the surface, more upward movement of moist air with its concomitant release of energy, more instability, more rising warm air, cooling, outward flow, and descent. If the process continues, the hurricane strengthens and the wind speed might go to 160 mph or higher.

Over land, the hurricane no longer has the enormous source of energy of a warm ocean so it gradually diminishes in strength. Sometimes, the hurricane, does not reach the land. It pushes northward and eastward into the temperature zone where the water is cooler and of course, the storm diminishes in strength. Under the influence of the Coriolis Effect, it also turns right, eastward, towards Europe but generally its winds are much reduced before it makes landfall.

The following picture is a kind of a “time lapse” history of a “hurricane. One of the most active hurricane seasons in recorded history occurred in 1995 during which 21 storms developed. In August of that year, the genesis, maturity, and remnant of five different hurricanes were visible in a single satellite image.



A 2345Z GOES-8 water vapor image on 27 October reveals five centers of activity. From east to west (right to left), the five named storms are visible. Luis is forming in a tropical depression of the west coast of Africa. Karen and Humberto are in mid-ocean. Iris is tracking north along the U.S. east coast and the remnants of Jerry are headed east towards Europe. Although these are five different storms, their average paths and development are typical of hurricane paths and formation.

So, in general, a hurricane forms over warm North Atlantic water, moves west and north until it either makes landfall in the Americas or reaches the cooler northern waters and starts move east under the influence of the prevailing easterly winds

“Conservation” is now so commonly used that it has become a catch-word. Conserve the forests, energy, endangered species, species not so endangered, rangelands, historic sites, and a host of other natural phenomena or artifacts of man has almost become a mantra. However, it is worth noting the “conservation” is practiced by the physical environment without the intervention of mankind. Energy, thermal, kinetic and potential, and angular momentum are conserved in nature, sometimes to the short-time detriment of man such as a devastating hurricane. But if the processes at work on the earth did not tend towards thermal equilibrium, then the tropics and temperate zones would be uninhabitable. The prices to pay to create an inhabitable environment are tornadoes, blizzards, heat waves and of course, hurricanes. There is no free lunch in nature.