Inside Wallops

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A "Hot Tower" Above The Eye Can Make Hurricanes Stronger

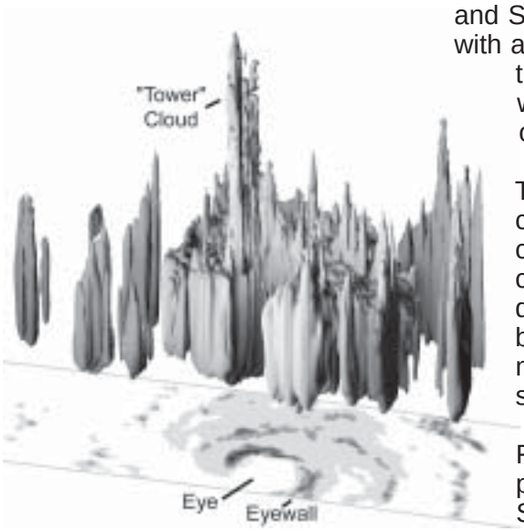
They are called hurricanes in the Atlantic, typhoons in the West Pacific, and tropical cyclones worldwide; but wherever these storms roam, the forces that determine their severity now are a little less mysterious.

NASA scientists, using data from the Tropical Rainfall Measuring Mission (TRMM) satellite, have found "hot tower" clouds are associated with tropical cyclone intensification.

Owen Kelley and John Stout of NASA's Goddard Space Flight Center and George Mason University recently presented their findings at the American Meteorological Society annual meeting in Seattle.

Kelley and Stout define a "hot tower" as a rain cloud that reaches at least to the top of the troposphere, the lowest layer of the atmosphere. It extends approximately nine miles high in the tropics.

These towers are called "hot" because they rise to such altitude due to the large amount of latent heat.Water vapor releases this latent heat as it condenses into liquid.



An unusually deep convective tower in Hurricane Bonnie as Bonnie intensified

A particularly tall hot tower rose above Hurricane Bonnie in August 1998, as the storm intensified a few days before striking North Carolina. Bonnie caused more than $1 billion damage and three deaths, according to the National Oceanic and Atmospheric Administration (NOAA) National Hurricane Center.

Kelley said, "The motivation for this new research is that it is not enough to predict the birth of a tropical cyclone. We also want to improve our ability to predict the intensity of the storm and the damage it would cause if it struck the coast."

Work has already shown hot towers increase the chance a new tropical cyclone will form. Future work may use this association to improve forecasts of a cyclone's destructive potential.

To achieve their goal, Kelley and Stout needed to compile a special kind of global statistics on the occurrence of hot towers inside tropical cyclones. The only possible data source was TRMM satellite, a joint effort of NASA and the Japan Aerospace Exploration Agency.

"Many satellites can see the top of a hot tower, but what's special about this satellite's Precipitation Radar is that it gives you 'X-ray vision' so you can see inside a hot tower," Kelley said. To compile global statistics, the radar needs to be orbiting the Earth.

After compiling the statistics, Kelley and Stout found a tropical cyclone with a hot tower in its eyewall was twice as likely to intensify within the next six hours than one that lacked a tower.

The "eyewall" is the ring of clouds around a cyclone's central eye. Kelley and Stout considered many alternative definitions for hot towers before concluding the nine-mile height threshold was statistically significant.

Funding for the research was provided by NASA's Earth Science Enterprise.

For more information about the research and images on the Internet, visit:
http://www.gsfc.nasa.gov/topstory/2004/0112towerclouds.html

For information about the TRMM Satellite on the Internet, visit:
http://trmm.gsfc.nasa.gov
http://www.eorc.nasda.go.jp/TRMM

Wallops Fire Department Receives Well Deserved Recognition

The Wallops Fire Department (WFD) was recently recognized for its support to Conectiv and the Town of Chincoteague following Hurricane Isabell.

WFD provided equipment and personnel to assist in washing salt off the town's power lines, thus preventing electrical outages.

Wallops Fire Department Photo

Conectiv Accounts Manager Dan Oliver (right) recognized Fire Captain, David Allen (second from left), Firefighter, Will Hamilton (center) and Firefighter, Chris Borris (not shown). Also present for the recognition event was Wallops Emergency Services Division Manager Chuck Chesser (left) and EG&G Manager Clayton Wetzel (second from right).

A Salute to NASA's Active Duty Reservists

By Sean O'Keefe, Administrator

Throughout this year I have mentioned the tremendous debt of gratitude that all Americans owe to our men and women in uniform. In the past year, our military helped to liberate the people of Iraq from a brutal tyrant and carried forward the battle against terrorism around the world.

Within the NASA family, 26 of our fellow workers put their lives on hold this year to serve overseas in active military reserve units. Others have honored their reserve commitments here at home. Given all their responsibilities, I think it is remarkable that these men and women have gone the extra mile to serve their country.

President Bush has directed that all federal employees returning from Reserve or National Guard duty in the continuing Global War on Terrorism be granted five days of excused absence. NASA is very pleased to adhere to this policy.

"Home to Work" Policy for Government Vehicles

A final rule on NASA's Home-to-Work policy for use of Government vehicles has been issued.

The rule will allow employees to be issued vehicles (depending on availability), at the close of the working day preceding the start of the travel period and immediately commence travel from their residences on the next day.

Likewise, if employees are scheduled to return after working hours, they can take the vehicles to their residences and return them on the next regular working day.

This new rule applies only when the employee is using a Government vehicle for official travel and the official authorizing the travel determines that there will be a significant savings in time.

An example would be when the travel time between the traveler's residence and temporary duty station is significantly shorter than travel time between the Center and the temporary duty station.

Home-to-Work authorizations must be documented on travel orders.

Advance vehicle reservations with a copy of the travel Orders must be submitted to the motor pool dispatch office (Building D-1, Extension 4357).

This rule does not apply to transportation unrelated to official travel (i.e., transportation from home to work required for the performance of field work still requires the approval of the administrator).

Wallops Shorts……..

Launches

A NASA Terrier-Black Brant sounding rocket was launched from White Sands Missile Range, N.M., on January 16.

The payload was an experiment to perform solar system exploration. Preliminary indications are that good data was obtained. The payload is being recovered.

Dr. Alan Stern, Southwest Research Institute, was the principal investigator. Jay Scott, NASA Sounding Rocket Operations Contract, was the mission manager.

On the Road

Ed Parrott, Wallops Teacher-On-Loan, participated in a Career Day event at Stephen Decatur Middle School, Snow Hill, Md., on January 13.

An Evening of Entertainment

The Wallops Exchange and Morale Association, Morale Activities Committee and the Wallops Black History Club present

"50th Anniversary Celebration of Brown v. Board of Education"

A special evening of dinner and entertainment at the Cropper Center

February 21, 2004
5 p.m. to Midnight

Tickets are $25 per person and must be purchased by February 13

For tickets and more information contact:

Rebecca Beach, x1559
Karen Downing Lewis, x 2163
Freda Johnson, x1466

Wallops Auto Club

The Wallops Exchange and Morale Association, Morale Activities Committee, Auto Club is a resource for employees to work on their personal vehicles and equipment, exchange knowledge and experience with like minded coworkers, and to serve as a center to share specialized tools and resources. Activities are conducted during non-duty hours.

Although the club is prohibited from doing work for profit, fund raising can be done by holding classes, sponsoring car shows, participating in races, etc.

The Wallops Auto Club has access to a four-bay garage with power and water available.

Club tools include an engine hoist, hydraulic press, arbor press, drill press, and transmission jack.

Currently, the club is being operated informally with no-cost scheduling and use of the facility.

Volunteers are needed to improve the facilities, sponsor activities and make this a more active organization.

For further information or to join the Auto Club, call Will Mast on x1468 or email:
William.R.Mast@nasa.gov

Thank you!

Blood Donors

Thank you, Wallops, for responding to the American Red Cross appeal for blood donations. Once again the Wallops community stepped forward to share with others.

The Red Cross goal of 35 units was exceeded. Forty productive units were obtained.

The Red Cross had hoped to send more staff so that the wait time of donors would be alleviated. This did not happen as illness has also affected their staff.

On behalf of the American Red Cross, the Health Unit thanks you very much for taking the time to give for the benefit of others.

Leave Donor

My heartfelt gratitude goes to the anonymous leave donor who gave me leave during my recent illness and hospitalization.

I guess I'll never know who you are, but your kindness will always be remembered.

Thank you. Janie Penn

IFM Program Training, Workshops, and Open House

January 21 and 22
All activities take place in Building E-104, Room 308

Activity 1:
Core Financial Reports Workshop
January 21 – 9 a.m. to Noon
January 22 – 1 to 4 p.m.

Activity 2:
Budget Formulation Business Warehouse Training
January 21 – 1 to 3 p.m.

Activity 3:
Open House
January 21 – 8 to 9 a.m.
January 21 – Noon to 1 p.m.
January 22 – 8 a.m. to 1 p.m.
January 21 and 22 – 4 to 6 p.m.

To register contact Kevin Tesler by email: kevin.tesler-1@nasa.gov or by telephone: (301) 614-7018.

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