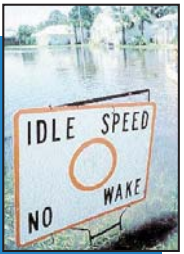




Hurricane evacuation map shows safe locations

4



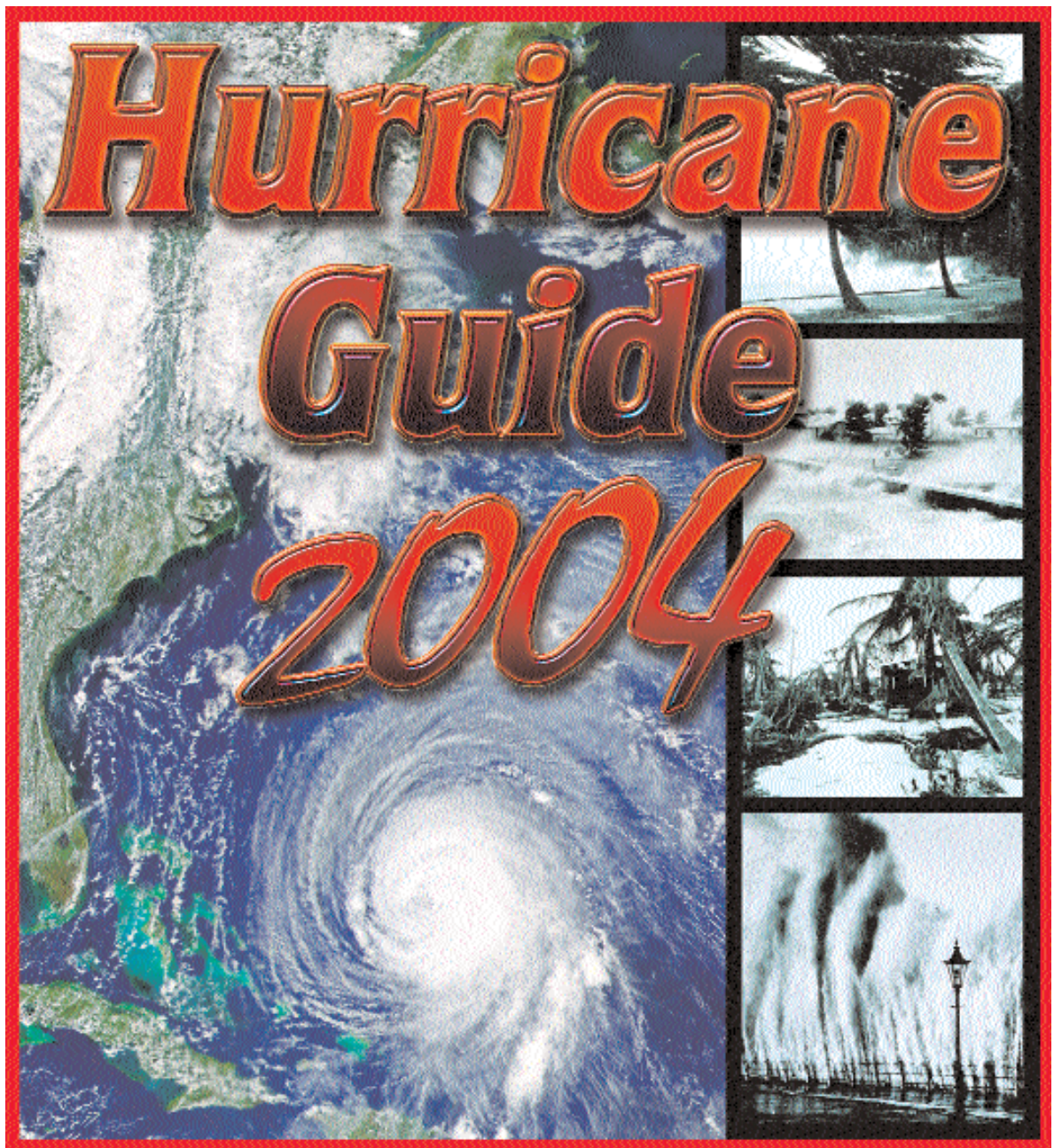
Flooding, not surge, leading cause of death

12



Big waves prove big problems for surfers

17





By Brig. Gen. Greg Pavlovich
45th SW commander

What a scorcher! If the launch of the 101 Critical Days of Summer wasn't enough of a reminder for you that summer is upon us, the high temperatures of Memorial Day weekend and this week's thunderstorms surely were. Mother Nature has given us a lot to think about this week, and reinforced many of the topics discussed during our Safety Day.

First, the thunderstorms remind us that – for all its beauty – the Space Coast can be a dangerous place when storms roll in. We are the lightning capital of the United States with an average of 7,500 strikes per year – and all it takes is one to be deadly.

The best thing to do is seek shelter. Large enclosed structures tend to be much safer than smaller or open structures. Of course, just because you are inside a building doesn't mean you are completely safe. No place is absolutely safe from the lightning threat, but you can minimize the risk. Do not use the telephone, take a shower, wash your hands or dishes while lightning is occurring. Avoid contact with conductive surfaces with exposure to the outside such as metal door or window frames or any wiring.

Mind the 30/30 rule. If the amount of time between when you see lightning and hear thunder is 30 seconds or less, seek shelter. Wait at least 30 minutes after the last lightning flash before leaving shelter.

Despite the lightning danger, this week's storms were a welcome relief. The drought index shows us at dangerous levels at Cape Canaveral Air Force Station and Patrick Air Force Base. This means conditions are ripe for fire. As such, we need everyone to take special precautions when out and about. Properly extinguish cigarette butts and other combustibles. Thoroughly soak barbecue charcoal in water before throwing it away. Travel only on paved roads if at all possible – catalytic converters on cars can ignite dry grass. All it takes is a spark to start a fire in these conditions and the dry, windy conditions can mean disaster.

That's what happened at our Malabar Tracking Annex on Memorial Day. A fire started in an empty lot down in Palm Bay and quickly spread, jumping a street and a canal and penetrating the perimeter fence at the annex. It took several hours and about 100 firefighters from around the county – including some of our own – to extinguish the flames.

In all, the fire impacted seven of our antennas that provide back-up communication support for the Eastern Range. We have several poles to replace and some rewiring to accomplish, as well as a coaxial cable to reinstall. That will take about 10 days and \$15,000. It could have been much worse, but thanks to our proactive Space Gateway Support technicians and the diligence of the firefighters, no one was hurt and none of the buildings on the annex were damaged.

And, of course, the last reminder Mother Nature offered this week is the official start of the hurricane season. To help you prepare, we've put together this special issue of the Missileer. It is intended to be your guide and help you learn what you need to know and do to be ready.

Remember, preparation does not start when the base declares HURCON IV or local authorities issue a Hurricane Watch. As we discussed at the Safety Day, you need to have materials ready and – most importantly – a thorough plan for yourself and your family. There are important steps to take whether you end up weathering a smaller storm in your home, or if you have to evacuate.

Keep in mind that because we are located on a barrier island, an evacuation might be deemed necessary for a lower category storm than you might think. We work closely with county officials to ensure the safety of our personnel. The most important thing you can do is be ready no matter what circumstances unfold.

Start preparing now. What supplies do you need? What documentation do you need to have at your fingertips? How do you stay in contact with the base and relatives? This special issue will guide you in answering those questions and more, but only if you make the effort. Please do ... and share this information with new personnel in your unit who will be joining our organization as the season is underway. Historically, mid-season is when we see hurricane season activity in the Atlantic.

Now, I hope I haven't scared away recruits

or visitors. Somehow I doubt it. There is a reason the Space Coast is the destination of choice for so many travelers. Next week we're pleased to welcome General Lance Lord, commander of Air Force Space Command, and about 20 community leaders from the Front Range.

They are on an orientation tour for a hands-on look at Air Force operations. I'm sure they will gain a new appreciation for our space mission and a deeper understanding of how space is integrated into all facets of the Air Force from their visit here and other Florida bases. I'm sure they'll be impressed with the historic and scenic place we call home.

But what I know will impress our visitors most is the outstanding caliber of people they'll witness as they see our mission at the Cape and visit our facilities at Patrick. I'm here every day and I'm still impressed. And how could I not be? I started off the week alongside KSC director Jim Kennedy and Cape Canaveral Spaceport Management Office Executive Director Susan Kroskey presenting more than a hundred Star Performer Awards to personnel who worked on the Joint Base Operations Support Contract statement of work. Together we recognized the folks who put this one-of-a-kind support contract in place – a synchronized action success model!

We also started off the week with good news from the Air Force Eubank Team, which was here evaluating our outstanding Services Squadron. The team handed out a number of certificates and team awards and took away with them 18 best practices from our 45th SVS. Wow! Talk about a unit that 'gets it'!

I know many of you were looking forward to the launch of the Delta II GPS tonight, but a problem with a hydraulic pump and some other issues have delayed us slightly. We're working toward a launch next week, but safety is always the main consideration and we won't launch until we're 100 percent ready.

Thanks to all who've been working these issues so diligently and, as always, thanks to everyone for the critical work you do for our Air Force every day. God bless!



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Weather experts predict above average season

By William Roeder
45th Weather Squadron

The Space Coast area expects another above average hurricane season this year. Dr. William Gray, the well-known hurricane season prognosticator at Colorado State University, predicts a season of 45 percent above normal.

In his May 28 forecast, he predicted 14 named storms, eight hurricanes and three major hurricanes (category 3 or greater).

This compares with an average of 10 named storms, six hurricanes and two major hurricanes. This was the same as his April 2 prediction. While these forecasts don't predict the number of land-falling storms that will hit the United States, the more storms that occur, the greater the chance that the Space Coast will be threatened.

The National Oceanic and Atmospheric Administration began issuing independent hurricane season forecasts in their current format in 2001. Their May 17 forecast is consistent with Dr. Gray's prediction with a season 100-160 percent of average, 12-15 named storms, six to eight hurricanes and two to four major hurricanes. Dr. Gray will update his 2004 hurricane season outlooks on Aug. 6, Sept. 3 and Oct. 1 and will be available at www.hurricane.atmos.colostate.edu/forecasts.

The NOAA forecast will be updated Aug. 10 and will be available at www.cpc.noaa.gov/products/outlooks/hurricanes.html.

- Named storms - 14
- Named storm days - 60
- Hurricanes - 8
- Hurricane days - 35
- Major hurricanes (Category 3-5) - 3
- Major hurricane days - 8
- Hurricane destruction potential index* - 100

* Hurricane destruction potential measures a hurricane's potential for wind and storm surge destruction defined as the sum of the square of a hurricane's maximum wind speed for each six hours of its existence.

Estimated probability of landfall

Coastal Region	Tropical Storm	Cat. 1-2	Cat. 3-5
Florida plus East Coast	58%	59%	52%
Gulf Coast	68%	53%	40%
Entire U.S.	87%	81%	71%

Courtesy of Colorado State University

45th Space Wing Hurricane Conditions (HURCON)
Destructive winds of 50 knots or greater are possible within:

HURCON IV
72 hours

HURCON III
48 hours

HURCON II
24 hours

HURCON I
12 hours

Hurricane categories

Category	Knots	MPH	Surge (ft.)
1	64-82	74-95	4-5
2	83-95	96-110	6-8
3	96-113	111-130	9-12
4	114-135	131-155	13-18
5	> 135	> 155	> 18

A hurricane watch is issued when there is a threat of hurricane conditions within 24 to 36 hours.

A hurricane warning is when hurricane conditions are expected in 24 hours or less.

Hurricane Guide 2004

Evacuation routes

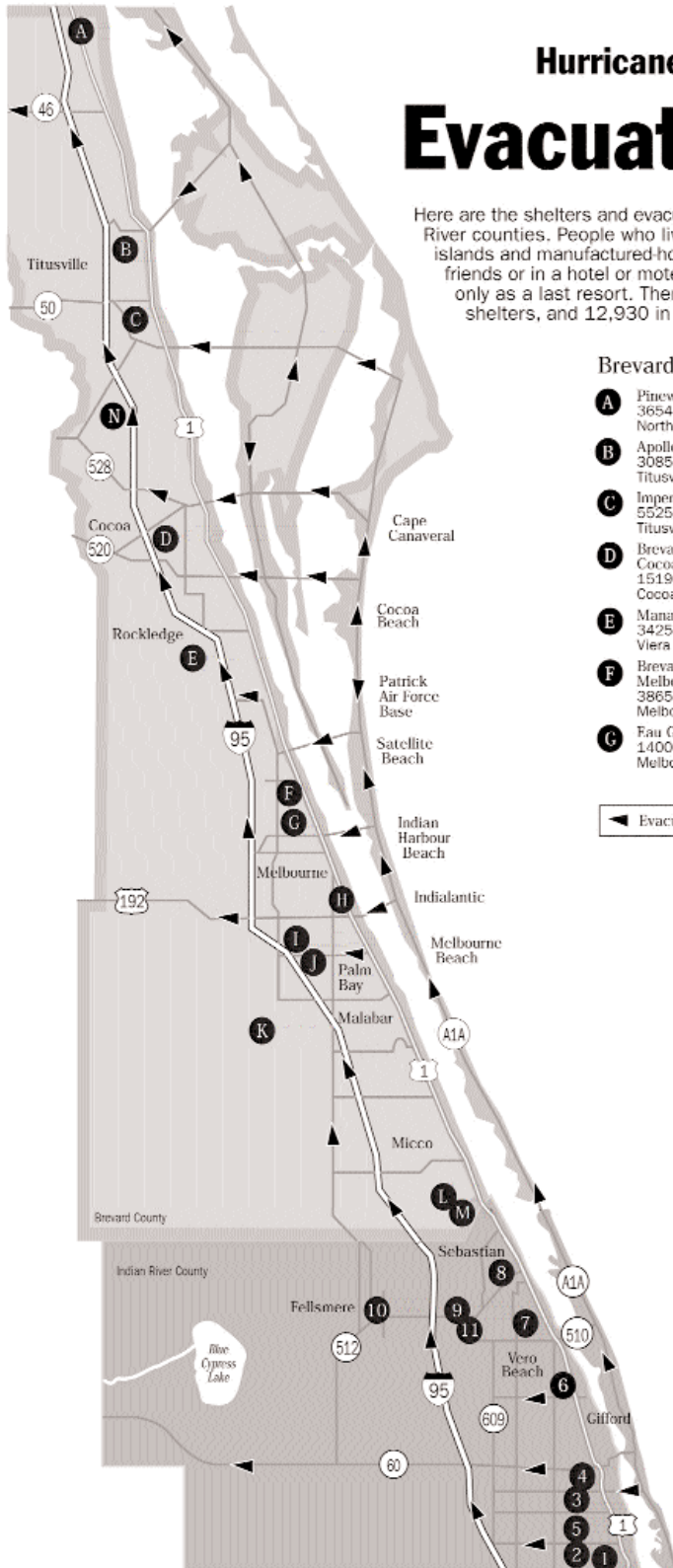
Here are the shelters and evacuation routes by region in Brevard and Indian River counties. People who live in high-risk areas, such as the barrier islands and manufactured-home communities, should stay with relatives, friends or in a hotel or motel on the mainland. Shelters should be used only as a last resort. There is room for 26,000 people in Brevard shelters, and 12,930 in Indian River shelters.

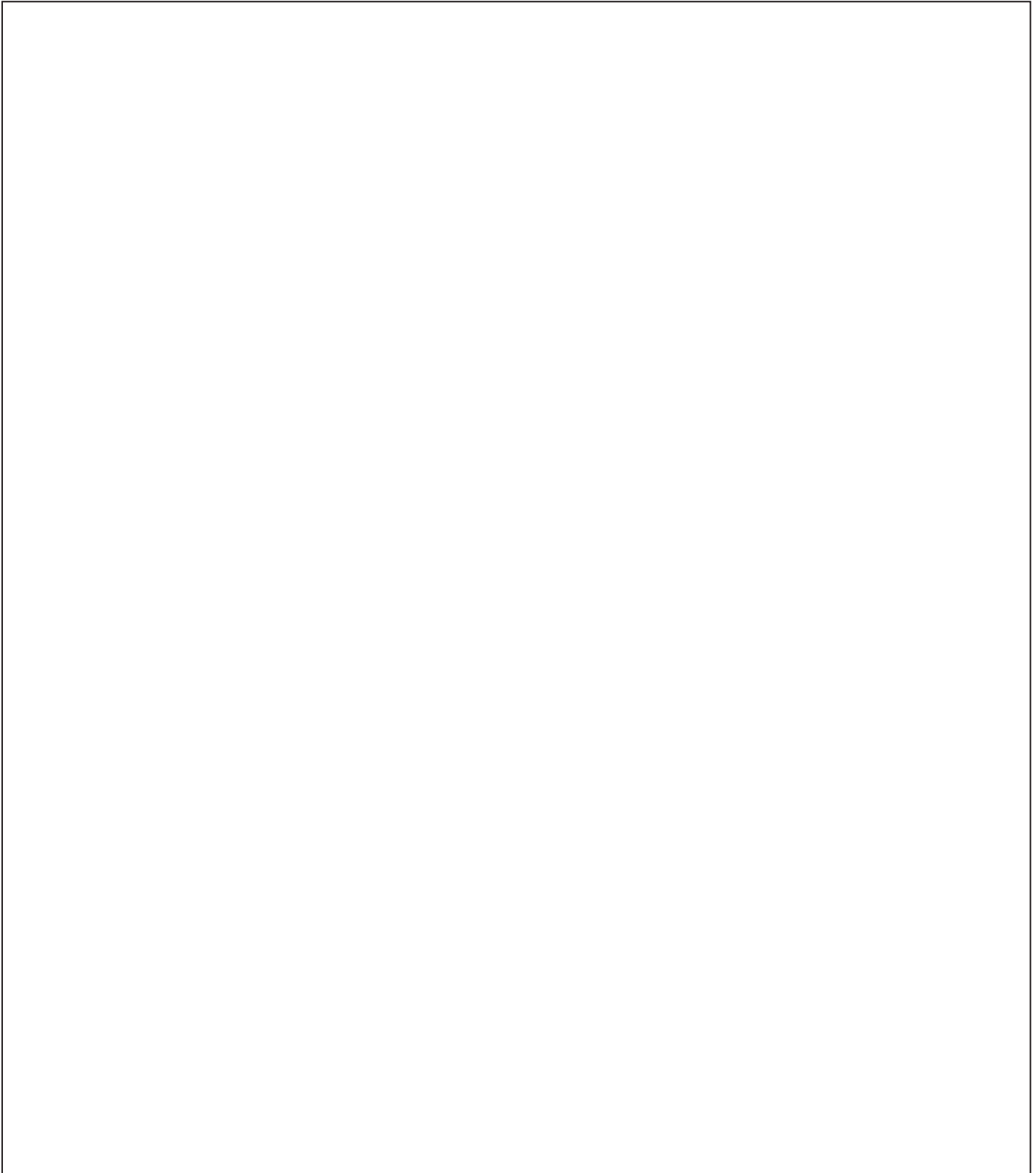
Brevard County primary shelters

- | | |
|---|--|
| A Pinewood Elementary
3654 Lionel Road
North Mims | H Melbourne High
74 Bulldog Blvd.
Melbourne |
| B Apollo Elementary
3085 Knox McRae Drive
Titusville | I Central Middle School
2600 Wingate Blvd.
West Melbourne |
| C Imperial Estates Elementary
5525 Kathy Drive
Titusville | J Riviera Elementary
351 Riviera Drive N.E.
Palm Bay |
| D Brevard Community College
Cocoa Campus,
1519 Clearlake Road
Cocoa | K Westside Elementary
2175 DeGroot Road S.W.
Palm Bay |
| E Manatee Elementary,
3425 Saerno Blvd.
Viera | L South Mainland
Community Center
3700 Allen Ave.
Micco |
| F Brevard Community College
Melbourne Campus
3865 N. Wickham Road
Melbourne | M Barefoot Bay Community
Center Building A
Barefoot Boulevard
(Not a shelter. Residents
gather here for transportation
to Westside Elementary or
another designated shelter.) |
| G Fau Gallie High
1400 Commodore Blvd.
Melbourne | N Space Coast Middle School
6150 Banyan St., Port St. John
Note: This shelter is for Base
and Cape personnel and Base
housing residents only. |
- ◀ Evacuation route

Indian River County primary shelters

- 1 Highland Elementary
500 20th St.
Vero Beach
- 2 J.A. Thompson Elementary
1110 18th Ave. S.W.
Vero Beach
- 3 Vero Beach High School
1707 16th St.
Vero Beach
- 4 Freshman Learning Center
1507 19th St.
Vero Beach
- 5 Oslo Middle School
480 20th Ave. S.W.
Vero Beach
- 6 Gifford Middle School
4530 28th Court
Gifford
- 7 Pelican Island Elementary
1355 Schumann Drive
Sebastian
- 8 Sebastian Elementary
400 County Road 512
Sebastian
- 9 Sebastian River
Middle School
9400 County Road 512
Sebastian
- 10 Fellsmere Elementary
50 N. Cypress St.
Fellsmere
- 11 Special needs shelter
Sebastian River
High School
900 90th Ave.
Sebastian





Know where to go, how to get there

Brevard County primary evacuation shelters

The 45th Space Wing commander and subordinate commanders will ensure that all personnel evacuate from Patrick AFB and Cape Canaveral Air Force Station if they are in the forecast track of the storm. Wing personnel have the option to stay with friends, family members', or in hotels located outside the predicted flooding areas. If these options are unavailable, the 45th SW has identified the Space Coast Middle School as the primary evacuation site for wing personnel residing on base.

Once a storm has moved to within 24 hours of the forecast arrival of 50-knot (58 miles per hour) winds the wing commander will direct the evacuation of base personnel, including housing residents. Residents of military family housing, the unaccompanied dormitories, and billeting must be evacuated either to Space Coast Middle School or other inland safe haven locations. Military personnel and families residing in base housing needing transportation to Space Coast Middle School must report to the on-base assembly areas for formation. Personnel requiring transportation will report to the following locations:

- Billeting, transient quarters, dormitories

and DEOMI students - Report to the parking lot across from building 720 (Billeting Office), corner of Falcon and Atlas Avenues.

- North Base Housing Residents - Report to the intersection of Hopi and Riverside Trail (next to the playground).

- Central Base Housing Residents - Report to the Base Education Center (Bldg. 998).

- Pelican Coast Residents - will report to Youth Center/Chapel 2 parking lot (Bldg. 3655 and 3659).

For those wanting to drive to Space Coast Middle School there are two routes:

- Proceed west on Pineda Cswy. (SR 404) to U.S. 1 North. Travel 20.4 miles to Fay Blvd. and turn left (first light after power plant) on to Fay Blvd. Go 3.6 miles and turn right on to Homestead Ave. (after I-95 overpass). Go to the fourth street and turn left onto Corsica Blvd., then turn right on to Duncan Ave. Space Coast Middle School is straight ahead.

- Proceed East on the Pineda Causeway (SR 404) to Wickham Rd. Make a right on to Wickham Rd. to I-95 North. Take I-95 North to Exit 208 Port St. John Pkwy. East.

Proceed East on to Port St. John Pkwy. and turn left on Grissom Blvd. North and make a left on to Fay Blvd. Right turn on to Homestead

Ave. then left on to Corsica and then right on to Duncan Ave. to Space Coast Middle School.

Those off base proceed to the following locations mapped from north to south:

Pinewood Elementary School

3654 Lionel Rd., Mims. Residents north of Garden St. in Titusville to north county line, evacuate on State Road 46, or shelter at Pinewood Elementary.

Apollo Elementary School

3085 Knox McRae Dr., Titusville. Titusville residents from Garden St. to SR 50, evacuate to I-95, or west on SR 50 or shelter at Apollo Elementary.

Imperial Estates Elementary School

5525 Kathy Dr., Titusville. Residents from North Merritt Island, Port St. John and South Titusville, evacuate west on SR 405 to SR 50 or shelter at Imperial Estates Elementary, off Sisson Rd.

Brevard Community College, Cocoa

1519 Clearlake Rd., Cocoa, Merritt Island,

See DIRECTIONS, next page

DIRECTIONS, from Page 6

Beachside and mainland residents north of SR 520, evacuate west on SR 528 (Beeline), or shelter at BCC Cocoa campus.

Andersen Elementary School

3011 South Fiske Blvd., Rockledge. Residents north of Patrick AFB and Macaw Ln. on Merritt Island, evacuate west on SR-520, or shelter at Andersen Elementary School. Mainland residents use Barnes Blvd., Eyster Blvd. Or Fiske Blvd. to evacuate to I-95 or shelter at Andersen Elementary.

Brevard Community College, Melbourne

3865 N. Wickham Rd., Melbourne. Residents south of Patrick AFB to north limits of Indian Harbour Beach and south of Macaw Ln. on Merritt Island, evacuate west on Pineda Cswy. To Wickham Rd. then north to I-95 or shelter at BCC, Melbourne. Mainland residents north of Aurora Rd. to Barnes Blvd., evacuate to I-95 or shelter at BCC, Melbourne.

Eau Gallie High School

1400 Commodore Blvd. Melbourne. Residents from the north Indian Harbour Beach limits to the Indialantic north limits, evacuate west on SR 518 to I-95. Mainland residents from Aurora Rd. to U.S. 192, evacuate west or shelter at Eau Gallie High School, new wing.

Melbourne High School

74 Bulldog Blvd., Melbourne. Residents from the north limits of Indialantic to the south county line, evacuate to and west on U.S. 192, to take Shelter Route north on

Babcock St. to Melbourne High.

Riviera Elementary School

351 Riviera Dr. NE, Palm Bay. Residents who can't go north on Babcock St. to Melbourne High due to evacuation flow, go south on Babcock St. to Palm Bay Rd. and west to Riviera Dr., then south to Riviera Elementary School. Mainland residents south of U.S. 192 evacuate west on that road or report to Riviera Elementary.

Westside Elementary School

2175 DeGroot Rd. SW, Palm Bay. Mainland south county residents needing shelter, proceed west on Micco Rd., Grand Rd., or Valkaria Rd., on South Babcock St., then to Cogan Dr. or Eldron Blvd., west to San Filippo Dr., then south and west to DeGroot Rd. to Westside Elementary.

Central Middle School

2600 Wingate Blvd., West Melbourne. Residents of West Melbourne, Melbourne Village and northwest Palm Bay needing shelter proceed to Minton Rd. and Wingate Blvd. and shelter at Central Middle School.

Barefoot Bay Community Center

(Not a shelter, but a transportation point.) - Bldg. A, Barefoot Blvd. Residents of the Barefoot Bay/south county area who don't have transportation, report to the Barefoot Bay Community Center for transportation to Westside Elementary School or other designated shelter.

For more information, call 637-6670 or go to www.embravard.com. The information line during disasters only is 637-6674.

Pet evacuation centers

For those who cannot take their pets with them when evacuating, there are a few pet shelters.

Local evacuation shelters including Space Coast Middle School will not accept pets, nor will most others. Below is a list of local animal shelters that will open to accept your pets during an evacuation. Call the following numbers for information concerning pet sheltering while preparing for the hurricane season.

In the event that all shelters are full, the Melbourne Greyhound Park at 1100 N. Wickham Road Melbourne, has volunteered its facility as a temporary disaster relief shelter for pets of people in the evacuation areas only.

It is very important to bring current rabies certificates, medications, food, pet carrier, litter/litter box, collar, leash, muzzle and food/water bowls.

North Area Animal Center
2605 Flake Rd.
Titusville
264-5119

Central Brevard Humane Society
1020 Cox Road
Cocoa
636-3343

South Animal Care Center
5100 West Eau Gallie Blvd.
Melbourne
253-6608

"Pet Friendly" Evacuation Center
6650 Corto Rd.
Port St. John
255-4346

This center allows families and pets to stay together. Registration is required before a hurricane. First-come, first-served basis from a registration list.



Photo courtesy of the 45th Weather Squadron

Prepare your property

▲ Keep trees and shrubbery trimmed. Make trees more wind resistant by removing diseased or damaged limbs. Also, remove branches so that wind can blow through the trees.

▲ Clear loose and clogged rain gutters and downspouts. This prevents misdirected flooding.

▲ Install hurricane shutters

▲ If you don't have hurricane shutters, install anchors for plywood (marine plywood is best) and pre-drill holes in precut half-inch outdoor plywood boards.

▲ Cover all windows, including French doors, sliding glass doors and skylights. If these fail, wind can rip off the roof and cause the walls to collapse. Or the wind

can scour the interior and wreck the contents.

▲ Strengthen garage doors. Many houses are destroyed by hurricane winds that enter through damaged garage doors, lifting roofs and destroying the home.

▲ Have an engineer check your home and advise you about ways to make it more resistant to hurricane winds, especially if you have an older home. Newer houses built under post-Hurricane Andrew roof building codes should have roofs can withstand higher winds.

▲ When there's an impending hurricane, bring in all outdoor furniture, toys and garden tools. Anchor anything that cannot be brought indoors.



Air Force Personnel Readiness Center

In the event of an evacuation, personnel should contact their unit point of contact or the AFPC/PRC toll-free number. Personnel should provide their safe haven address, emergency phone number and other pertinent data. This number will also serve as an information line to personnel about when to return to the area, report for duty, ect.

1-800-435-9941

Eye of hurricanes pack serious wallop

Area's calmness changes to storm's strongest winds quickly

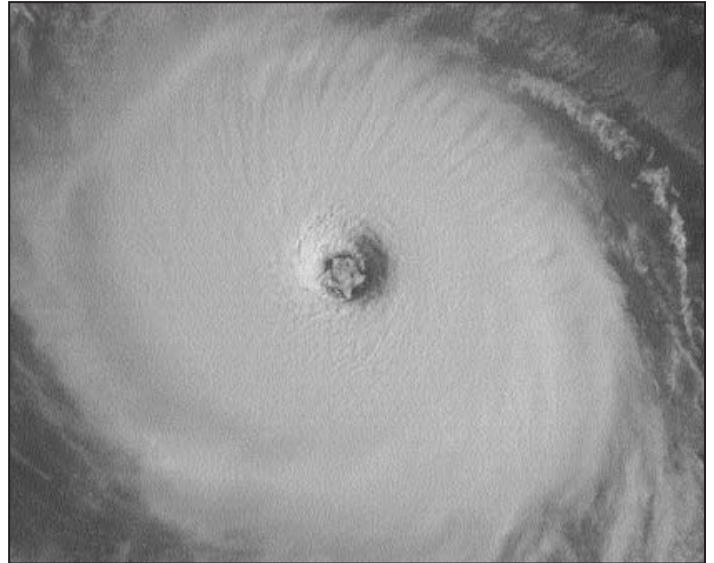
By William Roeder
45th Weather Squadron

The eye is one of the features that distinguishes hurricanes from other storms. The eye is the center of wind circulation and is a very dangerous part of the hurricane. The strongest winds are at the eye wall, which is the ring of powerful thunderstorms encircling the eye.

Besides the obvious danger of high wind, tornadoes and flooding can also occur in the eye wall. Inside the eye wall, wind speeds drop to calm and skies are clear. The eye is typically a few tens of miles from side to side.

Do not go outside if the eye passes over you. The other side of the eye wall will hit, sometimes in just minutes and winds will suddenly increase from calm to the strongest wind in the storm. This sudden increase in wind causes extra stress on already weakened structures and cause additional stress leading to more damage and wind blown debris. But remember that the eye isn't the only dangerous part of the hurricane. Flooding and tornadoes can occur in the rain bands over 200 miles from the eye.

The eye forms as the air flows toward the center of low pressure. But the Earth's rotation makes the inward flowing air deflect to the side. Eventually the air deflects so much it flows into a circle and can't flow inward anymore. The size of the circle is controlled by how low the pressure is at the center of the storm. The smaller the eye wall, the lower the pressure required. Since air keeps flowing into this circle, strong upward motion is produced. Because the air is warm and moist, this forms thunderstorms, which is seen as the eye wall.



Courtesy of 45th Weather Squadron

This well-developed eye of category-5 Hurricane Isabel on Sept. 12, 2002, shows a clear area in the center of the storm. Experts warn not to go outside when the center passes, even though conditions may be calm.

In weak tropical cyclones, the clouds may be offset from the center of circulation. Indeed, the circulation may be in relatively clear air, with all the heavy clouds and winds off to one side.



Renters, military housing occupants need insurance

By **Tech. Sgt. Ben Blocker**
1st Communications Squadron,
Langley AFB

After floodwaters receded and massive trees were hauled off the roadways, Langley Air Force Base, Va., residents slowly returned to their homes. But for some, returning wasn't an option. The amount of destruction Hurricane Isabel left in its wake was great. So was the aftershock of home repairs for those hit by the storm. If they didn't already have it, many people likely wished they had renters insurance.

In the aftermath of Hurricane Isabel in September, 2003, military members living on base claimed more than \$605,000 in personal property damage, according to the Langley claims office. Renters insurance proved critical for many in dealing with the enormous loss experienced. Still, others hesitated to buy insurance, especially those living in military housing.

"During the hurricane, a dormitory on base flooded from a broken water pipe," said Tech. Sgt. LaToya Smith, an Air Force claims representative. "None of the dorm occupants had renters insurance, and many of them didn't even know they could get it."

Neglecting to purchase insurance isn't limited to those who live in military housing. A recent study commissioned by the Independent Insurance Agents and Brokers of America found that roughly two-thirds of all renters nationwide are without renters coverage.

So, who really need to consider purchasing insurance? All homeowners who have mortgages are required to have homeowners insur-

“During the hurricane, a dormitory on base flooded from a broken water pipe. ... None of the dorm occupants had renters insurance, and many of them didn't even know they could get it.”

Tech. Sgt. LaToya Smith
AIR FORCE CLAIMS REPRESENTATIVE

ance to protect their investments. This coverage also includes personal property. But there's no such requirement for people who rent.

Those who rent a home or apartment off base should seriously consider renters insurance. Whether stationed overseas or stateside, the military will not reimburse members whose personal property is damaged while not living in military housing. For those who live in government housing, there are limits to what can be reimbursed.

Staff Sgt. David Colvin, a circuit technician at Langley AFB, was renting a town home that was cut almost completely in half by a huge tree that fell during the hurricane.

"My next door neighbors' town home is in just as bad of shape as mine," he said. "Unfortunately, they didn't have any insurance," Sgt. Colvin estimates he lost almost \$30,000 of his property from either water damage or looting.

But renters coverage isn't limited to protection from forces of nature. "Renters insurance sure comes in handy, especially when you're (moving)," said Rick Rivas, a military retiree who represents an insurance company. "It covers the

damages that the government wouldn't while you're on the move." Those who live in military housing, including dormitories, have different things to consider when buying renters insurance.

For military housing, the government will reimburse only a limited amount in the case of damage from uncontrollable circumstances, such as fire, broken water pipes and theft. One of the biggest advantages to having renters insurance is that it usually reimburses the replacement cost of the property.

Most policies will pay full replacement costs for items damaged during shipment. It also covers all liability claims that may happen at your home, such as a guest falling and getting injured. *Courtesy of Airman Magazine.*

Renters insurance know how

- ◆ Check the credibility of each insurance company. Is it financially stable?
- ◆ Is the company giving you a rate based on property replacement cost or its depreciated value?
- ◆ Choose a deductible you can afford.
- ◆ Determine the value of your property. How much coverage do you need?
- ◆ Will the company cover your property during a move?
- ◆ Do you need a personal article floater to cover expensive jewelry, antiques or electronics? Floaters have no deductible and usually cover a broader range of claims.

2004 Atlantic tropical storms/hurricane names

Alex
 Bonnie
 Charley
 Danielle
 Earl
 Frances
 Gaston
 Hermine
 Ivan
 Jeanne
 Karl
 Lisa
 Matthew
 Nicole
 Otto
 Paula
 Richard
 Shary
 Tomas
 Virginie
 Walter

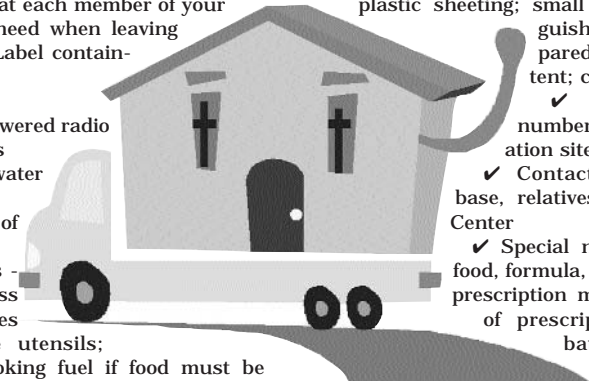
Did you ever wonder what happens when they run out of names?

Evacuation kit vital to preparation

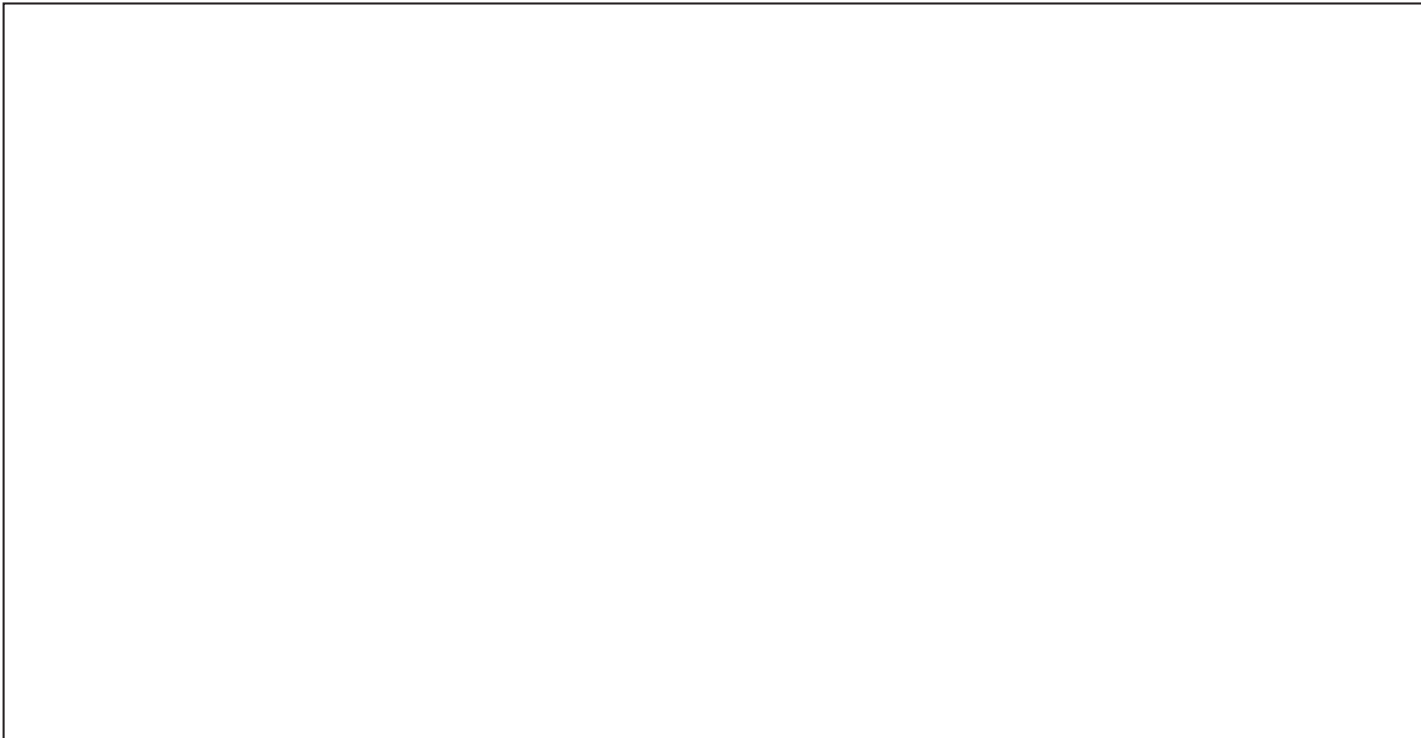
Keep these items in a box or container in a place where you and family members can easily pick it up and evacuate quickly. Make sure everyone in the family knows where the kit is located.

The key is to pack what each member of your family, including pets, need when leaving home for several days. Label containers clearly.

- ✓ Portable, battery-powered radio or TV and extra batteries
- ✓ Three gallons of water per person
- ✓ Three-day supply of nonperishable food.
- ✓ Kitchen accessories - manual can opener; mess kits or paper cups, plates and plastic/disposable utensils; utility knife; can of cooking fuel if food must be cooked; sugar, salt, paper; aluminum foil and plastic resealable bags.
- ✓ Flashlight and extra batteries
- ✓ First-aid kit and manual
- ✓ Credit card and cash. Remember, during an evacuation ATMs and banks could be closed. Therefore, stash some cash in your kit
- ✓ Personal identification
- ✓ Extra set of car keys
- ✓ Matches in a waterproof container
- ✓ Signal flare
- ✓ Entertainment, such as books and games.



- ✓ Sanitation and hygiene products
- ✓ Tools and other accessories: paper, pencil; needles and thread; pliers, shut-off wrench, shovels and other useful tools; tape; medicine dropper; whistle; plastic sheeting; small canister, fire extinguisher; emergency preparedness manual; tube tent; compass
- ✓ Area map/phone numbers of potential evacuation sites
- ✓ Contact numbers for the base, relatives and AF Personnel Center
- ✓ Special needs: diapers, baby food, formula, one-month supply of prescription medicines and copies of prescriptions, hearing aid batteries, spare wheelchair battery, spare eyeglasses, over-the-counter pain relievers, including children's types.
- ✓ Children's toys/books to keep them occupied.
- ✓ Pet supplies, such as food
- ✓ Valuable papers: insurance policies, deeds, birth certificates, medical records, any other important papers you store in a safety box at home and photographs (keep those in a waterproof container)
- ✓ Canned food and a manual can opener
- ✓ Change of clothes
- ✓ Sleeping bags, pillows and blankets.



Flooding leading cause of hurricane deaths

By William Roeder
45th Weather Squadron

When most people think of hurricanes, they think of the high winds. These can indeed be dangerous, especially with wind blown debris, but wind is only the second leading cause of hurricane deaths.

The number one cause of hurricane deaths is flooding. The most frequent hurricane hazard in Brevard County is local flooding. For those who are prepared beforehand, and don't need to drive anywhere, local flooding can be only a minor nuisance. Or it can lead to auto accidents, or even death.

Most people are surprised that the third leading cause of hurricane deaths is people swimming and surfing in the heavy surf that can extend over a thousand miles from the storm. The weather is clear and calm, yet the hurricane still kills by drowning people out in high waves beyond their ability and rip currents. This is important to the Space Coast since we have so many swimmers and surfers. Also, beware sightseeing the big waves on the beach. All it takes is one extra big wave to come in farther than the other waves and you're suddenly swept out to sea.

The fourth leading hurricane killer is people boating in heavy seas.

Number five on the hurricane killer list are tornadoes. Recent years have identified the tornado threat with land-falling hurricanes. Unfortunately, Brevard County is on the coast, so this area is in the prime tornado formation area. Tornadoes tend to occur in the eye-wall near the center of the storm and in rain-bands. The rain-band tornadoes are important since they can occur over 200 miles from the storm



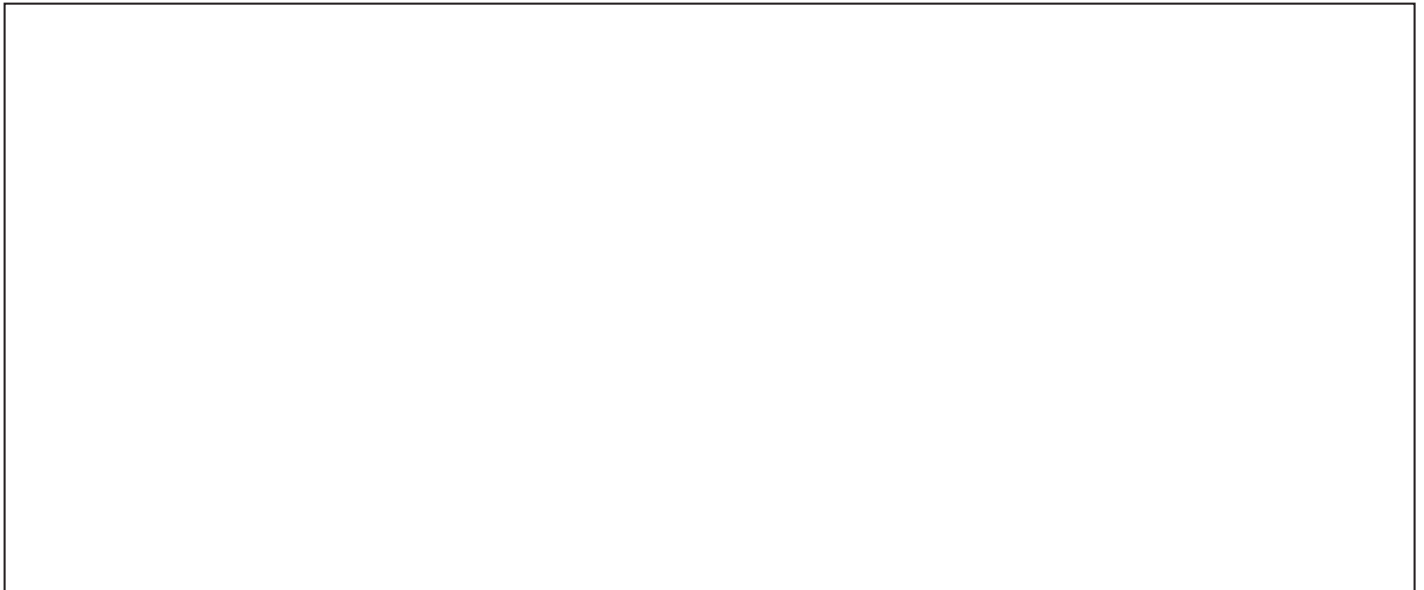
Courtesy of the 45th Weather Squadron

Melbourne residents use boats and canoes to maneuver streets in their Parkway Meadows neighborhood after Hurricane Erin in 1995.

center. On Sept. 25 1998, the eye of Hurricane Georges was over Key West, yet it still caused a tornado in Brevard County! Even with a hurricane 200 miles away, people need to stay tuned for local weather warnings.

The sixth leading cause of hurricane deaths is miscellaneous causes. The storm surge is a distant seventh cause of hurricane deaths. People are doing a much better job of evacuating from beach locations. However, storm surge

can still cause drastic property damage along the beaches. Storm surge is a dome of higher water near the center of the storm and in its front quadrant of the storm. The storm surge can be rise many feet above the normal tides. The storm surge itself is dangerous, but it also allows the large wind driven waves to move farther inland. This causes beach erosion in minor cases, or the complete destruction of near-beach houses in strong cases.



Vital checklists

Hurricane watch

Threat of hurricane conditions within 24 to 36 hours

- ▶ Fill up vehicles with gas.
- ▶ Get cash, including a roll of quarters.
- ▶ Make sure your survival kit is full.
- ▶ Listen to NOAA weather radio or local TV and radio stations for updated information.
- ▶ Heed advice of local officials and evacuate if told to do so.
- ▶ Prepare your property for high winds (see Page 8).
- ▶ Make sure cell phones and other rechargeable appliances are charged.
- ▶ Put valuables in a safe box.
- ▶ Turn off propane tanks.

Hurricane warning

Threat of hurricane conditions expected in 24 hours or less

- ▶ Listen to NOAA weather radio, portable battery-powered radio or TV.
- ▶ Close all interior doors. Secure and brace external doors.
- ▶ Put as many vehicles as possible in garage.
- ▶ Fill sinks and bathtubs for water supply.
- ▶ Cover pool pump filter and super-chlorinate pool.
- ▶ Turn off power to the pool pump because flooding could short the motor. Also, turn off the gas heater.
- ▶ Lower water a few inches in the pool (not below the tile). Draining too much could cause structural damage to the pool due to water pressure underground.
- ▶ Put shutters (or plywood) on windows.
- ▶ Reinforce garage doors with plywood the garage door area is the weakest part of the building.
- ▶ Move things inside or tie down things outside that might fly away and cause damage.

When told to evacuate

- ▶ Don't crack windows open. Buildings do not explode from pressure drop, however, any wind that gets into the home can cause the roof to lift.
- ▶ Take one car, if possible.
- ▶ Keep informed by radio.
- ▶ Take evacuation supply kit (See Page 10).
- ▶ Take a photo ID or other proof of residency with you because after the hurricane you might need to show it to authorities to let you back into the area.
- ▶ Don't wait, leave immediately and beat the traffic jam.
- ▶ Drive safely!
- ▶ Bring contact numbers with you to advise loved ones of your status.

If not advised to evacuate

- ▶ Stay indoors on the first floor away from windows. A small interior room without windows is best. Indicate a safe room ahead of time so family members know where to go.
- ▶ Have as many walls between you and the outside wind as possible.
- ▶ Be under something sturdy, such as a table, to be protected from falling objects.
- ▶ Use flashlights; don't use open flames such as candles or kerosene lamps as sources of light.
- ▶ If power is lost, turn off major appliances to reduce surges and damages.
- ▶ Watch for flooding and be alert for tornadoes.

Supplies to keep handy at home

What to keep in a home emergency kit

- At least one flashlight and extra batteries.
- Portable, battery-operated radio and extra batteries.
- First-aid kit and manual.
- Emergency food and water. Purchase enough food and water for 5-7 days for each household member. (See guide at right)
- Non-electric can opener.
- Essential medicine.
- Cash and credit cards.
- Sturdy shoes and rain gear.
- Plastic tarps and sheeting, plus nails and hand tools.
- Cleaning supplies, such as a mop, bucket, cleansers and towels.
- Mosquito repellent.
- Camera and film.
- Compass.
- Map and directions to evacuation routes or shelter locations.
- Emergency phone numbers.
- Paper plates and cups, plastic utensils, napkins, paper towels.
- Battery-operated clock.
- Wood matches and charcoal, or a camping grill with butane or other fuel canisters to heat or cook food until power is restored.
- Tape.
- Foil and waterproof containers.
- Nonperishable food for pets.
- Plastic trash bags.
- Bottled water for family and pets.
- Spare contact lenses and eyeglasses.
- Items to occupy time, especially if you have children. Items include playing cards, games, books, crayons, paper and toys.

What food is best for kit?

For a family of four to last 5-7 days:

- 5 cans of fruit (15 ounces)
- 5 cans of vegetables (15 ounces)
- 5 cans of meat (12-24 ounces)
- 3 boxes of flavored rice (6 ounces)
- 3 cans of pasta (15 ounces)
- 3 boxes of macaroni and cheese (7.25 ounces)
- 5 cans of pork and beans (15 ounces)
- 3 packages of powdered milk (9.6 ounces)
- 3 packages of muffin/biscuit mix (add-water-only type)
- 3 cans of non-frozen 100 percent fruit juice
- 2 plastic jars of peanut butter (18 ounces)
- 2 plastic jars of jelly (32 ounces)
- 3 loaves of bread
- Water (one gallon per person, per day)

Surfing climate changes, caution needed

Strong rip currents, heavy swells too much for even most experienced surfers

By 2nd Lt. Elizabeth Kreft
45th SW Public Affairs

While the notion of big waves may appeal to local surfers, the hidden dangers of rip currents and ground swells should give them reason to stay out of the water.

According to William Roeder, 45th Weather Squadron's chief meteorologist, heavy surf is the third leading cause of deaths from hurricanes.

"Eleven percent of hurricane deaths are swimmers and surfers going out in waves beyond their ability," he added. "When in doubt, stay out of the water."

Although it is dangerous, a number of surfers get excited about the notion of big waves. "Everyone knows hurricane season brings guaranteed waves," says Javier Rovira, team sales manager for Quiet Flight surf shop in Cocoa Beach.

"The surge, the rip currents and the drifts - everything that makes the water tough is amplified," said Mr. Rovira. "It also makes the water very dangerous, so people who don't understand how rough the water is can be in serious danger."

Mr. Rovira has been surfing in the Cocoa Beach area for more than a decade, and he knows the dangerous differences that the ocean waters can show when hurricane season arrives.

"I grew up in Orlando and came here to surf in the summers all the time, and I moved here permanently 11 years ago," he said. People who come here to surf can get good waves during this time of year, but it is too dangerous for newcomers or even intermediate surfers who are not experienced with rough-weather surfing, said Mr. Rovira.

"There is definitely a difference in the look and the feel of the water. I'd say the biggest thing newcomers wouldn't expect is the pure endurance that it requires just to get out into the waves to a point where you can catch one," said Mr. Rovira.

"It might take a good 30 minutes of straight paddling just to get past the breaks, so people can be in danger just by getting into the water when they can't handle it physically."

Any surfer should be aware of the conditions they face during the



Photo courtesy of the 45th Weather Squadron

A surfer attempting to ride during Hurricane Isabel is met with fierce and choppy waters along the Atlantic coast. Surfing or any other water activity is not recommended during hurricane season.

summer months, and should take extra precautions to prepare themselves to handle the hurricane changes that come to the east coast.

Surfers that have experience in other areas of the country need to be aware that a hurricane prone area can have unexpected dangers such as an extreme amount of debris in the water from water surges pulling rubble into the water from the shore.

"Remember, a hurricane could be over 1,000 miles away, with good weather here, but the heavy surf could still be here," said Mr. Roeder. "Always listen for heavy surf and rip current advisories."

For more information on surfing dangers or preparation, contact Javier Rovira or any of the experienced Quiet Flight surfers at 783-1530.

Hurricane experience brings insight

By 1st Lt. Elizabeth Kreft
45th SW Public Affairs

Though the idea of a future hurricane frightens some, the memories of past hurricanes still bring frightful images and thoughts to those who have lived through a dose of nature's wrath.

"In many ways it seems like it was just last night, and other times it seems like it was someone else's lifetime," said Patricia Billman, mother of Col. Gregory Billman, 45th Space Wing Operations Group commander.

"Never in our wildest imaginations could we have dreamed what actually occurred."

Patricia and her husband Chuck Billman survived one of the most destructive tropical cyclones in recent decades, Hurricane Hugo. The category 5 storm stalled over St. Croix, U.S. Virgin Islands, for approximately 12 hours Sept. 17, 1989, while winds at 180 miles an hour and gusts of 210 miles an hour pummeled the small island.

"We had enough warning to prepare for the storm, but we really had no comprehension of what was to come," said Mrs. Billman.

The Billmans told their sons that they might be out of power or without phones for a few days. "How naive we were," said Mrs. Billman. "We 'hurricane-proofed' our house and went up to a friends house higher up on the hill, then settled in to wait the storm out."

But what they thought would be a fairly routine experience quickly turned into a nightmare.

"It was black, black outside," said Mrs. Billman. "Around 1 a.m. we grabbed the animals and went down into a cement bunker below the main level, and 10 minutes later we heard glass crashing, cabinets banging and furniture moving."

"We spent the night shivering in our safe spaces trying to stay warm and trying to keep the pets calm," she said. "Sleep wasn't an option because we were soaked to the bone



Photos courtesy of the U.S. Navy

Patricia Billman lived with her husband Chuck in St. Croix, U.S. Virgin Islands, for 13 years before her experience with Hurricane Hugo. The before (above) and after (below) photos of her work area give distinct visual evidence of the devastation storms can bring to land, buildings and anything else that may lie in its path.

from water that had seeped into the air vents."

The next morning, the Billmans emerged from their shelter to make an attempt at assessing the damage to their home area.

"I cannot describe the noise of the night before, everything was crashing around us, but what I can vividly describe was the absolute absence of noise in the morning. It was a vacuum," she said.

"No wind, no birds, no insects and no sound from the ocean. We looked at our neighborhood of Judith's Fancy, and couldn't see a soul stirring."

In the hours after the storm passed, the Billmans made their way back down the road to their house, cutting through fallen trees, telephone and electrical wires.

"Not until we walked through the front door did the entire panorama of destruction hit us," said Mrs. Billman. "It's a feeling with no

description, so I won't try."

The roof was completely gone in several sections of the house. All of the furniture was ruined or gone, glass and china were strewn across the floor like pieces of confetti and window shades were left in shreds along the remnants of the house.

"But this was just small potatoes compared to the rest of the homes around ours. Just down the street only slabs existed where homes stood the morning before," said Mrs. Billman.

While dealing with the storm's torment was hard enough, the Billmans also had to survive the days of illegal activity that followed the hurricane.

"The destruction of Mother Nature is something we all must accept regardless of where we might live on earth, but the complete and utter chaos produced by the 'human nature' after Hugo was criminal," said Mrs. Billman.

Looting, no doubt led by desperation for food and water, carried over into electrical stores, drug stores and jewelry stores.

"While the shortage of food and water was understandable, being prepared in the first place could have left us all with places to go for essentials."

Their experiences during this category-5 hurricane have helped the Billmans, their families and neighbors prepare for future natural disasters.

"I'd tell people this hurricane season to remember that you cannot underestimate what those winds can do," said Mrs. Billman.

"There have been many advancements in hurricane preparation available to the public since the experience we went through, like good hurricane shutters and different housing design, so that can help. But, people have to realize that when a serious hurricane comes, you must prepare and evacuate as necessary."



Parties not part of evacuation plan

By 1st Lt. Elizabeth Kreft
45th SW Public Affairs

Though Mother Nature may lend the name "hurricane" to a trendy, alcoholic beverage, a tropical storm is no reason to throw a party.

On Aug. 17, 1969, a group of 24 people on the Gulf Coast decided it would be fun to have a gathering. For most of them, though, that get-together would be their last.

The bash was in honor of Hurricane Camille, which was moving north toward the towns of Gulfport and Pass Christian, Miss. Instead of evacuating, the group decided to hunker down in the Richelieu Apartments, right on the coast, and enjoy the show.

But Camille proved to be an unfriendly guest of honor. A few hours before reaching landfall, Camille strengthened dramatically, reaching Category-5 the highest rating on the hurricane scale.

Two survivors lived to tell the story of the entire group who remained in the apartment buildings to party through the storm, the rest perished when a 20-foot wall of water swept the apartments to the ground.

As Camille continued up the coast, she brought torrential rains and massive flooding across the Appalachians. In all, more than 200 people were killed, but the total would have

been significantly lower if those people who chose to stay and celebrate instead prepared and evacuated.

According to native Floridians, hurricane parties are fairly common in the Sunshine State.

"Throwing hurricane parties is kind of a way for Floridians to show their love and knowledge of the area," said Mike Francisco, 45th Space Wing video production technician and Space Coast native.

Mr. Francisco said that he knows people who have thrown parties for hurricane season in this area, but they are never organized with the intent to throw a fist in the face of Mother

Nature.

"Anyone who is foolish enough to have a party in the middle of a dangerous hurricane evacuation situation is just not using their head," he said.

"There is nothing wrong with showing a little appreciation for the power of these storms, but it's another thing to be irresponsible and invite harm upon yourself or your family by ignoring evacuation announcements," said Mr. Francisco.

"The power of these waves and the water is vastly underestimated. No one wants to see people get hurt because they ignored prior warnings just to have a party."

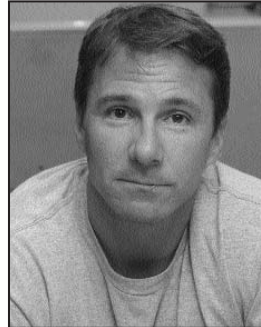


Photos courtesy of NOAA

Aerial photos of the Richelieu apartments, on the Gulf Coast in Miss., show the destructive power Hurricane Camille unleashed. Only two of the occupants were survived when the surge waves hit.

THE BUZZ

What are you doing to prepare for the 2004 hurricane season?



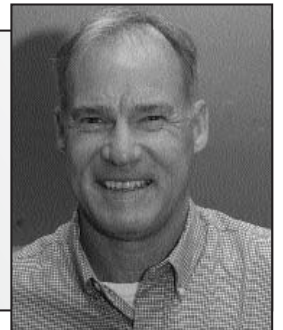
"I purchased plywood and I'm cutting it to fit in my windows. I've also planned an evacuation plan for my family."

Greg Plecki
45th Services Squadron



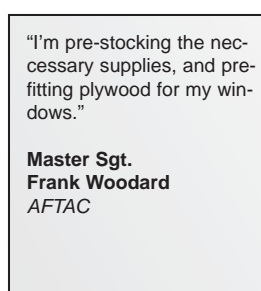
"I've installed a new front door, and I've been double-checking my hurricane emergency kit."

Chris Gaston
contractor



"I'm making sure my family has emergency phone numbers, extra money and food."

Capt. Jimmy Liddle
45th Inspector General Office



"I'm pre-stocking the necessary supplies, and pre-fitting plywood for my windows."

Master Sgt. Frank Woodard
AFTAC



Be aware of evacuation travel entitlements

Part of hurricane preparedness Team Patrick members and their families should understand is their entitlements if they be evacuate.

The 45th Space Wing commander can order an evacuation either verbally or in writing. The type of evacuation order given will determine who will receive travel entitlements.

For instance, if the commander orders that only Patrick residents have to evacuate, only those individuals actually living on base will be reimbursed for expenses incurred during an evacuation.

The wing commander also has the authority to determine whether you can evacuate to a safe haven location of your choice or to a specific location.

If an evacuation has been ordered, members affected will receive travel entitlements. For privately-owned vehicle travel, personnel affected are reimbursed for the mileage if they own the vehicle. Those without family members can only be reimbursed for one vehicle.

Individuals with family members who evacuate may be reimbursed for two vehicles, if used. Tolls paid during the evacuation are reimbursable.

Individuals affected by a command-ordered evacuation will be required to submit lodging receipts, regardless of the amount. Members

staying with family or friends will not be reimbursed for any payments made to them. Per diem rates will vary depending on location. Individuals will only be reimbursed for the per diem rate of the location where they are authorized to evacuate.

Receipts for meals are not required. Members staying at an off-base location are reimbursed for meals at a flat rate, depending on location. If lodged on a military installation, military members will be reimbursed based on members' availability of government dining facilities.

Although the government travel card can be used during an evacuation, it can only be used for reimbursable travel entitlements, such as stated above. Automatic teller machine fees associated with the government credit card are reimbursable.

However, reimbursements of ATM fees are limited by the entitled withdrawal amount. Members evacuating are encouraged to keep an itinerary stating dates of travel. This will make filing a settlement voucher easier.

More information about military travel regulations can be found on the Internet at: www.dtic.mil/perdiem/. *Courtesy of the 45th SW Comptroller Squadron.*

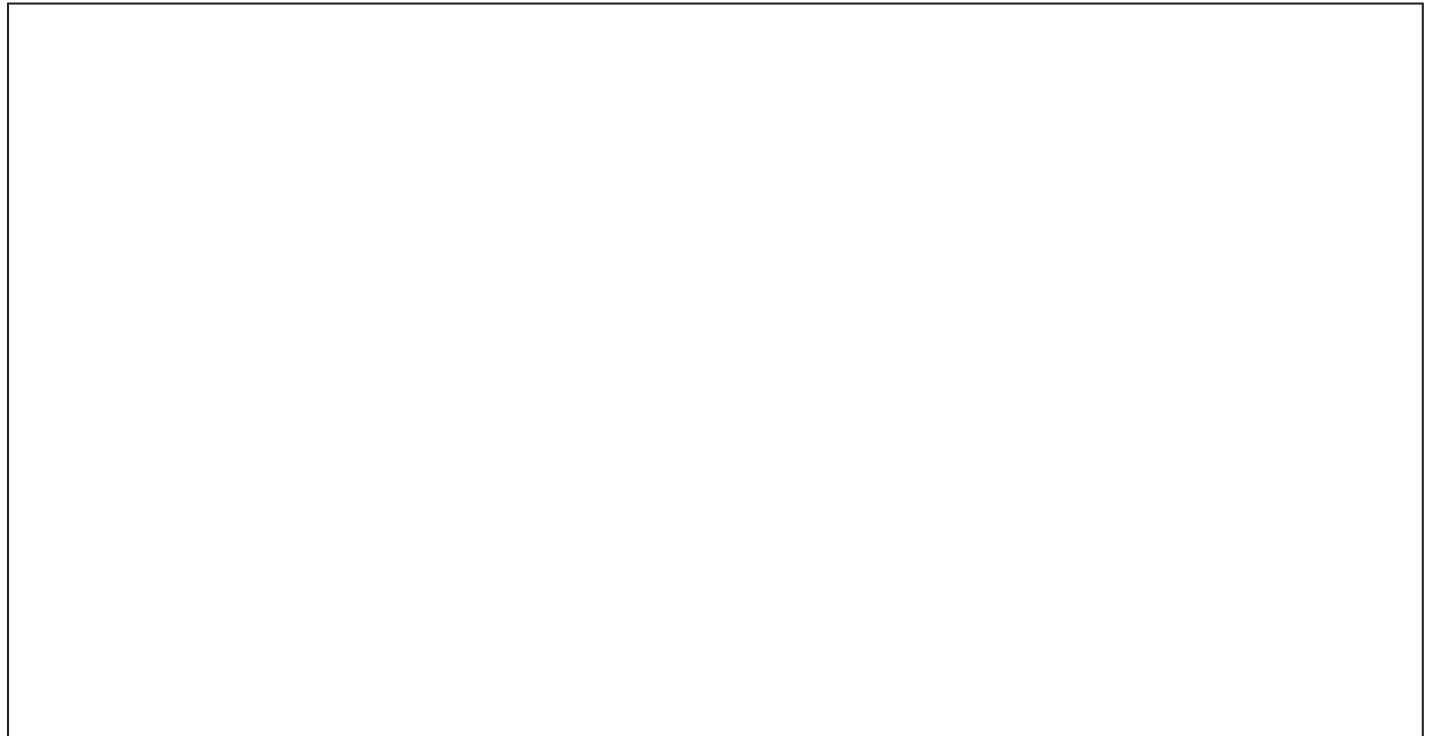
**Junior Enlisted
Picnic**

June 11

11 a.m. – 4 p.m.

**at the beach by
the NCO Club**

**Free food and drink
Door Prizes**



Stay connected for hurricane info

Useful Web sites for hurricane preparedness

45th Weather Squadron
<https://www.patrick.af.mil/45og/45ws>
45th Space Wing Hurricane Preparedness
https://www.patrick.af.mil/Hurricane_Prep/Hurricaneprep.htm
National Weather Service/Melbourne
www.srh.noaa.gov/mlb
National Hurricane Center
www.nhc.noaa.gov
Federal Emergency Management Agency
www.fema.gov/fema/trop.htm
American Red Cross: National
www.redcross.org

Brevard County

American Red Cross
<http://chapters.redcross.org/fl/brevard>
Brevard County Emergency Management
<http://embrevard.com>

When hurricanes are impending or during a hurricane, instructions will be given over the local radio and television stations. Police and emergency management officers will patrol off-base areas. People on base will be given instructions through the following means:

- * Pyramid notification system
- * Global e-mail
- * SharkVision Commander's Access Channel (Channel 99)
- * Special briefings
- * Patrick South Gate Marquee
- * Missileer base newspaper

- * Base public address system
- * Patrolling security police
- * And emergency numbers:
 - * Patrick Evacuation Hotline - (800) 470-7232
 - * Straight Talk Center - 494-INFO (4636)
 - * Cape Canaveral AFS Evacuation Hotline - (800) 861-7900
- * When PAFB and CCAFS hotlines are inoperable, call the AFPC Evacuation Information Hotline at the Randolph AFB Personnel Readiness Branch for the latest information - (800) 435-9941.

Other important numbers:

National Weather Service - (813) 645-2323
State hurricane hotline - (800) 342-3557
American Red Cross/Brevard - 723-7141
Brevard County Sheriff's Office - 264-5100
Florida Highway Patrol - 690-3902
Emergency Management Office (800) 621-3362
45th Space Wing Command Post - 494-7001



