Combat Edge

June 2005

Lieutenant General William M. Fraser III, Commander

Colonel Creid K. Johnson, Director Of Safety

The Combat Edge

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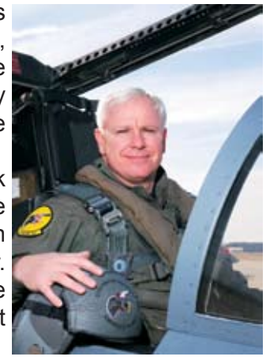
ACCent on Safety

We have 96 days to set a "Critical" record…

We're less than a week into the 101 Critical Days of Summer — are you doing all you can to help the command prevent off-duty mishaps? As the days grow longer, and schools let out, ACC members will be spending more time taking part in sports and recreational activities, and hitting the road to visit with family and friends this summer season. ACC experienced 5 "Class A" ground mishaps (4 fatalities and one permanent, total disability) and 219 Sports and Recreational injuries in 2004. Last year's mishaps resulted in 346 hospital days and 1,549 days on quarters at a cost of over 2 million dollars. Every preventable mishap resulting in a lost work day or loss of life impacts our combat capability, and forces others to pick up the slack to get the mission done. Consider the consequences before acting, take the time to do things safely, use personal risk management, and wear all required personal protective equipment — we can't afford not to.

The answer: "Charley, Frances, Ivan, and Jeanne." If you're from the Midwest, the question is, "What are four children's names?" However, if you are a Floridian, your question would be: "What are the names of the four strongest hurricanes to hit Florida and the East Coast in 2004?" As a reminder, the first of June marks the beginning of hurricane season and stays in effect until the last day of November. If you live in a hurricane danger area, gather your storm supplies, make home repairs, and review evacuation routes and procedures before a storm threatens your area. We have the ability to detect hurricanes and predict their landfall, whereas tornados, lightning, and flash floods provide little in the way of warning, making it necessary to identify where to seek shelter and when, *before* severe weather hits this summer.



While we can't realistically eliminate risk during on- and off-duty activities, we can manage and minimize its impact through preparation and by taking a proactive stance toward safety. The goal is zero mishaps this summer — make 2005 a record setting 101 Critical Days — let safety be your Combat Edge.

Colonel Creid K. Johnson,
ACC Director of Safety

Fit to Fight

by Maj Andy Hansen, Nellis AFB, Nev.

Photo by: SSgt Beth Slater

During the first night of RED FLAG 04-2, a two-ship of NATO F-16s and an EA-6B Prowler entered Nellis recovery airspace without clearance from approach control. Nellis control, saturated with other recovering aircraft, directed the F-16s to turn north into the path of the southbound Prowler who was not yet radar identified. The lead F-16 passed less than 200 feet above the EA-6B. Two years earlier, the lead of a two-ship of F-16s passed within 400 feet of a civilian Cessna 320 after the flight lead misapplied local procedures and violated Las Vegas Class B airspace.

These events are a sample of the many near midair collisions involving RED FLAG participants the past 2 years, and they illustrate a troubling trend: the lack of safety emphasis on administrative portions of the mission as opposed to tactical portions of the sortie. In fact, most safety events occur during the recovery. The Hazardous Air Traffic Reports filed in the above examples noted lack of crew knowledge of local procedures and exercise Special Instructions (SPINS) as root causes for the close calls. In truth, the root causes lie deeper.

The RED FLAG exercise environment is the world's most realistic large force employment scenario, and the training gained from participation is unrivaled but, as I have illustrated, is not without risk. In order to mitigate the risk during every phase of the sorties, we must apply Operational Risk Management (ORM) well before the exercise begins. One way to do this is to determine if your squadron is fit to fight. A key person who can help the commander determine his unit's fitness and readiness for RED FLAG in the months prior to deployment is the Flight Safety Officer (FSO).

How can the FSO use ORM to determine if their squadron is fully fit to fight? There are a variety of tools available to aid in risk control (AFPAM 90-902), but the one I'd like to present is the 5M Model (Fig 1). It analyzes the Management of Media, Machine and Man to maximize Mission accomplishment without unnecessary risk.

Photo by: SSgt Beth Slater

FIGURE 1

Management is the key to success of any squadron safety program and employs the cooperative efforts of the commander, weapons officer, and FSO. Here we are specifically talking about how the commander critically analyzes the Media, Machine, and Man portion of the model in order to identify risks and formulate steps to mitigate them. The commander makes the ultimate decision on squadron readiness, but the FSO can help with the analysis of each "M."

Media reflects the expected operating environment. A detailed analysis of RED FLAG Media ensures that everyone in the squadron has a big picture of what to expect and how to prepare. The FSOs and weapons officers do this by developing a training plan. This plan should incorporate a comprehensive review of exercise SPINS and Nellis' local area procedures. In addition, squadron standards, in-flight guides, and local area maps should all be published for everyone to review well before arrival at Nellis. One of the best ways to check to see if your training is on track is to offer comprehensive academic classes and test the squadron in the basics. The commander and operations officer also should allocate time for a flight spin-up for the squadron. This spin-up should include an update of required training currencies and employment of the attacks and tactics expected.

The look of RED FLAG changes every period and squadrons need to adapt to this changing environment. Therefore, the training plan should include a review of exercise participants and new elements or scenarios. This training will identify potential hazards associated with integrating diverse assets and working with NATO partners, as well as prepare those who have "been there before" to get a look at new elements. Every RED FLAG is different and scenarios are tailored to the requests of participants and the deployed forces commander. Combat Search and Rescue and Time Sensitive Targeting are just two examples of diverse missions being integrated into the RED FLAG scenario. In addition to analyzing the Media, the FSO is also an excellent conduit between maintenance and the operators in identifying risks associated with the Machine.

The Machine portion of the 5M Model focuses on aircraft preparation. The FSO should talk with maintenance about expected configurations, ordnance and exercise vulnerability periods. The squadron should tailor deployment configuration to reduce reconfiguration time once aircraft land at Nellis. If maintenance cannot support the current tactical plan, then adjust sortie generation and manning. Once RED FLAG starts, the FSO can continue to help in this arena by giving the commander a better sense of the demands placed on the maintenance personnel. This leads to the analysis of the final portion of the model, Man.

Man includes the experience and proficiency level of all squadron personnel. Evaluating these elements establishes the squadron's overall fitness. It is important that everyone understands current exercise objectives and, both operators and maintainers, are prepared to handle them. For example, a sound training plan accomplishes required upgrades and ensures people are well prepared for the task at hand. RED FLAG is not the time to accomplish upgrades! The exercise affords an awesome training environment and upgrades tend to overflow an already full plate. The FSO provides a good perspective when these issues come up and helps prevent doing too much with too little experience. If the FSO, weapons officer and commander do their job prior to the deployment the final "M," Mission will be a success with the least amount of risk.

Everyone plays a critical role in Mission success, but it's management's responsibility to set up the best environment to achieve success. This is a reason that the FSO works directly for the commander. The use of the 5M Model is an example of how FSOs can maximize the success of their squadron at RED FLAG. The precedent set by someone arriving at Nellis who is not fit to fight jeopardizes the valuable training that RED FLAG affords. Therefore, commanders must ensure that their squadrons are ready, and each participant must be grounded in the basics before the Sunday in-briefs. If not, they are taking unnecessary risks before the simulated war even starts.

RED FLAG ORM CHECKLIST

This is not an all-inclusive checklist but gives FSOs a starting point to evaluate squadron readiness. If the FSO concentrates in these 4Ms then the 5th M, Mission, has greater chance of success.

- **MANAGEMENT**
  - Establish exercise objectives
  - Evaluate squadron readiness
    Appoint an experienced project officer
- **MEDIA**
  - Establish a solid training plan
- **Dedicate scheduled aircraft solely for RED FLAG spin-up**
- **Culminate in a base Live Fire Exercise prior to deployment**
  - Print copies of Nellis In-flight Guide and local area maps for everyone (NLT 1 month prior)
- **Highlight common visual references on maps**
  - Conduct squadron academics on Nellis procedures and SPINS
- **Type and number of aircraft participating**
- **Missions to expect**
- **Nations involved**
- **Vulnerability periods and mission commander responsibilities**
  - Test squadron aircrew knowledge of Nellis procedures and SPINS
  - Foot stomp mishaps associated with RED FLAG (HATRs on recovery)
- **MACHINE**
  - Inform maintenance of planned deployment configuration
  - Determine the best exercise configuration
  - Determine sortie generation schedule and number of aircraft to deploy
  - Planned ordnance (live drops involved; relocating aircraft)
- **MAN**
  - Establish upgrade priorities
- **Mission commanders need comprehensive academics**
  - Training currencies (Night, LOWAT, AAR)

Photo By: SSGT Jeffrey Allen

I'm here to tell YOU

Photo by: SSgt Jeffrey Allen

Photo by: Mr. Steve Wallace

Editor's note: The following article, written by then Maj Allen McLellan and Capt Neil McAskill, first appeared in the July 1985 edition of TAC Attack the forerunner of The Combat Edge. This is an on-going project to pass on timeless lessons learned from the past that still have applications today.

When I entered the squadron that morning, the desk dog told me about another safety read file item that I needed to read and sign off before my night mission. I opened the pubs file and began to read. The message was a familiar one: it seems another pilot rode his aircraft into the ground. On initial climb out, the formation entered the weather and number two went lost wingman. He impacted the ground shortly thereafter, in a 30-degree nose-low attitude with 60 degrees of bank. The safety board findings were predictable: spatial disorientation, failure to transition to instruments, etc. I signed it off and mentally filed it away with the hundreds of other, similar accident and safety reports I had read over the years. Transition to instruments, I thought, that's the kicker. Got to believe those instruments. That had been pounded into me as far back as basic pilot training.

Our mission that night was a practice tactical qualification check with a night air refueling. It was my third consecutive night sortie that week, and one which I approached with waning enthusiasm. The permission brief was routine. The weather was forecast to be VFR throughout the low-level flying area, but the visibility at the airfield was predicted to be 2 miles with fog. No sweat. I had every reason to believe that this would be just another routine RF-4C night radar ride. And why not? My tail gunner was an experienced WSO, an ex-SEFE with over 1,000 hours in the pit. I had just completed the instructor pilot upgrade and was confident in my ability to fly both the aircraft and the mission. We were both very familiar with the local flying area and procedures. We had flown together before and were comfortable with each other as a crew. There was absolutely nothing about tonight's mission that could increase my adrenalin flow.

It was a twilight takeoff. The visibility had begun to drop and was already down to 2 miles around the airfield. The night-refueling portion of the mission was uneventful. When we left the tanker, we discovered that we had a radar problem which prevented us from flying the tactical portion of the mission. We decided to return to base and fly approaches until we were light enough to land. We requested and were cleared for the high ILS penetration and approach.

I briefed the published approach procedure to my back-seater and readied my cockpit for the descent. After the penetration, we turned off the arc and established ourselves on a 15-mile ILS final. At 12 miles, we configured for a normal approach. As the WSO read the step-down altitudes, I concentrated on maintaining course alignment and prepared to intercept the glidepath. At 7 miles, with the before landing checks complete, we started our descent — on-course, on-glidepath and on-airspeed.

Passing 2,000 feet, we settled into a fog layer. About 4 miles out on final, I glanced out of the cockpit, looking for some visual cues to confirm that my instruments were accurate. When I looked out over the glare shield, I was overwhelmed with the sensation that we were climbing. I felt – no – I knew we were in a 30- to 40-degree nose high attitude, and that if we continued, the aircraft would ultimately stall. This sensation was reinforced by the fact that all I could see out of the cockpit were stars above a downward sloping layer of fog. This fog layer completely obscured the horizon as well as any ground/sky references. The only ground references that I could see were the faint flickering of the runway sequenced flashing lights off in the distance.

I unconsciously released back-pressure on the stick and came back inside to my instruments. The aircraft quickly transitioned from on-glidepath to well below glidepath. I remember cross-checking each of my critical flight instruments: the VVI was minus 2,000 fpm, the ADI read 5-degrees nose high, the altimeter was decreasing through 1,200 feet MSL, we were on course but at least two dots below glidepath. For the next few seconds (which seemed considerably longer), I struggled with what the data from the instruments were showing me and what every nerve in my body was telling me. I wanted to believe my instruments, but somewhere within the process whereby the brain absorbs data, analyzes it and sends instructions to the muscles to react to that data, the process broke down. I was unable to react. I continued trying to fight this mass of sensory confusion; finally, as the altimeter fell through 1,000 feet, I asked the WSO to "Take the aircraft." The pitter immediately came on the controls and started a go-around.

The aircraft started to climb after descending below 700 feet. My internal gyros began to stabilize as we climbed through the fog layer, and the horizon became visible again. I gang-loaded my oxygen regulator took control of the jet, contacted approach and turned to our downwind heading. While on downwind, I tried to reconstruct what had happened and how it affected me. We contacted the SOF and told him, as best we could, what had occurred and asked him to warn other aircraft of a strong visual illusion at 3 to 4 miles out on final. My WSO suggested that he fly the next approach while I monitored. This sounded like a good idea; it allowed me time to regain my composure and study the visual illusion in more detail. By monitoring this second approach, I was able to identify exactly when and where this illusion would take place. I flew the next approach, and then we came around for a full-stop landing. The illusion was so real that on each approach, even though we knew what to expect, we experienced varying degrees of disorientation. The difference was we were prepared for it.

It wasn't until I had landed and talked to a physiologist that I fully understood what had happened. As we descended into the fog, the horizon disappeared and all outside references became either indistinguishable or distorted. It looked as though we were flying through a goldfish bowl. The distant runway lights, along with the sloping fog deck, combined to substitute for the true horizon. Because of the downward slope of the fog deck, I was able to see the stars out over my glare shield. All of these factors led me to believe, instantly and without a doubt, that I was climbing in a nose-high unusual attitude.

Whether or not you understand the details of this event, as I have described them, is unimportant. The likelihood that you will ever see these same atmospheric conditions is probably quite slim. What is important is that you are aware of the power and reality of the visual illusion, so that when it's your turn in the barrel, you will be better prepared.

Lessons Learned

This can happen to you. Like many of you I have been number four at night, in and out of the weather. I've battled the leans and overcome various types of spatial disorientation with the best of them. I've flown approaches down to Category A minimums, failed to break and had to go around. With each of these little successes my confidence has increased. I began to believe, perhaps as you might now believe, that I was less susceptible to the types of disorientation which can lead to the disastrous results we've all read about in safety magazines and accident reports. Those of you who have experienced something like I've described in this article can relate to my story. For those who have not, my hope is that you will re-examine your beliefs about the power of the visual illusion.

Familiarity breeds complacency. During approach or any other critical phase of flight, our attention needs to be on the task at hand. During a penetration or on final is not the time to be filling out the 781 or thinking about anything other than the safe operation of that "mass of metal and JP-4" entrusted to you. Had this situation been compounded by an emergency or had my WSO not been ready to initiate a go-around, we may not have been here to write this article.

Tell somebody. The first person you should notify when something is wrong or doesn't appear normal is your pilot/WSO. Don't be afraid to speak up or take action if the situation dictates. A sudden plunge to minus 2,000 fpm on the VVI, after being established on the glidepath, must be instantly challenged.

That night, there was another aircraft in the pattern flying approaches before we arrived. The pilot in this aircraft experienced the same visual illusion with frighteningly similar results. He too descended below glidepath and recovered approximately 2.5 miles out at 500 feet AGL. Had the crew thought about notifying the SOF or approach control of the visual illusion, we would have been better prepared to deal with it.

Be prepared. Remember, a visual illusion is just that. It is not a mirage in the desert or an aberration brought on solely by fatigue or other physiological factors. It is a set of atmospheric conditions which have and will cause aircraft losses and aircrew fatalities. All visual illusions will create some degree of spatial disorientation. The impact of this disorientation on the control of your aircraft will be affected by how well you are prepared, both mentally and physically, to deal with it when it happens.

Epilog

I'd have to say that I am a better pilot now, after that experience. I've flown more night radar missions, in more fog banks, and hung on more wings in the weather. But I notice a more serious tone in my voice when I brief those special interest items, especially that particular item called spatial disorientation. I number myself as one of the fortunate to have experienced the power of the visual illusion and to be able to sit here and say, "I'm here to tell you."

Photo by: CMSgt Harold Clark

Photo by: TSgt Ben Bloker

Photo by: SSgt Cherie A. Thurlby

Monthly Award Winners

Pilot Safety
Award of Distinction

Capt Unks was part of a two-ship F-16 night Close Air Support (CAS) sortie, supporting Operation IRAQI FREEDOM. During take-off in full afterburner at approximately 155 knots on the dark, Capt Unks hit a large hole in the runway causing a compression of the left gear strut just prior to rotation. The left side of the aircraft settled suddenly as Capt Unks continued the take-off while cross-checking his engine for possible malfunctions due to tire-debris ingestion. Safely airborne, Capt Unks left his gear extended while climbing for a high key position. He requested a rejoin with his flight lead and informed the SOF that he might have blown his left main tire, which was verified by his flight lead and airfield management who found large pieces of tire debris on the runway. The flight coordinated with the SOF and CRC to jettison Capt Unk's two GBU-12s and single GBU-31 over the AOR jettison area. Capt Unks completed the Jettison checklist, released his weapons, ran the checklist for landing with a blown left main landing gear tire, turned toward the field and began reducing his fuel weight. He also completed the approach-end cable arrestment checklist, locked his shoulder harness and lowered the aircraft hook. Capt Unks then flew a night visual approach landing 500 ft down, on speed at 13 degrees angle of attack, on the dimly lit runway, successfully engaging the approach-end cable per the checklist. The aircraft came to rest on runway centerline with minimal cable-strike damage.

Capt Bryan Unks, 421st Fighter Sq., 388th Fighter Wing, Hill AFB, Utah

Flight Line Safety
Award of Distinction

On 11 Feb 05, while analyzing oil samples from oil servicing carts, SrA Chris Ellis and SrA Amanda Welch identified oil in a servicing cart that appeared to be discolored. They analyzed the oil on their section's Spectroil M spectrometer and found nothing abnormal. Undeterred, they ordered a resample of the oil servicing cart to confirm their suspicions. The resample also came back in a similar discolored fashion. In order to determine the source of the contamination, they took a sample from the 55-gallon drum of oil that was used to replenish the oil servicing carts; and this sample was more discolored than the previous samples taken from the oil servicing carts. Based upon their analysis, SrA Welch and SrA Ellis determined that the 55-gallon drum of oil was contaminated with hydraulic fluid. They immediately notified their flight supervision and the Maintenance Operations Center that aircraft may have been serviced with contaminated oil. Further investigation found four oil servicing carts had been filled from the hydraulic fluid-contaminated drum and 23 F-16 aircraft had been serviced with these oil servicing carts and thus were also contaminated. SrA Welch and SrA Ellis' intense motivation and keen attention to detail caught this potentially disastrous situation before any of those aircraft flew, averting severe engine damage and catastrophic failure to 23 aircraft engines.

SrA Chris Ellis and Amanda Welch, 20th Equipment Maintenance Sq., 20th Fighter Wing, Shaw AFB, S.C.

Unit Safety
Award of Distinction

The 30th Intelligence Squadron has consistently executed an exemplary safety program, resulting in zero on- and off-duty mishaps for the month of March 2005. Additionally, during a staff assistance visit, the Headquarters Eighth Air Force Safety Office team members observed an exceptional culture of safety throughout the entire 480th Intelligence Wing. The 30th Intelligence Squadron Unit Safety Representative (USR), SSgt Cathryn Acklin, was singled out for her exceptional safety program management for the past 2 years. The recent transition of duties from SSgt Acklin to the new USR, SSgt Joanna Espique, was one of the smoothest ever, noting that exceptional continuity was maintained through the use of meticulous ground mishap logs, monthly safety messages, semiannual safety inspections, an active motorcycle riders log and the creation of a new office safety inspection form. Of note, this new office safety inspection form was identified by inspectors as a benchmark for adoption by all wing organizations and shop supervisors to further develop and aid 480th Intelligence Wing mishap prevention program effectiveness. Other programs and efforts recognized by inspectors included the proactive motorcycle mentorship program. The USR aggressively maintains an active listing of all squadron riders in order to identify novice riders, potential mentors, and training requirements. The 30th Intelligence Squadron team led by SSgt Acklin and SSgt Espique were identified as the program with the "best practices," and their efforts to provide both a safe work environment and safety-focused personnel. The 30th Intelligence Squadron safety program is an outstanding example of the Air Force taking care of its most valuable resource -- its people.

30th Intelligence Sq., 480th Intelligence Wing Langley AFB, Va.

Ground Safety
Award of Distinction

In Jan 05, the cement collapsed underneath the bogie portion of a MHU-204 trailer, presenting two concerns: damage to the trailer and damage to the heating system pipes under the cement. Members of the AGE flight along with the Repair and Reclamation section were concerned with the two main hydraulic pumps, located under the front portion of the bogie, and determined that starting the trailer could do more damage. The team chose to use a 60-ton crane to rescue the trailer. To allow the trailer to roll back away from the damaged concrete as it was being lifted, the trailer's brakes had to be released manually at the same time. The weather was deteriorating rapidly and it started to sleet, so the team requested wind direction and speed from the MOC and installed two static lines to the front of the trailer to keep the trailer away from the hangar. The team completed a flawless lift, and after the trailer was secured on the ground the package was swapped out with no defects noted. The team saved the loss of a $950,000 weapons-load trailer, as well as countless man-hours spent in repairing low-observable materials on five different B-2 aircraft, totaling $12,700.

SSgt Mumma, SSgt Cantrell, SSgt Diaz, SrA Rodriguez, SrA Ortiz, SrA Baldwin, SrA Barnard, SrA Tickle, TSgt Waller, SSgt Whitt, MSgt Davis, TSgt Holland, and SSgt Duke, 509th Maintenance Sq., 509th Bomb Wing, Whiteman AFB, Mo.

Monthly Award Winners

Aircrew Safety
Award of Distinction

Gold 01 (KC-10 from 2 ARS/305 OG, McGuire AFB) was supporting a Coronet mission en route to Operation IRAQI FREEDOM. After a good weather brief the 10 F/A-18s departed Beaufort and proceeded to Lajes AB, Azores. En route checks of the weather showed a significant decrease in the ceiling and visibility. Gold 01 made note of the change and passed the information to the second cell of F-18s and the supporting tanker. Upon arrival in Lajes airspace, the crew quickly became aware the weather was even worse than ATIS was reporting as the F/A-18s had great difficulty landing. After waiting for the F-18s to land safely (including the #5 F/A-18 who temporarily closed the single runway with a blown tire), Gold 01 landed and relayed the weather was marginally at ILS landing minimums. Gold 01, realizing the difficulty the second cell might experience, wasted no time in coordinating ground refueling and kept the crew in close proximity of the plane. After the second cell arrived overhead Lajes, it became evident that the aircraft would be unable to land and the only suitable field was in Spain 1,200 miles away. After giving the fighters what fuel they had, the second cell's tanker had to depart Lajes and head towards their primary divert. Through exceptional crew resource management, the Gold 01 crew accomplished in 90 minutes what normally takes 4 hours and 15 minutes when they downloaded one pallet of MICAP cargo and uploaded 140,000 lbs of fuel to launch with sufficient range to escort the second cell's fighters to the European continent. After an emergency climb, Gold 01 quickly located and began refueling with the fighters who each had only about 5 minutes of fuel remaining. Gold 01 then accompanied the fighters to Moron AB, Spain, where they landed uneventfully. Gold 01 maintained incredible situational awareness throughout this entire mission, and their actions on that day saved four F/A-18 aircraft and ensured the safety of eight crewmembers. A job well done!

SSgt Jason Farkas, Capt Jerry Leinecke, Capt Mike Capodicasa, SSgt Scott Bishop, SrA Lawrence Scott, Capt Chris Watson, TSgt Michael Cano, 2nd Air Refueling Sq./605th Aircraft Maintenance Sq., HQ ACC/DO, Langley AFB, Va.

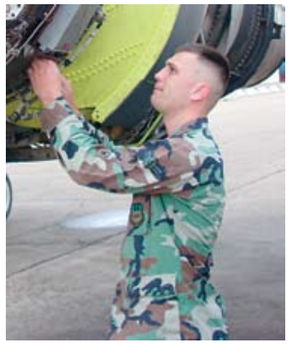
Weapons Safety
Award of Distinction

On the evening of 12 Aug 04 at approximately 1700 hours, SSgt Garcia, SSgt Mason, SrA Roof, and A1C Miller of the 366th Equipment Maintenance Squadron were conducting an upload operation of 20 live AIM-120C missiles from a CNU-431 container to MHU-141 trailers. The crew had loaded 16 missiles and started with the last container when the forklift driver, A1C Miller, raised the 17th missile and had only moved about 5 feet from the container when a loud popping sound was heard. The MK24 bar's forward end weld had broken, causing the missile to fall forward. Instantly, SSgt Garcia grabbed a hold of the front of the missile to keep it level and instructed SrA Roof to level the tail. Since there was no way possible to make it back to the container, SSgt Garcia instructed A1C Miller to slowly lower the missile on the floor. Once the missile was on the ground, the crew unhooked the MK24 bar and put a radome cover block on the AIM-120C. Shortly afterwards another MK24 bar was acquired and the operation finished.

SSgt Michael B. Garcia, 366th Equipment Maintenance Sq., 366th Fighter Wing, Mt Home AFB, Idaho

Crew Chief Safety
Award of Distinction

On 10 Feb 05, at 2330, the six-person flight crew on B-52 aircraft 60-001 reported a hissing sound coming from inside the crew compartment after taxiing back from a training sortie. A1C Norton investigated the source of the sound and found the Navigator's halon fire extinguisher bottle discharging inside the crew compartment. Quickly assessing the danger posed by the presence of halon inside the enclosed compartment, Airman Norton informed the flight crew so they could evacuate the aircraft. Casting aside his personal safety for the benefit of the crew, A1C Norton disengaged the fire bottle from its retaining bracket, removed it from inside the aircraft d it outside with safety cones. After reporting the maintenance supervision, Airman Norton guarded le until the base fire department arrived to contain t the next 4 hours hospital for treat- observation, and ed to the line to his maintenance work. Airman Norton's quick thinking and selfless actions under pressure averted the potential poisoning of six B-52 crewmembers, and truly exemplify the Air Force core value of "Service Before Self."



A1C Benjamin R. Norton, 2nd Aircraft Maint. Sq., 2nd Bomb Wing, Barksdale AFB, La.

ACC Safety Salutes Superior Performance

Capt Mikko R. LaValley
U-2 Pilot
1st Reconnaissance Squadron
9th Reconnaissance Wing
Beale AFB, Calif.

Capt Damon A. Anthony
Ass't Ops Officer
17th Weapons School
Nellis AFB, Nev.

Lt Col Louis E. Laporte
Instructor Pilot
Maj Donald E. Mathews III
Aircraft Commander
Lt Col Barry J. Cousler
Instructor Navigator
TSgt Michael T. Nelson
Flight Engineer
SMSgt Augustus C. Haggerty
Instructor Flight Attendant
1st Airborne Command Control Squadron, 55th Wing,
Offutt AFB, Neb.

SSgt Jose Leos
Dedicated Crew Chief
7th Aircraft Maint. Sq.
7th Bomb Wing
Dyess AFB, Texas

Maj Reed Estrada
Supervisor of Flying
Maj Cary Windler
Duty Instructor Pilot
Maj Loren Larson
11th Bomb Squadron
2nd Bomb Wing,
Barksdale AFB, La.

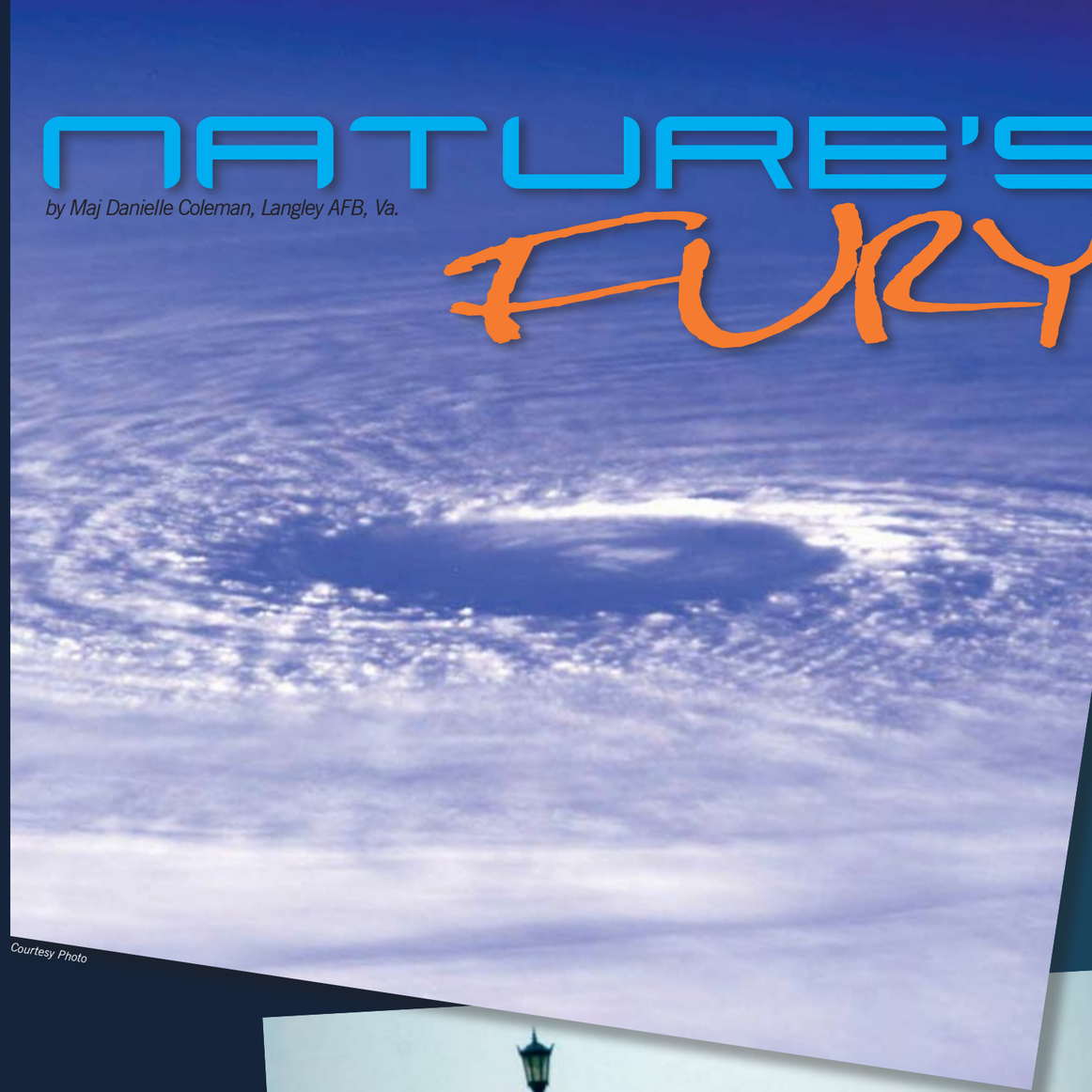
TSgt James A. Sult
Production Supervisor
2nd Munitions Squadron
2nd Bomb Wing
Barksdale AFB, La.

TSgt Tyron Martin
NCOIC Munitions Handling
20th Equip. Maint. Sq.
20th Fighter Wing
Shaw AFB, S.C.

SEEK Shelter
Before Nature comes knockin'
Photo by: Mr. James Shryne
482
43

NATURE'S FURY

by Maj Danielle Coleman, Langley AFB, Va.



Courtesy Photo

Photo By: TSgt Ben Bloker

Just about every ACC base experiences some type of severe weather each year. Tornadoes, heavy rains that can lead to flooding – including flash floods, storm surges, large hail (3/4 of an inch or larger), lightning, and straight-line winds gusting in access of 50 knots or 57.5 miles per hour are all potential outcomes of severe thunderstorms and some of the hurricanes that make landfall. No matter what Mother Nature dishes out, there are safety precautions and preparations all ACC personnel can take to minimize the danger and/or damage.

Weather threats are very real. An average of 800 to 1,000 tornadoes occur each year, resulting in 80 deaths and over 1,500 injuries. Flash floods are responsible for 146 deaths annually. Lightning kills 75 to 100 people each year. Large hail can reach the size of a grapefruit and causes several hundred million dollars in damage annually to property and crops.

As military members we have an obligation to protect our families and homes, as well as our work spaces and equipment. We must also be accountable to our chains of command for our whereabouts during severe weather events. Education and preparation are the keys to saving lives and reducing property damage.

Shortly after arriving at a base, gather information about the weather hazards associated with your local area and the warning signs of each one. Contact your base weather or disaster preparedness shop, the local National Weather Service office, emergency management or civil defense office, or American Red Cross chapter. The Federal Emergency Management Agency (FEMA) and the Department of Homeland Security provide a great deal of information concerning the threat to life and property from natural disasters, how to identify them, how to protect against and prepare for them and the actions you can take after a natural disaster event occurs online at http://www.ready.gov/natural_disasters.html, and http://www.fema.gov/areyouready/ . You can also find a lot of information on the internet at sites like: http://iwin.nws.noaa.gov/iwin/nationalwarnings.html, and http://nssl.noaa.gov.

Learn the warning signals and evacuation plans that will be used by your base and community. It is important to know the name of the county or parish in which you live because that's how watches and warnings are issued. Once you have collected this information, call a family meeting to discuss it and develop a family disaster plan for home, work, school, and outdoor activities.

Designate emergency meeting places. These will be different depending on the emergency. For high wind threats at home (not a mobile home), designate a basement or ground floor interior hallway or room that puts as many walls as possible between you and the outside. Make sure the area is uncluttered, but has a sturdy object such as a heavy table to protect family members from falling objects. Do not choose an area that has windows or glass doors. Always use your arms and hands to protect your head and neck from falling or flying objects. If you live in a high rise, the center hallway is the safest place.

For a mobile home, designate a shelter outside of the home (community shelter, nearby basement or sturdy building) and make sure all family members know to leave immediately. This would also be a good time to designate a meeting area outside the home for an emergency such as a fire, but be sure to distinguish to younger children the difference between safe places (e.g., fire versus tornado).

If you are building a home in "Tornado Alley" or in a high wind or severe weather area that is prone to tornado or hurricane events you may want to consider building a storm shelter inside your home. FEMA provides an information booklet entitled: "*Taking Shelter from the Storm*: *Building a Safe Room inside Your House*" at http://www.fema.gov/pdf/fima/fema320.pdf . The booklet explains that "having a shelter, or a safe room, built into your house can help you protect yourself and your family from injury or death caused by the dangerous forces of extreme winds. It can also relieve some of the anxiety created by the threat of an oncoming tornado or hurricane." Prior to building a shelter in your house, FEMA recommends that you first consider your location (i.e., are you living in a high risk area), how quickly you can reach safe shelter during extreme winds, what level of safety do you want to provide and cost considerations of building a shelter. The booklet provides construction plans, cost estimates as well as engineering results on the effects of severe winds on building construction conducted by Texas Tech University's Wind Engineering Research Center.

If family members find themselves outside during high wind threats, they need to seek immediate shelter in a nearby basement or sturdy building. If shelter is not available, lie flat in a low-lying area that is not prone to flooding. If you are on the road, do not try to outdrive the threat. Leave your vehicle immediately and seek shelter, but not under overpasses and bridges.

If the threat is lightning, family members should remain in their vehicles. If outside, they need to leave summits of mountains, crests of ridges, slopes above the timberline or large meadows/open spaces. They should descend to a lower elevation, squat down, or kneel down on a pad with your feet close together to minimize contact with the ground, and keep your head low. Dense forest located in a depression provides the best protection. Avoid isolated trees, trees much taller than adjacent trees, shallow caves, overhanging rocks, water, metal fences, and power lines. If in a group, spread out at least 100 feet apart. Follow the "30-30" rule: Take shelter if the time from seeing a flash to the time you hear thunder is 30 seconds or less and don't resume activities until 30 minutes have elapsed from the last lightning and thunder.

For flooding threats, always know where you are and how to get to higher ground. Solitary storms that move through an area in 20 minutes or so do not present a high flash flood threat, however, take note to stay away from natural and man-made drainage areas. Watch for an increase in speed or volume of stream flow and never attempt to cross water that is over knee deep. As little as 6 inches can sweep you off your feet, so don't underestimate the power of moving water. Never drive into water if you don't know exactly how deep the water is. It only takes 18 to 24 inches of water to float most motor vehicles and then the vehicle is out of the driver's control.

Now that you have established where the safe places are and how to get there in a weather emergency, it's time to discuss evacuation plans. Take into

consideration the special needs of your family (e.g., infants, elderly, disabled, and pets) when making your plans. Discuss what everyone's responsibilities would be in the event that local officials order an evacuation and emphasize the importance of following evacuation orders. Designate primary and secondary evacuation locations outside the threat area. Choose a friend or family member outside of the threat area as a "family-check-in contact" for everyone to call if the family gets separated.

Once you've determined what actions your family will take at home, on the road, and outside for the different weather hazards, it's important to get the same information for family workplaces, schools, and day care centers. When your family's plan is in place, it is imperative that you pass that information onto your supervisor. At a minimum, provide the names of family members who will be evacuating with you, primary and secondary evacuation locations outside of the threat area, "family-check-in contact," and any additional information that will help the military locate you in the event of an emergency or evacuation. Supervisors, make sure you have this information on all your individuals. A base-generated form is an ideal tool for collecting this information. All military personnel have a responsibility to maintain contact with their chains of command.

Make outdoor preparations. There are many things we can do before a severe weather event to minimize injuries and damages. Look around your yard. Make trees more wind resistant by removing diseased or damaged limbs or, if necessary, remove entire trees. Determine what areas of your home are prone to flooding and prepare enough sandbags to protect them. Secure loose rain gutters and downspouts and try to keep them clean year round. Install permanent shutters on windows and doors -- especially sliding glass doors. As an alternative, you can attach anchors for pre-cut ½ inch plywood boards with pre-drilled holes. Have an engineer check your home and advise you about ways to make it more wind resistant. This can include strengthening garage doors, reinforcing your pre-designated safe room, or even elevating coastal homes. If you live in a manufactured home, re-check and reinforce tie-downs. Finally, make sure your insurance policies are adequate for the weather hazards you might encounter.

Photo Illustration By: SrA Alex Sotak

Make indoor preparations. Start by posting important emergency phone numbers. Include base numbers that you will use to maintain contact with your chain of command. Inspect your home for potential hazards (i.e., items that can move, fall, break, or catch fire) and correct them. Install safety features such as smoke detectors and fire extinguishers. Assemble 3-day disaster supply kits in sturdy, easy-to-carry containers like backpacks or duffle bags.

Supplies should include:

- Water (one gallon per person per day)
- One change of clothing and footwear per person
- First-aid kit (include prescription medicines)
- Emergency tools
- NOAA Weather Radio with warning alarm tone and battery back-up
- Portable radio
- Flashlights (one per person; avoid using candles or kerosene lamps)
- Extra batteries
- Extra set of car keys
- Credit cards and cash
- Cards, games, books
- Specialty items for infants, elderly, disabled, pets
- Waterproof container for important family documents

It is also a very good idea for each family member to learn basic safety measures (e.g., CPR, first aid, fire extinguisher use, how and when to turn off the water, gas, and electricity in your home). Just remember, if you turn off the gas, it might take a professional to turn it back on which may take several weeks to happen after a disaster. Another time saver is to make a list of things that only need to be done just before a severe weather event occurs.

This would include some of the following items:

- Secure outside items (i.e., lawn furniture, outdoor decorations or ornaments, trash cans, hanging plants, outside antennas, etc.)
- Close and board all windows and doors
- Place sandbags around flood prone areas of your home
- If you own a boat, moor it securely or move it to a designated safe place
- Turn off propane tanks
- Turn refrigerator/freezer to coldest setting
- Unplug appliances that may be affected by power surges as the storm approaches or after power is restored
- Store drinking water in clean bathtubs, sinks, plastic bottles, and cooking utensils (this is usually the greatest need following a disaster)
- Fill car gas tank and a tank for your generator (if you have one)

Maintain your plan. Having a great plan will not serve you and your family well if no one remembers what to do. Have frequent drills. Ask questions about meeting places, phone numbers, and safety rules. Test smoke detectors monthly and change the batteries at least once a year. Test and recharge fire extinguishers according to manufacturer's instructions. Replace stored water and food every 6 months.

Severe weather is a possibility no matter where you are stationed. Be prepared and plan to be safe!

Resources used to create this article: Talking About Disaster: Guide for Standard Messages by National Disaster Education Coalition, Washington DC, 1999. Websites:

http://cimms.ou.edu/~doswell/tstm_camping_safety.html,
http://www.nssl.noaa.gov/NWSTornado/
http://www.education.noaa.gov/cweather.html

Photo By: TSgt Bill Kimble

Photo By: TSgt Ben Bloker

Photo By: TSgt Ben Bloker

MISSILE HURRICANE

by Anonymous

Photo by: TSgt Demetrius Lester

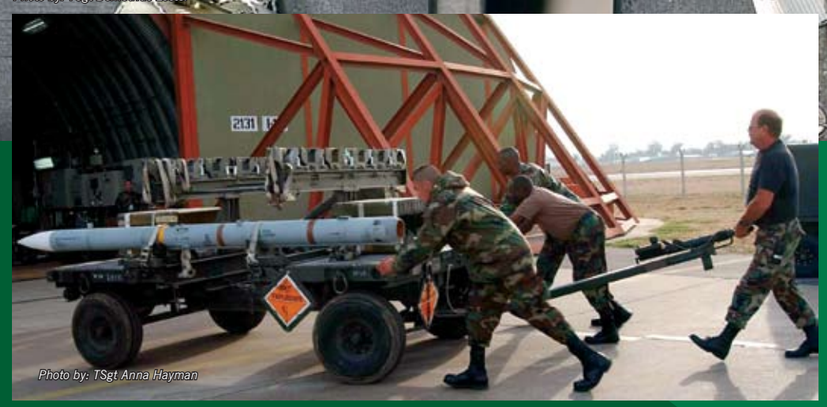


Photo by: TSgt Anna Hayman

Weapons Safety, as we commonly understand it, is already a must for every operation within the 2W0 career field, but the preparations that are necessary for a natural disaster make the term "Weapons Safety" take on its literal meaning. This year Eglin Air Force Base, Fla., found itself in the potential path of Hurricanes Charley, Frances, and Ivan. Making sure the weapons on base were safe from the damaging power of the storms became a top priority.

Eglin AFB was already hectic with a busy flying training schedule and Operation NOBLE EAGLE (ONE) missions, so the hurricanes just made our task even more challenging. As everyone was preparing to brace their homes and personal belongings for the storms, Ammo troops had a duty to first prepare the munitions within the Munitions Storage Area. Not only did we have to safely secure vehicles and equipment, but we also had to pack up the Air Intercept Missiles (AIMs) in the containers they are shipped and stored. This was so they would be protected in the event that the walls of their steel storage buildings were destroyed by the high winds. Now that might not sound so bad at first until you realize how three storms in a row affected our operational status.

The fighter squadrons had to be ready to fly ONE missions after each hurricane passed through. This meant that before each storm, the AIMs were downloaded from the aircraft, placed on trailers, transported to the storage area, and packed into their containers. Once packaged, the AIMs had to be stacked inside the buildings and bound together with chains and binders to prevent them from falling over or being ripped open. After each hurricane cleared our area, this process had to be reversed to get the AIMs back on the aircraft and get the fighters into the air. As you can imagine this task was becoming monotonous by the time Hurricane Ivan hit town, but it was critical. The missiles must be given as much priority as the jets they fly on because if they are damaged beyond repair, then we've lost our capability to defend the country.

Photo by: SSgt Josef Cole

Photo by: SSgt Louis Rivers

Fortunately, Eglin AFB was outside the direct paths of Hurricanes Charlie and Frances. We only got light rains, but this was not the case with Hurricane Ivan. While there was a lot of damage to buildings, trees, electric poles and part of the security fence, thankfully, the missile storage building pulled through without any damage. The winds were so strong that another storage facility had its roof taken off, leaving a natural sunroof.

Taking the necessary steps to protect Air Force assets from natural disasters can be a fairly tedious responsibility, but you feel great when you come back to work and find valuable equipment still in serviceable condition. It's just another aspect of the many safety things we do to keep the Air Force ready to fly and fight when the nation calls on us.

Photo by: SSgt Justin Pyle

3 Against the Bay

by Mr. Stan Hardison, Kinston, N.C.

Photo by: TSgt Ben Bloker

Photo by: SSgt Eric T. Sheler

It was daybreak and an early summer sunrise on the Chesapeake Bay is something to see. On this particular morning, there was a slight north east wind changing the surf to low rolling swells and white caps before they rolled into the small marina on the south end of the Bay. Boats of all sizes were slowly rising and falling in their slips, quietly keeping perfect time with the rhythm created by the surface action. The wind was picking up salt spray from the crest of the swells and white caps and creating a light gray film on the windows of boats, buildings, and the few cars and trucks in the marina parking lot. To the north, clouds were building. If the wind stayed in this direction, it was near certain that this part of the Bay would soon be overcast with a strong possibility of rain. The marina's staff had already read the signs and posted a small craft warning. Judging from the time of year, temperature and wind direction, they had every reason to believe the situation would get worse.

It was now 7:15 in the morning and a light blue pickup, towing an almost new 20-foot fiberglass runabout, pulled into the marina parking lot. After lining the small craft up with the public launch ramp, the truck stopped and three men in their middle twenties got out and walked down to the water's edge. They stood without talking for a few moments, looking out over the water and up at the partially overcast sky.

"Whatta' you think, Chuck?"

"I don't know for sure, but I think it's gonna' get a little bumpy out there today. How do you see it, Stone?"

"It could be a little uncomfortable for a while, but I've seen worse. I think it will clear up in an hour or two."

Dan, after hearing the remarks of his two companions, turned his attention back to the rolling water and studied the situation a few more minutes before speaking.

"I know we've been planning this trip for a long time and we've driven a long way, but none of that is worth getting ourselves in trouble. It's your boat, Stone, you call the shot."

"Dan's right, Stone," Chuck spoke up. "We can put this bait on ice and wait for a better day."

"Now hold on you two," Stone interrupted. "I said we're going fishing today and we're going fishing. It'll be a cold day when a few white caps and dark clouds make me go home without wetting a line."

"That's our man Stone. Let's get this baby in the water and catch some big ones."

After launching the small boat, Stone moved the pick-up and empty boat trailer back up the ramp and parked them on the back side of the marina parking lot. He had no trouble at all finding a choice parking spot and he wondered why so few people were not taking advantage of the warm spring weather. "Looks like we're gonna' be all alone out there today," Stone thought as he switched off the ignition. "But what th' heck. That just means more fish for us."

Stone locked his truck and hurried to join his fishing buddies, completely forgetting the brand new, handheld VHF radio, lying on the floor of the truck still in its original box.

In the meantime, Chuck and Dan made a quick check of the boat making sure they had everything needed for a day of fun on the water. The cooler with the beer and food was checked first; all the fishing tackle was accounted for as well as a second cooler of bait and ice. The extra gas can was in place plus anchor, chain, and line. Almost everything was checked except the northern sky. The clouds were getting darker and the wind was getting stronger.

When all three men were on board, Stone did a fast motor check while Dan and Chuck pushed the small boat from post-to-post along the boat slips toward the open water of the Chesapeake Bay. They joked about not being able to stand up because of rough water, saying that after a few beers, it wouldn't make any difference anyway. As they pushed free of the last slip post, Stone's second try brought the big motor to life accompanied by loud cheers and the whoosh of three beer cans being opened.

About 100 feet from the marina and heading almost due north, Stone discovered the water was much rougher than he thought, so he decided to check with his companions to see if they had second thoughts and wished to call the trip off. By now there wasn't a hint of sun or clear sky anywhere on the northern horizon. White caps were on all the swells and the wind was getting stronger. With all these signs available to help them change their minds, the three young men had convinced themselves that this was a day to go fishing. Hearing this, Stone kicked the big motor into drive and turned toward the open bay. Two beers each and 40 minutes later, Stone had the small boat over one of his favorite fishing spots.

"This is the place," Stone yelled as he shut off the motor and gave it a fast check, making sure all switches were in the proper position and gas turned off.

Dan and Chuck had the poles ready and hooks baited. Their plans were to eat, drink, drift, and fish. At this point, there was no doubt in any of their minds that when this small craft arrived back at the marina, both coolers would be heavy with fish.

By now the men had gotten used to the boat's rocking and rolling. Not one of them in the past half hour had noticed the condition of the water gradually getting worse. Nor had they noticed the sky in the east was now also getting darker.

Dan was the first to catch a fish. It was a keeper, but nothing to brag about. In any case, this simple feat called for another round of beer. Stone hooked the second one, but it got away before he could get it on board. They drank to it anyway.

It was almost 9:00 in the morning when a light rain started. The cold drops peppered their head and shoulders like so many little wet fingers trying to get their attention and urging them to check the sky and take heed of its warning. Chuck was the first to suggest moving closer to the shore in case the rain got worse and they had to make a run for home.

"What do you think, Dan?" Stone asked concerning Chuck's suggestion. "Are we in for a real boat-bailer or not?"

"There's been no sign of thunder or lightning. I think it'll blow over in a few minutes." He answered while putting on a fresh bait.

It was then that Chuck pointed out that the wind had changed directions slightly in the last half hour, causing them to drift further out into the Bay. The shoreline to the west was now a thin, blurry strip. Without a word, Stone reeled in his line and placed his pole on the deck. He was going to follow Chuck's suggestion and move the boat closer to shore.

The big motor started on the first try and Stone began a slow, wide turn in an attempt to point the small boat toward the marina. The powerful motor had no trouble pushing the open boat up the face of the next slow-rolling swell. It was the angle of the slide down the other side and the next swell that started a tragic chain of events.

The forward motion and the angle of the turn brought the runabout broadside to the oncoming water and the boat instantly became a 20-foot fiberglass water scoop. It wasn't until they were on the crest of the next swell that they realized small objects were floating around inside the boat, banging against their shins and ankles. The motor was still running and Stone yelled to his very wet companions to grab something and start bailing. Dan quickly dumped the bait over the side and went to work with the empty bucket. Before Chuck could find anything to use, the next swell put every-

Photo by: SSgt Eric T. Sheler

- **Be Weather Wise.** Sudden wind shifts, lightning flashes and choppy water all can be indicators that a storm is approaching. Pay attention to local weather, heed warnings, and keep a portable radio to regularly check weather reports.

- **Bring extra gear you may need.** Keep on board a flashlight, extra batteries, matches, a map of where you are, flares, sun tan lotion, first aid kit and sunglasses. Put things that need to be protected in a watertight pouch or a container that floats.

- **Check:**
  - Vessel Numbering
  - Life Jackets – one for each individual on the boat
  - Fire Extinguishers
  - Navigation Lights
  - Visual Distress Signals
  - Fuel and Fuel System
  - Anchor with Line
  - Paddle or Oar
  - Manual Pump or Bailer
  - Electrical Installation
  - Galley Installation

- **Tell someone:** where you're going, who is with you, and how long you'll be away. Then get in the habit of checking your boat, equipment, boat balance, engine, and fuel supply before leaving.

- **Ventilate after fueling.** Open hatches, run blower and most importantly, carefully sniff for gasoline fumes in the fuel and engine areas before starting your engine.

- Keep fishing and hunting gear clean and well-packed. A loose fish hook can cause a lot of pain and ruin a great outing. Bring an extra length of line to secure boat or equipment.

- When changing seats or moving about, stay low and near centerline of a small boat.

- Wear a personal flotation device (life jacket).

- **Don't drink alcohol if you are operating a boat.** A blood alcohol content between 0.08 and 0.10 (depending on your state) will put you in violation of this federal offense. About half of the 900 annual drowning deaths involve alcohol.

- Be ready for trouble when a powerboat passes you in a narrow channel. As the lead boat, which always has the right of way, stay on your side of the channel and maintain a steady speed so that the overtaking vessel can pass you safely. Use your radio to discuss this with the passing boat.

- **Anchor from bow, not stern.** Use anchor line length at least five times longer than water depth.

- **Take a boat safety class.** As an extra benefit, you may earn lower boat insurance costs. For information about boating classes, call 1-800-336-BOAT.

From **http://www.onwater.com/firstconcern.html**

thing Dan had bailed out, plus many additional gallons of salty bay water, back into the small boat. The cooler of food and beer slammed into the middle seat and spilled most of its contents onto the water soaked deck. Chuck grabbed the food tray from the overturned cooler and joined Dan who was now on his knees, braced against the front seat, bailing for all he was worth.

Stone finally got the boat turned, but not in time to avoid taking a hard hit directly in the motor. It sputtered, missed a couple of times and died. Fortunately, they were in a position to let the next few waves go by without taking on much water. This allowed the frantic bailers to lower the water level inside the boat by a few inches.

"Do you have any life jackets?" Chuck yelled as he bailed.

"Yeah, they're either under the front seat or stuck up in the bow with the anchor."

Dan stopped bailing long enough to look under the seat and found two jackets still in their original plastic wrappers. He ripped the cover off the first one and put it on. While pulling the straps tight with one hand, he tossed the other jacket

Photo by: SSgt Eric T. Sheler

to Chuck. Dan then stretched out on his belly across the front seat to reach the small door of the bow storage compartment. He opened the door, but found no life jackets. Two jackets between three men on a powerless boat taking on water isn't even close to an ideal situation.

All this time, Stone had been frantically trying to restart the motor. But he only succeeded in running the battery down. The wind and rain was getting stronger by the minute and a few more gallons of water had been thrown into the small boat.

"Where's that new radio you were telling us about? Don't you think it's about time you started using it and get us some help?" yelled Chuck.

When Stone made no move to get the radio, Dan and Chuck stopped bailing at the same time.

"You do have the radio, don't you?" Dan inquired at the top of his voice.

Stone just looked at this two friends and his expression told them exactly what they didn't want to hear. Without another word, both men resumed bailing.

The wind was blowing in strong gusts now and what was once rolling swells were now breaking waves as far as the eye could see. The rain had stopped for the moment, but another shower could be seen in the northeast and was heading in their direction. Stone thought of the flares in a small starboard compartment.

"We're not that far from shore," he thought. "There's a good chance that someone at the marina will see us." Stone slid across the rear seat and opened the small compartment. The flares floated out, soaked and useless.

Chuck stopped bailing and, without a word, picked up the life jacket Dan tossed to him earlier, ripped off the plastic and put it on. It's human nature, regardless of the situation, to feel better if you have someone to blame for your troubles. In this case, it was Stone. He was the one who forgot the radio, had a motor that wouldn't start, faulty flares and was short on life jackets. It was very easy for Dan and Chuck to convince themselves that Stone was responsible for their predicament.

A big wave and a strong gust of wind hit the boat at the same time, causing Dan to fall forward, smashing his face against the empty food and drink cooler. It didn't knock him out, but he was stunned to the point of finding it difficult to straighten up and keep his face out of the water. In an effort to help Dan, Chuck stood up just in time for the next big wave to hit him in the center of the back and knock him overboard. Dan didn't see what happened because of the blood now running into his eyes from cuts on his forehead. He couldn't breathe through his nose, so he was sure he had bashed it up real good. Stone, panicked and helpless, with no life jacket, just sat in the rear of the boat, clutching the dead motor. It only took a few more waves, hitting hard and washing over the side to sink the small craft.

The sun was warm on Dan's face. It wasn't until he tried to open his eyes that the pain hit him. He had a concussion and couldn't remember why he was all alone, floating around the Chesapeake Bay in a life jacket. He slowly washed his face, feeling the sting of the salt water in the cuts across his forehead. Swelling had completely closed his right eye, but the left one seemed to be working fine. He turned slowly, scanning the horizon, hoping to see something besides water.

"Where am I?" he thought. "I don't own a life jacket or boat … I think my nose is broken … What or who did this to me?

After spotting a shoreline approximately 100 yards behind him, he started pushing in that direction. Less than 20 minutes later, his feet touched bottom and he started a slow and painful walk toward the shore. Once on dry land, Dan unstrapped the life jacket and let it drop, still not remembering when or who had put it on him.

Dan had been walking south along the shoreline for a little over an hour when he started remembering bits and pieces of what happened. He knew now that there had been a small boat and other men, but he couldn't remember who or how many. The further he walked, the more his head hurt and his nose started to bleed. He tore off a piece of his shirt to wipe the blood away. But try as he may, he still couldn't remember his name or where he was from.

A young couple out for an evening ride, spotted Dan stumbling along the water's edge. After discovering just how bad his condition was, they took him to a local hospital. Chuck and Stone were never found.

****

Author's Comments: *Nearly 50 percent of all boating accidents are due to weather. Weather is one of the few killers that almost always forecasts its intentions. Those who listen, respect it and realize what it can do, rarely get into trouble. Those who choose to challenge it rarely win. In the case of Chuck, Dan and Stone, it would have taken so little on their part to make this an entirely different story.*

Fish are patient creatures. They really don't care when they get hooked; they'll wait for slick water and a sunny day. Bait is cheap and gas doesn't spoil. So when the weather turns bad, postpone that fishing trip. When a small craft warning is posted, believe it. Keep your boat on the trailer or in the slip and go bowling. The most you can lose is a few bucks or a round of drinks.

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Photo by: SSgt Eric T. Sheler

Boating Do's:
- Observe the Rules of the Road
- Carry a life preserver for each person on board: keep life preservers handy and PUT THEM ON in adverse conditions.
- Instruct at least one of your crew in the rudiments of handling your craft in case you are injured or become incapacitated.
- See that all hands know what to do in an emergency and where to find the safety equipment.
- Check weather and tides before going out.
- Check the gasoline system, and make sure that the tanks are vented and that bilges are free of vapors, oil, waste, and grease.
- Be sure that you have enough fuel with plenty to spare.
- Check your battery, lights and other equipment.
- Reduce speed through all anchorage and moorage areas.
- Reduce speed at night and during periods of poor visibility.
- Maintain a proper lookout at all times.
- Take your time in buying a boat or equipment: a bad "bargain" could cost you your life.

Boating Don'ts:
- Overload your boat or allow passengers to move about in a way that may change its balance.
- Leave shore in a leaky, damaged, or poorly constructed boat.
- Venture into dangerous or restricted areas.
- Operate near swimmers or divers.
- Forget that your wake can endanger others.
- Use gasoline stoves.
- Lie at anchor with a short scope of line.
- Mix liquor or drugs with boating.

REMEMBER!

A boat operator is responsible for any damage to persons or property caused by his wake!!!

From **http://www.onwater.com/firstconcern.html**

Mishap Statistics Scoreboard

FY05 Aircraft

As of April 30, 2005

	Fatal	Aircraft Destroyed	Aircraft Damaged
8 AF			
9 AF			
12 AF			*
AWFC		* x 4	
ANG (ACC-gained)			
AFRC (ACC-gained			

FY05 Ground

As of April 30, 2005

	Fatal	Class A	Class B
8 AF		4	
9 AF		2	
12 AF		5	
DRU's			

FY05 Weapons

As of April 30, 2005

	Class A	Class B
8 AF	0	0
9 AF	0	0
12 AF	0	0
AWFC	0	0

Aircraft Notes

ACC had 3 Class As in April. A B-52 was struck by lightning, an E-4 shelled a motor and an F-16 engine failed, prompting both pilots to eject. Both heavy aircraft landed safely. Recently, I got a chance to go fly at a strange field for a week. Yes, I'm bragging, but I can't pass up an opportunity to say, "Do like I say, not like I do." The first day, I was way behind the airplane … the radios were very busy and the accent confused me. What I heard was, "Line 1, fly d'aiddy sick ta guff, clear dadoon." What he said was, "Lion 1, fly the W86°00 line to GULF, Cleared the DDUNE recovery." By the RTB on the third day, I had it wired. What a beautiful Friday afternoon! Right up until the point where BOTH my flight lead and I complacently descended thru an altitude restriction. OOOPS. "Line 1, delete 6, descend and maintain 4000'. Contact tower." Check yourself before you wreck yourself. Fly Safe!

Ground Notes

ACC experienced 3 Class A mishaps during the month of April. Two were PMV4's and 1 was a PMV2 fatality. This brings ACC's total to 11 for FY05, a reduction of 16 percent over FY04's total of 13 mishaps. Fatigue and the operation of PMVs during adverse weather were central factors in 2 of these fatal mishaps. As we enter the summer travel season, we must continue to emphasize the importance of adequate sleep/rest, and the checking of road conditions prior to traveling. PRM is mission essential. We must continue to remind all our Airmen to use PRM when planning their summer travels.

Weapons Notes

Once again, attention to detail can ensure our success, and lack of it can ensure our misfortune. Two recent mishaps continue to prove that not following tech data is still a problem (lack of attention to detail). Don't get disgruntled, get proactive. Information is available to brief at roll calls and staff meetings or even commander's calls. Let's continue to improve our low mishap numbers by working to make them even lower.

Legend

Class A - Permanent Total Disability; Property Damage $1,000,000 or more
Class B - Permanent Partial Disability: Property Damage between $200,000 and $1,000,000
Class C - Lost Workday; Property Damage between $20,000 and $200,000
*Non-rate Producing

Symbols for Mishap Aircraft

Lightning Myths & Facts

Q: ***Does lightning travel: upward or downward?***

The answer, along with several other myths and facts appear below.

Fact: The temperature of a typical lightning bolt is hotter than the surface of the Sun (nearly 50,000 degrees F).

Myth: If it is not raining, there is no danger from lightning.

Fact: Lightning often strikes outside of heavy rain and may occur more than 16 km away from a storm. Use the 30-30 rule. If you count 30 seconds or less between lightning and thunder, seek shelter. Remain sheltered for 30 minutes after the last thunder.

Fact: The typical lightning bolt is roughly the size of a Quarter to Half-Dollar — it just looks bigger because its light is so bright.

Myth: The rubber soles of shoes or rubber tires on a car or bike will protect you from being struck by lightning.

Fact: Rubber-soled shoes and rubber tires provide no protection from lightning — in a car the metal shell provides a pathway for the lightning strike to flow around the vehicle provided the car has a hardtop metal roof (not a convertible).

Fact: To estimate the number of miles you are from a thunderstorm, simply count the number of seconds between a flash of lightning and the thunder clap and divide this number by 5.

A

- Lightning travels upward from ground to cloud. A lightning strike begins as an invisible channel of electrically charged air moving from the cloud toward the ground. When one channel nears an object on the ground, a powerful surge of electricity from the ground moves upward to the cloud and produces the visible lightning strike!