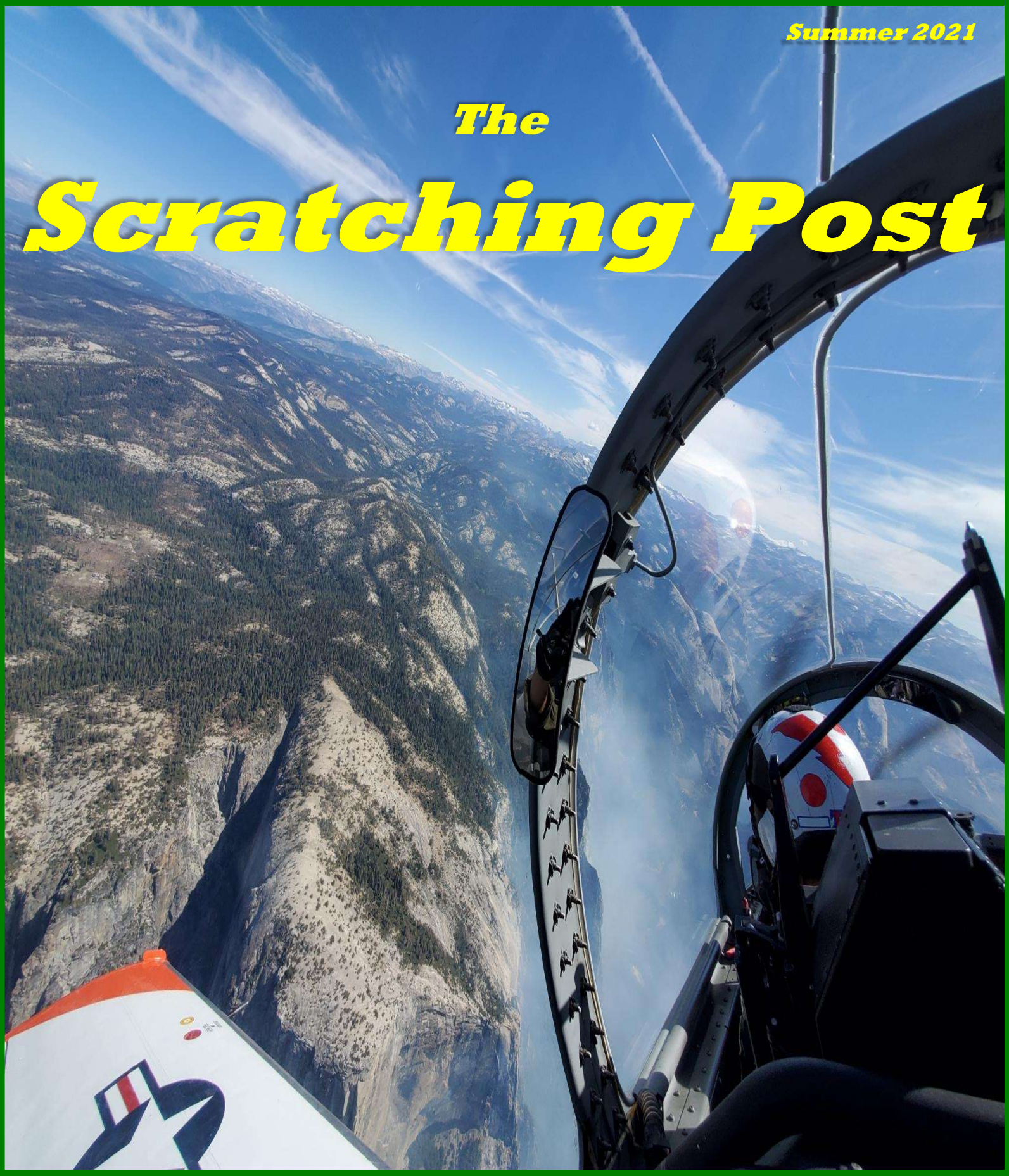
Summer 2021

The Scratching Post



A VT-10 Safety Publication

Inside This Issue:

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Words from the Skipper

CDR Jason Agostinelli **VT-10 Commanding Officer**

Welcome to summer, the hottest and most humid time of year! The season provides several unique challenges to our operations. The first is the physiological effects extreme heat and humidity have on our bodies. Regular exercise, a balanced diet, and hydration will keep you in "fighting" shape and go a long way to combat the intense and oppressive heat. The second challenge is the ever-changing weather patterns and intense pop-up thunderstorms we experience along the Gulf Coast. Proper pre-flight planning accompanied by solid real-time risk decisions will help to avoid ending up in a precarious position. The last challenge is the increased air traffic during the summer months. Watch out for those BOLOs! A consistent scan both inside and out of the aircraft, clear and concise internal and external communications, as well as thoughtful crew resource management are keys to a successful training event.

This edition of *The Scratching Post* is filled with insightful pieces regarding off duty safety, wind shear, physiological effects of flying, and water safety. Each article offers scenarios for all of us to envision finding ourselves in, and affords us the opportunity to reflect and learn from the situations and decisions of others.

Finally, we are well into this year's hurricane season, make sure you and/or your family have a plan to deal with these natural disasters should they impact the region. Please do not wait until the last minute to stock up on water, batteries, food, etc. Although we tend to have substantial warning leading up to landfall, storms will show up on our doorsteps before we know it. Remember the first 72 are on YOU!

Train hard! Fly Safe!
Skipper

The XO Snarl

CDR John Gleason **VT-10 Executive Officer**

I am amazed at the awesome safety culture we have at VT-10, and am grateful for the chance to contribute to this award-winning publication. It is unique in my time in Naval Aviation that a squadron Safety department takes time to solicit input and assemble articles into such a great product. Well done to Jed, Slingblade, and Huffy for another fantastic rendition of the renowned Scratching Post!

We have completed several surveys since the change of command, and all of them have reaffirmed that VT-10 is a great place to be. That is in large part due to the amazing individuals we have working here: YOU! YOU are the reason we are so successful and operate safely. YOU are credited with fostering the great safety culture we have. THANK YOU to each of you for taking the time each day to think about what you are doing and how to accomplish it safely!

What struck me about your responses on the survey were what you considered to be our most dangerous activities: flying with students and driving to work. We can become complacent in both of those activities! Flying can be unforgiving, but driving around Pensacola can be just as dangerous. Don't assume anything, keep your head on a swivel, and mitigate risk the best that you can.

As we get later in the summer, the heat remains overwhelming, the Gulf continues to warm, and the hurricanes will just get stronger. There are so many great outdoor activities to enjoy in Pensacola, which is why most of our accidents occur off duty. Please stop and think about the types of activities you are about to enjoy and how you can enjoy them safely. Think about sunscreen, helmets, gloves, eye protection, hearing protection, proper child car seats, etc. You get the idea. Use the tools we have to keep us safe. Like Skipper said, prepare for the hurricanes and tropical storms that we know will just keep coming until later in the year. Have a plan for your family, your pets, and yourself. Have some supplies on standby. Be ready!

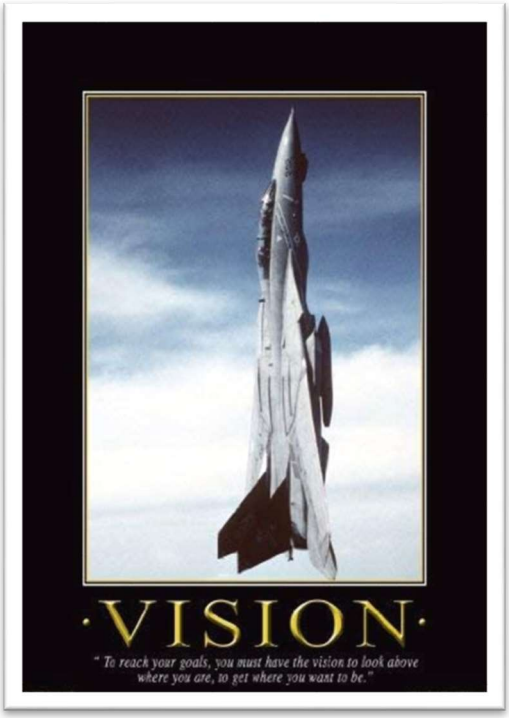
Always remember that YOU are our greatest asset. We are a training command, and there is no reason to push the limits. Our mission is production of well-trained and prepared Student Naval Flight Officers. We aren't on deployment, aren't flying with ordnance, aren't in close contact with the enemy, not being relied upon for direct support. We rely upon you to know when to go, when to wait, and when to push it to a later day.

You amaze me every day with your professionalism, your dedication, and your expertise. Stay safe out there, and wear your safety glasses!

XO Out

The XO and the Hammer

CDR John Gleason



"To my young friends out there: life can be great, but not when you can't see it." –Nancy Reagan

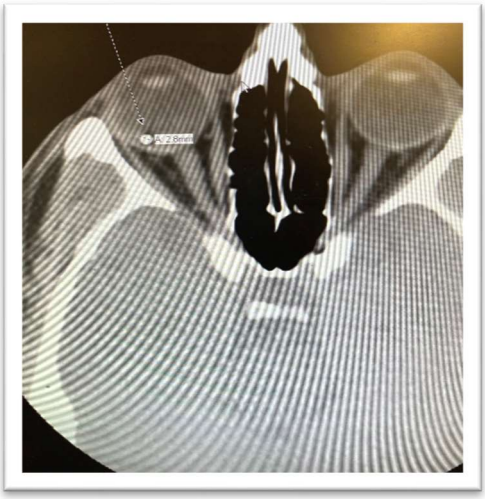
It was a beautiful, sunny Saturday morning. I was looking forward to a day of construction work with my dad, building a brand new backyard shed after Hurricane Sally had dropped a tree on the old one. The slab was poured, the walls were framed, and the first piece of sheeting was up and just slightly crooked. I was 2 minutes from making a mistake that would seriously jeopardize my Naval career and certainly alter my life forever.

I love building things. I love working with my hands. I love using tools. All of that comes with risk. We have been taught risk management since our very first days in naval aviation. We mitigate risk in a multitude of ways: from NATOPS, to training in simulators, to our flight gear and personal protective equipment (PPE). But we can't just use PPE at work and forget about it as soon as we leave the squadron. The choices we make away from work could have grave consequences for our future overall.

I love PPE. I know that sounds weird, but it really is true. Things like gloves, eyewear, earplugs, helmets, etc. were designed to keep us protected when we don't want to stop doing things that could hurt us. If you've ever sliced your hands on something, you know how much that hurts and how much of an inconvenience it is until it heals. As someone who has always had 20/20 or better vision and excellent hearing, I was determined from a young age to protect it for as long as possible. Even before that fateful day, I owned two sets of safety glasses, a pair of safety goggles, three earmuffs, a bag of earplugs, leather gloves, yard gloves, and had just bought a pack of utility gloves to burn through for the shed project. I thought I was ready, but PPE only works when it's properly worn.

Back to the shed project and that fateful morning. I felt like I had been slowing my dad down by always stopping to put on my earmuffs and make sure my safety glasses were down before turning on the saw or using the drill or nail gun. It is an extra step that takes a couple of seconds, for sure, but absolutely worth it. I think most of us understand to wear eye protection when using power tools, or hearing protection when we're next to something loud.

But then I had to remove a nail on that piece of crooked siding. For reasons I will never understand, my glasses were on top of my head. I think I had slid them up to see better to measure something, and just didn't realize that I hadn't put them back down. I also didn't have a crowbar and couldn't get my hammer underneath the nail head to get it out. I had another hammer close by and swung my hammer against it to try and get the claw part underneath the sheeting to pop up the nail. That's all it took. I felt something hit my right eye. Hardly any pain to speak of, just an irritation. I took a second to compose myself, put my glasses down where they were supposed to be, and kept working at the nail. Within 15 minutes my eye was watering a lot and I was missing nails when I would try to hammer them. I realized my vision was a little off, and then a couple minutes later I couldn't see my dad when I tried to look at him with my left eye closed. Everything was a blur, a colorful blur. No definition, no shapes. Just sheer terror.



I went inside and told my wife Candace that we had to go to the emergency room. I was hoping and praying that a doctor would tell me that it was just some eye trauma, that after a couple of days the swelling would go down and everything would be back to normal. The nurse said she could see an abrasion on my eye, which supported that theory. She sent me to get a CT scan, just to be sure. But then she slowly rolled her chair next to the hospital bed and told me there was a 3mm piece of metal lodged in the back of my eye, and that there was a good chance I would never see out of that eye again. The on-call ophthalmologist came in and looked at it, then called a colleague at Shands Hospital in Gainesville, FL to see if he could operate on me as soon as possible. He also said it didn't look good, and wished me the best of luck.

After successful emergency surgery the next morning and another night in the hospital, I spent the next two weeks face down at my house. I had two stitches in my cornea, they had to remove my lens, remove the jelly inside my eye, and fill my eye with a nitrogen gas bubble. I had to be face down at all times so that the bubble would hold my retina in place until my eye naturally made more fluid and absorbed the gas bubble. It was a long two weeks, but the WILCATS shined with support as folks came over and helped my dad continue on the shed or brought dinners to help us out.

Several people have told me recently that my story made them stop and think, and then find their PPE before doing a project or task. I hope that is the case for even more people reading this story. I was fractions of a millimeter from never seeing out of my right eye again, never flying again, not being able to command, and probably not being able to continue my career in the Navy that I love. All of us have important things to do and people who need us. Invest in good PPE for the things that you do, and make sure to wear it properly. You never know when it will save you months or years of heartache and pain. WILDCAT 2 out!

G-Tolerance Improvement and Awareness

(From the spring 2013 Scratching Post)

When: *APRIL 30th, 2013*
Aircraft: *T-6*
Training: *Primary SNFO training, VT-10*
Description: *SNFO loses consciousness during a loop at approximately 3.5+Gz. IP noticed the unconscious student's head slumped over and was unresponsive despite repeated attempts to communicate with him. IP finished the maneuver as a ½ Cuban Eight and allowed the student to recover. Student regained consciousness after approximately three seconds and was conversational after approximately ten seconds.*

In no particular order, "Awareness about G-LOC is, probably, the single most important factor in its avoidance. Good health, fitness, currency, experience, and a well-practiced Anti-G Straining Maneuver (AGSM) will all help increase aircrew's G-tolerance."
–Dr. Dougal Watson, 1990

The AGSM is a forced exhalation effort against a closed glottis, "Hick" maneuver, while simultaneously tensing the legs and abdominal muscles. Done correctly, this technique will raise your intrathoracic pressure and result in a rise in temporary blood pressure to the brain giving you additional +Gz protection to your resting tolerance. The sequence is as follows:

- **Legs (contract your calves, quads, hamstrings, and glutes)**
- **Breath (3/4 filled lungs, and forceful exhale effort "HICK")**
- **"HICK" again every 3-4 secs during sustained +Gz**

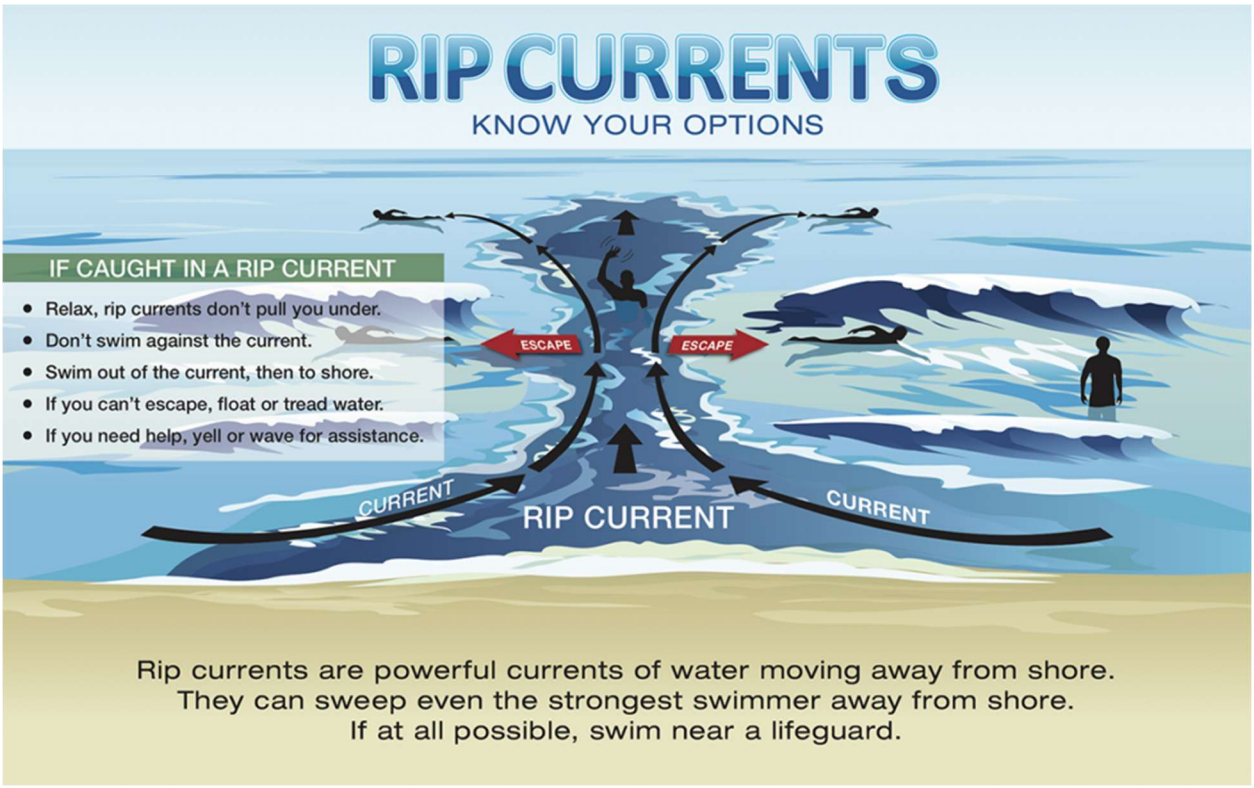
Other Gravity-induced Tolerance Improvement Procedures (GTIP)
G-warm: Sustained +Gz exposure for as little as 12 seconds elicits positive improvements in g-protection due to natural cardiovascular compensatory responses, otherwise referred to as the Cardiovascular Reflex.
Hydration: Urine color should be pale yellow (straw color) and body weight should be near baseline each morning. Drink water periodically throughout each day.
Nutrition: Refrain from carbohydrate restricting diets. Snack within 1-2 hours before flight and every 2-3 hours during flight ops.
G-Suit: Properly fitted and comfort zippers closed prior to flight and DO NOT WAIT FOR THE G-SUIT TO INFLATE TO START YOUR AGSM. For maximum protection, stay ahead of the plane.

The AGSM, like any athletic activity, is a disciplined skill that requires time invested for best results. However, like all skill intensive sports, muscle memory can work in your favor. So, the more you practice it, the quicker it will come back to you. Practice at home, in a chair, or in another controlled environment, but waiting to practice in the plane could be too late.

Rip Current Awareness

LT Matthew Gromen **Source: NOAA**

Rip currents are the leading water hazard for all beachgoers. The U.S. Lifesaving Association reports 80 percent of all beach rescues are related to rip currents. On many beaches, rip currents are present every day. In most cases, rip current speeds are too slow to be a danger to most swimmers. However, when wave conditions, shape of the offshore beach and tide elevation are just right, rip current speeds can reach speeds faster than even Michael Phelps can swim.



-Where, When and Why Rip Currents Form-

Rip currents are driven by the action of breaking waves and are found on a range of beach types along ocean, sea, and lake coastlines–anywhere that breaking waves are present. Rip currents may occur on long, straight beaches, embayed beaches, beaches with sandbars and deeper channels, and flat and featureless beaches. They are also frequently found next to both natural and man-made hard structures such as headlands, groins, jetties, and piers.

Breaking waves alone are not enough to form a rip current: rip currents are formed when there are alongshore variations in wave breaking. In particular, rip currents tend to form in regions with less wave breaking sandwiched between regions of greater wave breaking. To understand why this is the case, we need to examine a phenomenon known as wave setup.

When waves break along a shoreline or over a shallow sandbar, they "push" water toward shore, resulting in an increase in water level near the beach known as wave setup. Wave setup is often about 10% of the breaking wave height and is difficult to see with the naked eye, but can be measured with oceanographic instruments. When wave breaking varies along the beach, for

example as a result of a gap in a sandbar, resulting variations in wave setup result in rip currents. In places where there is more wave breaking, there is a corresponding higher setup, or water level, while places where there is less wave breaking have lower setup. The water essentially flows downhill, along the shore from the regions of high setup (more wave breaking) to the regions of lower setup (less wave breaking), where the currents converge and flow offshore as a rip current.

-How to Spot Rip Currents-

When you visit the beach, take a moment and note examples of slightly discolored water, sand and foam traveling seaward past the breaking waves. Here are some examples in pictures:

(Figure 1 and 2: Two examples of channelized rip currents showing dark gaps in the lines of breaking waves.)

(Bottom Left; A rip current indicated by choppy, rippled water in the location where there are gaps in the lines of breaking waves.)

Low Level Wind Shear and You

LT Kyle Barry

As aviators, one of the most dangerous weather phenomenon we face is windshear. Throughout aviation history, windshear has caused a multitude of fatal aviation accidents, many of which could have been prevented with proper recognition and preflight planning. To understand how windshear affects us, we need to understand what windshear is and what causes it. The FAA defines windshear as "A change in wind speed and/or direction over a short distance." Four common sources of windshear are thunderstorms, frontal activity, temperature inversions, and surface obstructions.

During the summer, thunderstorms are notorious for building in the local area. Besides hail and lightning, thunderstorms pose an additional risk to aircraft by creating microbursts. Microbursts associated with thunderstorms can cause some of the most hazardous windshear conditions to pilots. Downdrafts have been recorded at over 6,000 FPM! Simply put, a microburst is caused by a rapidly descending column of air from a cumulonimbus cloud. This air will move rapidly down and out, drastically altering the performance of any aircraft caught within the microburst.

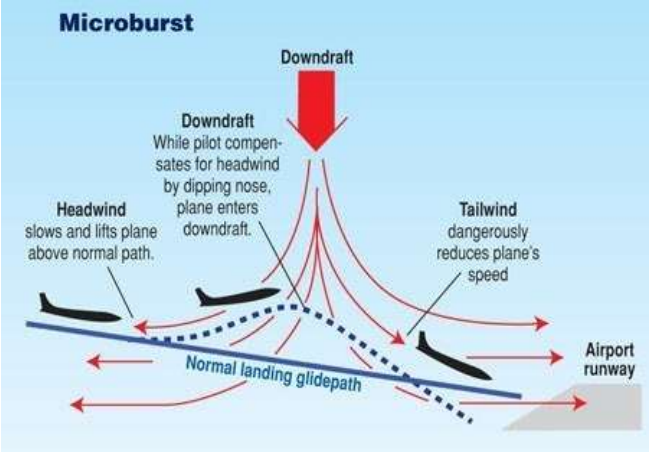


Figure 1: Microburst Effect on Aircraft

How do we avoid windshear? First, a thorough preflight weather brief will help ensure that we are avoiding forecasted or reported Low Level Wind Shear (LLWS). While researching weather for the brief, check for frontal passages, large temperature inversions, and pilot reports. While flying we can use visual cues as well. Avoid flying near any Virga (precipitation that appears to evaporate before reaching the ground) or precipitation columns coming from a cumulonimbus cloud. Keep an open ear while listening to the radio, if a pilot experiences windshear they will likely report it to ATC who will then distribute a center weather advisory.

Figure 2: Microburst

As professional aviators it is important that we are able to recognize windshear in the aircraft. NATOPS defines severe windshear as that which produces airspeed changes greater than 15 knots or vertical speed changes greater than 500 feet per minute. If windshear is encountered during an approach to landing, execute a waveoff. If windshear is encountered during takeoff, do not attempt to climb at a higher than normal airspeed, the lower pitch attitude may produce a hazard at low altitude. I highly encourage you all to read NATOPS chapter 7 Adverse Weather Procedures as we approach summertime. Fly smart and safe.

VT-10 Safety


If you never walk through a prop arc,
you'll never be hit by a prop.
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Navy photo by PH3 Travis Ross