



Volume 17 – 03

www.FlyingClub1.org

March 2017



## The Privileged View

Steve Beste, President

**Winter flying.** You've all read the article. Many times. It's a staple of flying magazines. "Winter flying is great!" "With the cold dense air, your plane practically *leaps* into the sky!" Yada, yada. You could write it yourself.

THIS ISN'T THAT ARTICLE because THIS ISN'T THAT WINTER! Instead, I'm urging you to go winter flying because it isn't really winter this winter.

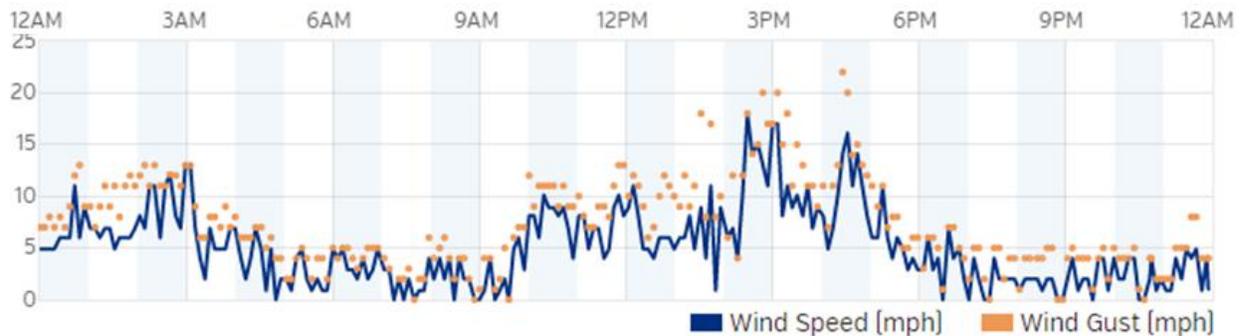
It was 67° on February 11th when I drove out to Front Royal to see if the afternoon wind would be calm enough to go flying. It wasn't, but I found **Jackie George** and **Robert Doak** in the terminal sussing out the wind meter. They had left the Airpark in perfect weather - warm, fabulous visibility, and smooth air. That changed when they came through the Chester Gap into Front Royal. Then it got bouncy. They landed successfully but were not eager to take off into it again. The meter said 6 knots, but we all agreed that it was windier than *that*. And the wind sock kept changing direction, indicating gusts.



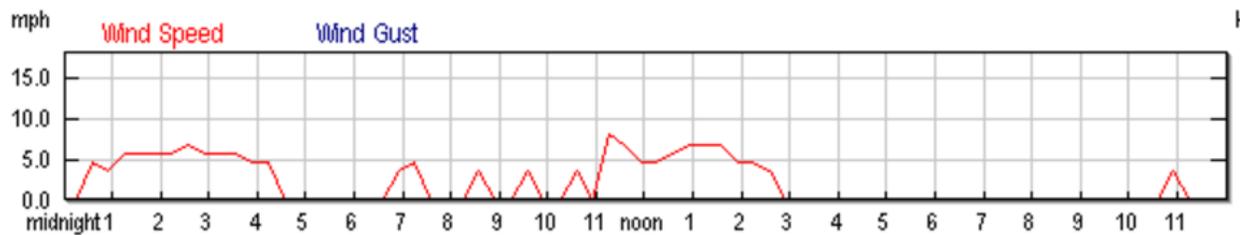
*Jackie George and Robert Doak at Front Royal on February 11, 2017*

I didn't stay long, and left as we watched a Cessna rocking and rolling on final. They finally got home, probably leaving in the 4:00 lull you see in the chart below. When they got east of the mountains, it was just fine again.

So what's the message here? Go flying on these amazing warm winter days! And the usual: Check the forecast at your destination, not just your origin. And don't be surprised if conditions change.



*Front Royal wind speed, February 11, 2017. Sunset at 5:45pm.*



*Warrenton-Fauquier wind speed, February 11, 2017*

**GPS Jamming.** It seems that the Air Force is testing ways to jam GPS. Jim and Deborah Fallows found that out while flying their Cirrus over southern Arizona. Here's her account as published in [The Atlantic](#).

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Then the dials and gauges on the cockpit monitors - showing ground speed, wind direction and speed, location, just about everything - began to go haywire. They spun around randomly, showing a 150 knot headwind, then a tailwind, then no wind. The moving map showing our location, waypoints, position relative to obstacles and restricted airspace and other airplanes, suddenly blanked out as if it had no idea where our plane actually was. Red warning signs popped up on the dual GPS guidance systems (almost everything in the plane's critical instrumentation has a backup) saying that they had lost their signal - the sort of thing you see in a car if you're in a long tunnel.

I could tell that this was getting Jim's attention. Then we both were alarmed by an urgent automated voice yelling "TERRAIN! TERRAIN!" This was from the system designed to give a last-minute

warning if the plane was headed to dangerously high terrain (like a mountain, or anything with a higher elevation than the plane's). We were getting this warning even though the closest mountains were dozens of miles away, and the desert floor was in clear view many thousands of feet below us. Jim switched to his old-school, pre-GPS "VOR"-based navigation systems to figure out where we were supposed to go, and how we could keep clear of the abundant nearby military-restricted zones. (It was easy enough to keep clear of the mountains, just by using our eyes.) Once Jim determined that we had lost all GPS guidance, he felt safe disabling the incessant TERRAIN! TERRAIN! warning, which was triggered because the plane's instruments had no idea where the plane was and were being hyper-cautious because of surrounding mountains. I studied the dials, thinking - overdramatically - that this is how the world as we know it would look during some kind of nefarious global technological takeover.

It was dark comfort to hear a call from United 404, reporting to ATC that their GPS had also just conked out. At least it wasn't just our plane. But, hey, what did it mean that other planes' GPS were going out? And, an airliner's?

The ATC said calmly, there must be GPS jamming going on, as part of a military test exercise. As we crossed the border into California, after about half an hour of no GPS, the guidance signal flickered back on. Later, on the ground, Jim learned that the Air Force was running a month-long trial in that area, testing the effects of intentional GPS outages.



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Keep up your pilotage skills, folks. Though I suppose if the Air Force starts jamming GPS signals in Northern Virginia, we'll be having bigger problems than how to find the Airpark.

Fly safely,

Steve



## This Month's Fly-In Destinations

To encourage all of us to get in the air more, the following is a list of fly-ins I found within (about) 100 NM of the Warrenton Airpark which are occurring in the next month. Sources are: The [EAA Calendar of Events](#), the [AOPA Calendar of Events](#), [www.flyins.com](http://www.flyins.com), [www.socialflight.com](http://www.socialflight.com) and the [Virginia Department of Aviation Calendar of Events](#).

Date	Event Description	Location	Distance from 7VG0
Sat, Mar 4 / 9-11:30AM	Lancaster Airport Fly-in Breakfast and Presentation. Breakfast until 10:30. Presentation at 10:30 - Todd Adams, President of Lancaster Avionics	Lancaster Airport (KLNS)	112 NM
Sat, Mar 11 / 8AM-5PM	Sky Bryce WinterFest Fly-in. Pancake breakfast, polar plunge, costume parade, live band, food, fun, pond skinning. Volunteers monitoring 122.8. <a href="http://www.BryceResort.com">www.BryceResort.com</a>	Sky Bryce Airport (VG18)	47 NM
Sat, Mar 11 / 12-3PM	Young Eagles Rally	Manassas Regional Airport (KHEF)	13 NM
Sat, Mar 11 / 8-10:30AM	EAA 518 Fly-in drive-in breakfast	Mifflin County Airport (KRVL)	121 NM
Sat, Mar 18 / 12-1:30PM	EAA Chapter 339 \$100 hamburger fly-out. Meet at Charly's Airport Restaurant at noon.	Williamsburg-Jamestown Airport (KJGG)	99 NM
Sun, Mar 19 / 8-10AM	Stafford 5K Runway Runaway	Stafford Regional Airport (KRMN)	22 NM
Sat, Mar 25 / 10AM-12PM	EAA 186 March Social	Manassas Regional Airport (KHEF)	13 NM
Sat, Mar 25 / 8:30-10:30AM	Old Dominion Squadron / EAA Pancake Breakfast	Franklin Municipal Airport (KFKN)	125 NM

## Brain Teasers

*By Steve Seibel*

### **For those that believe that downwind turns are different from upwind turns**

If you believe that downwind turns are different from upwind turns, or if you think that a pilot can feel the direction of the wind, or that an aircraft tends to weathervane to point into the external, meteorological wind, then you might enjoy these brain teasers. They come from Steve Seibel in the September 14, 2006 edition of his blog [AeroExperiments.org](http://AeroExperiments.org). Any quick internet search shows that “the downwind turn” has provoked LOTS of opinions over the years. Enjoy these.

#### **Brain teaser #1:**

1.) You are flying indoors. In an immense, enclosed room. The walls and floor and ceiling are black. You’ve launched off a platform near the ceiling and are practicing turns, stalls, stalls from turns, etc. There is no evidence of any air movement in the room. Does your aircraft behave differently when flying in any particular direction?

2.) Sunrise. You realize that what you thought were black walls, are clear glass panels. The room is actually the enclosed gondola of an enormous balloon. As you look down at the newly visible earth, you see that the ground is passing by very swiftly far below. The balloon is in a stiff south wind, and is being blown northward over the land. Now does your aircraft fly differently in any particular direction, within the closed room? Is it now more dangerous to turn downwind (toward the north) than upwind (toward the south)? Just because the sun came up and now you can now see the ground? What if you close your eyes? Can you “feel” the wind by the way the aircraft responds when flying in different directions?



3.) You notice that each of the transparent walls of this enormous, enclosed room has several large windows. Someone comes and opens all these windows. But no air blows in through them. Likewise the flags that decorate the outside of the gondola hang limp. Anyone who has ever been in a balloon will recognize this to be true, and the explanation for this is simple: the balloon is moving freely with the air mass without resistance, and so the balloon's velocity is constant, and so acceleration is zero, and so net force also must be zero: the wind cannot be "pushing" on the balloon in any way. Since the windows are now open the air mass in the room is now the same as the air mass outside. Now does your aircraft fly differently in any particular direction? Is it more dangerous to turn downwind (to the north) than upwind (to the south)?



4.) The balloon is too heavy and needs to shed some weight. Someone hits a button and all of the walls get jettisoned. The floor, ceiling, and corner pillars are all that is left of the "room". Again, no air is blowing through the "room". Now is a downwind turn (to the north) somehow "different" than an upwind turn (toward the south)?

5.) You fly out of one of the missing walls and into the clear blue sky. Now is a downwind turn any "different" than an upwind turn? Is it easier to stall when turning downwind than when turning upwind?

(P.S. Part 3 of brain teaser #1 brings to mind another old puzzle: if a fly takes wing within an enclosed aircraft, do the wings of the aircraft no longer need to support his weight? What if a window in the cabin is open? What if the fly is buzzing around the cockpit of an old open-cockpit biplane? What if the fly flies out of the open window (or out over the side of the open cockpit) and then flies along in formation with the aircraft? What if he positions himself directly over one of the wings? At what point as the fly approached the window (if any) did the aircraft stop "feeling" the weight of the fly?)

### **Brain teaser #2:**

We are flying in still air over the San Andreas fault. Suddenly the block on the west side of the fault starts sliding rapidly northward. (Devastation is breaking out below). As we fly from across the fault from east to west in the still, uniform, air mass, we suddenly find ourselves flying in a north

wind in relation to the land immediately below. Does this affect the way the aircraft flies? When we are on the west side of the fault line, are we in more danger of stalling during a “downwind” turn (toward the north) than during an “upwind” turn (toward the south)?

### Brain teaser #3:

Aliens arrive. After consulting with Art Bell, they decide to use their advanced engineering prowess to abruptly halt the earth’s rotation. You are piloting an airliner at 30,000’ over the equator, and the effects of this little disturbance have not yet propagated to your altitude - the layer of the atmosphere surrounding your aircraft is still rotating at a normal rate. From your perspective, the ground has suddenly started moving toward the west at 1,038 mph. Relative to the ground, you are now flying in a 1,038 mph west wind. Does this have any effect on the way that the plane flies? Are “downwind” turns (toward the east) now different than “upwind” turns (toward the west)?

### Brain teaser #4:

You are in still air. Looking straight down, you see a train driving south at 60 mph. You decide that the train constitutes the “surface” of the earth for the few seconds that you are overflying it. As you overfly the train, you are in a 60 mph south wind, in relation to the “surface”. Does this affect the way your aircraft flies? If you close your eyes and fly in circles over the train, will the “feel” of the aircraft tell you which direction the wind is blowing, i.e. which direction the train is traveling? Is there a greater danger of stalling when you are flying “downwind” (flying toward the north), or when you are performing a “downwind” turn (flying toward the north), than when you are flying “upwind” (flying toward the south), or when you are performing an “upwind” turn (turning toward the south)?



(Extra credit for hang glider pilots: do you have to “flare” your glider differently when landing on top of the southbound train with the nose of your glider pointing south, than when you land on top

of the southbound train with your nose pointing north? Obviously answer is “yes” - landing with a 60 mph tailwind would be disastrous - but why? Does it have to do with the behavior of your glider in relation to the air? Or does it only relate to the fact that you are trying to minimize your glider’s groundspeed at the instant that your feet touch the ground? If you were practicing flares at high altitude, aiming for a given profile in the airspeed and sink rate with no concern for ground track and groundspeed, could you tell when you were over the train by the way the glider felt when it flared?)

### **Brain teaser #5:**

This one also applies to those who believe that an aircraft flies differently in “lift” (rising air) than in “sink” (descending air).

Let’s ignore the earth’s surface, and take the sun as our reference point. In relation to the sun, the earth’s atmosphere (as well as the rest of the earth) is moving at 66,674 mph. If we are near the equator, the direction of motion of the atmosphere (as well as the rest of the earth) is (roughly speaking) toward the west at noon, toward the east at midnight, straight up at sunrise, and straight down at sunset. So we have an east wind at noon, a west wind at midnight, an updraft at sunrise, and a downdraft at sunset. (Don’t confuse yourself by factoring in the earth’s rotation around its axis, which is a mere 1,038 mph at the equator). Bearing this incredible wind velocity in mind, does an aircraft fly differently when turning to the west at noon, then when turning to the west at midnight? Does an aircraft fly differently in the sunrise updraft than in the sunset downdraft?



## Directors' Meeting Minutes

*Submitted by Steve Beste, President*

We held a 40-second meeting of the Directors of Flying Club 1 on Thursday, February 2nd, 2017. The Directors of Flying Club 1 met and elected Lucy Ooi and Pete Bastien as Directors at Large. President Steve Beste convened the meeting in the lobby of the Centreville Regional Library at 9:02 PM. Present were Beste, Jim Heidish and Dick Martin. Those three constituting a quorum of the five Directors then in office, Beste nominated Ooi and Bastien. They were unanimously elected to one-year terms that expire December 31, 2017. Beste adjourned the meeting at 9:03 PM. The Board of Directors is now at its full strength of seven. They are:

- President, Steve Beste
- Immediate Past President, Len Alt
- Vice President, Dick Martin
- Secretary, Jim Heidish
- Treasurer, Jim Birnbaum
- Director at Large, Lucy Ooi
- Director at Large, Pete Bastien

# Meeting Minutes

*February 2017*

## *Flying Club One Meeting*

Thursday, February 2, 2017  
Centreville Regional Library  
Centreville, VA

### Call to Order

With **Steve Beste** delayed in traffic because he went home to get our audiovisual equipment, *Vice President*, **Dick Martin** called the meeting to order at 7:35 P.M.

11 members present.

### CONNECTIONS

#### Visitors & New Members

Arlington, VA Kitfox pilot, **Paul Gainsbeck** flies out of New Market, VA and is looking for an airport closer to home. **Steve Cherry** said he started taking glider lessons at Front Royal, VA, but is now looking into ultralights.

#### Old Members

**Dick Martin**, said he was invited to fly his LSA along with **Lucy Ooi** and **Allen Whatley** flying Lucy's Champ to the Chesterfield County, VA Airport (FCI). He said it is just southwest of Richmond and has a great restaurant.

### REGULAR REPORTS

*Secretary: Jim Heidish* reported that the January Minutes were published in the February Club

Newsletter and were approved as published.

*Treasurer: Jim Birnbaum* - not at meeting.

*President: Steve Beste* - nothing to report.

*Membership Director: Jim Birnbaum* - not at meeting.

*Safety and Training Director: - Vacant.* We will need a qualified member to fill this position!

*Warrenton Airpark Owner: Tom Richards* said he and some of the DC Skydiving people are building a new hangar with the main structure being made of large sea-going shipping containers. The Skydivers will use it to repack parachutes, but it can also be used for airplanes in the off-season. He said his C-172 that is modified with a special STOL kit is now being used for training.

*Events Coordinator: Robert Doak* - not at meeting.

### Old Business

None

### New Business

None

### MONTHLY PROGRAM

Steve Beste showed up late with our audiovisual equipment, so the presentation was given without visual aids.

**Martin Walker** (*retired FAA*) gave an in-depth presentation on FAA airspace regulations featuring Part 103 (Ultralights). He pointed out little known information and noted that a lot of the confusing FAA wording should be changed

or updated. Martin's Q&A time was helpful to many of the members.

### **Adjourn**

*President, Steve Beste* adjourned the meeting at 8:55 P.M.

Submitted by **Jim Heidish**, *Secretary*

## Service Providers

Recap our standing list of service providers:

- **PPG instructor and dealer:** Michael O’Daniel, 540-270-8855
- **Aircraft instructor - CFI:** Pete Bastien, 703-568-5778
- **Trike instructor:** Pat Tyler, 202-746-4687
- **Aircraft instructor - light sport and seaplane:** Chuck Tippett, 540-905-5091
- **Ultralight (Part 103) instruction:** Tom Richards’ Grass Roots Flyers, 703-568-3607
- **Machinist:** Luther Taylor, 540-222-3927
- **Welder:** Luther Taylor, 540-222-3927
- **A&P mechanic/IA (not at Airpark):** JD Ingram, 513-388-6312
- **Light Sport Condition Inspections, Rotax Certified:** Tim Loehrke, 703-618-4005

## Activities

### *2017 Flying Club 1 Activities Schedule*

Designated Club meetings will be held the first Thursday of each month in the Centreville Regional Library, 14200 St. Germain Drive, Centreville, VA, at 7:30 PM. Others will be held at 11:00 AM at the Warrenton Airpark as shown in the 2017 schedule. Changes in time or location will be posted in this newsletter and on the Club website.

Date	Activity	Location
Thu, March 2nd, 7:30 pm	Conversation, club business meeting and program	Centreville Regional Library
Sat, April 1st, 11 am	Club meeting, fly-in and cookout at Warrenton Airpark	Airpark
Sat, May 6th	Club meeting, fly-in and cookout at Warrenton Airpark	Airpark
Sat, June 3rd, 7:30 am	Poker Run	Airpark
Sat, June 3rd	Club meeting, fly-in and cookout at Warrenton Airpark	Airpark
Sat, July 1st, 11 am	Club meeting, fly-in and cookout at Warrenton Airpark	Airpark
Sat, August 5th, 11 am	Memorial table, monthly meeting, fly-in and cookout at Warrenton Airpark	Airpark
Sat, September 2nd, 11 am	Club meeting, fly-in and cookout at Warrenton Airpark	Airpark
Sat, October 7th	Club meeting, fly-in and cookout at Warrenton Airpark	Airpark
Sat, October 21st	Club 1 Color Run Fly-out	Airpark
Thu, November 2nd, 7:30 pm	Conversation, club business meeting and program	Centreville Regional Library
Sat, December 9th, 5 pm - 8 pm	Monthly meeting and Holiday Party	Airpark Club House

## Classifieds

Ads will be run twice and then dropped unless resubmitted, or renewed by telephone or e-mail.

Please advise the editor: **Lucy Ooi**

([Ooi.Lucy@gmail.com](mailto:Ooi.Lucy@gmail.com)) when the ad is no longer needed.

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**To place an ad in the newsletter, contact [ooi.lucy@gmail.com](mailto:ooi.lucy@gmail.com)**

## Membership Dues Policy

The period of membership follows the calendar year - January through December. The renewal period starts on 1 October with regular dues at \$20.00 and family at \$25.00. Members who have not paid their dues by the end of February will be dropped effective 1 March and will not receive the Newsletter or Membership Roster. New members joining after 1 October will be charged \$20.00 or the family rate, if applicable and will be credited with full membership for the following calendar year. Please mail payments to Flying Club 1, 8570 King Carter Street, Manassas, VA 20110. Payment can also be made at the regular monthly meeting. Please include the Membership Application form with your payment. This will be used to ensure that our records are current. A copy of the membership application is attached and also printed at the end of the Newsletter.

Jim Birmbaum  
Flying Club 1  
Membership Director, Treasurer

## MEMBERSHIP APPLICATION



Type of membership:  New,  Renewal,  Regular,  Family membership

Name(s): \_\_\_\_\_

Name To Go On Your Name Tag: \_\_\_\_\_

Street or PO Box: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone, Home: \_\_\_\_\_ Cell: \_\_\_\_\_ Work: \_\_\_\_\_

Spouse's Name: \_\_\_\_\_

Emergency Contact: Name: \_\_\_\_\_ Phone: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Aircraft Liability Insurance through: \_\_\_\_\_

Aircraft make and model: \_\_\_\_\_ N-Number (if any): \_\_\_\_\_

Pilot rating(s): \_\_\_\_\_

Club Activities or Services for Which You Volunteer: \_\_\_\_\_

Information from this application will be in the club's membership roster which goes only to members.

### Instructions:

1. FILL OUT THE ABOVE FORM.
2. ENCLOSE A CHECK FOR \$20 (\$25 FOR A FAMILY) MADE OUT TO **“FLYING CLUB 1”**.
3. SEND THE FORM AND CHECK TO:  
Jim Birnbaum, Treasurer  
8570 King Carter Street  
Manassas, VA 20110-4888

To join the national USUA, go to <http://www.usua.org>

To join the national USPPA, go to <http://www.usppa.org>

## Flying Club 1 General Information

The Flying Club 1 is a nonprofit, recreational club dedicated to the sport of ultralight and light sport aircraft flying.

### 2017 CLUB OFFICERS AND DIRECTORS

President: Steve Beste 703-321-9110

Vice President: Dick Martin 703-242-2367

Secretary: Jim Heidish 703-524-5265

Treasurer: Jim Birnbaum 703-361-7478

Events Coordinator: Robert Doak 703-897-4989

Director Emeritus & Past President: Len Alt

Director At Large: Pete Bastien 703-568-5778

Director At Large: Lucy Ooi 585-410-5573

*ber support in varying amounts. Please indicate on your membership application the function(s) (can be more than one) you will support as a Club member. All active Club members are expected to participate. However, members who live some distance away and cannot attend meetings regularly may prefer to support functions associated with Club weekend activities.*

**ANNUAL DUES** (Jan 1-Dec 31) \$20.00. Family membership (typically husband and wife): \$25.00. A spouse who wishes to participate will please complete a membership application form.

### 2017 CLUB VOLUNTEER STAFF

Safety & Training: Vacant

Membership: Jim Birnbaum 703-361-7478

Club Artist: Jim Heidish 703-524-5265

Newsletter Editor: Lucy Ooi (“Wee”)

[Ooi.Lucy@gmail.com](mailto:Ooi.Lucy@gmail.com)

Web Master: Steve Beste,

[president@flyingclub1.org](mailto:president@flyingclub1.org)

*A club is only as good as the members who volunteer to support its activities. The following listed activities with the club require mem-*

**CLUB WEB SITE:** <http://flyingclub1.org>

**MEETINGS** are monthly, year-round. See the web site for dates and places.

**THE NEWSLETTER:** The newsletter is published by email on the first of every month.

**SUBMITTING ITEMS FOR THE NEWSLETTER** Members and non-members are encouraged to submit items for this newsletter. Send submissions to Lucy Ooi at [Ooi.Lucy@gmail.com](mailto:Ooi.Lucy@gmail.com) at least one week prior to the end of the month.

**If you are interested in joining the U.S. Ultralight National Organization go to their website for membership information at: [www.usua.org](http://www.usua.org)**

**Likewise, if you are interested in joining the U.S. Powered Paragliding Association, the National PPG Organization, go to their website for membership information at: [www.usppa.org](http://www.usppa.org)**