November 2020

e-WESTWIND

Water Landing, Lake Tahoe, 2020

Statement of Purpose

The purpose of this Corporation shall be to initiate, sponsor, promote, and carry out plans, policies, and activities that will further the growth and development of the soaring movement in Region 11 of the Soaring Society of America.

Activities will be targeted at increasing the number of soaring pilots in the region in addition to the development of soaring pilots to promote safety of flight, training in the physiology of flight, cross country and high altitude soaring and the development of competition pilots and contest personnel at the local, regional, national and international level. Current dues are $25 annually from the month after receipt of payment.

PASCO is a 501c(3) not for profit corporation and contributions are tax deductible. Consider PASCO in your charitable giving plans this year!

WORLD WIDE WEB ADDRESSES - REGION 11

Soaring Society of America	http://www.ssa.org
Pacific Soaring Council	http://www.pacificsoaring.org
Air Sailing Inc.	http://www.airsailing.org
Bay Area Soaring Associates	http://www.flybasa.org
Central California Soaring Club	http://www.soaravenal.com
Las Vegas Valley Soaring Association	http://www.lvvsa.org
Minden Soaring Club	http://www.mindensoaringclub.com/int2/
Northern California Soaring Assoc.	http://www.norcalsoaring.org/
Silverado Soaring, Inc.	http://www.silveradosoaring.org/
Hollister Soaring Center	https://hollistersoaringcenter.com/
SoaringNV	http://www.soaringnv.com/
Williams Soaring Center	http://www.williamssoaring.com/
Valley Soaring Association	http://www.valleysoaring.net/

Presidents Message

It has been a challenging year for everyone for many reasons and, due to the ongoing health concerns, I am sorry to report that there will not be a PASCO safety seminar / awards banquet this winter. However, our awards committee chair Ramy Yanetz has compiled data for the 2020 SSA Region 11 soaring accomplishments. The awards, included in this newsletter, will be posted electronically and, with fingers crossed, there will be a banquet next year with awards presented for both 2020 and 2021.

In lieu of our safety seminar, we are publishing a “year in review” edition of the retired PASCO newsletter West Wind to update you all on progress we have made with various PASCO projects this year. For those interested, there is an electronic archive on the PASCO web site of West Wind for the years 2000 through 2010 at: https://www.pacificsoaring.org/westwind/westwind.html.

I encourage you to look through the archives whenever you have some downtime to relive past adventures, accomplishments and safety lessons from the PASCO membership. Best wishes for a happy and healthy holiday season from all of us on the PASCO board.

Dan Colton.

Editorial

We have had an eventful season, COVID, cancelled contest events, many long flights with OLC being the main outlet this year, and some great flights have been posted!

With the significance of the PASCO funded OGN project, an eventful (both good and bad) flying season, downburst damage at Minden, and devastating fires, there is plenty to summarize and review for the year, and significantly so from a PASCO contribution perspective, even if we don't hold our traditional banquet for obvious COVID reasons.

For many this year has been somewhat of an "Annus Horribilis" however the gradual opening of appropriately socially distance soaring operations started for many in the May timeframe, just in time for the major part of the soaring season. From a soaring contest perspective, the entire contest calendar was deleted and pushed back to 2021, due to COVID concerns.

One of the major reasons for putting at least an annual review newsletter out is that in this time of instant, transitory access to information and the associated decrease in attention span caused by a constant barrage of new online information, is that achievements of significance for the soaring community are forgotten, often taken for granted and not archived – safety issues end the same way, with attention spans shortening; news is consumed, people move on, lessons are forgotten in the avalanche of new events.

Records of past events, safety advice, how-to articles etc. are particularly useful to those new in the sport who can benefit from the history and context of a deep knowledge base. Looking back on the archived West Winds on the PASCO website (www.pacificsoaring.org) there is a wealth of history, wisdom and knowledge from our own region that is not available through our national organizations. Local journalism has value.

Lastly, this has not been a great year for flight safety – most recently with a mid-air between 2 experienced pilots near Mt Diablo, which mercifully, they were both able to jump to safety. We had 2 land outs in the Tahoe basin (more accurately, 1 hairy land out and one splash-down in the Lake), **three** tragic fatalities (one motor glider and 1 tow plane accident and a mountain crash at Ely).

All of these pilots were well liked and respected members of the soaring community, leaving their friends with too-heavy hearts and their loved ones with the tearing grief of unnecessary loss. Our deepest condolences go out to all who knew them and cared for them.

Safety Lessons from 2020

Most of the recent efforts by PASCO board and members have been in the area of improving safety through improved pilot tracking – lessons have been learned in the past when pilots have gone missing despite having trackers that were unfortunately not active. Automatic flarm tracking through OGN opens up much better opportunities for real time tracking from the ground as long as the ground station coverage is adequate – **and this is the reason that PASCO has funded the hardware for so many of the local OGN base stations currently in use.**

But we have several key factors developing that also directly affect safety – a combination of ageing pilot population with associated decline in mental performance (pilot dependent – your mileage may vary….) combined with higher performance and often higher wing-loading gliders which are far less forgiving to "departures from normal operation' than the gliders we train on. In particular, motor gliders

add an extra level of complexity, and opportunity for error as a result of mental overload when unexpected failures occur – often a conflict of required operation sequence with time available to react, and add to that the maintenance requirements for safety equipment, often overlooked.

I was very fortunate to be able to get my self-launch endorsement done this year at Williams in their fabulous ASG-32 – and I have to say it was a big step up in operational awareness, sequencing and attention to operational detail than we are used to in unpowered gliders. I would not trust my intuitive flying capabilities nearly as much with a much more complex machine that I would not be sufficiently current in. They are different beasts – and power plants must be meticulously maintained and prepared in order to provide the reliability required for safety. Not always the case for the occasional use self-launcher that sits in a trailer for extended periods. There are many ways to create problems for yourself in a motor glider, and as with all things aviation, the more complex the machine, the more care and preparation must go into the flight preparation and execution.

The promise of electric self-launch is very attractive from an operational simplicity perspective, but there are still issues with battery reliability, fire risk, and systems engineering that are not obvious to the uninitiated. At this stage there is a steep learning curve on electric power plants and at some stage I would expect them to dominate when battery reliability and chemistry have improved to a point where they become an obvious choice (and I think this will happen). Still – local airport capacity for charging these aircraft on a daily basis in quantity is limited and there are several not-so-obvious limitations at present, including useful residual climb time once you have completed the launch. Infrastructure changes would be required – and it's hard enough to get water-ballast facilities at airports, let alone high capacity charging circuits.

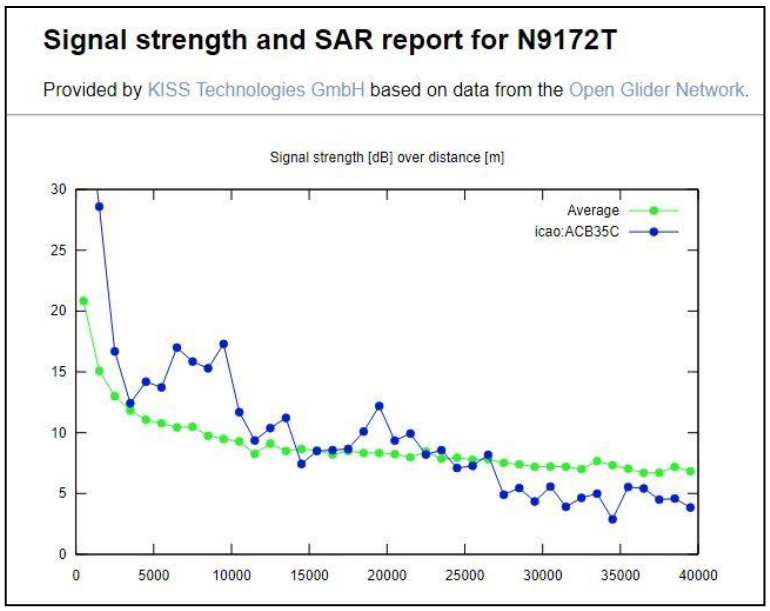
FLARM- some reflections

Flarm has been the single greatest improvement in pilot situational awareness in the last decade but still requires **attention to detail and effort to keep them serviceable.**

Safety Equipment requires regular checks and maintenance. The most common observation is that Flarm requires regular checks, firmware updates and double checking of configuration files, particularly on club ships. **Too many pilots neglect this** even though it is easy to do. Furthermore, for those purchasing new or used gliders from third parties, you should always install a new configuration file with your new contest number and pilot details to avoid confusion with multiple flarm targets having old or out of date contest ID's. Additionally**, too few pilots pay attention to their FLARMNET files**, either registering their gliders on Flarmnet, or updating the latest Flarmnet data files. This is a particular and unnecessary irritation when a glider changes hands and the new owner is unaware of the requirements, flying around looking like someone else….remember – if you update your config. file with new information, do the same on Flarmnet.

Very occasionally, Flarm boxes themselves can fail or degrade (irritatingly) and at some expense to repair (NOTE – locally, Craggy Aero is an approved Flarm testing and repair station), **so it is worth checking your Flarm range each year** – Additionally poor antenna location and connection losses can cripple your expensive safety unit. Flarm has a range checking service based on flight trace data and OGN has the facility to check the transmission performance for your installation (Philip Lee has details). This was most useful for me when my new glider was shipped to me with a high quality antenna but very poor transmission performance, noticed by observers on OGN. It turned out that the antenna had not been trimmed to the correct Flarm frequency for the US, and once fixed was verified through OGN with the help of Philip Lee (whose OGN status update follows) through the

range analysis possible with OGN diagnostics – the enclosed signal strength graph is from after the fix.



Modern carbon fiber fuselages are not friendly to easy internal flarm antenna installations due to signal attenuation, ***and this is probably the major source of challenges with flarm installation effectiveness***. Mounting under the canopy glare shield with other instruments is the most convenient and aesthetic, but often the worst place you could possibly put your antenna. Many pilots build a simple acrylic mount to hold the Flarm dipole antenna vertically between the glare shield and the canopy and this generally seems most effective. The biggest consequence of these antenna positions is attenuation of the flarm signal below the glider, i.e. into the pilot's blind spot. Tail fin installations where carbon tends not to be so prevalent can be a good way to go but the wiring is awkward and very high quality coax must be used for the run back to the fin.

Another factor in Flarm safety effectiveness is vertical accuracy and its sensitivity to RF interference from the instrument cluster or GPS antenna. Flarm relies on accurate GPS altitude in adjacent gliders to determine the likelihood of a collision and apply a warning. GPS signals themselves are incredibly weak, putting massive demands on the receiver noise rejection performance.

Sometimes, RF noise from adjacent computer instruments can cause big problems. Modern large-screen displays typically have single ended current drivers into the rows and columns of the display, (the way the chips are designed…) and these can generate some pretty horrendous RF interference (dependent on the unit, location and wiring) Large amounts of RF noise on power lines, or RF radiated from the display drivers, can significantly reduce the performance of the either the GPS antenna or the GPS engines in the Flarm unit itself, causing signal loss and accuracy reduction. Debugging these issues can be immensely frustrating and time-consuming, especially for those of us who are not so technically inclined.

Why is this important? Accuracy and functionality. I had one very scary close call in Hobbs recently when another glider came scooting 10 feet over the top of my canopy from behind during a busy thermal entry. It scared the bejeezus out of me, and normally reticent on the radio, I became quite vocal. The other pilot was not a bozo. We were both in each other's blind spot, **AND NEITHER OF OUR FLARMS WENT OFF**. Later, when I looked at the flight traces, the Flarm data (obviously wrong) reported we were about a 100ft apart vertically. The collision alert algorithms in Flarm are only as good as the GPS feed in, and it behooves us to do what we can to maximize the accuracy and strength of this signal. It only takes one glider to be degraded, or worse, non-functional, and the whole system fails, with potentially catastrophic results.

Recent Diablo Mid-air – Surviving a Bail-out..

Just when a bad year couldn't get any worse, 2 gliders flying out of Byron, soaring near Mt Diablo on an excellent November soaring day, suffered a mid-air collision. The pilots, both experienced and known to many of us, were mercifully able to bail out and survive. This in itself is a minor miracle,

since exit from a disabled tumbling glider is not always possible. We must be very grateful that they are still with us. Someone on the ground caught the bailout of one of the pilots in the far distance, and it made it onto a local news blog ; fuzzy though it is, I've included a zoom shot showing the 2 gliders and one open canopy. It illustrates the unpredictability of a bail-out situation, one that has claimed lives in the past when pilots tragically were unable to exit a stricken glider.

Preparation for bailout, particularly in 2-seaters, is a very important part of pre-flight preparation, rehearsing the canopy-belts-jump-pull sequence is a minimum requirement, including how the decision to jump is made and communicated by the pilot in command, but bailing out itself is not something we can train for – and while we can train for freefall and opening the chute through tandem jumps available commercially, we cannot train for the panic, chaos and chance that surround a collision or structural failure event.

Fortunately for us, there is available on line the video of G Dale, the famous British instructor and British Gliding Team member, talking about his own bailout after a mid-air collision in the UK several years ago at the British Club Class Nationals.

His talk is a masterpiece of teaching.

He conveys the visceral emotion and chaos of the situation in a way that really gets your attention. He has done a great service making this available on YouTube. I highly recommend that you watch this several times. Here is the link – I hope it makes as strong an impression on all of you as it did on me. It contains many non-intuitive observations and potential courses of action that could save lives.

https://www.youtube.com/watch?v=cDXIxHAmSX0

Here is a write-up of the Mt Diablo midair, from Ramy Yanetz, who was flying that day at Byron and who has talked with both pilots, both of whom have given permission for this to be released.

> *"On 11/7 at approximately 12:40 PM, two gliders collided over Mount Diablo State Park, an ASW27 and ASW20. Remarkably both pilots were able to bail out and survived. One pilot landed in the trees uninjured with his feet just touching the ground, the other needed to be hospitalized for back injury (Compression fracture of the L2 and L3 vertebrae), fractured tailbone, broken toe and significant bruising due to hard landing on a slope under canopy, and is recovering. We wish him speedy recovery. We were very lucky that it didn't end much worse.*

The midair had multiple eye witnesses which resulted in quick rescue. Also one pilot used his Inreach to request help. Only one glider had an operative powerflarm. The other powerflarm had an expired firmware.

The pilots were not aware of each other nor saw each other or talked on the radio until a split second before impact with no time to react.

Both gliders are remarkably intact with most of the damage from the midair itself. One glider is stuck high in the trees. One glider missing few feet of the left wing tip, the other has substantial damage to the wing and control surface near the center of the left wing, it was basically held together only by the spar.

The traces were recovered and analyzed. The collision was pretty much head on, maybe 10 degrees off. Both gliders were cruising at 60-70 knots, so around 130 knots closing speed. They both hit with the left wings. The collision was at around 5300 feet, 3500 feet AGL. The gliders hit the ground at 1800FT MSL.

It seems both gliders went into inverted dive, making the bailout relatively easy due to negative G. As soon as they released the seat belts they fell out of the cockpit and deployed the chutes.

Sink rate was as much as 75 knots as measured for one of the gliders. The glider descend slowed down significantly at 200 feet AGL, perhaps it pulled out of a dive by itself, or entered a flat spin dues to back CG. This explains the little damage. Total time from collision to ground impact was 1:20 min.

Lessons learned:

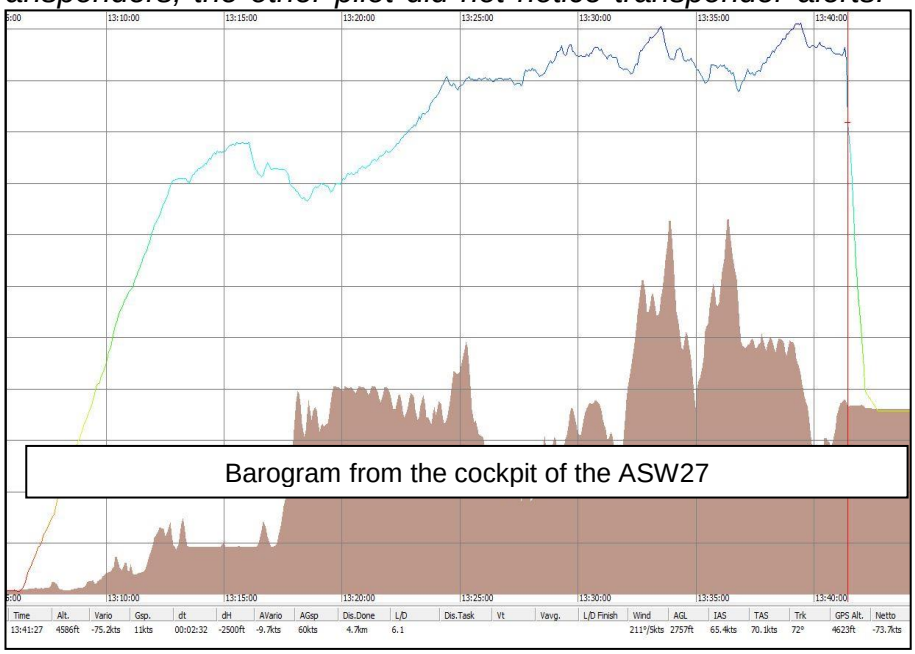
- *Mid airs can and do happen. The big sky theory does not work for gliders following narrow convergence lines and cloud street at similar altitude.*

- *See and Avoid does not work in those situations. The chance of surviving a mid-air is only about 50%. This is one good reason to always wear a parachute, and practice bail out mentally. The mantra "Canopy, Belt, Butt, Look at the D-ring" worked well for both pilots.*

- *The best protection we have from mid-air's are powerflarms, but only if they work properly. Since flarm was introduced, nearly all midair's were between gliders which at least one did not have an operative powerflarm.*

- *Powerflarm firmware MUST be upgraded every year to latest firmware or they will stop working when the firmware expires, usually within few months, and sometime with little or no warning. Every pilot should update the firmware when annualing the glider. Also need to ensure it is configured properly and the range is acceptable. There are online tools to test the powerflarm range.* ***(Ed note – see my links enclosed)***

- *Although both gliders had transponders, the other pilot did not notice transponder alerts. Note that those Mode C alerts are only marginal effective in collision avoidance as they don't provide direction or accurate distance. They also typically don't trigger loud alarm.*



Barogram from the cockpit of the ASW27

- *It is also a reminder to fly with tracking device, even if you fly locally. The midair happened less than 10 miles from Byron. Without the eye witnesses or the Inreach tracking device, It could have taken long time to locate the injured pilot.*

FLARM System Checklist with Links

Up- to-date firmware?

Upgrading powerflarm firmware to latest firmware should be done the same time as your annual to ensure it will never expire. It is the owner's responsibility to do the upgrade. Download the latest firmware onto a USB drive or SD card.

https://flarm.com/support/firmware-updates/

Check configuration file with correct parameters?

https://flarm.com/support/tools-software/flarm-configuration-tool/

Safety Equipment requires care and maintenance

https://flarm.com/wp-content/uploads/man/FTD-048-SERCAM.pdf

Check antenna installation

https://flarm.com/wp-content/uploads/man/FTD-041-Application-Note-FLARM-Antenna-Installation.pdf

Flarm on-line range analyzer

https://flarm.com/support/tools-software/flarm-range-analyzer/

Flarmnet Website for registration and latest databases for upload to your Flarm

https://www.flarmnet.org/flarmnet/

OGN Receiver Range website

https://ognrange.glidernet.org/#,max,lastweek,38.28697_-122.20240,8,#80000040:#008000ff,circles;

OTHER SAFETY LINKS FOR REVIEW

How to locate a missing glider

www.pacificsoaring.org/articles/2020/So_You_Lost_a_Glider.pdf

How to set up your display on OGN

www.pacificsoaring.org/articles/2020/using-ogn/using-ogn.html

What me? Worry? (Excellent past safety article by Martin Hellman)

www.pacificsoaring.org/articles/2007/Complacency-What-Me-Worry-MHellman-2007.pdf

One fatality a year is too many – This year we had Three

This is the most painful thing for pilots and friends to contemplate – the untimely death of another pilot and friend. This year we lost 3 pilots to soaring related accidents, and it could have been several more. Whenever we lose a member of our soaring community, someone who shares our love of the sky and the camaraderie of kindred spirits, it leaves a deep scar. For many, departing Byron airport to the north will never be the same, nor will soaring Schell Creek Mtn. near Ely, NV, or the departure end of runway 28 at Lampson Airport, near Clear Lake.

John Scott - On May 9th, John Scott was tragically killed in a towing accident at Byron airport while towing a club glider in the NCSA Bellanca Scout. John was 68 yrs. old and a tireless volunteer at the NCSA and at Airsailing glider port. He is survived by his wife Diane. He will be deeply missed. His accident is still under investigation by the NTSB and can be found here at:

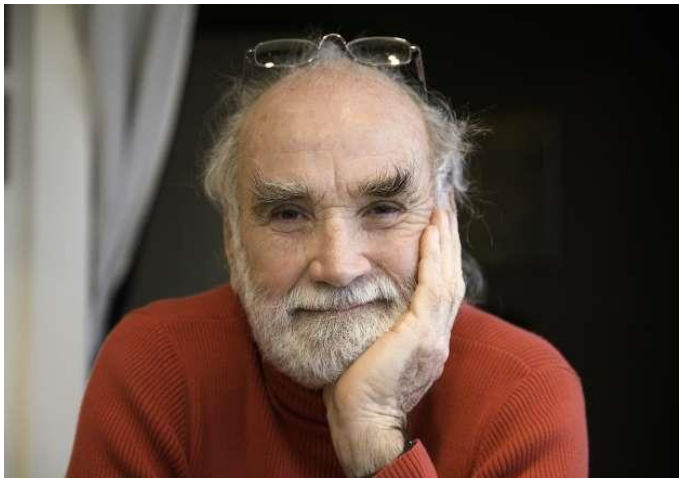
https://data.ntsb.gov/carol-repgen/api/Aviation/ReportMain/GenerateNewestReport/101258/pdf

Airsailing has a memorial page for John which can be found at http://www.airsailing.org/John'sPage.html

Marek Malolepszy – On July 11th we lost Marek Malolepszy, who was found dead in his ASG29 on Schell Creek Mtn., NV while at the Ely Cross Country Camp which he so enthusiastically helped organize. We have no information about the cause of the crash, and no-one else was involved. Marek was in his 80's and in good physical shape with boundless energy. An ex LOT pilot and marathon runner, he had an infectious enthusiasm for life and soaring. Marek lived in Los Angeles. He will be missed. The NTSB preliminary report can be found here at :

https://data.ntsb.gov/carol-repgen/api/Aviation/ReportMain/GenerateNewestReport/101577/pdf

Matt Herron – On August 7th, Matt took off in his LAK 17-B self-launch glider and crashed roughly 1 mile from the departure end of the runway. Matt was 89 years old. Matt was very much a larger than life figure, with a remarkable career in photography and the civil rights movement of the 60's in the south. He lived a full and varied life, and is survived by his wife and two children, one of whom is fellow glider pilot Matt Herron Jr. His obituary in the New York Times bears witness to his remarkable life and can be found here at:
https://www.nytimes.com/2020/08/11/us/matt-herron-whose-camera-chronicled-a-movement-dies-at-89.html



Unfortunately we know very little about his crash and it is still under investigation by the NTSB – the preliminary report can be found at :
https://data.ntsb.gov/carol-repgen/api/Aviation/ReportMain/GenerateNewestReport/101758/pdf

Our deepest condolences go out to all who knew and cared for John, Marek and Matt...

Out of all this tragedy, only the reports of the loss of John offer any glimpse into lessons learned that might help save others.
The accident appears to have been initiated by the glider on tow kiting too high (distraction due to a canopy malfunction) while the tow plane was close to the ground, overpowering the tow plane and sending it into the ground, flipping it upside down and catching fire with fatal results. The NTSB report contains some security camera stills of the critical moments before the crash. As glider pilots we often worry about the dangerous situations that a poor tow can put us into, but we as glider pilots can cause dangerous situations for the tow pilot if we are not careful or become distracted. This is a tragic example of one of these major dangers we can cause, particularly during the early, low altitude part of the tow.

This is a distressing photo of the Bellanca John was flying however I included it to help drive home the vulnerability of tow pilots as well as glider pilots.

Please – Please – Remember - While on tow:

1. Never lose sight of the tow plane, if you do, release immediately. It only takes few seconds at the beginning of the tow to put the tow plane into unrecoverable situation.
2. Don't let anything distract you from flying the plane.
3. If your canopy opened, ignore it and fly the plane and deal with it later at safe altitude. Gliders can fly fine with open canopy.
4. Always push on the canopy before launch to make sure it is latched.

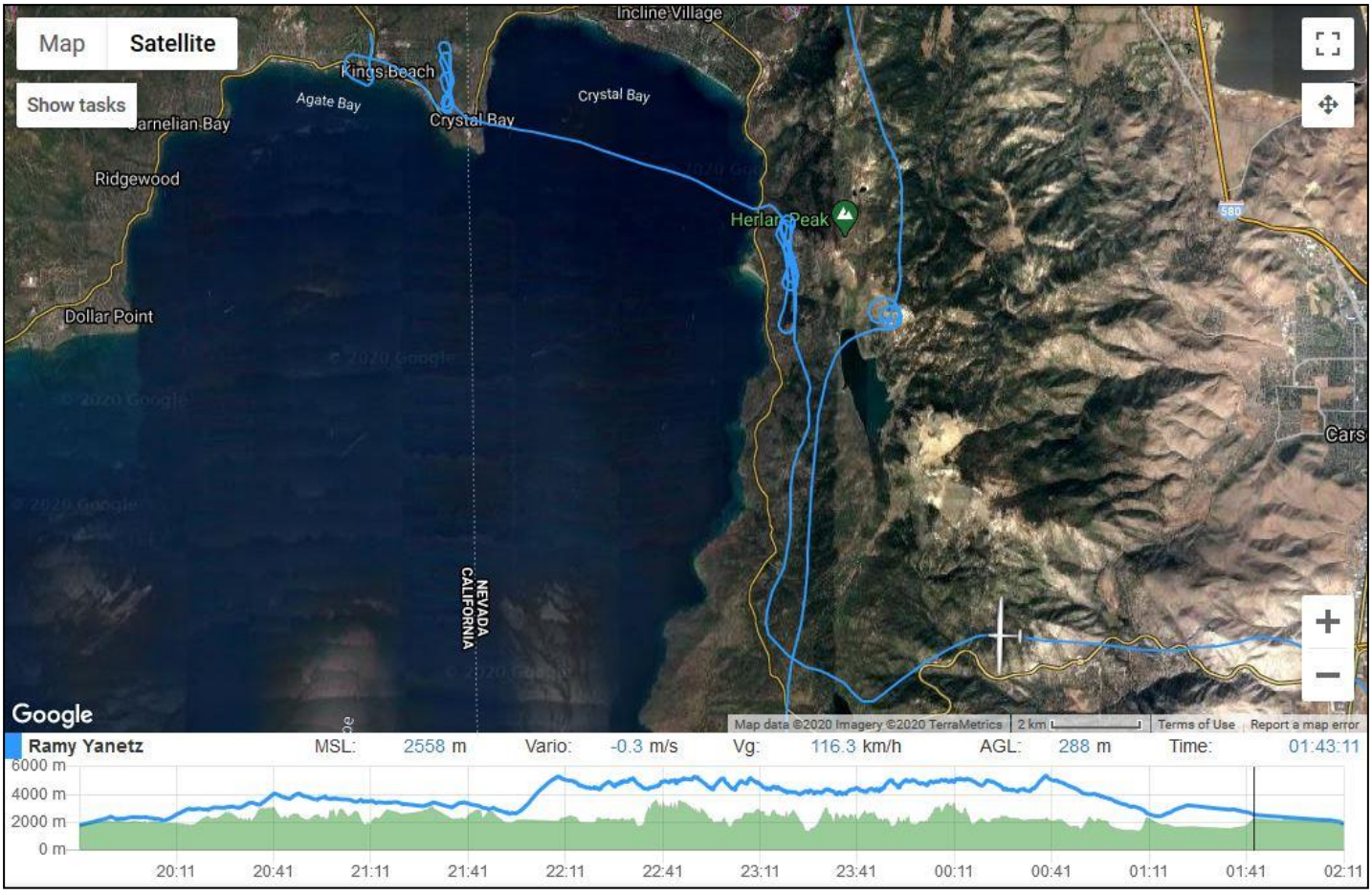
Tahoe-Basin "Flight Termination" Events...

We are very fortunate to have direct input and learnings from both Ramy Yanetz and Mike Mayo who both failed to get across Lake Tahoe into Truckee from the south this year, becoming trapped in the Tahoe basin. Ramy's golf course land out and Mike's lake landing reports follow. There has been varying levels of discussion in most places about this, but here are the actual pilot's accounts.

Ramy Yanetz – Brockway Golf Course Land out incident – 7/25/2019

After a great 750+ km flight from Truckee I found myself in dying conditions and cloud after cloud fell apart on my way back. I only found a little weak lift over the Pine Nuts and Minden under clouds which fell apart but could only get to about 10,000 feet. I figured I had enough to try to get into the Tahoe Basin. This was a big mistake as I entered way too low.

I was fooled by the venturi winds crossing Spooner Pass, leading me to expect a brisk westerly onto the west facing ridges near Sand Harbor to get me home... My flight computer showed 20+ knots head wind as I went through the pass so I thought there would be enough wind for ridge lift.



However, once I was inside and committed it dropped below 10 knots and the lift was down to zero sink, and to make things worse most of the sun was blocked by some OD further west along the western slope so not enough sun and wind energy was on the slopes and I could not get above 8K at the elevator (the cliffs at Sand Harbor). We need at least 10K to make Truckee across Brockway summit form the elevator or 9K to escape back to Carson. I had neither and was stuck in the Tahoe

Basin at 1500AGL above the water with nowhere to escape and well below safe glide to clear Brockway.

I did few laps over Day Dream ridge near Incline. While it didn't produce much either, and did not gain me any altitude and did not provide the save I had the last hope for, it provided the time to reflect on the inevitable landing and form a final plan on checking the Brockway golf course at Kings Beach which is surrounded with tall trees, before committing to it or the water. **There are no other land-out options**. It also provided time to share my situation on the radio with few folks. I was hoping to be able to see the golf course from there but it was still far from it and I couldn't tell exactly where it is from my angle but knew I should just follow the road to the 267 junction. I overflew the golf course to check for golfers and thankfully there weren't any as it was late in the day, so I opted for the dry option.

It was a scary landing with some tail wind diving between tall trees trying to avoid them. I also needed to adjust my final to the bend in the fairways. See the landing trace photo.

There are 2 fairways, about 1000 feet long each, separated by bushes. I touched down on the 2nd fairway and almost got away with it (and made the green…) but hit some bushes and small rock during ground roll with my right wing tip resulted in ground loop damaging my wing tip. While the fairway is narrow and surrounded with tall trees, the width is twice my wing span, **but has a 6 ft. pole in the middle of the fairway** effectively cutting the width by half requiring moving to one side which resulted in the ground loop.

That's narrow …18m? One false move….

There was no one playing at the fairway when I landed although many people came out from the nearby homes, including the golf course owner. I explained that I only landed there in an emergency after overflying it to verify there was no one there. They were all very friendly and helpful, brought me water and helped me move the glider and break it down. The owner was initially concerned about possible damage to the fairway but after looking at the skid marks he shrugged it off. My glider needed to go to the shop for couple of weeks. Many thanks to Danny Schaefer at Williams for the quick repair.

So what went wrong?

The screen shot showing the trace from the point of no return marked with the glider symbol. At this point I was at 8200 ft. MSL, 1000 ft. AGL above the pass. This is nearly 1000 feet below minimum. This was the point of no return, beyond this point it is no longer possible to escape the Tahoe basin at this altitude. At this point I should have turned around to Carson, but instead I trusted the elevator ridge lift which always worked for me before. But nothing in soaring is 100% reliable. I believe Sergio's elevator works 90% of the time, so it will fail once in 10 flights on average. This time all it gave me was zero sink and after multiple passes I was still at 8000 feet, 1700 feet over the lake, and below the Tahoe rim.

The only option remained for finding lift was to try the Day Dream Ridge near Incline Village. I Arrived at Day Dream at 7000 (700 AGL) and made few passes which also only gave me zero sink, not enough to clear Brockway summit to Truckee which is at 7200 ft.

Lessons:

1. Keep your margins, don't let them erode overtime. I shouldn't have put myself in this situation to start with. I should have stuck to the minimums (9000 feet), divert to Carson, or landed in Minden, spend the night and get a tow the next day.

2. Don't rely on ridge lift without escape route. Truth is there is only a narrow band of altitude in which one may need to use the elevator while still able to escape. If you need to climb at the elevator in order to make Brockway, you probably don't have a safe out and must have made a questionable (get-home-itis?) decision earlier. And if you have an engine, don't rely on the engine either. They are no more reliable than ridge lift.

3. The 99% rule eventually wins. You can perform the same thing successfully 99 times, eventually it will fail.

4. Always have a plan B and even C. My plan B and C were the golf course and the lake if I couldn't clear Brockway Summit.

5. It is important to survey land out places from the ground, especially the problematic ones. I walked and measured this golf course multiple times over the years and concluded I can probably land there with minimum to no damage in emergency if it is empty. This made it less challenging and scary than it would be otherwise. If it is not empty I could land in another fairway or divert to the water in the last minute.

6. Water landing or golf course landing, which one is safer? We had both in 1 month… One obvious argument for landing in the lake is that there is much less chance to hit somebody. Although I checked the golf course before I committed there is always a chance that someone will suddenly walk or drive the golf cart. If it did, I would have done everything possible,

including intentional ground loop to avoid them, likely resulting in more damage and possibly injuring myself. Otherwise, I think landing in golf course after inspecting it as I did is probably somewhat safer. Which one is better may be determined by comparing repair cost. While both pilot and glider were unharmed in both landings, the water landing resulted in excessive water damage. *(Ed. Note – see Mike Mayo's learnings from the water damage)*

7. Always keep either Carson, Minden or South Lake Tahoe in safe glide considering the terrain so you can escape on time. *(Ed note – Halleluyah,Brother**)*** Have a hard minimum rules for entering the Tahoe basin that fits your comfort level and glider performance. You need 13K-14K minimum over the Pine Nuts or Freel Peak to have decent chance to make it back to Truckee in a modern high performance glider. Avoid the west side of the lake unless you are high and have plenty of margin as you can't escape from the west side.

8. You need 10K minimum to enter the Tahoe basin from the east to be able to make Truckee without needing to use the elevator in high performance glider and benign weather. Below 10K it is getting dicey. Between 9-10K you need to be on the east side so you can use ridge lift to get back to Truckee or escape to Carson if the ridge lift is not working before you drop below 9K. **At no point should you allow yourself to drop below 9K in the Tahoe basin since it is no longer possible to escape east.** You will need ridge lift to climb back to 10K at the elevator before you can make Truckee. My mistake was to enter the Tahoe basin well below 9K.

Links:

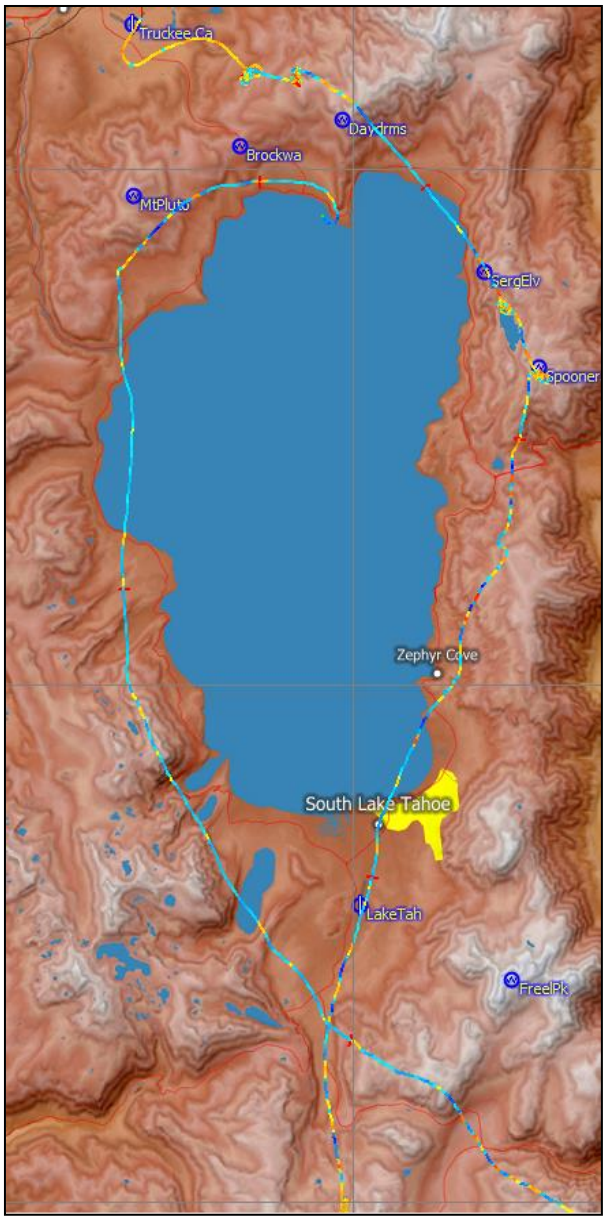
1 – OLC trace https://www.onlinecontest.org/olc-3.0/gliding/flightinfo.html?dsId=8033933
2 - 3D replay of the flight and landing on Ayvri (Note that Ayvri is showing 500 feet lower altitude, probably using standard pressure altitude).
https://ayvri.com/scene/d9kd8vxqj2/ckd2u6exh00013b5qxkq4d22p

Mike Mayo - Wet landing at Kings Beach... Or don't be afraid to get wet – it is better than going in the trees

……At the end of August, at the height of smoke season, I went on a cross-country flight from Truckee to east of Mono lake and back to Truckee. Or at least intending to be back to Truckee. It ended up in the water at King's Beach. A friend commented, from seeing my tracker trace, "you had plenty of margin for getting back to Truckee until you didn't".

Accidents tend be analyzed according to a couple of models. Layers of Swiss cheese, links of a chain, are the common ones. When the holes in the Swiss cheese line up there's an accident. Break a link of the chain and an accident is prevented. One can also think of a flight in terms of a decision tree. Take a particular set of branches and there's an accident at the end. An instructor friend long ago gave me the admonishment "always keep your options open"- i.e. make sure that you do not run out of possibilities to take a safe diversion from your intended course. This particular flight, and its series of decision points, was in the context of the unusual conditions of smoke. I have crossed Lake Tahoe many times, over many years, West side, East side, down the middle and always with plenty of altitude to reach Truckee. But each of those times the goal, Truckee, and the intervening weather condition, was clearly in view. This time I had that plenty of altitude but smoke was obscuring the ground beyond the North coast. At Markleeville everything looked normal, with plenty of spare altitude for final glide to Truckee in the usual conditions. At that point I had the options to go; west side, east side, down the middle, or up the Pine Nuts.

Unlike usual, and without me recognizing unusual as ‘potentially hiding bad stuff’, the ground beyond the North end of Tahoe was hidden by smoke. There was a big tall narrow cloud in line with Truckee. It firmly appeared to be beyond Truckee. So I felt OK taking the West side that, on the face of it, looked benign, clear, and a pretty respite from the smoke.



However, “beyond Truckee” was a mis-perception. Unusualness should have sensitized me to that possibility. If it had I would have stayed east. Maybe even Pine Nuts. When passing Homewood it became clear that the tall cloud was actually over Mt. Pluto blocking my direct path to Truckee. Passing Homewood I still had, in theory, plenty of altitude to get to Truckee but that started to change quickly. The cloud, it turned out, was making a big downdraft and rain. Diving straight under the cloud, between cloud and Mt. Pluto, looked like a possibly but also a likely way to hit the mountain. Going west along past Squaw Valley also looked like a bad idea. Clear of cloud but likely to land me in trees. Going along the shore towards King’s Beach looked like the best chance for staying alive. Along the way there was rain and sink. Brockway summit now became above me. The best option became the lake. In a short time I was doing a normal pattern to a normal (tail touch first) landing, except for the surface being liquid. So much for the bad decision at Markleeville.

The consequences of landing in water are mild at first. Water does not significantly affect fiberglass. Foam keeps a glider floating. But instruments are likely to be damaged. Water at 40 knots, in your pitot tube, is about 30psi. That would be about Mach 1.5 in air. Your ASI is surely not designed to survive that. Not your electronic variometer either. Fresh water is not a great conductor but it is conductive enough for electrically driven corrosion in your electronics. And it happens fast. Your lithium battery contains supervisory electronics that you cannot switch off even if you do think to switch things off before ditching.

And water does get in everything. Your steel control tubes, and center structure tubes, can fill with water and corrode on the inside. Especially if they are old already. So even though landing on water is a pretty good option for personal survival it is not great for your glider’s survival. *(Ed note – one big lesson learned here is that a water landing is not benign to the glider – Mikes Ventus was a financial write-off due to the cost of replacing all the pushrods, and we now discover that both Schempp and Schleicher have a standard policy of pushrod replacement after a water landing to prevent future failure due to corrosion)*

But I still would highly recommend a normal landing on the water when the other options are descent into trees or onto rocks.

Minden Downburst Damage- August 10th 2020

On August 10th this year, we had a very lively soaring day in the Sierras and the Great Basin. It was a day that making it back into Truckee had the potential of being blocked by forecast strong thunderstorm growth, and since I'd had a couple of good long fast flights already, I elected to stand down, and potentially retrieve young Zack Yamauchi and Tom Greenhill who were very gung-ho to fly.

As the day progressed, the forecast over development matched the forecast – it was one of the liveliest days I've seen at Truckee, and Tom and Zach made it back into the Truckee basin, to my relief, shortly after 5pm, literally just as the rain started. (photo below was taken mid afternoon at Truckee that day)

Zack arrived first and as I got Zack from the runway, he asked if I had heard what happened at Minden that afternoon – I hadn't due to the radio shadow of the Sierra, and he told me sketches of a big downburst event with several gliders damaged. This was bad news – it must have been one hell of a downburst to cause that much damage. Later, some pictures of the carnage filtered through the email contacts.

Towering CuNim at Truckee around the time of the Minden Downburst

Gliders not tied down while waiting to fly or prior to being put away, were tossed around like leaves causing much damage. Even tied down airplanes were damaged in the severe gust front, with some trailers moving sideways several feet into their adjacent gliders.

The ensuing photos of the damage were pretty horrifying – (these pictures were taken by Jim Herd at Minden I believe) and I'm not sure what lessons can really be learned here, except that to be extra careful to tie wings, tails and trailers (both ends) securely when thunderstorm conditions prevail.

Walt Rogers and Jim Herd wrote excellent articles in the November 2020 Soaring Magazine about this event, including key observations on tie-down methods and the dynamics of the microburst and the gust front. Well worth reading.

Later, the time lapse video from the local fire webcam looking east over Minden revealed how powerful the downburst was –the attached still photo shows the gust front – the actual video really captures the severity of the event and much more meteorological detail from Walt Rogers has been preserved for viewing at: https://www.pacificsoaring.org/articles/MindenMicroburst/index.html

PASCO Open Glider Network Project - 2020 Updates (Philip Lee)

OGN FLARM antenna at Williams Soaring Center.

Open Glider Network (OGN) is a free internet-based service that relays glider position data in real-time at high update rates. It supports many data sources, the primary one being FLARM

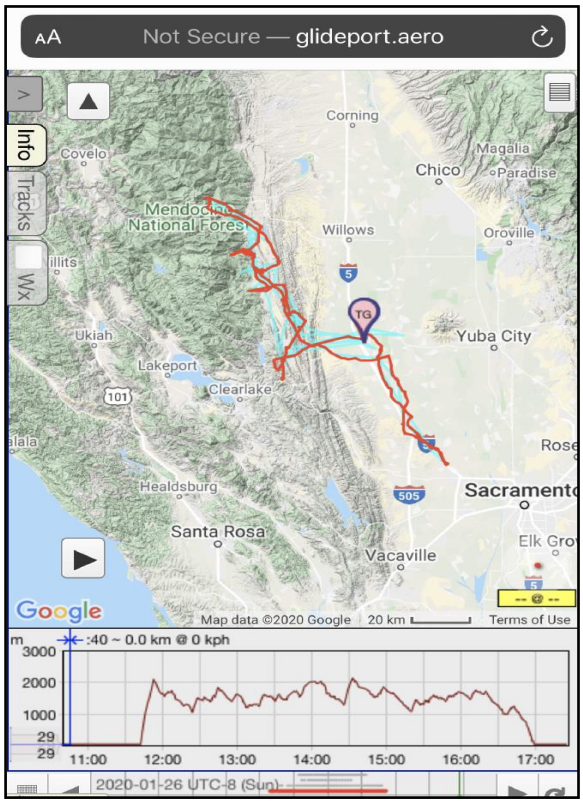
data received by base stations on the ground.

Although OGN is widely used in Europe, **PASCO was instrumental in getting the effort off the ground in the US in the last couple of years**. It provided funding for the receivers and helped organize folks to make the system more useful in the US. We also sparked a few more embers around the country that are now starting their own efforts as you have read about in *Soaring* recently.

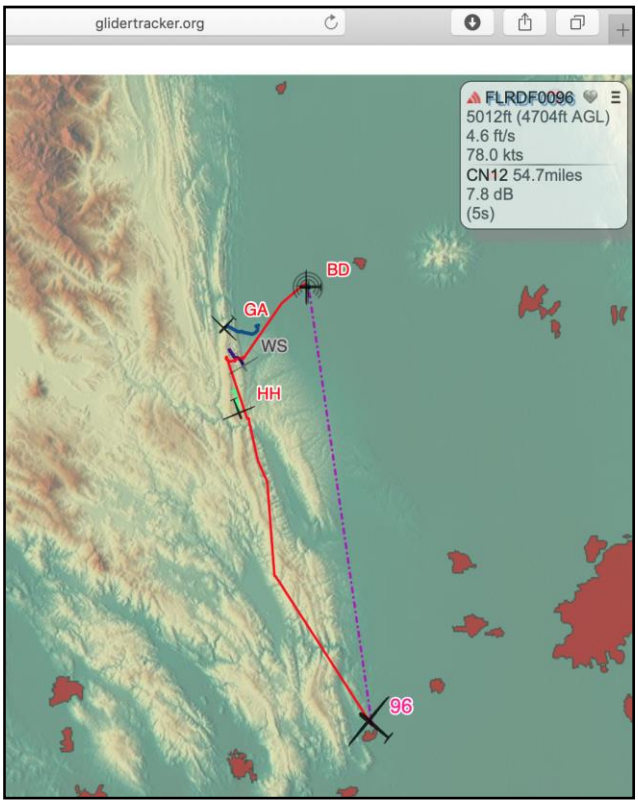
FLARM was originally intended for short-range communication only, but stations on the ground can receive the signals much farther. Williams is our best-performing station so far, and has received signals as far away as Susanville (100 nautical miles).

The limiting factor is mainly line-of-sight. *(Ed Note - and cloud barriers attenuating the signal – I have seen OGN range significantly reduced when I've been on the western high side of convergences running north from Williams...)*

The live tracks from all received gliders are available on glidertracker.org for up to 24 hours.



Live traffic on glideport.aero



Live traffic on glidertracker.org

Since the data stream is free and open source, we also set up a service to forward the data into the SSA tracker (glideport.aero). Forwarding your glider data to the SSA tracker requires some setup, and although all FLARM data is visible on glidertracker, the system may not be able to resolve your N-number from your FLARM ID.

We provide a unified registration guide on PASCO's website that you should also read.
PASCO encourages rregistration, as not only does it make your track easier to follow by your friends, but it can also provide critical Search and Rescue data.

The high temporal resolution of the data (about one point every 5 seconds) is not only fun for spectators, but it is also useful to glider pilots on the ground to see the success or failure of those who launch ahead of them. It can also help pinpoint where the wave is working on such days.

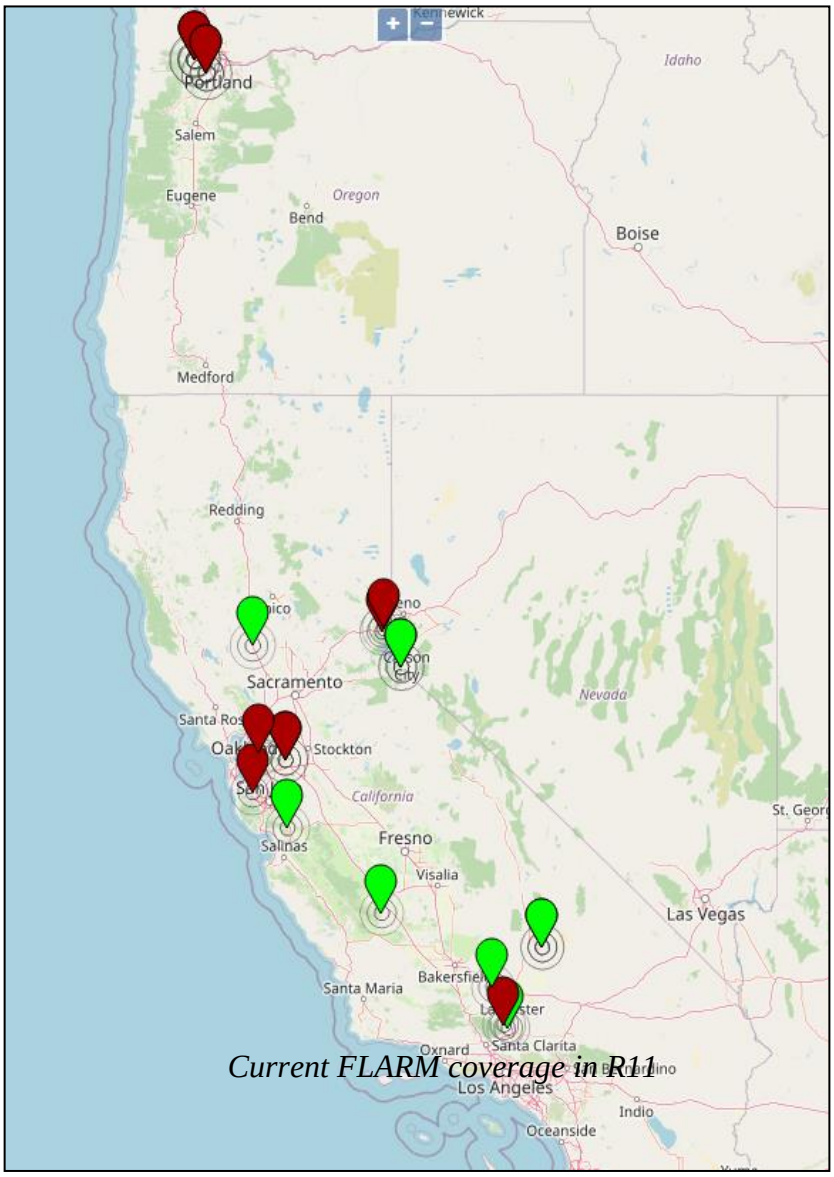
There were several setbacks in SSA Region 11 rollout this year due mostly to COVID-19.

We had planned to set up stations in **Siskiyou, Air Sailing, Los Banos and Byron**. The equipment for Siskiyou, Air Sailing, and Byron was delivered to their respective caretakers. **Siskiyou's** contests were cancelled, putting that one on back-burner status.

At **Air Sailing**, some fine folks were ready to install it on their first work day of the year, but lockdowns came before that could happen.

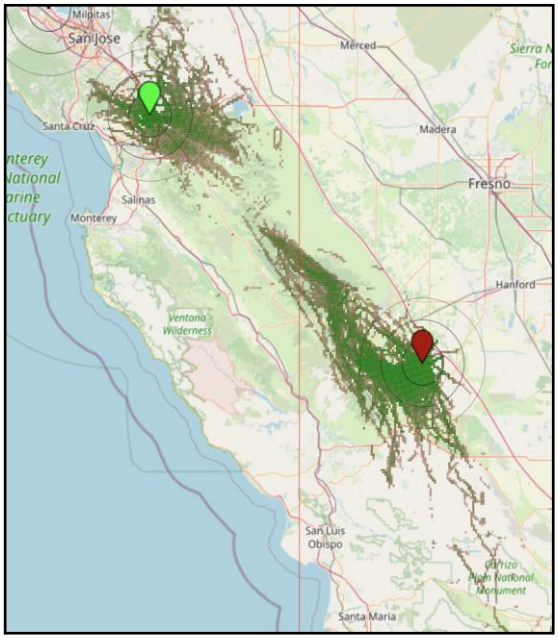
I was planning to drive down to **Los Banos** at the same time to survey the site and deliver the equipment. Byron's got installed, but encountered some technical issue, although I'm sure that is solvable given some time to debug. In addition to being a full-time engineer, due to the COVID situation I have acquired the roles of full-time chef, maid, and daycare worker, but I look forward to help get all of these running.

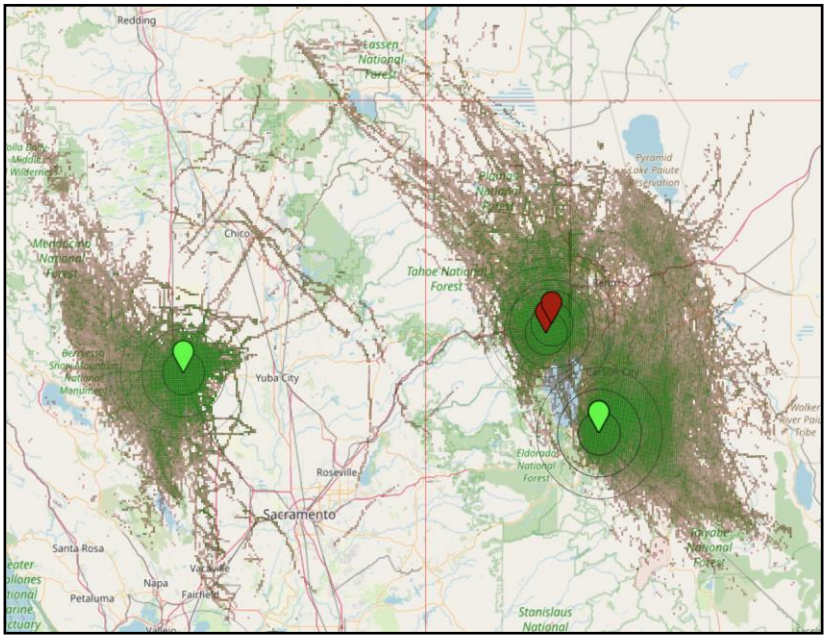
We've spawned quite a number of side projects as well this year.
Akaflieg at SLO wrote grants for investigating many aspects of OGN including things like cost optimization of the receiver



Current FLARM coverage in R11

- In SSA Region 12, Walt Rogers and Tom Serkowski are moving and putting up new receivers from Palmdale to China Lake. We also communicated with many folks in Oregon, Texas, Kansas, Tennessee, etc. to provide info and give lessons learned.





As I look at the coverage map in the US, I am really amazed at the progress in such a short time. Just 2 years ago, there were 2 stations, and now I count more than 20! PASCO and its members have really come through to make this happen, from the funding to the advocacy and manpower. Thanks so much to all of you! ***(and thank YOU Philip ! – Ed.)***

PASCO Scholarship Recipient 2020 - Dalton Stradtman

My name is Dalton Stradtman and I this year received one of the PASCO student pilot scholarships. I would like to start out by thanking PASCO for their contributions towards my success. Without the help of all of you it would've been far more difficult for me to complete my rating. So where am I now?

Shortly after receiving my license in January of this year I began to prepare for my silver badge flight with some pointers from local instructors and even my first out landing on our local dry lake bed! Shortly after I took the trip to Tonopah Nevada and completed my silver distance and altitude on my first cross country flight, following up the next day with the 5 hour flight in our clubs 1-26D. I am planning to go for my gold badge next year in the 1-26 as well.

I just recently started my powered training with the Civil Air Patrol and I hope to become a tow pilot at our club when I complete my licenses and build some hours.

PASCO Private Pilot (Glider) Exam Support Program Details

One of the purposes of the Pacific Soaring Council is to stimulate youth to enter the great sport of soaring. A Scholarship Fund was established for this purpose.

The rules for an application are simple: Submit an email request stating why they should be considered for the scholarship award and providing the examiner contact information and date of the check ride. The new pilot should have passed the check-ride not more than 2 months prior to the date of the request. The standard award is US $350 per applicant plus 1 year free PASCO membership. 4 Scholarships Available Per Year. The PASCO board considers many factors in awarding scholarships. Instructor recommendations, participation in their local soaring community, financial considerations, youth/student status all weigh in the decision.

For more information and donations, please go to https://www.pacificsoaring.org/scholarship.html

PASCO 2020 Flight Awards

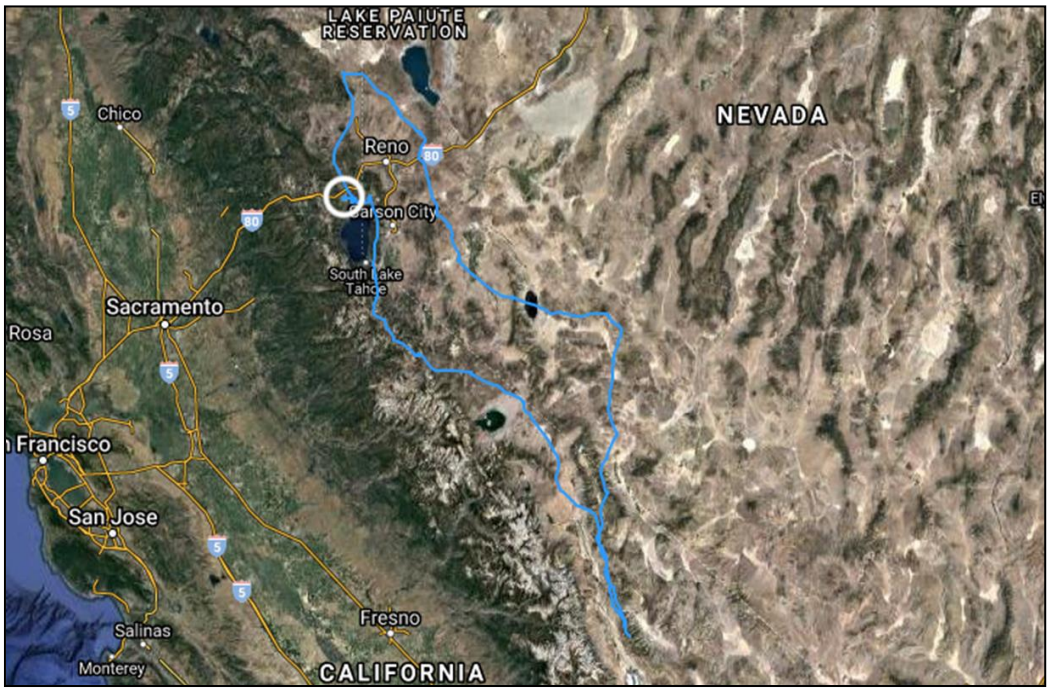
Now we come to the FUN STUFF! Some great flight this year from some of our top pilots as well as our up-and-coming talents! Congratulations to all!

PASCO Longest Distance

Rules: Must originate in Region 11, but may terminate anywhere, turnpts. outside Region 11 allowed. Is based on OLC points: Is Limited to 2 wins per pilot: Pilot must be PASCO member

Winner : John Cochrane 558 SM

Truckee to Mt Inyo to Luning to Doyle to Truckee 7/19/2020



PASCO Sawyer Award

Rules :

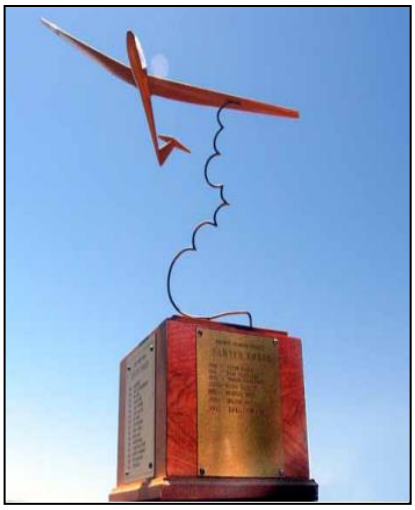
Based on OLC glider handicap AND pilot factor

1 - Total OLC Score - Minimum 5,000 points X pilot factor (up to 4x for new pilots)

2 - Flights in Region 11 - Northern California, Nevada, Hawaii only.

3 - A person can only win the Sawyer 1 time, then they are no longer eligible.

4 – Must be PASCO member

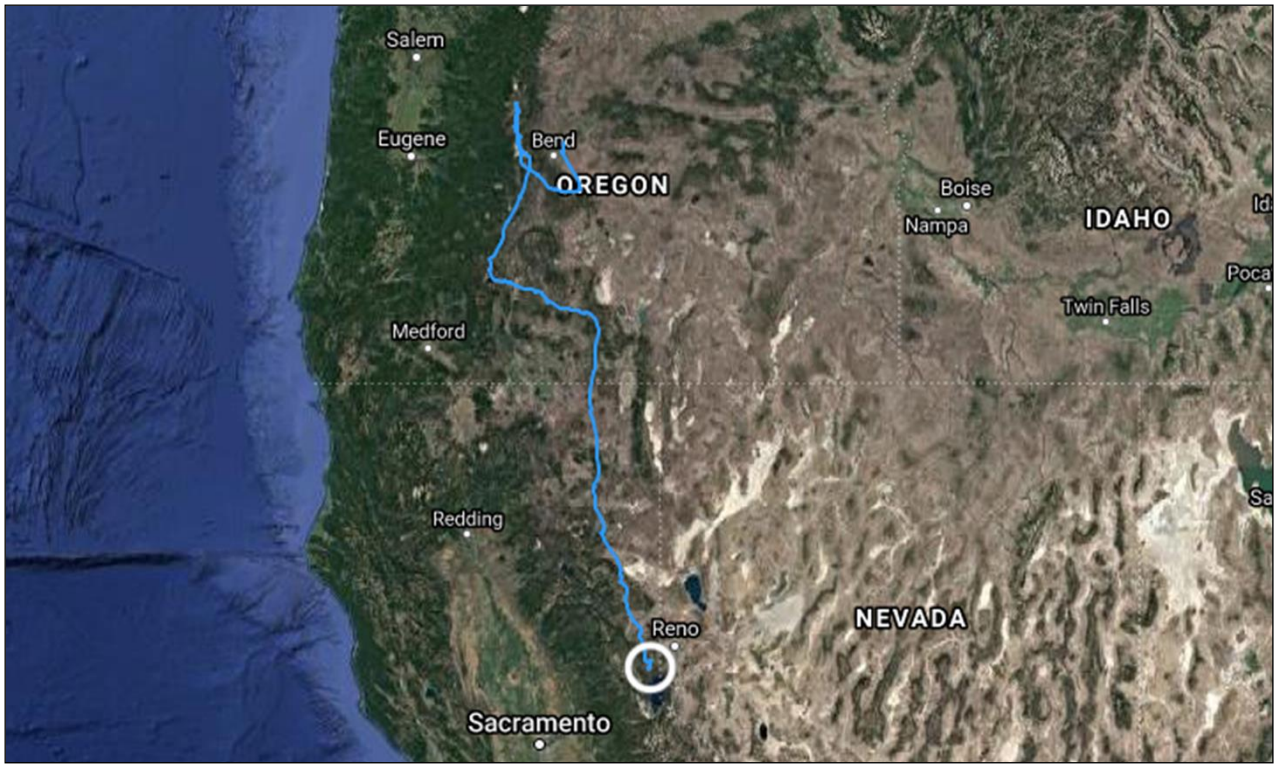


Winner: Kurt Thams 10,295 pts

PASCO Longest Straight Out

Rules: PASCO Longest Straight out trophy to pilot and crew

Winner : **Pilot: Matt Gillis, Crew: Dani Cerne 370 SM**
8/15/2020, From Truckee to Bend, Oregon. (and some more..)



PASCO Most Improved XC Pilot

Rules: Biggest percentage improvement from prior years in longest flight over 100km

Winner: **Brent Davidson**

Prior longest flight	186 km
2020 longest flight	462 km

PASCO Longest Silver Distance

Rules: Longest qualifying Silver C distance flight (50km) made in Region 11 in the yr.

Winner: **Dalton Stradtman**
Tonopah to Hadley in a 1-26 on his first cross country flight! **110km**

OLC 2019 Region 11 Winners

OLC R11 Champion (Best 6 flights)

1st - Keith Essex	**7656 pts.**
2nd – Jim Payne	7241 pts
3rd – Ramy Yanetz	7008 pts

OLC R11 – All Flights

1st - Jim Lee	**(36 flights)**	**24,658 pts.**
2nd – Ramy Yanetz	(47 flights)	24,317 pts
3rd – Keith Essex	(24 flights)	22,618 pts

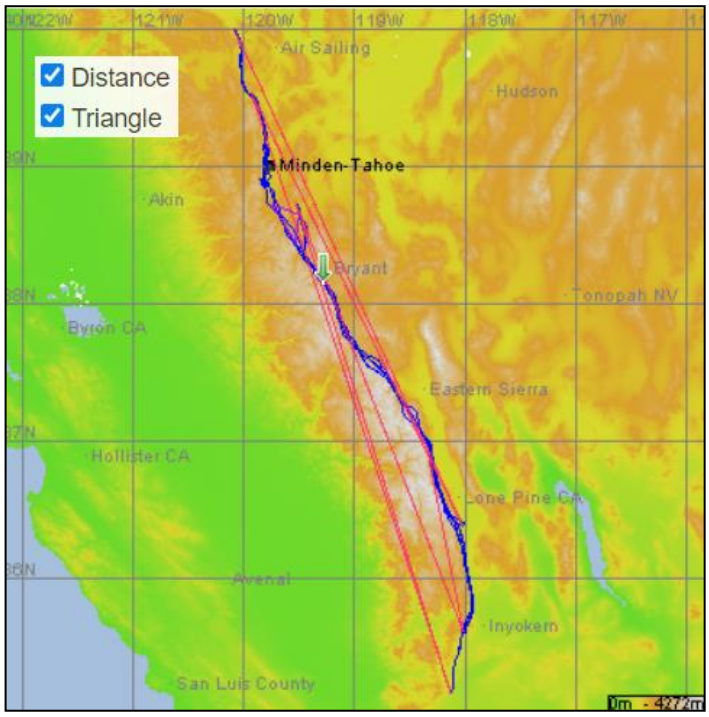
OLC R11 – Speed Champion (Best 6 flights)

1st - Keith Essex	**1,062 pts**
2nd – Jim Lee	1004 pts
3rd – Jim Payne	960 pts

OLC R11 – Longest flight

Jim Payne/Alan Coombs 2360 km

Minden wave in Nixus



OLC R11 Airfield:

1st – Minden	**205,606 pts**
2nd – Truckee	86,290 pts
3rd – Ely	82,258 pts
4th – Williams	64,922 pts
5th – Hollister	35,629 pts

Closing Comments

This year is one which will remain in our memories a long time, not always for the most pleasant of reasons, and although the nature of a safety oriented newsletter edition like this can be somewhat sobering, we have always had the spectacular rewards of soaring and cross country flying to enrich us. I'd like to thank all those who contributed with their lessons learned and willingness to share insight into their 'non-optimal' decisions – this is how we keep each other safe. . We all make mistakes, some small, some large. and for those who don't think they've made any yet, you probably will at some point. None of us are perfect or walk on water. Be warned.

Congratulations go out to all our regional flight award winners, particularly the pilot development oriented awards such as the **Sawyer Award**, https://www.pacificsoaring.org/awards/sawyer.html (a trophy with a long and distinguished history of recipients) the **Most Improved XC Pilot award** and **Longest Silver Distance award**, all targeted at up and coming cross country pilots.

Instructors – please do take the opportunity wherever possible for your students to take advantage of our PASCO scholarships – students are the least likely to know in advance about these opportunities as they are new to the community. We would like to help them as we can, **and you are our window into their world.** More information is available at the hyperlink in the scholarships section of this newsletter.

We hope you all have a good winter season – there will be good (albeit short) soaring days , and great opportunities for reading, contemplation of lessons from the prior season and chance to get those overdue maintenance items taken care of – (including getting those Flarms up to date!!) Additionally, taking the opportunity to stay current during the down-season is a great investment in helping prevent skill erosion and enhancing personal safety so you can hit the skies running come the spring.

Lastly, if you have let your PASCO membership lapse (we rely largely on the honor system at the moment) please consider rejoining. For the **tiny** price of $25 per year, you can help with funding projects such as OGN base-stations, annual safety seminars (normal non-COVID operation), PASCO scholarships for new pilots, and socialize with the larger regional community of soaring pilots. Please sign up here if you haven't already- it's easy and painless, even for the most parsimonious of us.

https://www.pacificsoaring.org/join/index.html

Above all – stay safe, think safe, have fun and see you at the airport!, Peter Deane.

Pacific Soaring Council