



MISO GA NEWS

Spring 2020



MSO GA NEWS
Fall, 2020
GA Newsletter Maiden Flight
By Gary Matson, Editor

A group of general aviation pilots who are members of the Experimental Aircraft Association (EAA) kicked around the idea of using a newsletter as a way to open communication among members of the Missoula International Airport (MISO) community. We took the idea to a quarterly newsletter to the MISO Airport Authority and they agreed to publish a quarterly newsletter for EAA and MISO. As editor, I'll collect stories, which will be given to the Authority for review. Frankly, I think it will be a great idea to have a newsletter like the one we are currently producing for EAA. MISO will publish and mail the newsletter.

Most of us Missoula general aviation (GA) pilots enjoy the convenience and service of our local airport, and are interested in knowing about its news in areas such as improved, maintenance, improvements, and plans for the future. We expect that other members of the airport community, including EAA's Forest Service, maintenance facilities, and others will share our interest in news not only about the airport but also about each other. The newsletter, sent to all GA pilots based in MISO and to all others with facilities at the airport, will provide a new communication opportunity.

The newsletter mission statement, as proposed and

Encouraging Words

From Cris Jensen, Director, Missoula International Airport

I would like to congratulate the General Aviation community on the launch of the General Aviation newsletter. I believe that there is a real impact on the G.A. side of our operation both at the board and staff levels. As a G.A. guy myself I have a vested interest in seeing our General Aviation community grow and flourish. I believe that the airport and its users are on the right path and I look forward to watching and participating in this exciting growth.

I would also like to take this time to thank the numerous people that have made our first welcome here in Missoula. We continually remind at how friendly and open the people of this airport and community are. You all have made my transition into my new job a most enjoyable one.

Finally, I would like to share with you some of the activities that are on going on your airport.

Terminal Expansion: As you may be aware the Airport Authority was not out to bid for the expansion of the terminal building. The airport received 2 bids. Unfortunately, both bidders were unresponsive and both bids had to be rejected. The project will be re-bid this fall and will be completed in the spring of 2020.

New Control Tower: Congress has set aside approximately \$17 million dollars to construct a new Air Traffic Control Tower. The airport is currently in the process of selecting a consultant to assist the airport in the design, construction, and maintenance of the facility. Construction will likely begin in 2020.

Terminal Rehabilitation: We completed the rehabilitation of Taxiway A including grading, drainage, paving, lighting, signage and markings. We also scheduled Runway 7/23 which includes longitudinal and transverse crack repair, fog seal and markings.

Forest Service: We completed construction of an approximately 40,000 square foot hangar for the Forest Service. They will move in this fall and the first aircraft starts to wind down.

Please feel free to call me or visit the office should you have any questions or like to discuss these or any other items.

Cris Jensen is the new Airport Director on September 6, 2019 - call



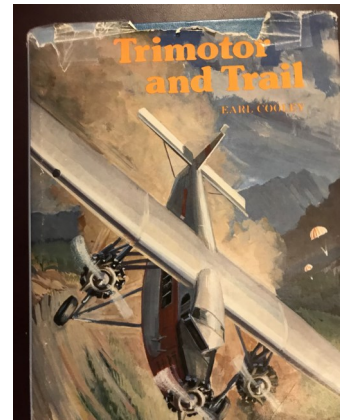
Sustainability at MISO. [Read more](#)



Historic mid-air at MISO. [Read more](#)



Aviation and climate. Pictured is all-electric eFlyer2. [Read more](#)



Book review. [Read more](#)



Airliners parked on Tulsa runway. [Read more](#)



MSO Runway safety annual evaluation. [Read more](#)



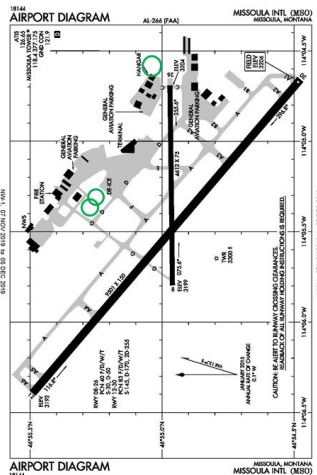
Terminal expansion. [Read more](#)



Pete flies again. [Read more](#)



Super Cub in Switzerland. [Read more](#)



Creative construction at MISO. [Read more](#)



GA BBQ, access badges, EAA, hangars for sale and rent, VariEze for sale. [Read more](#)



Higgins Ridge & NMFSH news. [Read more](#)

GA Newsletter Maiden Flight

By Gary Matson, Editor

This article and the next one by Cris Jensen are reprinted from the VERY FIRST edition of MSO GA News in September 2005.

A group of general aviation pilots who are members of the Experimental Aircraft Association (EAA) kicked around the idea of using a newsletter as a way to open communications among members of the Missoula International Airport (MSO) community. We took the idea of a quarterly newsletter to the MSO Airport Authority and they accepted it as a cooperative venture between EAA and MSO. As editor, I'll collect stories, which will be given to the Authority for review. Frank Tremper will format the stories into a newsletter like the one he so capably produces for EAA. MSO will publish and mail the newsletter.

Most of us Missoula general aviation (GA) pilots enjoy the conveniences and services of our local airport and are interested in knowing about its news in areas such as personnel, maintenance, improvements, and plans for the future. We expect that other members of the airport community, including FBO's, Forest Service, maintenance facilities, and others will share our interest in news not only about the airport but also about each other. The newsletter, sent to all GA pilots based in MSO and to all others with facilities at the airport, will provide a new communications opportunity.

The newsletter mission statement, as proposed and accepted by the Airport Authority, reads as follows: "The purpose of the newsletter will be to better enable GA (general aviation) to participate constructively as a member of the airport community in current and future operations that are appropriate subjects of mutual interest between GA and the Airport Authority. The tool used to achieve this purpose will be newsletter articles that are highly readable, interesting, enjoyable, and accurate."

The newsletter will not be a sounding board for complaints. Human beings tend to have plenty of these but there are plenty of other opportunities to voice them. The MSO Board of Commissioners meets at 1:30 on the last Tuesday of each month and at each meeting invites public comment. That's the best place for any individual or group to bring their concerns.

Welcome reader, and thanks to the Airport Authority for sharing with us in this new opportunity! Please let me know if you have comments, a story, or an idea for an article that would interest our MSO airport community members.



Encouraging Words

From Cris Jensen, Director, Missoula International Airport (*from September 2005 GA News*)

I would like to congratulate the General Aviation community on the inaugural launch of its General Aviation Newsletter. I believe that there is a new emphasis on the G.A. side of our operation both at the board and staff levels. As a G.A. guy myself I have a vested interest in seeing our General Aviation community grow and flourish. I believe that the airport and its users are on the right path and I look forward to watching and participating in this exciting growth.

I would also like to take this time to thank the numerous people that have made me feel welcome here in Missoula. I am continually amazed at how friendly and open the people of this airport and community are. You all have made my transition into my new job a most enjoyable one.

Finally, I would like share with you some of the activities that are ongoing on your airport:

Terminal Expansion. As you may be aware the Airport Authority was out to bid for the

expansion of the terminal building. The airport received 2 bids. Unfortunately, both bidders were unresponsive and both bids had to be rejected. The project will be re-bid this fall and will be constructed in the spring of 2006.

New Control Tower. Congress has set aside approximately \$7 million dollars to construct a new Air Traffic Control Tower. The airport is currently in the process of selecting a consultant to assist the airport in negotiating an agreement with the FAA for the construction, operation and maintenance of the facility. Construction will likely begin in 2006.

Pavement Rehabilitation. We completed the rehabilitation of Taxiway A including grading, drainage, paving, lighting, signage and markings. We also rehabilitated Runway 7/25 which included longitudinal and transverse crack repair, fog seal and markings.

See Encouraging Words (Continued on page 3)

An interview with Cris Jensen, April 23, 2020

Gary Matson, MSO GA News

Missoula International Airport operations have taken a huge hit because of the novel coronavirus and COVID-19. Airport Director Cris Jensen notes that “Last year at this time we would average between 1200 and 1300 passengers a day each way so 1200 arriving and another 1200 departing. I think today (April 23) we had 65 passengers that are departing. We’re maybe at 5% of what we were just a year ago. Just a couple of short months ago we had 1000 passengers a day during the slowest time of the year.” Before the pandemic there were multiple flights a day to Seattle, Denver, Minneapolis. Now there may be 1 daily flight to most cities and some not at all. Minneapolis has been temporarily shut down. “From the commercial side of things it’s been pretty devastating.” Besides losing



The “never before empty” short-term parking at MSO. MSO GA News photo

the fees paid by the airlines for passengers carried, important revenue is being lost from airport parking, rental cars, gift shop, and restaurant.

The National Guard is expected to remain at the airport to screen arriving passengers through the end of May, though that could change and either be lengthened or shortened as conditions warrant. The Guard members take passengers’ temperatures and advise those arriving from out-of-state to self-quarantine for fourteen days.

One airport employee had a family member who was sick so the employee was quarantined for 14 days. One TSA staff was ill, quarantined, and has since returned to work. Otherwise, airport staff, employees, and TSA have remained healthy. The airport staff has been split into two teams. Brian and his team will be at the airport one week then Cris and his team the next week. “The idea is that the two teams never cross paths so that if somebody on one team gets exposed or tests positive then the entire airport staff’s not exposed and suddenly there’s nobody there to

run the airport.”

The airport operations budget is under constant review to enable continued functioning in spite of the striking revenue reduction. Employee retirements, some early and some to occur soon, will reduce financial commitment. Projects will be cut to the bare minimum, just “keeping the lights on” and taking care of essentials. The airport received \$5.6 million from the CARES Act which has been helpful but the large terminal project underway presents an exceptional challenge. The federal funds will, for now, keep the airport in the black for servicing its debt for terminal construction. It’s expected that Phase One will be completed but construction of the remaining two phases may be put on hold for a while... likely to be “years away.” Before the added phases can be resumed, there needs to be a stable and sustained return to the levels of air travel that existed before the pandemic.

A return to “normal” operations at the airport depends upon the course of the pandemic. A worst-case scenario includes ongoing, widespread illness perhaps including a theorized spike in infections in the fall. Passengers will remain unwilling to accept the risk of being in the confined space of a commercial airliner. Revenues will stay in the

cellar. The only thing airport administration can do is to plan for the worst while hoping for the best and focus on budget management that’s appropriate for changing revenues and funding availability as time goes on.

Arrivals				
City	Airline	Flight	Scheduled	Updated Status
Las Vegas	Allegiant	5	9:33 AM	CANCELLED
Salt Lake City	Delta	4146	11:14 AM	CANCELLED
Dallas - DFW	American	3964	12:40 PM	Now 12:49P
Seattle	Alaska	2812	1:58 PM	Now 12:48P
Salt Lake City	Delta	4004	5:10 PM	CANCELLED
Salt Lake City	Delta	3558	9:59 PM	ON TIME
Denver	United	1839	10:02 PM	ON TIME

Departures				
City	Airline	Flight	Expected Time	Status
Las Vegas	Allegiant	76	10:13 AM	CANCELLED
Salt Lake City	Delta	4146	11:49 AM	CANCELLED
Dallas - DFW	American	3964	1:27 PM	ON TIME
Seattle	Alaska	2812	2:25 PM	ON TIME
Salt Lake City	Delta	4004	5:55 PM	CANCELLED

Cancellations outnumber flights. Graphic from MSO web site

Meanwhile, Cris shares his hope with air travelers and general aviation pilots, “...we look forward to the day when people can get back out, whether they’re flying commercial, privately, business or whatever it might be we just look for getting to something that looks like normal; get past all of this.”

Encouraging Words (Continued from page 2)

Forest Service Hangar. Completed construction of an approximately 40,000 square foot hangar for the Forest Service. They will move in this fall after the fire season starts to wind down.

Please feel free to call me or visit the office should you have any questions or would like to discuss these or any other issues.

Editor’s note: Cris began his tenure as MSO Director on September 8, 2005 following a period of administrative instability caused by the former Director’s embezzlement of \$645,000 in airport funds for personal use. The Director resigned his position and in July 2005 was sentenced to a prison term. Cris has brought an “aviation renaissance” to MSO. With guidance from Cris and his talented, dedicated staff we’ll get past this pandemic-challenged time.

Missoula Airport Terminal Expansion – Spring 2020 Update

By Tim Damrow, MSO Projects Manager

Overall, our construction projects at the Missoula Airport remain on-schedule at this current point in time. We have a great team that is committed to not only delivering a great product but also following the recommended precautions to keep themselves and each other safe and well. Having a large worksite that is open to the elements gives our team ample space to continue safety moving forward. On a side note, I have been told that construction is already fairly “anti-social” work so perhaps business as usual to a certain degree?

The project team has also taken advantage of the recent slowdown in passengers and traffic to pull some project elements forward. Over that last few weeks, we began advanced work on our access road system that was originally scheduled to be completed toward the end of the summer. This move was made to help reduce the operational impact to passengers and airport tenants.

From the terminal side, we are nearing completion on the assembly of our structural steel package and moving into placing our concrete floors across all levels. The next

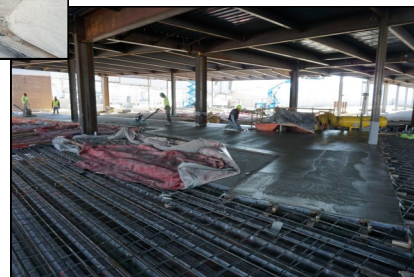
few months will see roofing, walls and the remaining exterior cladding systems installed in preparation for interior work over the winter.

Pilots make sure to reference NOTAMs for increased crane activity in the worksite area! Visit www.flymissoula.com/construction to sign up for project updates and alerts!



Left: East view of access road and terminal worksite. Photo courtesy of Tim Damrow

Right: Crews finishing the concrete floor for the first level restroom. Photo courtesy of Tim Damrow



Wings Over Schafer

By Perilous Pete Pilot (*Reprinted from the fall 2010 MSO GA News*)

After a bunch of hot August days I was lookin' for a getaway somewhere cooler so loaded up my Cub, Daisy, with enough gear and beer to last a week kickin' back in the shade of Schafer Meadows. I was glad the State and my friends took such good care of that airstrip deep in the woods of the Great Bear, and figured I could use some R&R there. After the heavy work of loadin' up, I was glad to be underway. It was a cool morning, so I figured that would help me get my load up off the ground. Daisy fired up like usual and we headed out for takeoff on 29. Well, let me tell ya' I must have had a few too many Moose Drools in my cooler but was too busy to toss any out. The faithful Cub plodded down the runway. I wasn't sure we'd make up but managed about 50 feet off the ground by the end. After a struggle, we made it up to maybe 500 feet by Evaro Hill so I was sure if we kept that up we'd be fine to get over those big ones around Schafer.

We made it OK with a real solid landing on Schafer's turf. It took most of the Cub's horses to pull us to a place where I could rest for a week. But then it happened. There was a loud buzzin' and gettin' closer. A swarm of skeeters headed right for my restin' place! They lit everywhere on me and since my gear didn't include any blood for transfusions I dug out the bug dope and started sprayin'. Well, let me tell ya' those skeeters were a different breed and hungrier than any other. The dope didn't slow 'em

down. I couldn't take it. Slappin' and cussin' I couldn't clear out of there fast enough.

Daisy fired up like usual and at full throttle finally reached the airstrip. It was a little short, but the still cool air would probably do the trick for us. Well, let me tell ya' those skeeters were attackin' that Cub somethin' fierce. They must have caught wind of my Type AD blood! Their stickers were pokin' through my cloth roof! Daisy plodded down the short, turf runway not near fast enough for me. We were slow pickin' up speed. Too dang many Moose Drools aboard, but I was too busy to toss any out. Meanwhile, the skeeters kept pokin' through that roof until it was almost solid black with their stickers and the drone of their wings was as loud as Daisy's. Now, you might not believe this, but with all that extra lift from those skeeters we actually got off just in time to clear all but a few small branches of the trees. We struggled up.

By the time we got back to Missoula the skeeters had given up and left. Daisy and I taxied back to our hangar, me with big relief at a narrow escape. I cleaned the tree branches off the landing gear, got out the lawn chair, unlimbered the Moose Drool, and spent the week lounging in the shade of the hangar. It was a lot safer. (*The breed of mosquito that attacked Pete hasn't been seen at Schafer since – ed*)



Dan's Desk

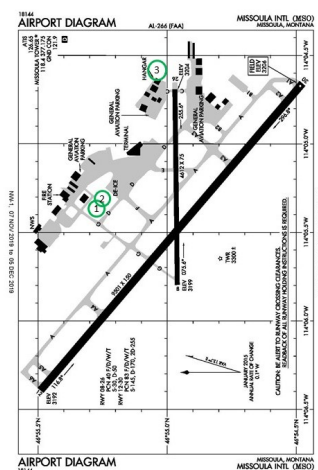
By Dan Neuman, MSO Business Development Mgr.

As I sit and stare at this blank piece of paper in front of me so many thoughts race through my head. Will the world ever return to normal? Where is Waldo... really? Did I turn the stove off when I left for work this morning? Why am I asking that question when I am working from home? Is Gary really going to publish this? You get the idea. In 1966, Robert Kennedy said in a speech: *"There is a Chinese curse which says 'May you live in interesting times.' Like it or not we live in interesting times. They are times of danger and uncertainty; but they are also more open to the creative energy of men than any other time in history."* Well, those words ring so true some 54 years later that they led me to make creativity the theme of this piece.

Let's take the Washington Corporation Hangar expansion for example. They have figured out a way to fit 3 aircraft into a 2 aircraft hangar by moving their parking lot and constructing drive through kick outs on the East and West sides of the building. Pretty clever use of space in my opinion! They should start that work

within the next couple of weeks.

Need more creativity? How about the Minuteman/Bretz/Kosena Hangar complex in the West GA area. By combining their collective ingenuity, these folks were able to design 2 hangars that share a common wall. While there are some additional fire code considerations between the 2 hangars, they were able to take full advantage of the limited amount of property that was available in the West GA for hangar development. They



Left: Project locations: 1 – Delta Golf Hangars; 2 – Bretz-Kosena Hangars; 3 – Washington Corp. Hangar expansion. Graphic by MSO GA News

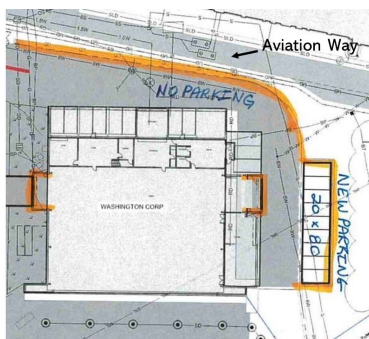


Bretz-Kosena Hangar project Location. Graphic courtesy of Dan Neuman

should start construction this spring. Now those are good examples of creative energy producing some great ideas!

Speaking of ideas, I think it was John Steinbeck who said "Ideas are like rabbits. You get a couple and learn how to handle them, and pretty soon you have a dozen." So, go out there and find some rabbits.... ummm or some ideas and just let nature take its course!

Right: Washington Corp. hangar expansion. Graphic courtesy of Dan Neuman



Fly the Big Sky license plates are now available through regular county motor vehicle licensing departments. For each license purchased, EAA Chapter 517 receives \$20 to further its activities promoting aviation. The additional cost for the specialty plate with standard numbers is about \$30, and for the personalized plate about \$60. Plates can be ordered at any time without affecting the renewal cycle. Standard renewal rates apply, with the specialty plate cost being added.

Sustainability at MSO

MSO GA News

Rita Harris-Powers is an accountant on the airport administrative staff. In the fall of 2019 she earned a Harvard University Extension School Graduate Degree in Sustainability. She presented a Sustainability Action Plan (SAP) and its potential implications for MSO at the January 2020 meeting of the Airport Board. The main goals of her SAP are to apply measures for energy conservation, water conservation, solid waste reduction, living wage implementation for employees, and documentable sustainable building practices.

Rita's SAP was guided by the United Nations' Sustainable Development Goals (SDGs), the world's shared plan to end extreme poverty, reduce inequality, and protect the planet by 2030. The 17 individual goals include some that can be implemented at the airport particularly during this time of ongoing development. The goals include Responsible Consumption and Production, Affordable and Clean Energy, and Climate Action.

Responsible Consumption and Production – Rita's SAP recommendations recognize the City of Missoula's "Zero Waste Resolution:" Adopted by the Missoula City Council on February 8th, 2016, the resolution set in motion the process to reduce waste by 90 percent by 2050. Rita's SAP contains a proposal to reduce airport waste sent to the landfill by increasing the ease of recycling by passengers, tenants, employees, and vendors. The cost of adding recycling bins, including glass bins, will be offset by the reduced "overage" charges for "excess" airport waste sent to the landfill.



The expanded terminal now under construction during Phase One is expected to meet LEED standards for sustainability. Conceptual rendering courtesy of Rita Harris-Powers.

Affordable and Clean Energy – The goal of energy conservation is given attention in the construction of the new airport terminal. It is expected to meet LEED standards, which are globally recognized for a "whole-building approach" to the design, construction and operation of high-performance "green" buildings: Water savings, materials selection, waste reduction, energy efficiency, indoor environmental quality.

Energy conservation measures are recommended for the old and new terminal buildings and can result in

substantial savings and include such things as energy use monitors to identify inefficient appliances, motion sensitive light switches, and the use of modern, low wattage lighting bulbs and appliances.



Solar panels in parking lots provide electrical power and shade. Photo courtesy of Rita Harris-Powers

Solar energy opportunities exist at MSO in large open land areas and as a feature of airport parking. Harris-Powers recommends that as the demands of new terminal construction diminish in the future it would be appropriate for the airport to work with the FAA in identifying potential solar generation locations. She estimates that \$135,000 invested in a ground-mounted solar array would have a 5-year payback period; \$166,000 for a carport array (providing shaded parking) would have a longer payback period but offset by premium parking rates.

Climate action – On April 3, 2019, the Missoula County Commissioners and the Missoula City Council adopted a joint resolution that establishes a goal of 100% clean electricity for the Missoula urban area by 2030. It is entirely appropriate that the Missoula International Airport pursue opportunities to enable the airport to be in compliance with the resolution.

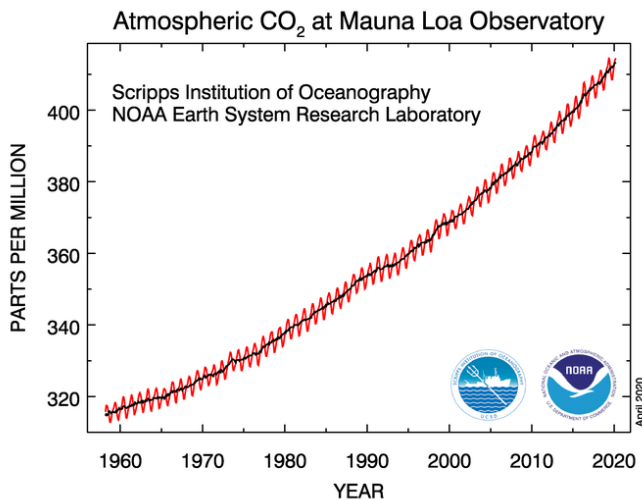


Get Out and Fly!

Aviation and Climate

By Gary Matson

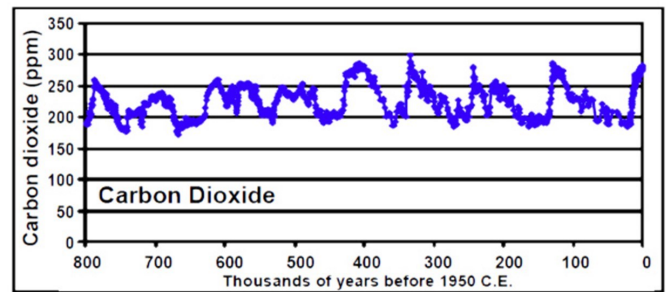
There are few among us who still deny that the planet's climate is changing because of human activities. The science linking greenhouse gas emissions to global warming is one of universal agreement among the world's leading climate scientists. The mechanism has been known for over a hundred years since it was described by Swedish physical chemist Svante Arrhenius. As remembered in NASA's online publication Earth Observatory, Arrhenius was the first Swedish recipient of the Nobel Prize. In 1895, he presented to the Stockholm Physical Society a paper describing the radiative effects of carbon dioxide on the surface temperature of the Earth. According to his calculations, the "temperature of the Arctic regions would rise about 8 degrees or 9 degrees Celsius, if the carbonic acid (CO₂) increased 2.5 to 3 times its present value..." Since the time of Arrhenius many other scientists have corroborated the "greenhouse effect" property of certain gasses. Both carbon dioxide and methane are emissions from human activity and have accelerated since the industrial revolution. Methane, a major source of which is the oil and gas industry, is a more potent greenhouse gas than CO₂. The greenhouse effect of these gasses is a fixed physicochemical property. Just like gravity's a "law" so is the warming effect of these gasses, period.



Atmospheric CO₂ concentration measured at Mauna Loa Observatory, Hawaii, 1958 to present. Graphic by Scripps Institution of Oceanography, NOAA Earth System Research Laboratory

Atmospheric carbon dioxide has been measured since 1958 from an observatory on Hawaii's Mauna Loa. At that time CO₂ concentration was 313 parts per million (ppm).

In 2009, the lead scientist of the UN's Intergovernmental Panel on Climate Change agreed with other scientists that atmospheric CO₂ concentration should be kept below 350 ppm in order to limit severe consequences of climate change. By March 2020, CO₂ had increased to 414.5 ppm. Atmospheric CO₂ had remained below 300 ppm for the past 800,000 years. If global emission of CO₂ stopped immediately would we see a lessening of its effects upon climate? No. Atmospheric CO₂ stays there for hundreds of years.



Atmospheric carbon dioxide (CO₂) derived from bubbles trapped in ice at Dome C, Antarctica. Units are Parts per million (ppm). Year zero can be taken as 1950 of the Christian Era (C.E.). Source: World Data Center for Paleoclimatology, National Oceanic and Atmospheric Administration (NOAA), Carbon Dioxide Information Analysis Center (CDIA)

What do we love? Aviation! How do we love it? By flying! So true, but how do we aviators share in the responsibility to mitigate global warming? Worldwide aviation has seen rapid growth in recent years, although it's currently spinning downward after stalling from COVID-19. Aviation will recover. Before the virus, "air travel" accounted for 2.5 percent of global CO₂ emissions. If growth in air travel continues at pre-2020 levels it could account for 25% of the world's "carbon budget" by the year 2050, creating unachievable demands for the lowering of carbon footprints by other sectors. The carbon budget is the product of the Paris Climate Accord of 2016 and is the maximum allowable atmospheric CO₂ concentration consistent with keeping global warming to no greater than 1.5 degrees Centigrade.

How can aviation respond to the challenge of mitigating climate change? The possibility of a large-scale shift to non-fossil fuels seems remote. Increased commercial airliner fuel efficiency will help but is not nearly enough given the industry's projected growth. An airliner emits much more CO₂ per passenger than a typical

See Climate (Continued on page 8)

Runway Safety Action Team (RSAT)

MSO GA News

Air Traffic Manager Keith Eberhard hosted the annual RSAT meeting on March 25th. The purpose is to review operations procedures at MSO and identify safety issues. Input from airport staff and GA pilots is invited. As usual, there were no serious operational issues identified at this year's meeting, but it always serves as a review and reminder about how all of us in the airport community can collaborate in keeping the airport safe.

Some recommended procedures of particular interest to MSO general aviation pilots

- When ready to depart at a runway intersection

and there's an aircraft on short final, *hold off* on contacting the tower until the landing aircraft is on the ground and then advise tower ready for departure. This gives controller time to handle the landing aircraft before turning attention to the departing one.

- The ever-present "clearance – listen – readback" loop. Local pilots are so used to getting the same clearance that they *may not be listening carefully* to one that might be a bit different. Keith gave an

See RSAT (Continued on page 9)

Climate (Continued from page 7)

general aviation airplane. A Cessna 172 with 2 passengers will emit about 80 Lbs CO₂/passenger/Hr. A Boeing 737-400 with 333 passengers will emit 200 Lbs CO₂/passenger/Hr.

Electric-powered general aviation (GA) airplanes are on the way. The eFlyer2 and eFlyer4 are 2- and 4-place aircraft, respectively, developed by Bye Aerospace located in Denver. As stated in the Bye web site: "The eFlyer family of aircraft, beginning with the 2-seat eFlyer 2 aims to be the first FAA-certified, practical, all-electric airplanes to serve the flight training and general aviation markets." The aircraft cruise at 135 kts or better, have a flight endurance of more than 3.5 hours, and a battery re-charge time of 30 minutes. The operating cost of the eFlyer2 is estimated at \$14/hr compared with \$88/hr for the Cessna 172. Deliveries are expected to begin in 2020 though the schedule may be affected by the current pandemic. The Aircraft Owners and Pilots Association (AOPA) has ordered an eFlyer2 and is a strong supporter of electric propulsion in GA aircraft. Watch AOPA publications for news as it develops.

How can general aviation pilots and the airline industry reduce their contributions to CO₂ emissions? A United Nations Environment Programme (UNEP) report dated November 2019 warns that unless global greenhouse gas emissions fall by 7.6 per cent each year between 2020 and 2030, the world will miss the opportunity to get on track towards the 1.5°C temperature goal of the Paris Agreement. I've committed to reduce my personal flying time in my Cessna 150 by 8% a year. Will that work for everyone? Heck, no! But I'll still be able to fly about 40 hours when I'm 90 (If I can remember where the airplane is)!

Delta has committed to becoming the first carbon neutral airline globally. Starting March 1, 2020, it is committing \$1 billion over the next 10 years on its journey

to mitigate all emissions from its global business going forward. Will the airline succeed in its commitment? Will other airlines join in? We'll have to wait and see. Interestingly, Delta doesn't include the traditional "carbon offset" in its mitigation proposal. An example of a carbon offset is a financial contribution to building a solar generating facility to offset an ongoing greenhouse gas emission. Although these offsets can make some difference, the real need is to reduce CO₂ emissions. Here are some of Delta's goals (from the Delta web site):

- Carbon reduction – Reducing Delta's carbon footprint through enterprise-wide efforts to decrease the use of jet fuel and increase efficiency. Areas of focus include an ambitious fleet renewal program, improved flight operations, weight reduction, and increased development and use of sustainable aviation fuels.
- Carbon removal – Investing in innovative projects and technology to remove carbon emissions from the atmosphere that go beyond the airline's current commitments, and investigating carbon removal opportunities through forestry, wetland restoration, grassland conservation, marine and soil capture, and other negative emissions technologies.
- Transparency – Continue to publicly report on our goals and progress, aligned with leading disclosure frameworks and standards, and track efforts and achievements through our robust governance structure.

Can aviators make a difference in the progression of climate change? Certainly. We can stay informed and choose ways to contribute that are both effective and fit our personal and professional goals. The only thing we can't justifiably do is ignore a role that we could potentially play in mitigating the climate emergency.

RSAT (Continued from page 8)

example of a pilot who routinely departed from the same place on Rwy 12 and when given takeoff clearance for 30 (at Golf) he read back 30 but then departed 12, where he “always” departed.

- Left and right patterns – *remember where left is! Remember where right is!*
- Don’t hesitate to ask for landing on Rwy 8 or 26. Controllers are happy to give that clearance if possible.
- “Line up and wait.” – This instruction is not allowed at MSO but pilots may encounter it at other airports. If you’re given this instruction and don’t get takeoff clearance within about a minute, *remind the controller* that you’re there; he/she may have been distracted and overlooked you.
- Whenever in doubt about any clearance you get from ATC, *say something!*
- “Cleaning up” after exiting the runway to a taxiway. Though not a significant problem, some pilots tend to delay their taxi after exit. It’s better to expedite taxi after runway exit and take clean-up time after reaching the ramp destination.

After landing, and without other instruction from Tower, exit at the first available taxiway and when clear of the runway contact Tower. You’ll either receive taxi instructions or will be instructed to contact Ground.

A review of types of “surface events”

“Runway incursions” are of four categories. The most serious are Category A (collision barely avoided) and Category B (significant potential for collision). The reduction in number of categories A and B incursions in the past two fiscal years is encouraging especially in light of the increased number of airport operations.

Surface events at MSO, Fiscal Years 2018, 2019

Pilot Deviation – A BE35 aircraft (A/C) was cleared for takeoff RWY 30 at TWY G. Read back correct. A/C 1 departed RWY 12 instead. A/C 2 E75L was on final to RWY 30, subsequently A/C 1 BE35 had to turn as soon as possible to avoid conflict. More than 4 miles separation between A/C 1 and A/C 2 when A/C 1 had turned to de-conflict.

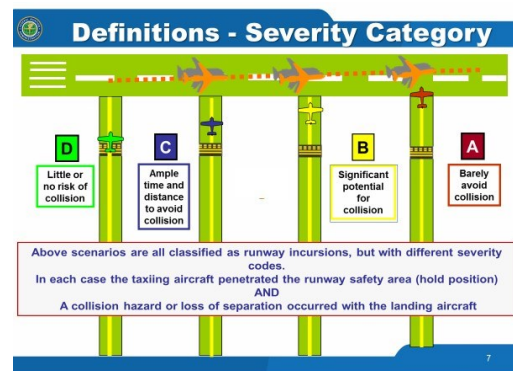
Other – Aircraft 1/C172 landed Runway 30 and unintentionally maneuvered left off the Runway before re-entering Runway 30.

Pilot Deviation – Aircraft 1/C182 called Ground Control (GC) from North Star Hangar 7 area (just south of Runway26) for Touch and Goes. GC issued Runway26 taxi via C. Aircraft 1/C182 turned onto Runway26 without receiving takeoff clearance. GC instructed Aircraft 1/C182 to stop, then instructed Aircraft 1/C182 to exit Runway 26 at E. Aircraft 1/C182 did so.

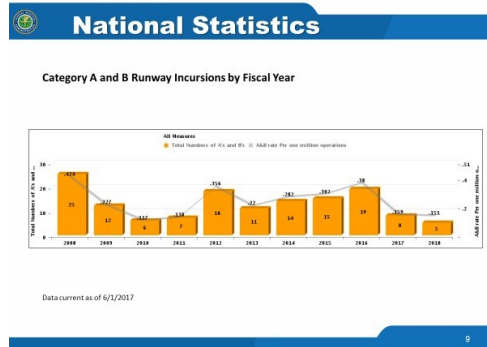
Pilot Deviation – Aircraft 1/BE18 cleared to land Runway 12. On rollout, Aircraft 1 turned left onto Runway 8/26. Local Control advised Aircraft 1 they were exiting onto a runway and instructed them to continue on Runway 8 and to exit at Taxiway A; however, the aircraft passed Taxiway A. Local Control advised Aircraft 1 that it had passed Taxiway A and instructed the Aircraft 1 to turn right on to Taxiway D. The pilot advised he was unfamiliar with the airport.

Luckily, none of these events caused damage or injury. Considering the total number of operations at MSO this is an excellent record. Let’s keep up the good work!

Editor’s Note: Those wanting to see the entire RSAT presentation can go to: <https://www.dropbox.com/s/krd5dzp1z6tzly4/3531287607076860672.mp4?dl=0>



Runway incursions are classified in 4 categories with “A” the most serious and “D” the least. Graphic courtesy of Keith Eberhard



The frequency of categories A and B runway incursions have decreased in recent years. Graphic courtesy of Keith Eberhard.

Airport Roundup

MSO GA News

Flight Instruction

Northstar – Flight instruction will resume normal operations Monday, May 4.

Minuteman – Aircraft remain available for rental. Flight instruction will resume May 4, 2020. Contact CFI Aaron Foster (406) 493-5986, archeryjunkfoster@gmail.com

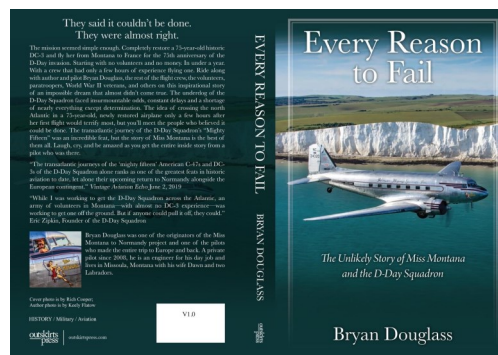
Montana Flying Service – Montana Flying Service is starting up some creative learning opportunities for student pilots during the COVID-19 pandemic. Using web-based Zoom meetings, students will be able to participate in interactive private pilot oral exam test prep sessions via their PC, laptop, iPad or phone right from home. Starting in early May, CFIs Bruce Doering and Kurt Kleiner will offer these sessions every other Wednesday evening at 7:00 pm, just as they did with the winter pilot seminars in the East LZ hangars. Standby for the announcement for the first of many interactive sessions that will keep students engaged and progressing toward completing their training and passing their FAA practical tests. Interested students please contact Bruce at 406.550.3680 for details.

For the pilot who feels they fly the same ol' valleys and airports, here is an opportunity to push past their personal limits a bit. *Montana Flying* is planning a group **"fly-out" on a Saturday morning in May**. The idea is to meet-up on Friday in person or on Zoom to flight plan together, discuss performance, weather, routing and the destination. We are thinking three legs, maybe visit a museum or just to eat a PB&J sandwich at a new airport. We are not advocating stealing an aircraft, just "secure" one for this chance to fly with friends and keep your distance at the same time. Speaking of distance, although we are going to take off and fly to the same location, we won't be doing close formation flying. If this sounds intriguing, contact Bruce at 406.550.3680.

GA BBQ

The annual BBQ tribute to general aviation is generously sponsored by the Missoula International Airport. The 2019 BBQ was weathered out in the fall and after a "snow delay" was held on March 7, 2020, at the Museum of Mountain Flying. The airport arranged for food &

drink to be provided by the vendor "Just Barbecue." Miss Montana pilot Bryan Douglass presented a highly entertaining video about the adventures of Miss Montana and crew during their trip to Normandy in celebration of the 75th anniversary of D-Day. Watch for Bryan's book, which should be available by the summer of 2020: *Every Reason to Fail: The unlikely story of Miss Montana and the D-Day Squadron*. The 2020 GA BBQ is expected to resume in the fall, as usual.



MSO Chief of Public Safety

Bob Otte has stepped down from his position as Chief but continues as a Public Safety Officer. Jesse Johnson agreed to serve as the Acting Chief while the airport conducts a national search for a replacement. Many of us remember Jesse from his prior years' service as PSO Chief. He pioneered the modernization of the access badge training and issuance processes. We will also remember seeing Jesse at the Missoula Farmers' Market where he proudly offers the best of produce from his productive garden farming operation.

Airport Gate Access Badges

The airport is closing its badging doors for the month of May. Individuals who do not make it in to renew a badge expiring in May will be given an extension until June 1, when the badging and renewal processes will reopen. A badge expiring in May will stop working June 1 and the holder will need to schedule an appointment and go through the process of renewal. Call the airport office at 728-4381.

Five Valleys Flyers: Experimental Aircraft Association, Chapter 517

Missoula's EAA chapter is headquartered in the
See Roundup (Continued on page 11)

Roundup *(Continued from page 10)*

“East LZ Hangars,” on the east side of the airport, 4198 Corporate Way, Hangar No. 4. The chapter offers a connection with builders of “experimental aircraft,” scholarships for student aviators, airplane rides for youth through the national EAA Young Eagles Program, and generally shares acquaintances and camaraderie through chapter activities.

Chapter meetings are normally scheduled for the third Monday of each month, 7:00 PM in the Chapter hangar, but have been canceled because of the virus pandemic. The next scheduled meeting is May 18 at 7:00 PM and features the start of VMC (Visual Meteorological Conditions) Club discussion sessions. These consist of a video of a real-life flying scenario followed by discussion of ways of handling it. It is called a “club” but it is really a chapter discussion group that focuses on a scenario video provided by EAA National. Watch for an announcement regarding whether this meeting will take place or be canceled because of the ongoing pandemic.

EAA Membership is open to anyone interested in aviation; you don’t need to be a pilot, own a plane, or have an aircraft building project. For information go to: <https://chapters.eaa.org/EAA517/Contact-Us>

Hangar space for rent

EAA has space for any typical single engine aircraft in its hangar at MSO. \$300/month.

MSO Hangar for Sale

Don’t miss this rare opportunity for private hangar ownership on the Missoula Int’l Airport! The “Delta Golf Hangars” feature Erect-A-Tube design and were completed in 2019. The unit for sale is 42 X 50 X 15’ and is located near the east corner of the Delta and Golf taxiways. The bi-fold door has a 12’ opening. Walls, door and ceiling are insulated. Gas heat, electric power, heating systems, water, and sewer are installed. Plumbing and sewer connections are available for the owner to add a bathroom and/or kitchenette. The Delta Golf Hangars are managed by a condo association of owners. For more information please contact Mike McCue, (406) 240-9868.



Interior of Delta Golf Hangar. Photo courtesy of Michelle McCue



The Delta Golf Hangars are located at the intersection of Delta and Golf taxiways. Photo courtesy of Michelle McCue

VariEze for Sale

Has been hangared at MSO. Call Tim Burke 406-544-3213

**Airport weather**

“Everybody complains about the weather but nobody does anything about it.” – Charles Dudley Warner (usually misattributed to Mark Twain, who often quoted it in his lectures).

ASOS 24/7 – 728-3743

After ATC hours at MSO – 126.65

Talk to a real person 24/7 at MSO’s NOAA weather office (406) 329-4840

Get Out and Fly!

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Flying in Switzerland


One of our MSO Runway 25 Hangars owners, John Roher, is living and flying in Switzerland. The *News* thought readers might be interested to know what life is like for his family at this time of world-wide coping. Here's some of his notes from a message April 16th:

"I have a virus right now! I'm not sure if it's THE virus, but the symptoms match – fever, cough, headache and muscle ache. It seems to be a "mild" case, with no shortness of breath, so the Swiss don't want me to go to a test center, just stay home! It seems to be getting better, but mornings are better than afternoons. Michelle has it too, even less symptoms than me, but the kids seem to be OK. Of course, we've been home for the last month and sanitizing all our groceries and everyone was healthy..." Then a visit from a repairman appears to have brought the illness into their home.

"Our little private airport is closed, but not from a governmental requirement. It was open for "proficiency" flights later than most, with social distancing and a procedure to sanitize the aircraft before and after a flight. We were required to fly alone or with a family member in the same household, so no flights with friends or flight school flights. That was fine with me, as I'll happily spend an hour in the pattern flying the Super Cub. Check rides



Pilot John Rohrer describes his photo: "Flugplatz Frikthal-Schupfart on downwind. Nuclear plant steam in background, and Swiss Alps beyond." *Editor's note: "Flugplatz" is "airfield." Literally translates to "flight space"*

and currency flights were still allowed, at the discretion of the examiner/flight instructor. However, about three weeks ago the club's board of directors decided to close the airport completely, out of solidarity with the community. Probably neighbors were asking why those little planes were still buzzing around while everyone else was on lockdown. But the weather is perfect for flying now!" 

Historic but tragic Missoula Mid-air collisions

MSO GA News

Discussions at a recent gathering of local pilots somehow got around to the topic of aviation accidents in Missoula. Although recalling tragic events isn't uplifting at this time in history, while we're dealing with enough virus pandemic sadness, the recollections are interesting reminders of past events that caught everyone's attention.

Don Gilder describes on his web site OldMissoula.com Missoula's "first fatal plane crash":

"Missoula's first fatal plane crash occurred on September 10, 1943. It happened when 2 airplanes met mid-air; each carrying an aviation student pilot from the University, and a local flying instructor from Johnson Flying Service in Missoula. These aviation students were part of the new Army Air Force training detachment (CTD - 317th) which was placed by the War Department at Montana State University campus (U of M) early in 1943. The urgent need for producing combat ready pilots required an accelerated program for training students across the whole country and Missoula was not unique. "By April 1943 over 60,000 men were in aircrew college training detachments at more than 150 institutions."

At a much slower pace the University began an earlier

civilian pilot training program (CPT) in 1939. Close to 250 students took courses in this flight training program by 1942. Upon completing a series of classes, actual flight instruction was given by pilot trainers working closely with Johnson Flying Service, based at Hale field. Until 1943, no one was seriously hurt while taking these initial flight programs.

Within a few short months in 1943, the entire University, many of its faculty, and staff were focused on the duties required to provide the programs necessary to



The September 10, 1943 Missoulian describes the mid-air collision between two training aircraft based at Hale Field in Missoula. Photo courtesy of Perry Francis

See Collisions (Continued on page 13)

Collisions (Continued from page 12)

train more of these budding Army pilots. Two of these students didn't survive."

Missoula pilot and Museum of Mountain Flying volunteer Perry Francis provided the News with a copy of the story that appeared in the *Missoulian*. The mid-air crash of two planes killed both instructors and their two student pilots. The following is part of that story (notice with a shudder, Grizzly fans, that in 1943 the now University of Montana was then "Montana State University):

"Both of the instructors have lived here for years. The student pilots were members of the 317th college training detachment of the Army air forces stationed at Montana State University. The accident was the first in the training of students by the Johnson school, and the first in the history of Johnson Flying service.

Wreckage of the two planes was spotted from the air by Instructor Pilot Warren Ellison, who was making a routine flight, and fixed the time of collision at about 7:30 o'clock. He had been over the flight course a few moments earlier and had detected no sign of the accident then.

The crash occurred over the old Buckhouse ranch, north of the old Bitter Root road. One plane hitting the ground in a weed patch on the Buckhouse ranch and the other crashing across the road into a wheat field on the Dan Maloney ranch. Both planes were badly smashed but no fire resulted."

A second mid-air occurred on Sunday, November 1, 1970. An Ercoupe with only the pilot on board and a Cessna 180 with four skydivers and the pilot collided about five miles east of the airport, above the Intermountain Lumber Company on Russell Street. The Cessna pilot was Bob Lueck, owner of Missoula Skyflight at Johnson-Bell Field. *Missoulian* staff writer Lawrence Pederson wrote about the accident in the Monday, November 2nd *Missoulian*:

"It was a terrible sight unreal just like a dream." That was the testimony Sunday of 15-year-old Lee Black, 701 S. 5th St. W., one of many Missoula residents who witnessed a two-plane mid-air collision which claimed four lives, left another presumed dead, and injured a sixth person. "My friend Russell and I were out shooting baskets by the garage and we stopped for a minute to watch these two planes," Black said. "And all of a sudden they came together. They were really high. Then we saw one person come out in a white parachute heard an explosion then later saw an orange parachute drifting down from the bigger plane. That person looked really still," he said. "After the explosion, it looked like pieces of glass or something shot hundreds of feet in the air above the crash. I went running in the house yelling at my dad that there



The November 2, 1970 Missoulian describes the mid-air collision between an Ercoupe and a Cessna 180 carrying skydivers. The collision occurred in low visibility conditions about 5 miles east of the airport. Photo from Missoulian archives

had been a plane crash and he came out. And all those pieces were still falling down."

Bob Smith, a member of the Silver Tip Skydiving Club at the University of Montana and a commercial pilot, was supposed to have piloted the ill-fated skydiving aircraft Sunday. But, Smith told the *Missoulian*, Robert Lueck said he wanted to take the four divers up. Smith said shortly before the aircraft took off he received a telephone call from Harold "Bud" Wallace, Republican Senate candidate, who wanted to go up with Smith. Smith said he and Wallace were preparing to take off only four or five minutes after the skydiver plane took off. Smith said as he was preparing to take off the airport tower called by radio saying there was a report of the airplane crash and asked Smith and Wallace to act as spotters. Smith said another plane joined them a few minutes later, and although the planes were both flying over the crash scene, *they were unable to see each other because of smog in the air.*" (Italics added; *Missoulians* will recall the frequent Missoula smog that was widely attributed to emissions from the Hoerner Waldorf pulp mill near Frenchtown. The mill's emissions were more regulated in subsequent years – ed)

Crash debris was scattered in the Intermountain Lumber

See Collision (Continued on page 14)

Trimotor and Trail – book review

MSO GA News

Trimotor and Trail author Earl Cooley entertains the reader with fascinating stories beginning with his early life in Western Montana and continuing through his time as Superintendent at the Missoula's Smokejumper Base. Earl was in the first crew of five smokejumpers from U.S. Forest Service Region One. The small crew was organized to begin activity during the 1940 fire season. The first jump from an aircraft took place at Blanchard Flats near Clearwater Junction. The night before, the jumpers gathered around the campfire sharing tales about "...how parachutes hung up on the tail of the plane, how jumpers were dragged across the airport, and so on." The next day, jumpers boarded the Travelair that had arrived from Missoula. Getting ready to jump, Earl "...was tense and my mouth was dry... The instructor said, "Go!" and I crow-hopped off... What relief when the chute opened! ... I was so pleased with the whole thing I was ready to go right back up and do it again. Two firsts for me that day – my first parachute jump and my first ride in an airplane."

The first jump on a fire was on July 12, 1940. Earl and another jumper boarded a Travelair flown by Dick Johnson. Arriving at the fire on Martin Creek on the Nezperce Forest the plane encountered "...strong winds and downdrafts..." that complicated controlling and positioning the plane. A suitable spot was located and Earl was the second jumper out of the plane. "I pulled my ripcord, and started to count – "one-thousand, two-thousand, three-thousand" – waited for the opening shock – nothing! I waited a few more seconds and still no opening shock! "My God! My chute's not opening, something's wrong!" My shroud lines were tangled." After a struggle Earl got the lines untangled and the chute opened just a few hundred feet above the trees. He landed in a tree and "...climbed down the limbs to the ground." Later, the jumpers learned that the cargo dropper, who pushed fire packs with the jumpers' supplies, "...had caught his foot in the cargo rope during a downdraft and had almost fallen out of the plane."

Earl summarized the first jump on a fire this way: "The parachute project almost died in infancy. If our spotter

(cargo dropper), Merle Lundigan, had not caught himself in the door; if my parachute had not fully opened as I neared the ground, there would have been one and possibly two fatalities on this first fire jump. In all likelihood the controversial idea of parachuting men to remote fires would have been abandoned."

Earl's career continued as a smokejumper trainer, student of fire behavior, and finally as Superintendent of the Missoula Smokejumper Base. His career had included a role as spotter on the Mann Gulch Fire. He relived that experience the rest of his life but had confidence that he had made the right choices in just the same way as he had done on countless other fires. The tragic loss of life at Mann Gulch was found to be due not only to the fire's erratic and unexpected behavior but also because jumpers refused to follow their crew leader's instructions – he was saved by sheltering in a burnout while the rest tried to outrun the fire uphill.

All in all, *Trimotor and Trail* is fascinating reading. The life of a young person growing up in Western Montana during the struggles of the 1930s. Striving for self-sufficiency as a UM student. Pioneering and mastering the high risk role of smokejumping, and finally being in charge of the Missoula base. You'll be glad you read the book! It's available in the library of the Museum of Mountain Flying.


Special thanks to Missoula Pilot and Museum of Mountain Flying volunteer, Perry Francis 

Get Out and Fly!

Collision (Continued from page 13)

Company yard and elsewhere in that part of town. One skydiver, Great Falls resident James Ledbetter, was able to parachute to a safe landing in the Loyola football field just south of the Intermountain Company. Missoula residents came out in large numbers to view the scene. Authorities struggled to keep them away from crash debris and victims. An irony is noted on the Missoula International Airport web site's history section. Ledbetter was later

killed in another skydiving accident.

Today's air traffic controllers have radar which was not available to controllers in 1970. Radar would have been particularly helpful in the conditions of low visibility that were present on the fateful day. Today's pilots are very appreciative of controllers' traffic advisories received when their aircraft are at locations or on courses with potential conflict. 

News from National Museum of Forest Service History

MSO GA News

The museum is MSO's close neighbor and shares in preserving the rich history that includes aviation. The historic Johnson Flying Service and Smokejumpers are examples.

Higgins Ridge Fire special guest panel discussion now online

The fall issue of MSO GA News included a story about the Higgins Ridge Fire August of 1961. Twenty smokejumpers were rescued from the ridge after the wildfire roared out of control. A daring pilot in several trips with his overloaded Bell 47 helicopter evacuated 20 jumpers to safety. On June 29, 2019 the museum hosted a panel discussion featuring Higgins ridge survivors. The discussion can be viewed here: <https://www.youtube.com/watch?v=VnII5hpO3gM>



The smokejumpers who were rescued from the Higgins Ridge fire blow-up and the pilot who rescued them gathered June 29, 2019 at the National Museum of Forest Service History (NMFSH) to share their stories with the public. Photo courtesy of NMFSH

Audio recordings of those attending the June 29th gathering will be available at a future time. These will include the story of the remarkably skilled and daring pilot, Rod Snyder, who was not present for the panel discussion.

Major donation puts museum nearer its construction goal



The National Museum of Forest Service History (Museum) is pleased to announce it will receive a major donation to its Capital Campaign to build the National Conservation Legacy Center. William Cannon, a U.S. Forest Service Retiree and longtime Museum supporter, has left a gift valuing approximately \$2M

to the Museum from his estate. Bill was born in San Francisco, CA on February 21, 1933 and died peacefully at home in Hood River, OR on Monday, November 11, 2019. This is the organization's largest single donation received to date.

Bill first became impressed with the National Museum of Forest Service History while attending a field trip to the Museum site in Missoula, Montana during the 2000 U.S. Forest Service Retiree Reunion. Bill became a strong advocate and supporter of the Museum, receiving the Gary G. Brown Founders Award in 2015.

During his U. S. Forest Service career Bill became an advocate for forest conservation. His first assignment was on the Six Rivers Ranger District near Gasquet, CA. Subsequently he worked on the Stanislaus National Forest in Northern California. Bill was then assigned to State and Private Forestry first in Hawaii, then in River Basin Planning in San Francisco, and in Portland, OR. He ended his forestry career with the U. S. Forest Service in Washington D.C. where he worked on program planning for State and Private Programs. While in the U.S. Forest Service, Bill used his avocation of study of financial markets to become an adept financial investor.

Bill's love for the Museum and his passion to ensure conservation history is preserved and shared prompted Bill to leave the Museum a legacy gift totaling an estimated \$2M. This gift will be used by the Museum to further its \$10.6M Capital Campaign to build the National Conservation Legacy Center in Missoula, MT. Including Bill's gift, the Museum has raised approximately \$7.3M and will continue to work towards securing the remaining \$3.3M to start construction. The Museum anticipates supporting 50 to 70 Montana based jobs for 18 months during construction and hiring 12-15 new FTE positions once the Center is built and operational.

The history of the Forest Service is and continues to be the story of conservation in America. It is a story that inspires and challenges. The mission of the National Museum of Forest Service History is ***To share the rich history and story of America's Conservation Legacy.*** Established in 1988 with offices and a repository based in Missoula, MT, the Museum is a 501 (c) 3 nonprofit organization independent of the U.S. Forest Service. The organization is guided by a Board of twenty-five individuals who are committed to using the history of the Forest Service to tell the story of conservation in America. The Museum maintains a collection of over 55,000 items and works with other museums across the country to provide artifacts, curated and traveling exhibits as well as maintaining an online database of the collection. The Museum also conducts teacher training workshops in partnership with the Library of Congress to develop lesson plans and curriculum focusing on National Forest and Grassland conservation history for America's classrooms.

For more information, contact Lisa Tate, Executive Director: 406-541-6374 or cell 208-484-6667

lisa.tate@forestservicemuseum.org

MSO GA News thanks Tim Damrow, MSO Manager of Projects; Keith Eberhard, MSO Air Traffic Manager; Perry Francis, Missoula aviator and Museum of Mountain Flying volunteer; Dan Neuman, MSO Business Development Manager; Lisa Tate, Executive Director, National Museum of Forest Service History for their contributions to this "newsletter" (news magazine!).

If you have something interesting to write about we'd like to put it in the newsletter and share it with the Missoula aviation community! Long (about 500 words), short, funny, serious, whatever. The News is published intermittently. Interested in contributing? Contact the editor (see below).

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MISSOULA AVIATION WEB SITES

Ace Aviation: <https://www.aceaviationmso.com/>

Aerotronics: <http://www.aerotronics.com/>

Flying drones safely: <http://knowbeforeyoufly.org/>

Homestead Helicopters: <http://www.homesteadhelicopters.com/>

Minuteman Aviation: <https://www.minutemanaviation.net/>

Missoula International Airport: <http://www.flymissoula.com>

Museum of Mountain Flying: <https://www.museumofmountainflying.org/>

Nat'l Museum of Forest Service History: <http://www.forestservicemuseum.org/>

Neptune Aviation: <http://www.neptuneaviation.com>

Northstar Jet: <http://www.northstarmso.com>



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