

NORTH DAKOTA

NORTH DAKOTA  
AVIATION QUARTERLY **30** Years

# Aviation QUARTERLY

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Spring 2018

**50**  **UND AEROSPACE**  
UNIVERSITY OF NORTH DAKOTA  
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## UMAS Photo Gallery

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NORTH DAKOTA AVIATION QUARTERLY **30 Years**

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## Working Together for the Betterment of Aviation

It has been an honor to serve the North Dakota Aviation Council (NDAC) and General Aviation as Chairman over the past three years. The Council has been special to me as I met many of my childhood aviation heroes through this organization during my youth. I have grown professionally by working together with so many different volunteers throughout the aviation industry in North Dakota.

One of the key privileges of serving as the Chairman, was sharing the banquet stage with four ND Aviation Hall of Fame inductees, all of whom I've either known since my childhood, or have been fortunate enough to work alongside through the NDAC. I have also witnessed the pride that each site committee takes in the host city for planning the Upper Midwest Aviation Symposium (UMAS). Once again, a great volunteer base in Fargo rose to the occasion this year!

I am confident that the changes made within the NDAC over the past few years will continue to strengthen the organization's commitment to the founding purpose that the notion of "solutions to problems facing aviation can be best served by consolidating and working together rather than struggling as independent special interest groups."

At UMAS this year, the NDAC and member organizations voted to ratify the proposed bylaw structure that was referenced in previous articles. This new structure will provide several benefits to Aviation in North Dakota. At the end of the day, the NDAC acknowledges that each North Dakota aviation group has its own initiatives, yet the Council goes beyond the individual needs of each group to focus on the good of the whole for aviation in North Dakota.

The new structure also allows for better alignment of a volunteer's individual strengths, for example: by being a Board Member of the NDAC, you do not necessarily have to be on the UMAS planning committee. The new bylaws allow Board members to be in a more visionary and governing role where in the past, members have been bogged down with tasks. With the assistance of our new Executive Director team, planning UMAS and the role of volunteers will become mainstreamed, and a much easier task. We all need to work together, without airports we have no Pilots, and no Aviation Maintenance Technicians, and vice versa.

In past years, we have faced the problem of meeting our attendance requirement for quorum and that can be a significant issue when it comes to retaining our legal status as non-profit. According to Gail Sessoms in an article found on [smallbusinesschron.com](http://smallbusinesschron.com), "Whether they are called charitable or tax-exempt, nonprofit organizations enjoy certain privileges in exchange for abiding by laws that restrict the use of the organization's assets and require governance by a board. Nonprofits also agree to organize and operate solely to fulfill a charitable mission. Nonprofit organizations have different missions, but they all share the same general purpose. Unlike

for-profit businesses, nonprofit organizations are formed to benefit society in a tangible way."

Going forward, it is my hope that under the new structure, the Board can adhere to the bylaws in stronger accordance with legal statutes. The new bylaws create an election of Board Members vs. the old appointment method. The changes require 7 board members vs. the old structure of 15 board members. UMAS planning will be handled at a host site level vs. a Board level. This will free up the Board to focus on larger visionary issues that are facing our industry vs. being solely focused on UMAS planning activities. Examples of future issues include a shortage of aviation mechanics, shortage of pilots, air space issues, positive aviation education and awareness initiatives and UAS integration, just to name a few. UMAS will remain a key function of the North Dakota Aviation Council and not the only function. One of the most important functions under the new bylaws is to have a fair and balanced nominating committee. Under the new bylaws, the nominating committee will make sure that all facets of aviation and geographical locations across the state are represented on the ballot each year.

These changes have sparked excellent discussion among the umbrella groups as everyone searched for a better understanding of what was proposed. We are already starting to hear some very positive feedback. For example, the North Dakota Pilot's Association (NDPA) feels that getting volunteers into the NDPA will be easier. This resolves the issue of past NDPA presidents having been required to serve dually on the NDAC and NDPA, a commitment that overwhelmed most volunteers and usually ended in burnout.

It is clear that no organizational structure is perfect. Let's face it, change is hard! The only certainty that we have at this point, is that we have outgrown the old structure and we need to make changes before it is too late. The beauty here is that the new bylaws allow for flexibility in the organization to adapt to the changing times and allow for greater participation from those that want to get involved, vs. those that were required to get involved. If the outcome isn't ideal, let's work together to change it!

I would like to close out my last article as Chairman by thanking the many volunteers that have served with me on the Council, our industry partners, and the Aeronautics Commission. I envision the next two years the Board will be focusing on growing membership and developing a priority list of aviation issues that need to be addressed in North Dakota.

Congratulations and thank you to Darren Hall, as he has assumed the role of Chairman for the North Dakota Aviation Council. I had the great pleasure of working many volunteer hours alongside Darren and know that Aviation in North Dakota will be with great leadership!

Let's all continue to work together for the betterment of aviation in North Dakota!



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## DIRECTOR'S Chair

# Challenges Also Provide Opportunities

The theme for this anniversary issue of the Aviation Quarterly is "Changes and the Future." This is an important discussion topic, particularly since I believe that we have found ourselves at a critical moment in the evolution of the aviation industry due to the challenges that we are currently facing. These challenges range from air traffic and airport infrastructure modernization, unmanned aircraft integration, to pilot and aircraft mechanic employment shortfalls. With each great challenge that our industry faces, I believe that an incredible opportunity exists for us to find new and innovative solutions. To find a location where those solutions are being sought, one doesn't need to look any further than our very own state of North Dakota.

The Northern Plains Unmanned Systems Test Site has been immersed in finding safe and efficient ways to safely integrate unmanned aircraft into the national airspace system. Over the last couple of years, I have had the opportunity to work with some exceptional aviators that have been able to progress research to the point where we are now able to operate unmanned aircraft consistently and safely at some of our public-use airports. Unmanned systems technology is known to eventually have the potential to rejuvenate many airports around the country and create thousands of new jobs within the aerospace industry. Our state has already seen a large increase in the amount of individuals and businesses that hold a Part 107 Unmanned Aircraft Systems FAA certificate. Community leaders around the state are collaboratively anticipating the future since it is known that eventually we will see an official federal ruling on large unmanned aircraft (over 55 lbs.). Once this rule is finalized and beyond visual line of sight operations with large unmanned aircraft are allowed; it is forecasted that an explosion of growth in commercial and

government/public applications across the country will occur. This industrial growth could also create many opportunities for our airports and their communities.

Our state has also been faced with large airport infrastructure challenges over the last couple of years due to the rapid growth of our communities and simply due to the fact that it has become time to replace aging infrastructure. Our community leaders rose to the challenge and have found multiple innovative solutions that involved federal, state, local, and private participation. We have much work left to do, but I am constantly encouraged by the historical effort that has recently been made to improve and modernize our airport infrastructure network which provides over \$1.6 billion in annual economic impact to our communities.

The pilot and aircraft mechanic shortage also presents opportunities, in this case, for our children. Student participation in our high school and collegiate aviation programs are at an all-time high and we continue to look to find ways to bring aviation career materials to youth throughout the state. We have found that a new-found enthusiasm exists from the new opportunities in both manned and unmanned aviation, and we hope to capitalize on that enthusiasm to ensure that the industry continues to attract new and passionate aviators.

I'm sure that you have heard the saying "when life gives you lemons, make lemonade." That is exactly the sort of attitude that we need to maintain as we work to improve an industry that impacts the lives of everyone around us. By working together and tackling the challenges in front of us, perhaps we can capitalize on those opportunities and help to bring the industry to levels never before seen in the history of aviation.

*Wishing you smooth flying, Kyle*



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## The Future of Aviation Industry

Until recently, I never thought that we would see the day that airlines would park aircraft for lack of crew. Today we have just that, and the forecast shows the demand for pilots, mechanics, and many other aviation career fields to continue to grow. One recent study suggests that the industry needs to produce more than 80 commercial pilots per day to meet the demand. The impact trickles down the pipeline to create a shortage of flight instructors-thus reducing the capacity for educating new pilots.

I am often asked "How do we fix this?" Although there are many solutions that will help entice young people to aviation careers, there are many other industries trying to bring the best and brightest to their career fields as well. Whenever I talk to young people about their future careers, I always encourage them to pursue a field that they love. It is not about the money or the perks; it is about waking up in the morning and looking forward to the challenge of the day because you love what you do. We need pilots; we also need engineers, managers, accountants, and those in the supply chain. Going into aviation does not mean "become a pilot."

We cannot attract new mechanics, engineers, etc. simply by being hopeful. Even the solution to our pilot shortage is not as simple as higher wages. I believe the solution to all these careers is to get our young people excited about all things aviation.

There are some great examples of this around our state. Our air museums host youth educational camps. I encourage you to find a young person and bring them to one of these camps. We also have our high school aviation programs. We are working to add to this list, but there are options for every student in North Dakota, either face to face or via distance education. All high school students are eligible to take Aviation through the Center for Distance Education.

Many of our airports and local groups (EAA, NDBAA, etc.) host fly-in events, career days and other activities aimed at getting the community to the airport. If your local group is planning or considering an activity this summer, consider adding one or more youth activities. It can be something as simple as an airport/hangar tour, or a bouncy house to keep the attention of the youth and get them excited about being at the airport. Be sure to contact our office to add your event to our calendar of events and for more information about our educational grant opportunities.

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*Our hope is to support industry goals that inspire the next generation of pilots, mechanics and other aviation professionals...*

The Dakota Territory Air Museum ramped up its education season for 2018 hosting three ACE camps in February and March. The museum's PACE program for 5th and 6th graders is scheduled for the week of June 4-8. Registration information will be posted to the museum's website EDUCATION page and Facebook page this spring. On June 23rd, the museum will be taking its ACE camp on the road for the first time to Rugby for the Pioneer Village Museum's Annual Rhubarb Festival.

The museum is committed to expanding educational programs and outreach to the youth in Minot and surrounding communities that continue to bolster a new and renewed interest in aviation. Our hope is to support industry goals that inspire the next generation of pilots, mechanics and other aviation professionals by planting the seeds of career opportunities in aviation at an early age. The Dakota Territory Air Museum is forever grateful for the mentors, volunteers, members and donors who give of their time, talent and financial resources to make these programs a reality.



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# The Future of Airline Travel

*I have always had this fascination with flying on commercial airlines – I realize I am probably one of the few who enjoys getting stuffed into a regional jet, but it is so intriguing to see how airline travel has changed over the years. What used to be two or even three course meals has morphed into peanuts and a plastic cup of something – of course, that all depends on far your flight is actually going.*

*Despite the drastic changes in airline travel, there are some incredible changes that are ushering the future that I recently read about in an article by BBC1.*

## High-Powered Personal Cubical

If you are ever feeling in the mood to splurge, First Class has become a pampering experience on many airlines, especially on overseas flights. The future will probably look like small, personal cubical with your own entertainment, bed, charging ports, and bag storage. It could also be somewhat soundproofed and all around more spacious than your typical First Class seat on a regional jet.

## Light Monitored Overhead Bins

Yes, that is quite the mouthful, but overhead bin space is always the hardest thing about flying. I am sure many of our readers have found themselves searching for an empty bin which is often not where anywhere close to where we are sitting. The future could hold light monitors on the outside of overhead bins which will indicate how full a bin is. For instance: green is completely open, yellow is half-full, and red is empty. According to BBC, this increases bin capacity by almost 40% and speeds up boarding.

## Efficient Cabin Carts

Cabin carts seemly are as efficient as they come, however, new designs could not only create smaller, but also more environmentally friendly carts. New technology could bring about carts that compact waste as they are pushed through the cabin. Preliminary designs show a separate compartment for larger items, and then other compartments for organic and liquid waste.

## Other Inventions

In addition to the few I have already mentioned, other new technology could be door sensors to prevent accidental deployment of escape slides, more efficient and wheelchair friendly toilets, and much more.



When I think of the future, I hope for travel to become more commonplace - maybe the future holds an economy that is healthy enough to drive down ticket prices and traveling to other countries does not always have to be once in a lifetime.

Another not-so-distant future is that of space travel. Already “spaceports” are popping up all over the country and companies like SpaceX are making great strides in test launches and other private transportation technology - for all we know, colonization of Mars or the moon could be right around the corner. As a space nerd, this excites me a lot.

Lastly, we have NextGen which is only a few years away from launching and includes new technology and greater efficiency in aviation across the board. It will be evident in the airspace, on airways, and at airports as we look to streamline travel for the future through a significant upgrade in technology for the aerospace sector.

## The Future Is Bright

Just hearing about new technology on airlines makes this an exciting time to be in. Apart from the airlines, the advances in aerospace technology makes this century an exciting time to be alive in. Truly, we can only go up from here!

*Blue Skies & Tailwinds! Lydia*

1 Cook, W. (2017, December 19). Future - The best innovation in aviation. Retrieved April 04, 2018, from <http://www.bbc.com/future/story/20171219-subtle-and-surprising-innovations-in-aviation>

# Another First in Flight for Odegard School

by Kaylee Cusack

## Leaders in Action: UND UAS degree first to be accredited under new criteria

Paul Lindseth has had a lot to celebrate during his first year at the helm of UND's John D. Odegard School of Aerospace Sciences (JDOSAS).

As dean, he's seen the dedication of the state-of-the-art Robin Hall, a record number of student flight hours logged, and this week – another first.



UND's ScanEagle instructor crew gathers for a photo during a May 2017 flight. Left to right: Erin Roesler, Trey Langaas, Paul Snyder, James Moe and Alex Volberding. Photo courtesy of Paul Snyder.

On July 21, the Aviation Accreditation Board International (AABI) voted to grant accreditation to UND's Unmanned Aircraft Systems (UAS) degree, making it the first UAS degree program accredited by AABI under newly established UAS criteria. Accreditations for the JDOSAS's Commercial Aviation and Air Traffic Management degrees were also reaffirmed, as they have been since AABI was established in 1992.

"It's the tradition of the Odegard School to push the envelope in making sure we are keeping up with societal needs as far as what's going on in the UAS industry," Lindseth said. "It speaks to our history – a tradition of excellence, the entrepreneurial spirit and leading the collegiate environment in degree programs. It's pretty exciting."

"We have had many firsts in our department," said Aviation Department Chair Jim Higgins. "We were the first in the country to start an undergraduate UAS program. Now we are the first UAS program to become accredited under the new criteria. We see tremendous growth ahead in the department, and with that growth will come continued opportunities for our students."

## Writing the rules

As one of the country's leaders in UAS education, UND was an essential player in helping AABI craft the blueprint for the curriculum, safety, and experiential learning standards of this quickly-evolving field. Mark Dusenbury, assistant chair of assessment for UND Aviation, co-chaired the committee that formulated AABI's new UAS accreditation criteria.

"We went through getting feedback from industry and other institutions," Dusenbury said. "We looked at, historically, what criteria had been out there and what had been done in other realms – not UAS – and tried to figure out how we would create criteria to measure a program."

UND Assistant Chair of UAS Paul Snyder says the accreditation process is a chance to look at the program and make sure it is aligned with the current needs of the industry. He said a portion of the AABI's site visit this year was a conversation with industry leaders about future challenges.

"When you're up front, you have an opportunity to impact what the rules and policies are, and be a part of those solutions," he said. "This accreditation relates back to the quality that we want our students to know they'll be getting when they come here, and that's not something that everybody's going to have. In fact, nobody has it, because we're the first," he added with a smile.



UAS Lead Instructor James Moe preps for a May 2017 ScanEagle flight. Moe is a part of the team responsible for helping UND's UAS degree program become the first to be accredited under new UAS criteria. Photo courtesy of Paul Snyder.



### Well-rounded aviators

AABI's accreditation criteria also includes standards regarding a strong liberal arts foundation for graduates, which ties directly into the first goal of the One UND Strategic Plan. Higgins says his department works hard to provide an outstanding learning experience, but flight skills are only the start.

"We know the aviation leaders of tomorrow will have to interact and understand the world in ways that far exceed a simple technical outlook," Higgins said. "Our students will need critical thinking skills, the ability to work effectively within teams, the ability to work with people from different backgrounds and cultures, and the wisdom to continually improve themselves through lifelong learning."

The interdisciplinary potential of UAS is one thing Snyder says he loves most about his field – and UND creates a perfect environment for students to leverage a tool that can be used to solve problems in engineering, space studies, biology and beyond.

"Now that we've been accredited, industry and students know we have the breadth of knowledge to provide the quality of education needed, which plays well into our future success," he said.

### Accreditation importance

Along with the accreditation of JDOSAS's UAS, Commercial Aviation and Air Traffic Management degrees, the College of Business and Public Administration (CoBPA) was recently reaccredited by the Association to Advance Collegiate Schools of Business (AACSB), ranking it in the top 5 percent of the world's business schools. UND's Aviation Management and Airport Management degrees fall under that accreditation.

"When it comes to accredited programs in the professions, it really demonstrates to society the willingness of a program to expose themselves to external opinions to determine whether or not they are meeting the standards set by their colleagues at other universities," Lindseth said.

And in case of the standards set for the future of aviation, namely those of the unmanned industry, UND is not only meeting them, but setting them.

"John D. Odegard once made a statement – 'First, we'll be best. Then we'll be first.' I love that statement," Snyder said. "We have that quality, so when it came time for this criteria to be met, we were in the right position to meet it, and to be first."



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# Powder River Training Complex

## Stakeholders Meeting Update

By Fred Adams

The second Powder River Training Complex meeting was held April 5, 2018 at Ellsworth Air Force Base in Rapid City, SD. This user's group meeting was hosted again by AOPA and 28th Bomb Wing.

Approximately 30 attendees were at the meeting. Groups represented included NBAA, AOPA, ND Aeronautics, ND Aviation Council, Bowman Airport, MT Aeronautics, SD Aeronautics, and WY Aeronautics. The FAA had representation from Salt Lake Center, Denver Center, Dakota-Minnesota Airport District Office, and SD FSDO. One from the 28th Bomb Group, one from Ellsworth Approach Control, SD Stockman Association, and several airport operators and pilots were also in attendance.

PR3 Low is shown on the Aviation charts, but has not been used due to the lack of communication equipment needed to recall military aircraft. Only PR3 High and the ATCAA above it is in use at this time. This summer however, the communication equipment may be in place to recall the

military aircraft that would be operating inside the PR3 Low. Testing at low altitudes and at the boundary of the PR3 Low airspace will be required before any PR3 Low operations are used. PR2 Low is the primary area that is used for low level work unless several military training operations are conducted at the same time, then other PR Low area would be used.

There has been initial conversations from the Military that they would like to include higher altitudes (above FL260) during the Large Force Exercises (LRE) which would be up to 4 times a year or approximately 10 days. Initial discussion may be to ask for altitudes up to FL500, which will have no impact on most of the GA pilots, but some business aviation operations and the airlines would certainly be impacted to a high degree. Maybe not surprising, but the Military did not volunteer this information until the NBAA representative asked the direct question.

The biggest concern we discussed is whether real time information is available to the aviation community when any



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MOA goes “cold” or inactive. The users thought this is more than just a Powder River issue, and included all of the SUA throughout the U.S. With today’s technology, to have at least a text message system that a person could opt into and select the SUA that they wanted to be advised of was one of the main take-away’s. This could be similar to local school closing due to weather, or lock-downs, Amber Alerts, or the Ballistic Missile Warning alert that I got while on vacation in Hawaii this January.

Another topic of concern is community outreach. Baker, MT had a reported low altitude issue with a GA airplane and a military aircraft in PR2 Low. There were two tentative meeting dates, but weather caused those meetings to be cancelled and I guess those were the only two days available the whole year! Representatives from that area were not happy with the community outreach not being reschedule.

Many of the GA groups were frustrated that the Military is not equipping their aircraft with at least ADS-B out. If most

all of GA is being required by 2020 and having this equipment seems to increase safety by everyone’s view, then from my view, one cancelled B1 or B52 six hour training mission would pay for the hardware for ADS-B out. Another safety issue was the Military wants GA to fly safe and one way while inside the MOA is to have landing lights on, even during the day, while the B-1 with landing gear up only has strobes and a rotating beacon. Many of the more modern GA aircraft, business aircraft, and commercial airlines have recognition lights. If this is good for GA, then is it not good for the Military aircraft that can be used in the training environment?

The military is also planning outreach meetings at both the Baker and Bowman airports in the very near future to provide an educational forum on their planned activities. If you are interested in hearing more about Powder River, be on the lookout for information related to those meetings this spring.



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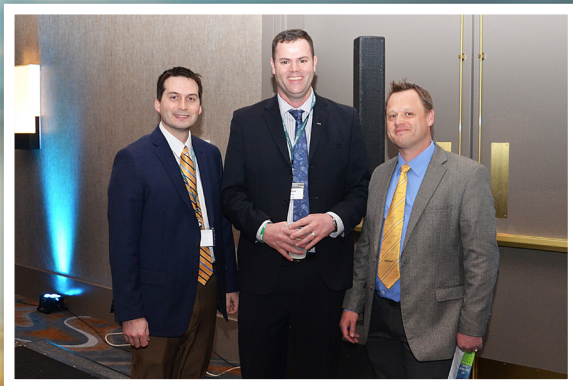


# Upper Midwest Aviation S





# Symposium Photo Gallery



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# Enderlin - Skyhaven Airport is Awarded 2017 General Aviation Airport of the Year

*The Enderlin – Skyhaven Airport has received the “2017 General Aviation Airport of the Year” award. Accomplishments for 2017 include:*

The Enderlin Municipal Airport has a strong belief in aviation advocacy and education. A growing annual event is their Aviation Symposium for the sixth grade class of the Enderlin Public School. As part of their aviation curriculum, the students are provided a field trip to the Enderlin Airport where they are further introduced to aviation. During this visit, the airport instructs the students about aviation careers and how to conduct pre-flight aircraft inspections. At the conclusion of the field trip, each student is provided an opportunity to fly in an aircraft and receive a t-shirt. In addition, the airport also hosts a summer fly-in event which was well received by pilots and the local community.

The Enderlin Airport welcomes the many local civic groups to host their meetings at the airport. The airport is always eager to share with these civic groups a look at their based aircraft, a discussion of some of the functions that take place, and a description of the economic impact their airport has on their community.

The Enderlin Airport also takes great pride in it's appearance and impressions. The Airport always has projects being planned, being worked on, and or nearing completion.

The airport recently acquired a 45' x 150' hangar, which will allow more aircraft to be based at the airport and will help to provide storage for transient aircraft visiting the area.

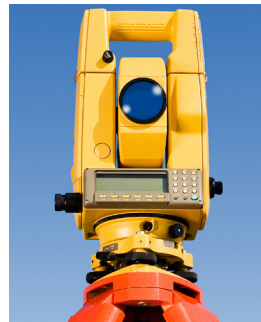
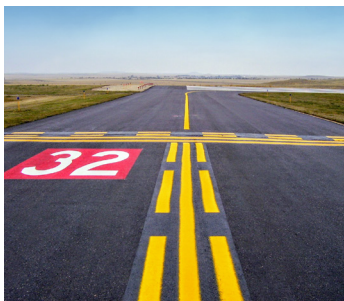


*Included in the photo: (Left to Right) Kyle Wanner – ND Aeronautics Commission Director, Bobby Geske – Airport Manager and Airport Authority Chairman, Steve Lund – Airport Authority Member, Calvin Anderson, Airport Authority Member, Matthew Remyse – President of the Airport Association of North Dakota*

*The Enderlin Airport is congratulated for a tremendous year of accomplishments.*



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# Devils Lake Regional Airport is Awarded 2017 Commercial Service Airport of the Year

*The Devils Lake Regional Airport has received the “2017 Commercial Service Airport of the Year” award. Accomplishments for 2017 include:*

In 2017, the Devils Lake airport posted its highest annual passenger count on record with 6,644 enplaned passengers. This was a 5.63% increase from 2016, and fourth consecutive annual passenger boarding record for the airport. Through the hard work of the airport’s staff and in collaboration with local civic organizations such as the Chamber of Commerce and the FDL Economic Development, the airport continues to successfully market Devils Lake as an airline destination.

Throughout 2017, the Devils Lake airport participated in local community outreach events including hosting field trip day to area schools. During their visit to the airport, students learn about airport operations, security and airline job duties. In addition, the airport also hosted a fly-in event which was well received by pilots and the local community.

The airport is currently partnering with the Lake Region State College and Camp Grafton Training Center to attract businesses in the airport’s planned Unmanned Aerial Systems (UAS) business park. In addition, the airport was selected by the Federal Aviation Administration (FAA) as a testbed for digital authorization to fly UAS vehicles, creating efficiencies for UAS operators.

In 2017, the Devils Lake airport also completed a crosswind runway rehabilitation project that will ensure safe and efficient operations at the airport for years to come and construction began for a hanger, which will be completed in 2018.



*Included in the photo: (Left to Right) Kyle Wanner – ND Aeronautics Commission Director, Dennis Olson – Airport Authority Chairperson, John Nord – Airport Manager, Rodger Haugen – Airport Authority Member, Matthew Remyne – President of the Airport Association of North Dakota*

*The Devils Lake Regional Airport is congratulated for a tremendous year of accomplishments.*

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## What's new at Aeronautics?



### Have your photo on the cover of 2018-19 Airport Directory

Enter in the North Dakota Aeronautics Commission's photo contest for a chance to see your photo on the front cover of the *North Dakota Airport Directory*. Winning artwork will be displayed on the cover of 2018-2019 Directory.

- Photo must be of a ND public use airport
- Photo must be print quality
- Maximum of 3 photos may be submitted per individual
- User must provide the ND Aeronautics Commission permission to use photo in any publication now or in the future.
- Entries must be received prior to 9/1/18.

Visit our website for more information and to submit your photo – [aero.nd.gov](http://aero.nd.gov)



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## North Dakota Pilots Complete *Fly North Dakota Airport* Passport Program

On Sunday, March 4, 14 pilots were presented with awards for participating in the “Fly North Dakota Airports” Passport Program. The passport program presents awards to pilots for flying to airports in the state as well as attending FAA Safety Seminars and visiting the two North Dakota Air Museums.

Three pilots were presented with bronze awards for visiting at least thirty airports and attending one safety seminar. The bronze award recipients were:

<b>Kreg Anderson</b>	<b>Alexandria, MN</b>
<b>Kai Engstrom</b>	<b>Bismarck, ND</b>
<b>Dr. David Hochhalter</b>	<b>Valley City, ND</b>

One pilot was presented with the silver award for visiting at least sixty airports, one air museum and attending two safety seminars. The Silver award recipient was:

<b>James Busch</b>	<b>Grand Forks, ND</b>
--------------------	------------------------

The most prestigious gold award level was achieved by Ten pilots during 2017. These pilots received a leather flight jacket embroidered with the North Dakota Flying Legacy logo in addition to the bronze and silver awards. This prestigious accomplishment is achieved when visiting all 89 public use airports in North Dakota,

visiting both air museums and attending at least 3 FAA Safety seminars. These ten pilots join Forty-Three others who have completed the passport program in previous years.

The following is a list of the ten individuals:

<b>Hank Bodmer</b>	<b>Kenmare, ND</b>
<b>Reid Gagner</b>	<b>Fargo, ND</b>
<b>Mark Gainor</b>	<b>Milnor, ND</b>
<b>Mitch Gwidt</b>	<b>Green Bay, WI</b>
<b>Lawrence Hubbard</b>	<b>Wilton, ND</b>
<b>Ben James</b>	<b>Norcross, GA</b>
<b>Flint Kasowski</b>	<b>Buffalo, ND</b>
<b>Ron Lundquist</b>	<b>Kindred, ND</b>
<b>Kevin Pfeifer</b>	<b>Buffalo, ND</b>
<b>Kevin Vossler</b>	<b>Bismarck, ND</b>

*Included in the photo: (Left to Right) Lawrence Hubbard, Ron Lundquist, Reid Gagner, Hank Bodmer, Kevin Pfeifer, Flint Kasowski, Mark Gainor, Kevin Vossler*



The Fargo Air Museum is a unique destination that adapts to meet the needs of our community. We are amplifying our presence as a premier event venue due to our specialized atmosphere. During a recent strategic planning session, the FAM board and invited stakeholders determined we are funded by events, donations, grants and memberships. Events account for approximately 50% of the operations



budget. The museum spent \$545,000 to expand the entire west side allowing for a new storage area, restrooms and vendor facilities. The expansion allows the museum to hold events up to 1,200 now versus 225 previously. The future of the FAM depends on bringing in new enthusiasts. Events provide a gateway to our facility and direct contact with those that may become interested in aviation.

## CALENDAR OF EVENTS

109 18th Avenue North, Fargo, ND • 701.238.0043 • [fargoairmuseum.org](http://fargoairmuseum.org)

**April 20** **MOVIE NIGHT**  
Good Morning Vietnam  
7PM - 9PM

- \$5 Admission. Free to members.
- Popcorn and candy available for purchase
- Chairs provided, or bring your own blanket or chair

**April 27** **HOWARD HUGHES**  
Madman, Genius, or Both  
6:30PM - 9PM

- \$8 Admission. Free to members.
- Refreshments will be served from 6:30 to 7 PM
- Presentation from 7 to 8 PM
- Q & A from 8 to 9 PM

**April 21** **THE PAPER AIRPLANE GUY**  
10AM & 2PM

- \$8 Admission. Free to members.
- Please join us for a high-flying day!

**May 09** **VETERANS COFFEE HOUR**  
10AM - NOON

- Coffee and Donut Social
- The Second Wednesday of Every Month

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# The Future & Change

By Staiger Consulting Group, NDAC Executive Director



*"The only thing in life that is constant is change."*

*Heraclitus, circa 500 BC*

Hard to imagine this quote so popular in today's culture has been around that long. Even harder to imagine how fast the world really changed in the 5<sup>th</sup> century BC that would inspire such timeless insight. After all, the philosopher Heraclitus, lived during the time of such inventions as the crossbow and cast iron. Ironically, a Google search, today's cyber-tool, says he was a self-taught pioneer of wisdom and was famous for his insistence on ever-present change as the fundamental essence of the universe. He was also renowned for saying, "No man ever steps in the same river twice."

Let's leave Heraclitus and fast-forward about 2500 years to contemporary society. Anyone with a recollection of 1970's rock songs should remember David Bowie's song "Changes" or better yet these lyrics and tune, Ch-ch-ch-ch-Changes. The chorus ends with, Time may change me but I can't trace time. While David Bowie hardly compares to an ancient philosopher, the rocker's words mean the same thing.

Societies and cultures change. We're seeing this happen seemingly at warp speed. The internet has revolutionized our life. It is a blessing in many aspects of life today and yet it also seems to contribute to the world's chaos. People are profoundly

mobile—moving across country or around the world for jobs or other opportunities. How businesses and organizations respond to the marketplace and their customer base is a never-ending challenge to adapt and evolve.

At the risk of becoming irrelevant in this world of compressed change, North Dakota Aviation Council's leaders have chosen not to trace time. They recognize the need to face organizational challenges like welcoming individuals and entities into our circle while addressing critical issues such as mechanic and pilot shortages. They also recognize the importance of advocacy to better meet evolving demands at the forefront of our aviation industries—just to name a few.

For Questions or  
Comments  
ND Aviation Council  
admin@scgnd.com  
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Stacy Krumwiede,  
Bonnie Staiger,  
Mike Krumwiede



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# Keeping up with the new kids on the block...

Jay M. Flowers / FAA Safety Team Program Manager, OPS, North Dakota, 701-492-5809, jay.m.flowers@faa.gov



With more than 37 years of experience to back me, I can officially say that the learning curve has never been greater than it has been these past few years.

As an aviation safety educator and CFI, the challenges I face today are “Which new techno tool is best for me and how do you turn it on?” History has shown us that nothing moves very quickly in aviation especially when the safety of the public is involved. Looking back at what got us to this techno point, we must reflect on how these tools of the trade have dramatically changed how we think and manage our day-to-day flights:



- Looking out the window (0000 or the beginning of time)
- Sextant (Mid-18<sup>th</sup> Century) they were just phasing these out of the Piper Tomahawk I trained in...
- Gyro Compass (1885)
- Compass, wet (1909)
- Bonfires (1919 to 1920, Used for Mail Routes through the Mountains)
- Transcontinental Airway System (1920s, Large concrete, lighted arrows, on the ground directing pilots)
- Airport Beacons (1921) Thank you to the Airport Managers of North Dakota for keeping these lit!
- VFR Sectional Charts (1920s)
- Lighted Beacon Airways (1923, first was from Chicago to Cheyenne, 289 Beacons, 39 lighted landing fields)
- Clock (1927, first accurate time pieces with seconds) now we just look at our phones or iPads
- Barn Top Markings (1926, Pre War markings on more than 13,000 roof tops)
- Runway Lighting (1930s)
- ILS (1920s, Great Britain / 1938 Pennsylvania)
- NDB (1930s, ATIS, AWIS, AWOS, ASOS, VOLMET, TWEB, PIP, Operated from 15W to more than 50,000W)
- DF Steering (1930's)
- IFR Charting (1934)



- Directional Gyro, DG (1930s)
- Four Course Range (1930s and 1940s)
- Coupled Auto Pilots (1940s)
- Approach Light Systems (1940s)
- LORAN (1940s through 2010)
- DME (1940s)
- VOR (1946)
- RMI (1950s)
- TCAS, TCAS II (1950s, 1993 Air Carriers)
- Inertial Navigation INS (1950)
- 4096 Transponder (1950s)
- Terminal Radar (1950s)
- RNAV based on VORs (1960s)
- HIS (1960s)
- Radar Vectors (1960s)
- Mode 3A Transponder (1960s)
- Omega (1960s)
- FMS and Flat Panel PFD (1970s)
- TAWS/GPWS (1970s)
- GPS Military (1972)
- MLS (1972)
- Mode S Transponder (1975)
- GPS Overlays (1990s)
- GPS VFR (1989)
- GPS IFR (1994)
- RNP (1990s)
- WAAS (1992)





- AHRS/ADAHRS (1997)
- Ipad, iPhone, Personal Electronics (today)
- Electric Propulsion & Electric Airplanes (Today)
- Unmanned Aircraft or UAS (Today)
- Passenger Carrying UAS (Today)
- 3D Printed Metal Aircraft Parts & Manufacturing (Today)



After all this, and with more than 100 years of tested technology supporting today's aviation systems, we can now hold navigation, communication, and manufacturing largely in the palm of your hand...Pretty Cool!

ADS-B (2002 Concept, 2020 Mandate) I cannot wait to see what the next 25 years will bring!

For any of you that are curious about some of the terms and equipment I mentioned above, drive out to the local airport and buy a cup of coffee for the first grey haired aviator you see! Oh, the stories they can tell!

*For any of you that want to know more about the future of aviation and what's to come, join us at [www.faa.gov](http://www.faa.gov) or on our Facebook page at <http://www.facebook.com/FAA/>*

***Do you have an interesting aviation story to share?***

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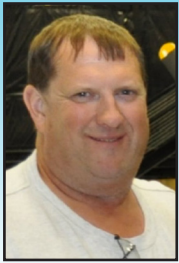
**New Runway Under Construction!**

**Airport will be closed Spring/Summer 2018**





# Eternal FLIGHT



**Curtis Aalund**, a member of the Bottineau airport authority for many years, died Thursday, March 15, 2018 at a Fargo hospital.

Curtis age 55, the son of Selmer and Dorothy (Broden) Aalund, was born on February 14, 1963 in Mohall. He grew up there and graduated from Mohall High School in 1981. He attended Dakota Aero Tech and he began his career as an airplane mechanic and pilot. On June 4, 1983, he married Renee Carlson in Fargo. They later moved to Bottineau and Curt became the manager at the Bottineau Municipal Airport.

Curt loved sports, especially basketball. He spent many hours taking his girls to tournament and cheering them on from the stands. He was fortunate enough to watch his traveling team girls win the state championship in 2006. He loved to officiate basketball and football games and he lived to fly. He loved to go fishing with his wife and watch movies with Sammie. Curt loved his family and was the best Papa.

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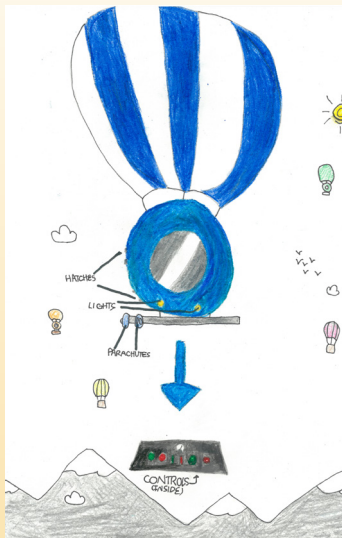


# Congratulations to the 2018 state winners of the International Aviation Art Contest

Children age 6 to 17 may participate annually in the International Aviation Art Contest.

## Junior

**Junior 1st**  
Journey Henricks  
Lisbon, ND

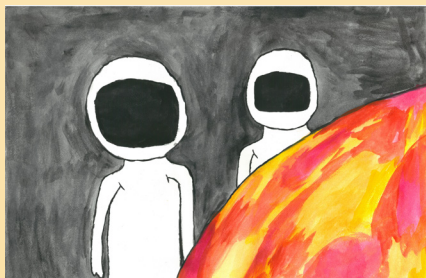


**Junior 2nd**  
Brinley Differding  
Lisbon, ND



**Junior 3rd**  
Brynn Wiltse  
Lisbon, ND

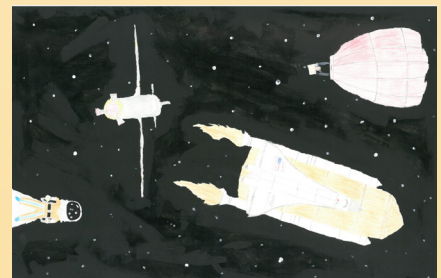
## Intermediate



**Intermediate 1st**  
Amy Larson, Midway Public School



**Intermediate 2nd**  
Kierra Wiesinger, Mott-Regent



**Intermediate 3rd**  
Kaitlyn Erickstad, Starkweather School

## Senior

**Senior 1st**  
Hayley Parker  
Dickinson High School



**Senior 2nd**  
Brittney Graham  
 Fargo North  
 High School



**Senior 3rd**  
Meiah Fosse  
 Fargo North  
 High School

For more information visit: <https://aero.nd.gov/education-programs/aviation-art-contest/>



# Patiently waiting.....

# NDAAA

Each year, about this time, aerial applicators anxiously anticipate the onset of the upcoming spray season. We've had the winter to reflect on the previous year, and spend precious time with family and loved ones.

By now, most of our state and national conventions, pesticide training courses, and other informational meetings are over. Our aircraft have had their annual inspections, received any improvements, and got the TLC they greatly deserve. Ground crews, support staff are in place. And other equipment is prepared for the summer.

Applicators await the changes in technology in much

the same way as other folks in aviation - to increase safety, efficiency, and better our delivery. But our future is also highly dependent on seasonal weather patterns in a way the rest of aviation is not. Aerial applicators live in rhythm of nature's cycles that always keeps us on our toes, hopeful, and watching...guessing....

Now it's in "Mother Natures" hands. We wait. For me, this can be one of the most difficult parts of this profession. Take some time to mentally prepare for the challenges and rigors of the spray season ahead....and then patiently wait....it will be upon us soon.

*Fly safe. Jayse Wharam*



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# CALENDAR of EVENTS

Check out the online calendar  
for details on these events:  
[www.aero.nd.gov/events](http://www.aero.nd.gov/events)

### May 2018

May 06

Grafton Municipal Airport Fly-In  
KGAF - Grafton Municipal Airport EAA  
Chapter 380 Fly-In / Drive-In

May 12

Fargo Air Museum - Youth Camp  
KFAR - Fargo Air Museum  
Topic: Inventing the Airplane

### June 2018

Jun 2

Milnor Fly-In/Drive-In Breakfast  
Rain or Shine Fly-In or Drive-In

Jun 2

Wishek Kick-Off to summer Fly-in  
breakfast  
Free Will Donation

Jun 09

Fargo Air Museum - Youth Camp  
KFAR - Fargo Air Museum Topic -  
Entrepreneurship

Jun 10

Planes & Pancakes - Y19-Mandan  
Fly-In breakfast in conjunction with  
Buggies and Blues

Jun 10

EAA Chapter 1174 annual fly-in and  
breakfast - KFFM  
Fergus Falls, MN Municipal Airport  
Young Eagles flights and Dad's Belgian  
Waffles.

Jun 15 to Jun 17

McDowell Field RC club - McDowell  
Field (south side of McDowell Dam)  
Remote Controlled Aircraft

Jun 17

Garrison Airport Fly-In - D05 Garrison

Jun 17

6th Annual Golf Ball Drop and Celebration  
- 6D3 Maddock Municipal Airport

Jun 23

Dunn County Airport Fly-In/Drive-In -  
9Y1 Killdeer, ND

Jun 28 to Jul 01

Ford Tri-Motor - KBIS Flights open to the  
public. The event is hosted by the Mandan  
EAA Chapter 1008.

Jun 28

Kindred Fly-In - K74Burgers and Brats

### July 2018

Jul 07

Mercer County Regional Airport Fly In -  
KHZE - Hazen

Jul 14

Fargo Air Museum - Youth Camp - KFAR  
- Fargo Air Museum Topic - Geochaching

Jul 14

Williston Fly-In Breakfast

Jul 28

Northwood Fly-In Breakfast - Vince Field,  
Northwood

### August 2018

Aug 05

First Annual "Clear Lake Days"  
weekend - aka "Dog Days"

Aug 11

Fargo Air Museum - Youth Camp -  
KFAR - Fargo Air Museum Topic -  
Airplane Energy

Aug 17 to Aug 19

McDowell Field RC club - McDowell  
Field (south side of McDowell Dam)  
Remote Controlled Aircraft

Aug 26

Milnor Fly-In/Drive-In Breakfast -  
Rain or Shine Fly-In or Drive-In

### September 2018

Sep 03

International Peace Gardens Fly-In -  
Dunseith, ND S28 - Dunseith

Sep 08

Barnes County Airport Fly/Drive/Walk-In  
- KBAC Lunch Served at 5PM

Sep 09

Bismarck Fly-in - KBIS

Sep 15

Fargo Air Museum - Youth Camp  
- KFAR - Fargo Air Museum Topic -  
Welding