



Ag Weekly

What you need to know about
agriculture today

Drone software helps increase ag productivity

By Justin Walker

March 13, 2018

Source: Texas Farm Bureau

Advancements in drone technology are expanding the productivity on America's farms and ranches.

Thanks to new software, farmers and ranchers have access to live aerial views of their farmland and pastures. The live maps were produced by DroneDeploy, a San Francisco-based drone data software company.

"DroneDeploy makes drones useful to the agricultural community, and it makes it useful enabling people to create maps of their farms and understand what is going on across the

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Drone software

whole field in one easy picture,” Mike Winn, CEO and founder of DroneDeploy, said.

DroneDeploy recognized that the process for developing maps was not helpful for most farmers and ranchers, because it required several hours of uploading data and processing images to create the final product.

“We launched Live Maps, and it solved that problem,” Winn said.

Live Maps allows farmers and ranchers to create a map of their land in real time, without the need to connect to Internet or upload hours of data.

“There’s no waiting,” Winn said. “You can use that data and immediately see what’s going on in your field.”

The new technology has not only helped farmers and ranchers respond quickly when the need arises, it has also assisted with several challenges the agricultural community faced when using drone data.

“One of the big issues has been a problem with live access,” Winn said. “We have a lot of agricultural customers who live in areas without good service. Uploading a gigabyte of photos to get an analysis from a drone could take a long time.”

While expanding broadband access to rural areas is an initiative by the Trump administration, Winn said the new software developments have helped with connectivity issues.

“Live Maps is a solution to that problem,” Winn said. “Now you don’t have to use the internet. You can be in an entirely offline environment.”

Winn also noted another update in drone technology that would increase productivity on the farm—autonomous flying.

“We know, in the agricultural community, that the times when getting a birds-eye view of your field is most useful is often the times when you are busiest,” Winn said. “You don’t want to be sitting at your truck flying a drone. You want to be getting work done.”

Having drones fly autonomously will help farmers and ranchers do just that.

“You go out into the field, you put your drone down, press a button on your phone and the drone will autonomously take off and fly over an area in perfectly straight lines and capture the data you need,” Winn said.

Winn believes the advancement in drone data software has helped farmers and ranchers, but the introduction of drone technology to the farm has been undeniably beneficial.

He first noticed the market for drones in agriculture not long after the launch of DroneDeploy.

“We founded our company in 2013. It was around 2014 that the ag community started to reach out to us,” Winn said. “It was really around 2016 that the market started to explode. Technology became really accessible and drones became rather inexpensive. Software became inexpensive and easy to use.”

Pricing plans are available online. The Explorer plan is free, but comes with limitations. Other plans provide higher resolution photos and assistance from the support team.

Wind moves microinvertebrates across desert

Evidence collected over five years might have implications for freshwater systems

Co-Authored By Walsh; Ming-Ying Leung; Gill; Robert L. Wallace; Mohl; Rivas; and Van Pelt.

March 13, 2018

Source: Science Daily

The work of faculty and students from The University of Texas at El Paso (UTEP) has yielded the first evidence of how waterborne microinvertebrates move across vast expanses of arid desert.

An article published March 13, 2018 in *Limnology and Oceanography Letters*, a publication of the Association for the Sciences of Limnology and Oceanography, details for the first time how high desert winds disperse small invertebrates and how they colonize hydrologically disconnected basins throughout the region.

"These novel findings might have large implications for freshwater systems," said Elizabeth J. Walsh, Ph.D., professor in UTEP's Department of Biological Sciences and director of the doctoral program in Ecology and Evolutionary Biology. "As climate changes and water patterns shift, our work might help others understand the intricacies of the wind-aided dispersal of freshwater organisms.



A tray of marbles sits on the roof of the Biology Building on the campus of The University of Texas at El Paso. Trays like this were used to collect dust as part of a study by UTEP faculty and students to determine how microinvertebrates were carried across vast expanses of desert by wind. The marbles mimic the rolling surface of desert terrain. Blowing dust skims right over most surfaces but will occasionally become lodged in gaps. Researchers took this dust and rehydrated it to determine if microinvertebrates in dormant, developmental stages were present.

Credit: UTEP Communications

It's important because these organisms are the base of the food web. How they move will affect the movement of the biological communities that are built up around them."

Walsh added that the impetus for the research grew out of a previous five-year study of Chihuahuan Desert aquatic environments funded by the National Science Foundation.

Part of that project involved characterizing the biodiversity of microinvertebrates at 300 sites. Researchers wanted to better understand how organisms were colonizing these bodies of water that were separated by vast distances of desert and not tied together by hydrological links such as drainage routes.

"If they weren't being moved by water, and they weren't being moved by other animals, then the next thing we thought is, 'It has to be the wind,'" Walsh said.

Enter Thomas E. Gill, Ph.D., UTEP professor in the Department of Geological Sciences and Environmental Science and Engineering Program, who while conducting concurrent studies on Chihuahuan Desert wind storms, pondered, "What kinds of living things are being carried along with the dust?"

What followed was a multi-year interdisciplinary research effort that collected dust samples; confirming those samples contained microinvertebrates in dormant, developmental stages; rehydrating them in laboratory settings; and utilizing next-generation sequencing to determine which organisms were present in the dust.

The last step involved moving the dust through a simulated storm to determine if the organisms could survive being blasted through the air across lengthy distances. Doctoral student Jose A. Rivas Jr. and Gill worked with Scott Van Pelt, Ph.D., a soil science researcher with the U.S. Department of Agriculture, to conduct such a test at the USDA Agricultural Research Service's wind tunnel facility in Big Spring, Texas.

"We basically simulated a wind storm," Gill said. "We took the clean desert soil, in which we mixed microinvertebrates, and blew it into the air. After this energetic, turbulent journey through the wind tunnel, our team showed that those organisms, which are about the size of grains of sand in their dormant stage in their development, survived getting sandblasted into the air. They can fly through the atmosphere, maybe hundreds of miles in viable conditions, and still wake up."

“If they weren't being moved by water [or] other animals...it had to be the wind.”

Gill said the group's findings will help inspire further research on the movement of organisms. He added that the effort that took place at UTEP was a successful collaboration because of support from the UTEP Interdisciplinary Research (IDR) program, the National Institutes of Health, the National Science Foundation and the National Oceanic and Atmospheric Administration Center for Atmospheric Sciences (NCAS). He also said the work conducted by doctoral students Rivas and Jon Mohl -- who served as the study's lead and second authors -- was vital to the effort.

"It's a very exciting and unique project," said Rivas, who was the study's lead author. "Dust storms are a huge part of the Southwest. We interact with them every spring. What's interesting is not only learning about dust storms but finding out what exactly is being transported, what's in the dust? This is especially important in understanding the diversity of our Chihuahuan Desert ecosystem. Learning how small, aquatic animals are transported and colonize new areas will lead to insights into how communities in tem.

Form of avian flu found at northeast Texas chicken farm

March 13, 2018

Source: Tyler Morning Telegraph

SULPHUR SPRINGS, Texas (AP) — Texas and federal agriculture authorities are testing birds and poultry in a northeast Texas county after inspectors detected a low-pathogenic form of avian flu at a poultry farm.

The U.S. Department of Agriculture says the H7N1 influenza was found last week during routine surveillance of a commercial breeder's flock of about 24,000 chickens in Hopkins County, about 75 miles northeast of Dallas.

Authorities now are testing other poultry within about 6 miles of the Hopkins County farm.

Federal officials last week confirmed a similar occurrence at a turkey farm in southwestern Missouri but said it poses no risk to the food chain.

The low-pathogenic flu is different from the high-pathogenic virus that resulted in the loss of nearly 50 million birds in the Midwest in 2015.

The U.S. 2018 corn crop is already coming out of the ground

Texas, Louisiana farmers try to beat optimal planting dates.

By: Mike McGinnis

March 12, 2018

Source: Agriculture.com

The first U.S. corn for 2018 is already coming out of the ground.

Farmers as far north as southern Mississippi and northeastern Louisiana have been planting corn this week, while the first corn went into the ground in southern Texas in late February.

Texas farmers have been planting through wet conditions that have delayed some fieldwork. Along with wet conditions, colder temperatures have made the start of the corn growing season a slight difficulty for the seeds. Wilbert Hundl, USDA/NASS director of Texas's Southern Plains Region, says the state's farmers are fighting rain events to start the season.

Today, the USDA will update planting progress. As of last week, Texas farmers had planted 11% of their corn, behind a 14% pace from a year ago, and ahead of a five-year average of 10%.

"There is corn in the ground, but rain has delayed the processes of applying fertilizer and planting," Hundl says. "We should see corn planting pick up in the next two weeks."

Hundl says that area farmers recorded average corn yields last year right at 140 bushels per acre, above 127 bushels per acre in 2016. This planting difficulty along with price will support fewer acres of the grain in the South, says Corey Brown, a Wharton County, Texas, Extension Agent.

"We're not behind on planting corn, yet, but for those areas that haven't planted, we are behind on applying liquid fertilizer and getting the ground ready," Bowen says.

Located about 60 miles southwest of Houston, along the upper Gulf Coast of Texas, Bowen says that area farmers are approaching their optimal planting date.

“For great yields, you really need to have the corn in the ground by March 20,” Bowen says. April 15 is the crop insurance date, but if you get into April, the yield potential really drops.”

Farmers in Crescent, Texas, have been active planting corn since March 2. “Planting will be fast and furious, today, because there is rain in the forecast for later this week,” Bowen says.

Bowen adds, “For those farmers who do have their corn in the ground, it should emerge this week, if we can get more 73°F. days.”

Wharton County, Texas, is expected to plant about 70,000 acres of corn, this year, nearly equal to last year.

LOUISIANA CORN PLANTING

Farther north, the 2018 corn planting season is underway in northeast Louisiana. Hank Jones, a northeast Louisiana crop consultant, says that farmers got their planters out last week.

“It started about three days ago – not wide open yet, but a lot will get planted this week,” Jones says.

Louisiana planted just below 500,000 acres of corn, last year. That number is expected to drop, Jones says.

“Corn acres will be down 20% from a year ago, due to price,” Jones says. “Soybean acres will be going up. If we see a 25¢ rally in the corn market, in the next two weeks, we could see more corn planted around here.”

Jones added, “Corn at \$4.25-\$4.50 per bushel is a much different acreage story.”

In this mostly irrigated corn-growing area, yields average between 180 and 200 bushels per acre, with some yields as high as 230, Jones says. Meanwhile, in the Franklin and Richland Parishes of Louisiana, corn planting is delayed.

Only 1% to 2% of the corn has been planted, due to very wet conditions. The corn planting progress is two weeks behind normal pace, area experts say.

Much like many other areas of the Deep South, these two parishes expect to plant less corn and more soybean and cotton acres in 2018.

USDA Disaster Program Helps Texas Farmer Recover from Hurricane Losses

By Shawn McCowan

March 5, 2018

Source: USDA



Doug Harper is a fifth-generation farmer who grows cotton and watermelons along the coast in Victoria County, Texas. (Courtesy Photo)

Doug Harper, a fifth-generation farmer, moved to the Texas Gulf Coast area in 2012, looking forward to the potential for increasing corn, cotton, milo, and watermelon production there.

Texas farmer Doug Harper comes from a long line of farmers. Growing up in the business, he knows there are always ups and downs, and the importance of insurance coverage to prevent against the “what ifs?”

When challenges arose this past year, a USDA program enabled Harper to recover.

First, an unexpected large surge in watermelon production last June caused truckloads of watermelon to backup, including a few trucks full of Harper's freshly harvested watermelons. Because of the delay in getting these watermelons to market, they were all rejected.

"I lost all profits, and I wasn't expecting to recover anything after that loss," Harper said. But his losses were covered through the Noninsured Crop Disaster Assistance Program (NAP), which provides financial assistance to producers of noninsurable crops when low yields, loss of inventory, or prevented planting occur due to natural disasters.

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Harper thought he had weathered the season's crisis, but something much worse was close behind.

When Hurricane Harvey began its approach two months later toward the Gulf Coast, Harper quickly organized six trucks to begin moving as much of his cotton to higher ground that was possible. The day before the hurricane made landfall, he evacuated and hoped for the best.

He returned to find the hurricane devastated his crops, destroying more than 800 modules of cotton. When cotton is harvested, it is compressed into large modules that can weigh up to 5,000 pounds. Very little of his crop was salvageable. Even his entire 80-acres of watermelon were completely lost, just two weeks from blooming.

As part of the program, Harper reported the losses to his local office of USDA's Farm Service Agency, which administers the program.

"Knowing I was covered by NAP took some of the stress away at a very difficult time," Harper said. "I couldn't help but wonder where I would get money to pay our bills, let alone rebuilding after such a loss."

Harper said he believes the program will always be worth it to him. "I highly recommend taking advantage of NAP," he said. "It's low-cost, good coverage. I will definitely continue to use NAP, and encourage others to do the same."



Disaster assistance through FSA has helped Doug Harper rebound over the years. (Courtesy Photo)