May 2019

Horizons

A Golden West Customer Newsletter

Capturing the Cosmos

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We're everywhere people connect.



Capturing the Cosmos

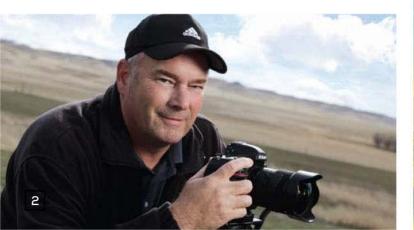
South Dakotan turns landscape photos into amazing videos and unique business.

After a day spent hiking and fishing or just having fun with your family, the time comes to relax by the campfire. Next comes dinner followed by a sunset and gooey s'mores by the fire. You are enjoying the pureness of the moment, staring at the crackling campfire. As you follow embers and plumes of smoke rise and dissolve into the air, it hits you – that infinite night sky. Sure, you've seen it before, but the utter amazement of it never gets old. It's something so expansive and magnificent, a photo can't possibly capture this moment. Or can it?

Experiencing the outdoors in a scene similar to this inspired Golden West member Randy Halverson of New Underwood to point his digital camera skyward and reignited his childhood interest.

"I've been into photography since I was a kid, starting with my 4-H club," Halverson said. "I went away from it for a while, but when it became digital and cheaper, I got back into it."

66 A nyone can see the Milky Way core at night with their eye, but you can't see the details that I get with long exposure time-lapse.



Halverson honed his hobby and turned it into a unique business venture. Around 2010, he launched Dakotalapse, specializing in still and time-lapse photography.

"The time-lapse stuff began when I started camping and looking at the stars," Halverson said. "Time-lapse is when I take a camera and a timer and take multiple still images of the same area over a set period of time. Then I assemble all the images into a video on my computer."

Halverson also uses a long exposure for some of his time-lapse images. A long exposure keeps the camera's shutter open longer for each shot, normally 15 to 25 seconds, to gather more light at night.

Simply put, time-lapse videos manipulate time. Objects and events that would normally take hours, days or months to finish, can be viewed in a fraction of the time.

However, the easiest way to understand time-lapse photography is to see it on dakotalapse.com, or find Dakotalapse on youtube.com or vimeo.com. To date, Halverson's videos on YouTube and Vimeo have amassed close to ten million views!





Visit dakotalapse.com, youtube.com/dakotalapse or vimeo.com/dakotalapse to see Halverson's work.

While many enjoy Halverson's work for its artistry and awesomeness, his skills have generated extraordinary business opportunities for Dakotalapse, as well.

One such opportunity came all the way from Japan. NHK, Japan's public broadcasting corporation, recently launched a new channel devoted entirely to 8K formatted programming. The 8K format has sixteen times the screen resolution of standard high-definition television.

Halverson has captured 8K footage for NHK and continues to do so. He posted one video on Dakotalapse.com, however, only those with an 8K-capable computer monitor or TV are able to experience this video in its full resolution.

The biggest challenge of producing 8K videos is the sheer size of the finished files. This makes the process of getting them online to share with viewers and NHK tedious.

"I just upgraded to Golden West's fastest Internet," Halverson said. "Even with 100 Mbps upload speeds, it takes 30 hours to upload a



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1.2 Terabyte video! And while that's still a long time, it would have taken me at least a week to upload this video with slower Internet."

Enormous files also require tremendous computing power to create and compile. But time-lapse photography takes incredible patience and time for the execution of shots and in the editing process, no matter the resolution.

Halverson's most time-consuming projects were more about what was growing in South Dakota than what's happening above. The U.S. Department of Agriculture's Natural Resources Conservation Services (NRCS) offered Halverson another extraordinary business opportunity to film crop fields around South Dakota.

"They (NRCS) wanted to study no-till farming and see the change in crop residue over the course of a year," Halverson said. "They needed videos to show benefits like reduced erosion and cover crops. For the past three years, I used solar-powered cameras on fields in Beresford, Kennebec and Sturgis to name a few."

Halverson positioned the cameras to take anywhere from 15 to 30 shots a day for as long as one to three years. The finished and edited NRCS videos show a year's worth of photos in roughly five minutes.

Visit youtube.com/nrcssouthdakota to watch Dakotalapse's No-Till videos.

While 8K entertainment and agricultural time-lapse videos may pay the bills, this whole thing started because of Halverson's love of the night sky.

"Anyone can see the Milky Way core at night with their eye, but you can't see the details that I get with long exposure time-lapse," he said. "I'm making money doing something I love. That's better than just spending money on a hobby!"

To view Halverson's time-lapse videos and still photography, visit dakotalapse.com. Who knows? You may just be inspired to try your hand at capturing the Milky Way the next time you find yourself camping under that beautiful, infinite South Dakota night sky.



Dell Rapids Elementary School second graders use the Internet to gather information on the Iditarod.

Thank You for Paying It Forward!

Over the past four years, Golden West customers have helped local elementary schools through the annual Pay It Forward campaign. For each new or upgrading customer in March, Golden West pledged \$50 to the elementary school in that customer's community.

Including the 2019 campaign, Golden West customers have helped contribute about \$50,000 to local elementary schools through Pay It Forward.

Thank you, Golden West customers for once again supporting the children and schools in our communities!

Using Technology in the Classroom

A classroom of schoolchildren raises and lowers their arms, jumps around and chants the alphabet as they watch an online video to help learn their letters and the sounds they make (see photo at left).

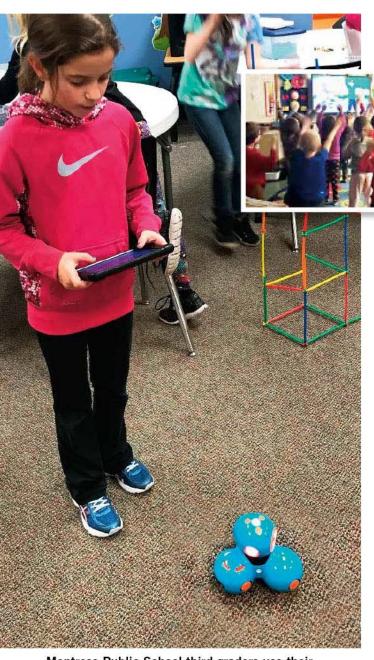
"We use the Internet on a daily basis but especially love it when we get to get up and move while we learn," said Avon Elementary School kindergarten teacher Dawn Kocmich.

Kocmich captured the scene above on video and submitted it for a chance to win one of two extra \$250 contributions. A number of great photo and video submissions provided insight into how teachers are using the Internet to help educate their students.

Rachel Stokes from the Menno School District and LaNessa Hof from St Mary Catholic School in Dell Rapids won this year's drawing.



Karla Rupp of the Freeman Academy submitted a photo of students working with a robot named Mr. Edison. "Mr. Edison can be made to do a task on its own, using coding and programs that our students access through the Internet," Rupp said.



Montrose Public School third graders use their Wi-Fi to operate a robot.



Senate Committee Hears Testimony Supporting

Rural Broadband Customers

Stacey Nelson enjoys a view of the Missouri River with her dog by her side while she works remotely for a company in Minneapolis from her rural home near Hayes, SD.

"Having a strong broadband connection means I can work where I want to live, instead of having to live where I work," said Nelson.

Golden West CEO and General Manager Denny Law recently advocated for the need for rural broadband before members of the United States Congress. He appeared in support of the future of broadband development for rural South Dakotans like Nelson. "Robust broadband must be available, affordable, and sustainable for rural America to realize the economic, healthcare, education, and public safety benefits that advanced connectivity offers," said Law.

Law Testifies Before Congress

Law testified most recently before the U.S. Senate Subcommittee on Communications, Technology, Innovation and the Internet in March. He also testified before the U.S. Senate Committee on Commerce, Science and Transportation in October. South Dakota Senator John Thune invited Law for both appearances.

Committee hearings like these play an essential role in the legislative process. As a result of these hearings, the Federal Communication Commission (FCC) has made beneficial changes to the high-cost Universal Service Fund (USF). The USF supports broadband development in high-cost areas, which are areas with a low average of customers per square mile.

"Golden West's ability to invest in infrastructure, because of the stability provided by the FCC, will translate to direct benefits for rural South Dakotans," said Law. "According to the South Dakota Telecommunications Association (SDTA), in 2021, 93 percent

of SDTA members are expected to be served by fiber broadband. That's up from 65 percent in 2017."

Sen. Thune stated his support for building rural broadband as a necessary means to provide for rural Americans. "Rural Americans and the smaller businesses serving them must never be an afterthought when making public policy decisions," said Sen. Thune.

The support provided by Sen. John Thune and his congressional colleagues, as well as the changes made by the FCC, give Golden West the funding and confidence to continue the broadband upgrades its customers need.

66 Robust broadband must be available, affordable, and sustainable.

~ **Denny Law**, CEO and General Manager

"Small broadband providers like Golden West are essential to connecting rural America with the world. We help rural communities overcome the challenges of distance and density," said Law.

That certainly held true for Nelson, who now oversees team members located not just in Minneapolis, but also in Maryland and Pune, India – all from her home overlooking the Missouri River. "I could not have been successful at working from home if it wasn't for the reliability and speed of the Internet service provided," she said.



Enhance Your Wi-Fi

Golden West customers whose homes and businesses present "obstacles" to a reliable Wi-Fi signal have found a solution with Enhanced Wi-Fi. Now with seamless, wireless coverage throughout their place, these customers no longer have any Wi-Fi woes.

How is Wi-Fi Enhanced?

Enhanced Wi-Fi uses signal "extenders" in conjunction with your modem to provide stronger wireless connections. It also gives you control over your Wi-Fi network and password, as well as a second wireless network with a separate password for guests.

Why Enhance Your Wi-Fi?

Multiple factors can affect the performance of Wi-Fi at your home or business. For example, the further your devices are from your wireless router, the greater chance your Wi-Fi signal will not be optimal. Physical obstacles in-between your device and router, such as metal construction and aquariums, can also cause interference.

Where my fiber comes into my home. It's in the basement of my L-shaped, ranch-style home, on the opposite end of where my living room sits. Since getting Enhanced Wi-Fi, I've noticed my security camera, dog cam and Roku all working much better.

~ Lee Person, Residential Customer, Hartford

In addition, Enhanced Wi-Fi allows for remote troubleshooting and improved customer service. With approval, Golden West technicians can access your network, detect any problems and correct them accordingly without an appointment!

All Golden West Internet customers can add Enhanced Wi-Fi for a low monthly fee.

For more information on this exciting new service, visit goldenwest.com/wifi or give us a call at 1-855-888-7777.

Spam, Junk, Phish BLOCKED!

In our continuing effort to improve the quality of Golden West's web mail, we're updating customer email filters and features. Our goal is to block spam, junk and phishing emails from clogging up inboxes and to help keep you safe from online scams.

Starting June 1, customers will receive Spam Digest emails every seven days. While these emails will look similar to the Daily Digest emails customers currently receive, Spam Digest emails will contain more information about the messages caught in the filter. The new Spam Digest feature has:

Display Options

Select if you'd like to display emails caught in the filter from the past two days, one week or two weeks.

Release, Delete, Download & Print

You can choose to release messages incorrectly marked as spam, as well as delete, download or print any message in the filter.

Friends/Enemies Lists

Mark trusted email addresses and domains as Friends to be delivered to your inbox. Email addresses and domains marked Enemies will be quarantined.

Color Codes

Emails caught in the filter will be categorized by color:

- Red Potentially dangerous email
- Yellow Suspicious email
- · Green Junk email

Delivery Options

You can choose to receive filter notifications Daily, Weekly or Never.

For more information on the new Spam Digest, visit goldenwest.com/spam.





Money for Your Studies

SDTA Offers Scholarships for Students Studying Technical & Telecom Fields

If you have begun post-secondary studies and are looking for added financial help, the South Dakota Telecommunications Association's (SDTA) Memorial Scholarship is an excellent option. SDTA's Memorial Scholarship is for a student (or their family) who subscribes to an SDTA member company, like Golden West.

SDTA will award scholarships of \$2,000 and \$1,500 to students who have completed at least two semesters (24 credit hours) of coursework at any accredited post-secondary school in South Dakota.

Applicants must be majoring in a program with technical skills or a field of study that is useful for work in the telecommunications or broadband industry. Eligible majors include, but are not limited to:

- · Telecommunications
- · Information Systems Technology or Management
- · Satellite Communications
- Programming Specialist
- · Technology Education
- · Network Specialist

The application deadline is May 31, 2019, and the scholarships will be awarded for the 2019 fall semester.

To apply, visit sdtaonline.com/sdta-scholarships.





Get Full-Speed Internet at a Reduced Price.

Save \$34.25

Tribal Lifeline, a federal program available from Golden West, provides up to \$34.25 off broadband Internet or phone service each month for qualifying customers on tribal lands.

Lifeline eligibility depends on income and participation in other federal or tribal assistance programs. Only one Lifeline benefit (Internet or phone, but not both) per household. CIF – Hearing Impaired Service, Long Distance, 911 fees and other applicable charges still apply. Lifeline subscribers may also block long distance calls on their phone line at no charge. Golden West is an equal opportunity provider and employer.

Call 1-855-888-7777 or visit goldenwest.com/lifeline.

