

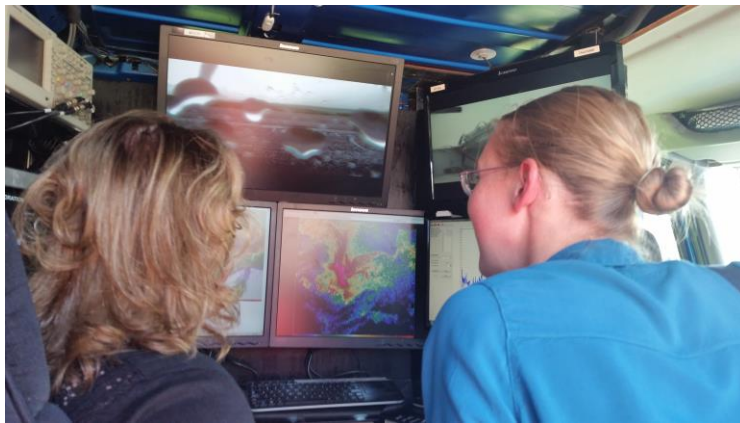
Western Wyoming Community College (WWCC)

Final Report

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1. Summary - The following in part was included in a News Release:

Western Wyoming Community College (WWCC) welcomed Science, Engineering, Technology, and Math educators from across Wyoming to the Rock Springs campus for the Wyoming Department of Education’s Roadmap to STEM. The conference was held Monday, August 1, through Wednesday, August 3. The theme for this year’s conference was “Inspiring Wonder.”

As one of the many activities scheduled for the conference, Western hosted a demonstration of Doppler on Wheels (DOW), a mobile weather radar station deployed by the Center for Severe Weather Research to study tornadoes, hurricanes and other weather phenomena from a ground-level vantage point. This enables weather researchers to record, measure and study the formation and dynamics of these weather events from a perspective not often accessible to more traditional fixed radar systems.

The DOW was on campus for public demonstrations on Monday, August 1, from 1:30 – 3:30 p.m. at the College’s West entrance. On Tuesday, August 2, from 10:45 a.m. – 12 p.m. which included a weather balloon launch, also at the West entrance, and on Wednesday, August 3, from 10:45 a.m. until 12 p.m., Storm Chasers were on hand to discuss the dangerous yet rewarding work of chasing extreme weather events that most people run away from. Though offered in conjunction with the Roadmap to STEM Conference, these weather-related activities are free and open to the public.

Educators who attend the conference had opportunities to learn about everything from earth science data visualizations to engineering and robotics. They will also take field trips to local areas of scientific interest, including Seedskaadee National Wildlife Refuge and the Jim Bridger Generating Station. Illusionist and World Magic Champion Jason Latimer will kick off the event on Monday with a show that combines magic and impossible science.

“As a comprehensive two-year college that consistently ranks among the nation’s best, Western Wyoming Community College is proud to welcome STEM educators from across Wyoming to our Rock Springs campus for the 2016 Roadmap to STEM Conference,” said Western President Karla Leach. “Not only does Western offer high-quality academic programs in Science, Technology, Engineering, and Math, taught by dedicated faculty who care deeply about their students’ success, but our attractive facility’s convenient logistics, spacious theatre and newest conference rooms make our campus an ideal gathering point where Wyoming’s STEM educators can learn from and inspire each other

2. Educational Objectives:

The main objective of the Doppler on Wheels (DOW) was to demonstrate to Wyoming educators attending the conference, community members, and school age children about National Center for Atmospheric Research (NCAR) and University Corporation for Atmospheric Research (UCAR) and what they do and how the Doppler on Wheels benefits the scientific community.



The Doppler on Wheels (DOW) is a great way to get children interested in the field of atmospheric research, as well as, giving both teachers and children a chance to have a hands-on experience with the radar system. The growth in the Science, Technology, Engineering, and Mathematics fields are growing and we need more people to produce and maintain equipment, computer systems, and methods for future scientists. Participants were able to see the operators and coordinators position within the DOW. The scientists talked about the data on the computer systems, storage space, and what goes on in a storm. This allows the scientist to analyze the data and all data syncs with each other. Another area covered was how the weather instruments work. In addition, how the DOW can get close to storms to collect data. The children and conference participants were engaged with the demonstrations.

In addition, to having the DOW on display for conference participants, WWCC teamed up with the Board of Cooperative Education (BOCES) to offer a summer workshop for children in the community. The children were able to view the radar system first hand. The Storm Chasers, Karen Kosiba and Traeger Meyer provided all kinds of information about the field and that it isn't geared to just scientists but Software Engineers, Aircraft Mechanics, Electro-Mechanical Engineers, Computer Programmers, Project Managers, Instrument Makers, Systems Administrators, Radar Engineers and Pilots to name a few.

One of the favorite things about the visit was the balloon launch.





The Storm Chasers prepared and launched weather balloons with special instruments to show how it can predict the forecast. The balloon launch went off well and the Storm Chasers talked about what is required in a balloon launch and what data is collected. They showed the instruments required in making a successful launch. Next, participants were able to see the data on the computer. This was another engaging piece of the activity.

To better forecast it is beneficial to know what is going on in the atmosphere. Part of the discussion was how the balloon can measure temperature pressure and Global Positioning System (GPS) to track the system.

3. Instructor Perspective:

In western Wyoming, where there are more antelope than people, it is important to bring these type of initiatives to the community. The Doppler on Wheels (DOW) was stationed outside of the atrium with a complete view of Rock Springs, Wyoming. The community was able to see the radar truck and telescoping mass from miles away. We were able to advertise it on the radio and received quite a bit of time on the radio talking about the Doppler on Wheels (DOW) and its purpose. The Wyoming Department of

Education who conducted the conference, was very impressed with the DOW, and that the radar truck was able to be part of the conference offerings.

Traeger and Karen were accommodating with where they set up and provided a few balloon launches for different groups of students and teachers that stopped by for demonstrations. There was a discussion on how the data is collected and analyzed and if Computer Science students can study this data in order to improve warning time and improving lives.

There were approximately 20 children and their parents that stopped by the DOW and various conference participants. We felt this was a positive event for the community and appreciated the educational and outreach initiative. The outreach was successful in reaching folks in our community.