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Safety Spot:

- \* Warm days still abound..but the nights are cooler. Got Jackets?
- \* Drive safely, rest often if traveling.
- \* \* Weather changes quickly. Do you know the alternate route? \* \*
- \* Time to get your winter emergency gear ready.

## IT CAN HAPPEN TO YOU (A true story)

It was a dark and stormy night. The traffic was light. Most everyone was home and in bed as the midnight shift made its way into work. It was raining, raining hard. The drive into the weather office would be slower than usual. The visibility was poor; the roads wet.



As the Senior Meteorologist drove along the highway, on his way into work, little did he know that the peril and doom that he frequently warned others about was about to descend on his piece of the world.

A layer of water, probably no more than a quarter inch deep, was building up on the road. Unfortunately, he didn't know this until it was too late. The first sign that something was up; a slight fishtail at his rear end. *OK, grab the wheel firmly*, he thought, *keep steering, don't brake too hard, and keep control*. But it was too late. His vehicle was already out of control, on a diagonal slide off the highway, across the shoulder and into the ditch. All he could do was ride it out and hope, pray for the best. There was no friction, only water, less than a quarter inch of it, on the highway, in between his tires and the road. It was enough to wedge his small SUV in between two sign posts in the blink of an eye. It was enough to leave him shaking. It wasn't much... but it was enough.



His thoughts immediately after the accident; it could have been much worse. Not a scratch on him. For this he was thankful. His car, on the other hand, didn't fare so well. For this, he was angry, angry at himself, for not going slower, not reacting better, for the cost to fix his car, for the inconvenience of it all. He thought he was going slowly enough. Not so, apparently. He should have been going even slower. He knows this now. Each trip into the office when it is raining, or anytime for that matter, is slower now. Close calls like this tend to bring clarity, resolution, slower speeds. It's what we must learn from this – to slow down.

Don't kid yourself. You could be in the same boat. No pun intended. Much like black ice, a layer of water on the road is hard to see. Sure, you can see the shine on the streets but as for the depth of the water beneath that shine; that's a hard thing to call from behind your steering wheel, at night, in the pouring rain. Just ask the Senior Meteorologist. He'll tell you. He'll tell you that he never wants to go through that again. Ever!

SO - even though we know the risks, and do what we can to minimize the danger, even weather folks aren't safe from the ravages of Mother Nature. It is a reminder to us all that we need to remain weather alert, not just for the big storms that make headlines, but for the lesser talked about weather hazards, like dense fog, black ice or a thin film of water on the highway no more than a quarter inch deep ;).

# A Very Busy Summer

**There were many forecasting and warning challenges for WFO Pueblo this past summer.**

June saw four major wildfires erupt and burn close to 130,000 acres of grass and timber: Black Forest (El Paso County), Royal Gorge (Fremont County), East Peak (Huerfano County), and the West Fork Complex (Mineral and Rio Grande Counties). The Black Forest wildfire burned 486 houses and took the lives of two. During all the wildfires, our office provided around the clock weather forecast support to keep firefighters safe while fighting the wildfires. At one point, the Warning Coordination Meteorologist provided in-person forecasts while at the Emergency Operations Center for the Black Forest wildfire and one of the Incident Meteorologists on staff was deployed to the Black Forest wildfire.



The work continued once the fires were out, collaborating with our key emergency management and law enforcement partners. These partnerships, with the goal of protecting lives and livelihoods, were in place, strongly cultivated during the past winter, addressing the Waldo Canyon burn scar risks. Numerous meetings regarding flash flood mitigation and public safety efforts, as well as tactical planning for flash flood episodes took place. Included in the planning and preparedness efforts, was a Waldo Canyon Flash Flood exercise in March with over 100 participants.

The timing of this summer's wildfires could not have been worse, since an active monsoon season began shortly after. Our office needed to quickly set rainfall thresholds for flash flood risks, and took familiarization trips to brief our forecast staff on the particular risks with each burn scar.

The most serious flash flood risk this summer was the Waldo Canyon burn scar in El Paso County. Due to the severe burn and the steep terrain, this burn scar is the most dangerous in the state. Three major flash floods occurred: July 1st and 10th, and August 9th. WFO Pueblo worked very closely with emergency officials in Colorado Springs, El Paso County, and Manitou Springs, and with CDOT to ensure the safety of the people in the area, issuing Flash Flood Warnings when necessary. Tragically, one person drowned during the August 9th flood.

A multi-day heavy rain episode occurred in mid-September in the Pikes Peak Region, with some areas receiving over 13 inches of rain. Infrastructure was hard hit, many houses were flooded on the southwest side of Colorado Springs, and two lives were lost. During the 5-day episode, WFO Pueblo issued 28 Flash Flood or Flood Warnings, and 33 Flood Advisories.



Winter is just around the corner, and WFO Pueblo's focus shifts now to providing accurate forecasts to provide advanced notice of all the winter weather hazards to protect your life and property.

# Watch...Warning...Advisory

## WHATS THE DIFFERENCE???

How many times have you seen the TV crawler with “National Weather Service has issued a Watch/Warning/Advisory” and wondered “What’s the difference?”

The difference determines the risk to life and property of the citizens of the United States, and more specifically, those folks that are in the hazard area that is defined.

The National Weather Service issues a variety of products to keep our customers informed of unusual, inconvenient and hazardous weather conditions. A multi-tier concept is employed to accomplish this task with Outlooks, Watches, Warnings and Advisories to point out specific conditions.



### Definitions:

#### ***Outlook:***

Used to give considerable lead time that a hazardous event may develop.

#### ***Watch:***

Issued when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location, and/or timing is still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so.

#### ***Warning:***

Issued when a hazardous event is occurring or has a very high probability of occurrence. Warnings advise of a threat to life or property.



#### ***Advisory:***

Issued when a hazardous event is occurring or has a very high probability of occurrence. Advisories describe events that cause significant inconvenience.

Here at NWS Pueblo.. we tweet and we post, using Twitter and Facebook as additional sources to reach the citizens that rely on us.

You can follow us either way, to stay in touch and stay informed, as the summer fades and fall and winter rapidly approach.



Stay safe, Stay dry and Stay informed.

# Hiking Mount Bierstadt—a Meteorologist's Perspective

*By Stan Rose*

I eyed a three day weekend in late August to head for the mountains to get in some hiking, before the snow starts flying. The last time I summited one of the area 14ers (Colorado peaks higher than 14,000 feet) was several years ago, so I decided to break that dry spell by attempting a climb of one of the 'easier' peaks, 14,060 foot Mount Bierstadt. This particular peak is easy to access from a paved road that crosses Guanella Pass south of Interstate 70 in Clear Creek County. I recalled a previous trip there on a weekend, when there were several hundred cars lined up alongside the road at Guanella Pass, and busloads of people hiking the trail up Mount Bierstadt. So, to avoid the throngs of weekend warriors, I decided to hike on a Monday. I left Pueblo at 4 am and arrived at the Guanella Pass parking area shortly before sunrise. The parking lot was half full but not nearly as bad as it would have been on a weekend.

There were layers of clouds draping the distant peaks-- moisture brought up by the monsoon, enhanced a bit by the residual moisture from tropical storm Ivo, which had churned up the Baja coast a couple days earlier. The clouds were lighting up in intense hues of orange and pink as the sun rose. I stopped to take a few photos of the sunrise, and then grabbed my backpack to gather what I needed for the hike ahead. Apparently I didn't realize that I had set my camera down either next to or on the pack. When I picked the pack up, I hear a loud thud and crack. It was the sound of my camera, with expensive lens attached, hitting the parking lot pavement.

One look at the lens and body of my camera strewn on the pavement, and I knew that I wouldn't be taking any more photos that day. As I later confirmed, I had badly damaged both the camera and lens. Moments after this accident, I spotted a moose swimming in a pond just beyond the trailhead where I was parked. It was quite a sight, but it would have to go undocumented as my camera was now completely inoperable! I decided to forget how expensive the hike had become, and headed up the trail. It's a seven mile round trip hike to the summit, with about 3,000 feet of elevation gain.

The first mile is relatively easy; the trail climbs gently as it winds through shoulder-high willows and crosses some wooden planks that have been placed to keep you out of the boggy marshes that dot the area. I left the parking area at about the same time a couple other groups were departing; a couple from Virginia and another couple from Denver. After about a mile, the trail starts to climb more steeply, and the views to the west really begin to open up. Below you are dozens of seasonal tarns, and in the distance are dozens of peaks, including prominent 13,800 foot Square Top Mountain which lies on the west side of Guanella Pass. As the trail continued to gain elevation, I began to appreciate the ten pounds or so of camera gear that was missing from my pack; the climb was relatively painless and it was a beautiful morning.

That bliss would not last long. The trail continued to climb steeply up a ridgeline leading to the summit. Above 12,000 feet, one begins to feel the lack of oxygen, and above 13,000 feet, every step becomes tedious as the air now has a third less oxygen than it has at sea level. A group of men from Wisconsin passed me on the way up, and I briefly spoke to the leader of this group before he quickly moved on ahead of me. He told me he was in Colorado training for the upcoming Milwaukee Marathon. I later learned from another in his group that he had previously won that marathon on a couple of occasions, and at one time was one of the nation's elite marathoners. So, I wasn't surprised to see him speed ahead of me up the trail.

Like most of the other 14ers I've climbed, it seemed like the last few hundred feet dragged on forever. The climb up Bierstadt is Class 2, meaning there is no real technical climbing involved, but it still becomes a bit of a scramble as you near the summit, and you have to navigate and route find through a field of boulders, where one missed step can cost you a twisted ankle. In fact, I did miss one step and ended up tearing some skin off my shin. But I've always had a motto that it "isn't a real hike until you draw blood" so I left my scrape un-banded to make the hike official.

Finally, about 3 hours or so after hitting the trail, I arrived at the summit of Bierstadt and admired the views. Another hiker was kind enough to snap a picture of me with her cellphone, so I had some proof of obtaining the summit. It had been pretty raw and cold in the last bit of climbing, but on the summit the wind died off and it was relatively mild. There was still plenty of hiking left though to get back to the parking area, so I headed back down to make sure I was off the peak before any thunderstorms developed. By the time I had hiked back down to the lower portion of the trail, there were still groups of hikers starting up the peak, as dark clouds began to develop over the summit. While I wasn't expecting any severe weather, I was glad I had followed the rule to be off of a summit well before noon!



## SIGNS OF SPRING AND SUMMER

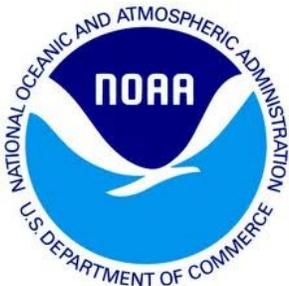
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Spring and summer are usually signaled by snow melt, flowers blooming and the leaves on the trees starting to come out, but in Pueblo, we have a different way to tell if it is spring.

You know warmer weather has arrived in Pueblo when the snakes arrive and this year was no exception. This bull snake was found outside the door of the office, sleeping in the sun until we woke him up on a late spring/early summer morning. Not being happy with the disturbance, he slithered off in search of quieter plains, after having served as a wake-up call to everyone that it is time to watch our steps.



The non-venomous bull snake is relatively harmless unless provoked. However, there are also rattle snakes, scorpions and other creepy crawly critters out and about that can make one very sick and if not treated quickly, possibly lead to death.

Whether walking through the grass to the parking lot and rain gage, or out doing the maintenance on radar and Automated Surface Observing Systems, this serious threat exists until late fall when they crawl deep into their homes and sleep for the winter.

Also seen around, and in, the office this year, were numerous scorpions and spiders. The scorpions were occasionally found in the bathrooms and one even fell out of a light fixture. Sticky glue traps inside and spray pesticides outside were used to control these visitors before the staff inadvertently placed a hand, foot or other tender body part in their vicinity. Many staff members noted that this was an extremely active year for scorpions, with more seen inside the office than any other year remembered.



It hasn't all been bad though. After a monsoonal rain event, this Eastern Tiger Salamander (non-poisonous and a great bug eater) was found in the flower pot, trying to stay dry. After its 15 minutes of fame, and celebrity photo shots, it was released back into the wild to continue its journey.

