

It’s the climate: by Robert Hirning

Part Three -- Summer

June is nice but the Gulf of Alaska and a jet stream has a few more sour apples to throw at us. I have recorded a light frost on summer solstice! Unlike winter solstice, which is predictably the coldest part of the winter, the real heat of summer doesn’t arrive until after the Fourth of July. Fire season typically begins any time after June first, but by the Fourth of July it is crackling dry and hot. We can expect about three rainless months, but summer thunderstorms can pack a punch some years.

One of the biggest trees in Grants Pass (a Tulip Poplar planted 100 years ago in Riverside Park) blew over in a summer storm in 1993.

And then there’s the danger of a lightning strike. The Biscuit Fire started by one of these on July 13th and the Longwood fire of 1987 came with dry lightning on August 31st. In some years rain comes with these periods of what the weather guys call “instability in the atmosphere” because dry lightning is the number one cause of our greatest environmental threat: wildfire.

The forests everywhere have at one time or another been swept through by fire and will undoubtedly be burned again in the future. Look at any old growth tree and you will find charcoal on the bark. What does this mean for us in our settlements adjacent to the forest? Be ready; learn what to do. Be proactive and clear

defensible space. As the Boy Scouts say, be prepared, understand fire behavior and be ready to act decisively. Cut a fire line when you can and get the hell out if you must. Keep a pair of gloves and a pair of boots handy along with a good fire tool (Pulaski, shovel, adz hoe, spring rake, or axe) and a canteen of water ready to grab at a moments’ notice; never panic.

When I came to Southern Oregon from the east, I had never encountered a seasonal wet-dry climate before. In Downstate New York where I grew up -- at the same latitude a Josephine County -- we got pretty much the same rainfall amount. It could rain any day during the summer and the humidity was always above 80%. In Southwest Oregon, in the

summer you believe it will never rain again and in the winter you believe it will never stop.

It can go ninety days without a drop of rain in the dry season or fifty days of steady rain during the wet one in Takilma. I have recorded both. Summer humidity can be single digit like Phoenix, Arizona, or so damp in the winter that moss grows around your car windows and you have to drill a hole in the floor to let the water out.

Temperatures rose to 110° for over a week in August, 1981 and four days of eight below zero in December, 1972.

These are the extremes, but our averages have not changed by global climate warming. The weather pat-

terns are generated by the vast Pacific Ocean, which continue to come and go as they have for centuries. We still average 60 inches of rain in Takilma, 70 inches in O’Brien, and 50 inches in Selma, and the seasons pass with general similarity as they did for the forty years of my records.

What is in store for us, who knows? We are due for another flood and maybe a colossal earthquake, but those too shall pass and we’ll be back planting tomatoes and covering them in the middle of the night. Then again many of us, including this writer, will not be able to compare the next forty years of data either.

The Farrier’s Corner: by Ray and Michelle Smith

Horses, Around the World and Back Again

In 2000, German scientists unearthed the 47 million year old fossilized remains of a tiny mare from a coal pit near Frankfurt. This was not a modern horse, but a member of the ancient species Eurohippus messelensis. She was about the size of an average modern dog with four toes on her front feet and three toes on her hinds. This is very different from the horses that we know today.

The most ancient ancestors of today’s horses are believed to have existed during the Eocene period, 58 to 37 million years ago. The earliest member of the horse family to be discovered was a small creature known as Eohippus. The name Eohippus is of Greek origin meaning “dawn horse”. Little Eohippus was horse-like in appearance and stood 10 to 18 inches high. Like Eurohippus, it had four toes on the front feet and three toes on the hind. Eohippus fossils have been located in North America.

The modern horse (Equus caballus) is thought to have developed over a period of roughly 50 million years. Today, paleozoologists have been able to piece together a more complete outline of the modern horse’s developmental lineage than that of any other animal. Initially, it was thought to be quite straight forward. However, as more research was done, and more fossils unearthed, it became evident that the development of the modern horse was a complex and multi-branched affair with many turns and dead end lines. It was American paleontologist George Gaylord Simpson who dispelled the myth that the development of the modern horse was a strictly linear process. In 1951, Simpson first recognized that “the modern horse was not the ‘goal’ of the entire lineage of equids, it (Equus) is simply the only genus to survive.”

In fact, Equus out survived at least 27 other genera of horses. Included in the group Equus are: modern horses, donkeys, mountain zebras, plains zebras, Grevy’s zebras, wild Ti-

betan asses (a.k.a. kiangs) and onagers. There are also the sterile equine hybrids: mules, hinnies and the very rare zorse. Although it sounds like a Dr. Seus creation, the “zorse” is a man-made hybridization of a horse and a zebra.

The fossil record indicates that at least 12 species of horses once roamed the ancient grasslands and forests of what is now North America. These animals varied in appearance, ranging in size from the height of a small goat to size of today’s Arabian horse. Fossil evidence also clearly indicates that various forms of horses were present in North America until roughly 12,000 years ago. Then, something happened. During the Pleistocene, all native horses in the Americas died out. However, horses did not represent the only extinctions. Their demise coincided with the extinction of many other American megafauna of the time. What happened? There are numerous theories. Among them are: climate change, vegetation change, disease or over harvesting by the newly arriving huntersmen of the Clovis culture. The last theory is often seen as unlikely given the limited number of huntersmen and the overwhelming number of extinctions. However, paleobotanists recognize a fundamental shift from grassland ecosystems to less palatable shrub tundras during this period. This points more heavily to the first two theories.

Among the horse species in existence prior to the extinction event were Equus ferus and Equus lambei (a.k.a. Yukon horse). These are referred to as North American caballid horses as they closely resemble our modern horse (Equus caballus) in most features, including walking on single toed hooves. Had any of us seen them alive, we would have easily recognized them as medium sized ponies. Equus ferus was a widespread species found in North America, Europe, Eurasia and Berengia. Following it’s extinction in the Americas, it became somewhat rare over the rest of its range.

Equus lambei, the Yukon horse, is be-

lieved to have been the last species of horse to go extinct in North America. It was a small animal, standing about 12 hands high. In the early 1990s, miners on Last Chance Creek in the Canadian Yukon uncovered the deeply frozen remains of a Yukon horse while doing excavations with a backhoe. Like many of the well-known frozen mammoths, this carcass had intact portions of hide, flesh, intestinal contents and hair. Scientists have been fortunate with Yukon horses and have been able to recover superbly preserved bones and fossils in addition to deeply frozen carcasses. This allows us to have some insight into their diet, color, size and genetics.

The particular animal recovered from Last Chance Creek was a pale colored male that had apparently died during the coldest part of the year – due to the apparent quick freezing and preservation of the carcass. Interestingly, tooth marks on the leg bones indicated that it had either been killed or scavenged upon by ancient wolves.

Dr. Ann Forsten of the University of Helsinki in Finland studied the mitochondrial DNA of Yukon horse. Mitochondrial DNA is genetic material we receive from our mothers and is passed on generation after generation. It is often helpful in establishing family lineages, at least through the mother. After accounting for known mutation rates of mitochondrial DNA, Dr. Forsten concluded that the mitochondrial DNA of Yukon horse was “equivalent” to that of our modern horses. This does not prove that they are genetically the same horse. However, it does point to the idea that they may be closely related.

It is believed that the modern domestic horse was specifically bred from several wild varieties by Eurasian herders. It is probable that populations of horses like Equus lambei or Equus ferus, having migrated out of the Americas prior to the extinction event, contributed genetically to our modern horse.

If horses experienced a complete extinc-

tion in the Americas during the Pleistocene, then how did our current horses get here? We can credit early European explorers for bringing the modern horse to the New World. Between 1492 and 1503, Christopher Columbus explored the Americas. It is recorded that thirty horses accompanied him on his second voyage. These horses did not make it to the North American mainland, but did set foot in the Caribbean islands. Hernan Cortes transported sixteen horses with him when he traveled to Mexico in 1519. The native people had never seen such a creature and were at first reported to have been terrified. In 1539, a large shipment of horses arrived in what is now Florida with Hernando de Soto. He reportedly arrived with a cargo including two hundred horses. Definitely not to be outdone, Francisco de Coronado arrived with a massive herd of at least one thousand head to explore the desert southwest. Many more horses would follow, accompanying various explorers and settlers. Some escaped to the wild, while others were bred, sold, traded and stolen - all the while gradually moving across the continent. By the early 1900s, horses in the United States numbered in the millions.

In 2006, the United Nations Food and Agriculture Organization estimated the global horse population to be approximately 58,372,000 head. The United States was listed as the country with the most horses, an estimated 9.5 million head. In 2012, U.S. census bureau data indicated horses were found on 507,795 farms and ranches across America.

It is indeed interesting to ponder these numbers in light of the horse’s complex history. From Eohippus to the Pleistocene extinctions, from their spread through Europe and Eurasia to their fateful encounters with humankind – the story of the horse around the world and back again is truly amazing.

10 EASY STEPS TO KILL YOUR BUSINESS

1. DON'T ADVERTISE... Just pretend everyone knows what you have to offer.
2. DON'T ADVERTISE... Tell yourself you just don't have time to spend thinking about promoting your business.
3. DON'T ADVERTISE... Just assume everyone knows what you sell.
4. DON'T ADVERTISE... Forget that there are new potential customers who would do business with you if they were invited to do so.
5. DON'T ADVERTISE... Convince yourself that you've been in business so long customers will automatically come to you.
6. DON'T ADVERTISE... Forget that you have competition trying to attract your customers away from you.
7. DON'T ADVERTISE... Tell yourself it costs too much to advertise, and that you don't get enough out of it.
8. DON'T ADVERTISE... Overlook the fact that advertising is an investment in selling - not an expense.
9. DON'T ADVERTISE... Be sure not to provide an adequate advertising budget for your business.
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