

A LETTER TO A GEOLOGIST

Hello Nick Zentner

My name is Kevin Bruch. Some time ago, I sent Skye Cooley a copy of my book (I've sent copies to numerous other scientists), 'The Last Old Growth Sawyer, World Saving Solutions'. Available on Amazon.

I therefore assume that Skye spoke to you about my Lake Missoula theory, which presents new evidence and conclusions (chapter 5)

Your recent YouTube offering: Ice Age floods A-Z, reveals your undeniable passion for not only Geology, but also the Lake Missoula mystery. I'm therefore assuming that your intellectual curiosity has encouraged you to read my book, if I'm mistaken, it would be my pleasure to send you a free signed copy.

As you've discovered (again, I'm assuming you've read my book), my breakthrough theories span well beyond the Lake Missoula outburst and I believe, solve a wide array of other ancient Pleistocene mysteries, such as: How the Grand Canyon was formed, the true driver behind the Milankovitch cycles and why the CO2 lag occurred. Along with how ancient Man's misuse of fire led to the Lake Bonneville/Missoula floods and ultimately, the Mega Fauna mass extinction event.

My most important realization however, came with the understanding that our political system is solely responsible for causing modern Climate Change. It began with the poor political decision to adopt a nationwide fire suppression policy in 1905. This unscientific decision unintentionally permitted and protected the merging of two incompatibly evolved forest types (fire adapted and fire-intolerant. AKA: inter-glacial and Wetland/glacial).

High CO2 levels aren't the problem. They're part of the solution.

Modern Climate change is the reemerging of a prehistoric drought known as the Altithermal, which is a consequence of the Megafauna mass extinction event.

Prior to that long ago die-off, nature can only be described as a 'Garden of Eden-like' system.

For the last 11,600 years, we've been living within the shattered ecological remnants of that broken system.

The extinction event removed several components, which deactivated the **Pleistocene moisture conveyance**, which was a function of that ancient co-evolved floral/faunal mechanism (it's repairable).

The Mastodon was the keystone component. Throughout the Pleistocene, this elephant-like animal maintained the separation between the two incompatibly evolved forest types. Accomplishing this feat by removing and consuming the lower 'highly-flammable' limbs from the shade-tolerant/fire-intolerant/wetland/glacial tree species (Spruce and others). Thus ensuring lightning caused fires didn't climb up into the forest canopy, but stayed on the ground, where it burned slowly and beneficially across the forest floor.

Several other components from the North American system were also lost, which include among others, a wide array of grazers (Horses, Mammoths and many others). These grass eaters played an

indispensable role in maintaining the functionality of the Pleistocene mechanism. The Alkaline rich droppings deposited by those animals countered the acidic forest floor accumulations produced by the trees. This floral/faunal interaction quickly built and sustained a nutrient rich topsoil with a Ph of 7 (neutral), which is the sweet spot for most grasses, wildflowers and fire adapted tree species.

This Ph clue just screams that the Mammoths resided under a high canopy of a fire-adapted/inter-glacial forest and not the bleak treeless landscape, which is so often depicted.

After the collapse of this specific plant community (inter-glacial), which is half of a two part catalyst system, the system was unable to reboot.

The enormous glaciers that once covered, what today is Canada, slowly melted. Eventually, an unrelenting drought, known as the Altithermal, descended upon many global regions, including the Great Plains of North America (8,000-5,000 years ago).

I believe the evidence clearly shows that at about 5,000 years ago, the Native Americans began their long held traditions of frequently burning the landscape. Doing so in a wise and timely manner (many other aboriginal people around the globe also managed their natural surroundings with fire). This trial by fire permitted the sporadic reassembling of fire adapted plant communities, which once again allowed the fire prone areas to begin flourishing. This in turn allowed the surviving Grazing species to begin thriving.

This trial by fire also forced the 'fire-intolerant/wetland/glacial trees' to reside within places of elevated moisture, where they found both fire safety and prosperity.

Many glacial tree species thrive in acidic soils (Ph 4-6), which is an undeniable indicator, that during the Pleistocene, this fire-intolerant forest had developed 'in the absence' of fire and large grazers. The acidic soil not only supported a glacial forest, but also a broad diversity of forest floor plant species. This vegetation supplied the nutritional needs for many species, which included smaller animals and browsers.

The severe contrast of forage types between these two very different ecosystems (inter-glacial and glacial) pinpoints why the Megafauna suffered a far greater extinction rate when compared to that of the smaller animals and browsers.

This happened, because the large Grazers were completely dependent on the grass/wildflowers produced by the fire-adapted 'inter-glacial' plant communities, which slowly disappeared as the Anthropogenic burning intensified (described in my book).

The wetter glacial ecosystems, which supported the smaller browsing animals fared far better, because it was wet and therefore, limited or eliminated fire's deployment within this habitat. The survival of these moist sanctuaries explains why so many smaller animals survived, which included Moose, while almost all of the Super Megafauna species (over 1000 lbs.) went extinct.

That ancient Anthropogenic deforestation, which was conducted by an unknown people had been purposefully destructive.

The more recent Native American burning traditions were beneficial and possessed climate stabilizing qualities. The Native American's had succeeded, because they'd unknowingly reactivated the two part catalyst system. Doing so by separating the incompatible plant communities.

Although anemic and different, the Native American burning replicated the actions of the Mastodon by reinstalling and thereafter, maintaining the plant community separation.

Nature began healing: The Altitheal slowly went dormant...The climate stabilized (somewhat)... Global populations began rising...

The Bison, which was the sole surviving super Megafauna, began rebounding, but reemerged a much smaller animal.

The Federal political class ended those long held climate stabilizing traditions when they officially adopted their nationwide fire suppression policy in 1905. The primary reason for this policy was to protect the product value of the western forests.

Five years later (1910), massive conflagrations raged across several western States, revealing a harsh reality. Stopping wildland fires would be a challenging undertaking. Undaunted, the Federal political class doubled down on fire suppression by passing the 1911 Weeks Act, which dramatically increased fire fighting funding for the Forest Service.

Almost everyone, including the Federal Politicians remain unaware of the problem posed by the two incompatible tree types.

This unprecedented Fire suppression enforcement is polar opposite to the evolutionary realities of nature and the Native American burning traditions. Contrary, because it unnaturally and unintentionally gave preference and protection to the fire intolerant tree species, which allowed these shallow rooted, 'thin barked' trees to infiltrate and begin growing under the high canopy of the fire-adapted Old Growth Forests. Where they soon began intercepting the water before it could reach the much deeper tap roots of the 'thick barked' Old Growth. Thus causing decades of drought stress (most of those sentinels of time have long since succumbed).

As the decades passed, the shade-tolerant/fire-intolerant trees, which resist losing their lower limbs, created a fire ladder into the high and highly-flammable limbs of the Old Growth canopy.

Many intellectually honest Scientists/Foresters tried to warn the Political class about the potentially apocalyptic transition occurring within the western Forests (Powell, Koch, Leopold, Stewart and many others). They were all either ignored and/or destroyed by a political system endowed with the power to protect itself from its own failings.

The National Park system adopted the 'Let it burn' policy in the 1960s. Doing so, in a desperate attempt to reverse the damage, but this correct decision proved too late to succeed. The massive and often unstoppable canopy fires became endemic during that same decade (1960s). The decades that followed saw the conflagrations exponentially grow in both size and intensity.

Thus signaling, it was now far too late to utilize fire as the sole restoration agent. Something unprecedented is needed. I possess that something.

In the late 80s, as an Old Growth Sawyer, I became aware of the problem from stories passed down by my Old Growth cutting ancestors. The Old Growth forests I was employed within were very different from my forefather's descriptions. They told of an open park-like forest with a vibrant carpet of grass and wildflowers. That beautiful picture had been replaced with a grotesque scene of empty abundance. The grass and wildflowers were all but gone. In their absence stood hundreds and sometimes thousands of small fire-intolerant trees per acre. The forest had grown unnaturally dense. It was painfully obvious that 'this' was the cause of the massive and often unstoppable canopy fires.

Strangely, the modern environmental movement didn't pursue the innovations required to reverse this apocalyptic transitory trajectory (I go into the historic details as to why this happened in my upcoming book, I'll send you the relevant chapter).

For reasons that I reveal in my first book, I set out 'long ago' to innovate a restoration industry. One that could remove those small non-merchantable trees, while protecting and permitting the fire adapted trees to live out their entire lifespans on the fire prone aspects.

At that time, I possessed limited knowledge about the Pleistocene and the Megafauna extinction event. I was however 'correctly' convinced that somehow, the Native Americans had become the indispensable maintainers of fire resistant forest structure.

By 2003, I possessed that breakthrough concept industry (all Foresters, Wildland firefighters and loggers, who are familiar with its inner workings, unanimously agree).

Unfortunately, the American populous remain blissfully unaware of the transition and its apocalyptic consequences.

The concept industry, along with my initial understanding about the transition came entirely from my ancestors, Foresters and the innovative 'hard working' Gypso culture of NW Montana. Sadly, that culture is now all but gone.

In 2003, the political landscape had devolved into political tribalism with two opposing questions: 'should we or shouldn't we log'. Neither side, then or now, are open to hearing anything that falls outside of those political narratives. Ironically, my concept industry possesses the answers each desire.

So with nowhere to appeal and refusing to pick sides, I continued the pursuit. Starting in 2005, I turned to the treasure trove of material produced by Academia.

This deep look into the Pleistocene is owed entirely to the books and studies written by countless and often unsung scientists.

It began with Stephen Arno's book, 'NORTHWEST TREES', which describes the unique characteristics of the many wildly diverse western tree species. This deep dive led to an obvious question, why are these trees so different from one another? This guided me to the Pleistocene and in turn to the dietary requirements of the now extinct Megafauna. This pathway eventually permitted me to recognize and reassemble the Pleistocene's co-evolved floral/faunal mechanism, along with its basic functionality.

Omer Stewart's aptly named book, 'FORGOTTEN FIRES', provides clear evidence of how, why and when the Native Americans frequently burned the landscape. This led to another question, what would Man do when we first learned to control fire? Would we simply cook meat, while warming our hands

around a small camp fire... or would we use fire to its full and often destructive potential. The answer is so obvious it needn't be said.

Utilizing the Arno/Stewart questions as a sort of Rosetta stone, I poured through thousands upon thousands of scientific studies (including some written by the scientific guests featured on your ice age flood A-Z series).

During one of your episodes, you stated something like, 'science shouldn't be behind a pay wall'. I couldn't agree more.

So in that spirit, I propose something unprecedented: I grant you full permission to read my book on your YouTube channel (I own all publishing rights). This reading will allow scientists from pertinent disciplines to scrutinize my many theories (I will provide written clarifications/defenses as questions/challenges arise). Thus providing the World's population with an interactive front row seat, while my theories and the current climate change narrative is scientifically challenged (Functioning as a proto 4th Branch of Government).

Al Gore (Politician/Lawyer) in his 2006 movie, 'Inconvenient Truth', popularized the notion that the rapid increase of atmospheric CO₂, which occurred during the 1960s was the sole product of the burning of fossil fuels. He then went on to make his grim apocalyptic predictions about Global Warming.

Several scientists challenged his theory, but soon discovered that it was detrimental to the health of their careers to question a protected political narrative.

Gore's theory is easily debunked.

A quick look at the CO₂ graph reveals that during World War 2 (1939-1945), CO₂ nearly flat lined. If Gore's theory was correct and fossil fuel burning is solely responsible for the upward spike, then CO₂ should've began shooting up in the early 1940s, but it didn't.

CO₂ didn't spike in the 1940s, because the vast quantities of CO₂ emitted by the War was being sucked up and stored within the woody fibers of billions of fire intolerant/glacial trees. These trees were growing unnaturally thick upon the millions and millions of fire prone forested acres.

Most 'civilized' nations around the globe soon followed America's 1905 example and also adopted fire suppression, which likewise dramatically, unnaturally and temporarily increased CO₂ sequestration.

The Conflagrations that began in the 1960s started releasing huge amounts of that stored CO₂ back into the atmosphere, which corresponds with the spike on the graph. As the decades passed, the subsequent canopy fires continued increasing in both size, intensity and frequency and are also represented on the graph.

Climate change is real, but CO₂ isn't the problem (A healthy forest absorbs heat). Again, what we are experiencing is the reemerging of the prehistoric drought known as the Altithermal.

The mass extinction event, in which I've been describing, isn't the first Megafauna mass extinction caused by Man. Another Megafauna extinction event took place after Man first entered Australia (~50,000 years ago). Prior to our arrival, a vast rain forest was slithering with large strange animals. Many were the things of nightmares, which included giant snakes and huge lizard-like beasts. These terrifying

creatures could easily, and likely did, consume some of those first arriving interlopers. This speculation is based on the limited evidence available, but the timing is telling... Sometime after our arrival, that rainforest disappeared, along with those terrifying animals... Did we burn that forest off? Doing so, in order to kill those monsters? Seems likely, because today that area is occupied by a fire adapted plant community...

Another unsolved mystery is that of the piles of Mammoth bones. So many bones reside in a few locations in Asia that they're referred to as Mammoth graveyards. Some have speculated that individual Mammoths must have known they were about to die, which caused them to walk over and lay down on the pile and die. This theory is wildly unrealistic.

It seems more likely that Man was using fire as a method of herding/hunting. This hunting scheme would've caused the Mammoths to become terrified and run from the approaching fire. The Mammoths would've raced towards water (if available) in a desperate attempt to escape. Where many became trapped and/or submerged within muddy bogs.

One of those Mammoths was recently found in the permafrost. It still had yellow bells and Larch needles in its mouth (Larch is a fire adapted tree specie, which once again, supports the picture of Mammoths roaming under a high inter-glacial forest canopy).

Ancient Man is responsible for dismantling that ancient Garden of Eden-like system. It's not only repairable, but today's higher atmospheric CO2 levels will prevent the massive glaciers from returning.

When the two part catalyst system was fully operational during the Pleistocene, each of the oppositely evolved forest types produced a vital weather ingredient. The Glacial/wetland trees emitted large volumes of water vapor, while the inter-glacial trees (Ponderosa pine and others) produced an aerosol called 'Pinene'. The water molecules attached to the aerosol and made rain clouds. Thus creating what I call, 'THE PLEISTOCENE MOISTURE CONVEYANCE', which delivered water deep into the Continent, including the North American Great Plains (the Black Mat is the extinction boundary and was wet when the Pleistocene collapsed).

The water conveyance also fed numerous pluvial lakes, which were a long term Pleistocene feature throughout the southwestern portion of North America.

The shattering of the co-evolved mechanism ended the moisture conveyance. In the aftermath, the pluvial lakes slowly dried up and turned into deserts.

My concept industry replicates the functionality of the Mastodon through mechanical proxy. This reimagining of forestry will eventually reactivate the moisture conveyance.

This new way forward will nurture nature back to its former functional self and allow future generations to live in harmony with nature...

We're at a crossroads... We can either begin reversing what has already begun and create the future just described... or do nothing, which is far too terrifying to contemplate...

Respectfully yours

Kevin Bruch

The Last Old Growth Sawyer

P.S. During your recent series, several of your scientific guests provided clues supporting the idea of one giant Lake Missoula flood. When you reach the Lake Missoula portion of my book... I'll reveal why, I believe, the Clastic Dikes hold the answer.