

## Jim Lindsay's Biography and Travel-log 2016

Becky and I made our first trip of the year of 2016 in March, on a Caribbean Cruise. We had our friends, Mike and Lisa Stevens, join us. Our first memorable stop was on the Island of Dominica. Mike and I made a very long and strenuous hike to the world's second-largest boiling lake in the center of the Morne Trois Pitons National Park. Along the way, we crossed the Valley of Desolation, which had a bizarre landscape of little vegetation, brightly-colored hot springs, and clouds of sulfurous steam billowing from fumaroles. The Boiling Lake's bubbling blue-grey waters were shrouded in clouds of steam. The Boiling lake is not a volcanic crater lake but is thought to be a fumarole flooded by rainwater and streams.



Becky and Lisa hiked to the famous and popular Trafalgar Falls where they took the picture on the upper-right. Becky is posing to the left of the falls in a white t-shirt.

Later on the cruise we visited the notorious Mount Pelée Volcano at the northern tip of the island of Martinique. On May 8, 1902 it erupted, destroying the coastal town of St. Pierre and killing around 28,000 people. Inhalation of hot ash and fumes from the eruption managed to kill everybody within a matter of just minutes. Only two people within the town survived the blast, including a man who was contained in a poorly-ventilated jail cell,(pictured below), at the time. He was rescued after four days, and went on to become a minor celebrity. Below, Becky is standing in front of the ruins of St. Pierre. You can still view the jail cell mentioned above near where Becky is standing. Mount Pelée is seen behind Becky and I'm standing by remnant statue.





In June of 2016 Becky and I took a week long road-trip to Montana to visit Glacier National Park. Pictured below on the left, we visited Lake McDonald, the largest lake in the Park. Surrounded on three sides by towering Rocky Mountains that rise 2,000 meters into the sky, the view is sensational, with white alpine glaciers hugging the jagged upper slopes of the mountains and lush green forests covering the lower slopes.



Later, we visited St. Mary Lake, pictured on the upper right. St. Mary Lake is a beautiful, glacial blue lake in one of the most perfect settings imaginable. On three sides it is surrounded by the steep Rocky Mountains, and on its eastern shore, it gives way to a rolling prairie and forested hills. While Becky and I were in the Rocky Mountain Park we saw Rocky Mountain Sheep, Mountain Goats, Bald Eagles, and a Grizzly Bear. Below, on the right, I'm standing in front of the Lewis Mountain Range to the east, which acts as a rain block to the clouds whose moisture supports a rich, dense forest of western red cedar and hemlock trees, (pictured below left).



Pictured above right, Becky and I visited the National Bison Range on the way home. In Montana, it is home to some of the very last remaining plains bison, whose population plummeted from 50 million to less than 1,000 because of overhunting. The refuge encompasses a group of magnificent hills in the beautiful Flathead Valley, and includes a rich variety of habitats such as prairie grasslands, mountain forest, wetlands, and river bottom woodland.

During July of 2016, Becky was asked to sing at a wedding in Disneyland. While we were there we visited the Rancho La Brea Tar Pits in Los Angeles. Below are photos of our visit.



At Rancho La Bra, semi-solid asphalt oozes from the ground to create tar pits. Formed beneath the sea over millions of years, the crude oil began seeping through rock fissures after earthquakes raised California's seabed 40,000 years ago. Incredibly sticky, but with a deceiving layer of water, the pools acted like giant flypapers. La Brea's pools have been fooling herbivores, carnivores and scavengers for millennia---those that entered the pools became trapped and suffocated in the deep glutinous deposits,

entombing extinct species such as the giant ground-sloth, camel, tapir, mammoth, saber-toothed cat, mastodon, panther, sub-nosed bear and the dire wolf. With literally millions of fossils excavated, La Brea is one of the best-known fossil communities in the world.

In August 2016, I went on a trek to the United Kingdom. The first place I visited were the White Cliffs of Dover. Below left, I'm standing just above the cliffs near South Downs of Sussex, looking across the English Channel towards France. Below right, I hiked along the top of, "The Seven Sisters". The Seven Sisters is the name given to a line of majestic undulations in the chalky cliffs. The calcareous parts of tiny marine algae and seashell fragments formed white chalk ridges under the sea some 130-60 million years ago. The sea constantly chaffs the chalk, undercutting the cliffs and leading to regular rockfalls. As a result, the cliff faces are continually refreshed, revealing a never-ending treasure of fossils. The cliffs recede about 12-16 inches a year.



My next visit was to the Needles. Shown below left, The Needles, in Alum Bay, mark the end of a ridge of chalk that runs through the Isle of Wight. Here, they rise about 100 feet above the sea, isolated as the soft chalk of the headland erode away. In early December 1897, Guglielmo Marconi set up his revolutionary wireless equipment in the Royal Needles Hotel, above Alum Bay, and sent the very first wireless transmission. The Isle of Wight was also home of the famous scientist Robert Hooke. Below Right is a photo of me, standing above another set of Chalk cliffs, near the village of Studland, that features beautiful promontories, sea stacks, and natural arches. Here, erosion has separated Old Harry Rocks from the mainland. Old Harry, the name of the isolated stack shown, is a medieval name for Satan, while the land on the clifftop opposite is called Old Nick's Ground---another nickname for the devil.



Below left, I'm standing near Durdle Dor. Durdle is truly one of nature's marvels, and one of the most photographed subjects along Dorset's Jurassic Coast. This giant limestone arch straddles the sea at the eastern end of the Durdle Dor Cove. Carved by the pounding southwesterly waves, the softer rocks have eroded, leaving the more resistant Portland stone standing firm. These rocks were laid down between 135 and 195 million years ago, in the Jurassic period when southern England was under a tropical sea. Below right, I'm standing on the Jurassic Coast near Lyme Regis. This area is a paleontology hot spot, and provides a complete record of every stage of the Jurassic. The fossils of new species are still being found there today. In the Purbeck Formation, on this beach, the Jurassic to early Cretaceous terrestrial sequence is one of the finest in the world. Recently, the Jurassic Coast achieved World Heritage Site status. This is where Mary Hanning's discovery of the first ichthyosaur and plesiosaur, that shot her to fame and became, perhaps, the most important fossilist of the 19<sup>th</sup> century.



While in Dorset, England, I visited the Chesil Beach. Chesil Beach is a shingle barrier ridge, with sheltered lagoons behind, stretching 18 miles from Bridport Harbor to Chesil Bay in the Isle of Portland. At the Portland end, the pebbles are the size of hens' eggs, yet 15 miles away at West Bay, the pebbles are the size of peas. In between, they decrease steadily in size so perfectly that fisherman beaching at night can tell where they have landed just by the grade of stones underfoot. 98.5 percent of the rocks are chert pebbles, while the remainder is quartzite, quartz, granite, porphyry, metamorphics and limestones. Nearby, below on the right, I visited the largest and best preserved of England's hillside figures carved into the green turf near the village of Cerne Abbas. He is uncompromisingly pagan; 180 ft. tall, brazenly naked with an erect phallus, his ribs and nipples delineated. In his raised hand he wields a knobbed club 121 ft. long; his left arm is outstretched and he may once have held an object in his left hand. The giant effigy of a naked man may have been nurtured as a fertility symbol for nearly 2000 years.



Nearby, I visited the incredible rock formations and stunning scenery around Lulworth Cove. Below left, the oyster-shaped cove was created over thousands of years, as the sea broke through the Purbeck and Portland limestone

cliffs and began to erode the softer clay and chalk behind. On one side of the cove, the Middle and Upper Purbeck rock strata are contorted and folded into the “Lulworth Crumples,” one of which is in the back of the cliff at adjacent Stair Hole. Below right, is an image of three concrete acoustic mirrors built, near Dungeness, in the 1920s and 1930s as a simple early-warning system against an air-borne attack from across the English Channel. The giant mirrors were built as a response to the bombing of Britain during the First World War, when Germany had used Zeppelin air ships and conventional aircraft to bomb various cities around Britain. The mirrors were designed to detect approaching enemy aircraft by listening for their engine noise. They are, 240 ft., 180ft., and 24 ft. in diameter.



On my trek, I continued west to the bleak beauty of the Dartmoor National Park in Devon. This park has inspired many artists and writers, perhaps most famously Sir Arthur Conan Doyle, whose Sherlock Holmes adventure “The Hound of the Baskervilles” was set on the moor. Below, left, I’m standing near the Hound Tor, one of the most impressive of more than 160 granite outcrops----spectacular landmarks that provide marvelous views of the surrounding countryside. Dartmoor ponies, which roam free on the moor, are easily seen. There are numerous prehistoric standing stone circles found nearby. Below right, I also visited the Cadbury Castle Site. Here, Cadbury was well sited to fend off West Saxon assaults from the Channel coast. The hill-fort was referred to as Camelot by the 17<sup>th</sup>-century writer John Selden, and among all the sites that have claimed the title, there is no stronger contender.



My next visit on the trek was Glastonbury. If a special aura has long been attached to Glastonbury, it must have something to do with its Tor, a hill that rears up with dramatic suddenness from the flat landscape of the Somerset Levels. A realm of fairies in ancient myth, the hill is crowned by a solitary tower, which is all that survives of a 13<sup>th</sup> century church dedicated to St. Michael. Legend asserts that Glastonbury’s ruined abbey was founded by Joseph of Arimathea, (who prepared the body of Christ for burial). Nearby, the grail is supposed to be hidden in the

Chalice Well, which lies between the Tor and the Abbey. The waters in the Well are rust-colored due to their iron content, but tradition asserts that the redness comes from the blood seeping from the sacred vessel. King Arthur and Guinevere has also been claimed to be buried here in the Abbey.



Next on my trek, I visited the Wookey Hole Caves. The dry portion of the cave offered safe habitat with a constant temperature of 50°F. The first human lodgers came some 50,000 years ago, hunting bears and rhinoceros with stone weapons. Archeologists believe that one cave, Hyena Den, was alternately occupied by hyenas and man between 35,000 and 25,000 B.C.. In the Iron Age, Celtic farmers lived near the cave entrance for more than 600 years. Wookey Hole is the birthplace of British cave-diving, and the museum covers this during the tour. Below left, I've taken a photo of a very strange formation found at the lowest level of the cave. Below right, I'm posing, near Wookey, at Cheddar Gorge, a steep, narrow limestone gorge surrounded by cliffs near the town of Cheddar. It runs through the Mendip Hills. It is the largest gorge in Great Britain, dropping to a maximum depth of 370 ft. and attracts 300,000 visitors a year. The rocks of the gorge date back to the Carboniferous period, from about 280 – 340 million years ago. The gorge was formed about 18,000 years ago, as glaciers over Britain melted and huge volumes of meltwater eroded the limestone into the shapes we see today. Britain's oldest complete human skeleton was found in a Cave within Cheddar Canyon—9,000 yr. old Cheddar Man.





My next stop on the trek was to visit Stonehenge, pictured above. Interestingly, among the huge megaliths looming dramatically against the skyline at Stonehenge are some 80 blue-grey stones that form two incomplete rings in the middle of the monument. Known as 'bluestones', they are volcanic in origin and have no business being on the chalk downland---they are known to come from the Preseli mountains in south-west Wales, (240 miles away). They weigh up to 7 tons each. Outside the bluestones, 56 equally spaced holes were found. These Aubrey holes appear to have contained cremation burials that are dated 2750-2100 B.C.. Between 2000-1100 BC the bluestones were repositioned and the larger sandstone megaliths were erected. Averaging 30 tons each in weight and 16 ft, the giant sandstone blocks were connected by lintels (cross-pieces) shaped in a slight curve so that when fitted together they made a circle running around the top, with careful crafted ball-and-socket joints linking the lintels to the upright stones for stability. The uplands around are littered with standing stones, barrow tombs and other monuments. Stonehenge is the supreme achievement, and most archaeologists today agree that its purpose was religious, and probably also astronomical. With the help of a computer, the US astronomer Gerald Hawkins has proposed a number of important alignments: sightlines for the rising and setting of both Sun and the Moon throughout the annual calendar, as well as more complex astronomical calculations that include the movement of the constellations and the prediction of eclipses. The big Megaliths were found to come from Avebury, 60 miles away. So I decided to take a trip there. Below left, is a picture of the immense stone circle in Avebury, Wiltshire. Following a walk-way of stones that aligns with the Winter Solstice, to another a post circle, and then to another Stone walk-way towards the Summer Solstice, I approached the Silbury Hill, 3 miles away. Silbury Hill is a colossal man-made mound that rises to 130 ft. from the base that cover 5 acres of ground. Below right, the flat-topped cone, likened to an upturned pudding basin, and was begun more than 4000 years ago and remains the biggest man-made hill in Europe. About 56 million basketfuls of clay, turf and chalk are reckoned to have been needed. I'm standing in a nearby crop-circle that I found near another large barrow-tomb I was investigating. This barrow tomb enabled me to walk inside it for 200 ft. and it was also aligned with the Summer Solstice.





Below left, is a picture of the Whitehorse Hill. Surging to 856 ft. from its ridge on the Berkshire Downs, the summit of White Horse Hill commands panoramic views out over the ancient heartland. This bold, barbaric image is branded into an English down-land crest just below the Iron age hillfort of Uffington Castle. The image was probably carved around 100 B.C. Later, I visited the Severn Bore. Bimonthly, the River Severn located in Gloucestershire, is the focus of a truly spectacular natural phenomenon---a surge wave called the Severn Bore. This can appear as a glassy swell, a monstrous, breaking wave. It tears upstream, against the natural current, at speeds of up to 13 mph. Twice a year, it transforms the peaceful river into an inland surf zone, and dozens of surfers compete to see who can ride it the farthest. As the tide rises, it meets hard-rocked river banks. These restrict the movement of the water and this, combined with the ridges of the river bed, holds up the water and stops it from flowing forward. A wall of water then starts to form that is eventually funneled into the Severn estuary. As the River Severn gets shallower and narrower, the wall of water gathers speed and becomes much larger, forming a large wave or bore. The largest bores occur one to three days after a new or full moon, and the most impressive ones are during the spring tides. This is considered to be the 2<sup>nd</sup> largest bore wave in the World.



Below left, I'm on top of "The Wrekin". Wrekin Hill, near Telford in Shropshire, is said to be the oldest hill in England, and was reputedly used by J.R.R. Tolkien as inspiration for Middle Earth in "The Lord of the Rings". The 1,300 ft. hill is made of volcanic rock. During the late Precambrian period, Shropshire lay under a shallow sea, and earthquakes formed major faults in the Earth's crust. The Wrekin is very close to the largest fault, the Church Stretton Fault.



Above right, my selfie is of, “The Roaches”. The Roaches form a gritstone escarpment of unusually shaped rocks that mark the southwestern border of the Peak-District National Park. They consist of two jagged ridges---a Lower and Upper Tier---connected by a set of rock-steps. They were created 350 million years ago when a shallow sea allowed sand and grit to build up over a coral reef that once covered this area. These sediments were compressed over time into solid rocks that are free of faults. The ice age and thousands of years of weathering have worn the rugged rocks into a fantastic eye-catching assemblage.

Below left is a picture of my visit to the “Iron Bridge”. If any-one object marks the beginning of the Industrial Revolution, it is the graceful span of the eye-catching iron bridge in the town and the gorge to which it gave its name. With a central span of 100 ft., the bridge was erected in 1779 and was a rapid feat of construction built within 3 months, without hampering the passage of boats on the river in the least. A leading local ironmaster, Abraham Darby, had invented a new process for smelting iron with coke instead of charcoal, which enabled it to be produced much more cheaply and quickly.



Above right, I’m pushing on one of the rock formations found at “Brimham Rocks”. These rocks are scattered over some 50 acres on the Brimham Moor. The creation of these rocks began in the granite mountains of northern Scotland and Norway. Approximately 320 million year ago, an enormous river sluiced grit and sand from these mountains, forming a huge delta that covered half of the area of Yorkshire today. Layers of this grit and sand, along with rock crystals of feldspar and quartz, built up to form a tough sandstone known as millstone grit. Between 80,000 and 10,000 years ago, glaciers eroded these rocks into the bizarre shapes on view today. Their tiny plinth-like supports, like the one I’m standing next to, were caused by fluvial sandblasting at lower levels which wore away the softer layers of rock.

Below, I'm at the "Gaping Gill" Cave. It was raining very hard that day and when I got there from the 3 mile hike, there was only one fellow there to watch over the cave entrance. I talked him into lowering me down in the elevator built at the entrance in. It was against the rules and dangerous, but worth the photo on the right with the underground waterfall.



The Yorkshire Dales are a series of glaciated valleys carved into the upland area of the central Pennines, the central mountain ridge of England that extends from the north Midlands up to Scotland. Below left is a photo of a region that is one of the major karst areas in Britain, where many spectacular limestone features including reef knolls. My selfie is of the Scosthorp Moor above Settle. The carboniferous limestone is porous, and the hills of the Yorkshire are riddled with limestone caves and potholes. Nearby, England's Lake District was carved out of granite mountains by mighty glaciers during the last ice age. 10,000 yrs. Ago, the glaciers retreated and the meltwaters accumulated in a hollow to a depth of 258 ft. creating, "Waste Water", the deepest lake in England. Below right, I'm standing in Wasdale Valley, next to "Waste Water", where this remote and rugged place is surrounded by mountains, including England's highest mountain, Scafell Pike and the magnificent Great Gable with its distinctive rock pinnacle, known as the Napes Needle.



Next on my trek, I visited the "Bowder Stone". The Bowder Stone, (below left) looks like a house balanced on one corner. While geologists cannot agree on its origin, they do agree that the mighty Bowder Stone of Borrowdale,

Cumria, is perhaps the largest single block of rock in the world and may be one of the oldest. Perched precariously on its narrow base, the Bowder stone is a huge mass of andesite lava from the Ordovician age that lies below the slopes of “King’s How”, between the villages of Grange and Rosthwaite. A glacier may have carried it from Scotland and deposited it in its current location. The next day, I continued to, “High Force Waterfall”. Found at the end of a lovely woodland walk, “High Force Waterfall” squeezes through a small 10 ft. gap. From its birth on the eastern slope of Cross Fell, the River Tees gains momentum and volume until it reaches the “Great Whin-Sill” escapment. It then cascades over a fault in the basalt intrusion and thunders down a 70 ft. drop to the pool below, where I’m standing, (below right).



Next on my Great Britain trek, I visited the Woolsthorpe Manor. Woolsthorpe Manor in Woolsthorpe-by-Colsterworth, near Grantham, Lincolnshire, England, is the birthplace and was the family home of Sir Isaac Newton. He was born there on 25 December 1642. Newton returned here in 1666 when Cambridge University closed due to the plague, and here he performed many of his most famous experiments, most notably his work on light and optics. Below left, is a photo of the site where Newton, observing an apple fall from a tree, was inspired to formulate his law of universal gravitation. Nearby, I visited the famous Cavendish Lab at Cambridge University, (below center). The Cavendish Laboratory, designed by the great Scottish scientist James Clerk Maxwell, is where atoms were split by sub-atomic particles (discovered by Rutherford, JJ. Thomson and Chadwick), radio astronomy was developed and DNA unraveled (by Crick and Watson). I finished my Great Britain trek by fitting in a visit to Oxford University, (below right).

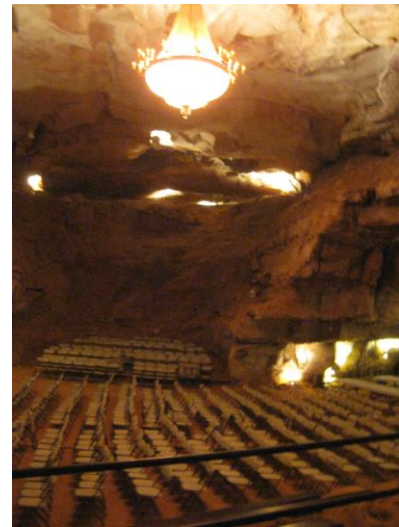


In October, Becky and I went to Tennessee for Fall break. There we visited the X-10 Graphite Reactor in Oak Ridge. The Oak Ridge National Laboratory was created in 1943, at the same time the town of Oak ridge, Tennessee, was built to house the laboratory’s workers and their families. The laboratory was originally created as part of the Manhattan Project to build the first nuclear bomb, and its role was the production of the uranium and plutonium needed for the bomb. Due to the security restrictions, we didn’t get pictures.

After that, we spent a day in Memphis where we visited the original, “Grand Ole Opry”, (The Ryman Auditorium). There, Becky cut a CD with a Professional Disc Jockey, (below).



We stayed near Fall Creek State Park, (below left). The over 26,000-acre (110 km<sup>2</sup>) park is centered on the upper Cane Creek Gorge, an area known for its unique geological formations and scenic waterfalls. The park's namesake is the 256-foot (78 m) Fall Creek Falls, the highest free-fall waterfall east of the Mississippi River. Our next visit was the Cumberland Caverns. Three hundred feet below the surface of the ground these remarkable caverns were formed some 500 million years ago by the erosive action of the prehistoric Gulf of Mexico, which then extended this far north. A stream flows through the entrance gallery into a crystal-clear pool. The caverns follow: the Graveyard, the Popcorn Bowl, and the largest of the tour, the truly cavernous Hall of the Mountain King—600 ft. long, 140 ft. high, and enhanced with curious formations called the Pagodas and the Chessmen. There in the largest portion of the cave we found an auditorium where the locals come to show off their Bluegrass skills, (below right). It seemed to have perfect acoustics.



The next day Becky and I drove to Kentucky. There we visited and explored Mammoth Cave. Despite its many underground marvels, the most impressive feature of Mammoth Cave is its over-whelming size. Nearly 200 miles of passageway have been surveyed. Like most limestone caverns, the labyrinth that makes up Mammoth Cave was formed by water. Between 200 and 600 million years ago a shallow sea covered much of the continent, and seashells and oceanic ooze settled to the bottom, where they gradually hardened to form a thick deposit of limestone. Sand, silt, and clay were cemented into a protective overlying layer of sandstone and shale. Slightly acidic groundwater eventually dissolved openings in the limestone after it had been uplifted above sea level. Dissolved minerals released from water seeping into the cave have created many fantastically shaped formations, which

include some, resembling needles, pendants, flowers, and coils in addition to the more familiar stalactites and stalagmites.

The next day, we visited, “The Lost Sea”. The Lost Sea is the largest underground lake in the United States. It lies deep with a cave system called Craighead Caverns, in the mountains of east Tennessee. Becky and I explored the magnificent underground lake, in an electric powered, glass bottom boat, (below right).



On the last day in Tennessee, we visited the, “The Scopes Trial” courthouse in Tennessee. Here from July 10<sup>th</sup> to the 21<sup>st</sup>, 1925, John Thomas Scopes, a county high school teacher, was tried for teaching that man descended from a lower order of animals, in violation of the lately passed state law. William Jennings Bryan assisted the prosecution; Clarence Darrow, Arthur Garfield Hays and Dudley Field Malone the defense. Scopes was convicted. Later, that decade, the Supreme Court made a ruling that teaching Evolution was legal and creationism was illegal to be taught in a United States Science-Class. Below is a picture of the untouched courthouse, along with the court room. This location changed the history of science and how it is taught in the U.S.



