Geoscapes 2016 – Desktop Calendar

Information and Disclaimer

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Image Information : In the following pages you will find more information on the monthly images displayed in the Geoscapes 2016 Desktop Calendar. For any requests, further questions and general feedback please use the contact adress given on our website at www.mineral-exploration.de/contact.htm.

Enjoy our Geoscapes images and wish you a good and successful 2016 !

Sincerely Yours

Mineral & Exploration Team

Bad Windsheim, Middle Franconia, January 2016

Cover Image : James Island, Mora Beach, Northwestern Coast Washington State, USA

Rugged James Island in fact is a small group of separate islands close to La Push village on the coast of Northwestern Washington. In historic times James Island was used by the local Quileute First Nations as fortress and stronghold in war times. The islands are made of hard sandstones of the tertiary Hoh – Formation, which is strong enough to resist wave erosion for a prolonged time. The scenic area of James Island and adjacent Mora and Rialto Beaches got very popular recently by books and films of the Twilight series founded by authoress Stephenie Meyer.

January 2016 : Schneckenstein Topaz Breccia, Tannenbergsthal, Western Saxony, Germany

The Schneckenstein at an altitude of 883 meter hosts one of the most unusual rock types known to exist on earth. The Schneckenstein rock is a quartz – topaz – tourmaline breccia, which was formed by a pneumatolytic eruption, which means that hot fluor rich gases formed an explosive pipe on the edge of the Eibenstock Granite. These eruption deposited a tumble of fluor and boron rich silicates such as black tourmaline and gemmy topaz crystals, with the oval pipe continuing to a known depth of 775 meter below ground.

Due to its abundance of beautiful and gemmy yellow topaz crystals the Schneckenstein was mined extensively for gemstones during 1727 to 1851, supplying topaz gemstones to the Royal Saxonian Court. Thus the Schneckenstein mine is one of the few places, where gemstones were mined in Germany. Today the Schneckenstein is a nature reserve and mineral collecting in prohibited. However the Schneckenstein rock can be visited and geology students can study the exotic rock breccia in situ.

Topaz Crystals from Schneckenstein,
Source : Max Bauer (1890) : Precious Stones

February 2016 : James Island, Mora / Rialto Beach,
Northwestern Coast, Washington State,USA

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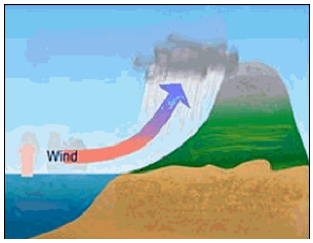
March 2016 : „Namaqualand Daisies“ in typical Granite Landscape,
Springbok, Namaqualand, Northern Cape, Südafrika

Every year in August to October the Namaqualand desert in Northwestern Cape Province is blooming in a myriad of different colours. 400 different flowers erupt in a few days to form a blanket of splendid colours and hide almost every square centimeter of the arid desert. The „Namaqualand Daisies season“ as it is locally known indeed is spectacular and lures thousands of visitors to the remote Namaqualand each year. But the flower season is short and lasts for only a few weeks. Soon the beauty of rainbow coloured flowers dwindles and is replaced again by the more arid splendour of the desert with elegantly rounded granite boulders, dotted with bizarre kooker booms = tree aloe trees, which graze the yellow brown desert soil.

April 2016 : Rain Forest, Olympic National Park, Washington State, USA

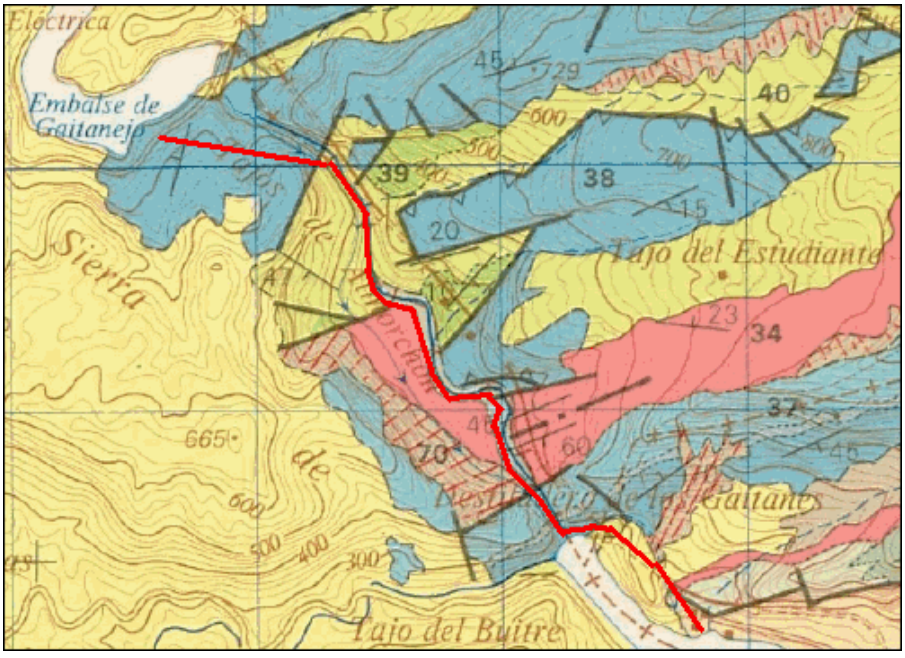
The Olympic National Park in Northwestern Washington receives 3800 mm of rainfall per annum, making the region one of the wettest areas of North America. This is why vampires thrieve in this area...at least according to the Twilight series. The high annual precipitation can be explained simply by geomorphology. Rain ladden clouds are drifting across the fairly flat Pacific Ocean waters until they reach the American continent. Here they meet the first mountains, which reach up to 2430 meter in the Olympic Range. The clouds are forced to climb up, cool down and eventually release their water content....it starts raining, sometimes for many days ! See the following sketch (Source : Wikipedia).



Most impressive are the enormous tree giants of Olympic National Park : Sitka Spruce, Western Hemlock and Giant Cedars, with trunk diameters up to five meter and sometimes 90 meter treetop height. Due to the high rainfall the trees are heavily covered with mosses, lichens and ferns, forming strangely looking green „beards“ hanging from all over the branches. This and the omnipresent fog and low clouds generate a most mysterious fairy tail atmosphere, which draws visitors from all over the world.

May 2016 : Vertical Layered Jurassic Limestones
Desfiladero de los Gaitanes, Ardales, Andalucia, Spain

The Geitanes Gorges near Ardales in Andalucia show the natural forces of geological processes in a most spectacular way. The once flat lying jurassic limestone layers have been lifted and turned by brute tectonic forces for 90 degrees and are now standing perfectly vertical. The narrow gorge of the Guadalhorce river hosts a major railway line as well as a supporting pathway, which winds 100 meter high up in the tectonically emplaced limestones. This path, which was built back in 1901, is known as Caminito del Rey = the small path of the king since 1921, when King Alfonso XIII visited the Geitanes gorge and did a hike on this path. The newly reconstructed Caminito del Rey is certainly one of the most impressive geotrails you can find on the Iberian Peninsula and a must for people with an interest in geology and nature love. More information on the Caminito can be found on www.caminitodelrey.info



Geological Map of the Gaitanes Gorges with Caminito del Rey as red line.
Geology : red – soft Keuper marls; blue – solid Jurassic limestones;
light green - Cretaceous marls; black - Fault lines
Source : Mapa Geologico de Espana 1 : 50.000, Ardales Sheet

June 2016 : Drift Wood on Mora Beach / Rialto Beach, Washington State, USA

Mora Beach, also known as Rialto Beach is located in the western part of the Olympic National Park in Washington State. To reach the beaches you take the road leading north of La Push village The vast beaches are generously dotted with enormous drift wood trunks scattered along the high flood line. The driftwood and the ocean with isolated small rock islets and stags have a lot to offer for a nature loving photographer and you can wander for hours and hours, always discovering new fascinating spots and photo motives. Take along enough water, cause there are long stretches without freshwater supplies.

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July 2016 : Hoodoos near Invermere, British Columbia, Canada

Hoodoos or earth pyramids are a rare breed of geological phenomen. They only develop under the right conditions. Unconsolidated, but not too loose gravels, which form steeply eroded cliffs along rivers and creeks are ideal conditions for the formation of hoodoos. Constant erosion will transport away the fine and loose stuff, while the hard gravel boulders will resist erosion much longer. Eventually hoodoos starts to form with a larger top boulder sheltering its base from further erosion. Slowly an „earth tower“ or hoodoo will develop, which may eventually reach a height of 10 meter or even higher as time goes by. An individual hoodoo may last for several decades or even longer. However, when the topstone finally looses its balance and falls, the base or pillar of the hoodoo will be eroded very quickly and the hoodoo will be replaced by other ones.

Our June image shows particularily well developed hoodoos close to Invermere in British Columbia. Other excellent examples are known from Europe, for instance the „Erdpyramiden“ near Ritten in South Tyrols and in Segonzano / Trento. Another well known example are the fantastic „Fairy Chimneys“ in Cappadocia in Western Turkey, where young volcanic tuffs of the Erciyes volcano display very similiar hoodoo formations.

August 2016 : Scene at Mora Beach / Rialto Beach, Washington State, USA

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September 2016 : Historical Mine Railway (Wassertonnenaufzug) Seemoos - Sankt Martin, Schneeberg Silver – Zinc Mine, Passeier, South Tyrols, Italy

For centuries the remote silver mining village of Sankt Martin am Schneeberg at 2350 meter altitude was the highest all year round inhabited settlement in Europe. From this base the miners drove many miles of adits and tunnels through the surrounding mountains and extracted silver, lead and zinc ores until 1967. Only then the Schneeberg village was left for good and mining activities were relocated to the near Lazzacher Valley, where zinc mining continued until 1985. Since then the village of Sankt Martin has been revived as a mine museum / mountain center and the area is open for mining enthusiasts and mountain hiking during the summer season. More information about the fascinating mining history and the miners daily live in a harsh environment can be found at www. bergbaumuseum.it

Transporting the hand picked ore from the high alpine mine to the valleys was a great problem ever. Even more so in wintertime when temperatures dropped deep below zero and snow accumulated to several meter height (Schneeberg literally translate to snow mountain). In 1867 the railway line across the Brenner pass finally was opened and soon there were plans to connect the Schneeberg mine by rail, solving all transport problems once and for all. A bold plan indeed, as there were almost 2000 meters of altitude to conquer from Sterzing to the mine site. 1871 this mine railway was opened, consisting of a 27 kilometer long ingenious system of horizontal horse drawn railway, alternating with steep Bremsberge, where heavy ore filled wagons were carefully counterbalanced by lempty ore bins. The Schneeberg ore railway is regarded as the longest and most complex one of its kind in the World and was in use until 1924, with the Seemoos section in our September image being in operation even until 1967.

October 2016 : Bridal Veil Waterfall, Chilliwack, British Columbia, Canada

The romantic Bridal Veil Falls in Southern British Columbia are located in a provincial park about 15 kilometer east of Chilliwack. The waterfalls run across a 60 meter high rock cliff of the Chilliwack batholite, a large, only 30 million years old (geologically speaking very young !) magma intrusion of granites and quartz diorites into the much older surrounding basement.

Glaciers of the last ice age carved and sculpted the Chilliwack valley to its present form and cut the upper reaches of the Bridal Veil creak, resulting in the current high waterfall cliff.

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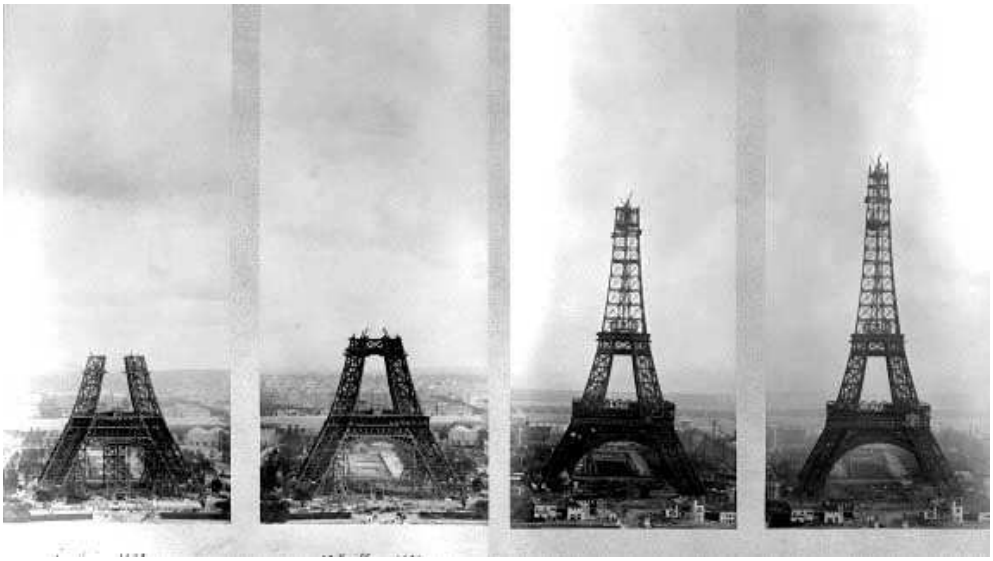
November 2016 : Caminito del Rey, Desfiladero de los Gaitanes, Ardales, Andalucia, Spain

Another view of the southern part of the Geitanes Gorges with the railway line to the left, running straight to the vertical layered jurassic limestone cliffs with strong carstification / tafoni forms. To the right you see a part of the recently reopened Caminito del Rey Geotrail with a small viewing platform. For more information kindly have a look to our May image or visit www.caminitodelrey.info.

December 2016 : Interior Shot of the Eiffel Tower, Paris, France

Sure enough the iconic Eiffel Tower in Paris is one of the most famous monuments in the world with an average of 7 million visitors per year ! Of course no one leaves the tower without taking at least one photo as souvenir. However, surprisingly there are only very few interior shots of the Eiffel Tower available. Our December photo shows such an interior shot, taken in a cold and windy night in February 2015 on the descent between the second and first tower level.

Little known is the weight of the Eiffel Tower, which despite its impressive height of 324 meter (for a long time the highest building the world !) accumulates to just 10.000 metric tons. In contrast, the famous luxury cruiser Queen Elizabeth 2 weighs a hefty 50.000 metric tons ! The 10.000 tons of puddle iron (not steel !) of the Eiffel Tower needed about 40.000 tons of iron ore, which equals the mining output of several regular iron ore mines during the construction of the Eiffel Tower in the years 1887 – 1889.



Construction of the Eiffel Tower, historic photos taken 1888 – 1889

For questions and enquiries please use the contact form on our website :

www.mineral-exploration.de/contact.htm

Thomas Krassmann, Bad Windsheim, January 2015