## Geotourists — welcome to Poland!

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The International Geological Congress is one of the greatest and most prestigious events gathering geoscientists from all over the world. Its interdisciplinary profile creates a great opportunity for its attendees to discuss and present their views.

I truly believe that the 33<sup>rd</sup> International Geological Congress in Oslo (6–14<sup>th</sup> August, 2008) will provide a unique chance to meet people from a huge variety of geoscience environment such as mineral and petroleum industry, government authorities and organizations, universities, geological surveys and many others.

The 33<sup>rd</sup> IGC provides an opportunity for presenting the tradition and experience of Polish geology, its development and achievements to a world-wide geological audience. Poland is a one of the leaders in production of hard coal, lignite, copper and silver. Polish geology has a vast tradition, and it is worth acknowledging some important events and people:

- 3000 BC world-first underground mine in Krzemionki Opatowskie near Kielce where striped flint, used as material for axes, arrows, knives and other tools, was produced.
- 11<sup>th</sup> century beginning of production of salt in the Wieliczka Salt Mine (Cracow Upland). Because of its unique values, the Wieliczka Salt Mine has been added to the UNESCO World Heritage List in 1978.
- □ 1740 first documented underground coal mine "Murcki" located in the Upper Silesian Coal Basin (still operating).
- 18<sup>th</sup> century development of modern Polish geology; first mining law, government Ore Commission; first mining school Academic Mining School in Kielce established by Stanisław Staszic. He was also the author of first geological map of Poland, published in 1806, and of the first systematic modern description of mineral resources in Poland, published in 1815.
- Is54—Ignacy Łukasiewicz's development and first production from Bóbrka — the oldest onshore oil field in the world.
- 1919 establishment of the Polish Geological Institute — state geological survey, and the Academy of Mining and Metallurgy in Cracow.
- □ after 1945 reconstruction of the mining industry, the aggressive exploration for mineral resources.
- □ 1968 first production of copper (Lubin and Polkowice Mines).

Apart from this great tradition and history, Poland is a very attractive geotouristic country, because of its complex geological structure and lithostratigraphic units exposed on the surface, wealth of geomorphological forms, minerals, fossils and geological processes that took place in the past and are ongoing at the present. Besides, visit to Poland gives unforgettable experiences to enjoy the fascinating landscapes, archaeology, history and wild life. Poland offers a wide range of entertainment in any season of the year; we have beautiful sea with clean beaches for summer tourists and great and outstanding mountains for fans of winter sports. Do not forget about other beautiful spots like lakes, rivers and forests. This country is a place that really treasures its remarkable natural, geotouristic and cultural assets. It is a place that brings in mind associations of pictures of impressive mountains, sounds of breath-taking waterfalls, scents of mountain meadows and hospitable people.

Enormous variety of landscapes and geotourist objects enable visitors to familiarize themselves with long and fascinating geological history of Poland. These unique values can be seen in the Tatra Mts., Pieniny Mts., Karkonosze Mts. and last but not least the Sudetes. One of the places to visit in the Sudetes are the Table Mts. (Góry Stołowe). The unusual shape of the Table Mts. is a result of hundreds of thousands of years of erosion. The sandstone surface of peaks is eroded and fissured which makes human- and animal-like shapes ("Camel", "Mammoth", "Elephant", "Monkey", "Dog", "Turtle", "Owl", etc.), and deep gorges and corridors ("Piekiełko"). Another attraction in the Sudetes is The Gold Mine in Złoty Stok located at the foot of the Golden Mts. at the southern periphery of the Złoty Stok town. The geological structure of the area is complicated and includes various metamorphic rocks. However, it is an 8-meter-high underground waterfall regarded as a major attraction of the gold mine.

It is worth seeing the oldest mountains in Poland, i.e., the Holy Cross Mts. (Góry Świętokrzyskie) with "Paradise Cave" located southwards of Kielce. It is a part of Red Tourist Trail Chęciny–Kielce. It is regarded as one of Poland's most beautiful caves. It has five chambers with stalactites, stalagmites and columns. At the entrance visitors can see an exhibition of archaeological and paleontological findings from the cave that include prehistoric tools as the place was inhabited by Neanderthals. There are also trails of cave bears, woolly rhinoceros and mammoths that previously inhabited the cave as well. Generally this region is famous with many caves and stone pits, for example "Kadzielnia" — a former stone pit, recently adopted as an amphitheater.

There are other attractive places to visit like Cracow--Częstochowa Jura Chain (Jura Krakowsko-Częstochowska; Fig. 1), Wieliczka's or Bochnia's Salt Mines near

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Fig. 1. The Cudgel of Hercules (Maczuga Herkulesa) and Pieskowa Skała Castle. The Prądnik River Valley in the Ojcowski National Park (Polish Jura Chain). Photo by J. Grabowski

Cracow and amazing landscape of the Roztocze. The Wieliczka rock-salt deposit shows extremely complicated geological setting. It is cut by numerous fractures and fissures filled with halite and fibrous gypsum. In the mine, halite forms a variety of recrystallization structures of diversified colors: dripstones, crusts, stalactites, stalagmites, columns and even fibers (the latter known as "St. Kinga's Hair"). The "Crystal Caves" are examples of secondary crystallization unique at the world scale and protected as strict nature conservation reserve. The recent trail includes over 30 chambers being cut for hundreds of years with hands of many miners (i.e., 64–136 m below surface).

Another attractive place to visit is the coast of the Baltic Sea between Trzęsacz and Śliwin. This is a cliff coast, recently 15 m high, resulted from sea abrasion and mass movements. Visitors can observe the cliff coast destruction caused by the active abrasion. Also recent geodynamic processes can be observed like rockfalls and landslides as well as progressing devastation of the coast documented by the ruins of church in Trzęsacz. The remaining of this over 500 years old church built 2 km from the cliff recently is balancing on the cliff's edge.

These are only a few selected examples of places to visit in Poland. There are many, many more and even spe-

cialists of narrow geological domains will find Polish geotourism very interesting and attractive.

In solicitude our natural treasures Poland joined the initiative of establishing geoparks. One of the most significant achievements in this area is establishment of Muskau Arch Geopark located in German and Polish borderland which proves a great cooperation between these two countries. Visitors can be acquainted with fascinating geological sites, variety of nature as well as visible economic past, incredible geological structure with the region's history and landscape evolution influenced by mining activities. This geopark has been added in 2004 to the UNESCO World Heritage List as a masterpiece of man's genius in the field of garden art.

With regard to its remarkable location where great European geological structures meet, Poland appears to be one of the most interesting and unexplored geotouristic places in Europe. The variety and diversity of potential geotourist objects should be a challenge for all geotourist enthusiasts and for those who like to spend a nice time close to nature.

Dear reader, if geology is something you love, and you want to experience the geology of Central Europe, come to Poland. It is a great geotouristic place. Geotourists — you are very welcome.