The Carpathian Mountains

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Introduction. The Carpathian Mountains, a geologically young European mountain chain forming the eastward continuation of the Alps. From the Danube Gap, near Bratislava, Slovakia, they swing in a wide crescent-shaped arc some 900 miles (1,450 kilometres) long to near Orşova, Romania, at the portion of the Danube River valley called the Iron Gate.

Materials and methods. These are the conventional boundaries of these arcuate ranges, although, in fact, certain structural units of the Carpathians extend southward across the Danube at both sites mentioned. The true geologic limits of the Carpathians are, in the west, the Vienna Basin and the structural hollow of the Leitha Gate in Austria and, to the south, the structural depression of the Timok River in Serbia and in Montenegro. To the northwest, north, northeast, and south the geologic structures of the Carpathians are surrounded by the sub-Carpathian structural depression separating the range from other basic geologic elements of Europe, such as the old Bohemian Massif and the Russian, or East European, Platform. Within the arc formed by the Carpathians are found the depressed Pannonian Basin, composed of the Little and the Great Alfolds of Hungary, and also the relatively lower mountain-and-hill zone of Transdanubia, which separates these two plains. Thus defined, the Carpathians cover some 80,000 square miles (200,000 square kilometres).

Results and discussion. Although a counterpart of the Alps, the Carpathians differ considerably from them. Their structure is less compact, and they are split up into a number of mountain blocks separated by basins. The highest peaks, Gerlachovský Štít (Gerlach) in the Carpathians (8,711 feet) and Mont Blanc in the Alps (15,771 feet), differ greatly in altitude, and in average elevation the Carpathian mountain chains are also very much lower than those of the Alps. Structural elements also differ. The sandstone–shale band known as flysch, which flanks the northern margin of the Alps in a narrow strip, widens considerably in the Carpathians, forming the main component of their outer zone, whereas the limestone rocks that form a wide band in the Alps are of secondary importance in the Carpathians. On the other hand, crystalline and metamorphic (heat-altered) rocks, which represent powerfully developed chains in the central part of the Alps, appear in the Carpathians as isolated blocks of smaller size surrounded by depressed areas. In addition to these features, the Carpathians contain a rugged chain of volcanic rocks. Similar differences can be observed in the relief of these two mountain systems, notably in the way that the processes of erosion have occurred. The relief forms of the Alps today result for the most part from the glaciations of the last Ice Age. These affected practically all mountain valleys and gave them their specific relief character. In the Carpathians, glaciation affected only the highest peaks, and the relief forms of today have been shaped by the action of running water.

Conclusions. The Carpathians are a popular tourist and recreation venue, especially for the people of Poland, Hungary, Romania, the Czech Republic, and Slovakia. Tourist travel from other countries is less developed, although a number of areas attract visitors from abroad. Most important among these is Zakopane, a centre of sports activities, tourism, and recreation, situated in Poland north of the Tatras. On the Slovak side of the Tatras, a similar role is played by a number of localities, notably Tatranská Lomnica, Smokovec, and Štrbské Pleso. In Romania the outstanding centre for winter sports and tourism is Sinaia, situated in the Prahova valley. The Carpathians are noted for their abundance of mineral springs. Among the best-known Carpathian health spas are Krynica in Poland, Piešťany in Slovakia, and Borsec, Băile Herculane, and Tuşnad in Romania.