

fractures. To find the source of this extra water, the geometrical properties and the permeability of the associated fault zone of the local Amui fault have been analyzed. The results show that the overall setting of this fault is a conduit-barrier fluid flow system with a uniform structure. The mentioned extra recharge occurs through the carbonate rocks in the eastern part of local Salbiz and Ghandil anticlines along the Kazerun fault zone. It then reaches the Sasan spring by the Amui fault and associated fractures.

A climatic investigation of precipitation amount associated with 500-hpa cyclones which are affecting the Greek territory during warm period of the year

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An objective analysis of 500-hPa cyclones (500-hPa lows) is performed during the warm period (15 Apr-15 Oct) of the year for central and east Mediterranean regions. A 40-year (1958-1997) data basis of geopotential height values with a detailed (2.5°X2.5°) spatial and temporal (00, 06, 12, 18 UTC) resolution is used in the study. Lows are determined as local minima in each 3X3 matrix of geopotential height values for every grid point in the area of study. A gradient criterion between the central point and the surroundings is additionally applied to exclude weak lows, which probably originate from the assimilation procedure. A sub-area which consists of 36 grid points and includes the Greek peninsula is selected for the investigation of relationship between cyclone occurrence and precipitation amount. Cyclone occurrence is classified in nine groups consisting of four (4) grid points each. During the domination of these cyclones, daily precipitation amounts were determined from precipitation data collected at a 20-station network, which was operational during the same time period. In cases of multiple cyclone occurrences per day, the location of the deepest cyclone was selected. The spatial distribution of average precipitation amount in each of the nine cyclone groups is plotted and discussed. The comparison of these nine distributions revealed three major factors affecting the location of frequency maxima and minima. The first is low-level instability, the second is orography and the third is positive vorticity advection associated with 500-hPa cyclones.

Cretaceous alkali basalts from the Pieniny Klippen Belt

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Occurrences of mafic alkaline volcanics are scattered all around Europe, being mostly related to anorogenic, extensional tectonic environments. While the widespread Cenozoic alkaline basalts have been intensively studied and are rather well known, their Cretaceous precursors are often involved in the Alpine-Carpathian orogenic zones, therefore their genesis and geodynamic setting are partially obscured by superimposed deformation and alteration. We describe a newly discovered body of alkaline basalts in the central part of the Pieniny Klippen Belt – Vršatec, then, farther to the east, dike bodies of Hanigovce and in the Ukrainian part of the klippen belt, alkaline basalts of Velikij Kamenec. The basalt at Vršatec is lying within the mid-Cretaceous deep-marine pelagic sediments of the Pieniny Klippen Belt in western Slovakia. The body consists of hyaloclastic lavas of basanitic composition. There is not revealed any direct contact of the Hanigovce bodies with the surrounding sediments; however, due to missing signs of contact metamorphism in their close environment –