

water precipitations (rain, snow) by roofing of the wall crowns. Missing or deteriorated building stones could be replaced by material taken from the deeper parts of the local andesite quarry.

## **Geology of the Caucasus and adjacent areas: 1:2 500 000 scale geological map**

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The geological map of the Caucasus and adjacent areas of 1:2 500 000 scale, being presented on the 19th Congress of the CBGA includes on-shore and off-shore parts of the Black Sea-Caspian Sea region (Fig. 1). Small-scale thematic (geologic, tectonic, metallogenic etc) maps of the World and its large parts, such as Europe, Middle East etc., have been periodically compiled and published under umbrella of the Commission for Geological Map of the World (CGMW), for example: *carte geologique de l'Europe*, 1:10 000 000, 1970; *carte tectonique de l'Europe et des regions avoisinantes*, 1:10 000 000, 1975; *carte tectonique internationale de l'Europe et des regions avoisinantes*, 1:2 500 000, 1980; geological map of the Middle East, 1:5 000 000, 1986; 1:5 000 000 International geological map of Europe and adjacent areas, 2005, BGR Hannover; the international geological map of the Middle East, 1:5 000 000, second edition, 2009-2010. The Caucasian region, situated at the junction of the European and Asiatic segments of the Alpine-Himalayan orogenic belt and serving as a connecting link between these two branches, as a rule, is illustrated by maps of the both segments. The presented map demonstrates up-to-date level of knowledge on geological structure and evolution of the region.

## **Mapping the spatial distribution of precipitation, biological soiling, and decay on monuments in Northern Ireland: towards understanding long-term stone response to moisture**

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The Natural Stone Database for Northern Ireland was constructed to address the paucity of information available to stone conservation practitioners. Almost 2000 listed buildings, 260 monuments and 118 quarries were surveyed over three years to produce an interactive GIS database for the Northern Ireland Environment Agency. This contains information on stone sources, together with details of stone condition and decay processes and is complimented by a website available to the general public. This paper uses elements of this GIS to link annual rainfall data for Northern Ireland with information on the biological soiling, and decay of stone monuments across the province to examine the relationship between moisture and availability on these processes. Results suggest that biological soiling is indeed strongly influenced by moisture availability (i.e. precipitation), with higher levels of biological soiling evident in the wetter North-West of Northern Ireland where annual precipitation is higher in response to a strong Atlantic signal. This compares to lower levels of biological soiling evident in the more rain-sheltered South-East of the province. Stone deterioration appears to be less influenced by climate and more closely related to the geology characteristics with higher levels of decay often observed on sandstone monuments and lower levels of decay associated with areas in which low porosity stone types such as basalt predominate. The results have clear implications for future patterns of soiling in light of projections for regional climate change that indicate increased winter wetness, but they also demonstrate the