

which gave rise to the tectonic structures observed today. The high values of the SL index are found in morphological slope of the faults. The AF index shows a river spin, possibly due to the influence of faults, which either lift or humiliate the respective pieces of the rift zone. The index Vf exhibits relatively low values indicating a strong, deep erosion of the streams rising in the piece. The estimates of Mountain – front Sinuosity index are ranging from 1.1 to 1.6 and characterize active faults, though not associated with any known historical earthquake. Finally using empirical magnitude - fault length relationships, for the Gera's Gulf area, the maximum expected magnitude earthquake for each fault or fault zone is calculated to $M_s = 5.7 - 6.3$.

Investigation of drinking water quality in Isparta, SW Turkey

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The studied area is located in the western part of the Tauride carbonate axis forming a north pointing cusp, so-called Isparta Angle, in SW Turkey. Autochthonous carbonates and flysch type sedimentary rocks form the basement of the area and are tectonically overlain by ophiolitic melange of the Lycian nappes. All these units are cut in some places by the Plio-Quaternary Gölcük volcanics and covered by Quaternary pyroclastic tuffs and alluvial deposits. Additionally, the rest of Isparta area is made up of sedimentary rocks (Jurassic to Oligocene) and Pliocene-Quaternary (6.75 Ma-24,000 year) volcanic rocks. Hydrogeologically, the rocks in the area are classified as permeable, semipermeable, slightly permeable, and impermeable. Among these hydrogeological units, the alluvium, volcanic tuffs, and limestones are considered as aquifers in the area. The groundwater flow direction in the Isparta plain is generally from SW to NE comparable with the gently slope of pyroclastic fall deposits extending from Gölcük caldera in the SW to province capital of Isparta.

The water is one of the most important basic resources for the human life. The drinking water must be of drinkable quality corresponding to drinking water standards. Therefore, the quality control of drinking water is very important. In this study, to determine the distribution of water in drinking water system, 46 samples were collected from town of Isparta and its surroundings accompanying with the *in situ* measurements of temperature, pH, electrical conductivity, total dissolved solids, redox potential, dissolved oxygen, alkalinity and acidity tests. 46 water samples have been analysed for their anions, cations and some trace element contents by Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) and Ion Chromatography (IC). It was concluded that the results are comparable with national (Turkish Standards Institution – TS 266 2005) and international (World Health Organisation – WHO 2006, United States-Environmental Protection Agency – US EPA 2002 and European Union – EU 1998) drinking water standards. The waters in the studied area can be considered as Ca-Mg-HCO₃ and Ca-HCO₃ type exchange-waters. Until 1995, the drinking water for the people from the capital of Isparta have been supplied by water springs of Andık and Gölcük lake. Since 1995 due to increasing water requirements, drinking water system are ensured by Eğirdir lake waters. The results of hydrogeochemical analyses show that the Eğirdir Lake water dominates in drinking water system of Isparta. Nowadays, the high fluoride contents in drinking waters from Isparta and its surroundings are reduced by mixing process with the waters of Eğirdir Lake which reach sometimes standard fluoride values and lie under standard fluoride values (<0.5 mg/l). F-contents in waters below the standard value (<0.5 mg/l) may give rise to dental and medicine problems. Therefore, mixing operations for the drinking waters used in town of Isparta must be carried out very carefully.