عنوان مقاله:

Clay mineralogy of the sediments in Sabzevar playa, NE Iran; implication for the late quaternary climate changes

محل انتشار:

دومین کنفرانس بین المللی کواترنری (سال: 1400)

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خلاصه مقاله:

The Quaternary period was characterized by drastic changes in climatic conditions worldwide (Roy et al.,۲۰۰۶) so that the escalation of eolian processes, desert formation and drying of lakes are attributed to thisperiod (Koutavas et al., ۲۰۰۲). Playa is a region with negative water balance for more than half a year aswell as capillary properties close to the surface and sediments (Rosen, ۱۹۹۴). In some cases, playa sedimentsare the only evidence of past environmental conditions in arid and semi-arid regions (Davis, ۱۹۹۴). Clayminerals are one of main proxies for paleoenvironment and paleoclimate studies (Thiry, ۲۰۰۰). Also,changes in clay minerals in sediments are often indicative of climate changes (Birks et al, ۲۰۱۲). The analysisof clay plains in playas and dried pluvial lake provides a good criterion for determining the origin ofsediments and climate change (Oliveira et al, ۲۰۰۲); (Battarbee, ۱۹۹۹). Hence, some researchers (Bentz, ۲۰۱۷), (Jones, ۱۹۸۳), (Srodon, ۱۹۹۷), (Tateo et al., ۲۰۰۰), (Kadir et al., ۲۰۱۶ DeVogel et al., ۲۰۰۴) haveconducted valuable studies on late Quaternary climate changes using clay minerals. The present studyaims to reconstruct the late Quaternary climate based on clay minerals obtained from Sabzevar Playa innortheastern Iran. The Sabzevar playa is categorized as a typical playa in central Iran (Kearey, ۲۰۰۹), wherelocated in the eastern part of the Great Kavir basin. Total surface area of this playa is about ۲۶۴۸ KM۲between latitude ۳۵°۵۵'۰۰"–۳۶°۲۵'۰۰" N and longitude ۵۶°۱۵'۰۰"–۵۷°۴۵'۰۰" E (Figure. ۱). The topographicalelevation values of the study area vary from ۷۵۰ to ۹۰۰ meters above sea level (a.s.l). Playa sediments areevaporative and clastic, producing in a region with geological features belonging to the Quaternary period(Survey of Geology of Iran, ۲۰۰۵). The playa has been surrounded by ophiolites, ultrabasic rocks andpelagic limestones. This area has a semi-arid climate with annual precipitation of ۱۵۰–۲۰۰ mm and annualtemperature of ۱۶–۱۷ °C (Sabzevar synoptic station) in the period of ۱۹۵۰–۲۰۰۰. The geologicalinvestigation of the region was conducted using four geological maps of Abbas-Abad, Davarzan, Bashtinand Sabzevar (۱:۱۰۰,۰۰۰ in scale). The characteristics of sampling profiles were recorded using GPS in ۷areas at different geomorphic surfaces of the playa during the field observation. All profiles were excavatedby a hand auger, manufactured by the German company Windas, with ۵cm diameter and ۱۰۰cm depth(figure ۲). Additionally, to identify the type and formation of fibrous clay ... minerals, ۷ samples of inta

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا: