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STUDY OF THE DYNAMICS OF THE COASTLINE OF THE AZERBAIJANI SECTOR OF THE
CASPIAN SEA USING PASSIVE SENSOR METHODS

Abstract

Monitoring of the coastal zone and, in particular, the precise demarcation of the coastline is important as a fundamental research object in solving problems such as environmental protection in the context of global climate change. Shorelines are important particular qualities for land/water resources management, geographical mapping, safe navigation and coastal monitoring. Climate change can affect coastal areas in a variety of ways. Coasts are sensitive to sea level rise or decline, increases in precipitation. Climate change will also increase coastal erosion and the recession of most sandy beaches (where beaches will move further inland). These changes will damage coastal ecosystems, infrastructure and industries. The most common methods for shoreline extraction investigate coastal areas use remote sensing data. In recent years, there has been an increase in the usage of remote sensing data using optical and synthetic aperture radar satellites and passive satellites to extract and map the shoreline automatically or semi-automatically. In the study, high-resolution satellite images for 2005–2021 were used. The study area covers the coastal zone Caspian sea of Azerbaijan sector. Areas identified where the highest rates of abrasion and accumulation observed in the study area and changes in the coastline determined.