



University of zabol

Faculty of Natural Resources
Department of Environment

**Thesis for obtaining a master's degree
in environmental science and engineering**

Environmental Science and Engineering
Land Assessment and Planning

Title:

Evaluation of climate models of the sixth report in the simulation of climate changes in the southern coast of Iran

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Abstract

In this research, the ability of climate models of the 6th IPCC report will be used to simulate climate parameters (temperature and precipitation) in the southern coasts of the country (sistan and Baluchistan, Bandar Abbas, Bushehr, Khuzestan). In the first stage, collection and preparation of observational data including precipitation and temperature in rain gauge, evapotranspiration, climatology and synoptic stations of southern provinces on a daily basis in the period of 1980-2014 from related organizations, especially the National Meteorological Organization, and with Using statistical methods, statistical data gaps will be reviewed and completed. In the second step, the climatic data of the climate models of the sixth report (CMIP6) will be downloaded from the cmip6 site and will be extracted in Excel format in Arc GIS10.8 software. In the following, various statistical indicators including correlation and standard deviation will be used to check the accuracy of climate model data compared to synoptic station data. In the next step, we will compare the output data of general atmospheric circulation models with the data of synoptic stations. Finally, diagrams related to climate models and their statistical relationships will be drawn in rstudio software and Tailor package. And finally, according to the statistical results, the best model will be proposed to predict the climatic conditions of the region. Finally, according to the achievement of these models, according to the ssp-126, ssp-245, and ssp-585 scenarios, from 2015 to 2100 AD, they will be downloaded from the cmip6 site, and future climate charts will be interpreted and analyzed to predict future climate changes.

Keywords: Climatic models of the sixth report- cmip6- South coast of Iran