

## ABSTRACT

The term “climate change” refers to the changes that we have seen over the years and those that are likely to be seen. These changes occur mainly due to human activities such as burning fuels, deforestation etc. Climate models are an important tool to understand Earth’s climate and to predict that how the climatic conditions will change in that area over a period of time. Validation is done first by running the model backward to recreate a known climate condition. The purpose of this study is to assess the reliability of climate models in the arid regions of Pakistan because as such no progress has been made in Pakistan related to an efficient model that could simulate climatic conditions near to the original ones. To achieve this purpose various climate models will be studied in detail along with their working mechanisms and components and will be assessed on different parameters. The model that will give the best results will then be selected for the area. On the basis of thorough analysis and evaluation it was found that REMO-2015 proved to be much more compatible with the historical observed data, specifically for temperature. However, for precipitation both models overpredicted the results.