Bahria University
Discovering Knowledge

FINAL YEAR PROJECT REPORT

CLIMATE CHANGE ANALYSIS AND PREDICTION SYSTEM

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CLIMATE CHANGE ANALYSIS AND PREDICTION SYSTEM

ABSTRACT

Climate change is viewed as a multidimensional wonder, it has different ramifications for environment, living things and financial states of the general population of different people. Planners, vulnerable communities, investors require information and data about future atmosphere with the goal that they can plan for expected patterns and changes in it.

Atmospheric predictions and expectations are the assessments of common conditions in the near future, whereas climate and atmosphere projections are the evaluations of the climate of the future and is under the presumptions of the future activities of the humans, which involves technical and financial developments.

Concentrating on the effects and impacts and amid the reason of it occurring, the primary goal of this exploration was to examine the progressions and its effects in the Pakistan's atmosphere and environment by using the time series data. The changes in climate and the different variances of a particular region of Pakistan over a period of 115 years ranging from 1900 to 2015 were estimated and was further classified in multiple variables concerning to the climate involving temperature and rainfall.

Different studies are available on the subject of change in climate its evaluation, modelling and its effects and its adaptations accordingly. So a multidisciplinary approach is being utilized on the data with a time series pattern to achieve a better understanding and predicting the points in future by analysing the changes in previous times by estimation of the absolute change through a combination of multiple parameters which is determined by least AIC score.

The Autoregressive Integrated Moving Average (ARIMA) model was used determine the trends in the previous data to determine the different parameters manually to fit the model accordingly, and try to validate and predicting the forecasted climate for the coming years.

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