

The South West monsoon temperature trend over Kerala

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Abstract: In the present study analyses the south west monsoon season temperature trend over Kerala. A period of thirty years temperature data were collected from Indian meteorological data centre Pune. The linear trend model has been used for study. Some discrepancies encountered are pointed outed.

Keywords- Linear trend, Southwest monsoon, temperature, climate change, Kerala.

1. INTRODUCTION

Climate change is a major problem today. Increased environmental variability due to climate change is challenging the adaptive capacity of small-scale and socio-ecological systems. Climate change is very dangerous these days because the pollution of soil, water, land and air is increasing so fast no life will survive on the earth is not too distant a future. It revealed that increasing trend in temperature could be attributed to climate change. The present trend of over exploitation due to population growth, industrialisation, irrigation and lesser rainfall than average value affecting the recharge ground water levels, which are depleting at alarming rate[1]. Earth's climate has been changing both on global and regional scale. People in general believe that weather pattern changing and they believe summer in their areas are getting hotter and lengthening and winter shorter and warmer which is a direct consequence of the global warming [2]. A rising trend in minimum temperature at some cities of India and attributed to mainly rise in maximum temperature [3]. One of the most visible and well accepted evidence in recent years is the gradual increase in atmospheric pollution and aerosol [4].

II. DATA AND METHODOLOGY

In order to understand the south west monsoon temperature change over Kerala selected cities Thiruvananthapuram, Ernakulam and Kozhikode. A period of thirty years beginning 1981 has been chosen. In this present study an attempt has been done to identify temperature variability and trend over Kerala. A statistical method used which involves the calculation of the annual temperature beginning 1981. The method of linear trend model has been used for performing the trend analysis of the behaviour of temperature.

III. RESULTS AND DISCUSSIONS

The Kerala region can be mainly divided into three categories such as South Kerala, Central Kerala and North Kerala. One location has in each region has been chosen for the study.

Table 1

Maximum and Minimum Temperature

Location	Temperature(°C)							
	June		July		August		September	
	Max	Min	Max	Min	Max	Min	Max	Min
Thiruvananthapuram	31.7	28.7	31.4	29	31.1	29	32.1	29.4
Ernakulam	32	29	31	28	31	29	31.1	29.2
Kannur	31.8	29.1	30.8	28.1	30.4	29	31.2	29.3

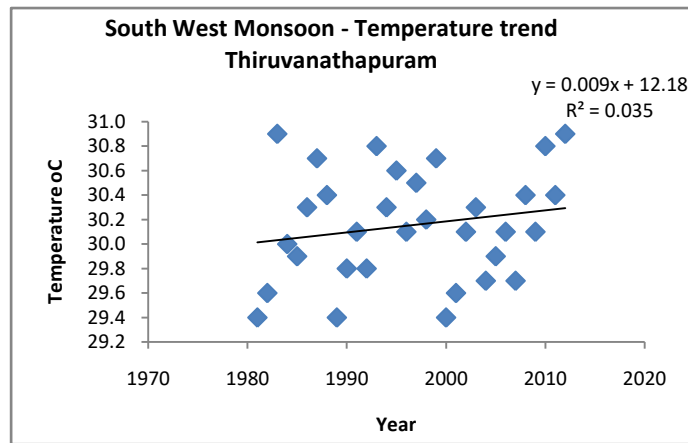


Fig. 1 Temperature trend of Thiruvananthapuram

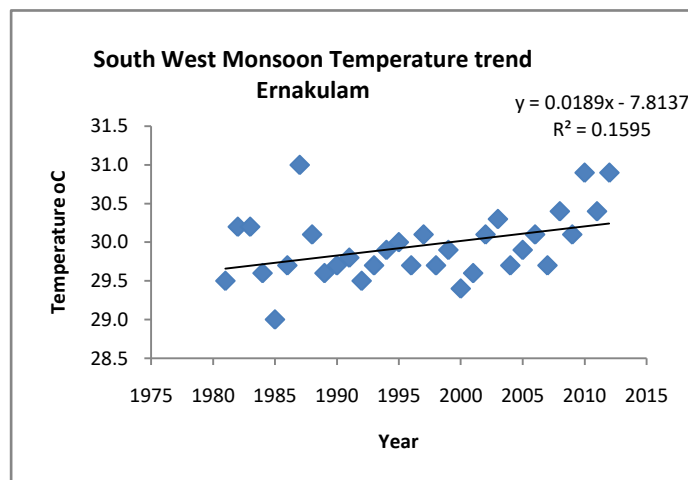


Fig. 2 Temperature trend of Ernakulam

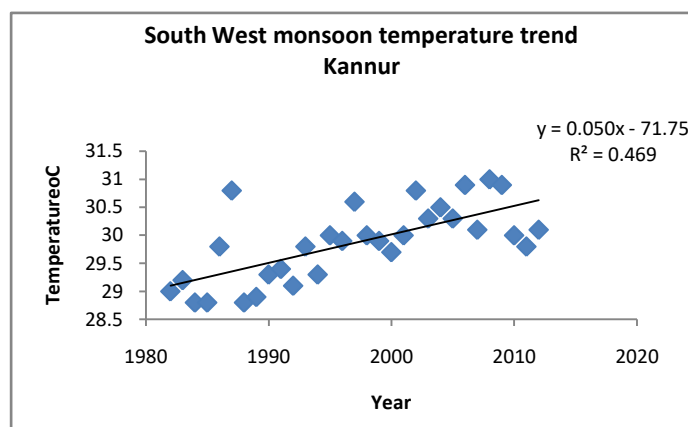


Fig. 3 Temperature trend of Kannur

The maximum and minimum temperature trend of the South West monsoon in given table 1, it is a thirty year average temperature data starting the year 1981. From the figure 1, it is seen that at Thiruvananthapuram maximum temperature of 32.1°C obtained in the month September and minimum value of 28.7°C in the month June. Similarly in the figure 2, it reveals that at Ernakulam a record of 28°C as the lowest monthly average temperature obtained in the month July and 32°C as the highest temperature obtained in the month March and in the figure 3, at Kannur is the lowest of 28.1°C and the highest of 31.8°C is obtained the month June.

IV. CONCLUSION

The South West monsoon season the entire region shows an increase in trend. The long term study reveals that the locations Thiruvananthapuram, Ernakulam and Kannur recorded the minimum temperature which is very close to maximum temperature. Maximum temperature of all the locations shows an increasing temperature trend it indicates the sign of climate change. The long term trend is increasing in thiruvananthapuram but relatively less compared to the other two. Kannur shows higher increase in temperature less than the other two.

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