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SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	**Ms_BJAST_20497**
Title of the Manuscript:	**Modern Warming In Middle Asia As Atmospheric Circulation Change Development**
Type of the Article	**Original research papers**

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	**Authors' response to final evaluator's comments**
Suggestive changes has been made in the revised paper as under: ***Abstract to be replaced as:*** **Abstract:** A study has been carried to determine the trends in atmospheric circulation forms in the beginning of the current warming in Middle Asia, on the basis of interannual changes of duration of synoptic processes in Middle Asia over the last 60 years. This study was conducted in Uzbekistan territory for a period over 100 years and series of temperature and annual precipitation measurements were recorded. In this study the methodology was employed based on statistical and trend analysis of time series, evaluation criteria of linear trends significance, and new indexes of circulation. It was also noticed that a notable increase in the average annual air temperature began in 60s of the last century in Uzbekistan. The warming is statistically significant. There was a slight increase in annual precipitation in the same period. Changes in air temperature and precipitation due to changes in the regional atmospheric circulation patterns. The length of the Northern and North-Western cold intrusions (meridional circulation form) has been decreasing, and the duration of Western intrusions (latitudinal circulation form) has not been changed virtually. Latitudinal transport of air masses has became predominant over Middle Asia from the middle 60s and index of circulation, representing ratio of the synoptic processes duration favorable for sedimentation, to the duration of anticyclonic processes was proposed. The value of this index has been decreased during the last 50 years, which had been associated with increased duration of anticyclonic processes not favorable for precipitation. However, rainfall has increased both in warm and cold half-year. A paradoxical situation appears, but it can be easily explained. Spektorman's researches confidently show that air masses which flow to Middle Asia for last 50 years became not only warmer but also wetter. The effect of air wetness rise in the process of precipitation is a subject of separate research. Besides, water vapor rise has become the main reason of intensification of greenhouse effect. According to the data of the World Bank emissions of carbon dioxide in Uzbekistan were many less than in many other countries. So, not carbon dioxide rise, but water vapor rise in atmosphere caused the warming of regional climate. Thus, the current warming in Uzbekistan is under the influence of one of the main climate-forming factors – circulation. ***Conclusion is to be replaced as:*** **4. CONCLUSION** Keeping in view of the results and discussion, following data are noticed apart from the	

significant increase in average annual air temperature began in 60s of the last century in Uzbekistan and more conclusions were drawn: a) The warming is statistically significant. There was a slight increase in annual precipitation in the same period. Changes in air temperature and precipitation were observed due to changes in the regional atmospheric circulation patterns. The length of the Northern and North-Western cold intrusions (meridional circulation form) has been decreasing and the duration of Western intrusions (latitudinal circulation form) has not been changed virtually. Latitudinal transport of air masses has become predominant over Middle Asia from the middle 60s. b) Index of circulation, representing ratio of the synoptic processes duration favorable for sedimentation, to the length of anticyclonic processes was proposed. The value of this index has been decreased during the last 50 years, which had been associated with increased duration of anticyclonic processes not favorable for precipitation. However, rainfall has increased both in warm and cold half-year. c) A paradoxical situation appears, but it can be easily explained. Spektorman's (2006, 2009) researches confidently show that air masses which flow to Middle Asia for last 50 years became not only warmer but also wetter. The effect of air wetness rise in the process of precipitation is a subject of separate research. d) Besides, water vapor rise has become the main reason of intensification of greenhouse effect. According to the data of the World Bank (2010) emissions of carbon dioxide in Uzbekistan were many less than in many other countries [9]. It indicates that there is no carbon dioxide rise, but water vapor rise in atmosphere is predominant due to the warming of regional climate. The findings clearly prove that the main cause of the regional warming is changing of the shape of the atmospheric circulation in the Northern hemisphere: namely *W* type became predominant. Thus, regional warming in Middle Asia has been under the influence of one of the main climate-forming factors – circulation. **With above changes manuscript is recommended for publications.**	

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