

6th World Conference on Climate Change

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Climate change in three different zones in Algeria

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Statement of the Problem: Climate change felt by people around the world is a consequence of the excessive use of conventional energy sources. Greenhouse gases, especially CO₂ released when using fossil fuels is responsible for the warming of the earth. Climatology is the study of climate, which is the sequence of weather conditions over long periods. Precipitation and temperature are the two fundamental variables used in describing climate change.

Methodology & Theoretical Orientation: This investigation examines air temperature and precipitation trends of three regions of Algeria namely; M'Sila, Biskra, and In-Amenas from 1950 to 2003. M'Sila is a province (wilaya) of northern Algeria. It is located at 35°40'N and 04°30'E. Its average height from sea level is 441 m. Biskra is a province (wilaya) of southeast Algeria. It is sited at 34°51'N and 05°44'E. Its average height from sea level is 87 m. In Amenas is a town and municipality of southeast Algeria. It is located at 28°02'N and 09°33'E. Its average height from sea level is 600 m.

Findings: It was found that the warming trend was particularly enhanced over these regions for all seasons (autumn, winter, spring and summer). Annual rainfall of M'Sila and In Amenas was reduced, however, Biskra knows a slight increase in rainfall. For all regions studied, autumn in recent years loses its characteristics of the agricultural season since it records a lack of precipitation. In contrast, summer season generally characterized by a lack of rainfall lately knows a slight increase. Spring and winter of M'Sila know a lack in rainfall. Whereas in Biskra and In Amenas they record a slight increase.

Conclusion & Significance: As a result of warming, M'Sila presents an aridity trend. It was a semi-arid area, and is now ranked in the arid zone. The zones of Biskra and Amenas remain arid. In fact, air warming is affected by the soil cover.

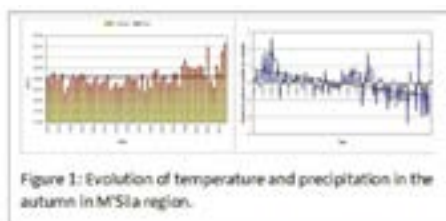


Figure 1: Evolution of temperature and precipitation in the autumn in M'Sila region.

Recent Publications

1. N, Ihaddadene R, Betka A (2018) Experimental investigation of using a novel insulation material on the functioning of a solar thermal collector. *Journal of Solar Energy Engineering* 140 (6), 061001.
2. Ihaddadene N, Ihaddadene R, Betka A, Beghidja A.H (2017) Experimental study of the effect of soil type on global warming using laboratory thermal collector. *International Journal of Hydrogen Energy* 42 (30): 19576-19582.
3. Ihaddadene N, Ihaddadene R, Charik A (2017) Best Tilt Angle of Fixed Solar Conversion Systems at M'Sila Region (Algeria). *Energy Procedia* (118): 63-71.

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4. Ihaddadene R, Ihaddadene N and Mostefaoui M (2016) Estimation of monthly wind speed distribution basing on hybrid weibull distribution. World Journal of Engineering (WJOE).13 (6).
5. Ihaddadene N, Ihaddadene Razika, Batka A (2016) Effect of Glass Superposition on the Efficiency of the ET200 Flat Plate Solar Collector. Intenational Journal of Electronics and Electrical engineering 4 (2).

Biography

Nabila Ihaddadene is an Associate Professor at the University of M'Sila since 2014, Chair of the Scientific Committee of the Department of Mechanical Engineering at the University of M'Sila, Head of Research Team at the Laboratory of Renewable Energy and Sustainable Development (LRESO) affiliated to Mentouri Brothers University of Constantine, Algeria. She received the PhD Degree in Biomechanics, from Ferhat Abbas University, Sétif (Algeria) in 2009. She received M.S. Degree in Engineering Process from Polytechnic Military School (EMP), Bordj El Bahri, Algiers (Algeria) in 2001. Member of the reading committee of the International Congress of Renewable Energy IREC (Tunisia) and other international conferences. She published in peer-reviewed journals including International Journal of Hydrogen Energy, Journal of Solar Energy Engineering, Energy Conversion, and management. Her research interest focus on renewable energies, thermal buildings, nutrition, medicinal plants and the well-being of the living.

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