

Modeling Local Warming Trend: An Application of Remote Sensing Technique

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Abstract : Global changes in climate, environment, economies, populations, governments, institutions, and cultures converge in localities. Changes at a local scale, in turn, contribute to global changes as well as being affected by them. Our hypothesis is built on a consideration that temperature does vary at local level (i.e., termed as local warming) in comparison to the predicted models at the regional and/or global scale. To date, the bulk of the research relating local places to global climate change has been top-down, from the global toward the local, concentrating on methods of impact analysis that use as a starting point climate change scenarios derived from global models, even though these have little regional or local specificity. Thus, our focus is to understand such trends over the southern Alberta, which will enable decision makers, scientists, researcher community, and local people to adapt their policies based on local level temperature variations and to act accordingly. Specific objectives in this study are: (i) to understand the local warming (temperature in particular) trend in context of temperature normal during the period 1961-2010 at point locations using meteorological data; (ii) to validate the data by using specific yearly data, and (iii) to delineate the spatial extent of the local warming trends and understanding influential factors to adopt situation by local governments. Existing data has brought the evidence of such changes and future research emphasis will be given to validate this hypothesis based on remotely sensed data (i.e. MODIS product by NASA).

Keywords : local warming, climate change, urban area, Alberta, Canada

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