

Can pixels tell climate related stories?

Speaker: Soe W. Myint

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Place: Earth Lab (AS2 02-03), Department of Geography, NUS

Abstract

Since 1970, the field of remote sensing has been defined numerous times by scholars and researchers from around the world. A brief look at these definitions may elucidate a key notion: the acquisition of information from a distance. However, this broad definition needs to be redefined if it is to provide us with a full understanding of the processes directing us to pursue what we want to achieve, determine if it is feasible to conduct a remotely sensed study, identify what type of data to be considered, and formulate how we want to conduct a remote sensing research. This kind of remote sensing to be discussed in the presentation is devoted to the observation of the earth's land and water surfaces through the use of reflected and emitted electromagnetic energy. This will also suggest reasons why we want to devote our efforts and resources to use of aerial photography and space-borne imagery to answer science questions and formulate better management plans with regards to climate change. This presentation attempts to demonstrate if and how remotely sensed data can be used to tackle land use land cover change and climate related issues. Example applications that employ digital image processing approaches including an interactive function of impervious and vegetation features in relation to the urban heat island effect, the impact of distinct anthropogenic and vegetation features on urban warming, damage assessment and disaster recovery following a tornado event, estimating irrigated agriculture water in response to drought, spatial pattern of land cover types in relation to urban temperatures, and numerical study of the effect of land use change on the climate will be presented.

About the Speaker



Dr. Soe W. Myint is a Professor in the School of Geographical Sciences and Urban Planning at Arizona State University (ASU). He received a Ph.D. in Geography from Louisiana State University, and taught at the University of Oklahoma prior to his current tenure at ASU. His research interests are in applying remote sensing and Geographical Information Systems (GIS) towards environmental issues, including land-use and land cover change and prediction, land degradation/desertification, evapotranspiration prediction and water use, urban heat island and urban warming, climate change and modeling, geospatial techniques and algorithm development; these research themes have been funded by agencies such as NASA, NOAA, NSF and USGS through grants in which he has been a Principal Investigator. He has authored

or co-authored over 40 peer-reviewed papers published in various remote sensing and geography journals. Apart from being the Chair of the Remote Sensing Specialty Group of the Association of American Geographers, Professor Myint is also the current editor of the International Journal of Remote Sensing, and is on the editorial board of five other scientific journals.