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IEEE Transactions on Geoscience and Remote Sensing

Special Issue on “Analysis of Multitemporal Remote Sensing Data”

In the last decade a large number of new satellite remote sensing missions has been launched resulting in a dramatic improvement in the capabilities of acquiring images of the Earth surface. This involves an enhanced possibility to acquire multitemporal images of large areas of the Earth surface, with improved temporal and spatial resolution with respect to traditional satellite data. Such new scenario significantly increases the interest of the remote sensing community in the multitemporal domain, requiring the development of novel data processing techniques and making it possible to address new important and challenging applications. Nonetheless, the properties of the images acquired by the last generation sensors (e.g. very high geometrical resolution, large time series of images, etc.) pose new methodological problems that require the development of a new generation of methods for the analysis of multitemporal images and temporal series of data. This is common to both passive (multispectral, hyperspectral, etc.) and active (synthetic aperture radar, lidar, etc.) sensors. The potentials of the technological development are strengthened from the increased awareness of the importance of monitoring the Earth surface at local, regional and global scale. Assessing, monitoring and predicting the dynamics of land covers and of anthropic processes is at the basis of both the understanding of the problems related to climate changes and the definition of politics for a sustainable development. The enhanced capability to perform multitemporal analysis of local areas at a very detailed scale is put beside these global themes and represents another strategic area of application. Contributions for this special issue are welcome from the research community developing new techniques for the analysis of multitemporal data, as well as from the application community using the results obtained from the automatic analysis on the following topics.

List of topics

- Multitemporal image calibration, correction and registration techniques;
- Multitemporal image analysis techniques;
- Classification of multitemporal data;
- Analysis of time series;
- Data mining in time series;
- Change detection methods;
- Change detection accuracy assessment;
- Multitemporal SAR and InSAR data analysis;
- Fusion of multitemporal data;
- Land-cover and land-use dynamics;
- Phenology monitoring;
- Applications of multitemporal data and time series;
- New satellite missions for acquiring time series.

Paper submission deadline: 29 February 2012

Submission guidelines

Prospective authors should follow the regular guidelines of TGRS, and should submit their manuscripts electronically to <http://mc.manuscriptcentral.com/tgrs>. Please indicate during your submission that the paper is intended for this Special Issue. Inquiries with respect to the special issue should be directed to the Guest Editors.

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