

ADVANCES IN DIVERSITY AND APPLICATIONS OF EARTH OBSERVING SATELLITES

Gilbert L. Rochon

Tuskegee University, Tuskegee, Alabama, 36088 USA

ABSTRACT

Once a technology only deployed and utilized by the Superpowers, remote sensing from earth observing satellites has emerged as a powerful interdisciplinary tool for sustainable development within Asia, Africa and South America. Diverse applications include monitoring agricultural productivity, forest inventory assessment, environmental sustainability, the regional impact of climate change, urban sprawl, coastal zone geomorphology, meteorological forecasting, early warning of biogenic and anthropogenic disasters, as well as mitigation of epidemics and epizootics, through monitoring infectious disease vector habitat. Advances in deployment of orbital panchromatic, multispectral, hyperspectral and radar sensors in support of the above referenced applications are described, with an emphasis on satellites launched and scheduled for launching on behalf of countries in Asia, Africa and South America. The mutual benefit of continued collaboration between Tuskegee University in Tuskegee, Alabama, USA and the Bangladesh University of Science and Technology (BUET) is presented, as well as a potential expanded focus on real-time acquisition of remotely sensed data from earth observing satellites and the near-real-time analysis and data product generation, within a high performance computing environment, to support response to and anticipation of time-critical events.