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Issue 3: From the Guest Editors

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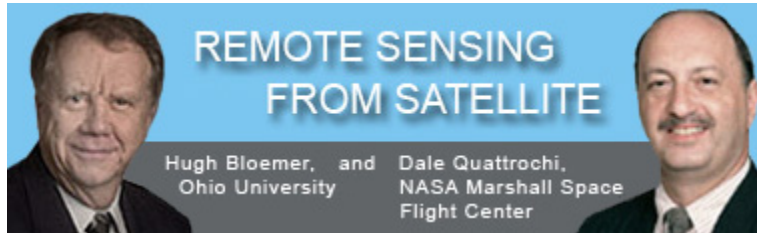
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Issue 3: From the Guest Editors



What is Remote Sensing? The simplest definition of remote sensing might read: The gathering of data about distant objects without coming in direct contact with them. Perhaps a more explicit definition of remote sensing is the science, technology, and "art" of observing and measuring a target on the earth's surface without touching it. Different authors expand on the above but the essence remains. We differentiate between passive and active remote sensing. The former senses energy emitted or reflected by the objects in question while the latter sends its own energy signals that are subsequently measured and recorded by the sensors. A common example of the latter is RADAR.

In this issue of the Online Journal of Space Communication we focus first and foremost on satellite remote sensing, but we also look at remote sensing data obtained from aircraft and even "remote sensing photographs" of the earth taken by astronauts. Satellite Remote Sensing for the civilian sector started in July of 1972 when National Aeronautics and Space Administration (NASA) launched the first Earth Resources Technology Satellite (ERTS). The system was later renamed and is known now as Landsat.

Landsat forever changed the way spatial scientists conducted their research. Armed with maps and aerial photography, geographers, geologists, regional and urban planners and a host of other scientists interested in spatial problems, ascertained the surface and subsurface configuration of the earth with their traditional methods until 1972. The advent of remote sensing, more specifically satellite remote sensing, dramatically changed the approach to those studies. A synoptic view of large parts of the earth's surface facilitated a new look at our planet.

Satellite remote sensing has been referred to as the third discovery of the earth. The explorations in antiquity around the Mediterranean Sea constitute the first discovery. These were followed by Christopher Columbus, Prince Henry the Navigator, Magellan, Del Cano and others exploring beyond the rim of Africa, Asia and Europe. These were followed by studies of the interior of the "old and new" continents by Livingstone, von Humboldt, Cook, von Richthofen, Nansen, Hedin and many others well into the 20th century. The third discovery was different in that it allowed a "near-real time" assessment of the earth's surface in a repetitive and temporal setting. Thanks to space and computer technology, the earth's assets as well as its problems could be inventoried in a timely fashion. The

earth had a new window and a new generation of scientists has been viewing our planet in a new light ever since.

Issue No. 3 of the Online Journal of Space Communication deals with three specific aspects of remote sensing. It looks first at what remote sensing is and how it works, who are the providers of remote sensing services and what space platforms are being used. It also considers educational programs. A large number of universities and colleges are offering courses and program designed specifically to deal with subject specific education in remote sensing. Departments of Geography, Geology, Landscape Architecture, Civil Engineering, Agricultural Economy, Plant Biology, and others offer remote sensing courses as part of their curriculum.

The second emphasis of this journal is on application of remote sensing data. A number of papers have been solicited to provide the reader with an idea of what is being accomplished with remote sensing data. Such data are not only used to inventory specific resources in selected regions, they are also being used for mapping and being incorporated into Geographic Information System (GIS) data bases to facilitate the modeling of complex interrelationships of earth-related phenomena at multiple space and time scales.

The third emphasis is on critical perspectives in which professionals and scholars reflect on the current status and future agenda of this industry. For example, analysis of how governmental agencies are utilizing or have utilized the power of enhanced software and hardware to analyze remote sensing data for the public good.

We, the editors, hope to provide a venue for a larger audience gaining insight into this relatively new but very powerful tool simply referred to as remote sensing. The future is here and remote sensing is part of it. More so, the combination of remote sensing with GIS technology has revolutionized the way we envision our world.