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Assignment 1

Write a short paper that summarizes what remote sensing is and how it is used. Conduct research using the Internet and other sources to discover some of the current remote sensing systems and how they are being used for different applications. Include a discussion on some of the future trends in remote sensing that use Unmanned Aerial Vehicles (UAVs) for local and community-based mapping efforts and some of the issues that accompany the use of this technology. Make sure to use paraphrasing of work found in outside sources and use parenthetical references within the document. Provide the citations of these works at the end of the paper. Include the author, source, year, and the URL to any reference found on the internet. See the following as a guide for proper citation of works (Modern Language Association – MLA Styles). http://www.umuc.edu/library/libhow/mla_examples.cfm. The authoritative source is: <http://www.mla.org/>.

Students should turn in a written document that is a little more extensive than this and address similar topics.

Remote sensing is the science to investigate the Earth and its resources by using aerial or satellite imaging systems. A number of systems exist today and are widely used in many fields of study and industries. Aerial and satellite imaging systems are used today with monitoring wetlands, forest management practices, or simply as a background to overlay other spatial information. RADAR systems have been used to map historical cultural features or oil spills. LiDAR is often used to develop very detailed elevation data sets and to assist with developing three dimensional features such as buildings and trees.

A new trend is occurring with unmanned aerial vehicles (UAVs). There are a number of sites and organizations that provide information, instructions, and products for individuals, schools, and communities to set up a UAV to capture aerial imagery. Open source software and code is available to program the UAV as well as process the digital imagery that is acquired by the UAV. Some common concerns for the use of UAVs for collecting imagery is privacy of individuals and organizations. There is little or no standard for acquiring, processing, and using imagery from UAVs. In addition, the Federal Aviation Administration (FAA) has provided some guidelines for flying and using UAVs. Much of the use of UAVs in broad public endeavors including the mapping of some public lands (national parks, wetlands, etc) as well as for monitoring and the enforcement of mining regulations and operations. UAVs can be useful for low cost solutions for individuals and community organizations provide they are implemented with concern for other



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individuals and the broader community and are transparent with the imagery and products created from the remotely sensed imagery.



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