

Construction Site Mapping

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Objectives

The objectives of construction area maps (CAM) are to locate within city limits those areas where there are indications of construction activity and the soil is exposed and use the information for the control of construction permits and water quality standards. This activity is directly related to the need to establish storm water management plans required for communities with a population greater than 100,000 by March 2002 such as Columbia. To meet the Environmental Protection Agency (EPA) Phase II storm water regulations it will be necessary to implement best management practices that will include the monitoring of construction sites with an area of 1 acre or more for undesirable erosion and transport of sediments to nearby streams or lakes.

User Community

The user community for impervious surface information consists of local government managers and engineers, consulting firms, utility companies and private citizens.

Product Development

The development of a methodology to use supervised classification of Ikonos multispectral data map construction sites where the soil was exposed started during the Synergy I program and had the benefit of additional Ikonos data over the same area covered earlier in the year 2000.

Experience of User Community

A review of the results to date in construction site mapping by representatives of the user community generated positive comments and the recognition that this information will be extremely useful to monitor the compliance of builders and developers with the best management practices that will be adopted by the City and County to meet the Environmental Protection Agency (EPA) Phase II storm water regulations.

Potential Activities for Synergy III

The usefulness of CAMs for the management of storm water quality justifies the implementation of this product as a web-based tool available to the user community.

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a) Aerial photo mosaic 1996

b) Ikonos multispectral image RGB (4,3,2). April 21, 2000



c) Ikonos multispectral image RGB (4,3,2). August 7 2000



Figure 1. Images a, b and c show the evolution of urban growth in southwest Columbia (Heritage Estates development). The April 2000 Ikonos image (b) shows high turbidity in a pond caused by sediment transported from the construction area. The problem is much smaller four months later (c) when roads are paved. The pond is not visible from nearby roads.