

Environmental Information Management Using GIS

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Abstract. The use of a GIS, as a framework to manage environmental information, and to facilitate business processes and workflows relying on this information is explained in the paper. The management of the environmental information with add-on visualization, spatial, network analysis capabilities through GIS has been accomplished by the development of a hybrid data model which is the combination of National Hydrography Dataset (NHD) data model (geodatabase) with the Environmental Monitoring database (non-spatial database). In hybrid data model, NHD geodatabase provided connectivity using surface water features for environmental surface water monitoring information and added further spatial visualization and analysis capabilities. Environmental non-spatial database, on the other hand, provided time series information with associated water quality information for surface water (river monitoring) activities. The integration scheme developed accomplished the linkage of the databases while keeping both databases rather intact. This in turn, yielded time and cost effective and seamless integration with the least modifications in both of the data models and enabled easy future updates. The GIS geodatabases with associated tools facilitate time, cost efficient and high quality environmental water monitoring information to be made available for better environmental decisions.

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