

NEW CONTRIBUTIONS OF THE THESIS

Thesis title: Study on integrating sensor systems and geographic information systems for resource and environmental management.

Major: Geography of Natural Resources and Environment

Code: 9440220

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Course: 2017-2021

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Institution: Graduate University of Science and Technology, Vietnam Academy of Science and Technology.

Content: The thesis is a research project, integrating wireless sensor network (WSN) technologies, geographic information system (GIS) and modeling to build an online monitoring system according to real-time information on a number of resource and environmental factors, helping managers in making decisions in the integrated management of water resources in river basins.

The main contributions of the thesis include 3 new points as follows:

1. First, build a WEBGIS system that integrates wireless sensor data and geographic data into hydrological models to serve water resources management in river basins in real time ;

2. Second, research and design a sensor system that can integrate different types of wireless sensor data to serve monitoring meteorological, hydrological and environmental parameters ;

3. Third, research and design an optical sensor structure to measure water salinity that can be integrated into a wireless sensor network.

Ha Noi, October 2023

Supervisors

Student



**Associate Professor,
Dr. Le Trung Thanh**



Dr. Nguyen Thanh Hoan



Nguyen Anh Tuan