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SensorNet is an integrated network of mobile and stationary transducers which continually monitor the environment for user defined critical sensing events such as Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) threats, meteorological data, and real-time visual intrusion events. After the event is sensed by the transducer, a sensor aggregation device, called a node, is responsible for relaying that information to the appropriate authority for further action with great speed and accuracy. Quick and efficient initial deployment of the SensorNet system is also a critical aspect and requires an understanding of wireless sensor network characteristics and limitations.

The goal of this project is to identify and/or develop thoroughly tested, empirical wireless sensor network deployment models for use within the SensorNet program.

This will be accomplished by:

1. Applying known IEEE 802.11a-g Radio Frequency Propagation models which correlate SensorNet communication requirements and radio signal path loss parameters
2. Characterize maximum and minimum radio frequency coverage areas as required for diverse sensor node densities and their related bandwidth and power consumption rates.

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