

## ABSTRACT

Flood monitoring is critical for early warning and disaster management. This proposed system a comprehensive flood monitoring system utilizing a variety of sensors, including rainfall sensors, water level sensors, rain detectors, wind speed sensors, DTH11 sensors, and air quality sensors. These sensors are integrated into an IoT framework for real-time data collection and analysis. The system continuously monitors environmental parameters and detects abnormal conditions indicative of potential flood events. Upon detection, the system triggers SMS alerts to registered users via GSM networks, enabling timely response and mitigation efforts. There are many sophisticated system widely in practice by some organizations and responsible authorities in monitoring flood level in a certain location. Most of these devices are very high in costly to be used and maintained. Apart from that, these devices are usually used only for monitoring purposes between the flood prone location and the monitoring station. Because of these limitations and to overcome them we introduce the proposed system which helps overcome the limitations in the existing method. Sensor's sensor information transmission and monitor the data which will be collected from various sensors and give alert message to authorities and the public. Ultrasonic sensor is used to detect the water level. Sensor calibration aids in the improvement of sensor accuracy and performance. The sensor's that we have used in our system are calibrated in advance and the data coming from these sensor's are very much accurate and correct. This integrated approach offers a scalable solution for flood monitoring and early warning systems in diverse geographical regions.