For real time monitoring of water a novel approach to design a pH sensor node is explained in [Menon]. In this node data obtained from pH sensors is in form of voltage and the voltage is very low (approx. 60mV). An amplifier is used to amplify the voltage and level shifting using an adder circuit for negative voltage results. The amplified data is fed to processing unit and result is then wirelessly transmitted using ZigBee. PIC microcontroller PIC16F877 is used in processing.

Another water quality monitoring system is explained in [untitled]. Where real time monitoring of the water quality in IOT (internet of things) is explained. The system consist of several sensors is used to measuring physical and chemical parameters of the water. In this system the data from different sensors is transmitted through IOT module (USR-WIFI232-X-V4.4) to the gateway.

In [video 2] monitoring water quality of Three Gorges Reservoir of Yangtze River is explained. This system features distributed data collection, WSN architecture, and transmission of sensor data based on GPRS. In this paper it is explained that if one node stop working properly, then the neighboring node establishes the relay nodes, each node could collect the data transmitted to the relay contacts, and then a relay node will detect the data which is sent to the network coordinator

In [nikhade] it is explained how ZigBee and Raspberry pi are used for wireless sensor network (WSN) technology. In this architecture they combined database server, webserver and gateway node of WSN in one raspberry pi. Raspberry pi and XBee module is directly connected through USB cable and also by UART. AVR core microcontroller ATMEGA324PA is main controller chip of the sensor.