

KENYA TURN-KEY TSUNAMI EARLY WARNING SYSTEM



April 2007

Project to measure water levels at 3 points along Kenya's coast for early warning of tsunamis & data collection crucial to monitor & predict meteorological & climatic events

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| OWNER: | Kenya Meteorological Department |
| PROJECT: | Kenya Tide Station System |
| EQUIPMENT: | 3 RTUs, 1 Central Base Station |
| DATES: | 2006-2007 with on-going support |
| CONTACT: | Kennedy Obong'o |
| VALUE: | \$100,000 |
| SENSORS: | Air Temperature, Relative Humidity, Barometric Pressure, Wind Speed, Wind Direction, water level, water quality |
| TELEMETRY: | Satellite transmitter. GSM modems to transfer data to Central Station over local cellular network. |
| DATALOGGER: | Xpert |



The Kenya Met Department awarded to Sutron a contract to design, build, and install a real-time network of three Automatic Tidal & Weather Monitoring Stations located on existing piers to ensure sustainable use and protection of their coastal waters. Moreover, the establishment of an early warning system using the tide stations will decrease the impact of tsunamis and other related maritime disasters (e.g. tropical cyclone, oil spills, marine accidents, storm surges and strong ocean waves, etc)

Modern technologies in ocean monitoring and new developments in ocean climate modeling require that the data be accurate and the system be durable to maximize the System's ability for early detection of tsunamis and weather and climate modelling activities, co-ordinated through the Kenya Meteorological Department of the Western Indian Ocean Region.

The ocean observation platforms consist of instruments used for observation of sea level changes and for measurement of meteorological and oceanographic parameters like sea surface temperature, currents, surface wind, upper ocean temperature, salinity and velocity.

The automatic tidal and weather monitoring stations have the following:

- Meet International as well as NOAA/NOS standards for primary tide gages.
- Communicate through METEOSAT Second Generation (MSG) satellite with data reception at GTS center located in Kenya
- Include all necessary software for recovering and transmitting data from METEOSAT via the GTS center and displaying the tide level.
- Components to interface with GTS.
- NOS-certified tide stations with Meteosat satellite



primary telemetry, backup telemetry (PSTN), and a Data processing center with software and PC for instant, 24-7 access to tsunami warning and water level data.

- A full compliment of weather instruments to extend the capability of the stations to support other emergencies such as storm surge detection and monitoring.
- All civil works (excluding shelters).
- Installation
- Training
- Software and PC to manually download and decode satellite data via the Internet.
- After sales support using the local in-county agent.