

Automatic Weather Station

Introduction:

Records of daily weather conditions have been kept for 200 years and more, of course, but traditionally have always required a diligent and dedicated human observer to record readings from manual instruments at a fixed time, without fail, every single day. And to analyze the daily data collected over months and years, more painstaking paperwork was called for.

But fortunately we're now in an era where continuous automatic collection of weather data is feasible. And what's really made a difference in the last few years is that the technology to make accurate automated measurements has become much more affordable and more straightforward to use. We've now reached the point where it is well within the budget and capability of many individuals, clubs and businesses to run their own automatic weather station (AWS).

The key benefits of automated measurements include:

- All current weather readings can be seen from indoors, at a glance and at any time;
- AWS stations can automatically record maximum and minimum values for a range of weather parameters through each day and keep track, for example, of total monthly and yearly rainfall;
- Readings can be easily taken direct from the console display;
 - Automated systems can run for weeks and months without attention whilst continuously recording all details of the weather;
 - Much greater within-day detail is available eg the complete pattern of wind speed & direction through the day can be logged;
 - Comprehensive statistics can be automatically calculated and analysed;
 - Impressive visual graphics can be displayed;
 - Detailed weather conditions may be viewed at any distance from the station itself, for example over the Internet;

Up to the year 2017, surface weather observation at Chiromo Campus was based on traditional sensors so it wasn't easy to collect data on real time basis. This gap has now been filled by the installation of the Automatic Weather Station (AWS) at Chiromo Urban Environmental Station.

This AWS station was donated by the TAMHO through collaboration with Dr. Wilson Gitau who is a Lecturer at the Department of Meteorology.

The weather elements measured by the AWS are:

- Air Temperature
- Wind Speed and Direction
- Pressure
- Radiation
- Relative Humidity
- Rainfall
- Visibility
- Sunshine Hours