

Tools of the Trade**Humidity Sensors**

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Paranormal field investigators theorize that in addition to magnetic and temperature fluctuations that may occur as the result of an entity drawing energy from the environment, that the surrounding humidity may also deviate. These slight changes can be measured using a humidity sensing device know as a hygrometer.

Common Terms:

Absolute humidity - Amount of actual water vapor per unit volume of air (grams per cubic meter).

Relative humidity - The ratio (%) of water vapor in the air-water mixture to the saturated vapor pressure of water at those conditions.

The relative humidity of air is a function of both its water content and temperature.

Dew Point – Temperature at which air is 100% saturated with water vapor.

Heat Index - Combines relative humidity and air temperature to estimate a human-perceived equivalent temperature. Humidity hinders the evaporation of perspiration from the skin

As we dive into the topic, we first need to define what humidity really is, and how it's measured. Humidity is simply a measurement of the amount of water vapor in the air, but direct humidity measurement is actually not that easy since relative humidity is a function of both moisture content and temperature, so slight temperature variations will skew the relative humidity readings. Some of the cheaper (metal-paper coil type) hygrometers are only accurate to within 10%. Electronic hygrometers are typically Resistive or Capacitive type sensors 'can be' more accurate but more expensive.

Fun Facts:

Clouds - You can tell how high the bottom of the clouds are by $((\text{temperature} - \text{dewpoint}) / 4.5) * 1000$, so if Temp=70F & DewPoint=61F: the cloud base will be 2000' up. If Temp=80F & DewPoint=80F, you will be in VERY dense fog since the base will be at ground level.

Antarctica - Despite being surrounded by lots and lots of frozen water, the humidity at Antarctica is almost zero (actually 0.03%) but a high relative humidity because the very cold air can hold very little water vapor.

Sticky City - The US city with the highest average relative humidity (at 83%) is Forks, WA which is now famous as the setting of the *Twilight* series vampire books and movies.

A hygrometer can be found in most sporting or electronics stores with prices typically in the \$5 - \$100 range. There are multiple types available to include mechanical and electrical type devices which both offer a wide spectrum of accuracies. Choose one with an accuracy of $\pm 5\%$ or better, fits your budget, easy to use and calibrate (if needed), and fairly quick responding.

Bumps in the Night!!!!

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Humidity Sensor

To properly use humidity measurement as part of a paranormal investigation:

- 1) Check weather conditions slightly before, and directly after the investigation to note nearby weather fronts, which will naturally (and sometimes fairly quickly) change the temperatures and humidity.
- 2) Take and record baseline readings in several location of the building/area being investigated. This operation can be done as part of the baseline grid pattern sweep along with the EMF and other reading.
- 3) Note the locations of open doors, open windows, running fans, forced air furnace/AC/ventilation systems that can slightly change temperature in closed spaces during the investigation that will indirectly impact relative humidity reading.
- 4) If same location variations are detected during the investigation, note the reading along with any other instrument variations (e.g. EMF, temperature, and/or noise/light anomalies) that can be used later to support the data and/or experience.

Good reference:

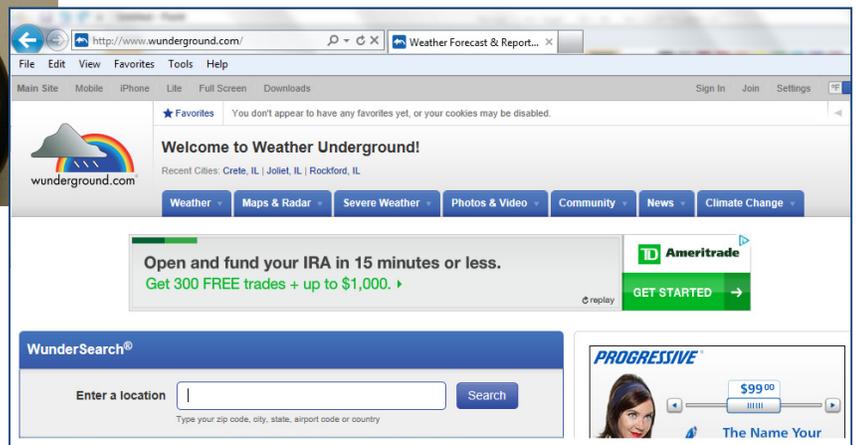
<http://forecast.weather.gov> - Enter your zipcode for current Humidity and DewPoint conditions

<http://en.wikipedia.org/wiki/Hygrometer>

<http://www.wunderground.com/> - Current and historic weather information



Hobo and Pyle Data Loggers



Weather Underground