Smart Digital Psychrometer for Forecasting Local Weather

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Most of people are not aware of the present weather condition changes, where which the occurences of hot weather and rains are currently difficult to predict. Unpredictable local weather conditions can cause adverse effects to society. The purpose of this research is to describe the working mechanism of smart digital psychrometer in local weather forecast with radius ±10 km, to analyze the benefits of smart digital psychrometer for the community and to find out the technical feasibility of smart digital psychrometer. This research took place at High School SMAN Bali Mandara area on 21 November 2016 until 21 February 2017 and used descriptive qualitative data analysis method. The Smart Digital Psychrometer was developed by integration of sensor system and Intel Galileo motherboard including a calculation algorithm. The measured physical properties indicating weather condition are air temperatures, air pressure, water temperature and soil moisture. The Smart Digital Psychrometer is able to provide weather information in form of dry bulb temperature, wet bulb temperature, wet bulb depression, dew point, relative humidity, air pressure, humidity difference, air pressure difference, soil moisture and the approximate height of the inception of the cloud. The obtained weather information can be used as guidance for farmers in selecting plants to be planted and can be used as consideration for scheduling to dry harvested rice and food products as well as forecasting short term and local weather.

Awards Won:

American Meteorological Society: Third Award of $500