RECAP

Spring 1999

For People Who Monitor the Weather From the Manufacturers of Capricorn™ Reliable Weather Stations

Bajan Helicopters, Ltd., Barbados

Capricorn 2000 – For the safety of our pilots and passengers

"You would be surprised, in a small country such as Barbados, that the weather at the airport can be very different to that experienced just 10 miles away, particularly when you have cells and other weather phenomenon moving through." Bajan Helicopters offers charter helicopter services throughout the Caribbean.

Photograph courtesy of Bajan Helicopters, Ltd.

General Manager George Morris described their need for weather information. "The Caribbean is influenced significantly by tropical weather. For the safety of our pilots and passengers, we think it's important to have up-to-date weather information. Although this is available through very modern systems at the local airport, it is quite helpful for our pilots to have up-to-date information also available at our primary base which is the Bridgetown heliport."

Bajan selected the Capricorn 2000 weather station to provide the weather information they needed. In addition, Bajan supplies weather data to the airport and the meteorological office. Morris said, "We are now able to provide them with data from the Bridgetown area, which is the capital city, which they weren't otherwise able to gather. It's a bit of a promotional thing for us to have the Bridgetown heliport noted each and every day in newscasts and the weather reports."

Morris noted, "What attracted me to the Capricorn 2000 was its modular nature – you can take the basic system and add components as you need to. The strongest point was the computer interface – being able to interface that station immediately to our network in real time and have several people on our network be able to access the same information."

Wind speed and wind direction are the primary parameters which affect flight operations in terms of the direction helicopters land and take off. Morris commented, "Wind is quite an important aspect of flying. That is now available on approach to the heliport and departure. We are fortunate in that the wind is somewhat constant in the Caribbean, but it can be effected because of the topography where the heliport is. For that reason, it would not be unusual for the pilot to request wind direction and wind speed." Bajan has enabled the alarm capability to alert operators to specific wind conditions.

Other parameters are observed as well, such as barometric pressure. "If we have a significant downtrend then we are probably in for some bad weather, so we all pay attention to that," Morris said. "Rainfall is always useful, as is relative humidity."

Their Capricorn 2000 has worked "flawlessly."

"It's a good system," Morris noted. "It's very straightforward to install. The documentation was clear and concise. You couldn't ask for anything much easier than that."

We are interested in updating our web site links. If you have a weather-related web page that would be of interest to our visitors, or if you would be interested in linking to our web site, please contact us.

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Weather Watching: *Summer's Silent Killer*

by George Miller, Consulting Meteorologist

As I wander through the grocery lines, I keep noticing the headlines in the scandal sheets: "Hottest Summer Yet" or "U.S. To Swelter In Record Heat." While I do not take a lot of stock in those magazines, I do know that summer is coming and with it comes heat and humidity. The combination of those two weather elements can be deadly.

Evaporation is a cooling process that takes heat away from our bodies and transfers it to the air around us in a latent form. It is simply the reason you feel cool when you jump out of a swimming pool or step out of the shower in the morning. Millions of water molecules are escaping from your skin into the air as water vapor.

Water vapor is a gas that you cannot smell, yet it is present in the atmosphere in large quantities. That quantity varies with the temperature. Warm air is capable of holding more water vapor than cold air. For example, air at 60 degrees Fahrenheit can hold over twice as much moisture as air at 41 degrees Fahrenheit. At 95 degrees that factor is seven times as much.

That is why the term is called relative humidity. The "relative" part of it refers to the temperature. The same amount of moisture in air at 41 degrees will have a different humidity than if it was in air at 95 degrees. The more moisture there is in the air, the greater the vapor pressure, or more simply the pressure exerted by those water vapor molecules.

If the relative humidity is high and the temperature is high, the vapor pressure of the air inhibits the evaporation of water (sweat) from our bodies. We then begin to fan ourselves to get that moist air away from the skin and replace it with drier air.

Too much moisture and too much temperature taxes the body's ability to disburse heat. From these two measurements, an apparent temperature called the "heat index" has been developed. In essence, the "heat index" is how hot we "think" it is. If our body "thinks" it is too hot, it begins to slow down. Heat cramps, heat exhaustion, and heat stroke can result. We sometimes call them, "the silent killers."

Humidity at both the low range (that is, less than 10 percent) and at the high range (greater than 90 percent) is hard to measure. Yet, the Capricorn instrument does this very well. With Weather View software, heat index is calculated automatically and available for display.

It could be a long, hot summer. Knowing the relative humidity and the temperature could help you survive it.

The winter issue Weather Watching column listed a couple of helpful weather web sites. We intended to list the Portland, Oregon NWS web site at http://nimbo.wrh.noaa.gov/Portland.

Heat Index	Possible Heat Disorders
130° and up	Heatstroke/sunstroke highly likely with continued exposure
105° - 130°	Sunstroke, heat cramps or heat exhaustion likely and heatstroke possible with prolonged exposure and/or physical activity
90° - 105°	Sunstroke, heat cramps and heat exhaustion likely with prolonged exposure and/or physical activity
80° - 90°	Fatigue possible with prolonged exposure and/or physical activity