



For Details, Contact:

Patrick Kelly, VP Sales and Marketing
Coastal Environmental Systems
820 – 1st Avenue S
Seattle, WA
Pkelly@coastalenvironmental.com
www.coastalenvironmental.com
206.682.6048

COASTAL ENVIRONMENTAL SYSTEMS

COASTAL TO PROVIDE PALMER STATION IN ANTARCTICA WITH THEIR FIRST AUTOMATED WEATHER STATION - AND WHAT A STATION IT WILL BE!

Seattle, WA: Coastal will build an automated weather station to be used at Palmer Station in Antarctica for the National Science Foundation. The station is quite isolated from all other encampments in the Antarctic, and as such, is of considerable importance for predicting weather in the Antarctic, as well as the rest of the world.

Coastal was selected because of their “responsiveness to our needs” specifically the “clear, easy to read and operate User Interface,” described Ken Doggett, a member of the science team for Palmer.

Palmer presents unique difficulties for installation and survival of an automated weather station. In addition to bitter cold, it is a coastal location with wave action that creates a salt laden, highly corrosive environment. Not to mention it is pretty much solid rock.

A modified “roof mount” plate will be used to bolt the tower to the rock and bolts will also be used to anchor down the Ceilometer stand, the tipping bucket/rain gauge, and the wind-shield for the rain gauge.

The weather station has capabilities featuring the following array of scientific quality sensors:

- Ultrasonic Wind Monitor,
- Relative Humidity/Dew Point and Air Temperature,
- Present Weather,
- Visibility,
- Ceilometer reporting 3 cloud layers and a 25,000 ft range,
- High precision pressure sensor with 0.1 mbar accuracy,
- Precipitation Accumulation,
- Short Wave Pyronometer (Solar Radiation),
- Photosynthetically active wavelength Solar Radiation,
- Snow Depth and,
- Sea Water Temperature

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The station sends data via RS-485 to the weather room at Palmer station, where the User Interface displays it in a variety of formats, including METAR/SPECI and CLIMAT. The data is then made available on their LAN and is also “pushed” out over their satellite INTERNET connection. The User Interface runs on a powerful Compaq Proliant server.

Most of the processing will be done by the **ZENO[®]-3200**, a data collection platform located outside with the sensors.

Coastal will provide training, logistics and depot level support for the weather station.