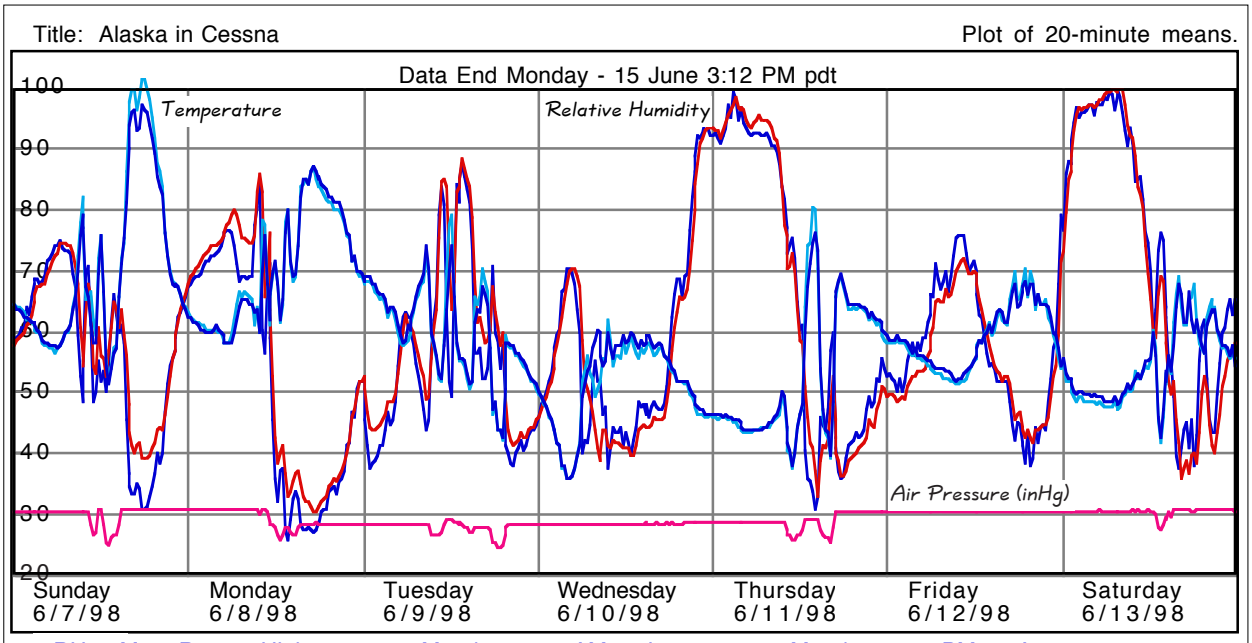
NEWS!



%RH : Most Recent High = 105 on Monday, 9:40 AM — Low = 23 on Monday, 1:42 PM — Average = 60.
%RH : Most Recent High = 100 on Saturday, 7:58 AM — Low = 30 on Monday, 5:12 PM — Average = 60.

Statistics, 1st 2 traces only.

A jumble of data gathered in flight and overnight for one week, with two days of no flying.
This is an overview of the observed ranges from five sensors.
Of particular note are the separate strain-gauge relative humidity sensors: trade-named Xeritron & XerIC.

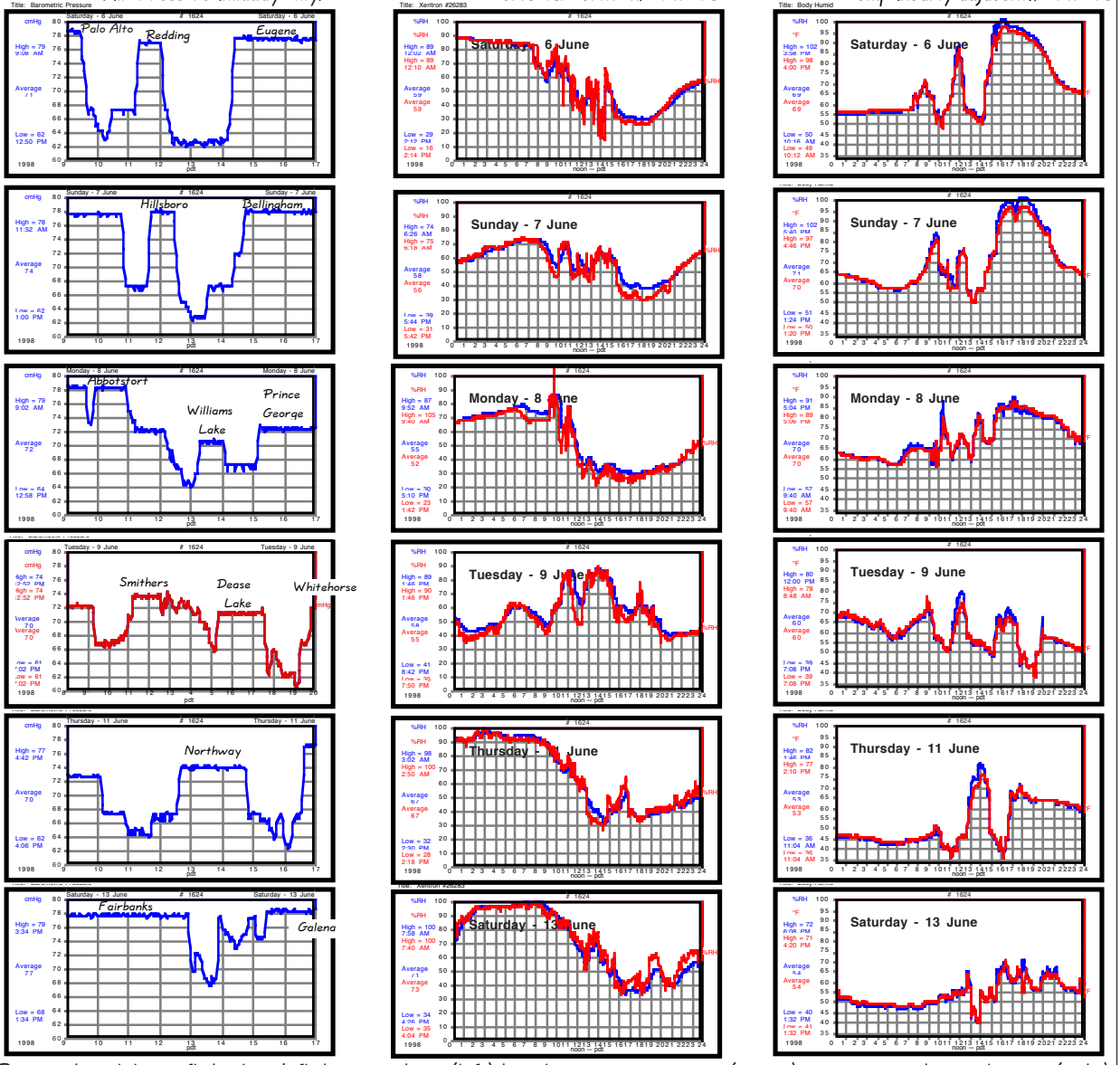
Into the Wilderness with HTP

Bear Facts -- #93

A small data acquisition system was carried on a small plane during an international trip to observe two ways to measure humidity under a wide variety of conditions. Old and new strain-gauge technologies compare very well.

Langan Products, Inc.
2660 California Street
San Francisco, California 94115
(415) 567-8089 (voice & fax)
email: langan@sirius.com

the DataBear



Data gathered during flight days. Inflight times shown (left), humidity-sensor comparison (center), temperature shows adjacency (right).

Humidity, temperature and pressure (HTP) are the three key parameters in defining the impact of water moisture on any substance in a variety of ways using the psychrometric table or an electronic calculation of it. The Bear Facts series has shown simultaneous HTP data taken in the passenger and cargo compartments of jet aircraft; such measurements have been focused upon transport monitoring of humans, animals and perishables. To demonstrate the flexibility of Langan HTP instrumentation, a new set of data were gathered on a long private plane journey. A Cessna 172 trip from California to central Alaska.

The sensor(s) were placed in and next to the air stream vent to the rear seats during flight. Overnight they were attached beneath the wing, outside. The new XerIC™ humidity sensor was compared to the proven Xeritron™ humidity sensor. While they were not always exactly in the same place, the data reveal the more rapid response of the semiconductor humidity sensor over its biosensor strain-gauge 'parent'.

The demonstration shows that the ease of installation allows the gathering of environmental data under rapidly varying conditions. The measurements were incidental to the other busy activities of small plane flight over this extended route into the sparse northern lands of the continent. Nevertheless, they accumulated a variety of data not easily obtained in another way.

cut inside dotted line for small size

The new patented HMX2000 semiconductor MEMS (microelectromechanical sensor) strain-guage humidity sensor, manufactured by Hygrometrix, Inc. (Alpine, CA), has been configured for Langan Instruments as the XerIC™ Sensor. The response of the XerIC is faster, but it measures humidity as does the proven Xeritron sensor.