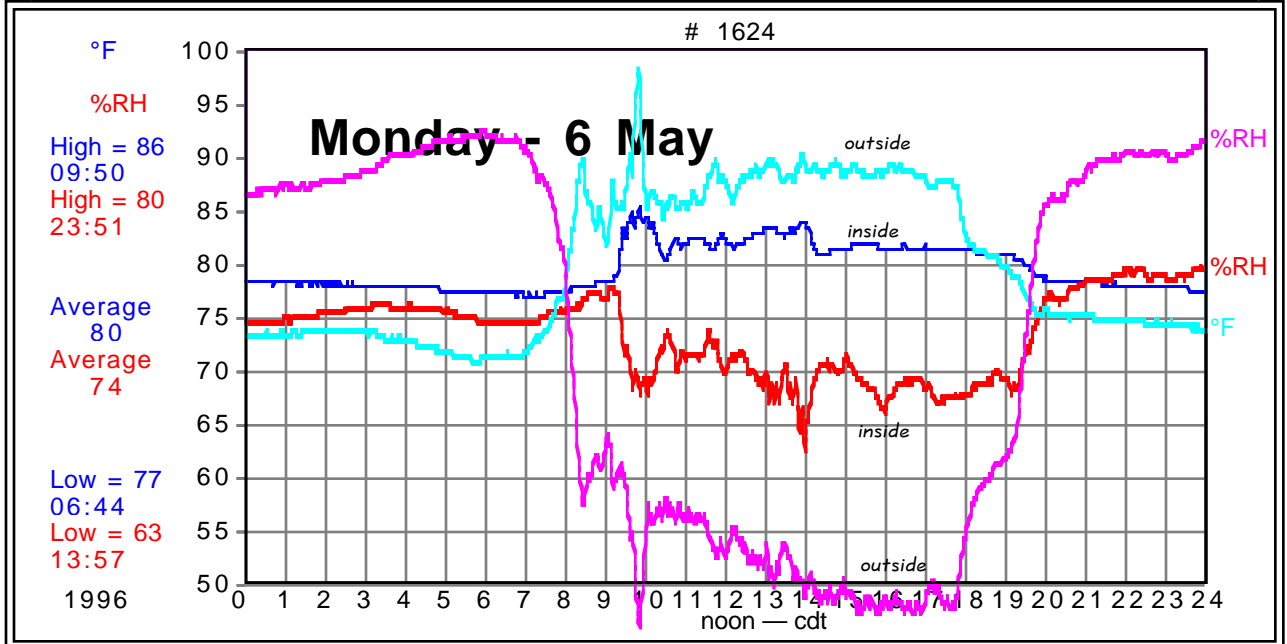


The temperature reached 80°F (27°C) and averaged 74°F (23°C) within the vault; the relative humidity reached 80% and averaged 74%. Outside the temperature reached 86°F (30°C), averaged 80°F (27°C); the humidity was 93% and averaged 73%. The room has an open door, yet is still moderated from outdoor changes.

Title: Probe B Temperature

Statistics for first two traces only.

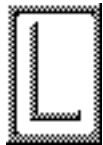


This is a random day in the environment of one of three rooms containing the murals of Bonampak.

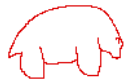
Maya Masterpiece Monitoring

Bear Facts -- #69

Long hidden in the Petán forests, the mural rooms at Bonampak were first seen by an outsider just 50 years ago. For 1200 years these marvelous paintings were exposed. Their environment has now been measured.

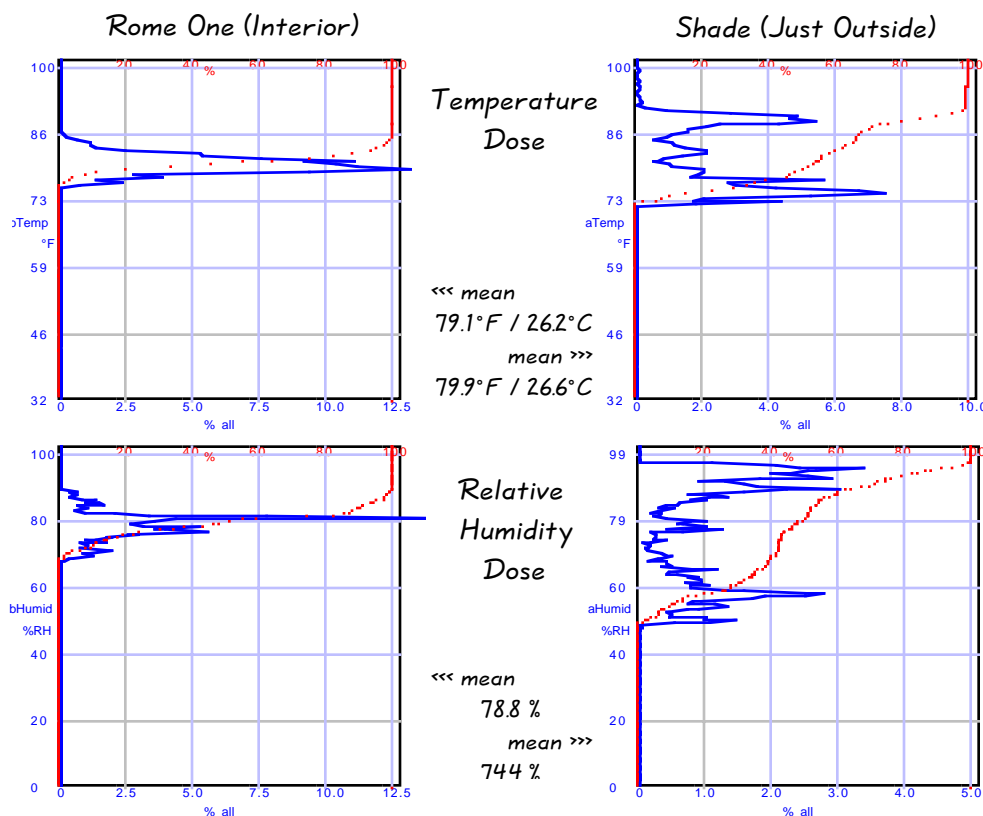


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the DataBear

Bear Facts are published to provide useful insights into the operation and applications for the DataBear™ Measurer and associated complete instruments.



In an article published in the National Geographic Magazine, in early 1995*, the world learned about the spectacular murals found at a remote jungle site in southern Chiapas, Mexico, near the Guatemala border. Scientists, artists and art historians from the US and Mexico captured the faded paintings and brought them to extraordinary brilliance using modern technology. The results are breathtaking; the originals are more humbling as they have weathered the ravages of time and their environment. At first one may be disappointed when comparing with the computer enhancements; it takes but a moment to be awed by the find itself. Yes, you must squint and strain to see the details. The art is inspiring and grand, ingenious and elegant; it speaks out from lost ages. What went on at this place? Indeed, if these stones could tell.

These three rooms, or vaults (because of their high-ceilings), are

dated from the Classic Mayan times, some 1200 years before. They were first 'discovered' in 1946, but the Mayans had used them for centuries, hidden as they were in the forest. Over the years a calcite coating had developed which, while it hid the art, protected it. Now this has been carefully removed. The art is exposed once again.

This year, the team who worked on the National Geographic article again returned to Bonampak, and there was an opportunity to monitor the environment to which the rooms are exposed. Some of the results are shown here. May is the dry season, so the short-term dose is, perhaps, representative of the best of times. It gives the first measurements of this type that are available, however.

The data gathered during their stay show that the humid environment within the measured room has a dampened response to the vari-

ations in the outside air. Outside it is wet at night; the tropical forest heats and transpires, and the moisture loss reduces humidity during the heat of the day. Within, the humidity is retained; it is less moist but less dry. The temperature is, on average, the same as outside.

Over time this environment will destroy these paintings. Yes, 1200 years have passed, but the paintings are uncovered again. And, now, the modern tourist has arrived. One day during these measurements, a hundred people hiked in from the roadway—it takes two hours in and two hours out—to see this site. This attention warns the conservationists that something must be done to protect this priceless art and still make it accessible to those who respect it.

The measurements are one step toward this awareness. They provide a benchmark for a plan.

*Miller, Mary (1995): "Maya Masterpiece Revealed at Bonampak", National Geographic Magazine, February, p. 50-69.

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cut inside dotted line for small size

Portable Langan Hygrothermographs are used by the conservationist. They are uniquely helpful when high levels of humidity are observed. Their Xeritron Sensor responds accurately under harsh environments. The data collected in the jungles of the Petán show this capability.

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