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Title: The specific risks of incorrect temperature for Natural History Collections - with particular reference to geological collections

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2. Occasionally monitors have had trouble radioing into the logger. This can happen for no apparent reason and can be very frustrating. The monitor must then be tested to see if the problem is with the electronics or its position.
3. We have a modem link to an outside station. Setting up this link was difficult, and initially we had problems. The manufacturer's instructions were again basic, and after installation the modem would occasionally refuse to operate for no apparent reason.
4. The monitors are calibrated with 3 salts and via the computer. This can be a confusing and lengthy process, as each salt must be left on the monitor for about 20 minutes. At present we have 35 monitors and this is not a job we enjoy!

Monitors can be sent away for calibration but this service is expensive.

The advantages of the system are self-evident:

1. Once the system is set up and running the Windows based software is very user friendly and operation is straightforward.
2. Immediate access to continuously updated information. We can react to problems as they are occurring.
3. All analysis and interpretation can be done at the touch of a button.
4. The charts, plots graphs and summaries are easy for curatorial staff to understand. This has made it easier for us to initiate environmental controls plans in the galleries and stores. You can't argue with hard evidence when it is well presented!
5. The monitors are smaller and less obtrusive than thermohygrographs. Curators and designers are happy for us to place them in cases and in amongst displays.

In short, we are very happy with our Hanwell Telemetric System. Since its installation environmental control has a much higher profile in the museum and I have to do less hard sums!

*Janette Pearson
Ipswich Museum*



The following five pieces are all from Kate Andrew, Ludlow Museum.

The Specific Risks of Incorrect Temperature for Natural History Collections - with particular reference to geological collections

An increase in temperature will increase all reaction rates, be it chemical breakdown or breeding bugs. Rob Waller's article in this issue discusses a risk assessment related to increased temperature.

Incorrect temperature can cause the following problems in mineral species; violation, dissociation of hydrates, thermal shock and fracturing of specimens with fluid inclusions exposed to high or low temperatures. Polymorphic phase transitions of some mineral species are also a function of temperature but the rate of change from temperature of formation to storage temperature is so slow that most species exist in a what is called a "metastable" state. For a thorough discussion of these potential problems, the chapter by Rob Waller "Temperature and humidity sensitive mineralogical and petrological specimens" in "The care and conservation of geological material" edited by Howie should be referred.

The manager of a general geological collection needs to be aware of the effects of incorrect temperature on some fairly common mineral species and on certain types of crystals.