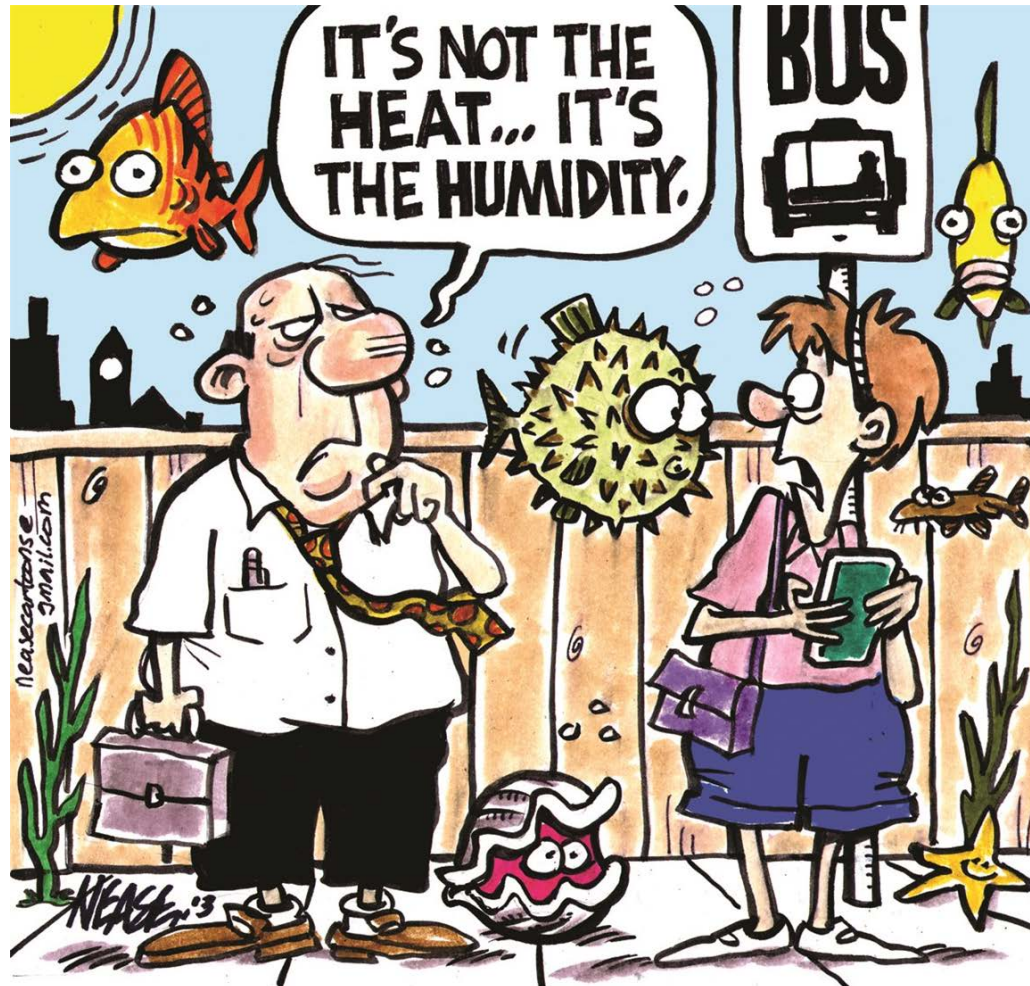




Environmental Factors in Records Management – Case and Practice at MRIGlobal Kansas City - Rob Seibolt, CRM





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Humidity and Temperature Control Background

- Mid 2000s – Installed AC and a sensor to monitor temperature and humidity
- A portable dehumidifier was in use
- Standard NISO TR01-1995 was used as a guideline only
- Summer 2015, the sensor recorded a humidity reading of 72%
- Two old vents suspected of causing the humidity spike were closed
- July 2017 - humidity & temperature readings pulled by an auditor

Structural Issues and Causality

- The Records Center is original construction using NFPA 232(1947)
- The door to the Records Center must remain open during work hours
- The main buildings have one pass negative air pressure
- The two old vents were designed to provide air circulation (no AC)
- Modifying and adding environmental controls is costly and difficult
- The closed vents were opening overnight and were sealed

Standards, Ranges, Media Type - Federal

- 21 CFR Part 58.190(b)(2017) Good Laboratory Practices (GLP FDA Standards)
Conditions of storage shall minimize deterioration of the documents or specimens in accordance with the requirements for the time period of their retention and the nature of the documents or specimens.
- 36 CFR Subpart B 1234.14 (2014)(NARA)
Humidity in **excess of 70%**, extremes of heat combined with humidity in **excess of 55%**, all contribute to **mold growth**

Standards, Ranges, Media Type – NISO, ARMA

NISO TR01-1995

- Combined stack and user area for paper records
- 70F maximum Temperature, 30-50% relative humidity
- Maximum fluctuation temperature 2 F daily, 3 F monthly
- Maximum fluctuation humidity 3% daily, 3% monthly

ARMA/ANSI TR 01-2011(Records Center Operations 3rd Edition)

- Temperature (max) 70° F (21.11° C); 30-50% humidity for paper records
- Temperature (max) 70° F (21.11° C); humidity 20% to 50% for microform records
- **No fluctuation recommendations**

Standards, Ranges, Media Type – National Park Service

National Park Service Museum Handbook Part I Chapter 4 (2016)

- Humidity Set Point 45-55% for most collections
Ideally, fluctuations **should not** exceed $\pm 5\%$
- Temperature Range 59-77 F
- Keep the temperature as level as possible

National Park Service Museum Handbook Part I Chapter 4 (1999)

- **Paintings** 40-65% Humidity
- **Recommended** temperature level is 18-20° C (64-68° F)
- Temperature should not exceed 24° C (75° F).

Decisions & Considerations

- The MRIGlobal Records Center is a mixed use environment with paper, microforms, paintings, and the work area for the Records Staff
- The manual control AC and a wall mounted dehumidifier provides good management of temperature and humidity in the Records Center
- Major fluctuations in temperature have not been a concern
- A portable humidifier can increase humidity during the winter to reach 30% or greater
- Other organizations “unofficially” strive to avoid high heat and humidity
Temperature 75 F or lower, humidity below 50/55%

MRIGlobal Environmental Objectives for the Records Center

- **ARMA/ANSI TR 01-2011**
 - 70F maximum Temperature, 30-50% humidity
 - A 5% fluctuation in humidity up to 55%
 - A 5% fluctuation in humidity down to 25%
 - A 2 F fluctuation above 70 F

Dehumidification and Continuous Drainage



Questions?

Additional References

- Saffady, William. Records and Information Management. ARMA International, 2004
- Records Center Operations. 3rd Edition. Technical report number ARMA/ANSI TR 01-2011. ARMA International, 2011