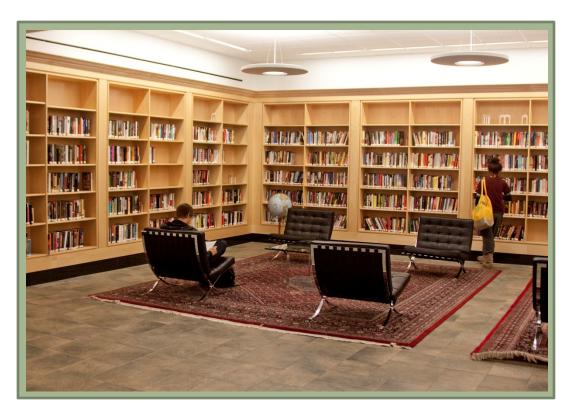
MOLD REMEDIATION ON A BUDGET



Julie Mosbo Preservation Librarian Southern Illinois University Carbondale

Morris Library

- 2.6 million volumes
- 36,000 current periodicals and serials
- 3.6 million microform units



Morris Library

- Renovation of floors 1-5 completed in 2009
- Basement completed in 2013
- Floors 6 & 7 currently being renovated



MARION STREET STORAGE

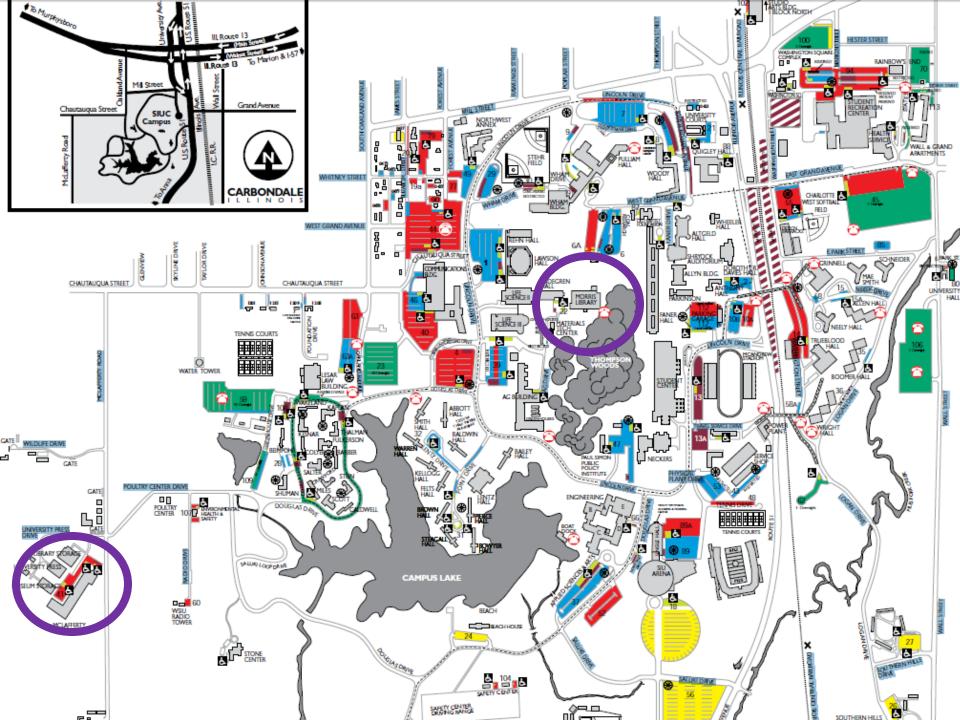
- 15,300 boxes of archival collections
- Archived copies of these and dissertations
- 5,000-8,000 Rare Books



STORAGE 1 & 2

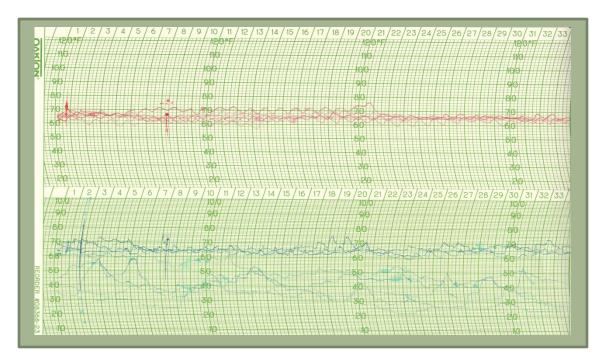
- o 200,000 volumes
- Periodicals, IMC, and SCRC collections
- Library storage since 1960s





STORAGE 1 & 2

- Library without Preservation Librarian since 1989
- Hygrothermographs used but not reviewed until 2008
- Purchased PEM2 in 2009
- White mold found October 7, 2011











POLITICAL/ECONOMICAL ENVIRONMENT

- The University
 - Faculty positions frozen
 - Chancellor approving everything
 - Threat of four unions striking
 - Faculty Association union on strike for a week beginning November 3rd
 - November 1st sweeping of all open faculty salaries



POLITICAL/ECONOMICAL ENVIRONMENT

• The Library

- Four Faculty positions frozen
- Library assessed additional 1% budget cut
- 17 out of 22 Library faculty walked out during the strike
- November 1st sweeping of four open faculty salaries
- Insurance was not an option, previous insurance issues with SCRC storage

POLITICAL/ECONOMICAL ENVIRONMENT

Preservation Unit

- Unionized Civil Service
- Brand new Conservation Lab Supervisor
- Loss of Bindery Supervisor, no guarantee of filling position
- Retirement of Marking Supervisor
- Marking position was cut as part of the 1%

- Assessment needed to be completed before October 17th (Remember: Salaries were being swept Nov. 1st)
- Two days for assessment
 - Est. 5,000 books
 - 27 rows (discovered mold later on 2nd floor)
 - Estimated 10 minutes of cleaning per book
 - Total of 50,000 minutes or 834 hours of work
- Center for Environmental Health and Safety
- Justification for keeping open salary money
- Permission granted in four days by Provost/Chancellor

- Originally asked for \$16,000 for 1st floor
- Needed \$15,000 more (cut from bindery budget) to include 2nd floor
- Two extra help hired
- Both worked in housing and with mold
- Purchased three hepa filter Nelfisk GM80 vacuums
- Extra help trained along with the McLafferty Circulation Supervisor
- o Provided gloves, respirators, eye wear, and suits
- HVAC system cleaned and tested
- Emily and Troy work 50 hrs a week from Oct. 2011 to June 2012
- Student workers worked on last 19 rows
- Assessed every book for mold
- Separated moldy books from none moldy books
- Cleaned each shelf with a bleach water solution

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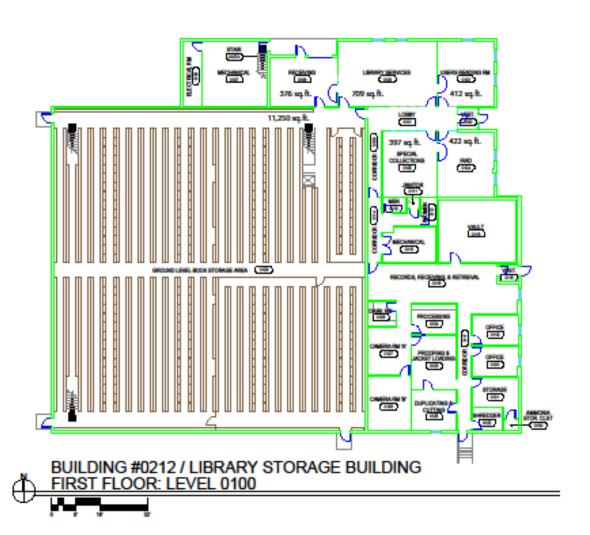


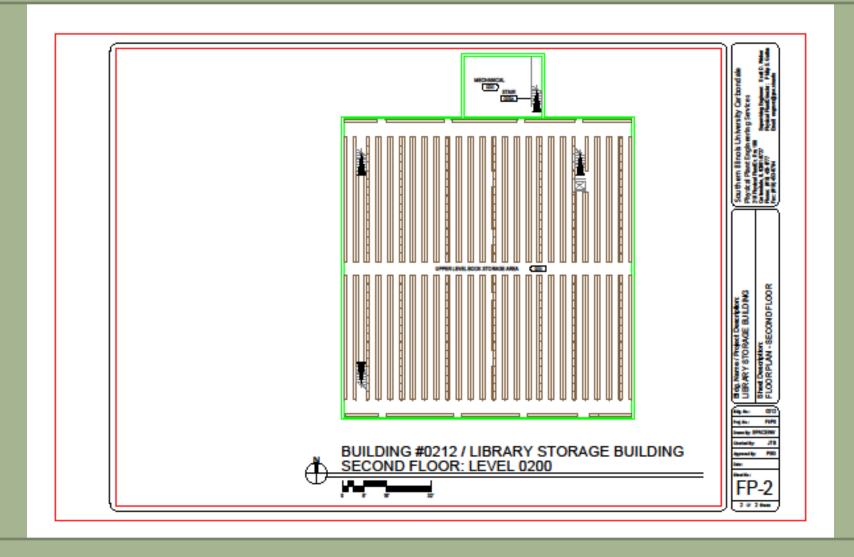


- Moldy books were vacuumed in the attached garage
- Provided for adequate air circulation
- Books were vacuumed and left for McLafferty Circ. Supervisor and students to re-shelved
- Storage books checked out before mold discovered were returned to the garage in Storage 1 & 2 for Emily and Troy to vacuum before being re-shelved



BUILDING #0075/ ENGINEERING E SECOND FLOOR: LEVEL 0200

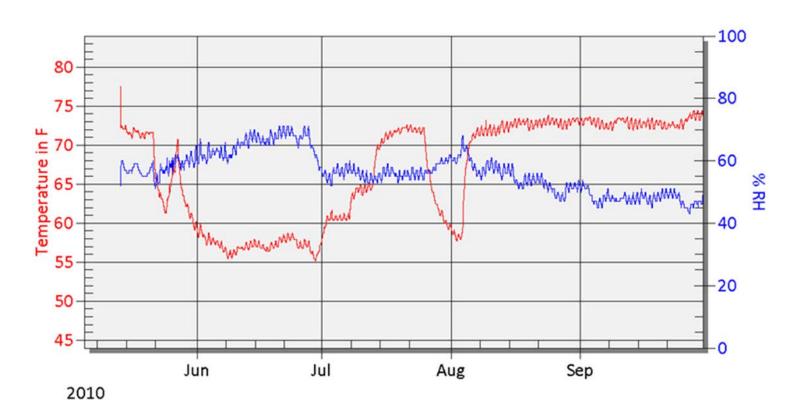




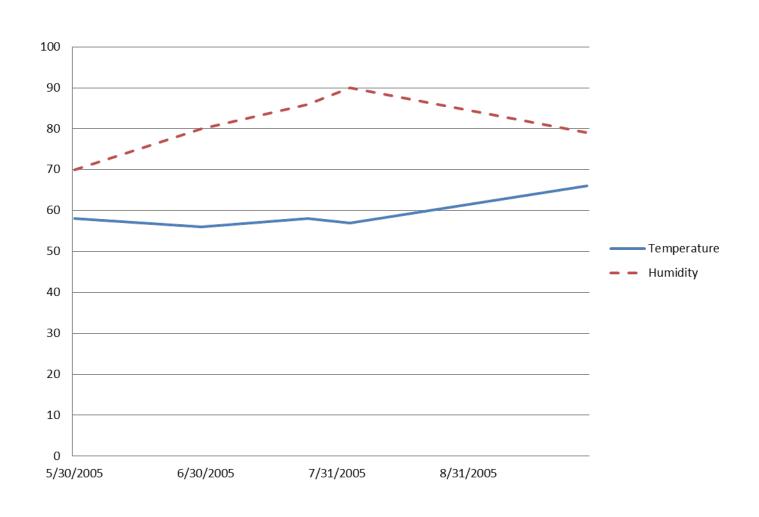
TEMPERATURE AND HUMIDITY 2003 TO 2004

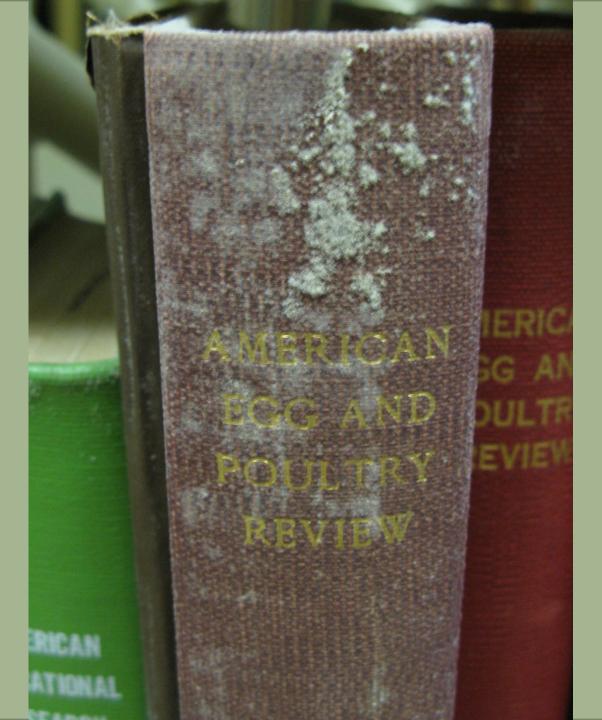


TEMPERATURE AND RELATIVE HUMIDITY OF STORAGE 1 & 2 FOR THE 5 MONTH PERIOD, TUESDAY MAY 4, 2010 TO THURSDAY SEPTEMBER 30, 2010 TAKEN WITH THE PEM2 MONITORS

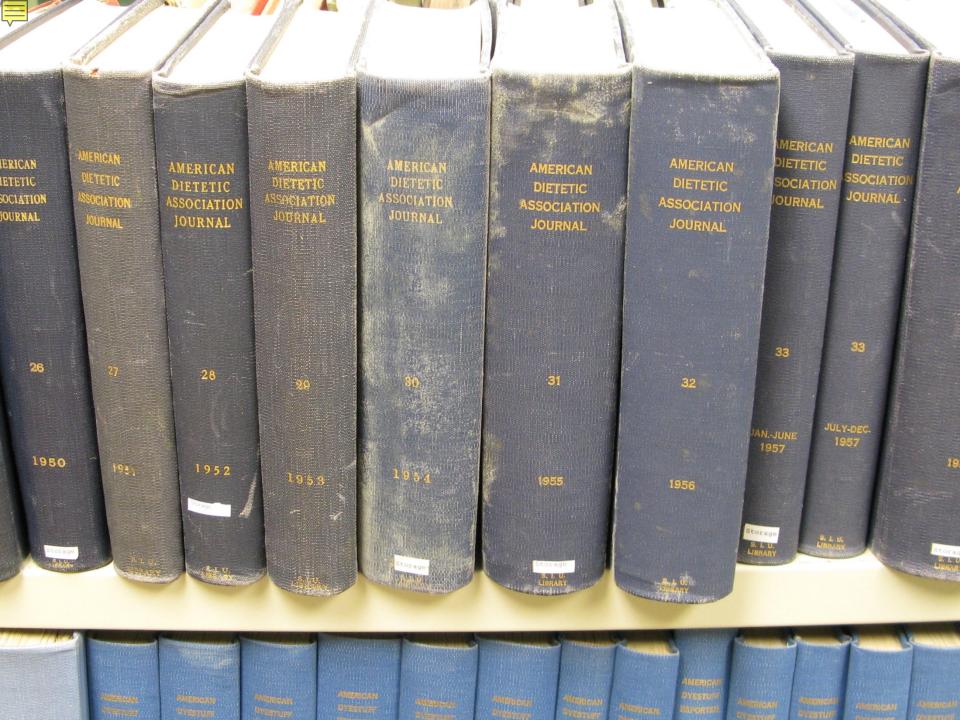


TEMPERATURE AND HUMIDITY MAY TO SEPTEMBER 2005

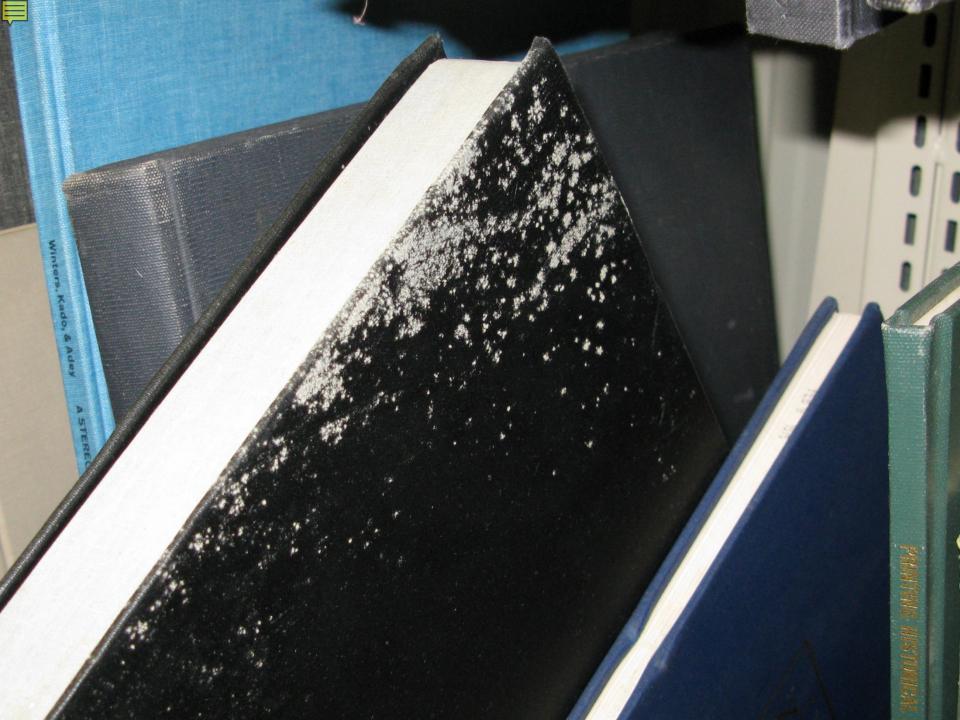






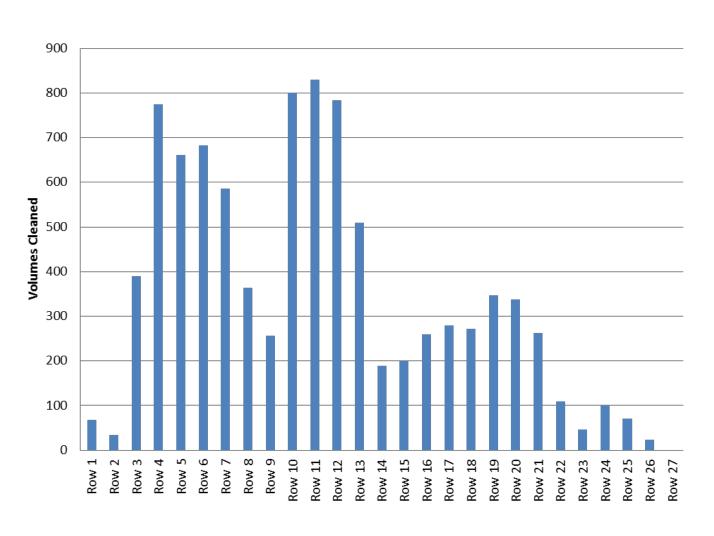




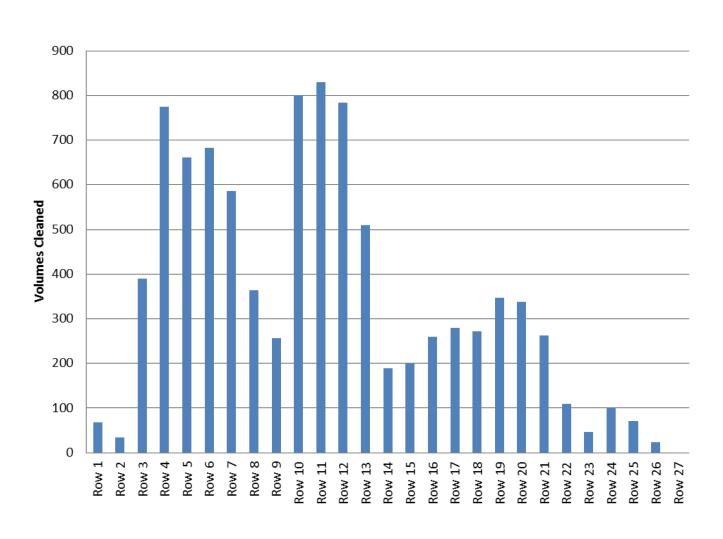




FIRST FLOOR ROWS 1-27



SECOND FLOOR ROWS 28-78



FINDINGS

- Moldy volumes were randomly across the shelving units
- Most moldy volumes were on third shelf and below
- Large quantities around metal staircase
- Larger quantities at the ends of the shelving units
- Mold attracted mostly to linen
- Periodicals bound in multiple kinds of materials show that one kind of material has mold and the other kind does not.
- Ex. American Medical Association
 - 230 total volumes
 - 210 bound in one kind of black buckram do not have visible mold
 - 20 bound in another linen material does have visible mold

FINDINGS

- o Ex.
 - Row 10 (sections 4-6)
 - Chemical Abstracts
 - o 268 volumes
 - bound in 1 type of leather and 4 kinds and colors of book cloth (orange, light orange, black, and green)
 - 106 had mold growth and all were light orange
 - These volumes were intermixed among other volumes

o Ex.

- Row 11
- The Correspondant (or Le Correspondant)
 - o 213 volumes in row 11
 - o 93 had mold growth
 - All leather

FINAL COSTS FOR THE PROJECT: SUPPLIES AND EQUIPMENT

Item	Number	Total Cost
Nilfisk GM80 HEPA filter vacuums	3	\$3,751.44
Nitrile Gloves	5 boxes medium, 5 boxes extra large	\$205.00
3M n95 Dust Masks	2 boxes	\$48.00
Tyvek aprons	15	\$30.00
Tyvek suits	10	\$67.50
Flashlights	2	\$29.97
soot sponges	15	\$47.25
spray bottle for bleach solution	6	\$18.00
Bottle of bleach	1	\$2.00
extra vacuum brushes	4	\$89.84
timeclock	1	\$234.99
timecards	2 packages	\$24.98
paper towels	requested through Facilities Operation Center (FOC)	Free
TOTAL		\$4,548.97

FINAL COSTS FOR THE PROJECT: LABOR

Individual	Hours	Total Cost
Extra Help #1	820.5 hrs (\$15 an hr)	\$12,307.50
Extra Help #2	875 hrs (\$15 an hr)	\$13,125.00
Preservation Librarian	400	\$9,600*
McLafferty Circulation Supervisor	100	\$1,400*
Student Workers	198 hrs	\$1,633.50*
TOTAL		\$24,966

^{*}Additional costs not included in the project budget

Positives

- Stacks maintenance
 - Books were not correctly shelved
 - Dirty books
 - Assessing volumes for new bindings or conservation
- We used it to ask for another permanent storage building (FAIL)
- Asked for money to finish Morris Library (FAIL at the time)







REFERENCES

- o Calvi, E., Carignan, Y., Dube, L., & Pape, W. (2006). The preservation manager's guide to cost analysis. Chicago: American Library Association.
- Florian, M. L. E. (2002). Fungal facts. London: Archetype Publications.
- Florian, M. L. (1997). Heritage eaters: Insects and fungi in heritage collections. London: James & James.
- Linden, J., & Reilly, J. (2012). Research on energy savings opportunities in university libraries. Library Hi Tech, 30(3), 384-396.
- Lull, W. P., & Banks,, P. N. (1990). The New York state program for the conservation and preservation of library research materials: Conservation environment guidelines for libraries and archives. Albany: The University of the State of New York. Lyrasis.
- Nyberg, S. (1987). *Invasion of the giant mold spore*. Lyrasis. Retrieved from http://www.lyrasis.org/Products-and-Services/Digital-and-Preservation-Services/Resources-and-Publications/Invasion-of-the-Giant-Mold-Spore.aspx
- o National Park Service. (2007). Conserve o gram, mold: Prevention of growth in museum collections. National Park Service. Retrieved from http://www.nps.gov/museum/publications/conserveogram/03-04.pdf
- Patkus, B. L. (2007). Emergency management, 3.8 emergency salvage of moldy books and paper. Northeast Document Conservation Center. Retrieved from http://www.nedcc.org/resources/leaflets/3Emergency_Management/08SalvageMoldyBooks.php

QUESTIONS

