



SPELL-JIF

7TH ANNUAL ENVIRONMENTAL MANAGEMENT SEMINAR

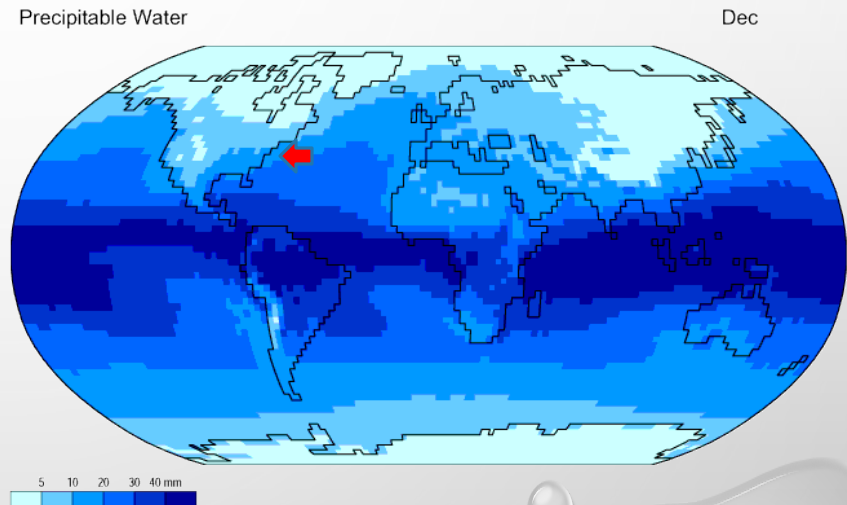
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WATER...AN ENIGMA



FIND THE WATER – FIND THE RISK



Data: NCEP/NCAR Reanalysis Project, 1959-1997 Climatologies
Animation: Department of Geography, University of Oregon, March 2000



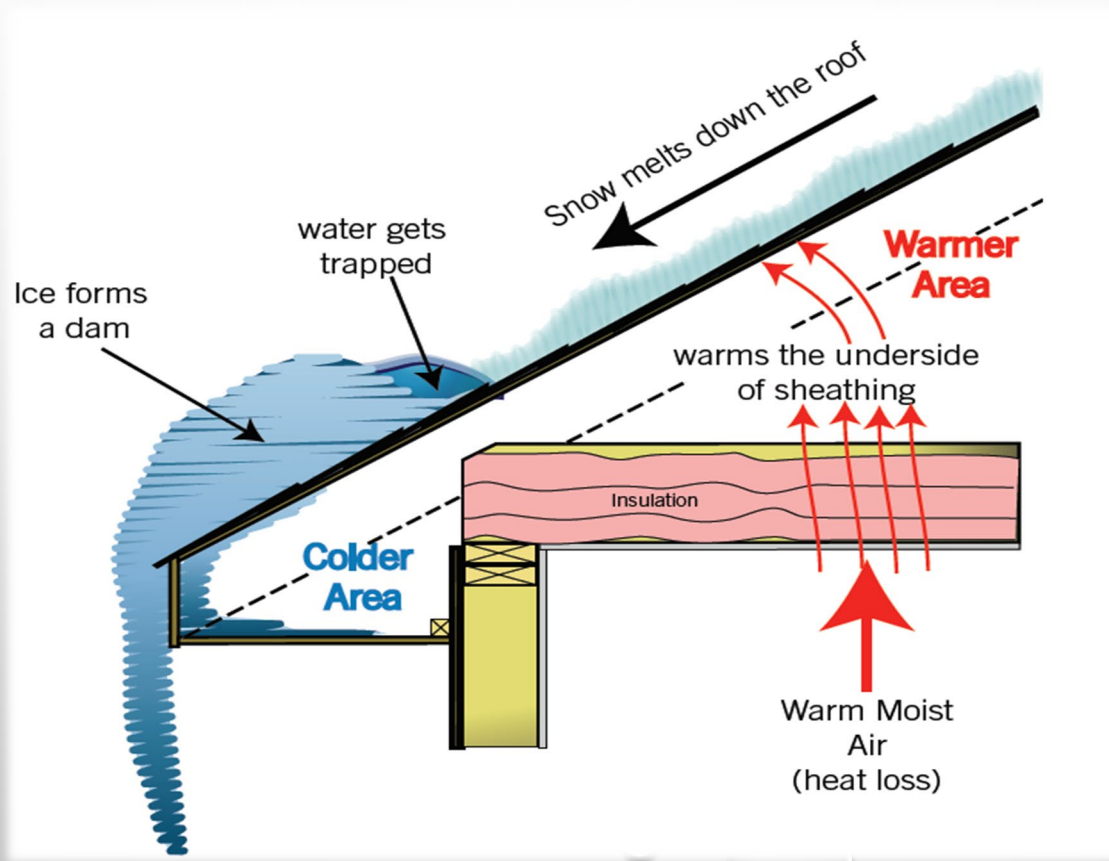
THE OBVIOUS....



THE OBVIOUS....



THE OBVIOUS....



THE OBVIOUS....



THE “NOT SO” OBVIOUS....



THE "NOT SO" OBVIOUS....



THE "NOT SO" OBVIOUS....



THE "NOT SO" OBVIOUS....





ROOF MAINTENANCE

- ✓ Develop a written, comprehensive plan for the inspection of roofing systems.
 - Adhere to OSHA requirements for roof work.
 - Quarterly inspections are best. Twice annually at a minimum (once after the fall and once before summer).
 - Thermal scans once every five years.
 - Assess discharge areas and drainage systems
- ✓ Maintain historical records.

THE OBVIOUS....



THE OBVIOUS....



THE “NOT SO” OBVIOUS



THE “NOT SO” OBVIOUS



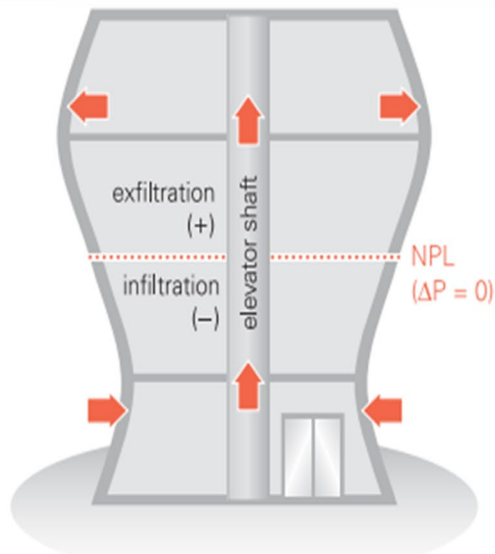
THE “NOT SO” OBVIOUS... ...BAS



THE “NOT SO” OBVIOUS....

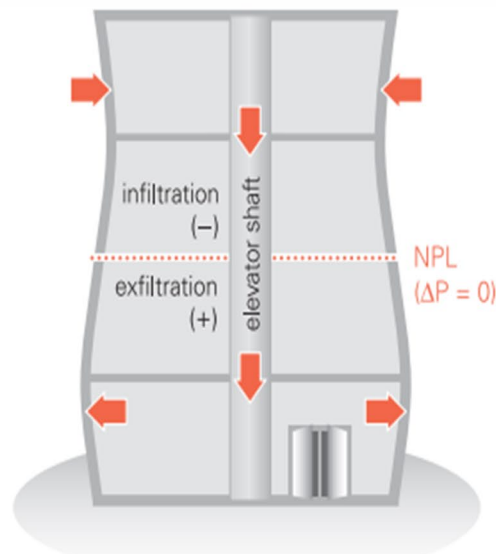


THE “NOT SO” OBVIOUS... ...AIR FLOW



Winter (normal) stack effect

- Inward-swinging doors may not latch
- Exfiltrating indoor air drives moisture into building envelope



Summer (reverse) stack effect

- Outward-swinging doors may stand open
- Infiltrating outdoor air drives moisture into building envelope

When indoor air is cooler than outdoor air, the column of air inside the building is more dense. The result is a net negative pressure at the top of the building and a corresponding net positive pressure at the bottom. Unless building pressure is controlled, outdoor air will infiltrate the upper floors while indoor air exfiltrates from the lower levels. The pressure difference also induces downward airflow in stairwells and shafts—reverse stack effect.

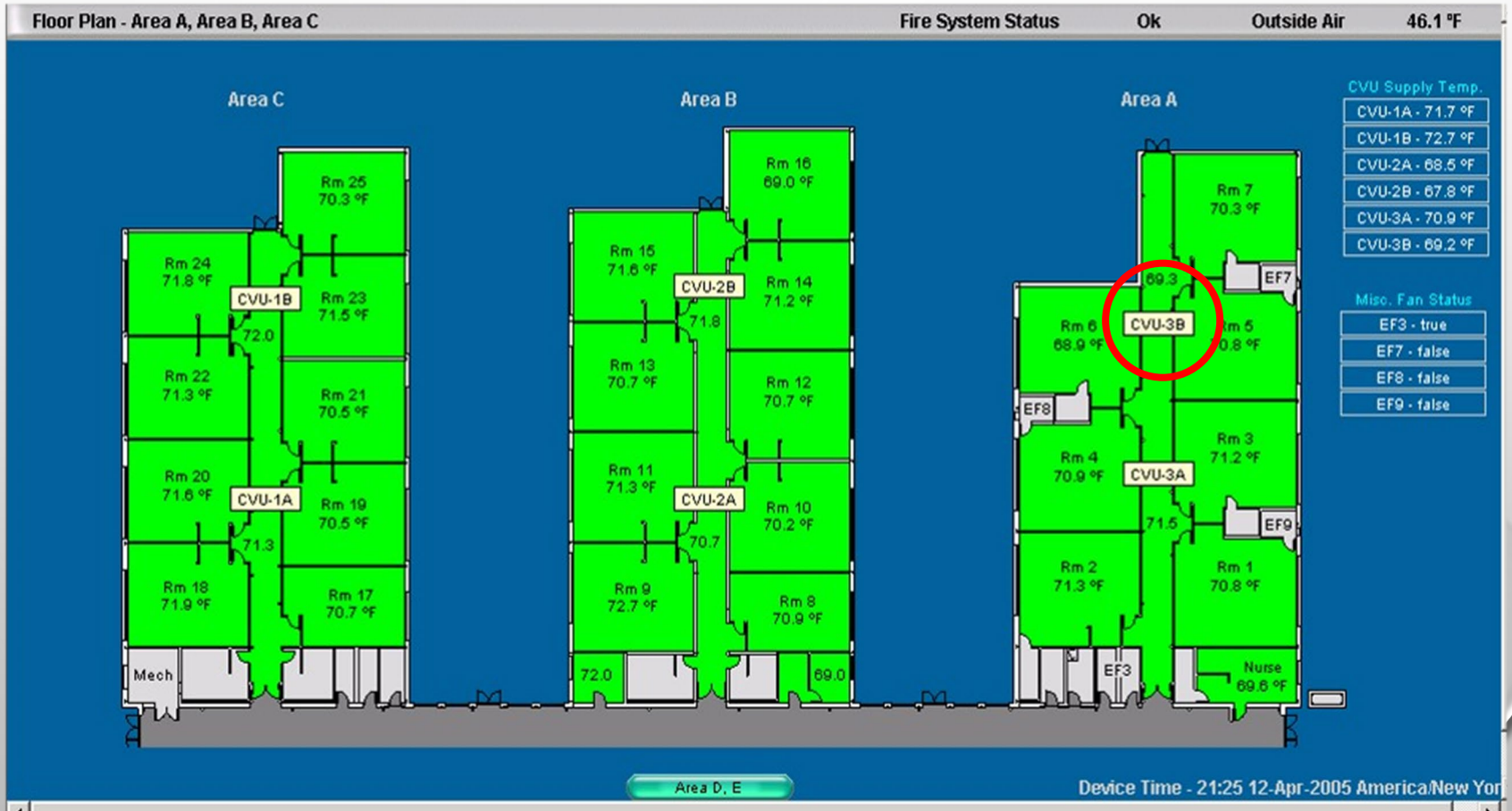
VENTILATION CONTROLS



VENTILATION CONTROLS



VENTILATION CONTROLS



VENTILATION CONTROLS

Description: **CVU-3B** Location: **Area A** Schedule **Unoccupied** Mode **Unoccupied**
 Alarms Outside Air **45.0 °F**

Control Parameters	
Command Mode	Unoccupied
External Shutdown	false <input type="radio"/>
Shutdown Unit	false
Start Delay	60 min
Fan Runtime	931 hrs
Filter Runtime	931 hrs
Filter Runtime Limit	3000 hrs

Associated Heat Pumps	
AfterHours Request to Start	false <input type="radio"/>
Area A Corridor -	false
Classroom 7 -	false
Classroom 6 -	false
Classroom 5 -	false

Available Trendlogs	
Supply Temperature	Return Temperature
Intake Temperature	Exhaust Temperature
Supply Fan Flow Status	

Priority Array Status

Schedule	false @ Schedule (16)
Unit Enable	false @ Duty Cycling (14)

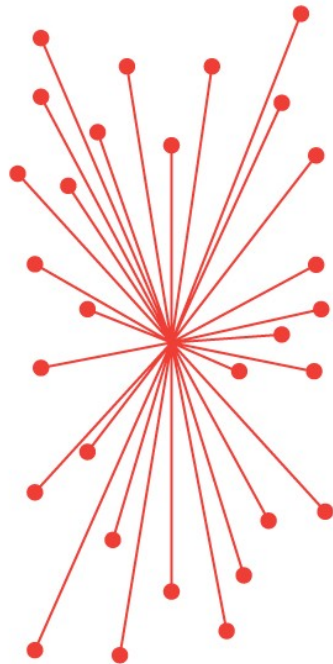
IDENTIFY AND MANAGE THE “ATTRACTIONS”



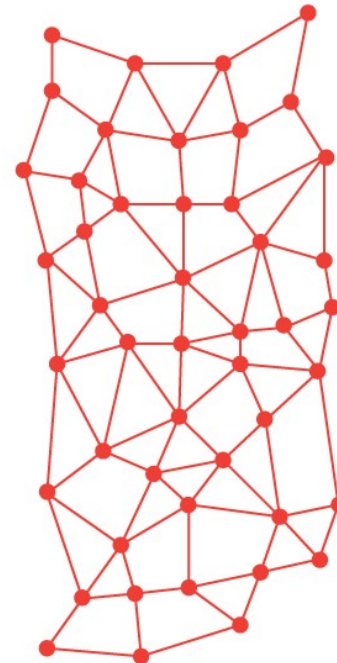
MANAGE THE “ATTRACTIONS”



MOISTURE MANAGEMENT – “MUST BE EVERYONE'S RESPONSIBILITY”



Linear thinking



Non-linear thinking

Moisture Management Plan

- ✓ Written performance expectations for B & G staff.
- ✓ Written inspection/response protocols.
- ✓ Remain diligent.
- ✓ Treat water leak indicators similar to an emergency response. Response actions must be robust.
- ✓ Balance instructional needs with inherent risks.
- ✓ Clearly articulate plan to all staff.
- ✓ Never dismiss a complaint.
- ✓ Ensure that all response activities are conducted in an open process and are properly documented.

Summer Cleaning Suggestions

- ✓ Frequent space inspections.
- ✓ Keep all room doors (including closets) & shades open at all times.
- ✓ Use dry carpet extraction when possible. Or use the least amount of water as possible.
- ✓ Windows should be closed or slightly open.
- ✓ Use floor fans.
- ✓ Raise A/C set points in unoccupied areas.
- ✓ Minimize activation of mechanical ventilation systems in unoccupied spaces.



The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance.

**THANK
YOU!**