

AGENTS OF CHANGE

WOODS HOLE RESEARCH CENTER



AGENTS OF CHANGE

WOODS HOLE RESEARCH CENTER

TEAM B

SARA “SUSIE Q.” GOENNER, UOREGON

JOHN “DAN” QUALE, UVIRGINIA

BETH “CHER” DOBSON, FAMU

SIMON “GRUMPY” HARE, ARCHVENTURES, INC.

MICHAEL “SONNY” KELLY, TEMPLE

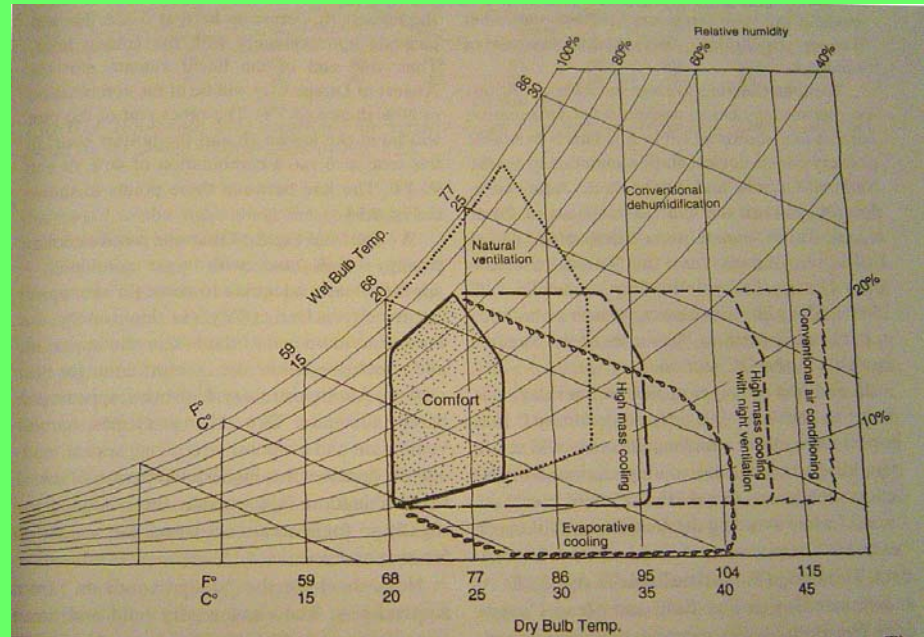
JEFF “HAPPY” KRSKA, CAL STATE POLY (POMONA)

JACK “FREE” SAMPLE, ONSET COMPUTER

WOODS HOLE RESEARCH CENTER

HYPOTHESIS

THE LEVEL OF THERMAL COMFORT IN THE WORK SPACES ON LEVELS ONE - THREE ARE OUTSIDE THE THERMAL COMFORT ZONE



TEAM USING PSYCHROMETRIC CHART AND SURVEYS TO DETERMINE THERMAL COMFORT ZONE

WOODS HOLE RESEARCH CENTER

HYPOTHESIS

WE HYPOTHESIZE THAT THE LEVEL OF THERMAL COMFORT IN THE **WORK SPACES** ON LEVELS ONE - THREE ARE OUTSIDE THE THERMAL COMFORT ZONE

WORK SPACES:

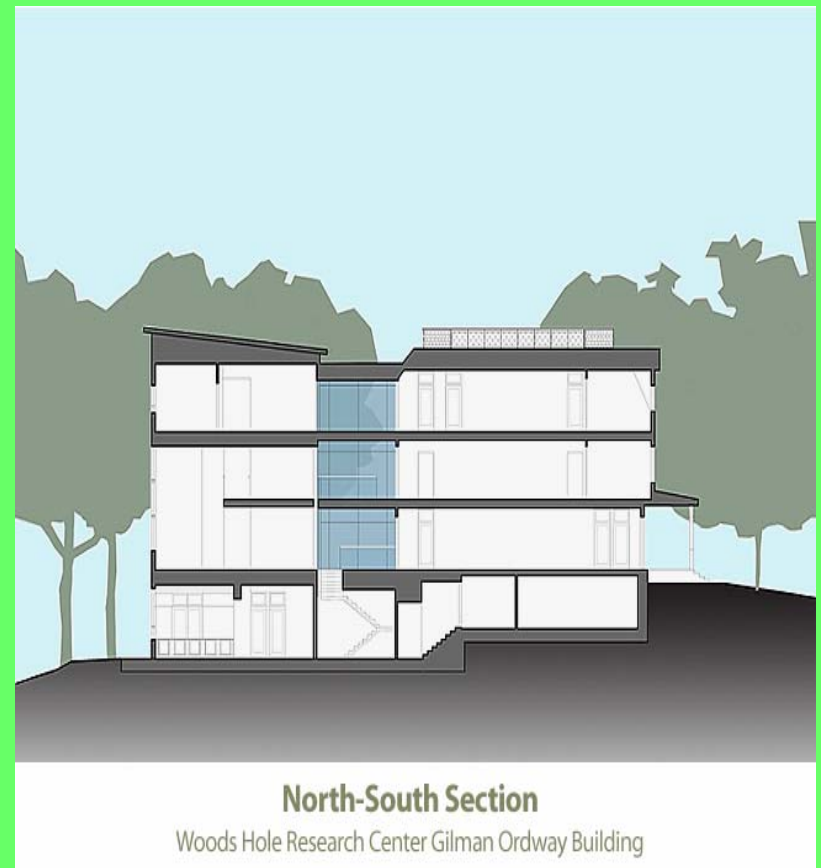
- CONFERENCE ROOM
- OFFICES
- MAIL ROOM
- CORRIDOR
- LABS
- KITCHEN



WOODS HOLE RESEARCH CENTER

OBSERVATION

- TOUR OF BUILDING
BOB SOMERS
MECHANICAL ENGINEER
2rw CONSULTING
ENGINEERS
- REVIEWED ARCHITECTS
AND ENGINEERS
DRAWINGS
- VISUAL SURVEY



WOODS HOLE RESEARCH CENTER

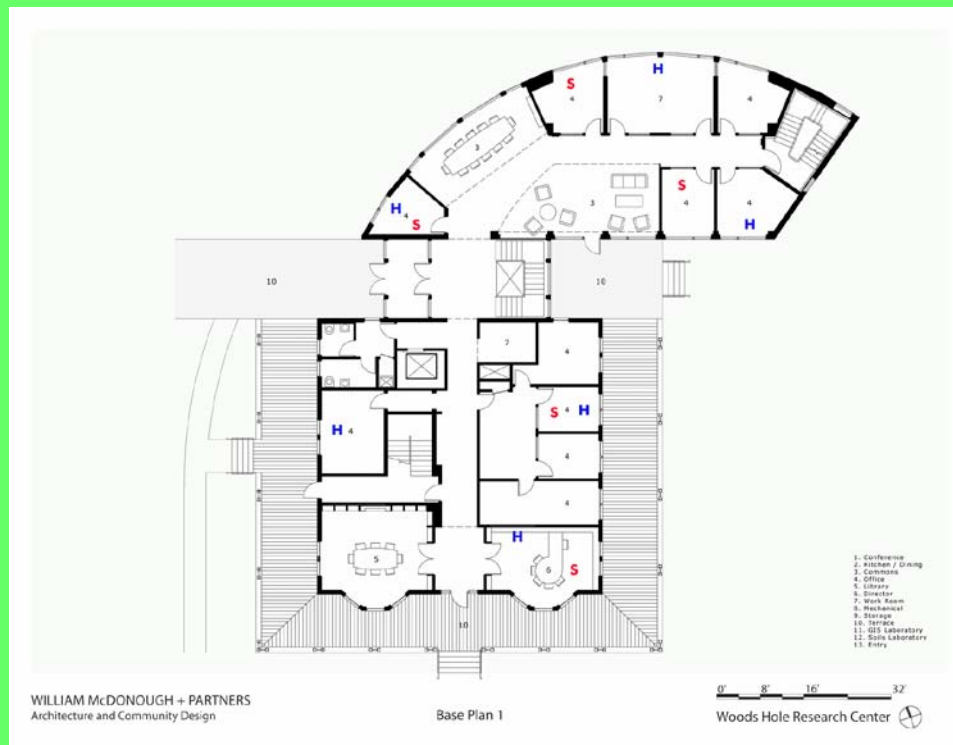
METHODOLOGY

1. Placed U12 Hobo Dataloggers on floors 1-3 of Woods Hole Research Center in specified locations (see maps) to measure temperature/RH
2. Surveyed building users for satisfaction level
3. Took infrared camera to measure surface temperature of people and spaces



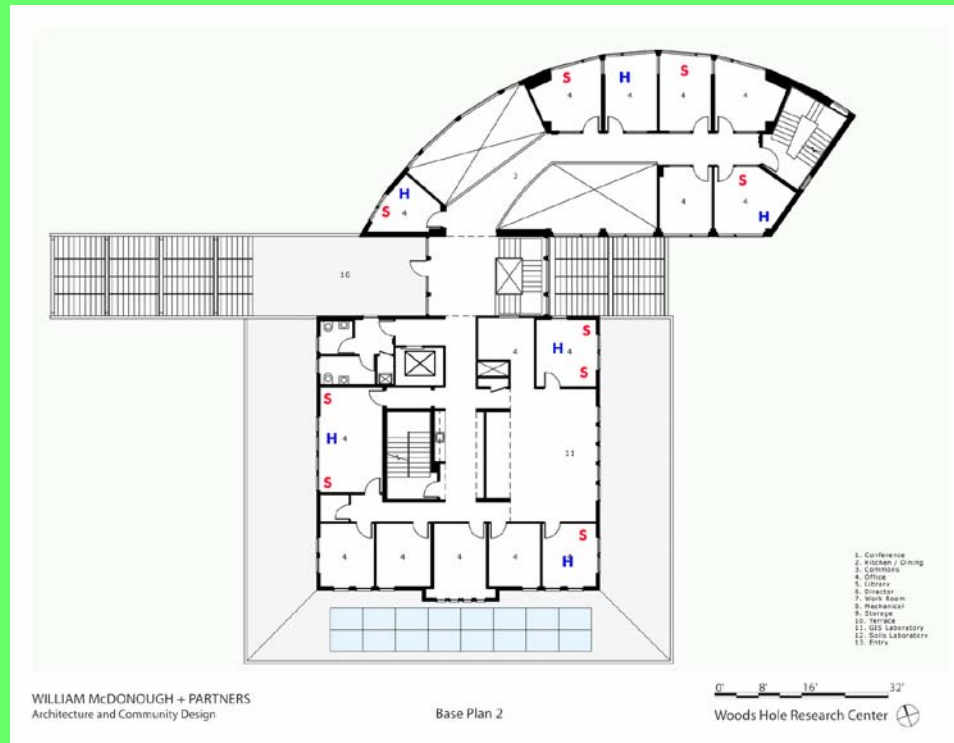
WOODS HOLE RESEARCH CENTER

METHODOLOGY



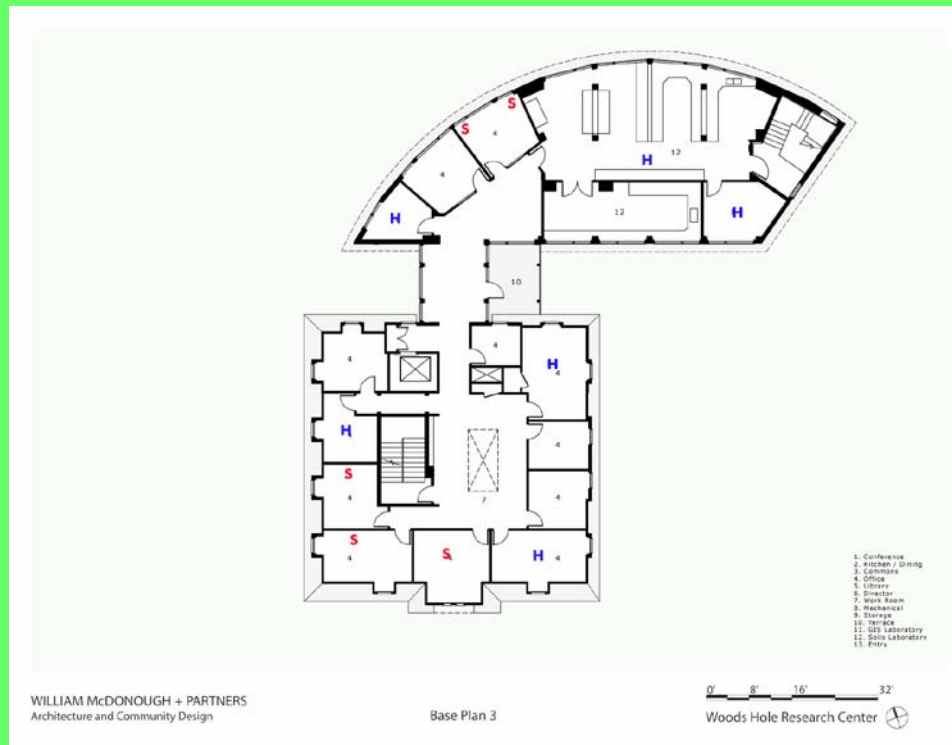
WOODS HOLE RESEARCH CENTER

METHODOLOGY



WOODS HOLE RESEARCH CENTER

METHODOLOGY



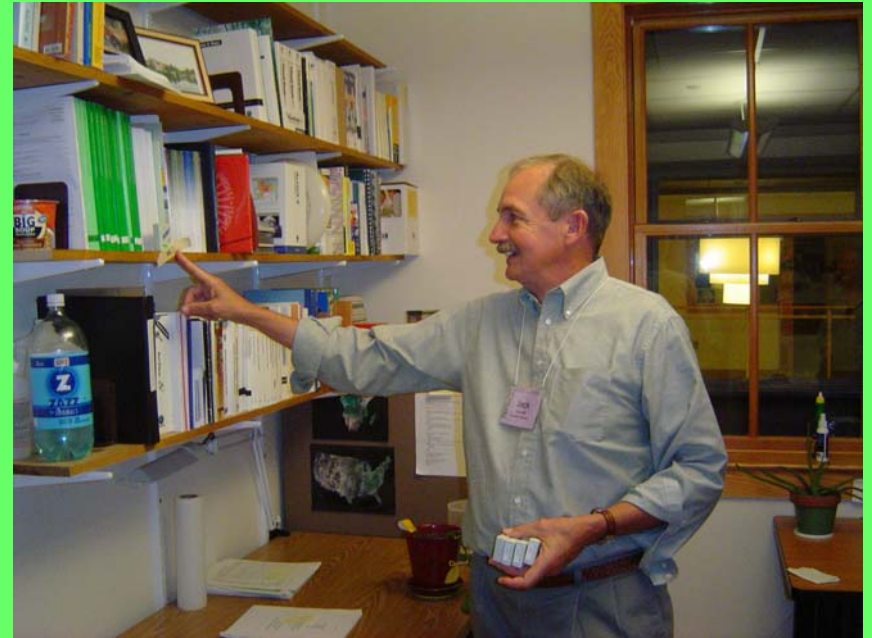
WOODS HOLE RESEARCH CENTER

DATA ANALYSIS



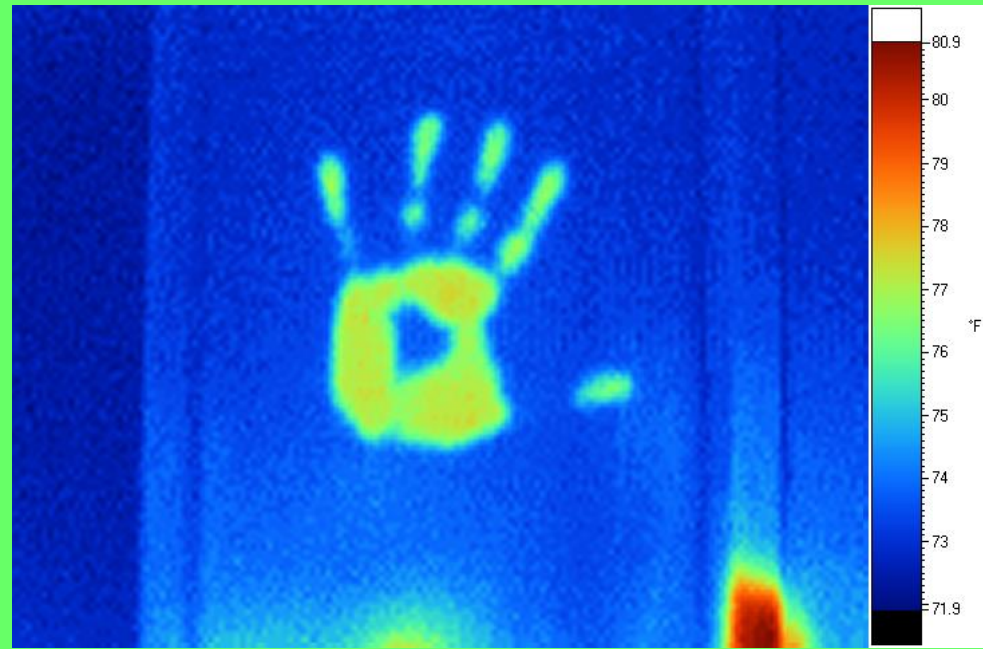
WOODS HOLE RESEARCH CENTER

DATA ANALYSIS



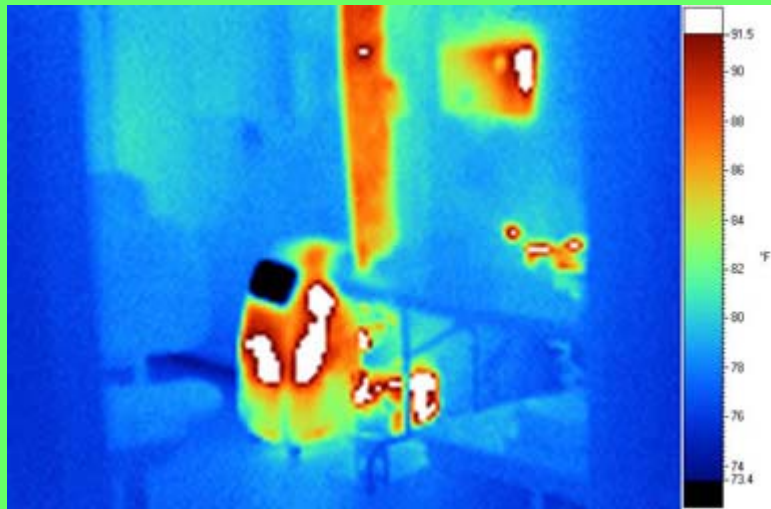
WOODS HOLE RESEARCH CENTER

DATA ANALYSIS



WOODS HOLE RESEARCH CENTER

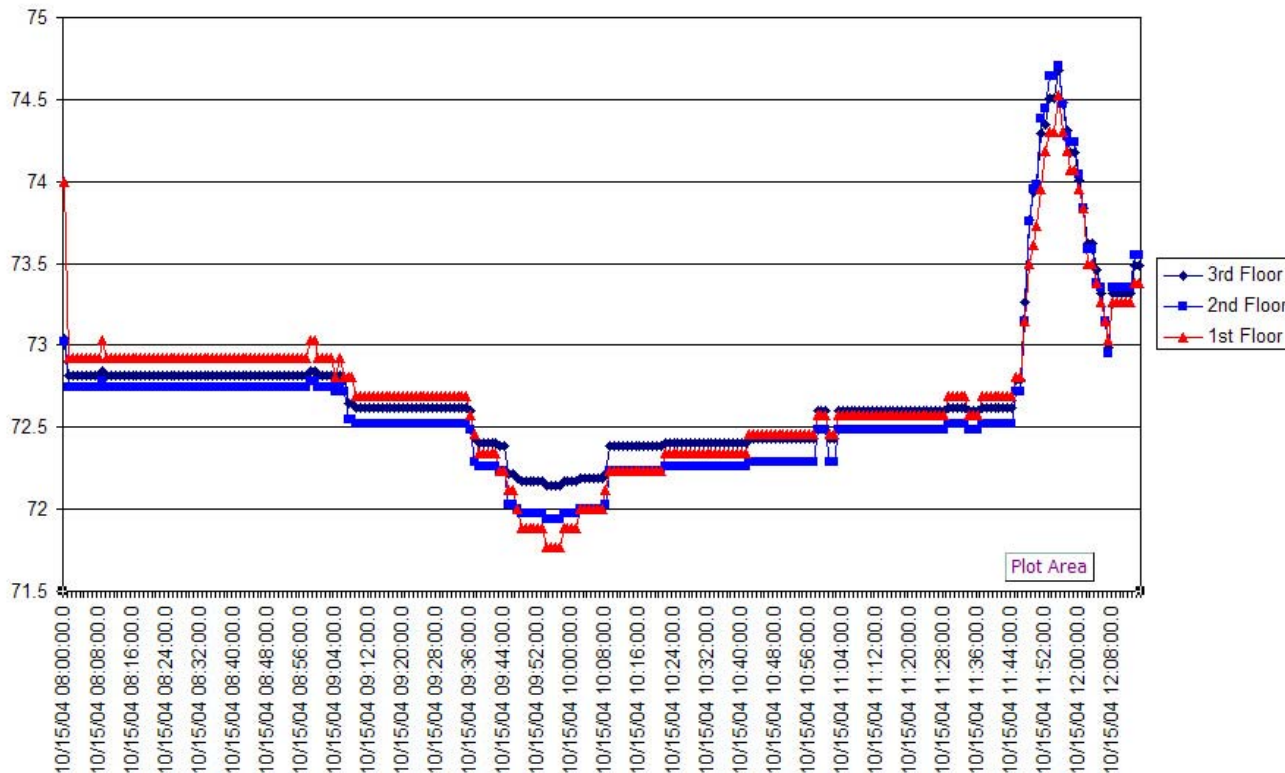
DATA ANALYSIS



WOODS HOLE RESEARCH CENTER

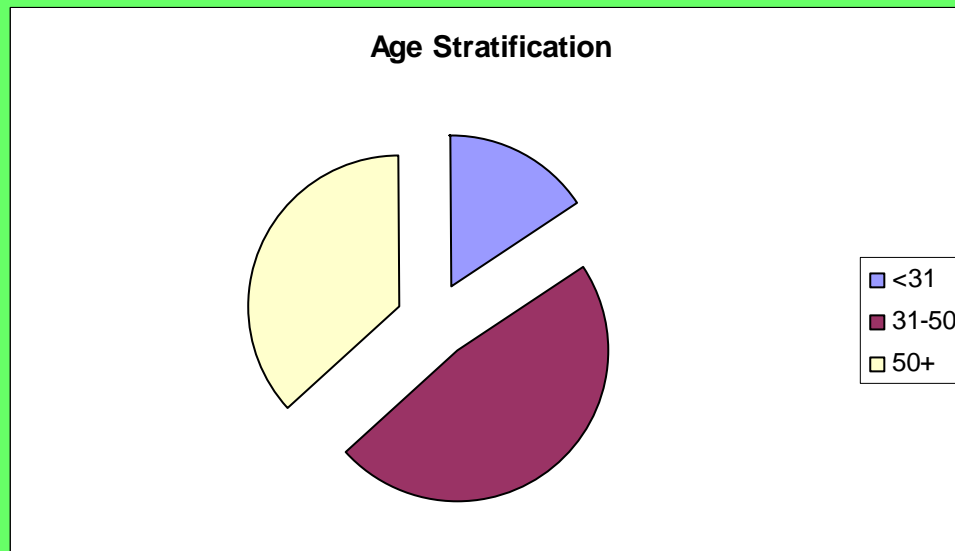
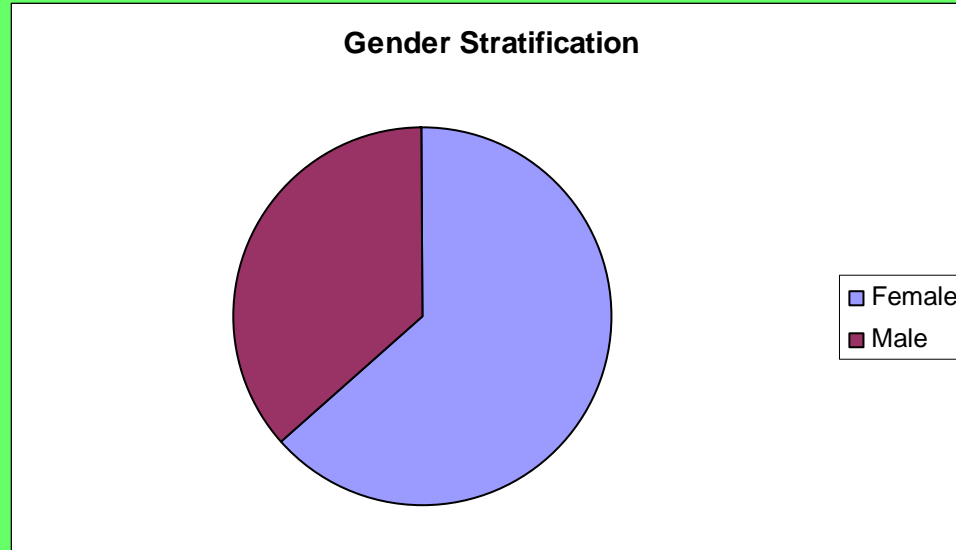
DATA ANALYSIS

Average Temperature all floors



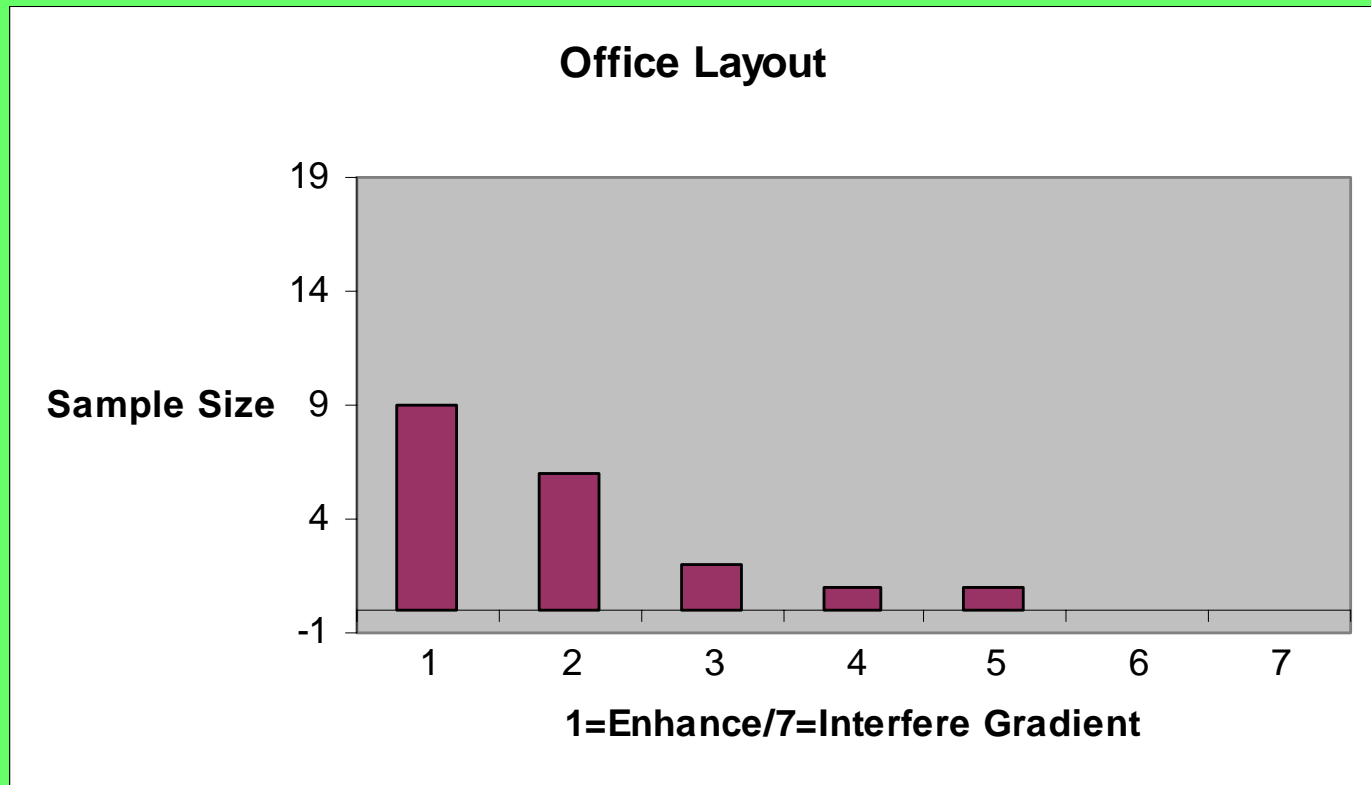
Average Temperature for each of the three upper floors. Six HOBO Temp/RH Loggers used on each floor taking measurements every 1 minute.

WOODS HOLE RESEARCH CENTER



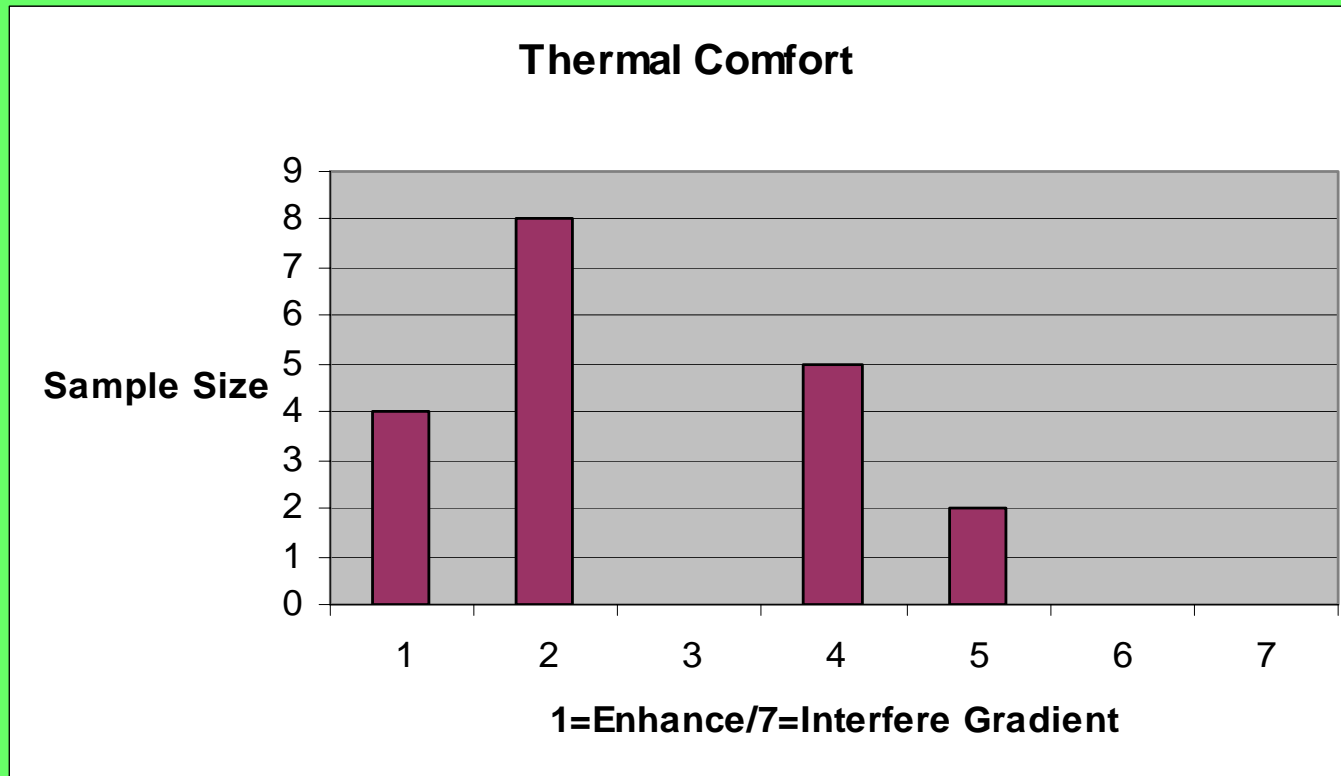
WOODS HOLE RESEARCH CENTER

DATA ANALYSIS



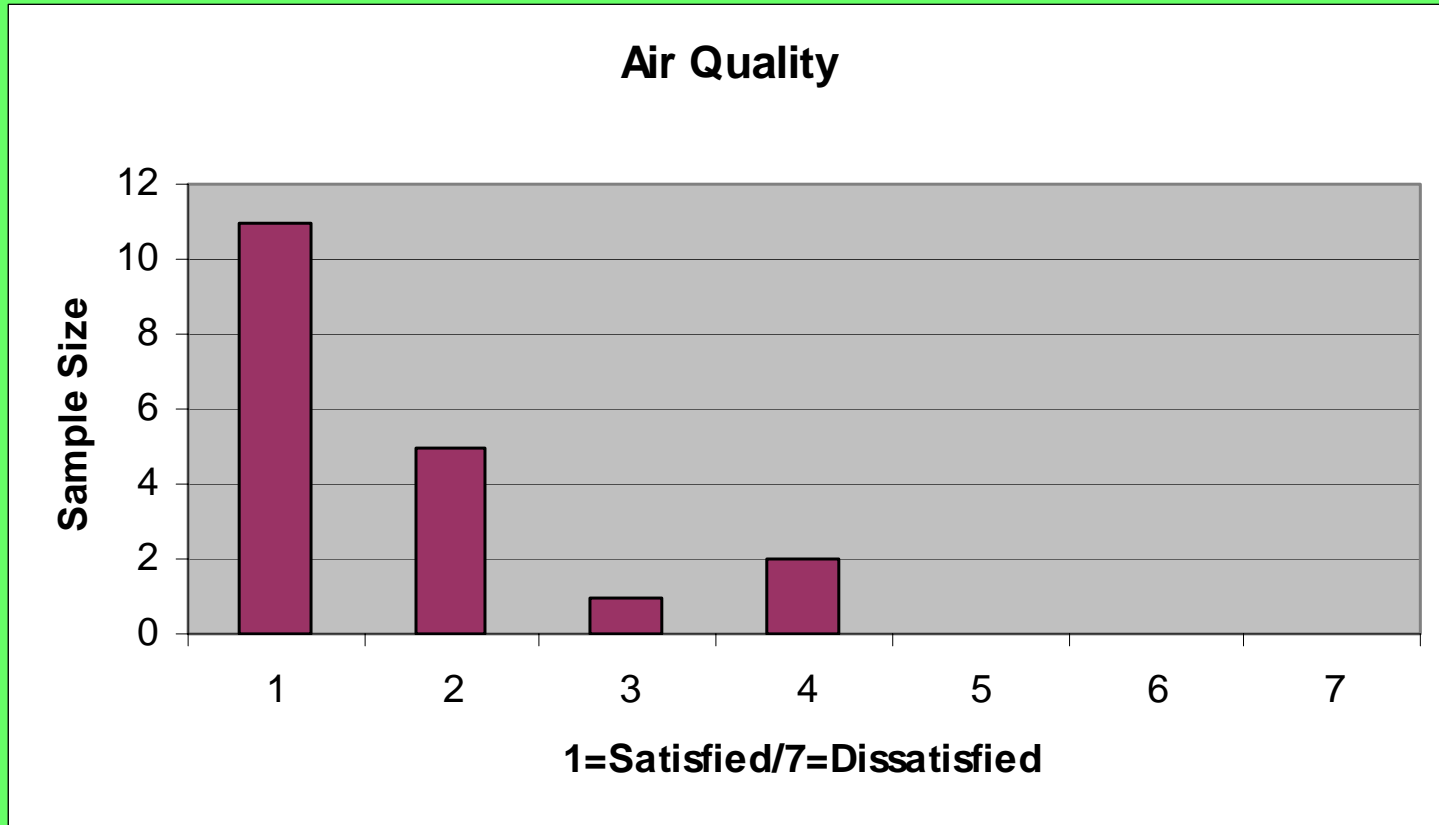
WOODS HOLE RESEARCH CENTER

DATA ANALYSIS



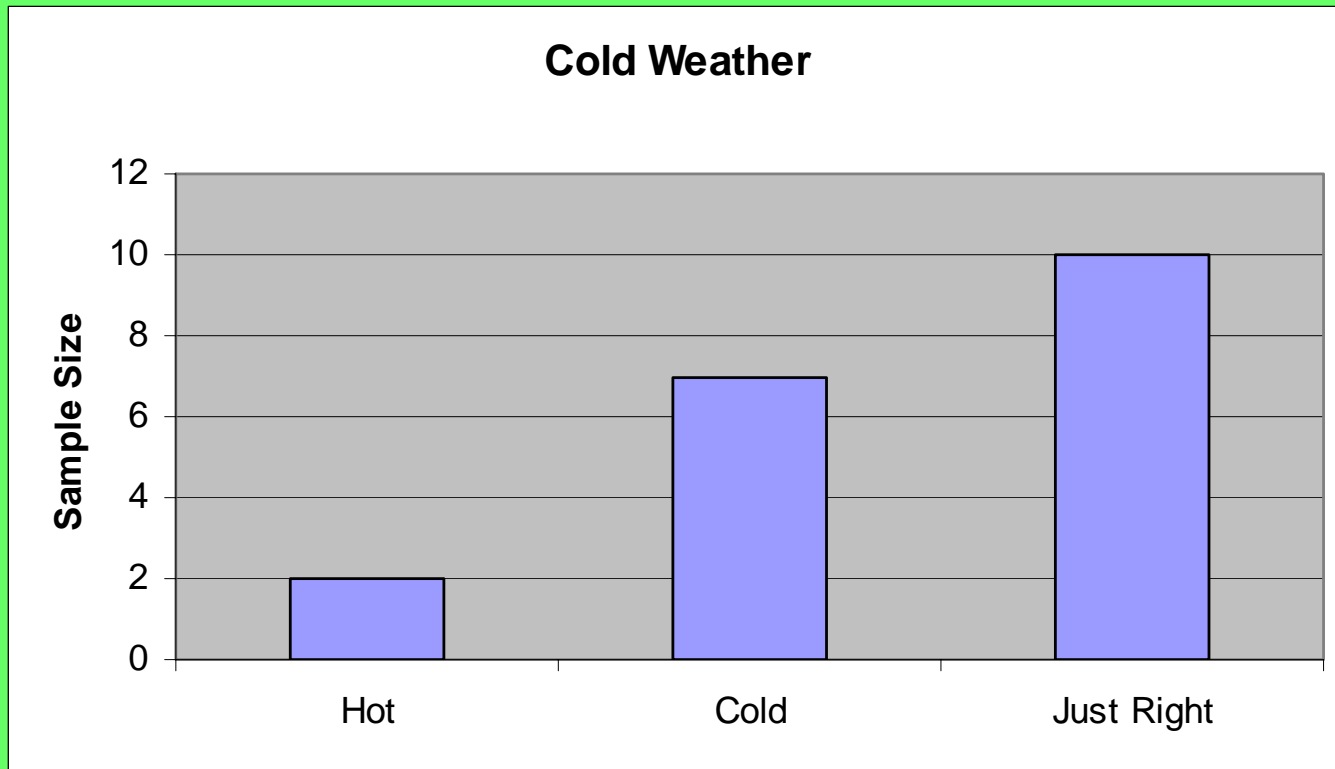
WOODS HOLE RESEARCH CENTER

DATA ANALYSIS



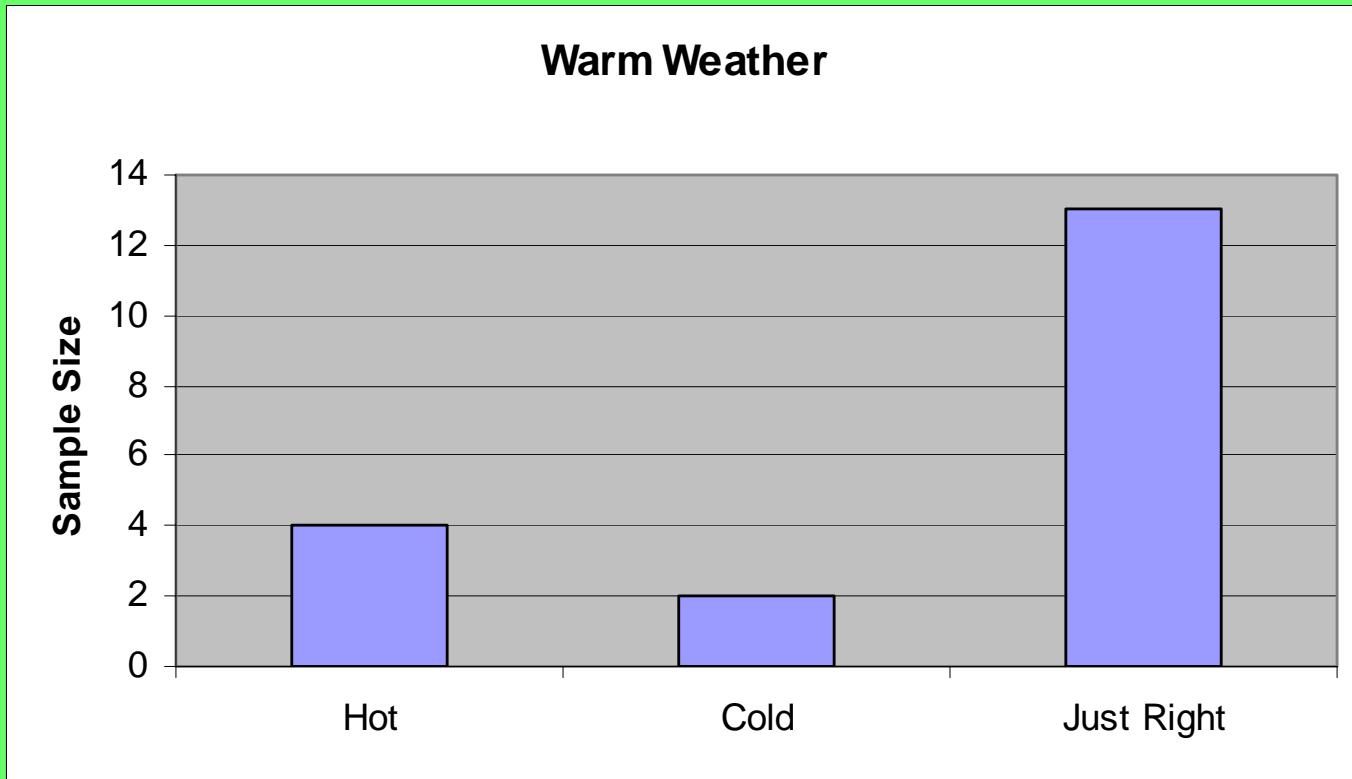
WOODS HOLE RESEARCH CENTER

DATA ANALYSIS



WOODS HOLE RESEARCH CENTER

DATA ANALYSIS



WOODS HOLE RESEARCH CENTER

CONCLUSION

CONCLUSION FROM HOBOS

- THE TEMPERATURE IS CONSISTENT FROM FLOOR TO FLOOR AND WITHIN THE COMFORT ZONE AS DESCRIBED BY PSYCHROMETRIC CHART

WOODS HOLE RESEARCH CENTER

