

computer corner

RADCALC: DBase III Tracks Radon Exposure

Mammoth Cave NP began monitoring radon in park caves in 1976. Since then, NPS policy requirements, cave tours and park staff have increased to the point that the park now must deal annually with an enormous volume of radon data. To comply with NPS Cave Radiation Safety and Occupational Health Guidelines (NPS-14) over 17,000 data records are generated annually at the park. About 12 percent of these are actual measurements of radon levels in the cave. The remaining 88 percent are records of employees' exposure to radon. Hundreds of thousands of calculations must be carried out to convert this raw data to the required output.

The park began an effort to automate this data man-

agement task in 1987 by using a Lotus 1-2-3 spreadsheet program to supplement manual calculations. However, the data manipulation process was still very manpower intensive. When the radon monitoring activities were incorporated with the park's air resources management program in 1989, a new effort was made to streamline the radon data management process. An odd assortment of personnel from the Southeast Archeological Center, the park's science and resource management staff and the park's GIS/computer specialist worked together to create a prototype radon data management program in DBase III+. Through most of 1989, data were "crunched" through both this new program and the previously used manual/Lotus system. Through this process, data accuracy (of both systems) was checked and the new program was debugged and refined.

While the current version of the program (called RADCALC) is still somewhat crude, it is quite user friendly and produces the final reports needed to track employee exposure and to comply with NPS-14. Additionally, it creates a digital database that may easily be used for medical research or other purposes in the future. It is estimated that the conversion reduced the park's data management workload by almost one FTE, created a much more flexible data management environment, and significantly reduced the potential for data errors.

The most current version of the program is available through the Office of Science and Resource Management, Mammoth Cave NP by sending a blank, formatted 5¼ or 3½ inch diskette.

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