Examples of Air Force Data Management and Information Systems: GTS Monitoring Optimization Software and Environmental Decision Information Tracking Tool (EDITT)

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The Air Force has loaded environmental data into a central database (ERPIMS) for almost 25 years. This database, the largest of its kind in the world, consists of about 60 million analytical records gathered from 165 installations, 6500 sites, 58,000 wells, and 95,000 boreholes. Since the early years when data was simply archived, other systems have been developed that either capitalize on this data for specialized applications, or have been created as complementary systems that store other types of data which serve new applications. The evolution and synergy of these systems have vastly expanded the knowledgebase necessary for smart environmental decision-making where issues of sustainment and green technology factor into stewardship of the environment. Two AFCEE systems or applications will be discussed: 1) the Geostatistical Temporal-Spatial (GTS) optimization software, and 2) the Environmental Decision Information Tracking Tool (EDITT).

GTS is a free, public domain long-term monitoring optimization software application that identifies essential sampling locations and reduces redundancy in sampling frequency. GTS uses a detailed algorithm and a novel combination of state-of-the-art statistical techniques that are woven into a user-interface that smartly guides an operator through a complex series of analyses. Several user defaults allow a midlevel environmental professional to perform the analysis or a more detailed path allows a geostatistician to control the analysis in a more sophisticated way.

EDITT is the Air Force system that provides a standardized approach to collecting the inventory of existing remediation and long-term monitoring programs. Both O&M and life-cycle remedial system costs are stored. EDITT also includes other tools that track the performance of remedial systems and a decision document tracking tool that considers legal drivers across individual installations and sites.