

**JEFFREY D. PROUTY**  
Senior Software Developer



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### **Educational Background**

M.A., Biological Resource Assessment, California State University, Chico  
B.A., Natural Sciences, Minor in Geology, California State University, Chico  
A.A., General Education, Santa Rosa Junior College

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### **Professional Experience**

Mr. Prouty has a broad background in the sciences and comprehensive experience in computer applications programming. Since joining STI in 1989, he has been responsible for the design, production, and implementation of software that assists in the reduction, analysis, and graphic illustration of air quality and meteorological data. Combining his programming skills with user interface design and graphic presentation talent, he has increased STI's ability to conceptualize complex data sets in innovative ways.

Currently, Mr. Prouty is working on the U.S. Environmental Protection Agency's (EPA) AIRNow Data Management System (DMS), which sets up and maintains a complete air quality data management system and performs automatic and manual data quality control (QC). New features include rose diagrams, data handling procedures related to filter-based measurements, and a Chinese language version. Recently he completed EPA PMF (positive matrix factorization tool), a graphical user interface that helps analyze and prepare data for, set parameters and run, and display and interpret the results of the Multilinear Engine which uses the PMF method to identify the sources of air pollution. Ongoing projects also include a suite of programs that assist in data ingest, automated QC, exceedance notification alert emails, and near-real-time web display for a number of STI's field projects.

Recently, Mr. Prouty programmed LAPDat, which creates and graphs wind rose, transport, diurnal average, and data recovery statistics from meteorological data sources; LAPMom to display, filter, and reduce radar wind profiler (RWP) moments and Cn<sup>2</sup> data and to calculate and overlay mixing heights; and Roses, a stand-alone desktop application for producing wind and pollution rose diagrams. Mr. Prouty assisted with SmogCity II, the EPA's online interactive air pollution simulator, and EDAT, a data analysis tool that allows users to view their data using four types of displays—time series, time-height cross-sections, vertical profiles, and spatial plots—all linked in time, height, and space.

The mapping center control program, MapCon, was developed to process, manage, and monitor air quality data as it moves through the Data Management Center for the EPA's AIRNow program. He designed spreadsheet modeling tools to help estimate the size and composition of the California Smog Check fleet and programs that assist in the analysis of the relative performance of Smog Check stations. He also programmed EPEC, which estimates emissions from oil and gas exploration and production facilities; VOCDat, which provides a graphical platform from which to display, perform QC tasks, and begin analysis on volatile organic compounds; and VisDat, to assist in the preliminary analysis and archiving of Automated Surface Observing Systems (ASOS) visibility sensor data.

Past projects include the development of software such as GraphXM, which provides screen and hard-copy color presentations of RWP and Radio Acoustic Sounding System (RASS) data. He also developed STI's aircraft data reduction system and the SurfDat program designed to ingest data from surface meteorological and air quality sensors, render user-defined graphics windows and printouts, and provide automated and point-and-click QC screening. He additionally programmed a cost estimation system, APISCES, that allows flexible manipulation of pollution control scenarios and provides immediate feedback on estimated control effectiveness and costs.

Mr. Prouty has also developed ADARS, the atmospheric data acquisition and reduction system used in the Sacramento Area Ozone Study. Work for the Salt River Project (SRP) included developing a suite of programs to reduce, QC, display, and graph large quantities of upper-air sounding data. Animated graphics were also developed for the SRP to illustrate the relationships between plume trajectories and observed tracer and pollutant concentrations.

See STI's website, <http://www.sonomatech.com/resumes.htm>, for a list of publications.