

## 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

1455 N. McDowell Blvd., Suite D  
Petaluma, CA 94954-6503  
707.665.9900  
Fax: 707.665.9800  
[www.sonomatech.com](http://www.sonomatech.com)

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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 a suite of programs for Caltrans (including CT-EMFAC, DataBridge, and CL4) that assist traffic engineers and planners in the modeling of onroad emissions. Mr. Prouty also continues to work on the U.S. Environmental Protection Agency's (EPA's) 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). DMS has recently been translated into the Chinese language. Mr. Prouty also completed the EPA positive matrix factorization tool, PMF, which can be used to analyze and prepare data for, set parameters for, run, display, and interpret the results of the Multilinear Engine to identify the sources of air pollution. Other ongoing projects include a suite of programs that ingest data and perform automated QC, send out exceedance notification alert emails, and provide near-real-time graphical web displays 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  $Cn^2$  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 users can use 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.

Mr. Prouty developed the mapping center control program, MapCon, to process, manage, and monitor air quality data as it moves through the Data Management Center for the EPA's AIRNow program. He also designed spreadsheet modeling tools to help estimate the size and composition of the California Smog Check fleet, and to help 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 developing software such as GraphXM, which provides screen and hard-copy color presentations of RWP and Radio Acoustic Sounding System data. He developed STI's aircraft data reduction system and the SurfDat program, which ingests data from surface meteorological and air quality sensors, renders user-defined graphics windows and printouts, and provides automated and point-and-click QC screening. He programmed a cost estimation system, API\$CES, 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. His 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. He also developed animated graphics for the SRP to illustrate the relationships between plume trajectories and observed tracer and pollutant concentrations.

See <http://www.sonomatech.com/ResPub/JDPpub.pdf> for a list of publications.