

What Can R.A.T. Do?



- Provides real-time continuous field data collection and mapping. Collected data can be contoured at any time allowing easy visualization of data trends.
- Any device analog or digital can be incorporated into the software.
- Collected GPS data requires no post-processing or conversion; data is available for immediate use in the field.
- Data streams are processed internally and saved directly to a Microsoft Access database.
- Trend analysis windows show changes in data values over time for collected or imported data in a dynamic line graph.
- Exports field collected data to the USEPA Emergency Response Scribe Database, ESRI software, and other FIELDS software.
- View image maps can automatically be saved as JPEGs for printing.
- Sample design tools are incorporated to allow instantaneous sample plan development in the field for areas of interest.
- A cellular air card can be used to transfer data to an internet FTP site or email account for download by multiple users in real-time.
- Data can be transmitted from the field and viewed on a mobile computer or in the command center by radio modems or cellular networks.



R.A.T. can be integrated with a variety of instrumentation.

- Any GPS that exports a NMEA string can be used with R.A.T. (Trimble, Leica, Magellan)



- Most external devices that produce a digital output can be configured to stream data directly to the R.A.T. program (Radiation meters, Air Quality, Particulate, XRF).



- Devices that do not produce a digital output can be manually entered.



- Data transfer can be through serial, Bluetooth, or cellular. Field Data can be transferred to an internet FTP site or email through the use of a cellular air card or WIFI network.



R.A.T. is a mapping software providing real-time continuous and/or single point data collection and assessment in the field. R.A.T. is being developed in-house by the FIELDS group as a standalone program and does not require any licensing.

For Information, Contact:

Brian Cooper

USEPA Region 5 Superfund Division

cooper.brian@epa.gov

<http://www.epa.gov/region5fields>



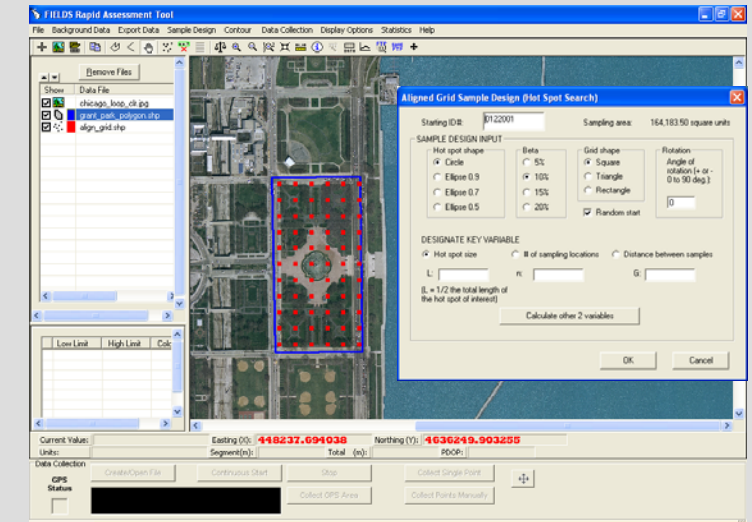
Real Time Mapping

Trend Monitoring

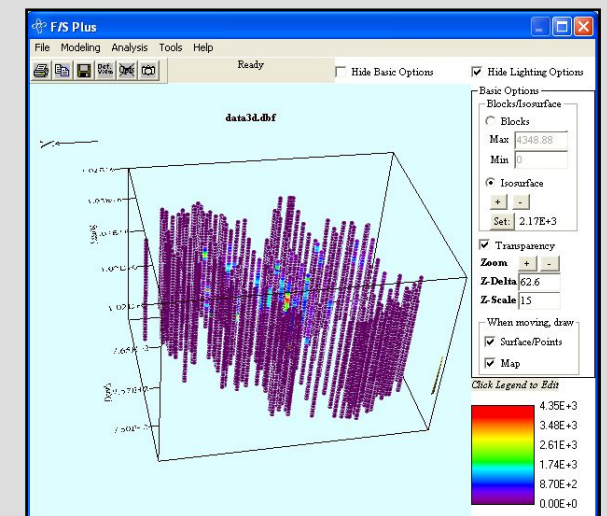
Sample Design

- Built in Sample Design Methodology:

Judgmental, Random, Aligned Grid (Hot Spot), Unaligned Grid

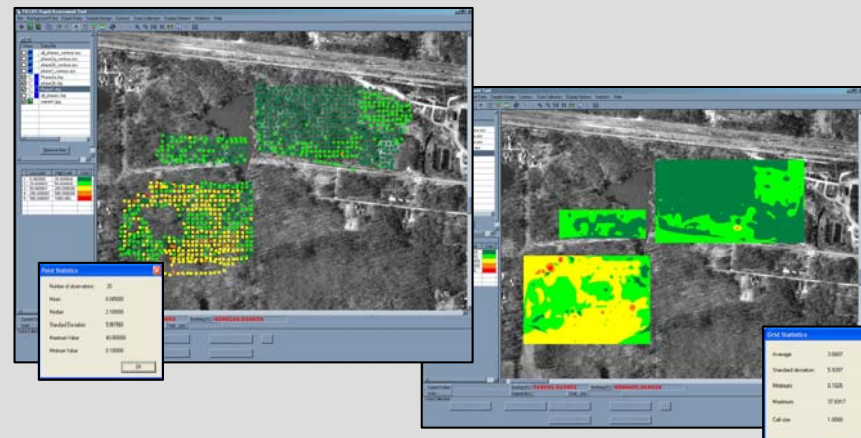


3D Visualization



- Data collected in R.A.T. can be displayed and modeled in FSplus. FSplus has been developed jointly by the FIELDS Team and SADA.

Contouring & Statistics



- Natural Neighbor interpolation of points allows creation of contour maps to aid in the identification of contaminant plumes.

- R.A.T. integrates real time GPS positions with data from external sensors to provide instantaneous snapshots of field conditions.
- R.A.T. can be configured to work with continuous data, single point collection or manual data (for sensors without a digital output).
- Thresholds can be designated in the field or office for different devices to allow for easy visualization of contaminant concentrations.
- Data is stored in Microsoft Access eliminating need for conversion or manual data entry.

- Sensor data can also be viewed and monitored through multiple line plots and histograms.
- Non GPS or GPS assigned data can be viewed based on GPS time-stamps or computer clock.

