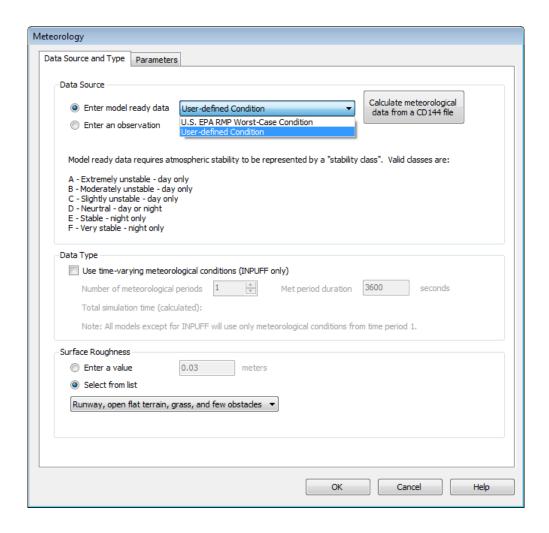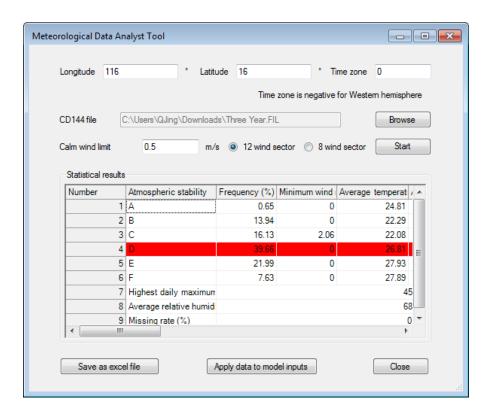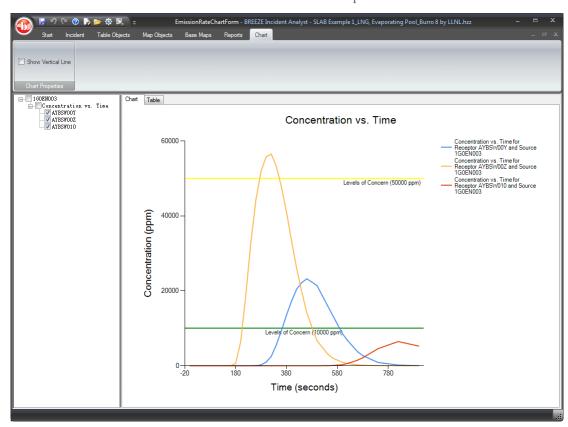# BREEZE IncidentAnalyst 3.0

- Added a tool to analyze three-year data from CD144 format files based on U.S. EPA RMP three-year meteorological data analysis requirements. BREEZE Incident Analyst now:
  - Computes the daily maximum temperature and annual relative humidity
  - Computes the atmosphere stability class and frequency
  - Computes the average wind speed under each stability class

- Added the capability to allow the SLAB and AFTOX models to output time series of concentrations, as well as the time frame and duration of exceedance at the receptors of interest

- Updated the Source Term Wizard calculation method for liquid releases from a pipeline with an unlimited chemical supply
- Added Source Term Wizard calculation methods for oil and gas releases from a pipeline with an unlimited chemical supply

- Added a tool to calculate the Probability of Fatalities due to toxic exposure at the receptors of interest

Probability of Fatalities Tool

○ User-defined C, te

    C, concentration (mg/m3)

    te, exposure time (min)
    (Recommend <= 30 min)

◉ Obtain discrete receptor's C and te from dispersion models

Select chemical   Ammonia

At   -15.6   Bt   1   n   2   Calculate

Source ID	Receptor ID	X (m)	Y (m)	PE (%)
002	GCCVW020	343940.9	3400404	0
002	GCCVW021	339940.9	3400404	1.24E-009
002	GCCVW022	337940.9	3400404	0.003
002	GCCVW023	336940.9	3400404	0.083
002	GCCVW024	336440.9	3400404	87.475

OK   Cancel   Help

Bug Fixes

- Fixed a bug that caused the Source Term Wizard to predict over-conservative emission rates for pipeline compressed gas releases
- Fixed a bug that incorrectly calculated the total mass spilled for instantaneous liquid spill releases in AFTOX
- Fixed a bug that caused the temperature in "side view results" table to be incorrectly calculated by the confined pool fire model
- Fixed a bug that caused the thermal flux at discrete receptors to be calculated incorrectly by the unconfined pool fire model
- Fixed a bug that caused the Source Term Wizard to pass an incorrect source height and source radius to dispersion models for certain cases
- Fixed a bug that caused BLEVE model runs to be unsuccessful for certain cases
- Fixed a bug that caused the chemical database to use an incorrect unit for dynamic viscosity

- Fixed a bug that caused the Source Term Wizard to calculate an incorrect liquid release rate at certain time steps
- Fixed a bug that resulted in concentrations at receptors being inconsistent with the safe distance when using AFTOX for continuous releases
- Fixed a bug that prevented user-defined flame properties from being saved for the confined liquid pool fire model
- Fixed a bug that caused the SLAB model to fail when modeling receptors with a height of interest of 100 m or higher
- Fixed a bug that resulted in the AFTOX model failing to run due to a low initial mixing height

Known Issues

- Users have to input multiple meteorological data for the INPUFF model one by one
- Maximum surface emissive power for the pool fire model has to be input by users in the chemical database currently
- The current jet fire model in BREEZE Incident Analyst is for gaseous releases. The jet fire algorithms for two phase and liquid releases have not yet been included.
- For certain SLAB cases, if using "Stop when the distance to the lowest level of concern is reached" option, the SLAB model run may fail. For these cases, you can try to use the "Stop at the following downwind distance from each source" option
- When a number of one unit is converted to another unit, the total decimal places of the original number are retained for the converted number. This may result in a reduced number of significant digits of the converted number and a loss of precision.