The next generation of chamber control software

WeatherEze

by PERCIVAL

Revolutionary WeatherEze offers you two powerful software options for chamber control.

The Simulated Environment option allows you to select any location on the globe. This program will simulate the average weather and incident radiation conditions at the site with a user-selected starting date and time.

The Real-time Control option allows you to choose real-time control for any location across the globe. While the United States and Europe have ample real-time weather data available, some limitations exist in isolated areas because the global density of real-time weather data is variable.

Key features

- **WeatherEze** allows your chamber to have real-time duplication of the temperature, relative humidity, and solar lighting for any global location. Data entry is accomplished either by latitude and longitude or simply clicking on a world map. Updating of actual conditions is accomplished through continuous connection to the internet and a real-time link to METAR data. This allows unsurpassed realism in duplicating the natural environment within the chamber. The ability to fully duplicate temperatures are limited by the maximum and minimum temperature control of the chamber, typically 4° – 44°C (lights off) and 10° – 44°C (lights on).
- If real-time duplication is not desired, the control software has the ability to model the last 30-year average climatic conditions of temperature, relative humidity and solar quantity and quality for any site on the globe. Even without the real-time link, **WeatherEze** still achieves a new level of environmental simulation.

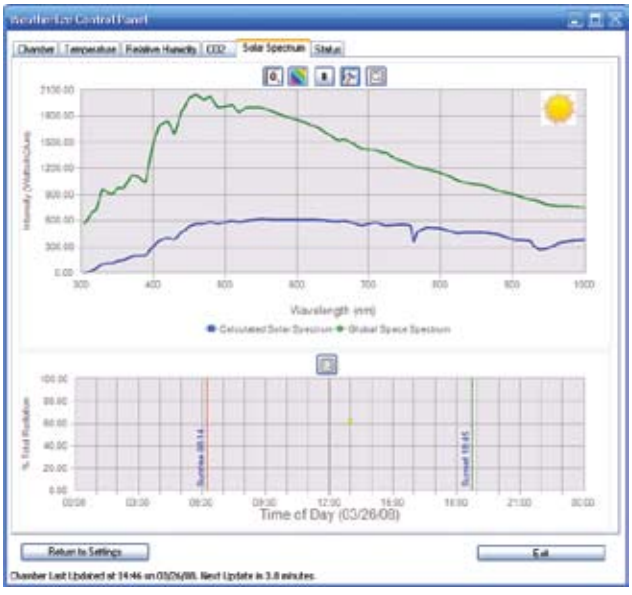
- Complete file logging of set points, current conditions and METAR data give you a record to document the temperature, relative humidity, lighting and corresponding actual values in a convenient comma-spaced value (CSV) file for later processing or documentation.
- Real-time daily graphs of temperature, relative humidity and CO_2 let you see at a glance where the chamber set points and actual values are, as well as what the next values will be for that day. Sunrise and sunset times can be overlaid on these graphs.

WeatherEze is the result of a cooperative research and development agreement (CRADA) with the United States Department of Agriculture-Agricultural Research Service to incorporate their environmental simulation models into this revolutionary chamber control software.

Solar quality and lighting

The **WeatherEze** program has three options for lighting control:

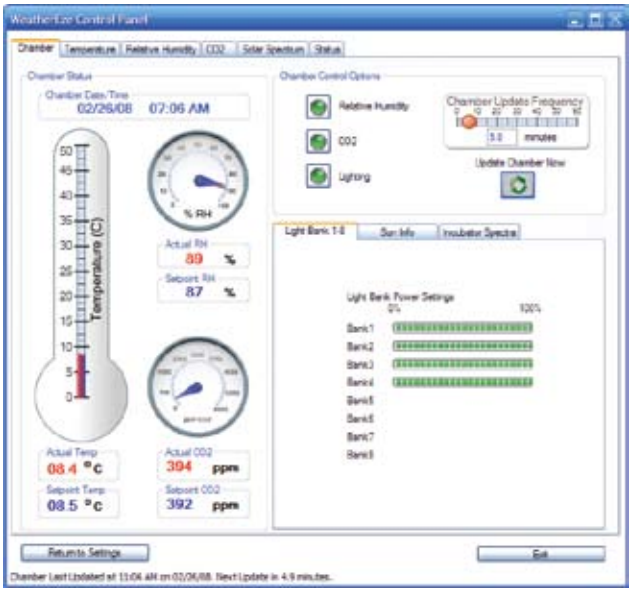
1. Solar quality at any location is modeled and simulated, limited only to the capacity of the lighting outputs available, as seen in the graph.
2. Solar intensity is used to establish lighting control, matching intensity rather than quality of light.
3. Manual settings are also available.



Solar spectrum control panel

Chamber status screen

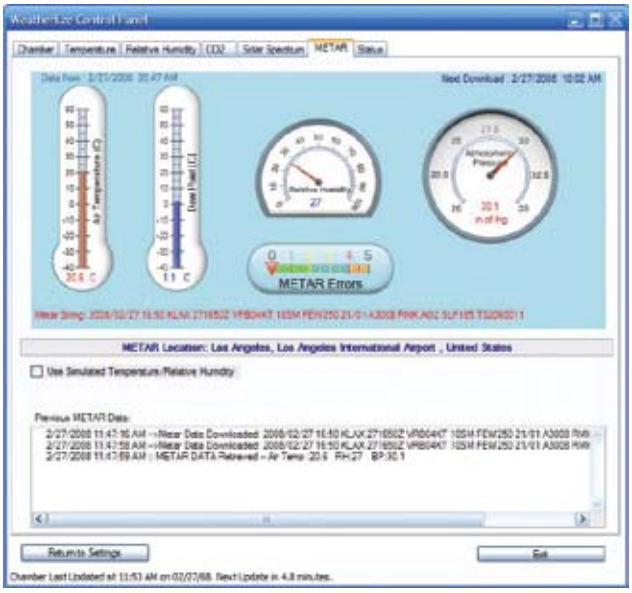
This screen provides feedback for set points, actual temperature, lighting, relative humidity, carbon dioxide control and the current simulation date and time in the chamber, all in one convenient tab. From here you can shut off available chamber control options. This control panel also allows you to update intervals from one to 60 minutes, override the chamber update frequency and conduct a chamber update at your request.



Chamber status control panel

METAR screen

The METAR tab allows for real-time linkage with weather anywhere on the globe, and the METAR screen shows the current conditions for the locations selected in the setup wizard. These real-time readings are used to control the set points for the chamber, the heart of the real-time linkage. Real-time weather data, updated hourly, is what allows **WeatherEze** to control the chamber and mimic conditions anywhere on the globe.



METAR control panel

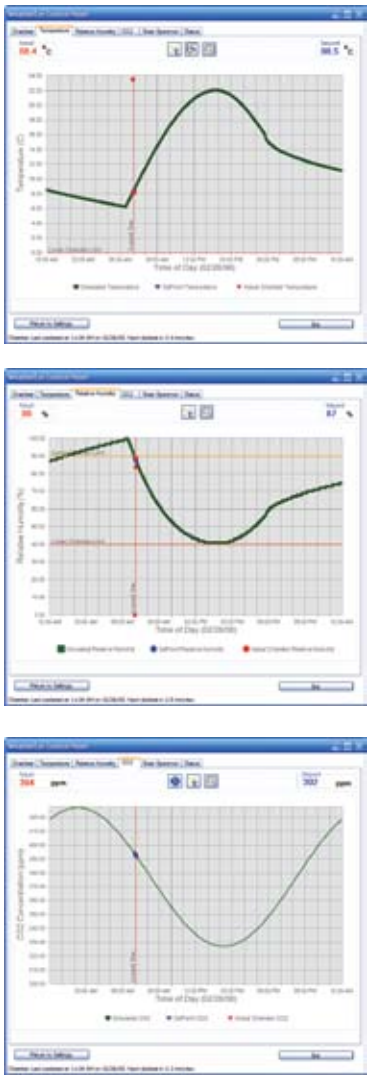
The METAR screen offers two options if errors are encountered with the real-time data. **WeatherEze** will hold the last reading until a new reading is retrieved, or default to simulated data. There is also a check box on the METAR tab that allows you to toggle back and forth between real-time and simulated data.

Temperature, humidity and CO_2 screens

All living organisms respond to alterations in environmental conditions, particularly from fluctuations in air temperature, CO_2, and variations in incident solar radiation quality and duration. In addition to the lighting control panel, the temperature, humidity and CO_2 control panels shown allow you to simulate conditions around the globe.

Chamber requires the current Intellus Ultra, Intellus Web Server, and specific options for proper functionality. Please contact factory for details.

Neither this CRADA nor the results of this CRADA are an endorsement by USDA-ARS of Percival's products or services, including this software.



Control panels for temperature, humidity and CO_2

WeatherEze

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