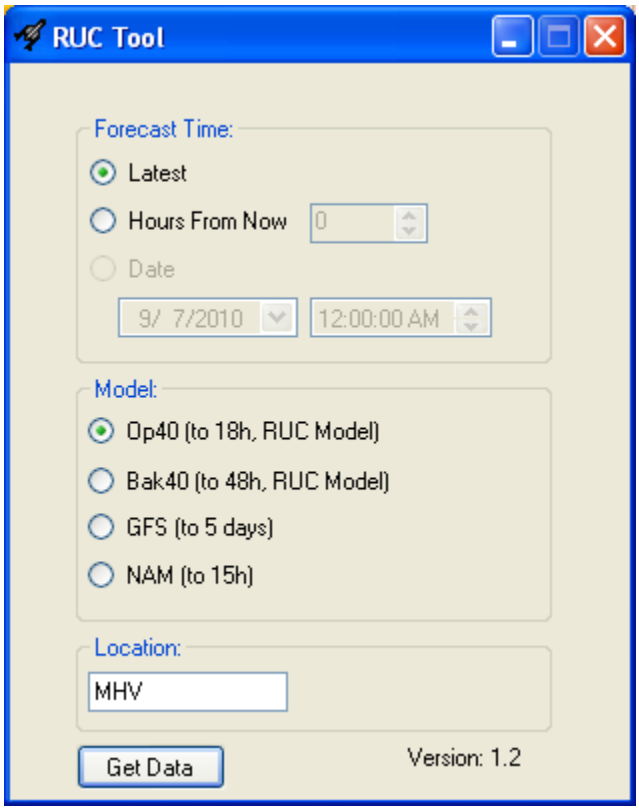

SCALED
COMPOSITES

# RUC Tool Usage

B. Maisler

6/17/2011




**Forecast Time:**

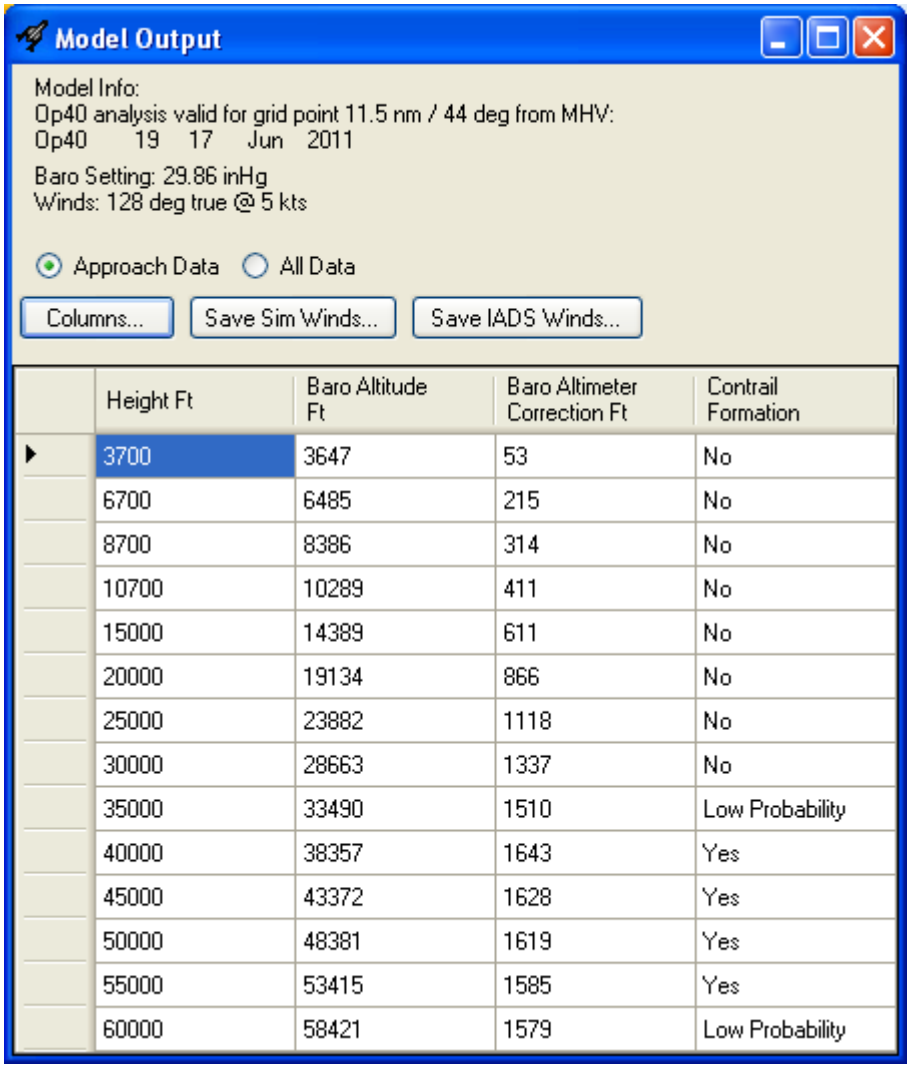
- Latest – Gets the initial atmosphere data from the latest run of the selected atmosphere model. This data may be 1 to 12 hours depending on the selected atmosphere model.
- Hours From Now – Gets the forecast atmospheric conditions for the forecast period in the request number of hours from the current time. Selecting 0 hours will get the forecast for the current time.
- Date – Not implement at this time.

**Model:**
Four atmospheric models are available. The following table contains some of the vital stats on the selectable model:

| *Model* | *Maximum Forecast Period* | *Update Frequency* | *Time Resolution* | *Grid Size* |
|---|---|---|---|---|
| Op40 | 18 hr | 1 hr | 1 hr for first 3 hours<br>3 hours after that | 40 km |
| Bak40 | 48 hr | 1 hr | 1 hr for first 3 hours<br>3 hours after that | 40 km |
| GFS | 180 hr | 12 hr | 3 hr | 35 km (I think) |
| NAM | 15 hr | 6 hr | 3 hr | 12 km (maybe) |

**Location:**
Enter airport ident or lat, lon.

**Get Data:**
This button loads atmosphere data with the selected options. The options are set up to give you the latest data for Mojave.




| Height Ft | Baro Altitude Ft | Baro Altimeter Correction Ft | Contrail Formation |
|---|---|---|---|
| 3700 | 3647 | 53 | No |
| 6700 | 6485 | 215 | No |
| 8700 | 8386 | 314 | No |
| 10700 | 10289 | 411 | No |
| 15000 | 14389 | 611 | No |
| 20000 | 19134 | 866 | No |
| 25000 | 23882 | 1118 | No |
| 30000 | 28663 | 1337 | No |
| 35000 | 33490 | 1510 | Low Probability |
| 40000 | 38357 | 1643 | Yes |
| 45000 | 43372 | 1628 | Yes |
| 50000 | 48381 | 1619 | Yes |
| 55000 | 53415 | 1585 | Yes |
| 60000 | 58421 | 1579 | Low Probability |

**Model Info:**

- First line – States the name of the model, forecast period from model run time, and grid point used to generate data. The forecast period will be excluded if the “Current” option is selected to generate data.
- Second line – Contains the time, in Zulu, for which the forecast is valid. If the “Current’ option was selected to generate the data, this time will be the time that the model was run. The format is *Model Name, Hour, Day, Month, Year*
- Baro Setting – The altimeter setting forecast for the surface at the grid point.
- Winds – The surface winds forecast at the grid point.

**Approach Data:**

This sets the altitudes for the output data set to the SS2 approach altitudes for Mojave and every 10,000 ft above it. Data for these points is linearly interpolated from the model data.

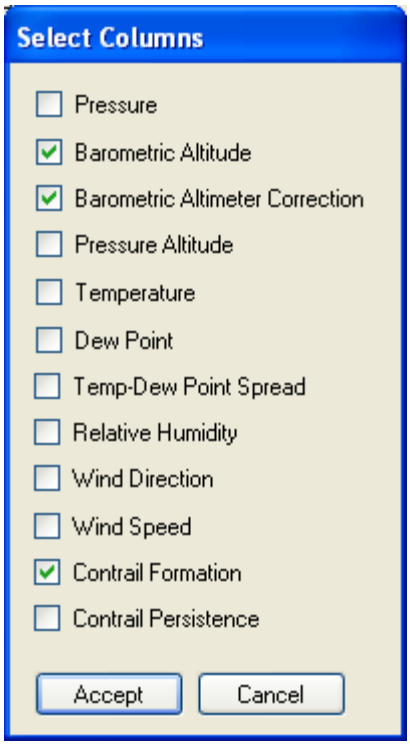
**All Data:**
This displays every entry from the atmosphere model in the table.

**Columns…**
This button launches a dialog box to select the columns to display in the table.

**Save Sim Winds…**
This button launches a save file dialog box to save the model data in a format compatible with the simulator.

**Save IADS Winds…**
This button launches a save file dialog box to save the model data in a format compatible with the IADS ground station software.

**Data Table:**
The table displays the atmosphere model data with the columns as selected in the "Columns..." dialog and the rows as selected by the "Approach Data" or "All Data" radio buttons. The height column is the primary column and will always be displayed. The values from this table can be directly copied to excel.




**Available Columns:**

| *Column Name* | *Units* | *Source* |
|---|---|---|
| Height | Feet | Atmosphere Model (Always displayed) |
| Pressure | PSF | Atmosphere Model |
| Barometric Altitude | Feet | Calculated |
| Barometric Altitude Correction | Feet | Difference between baro alt and height |
| Pressure Altitude | Feet | Calculated |
| Temperature | C | Atmosphere Model |
| Dew Point | C | Atmosphere Model |
| Temp-Dew Point Spread | C | Difference between temp and dew point |
| Relative Humidity | % | Calculated |
| Wind Direction | Deg True | Atmosphere Model |
| Wind Speed | Knots | Atmosphere Model |
| Contrail Formation | | Calculated |
| Contrail Persistence | | Calculated |