

## J-6. start\_raxbase

### 1.0 General Information

The raxbase application is new in ob8.3 and is written in java. This application provides a graphical user interface (GUI) to several of the meta-data tables of the RFC Archive database (RAX DB). The application consists of the following:

start\_raxbase (Korn script)  
rax\_apps.jar

### 1.1 Enhancements/Bug Fixes/Changes

#### **Build OB8.3**

The raxbase application is new to this build.

### 1.2 Known Limitations

The rating table plot does linear interpolation only.

### 1.3 Design Considerations

This application was one of two developed under the HOSIP project NID-06-010 – SON-06-001, “Synchronize RFC Archive Database & IHFS Database Metadata”. For details about this project, see the HOSIP documentation.

## 2.0 Configuration Files

### 2.1 Apps\_defaults tokens

The following apps\_defaults tokens are used by this application:

adb_name	name of the archive database on the archive system
rax_pghost	name of the system archive database is on

The following tokens are used by the raxbase application’s *SyncDBs* pull-down menu:

db_name	name of the IHFS database on awips system
pghost	name of the system IHFS database is on
adb_sync_logs_dir	location of the log files (/rfc_arc/logs/dbsync default)
adb_sync_ihfs_ingest	USE (default) or IGNORE

adb_sync_rivercrit	ACTION (default) or FIS or BOTH
adb_sync_ihfs_units	ENGL (default) or METR
adb_sync_ihfs_interpolate	LIN (default) or LOG
adb_sync_ihfs_debug	OFF (default) or ON

### 3.0 User How-To

To run this application, type the following on the RAX:

```
cd /rfc_arc/bin [Enter]
start_raxbase [Enter]
```

Access via the RAX baseline application arcmenu is not defined as part of the ob8.3 build. However, if the user wishes this application to be available via arcmenu, the user can follow the information in section I-1 to add raxbase as an option.

The initial window is shown in Figure 1.

No data is displayed in the main window until the user enters all or part of a location identifier (LID) and clicks the filter button. The application then brings up a list of matching LIDs, along with selected columns from the location table. (Note that the LID box is not case sensitive.) An example of this is shown in Figure 2.

If the filter button is clicked when nothing is entered in the LID box, all of the locations in the database are listed.

The following menu options are only available **after** selecting a specific site in the main window: the *Modify Location* option in the *Location* pull-down menu, all of the options in the *GageInfo* pull-down menu, all of the options in the *Reservoir* pull-down menu, and the *Sensok* option in the *Data Ingest* pull-down menu. The following menu options do not require a specific site to be selected in the main window: all the options in the *File*, *Reference*, *NWSRFS*, and *SyncDBs* pull-down menus, the *Add Location* option in the *Location* pull-down menu, and the *Ingest Filter*, *Adjust Factor*, and *QC Data Limits* options in the *Data Ingest* pull-down menu.

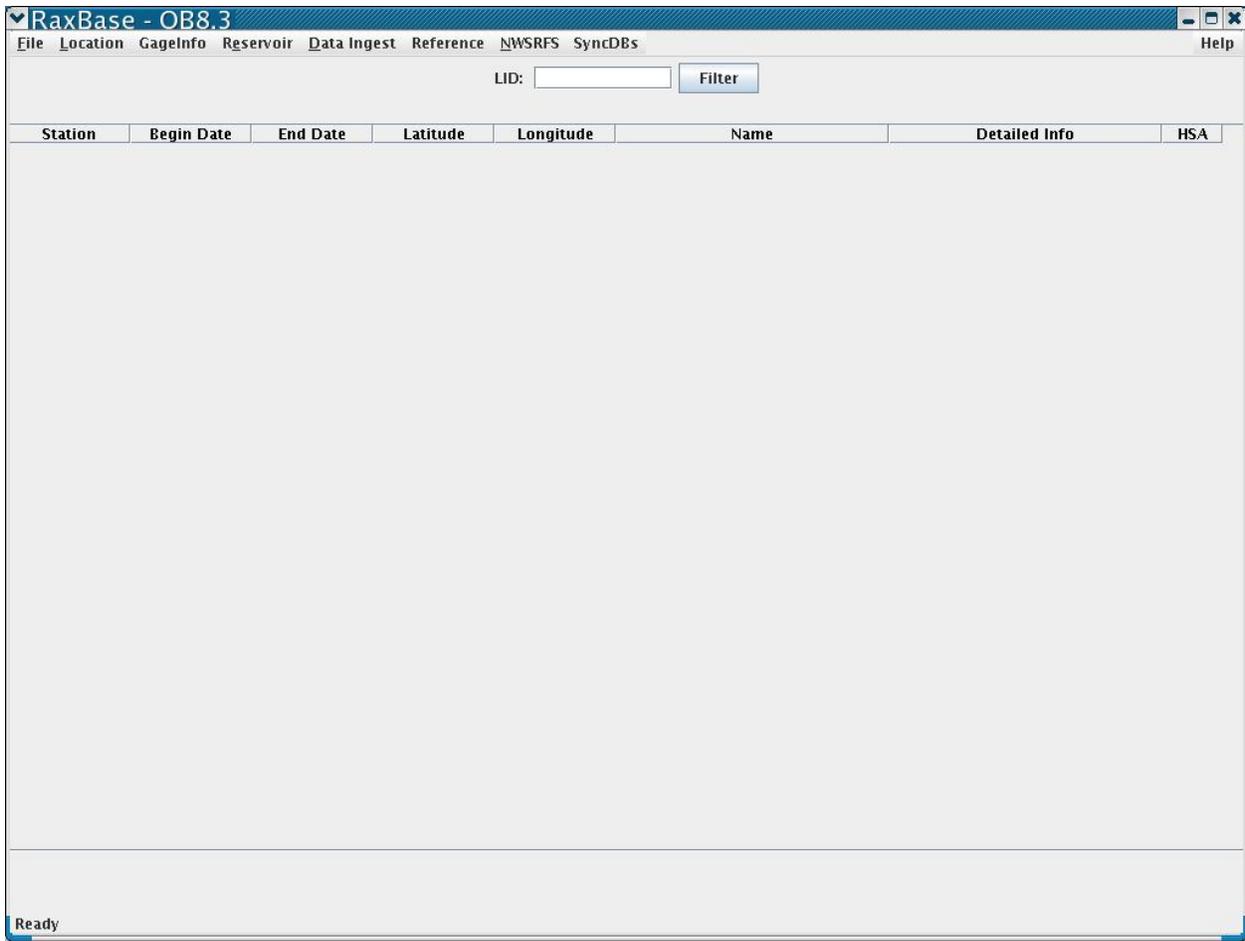


Figure 1. Main window

RaxBase - OB8.3

File Location GageInfo Reservoir Data Ingest Reference NWSRFS SyncDBs Help

LID: pouc2 Filter

Station	Begin Date	End Date	Latitude	Longitude	Name	Detailed Info	HSA
POUC2	2002-01-22	2007-11-17	40.59	-105.07	Fort Collins	Cache La Poudre R	BOU
POUC2	2007-11-17		40.59	-105.07	Fort Collins	Cache La Poudre R	BOU
POUC2DIV	2005-05-09		40.59	-105.07	Ft Collins	Cache La Poudre R	BOU
POUC2LWR	2000-11-09	2007-11-17	40.80	-105.50	Zone 3236 LOWER	Runoff Zone	BOU
POUC2LWR	2007-11-17		40.80	-105.50	Zone 3236 Lower	Runoff Zone	BOU
POUC2RET	2005-05-09		40.59	-105.07	Ft Collins	Cache La Poudre R	BOU
POUC2UPR	2000-11-09	2007-11-17	39.60	-105.90	Zone 3236 UPPER	Runoff Zone	BOU
POUC2UPR	2007-11-17		39.60	-105.90	Zone 3236 Upper	Runoff Zone	BOU

Record count: 8

Figure 2. Main window with a specific entry selected.

## Pull-Down Menus

These menus can be opened by clicking on their title bars, or by using the following <Alt> shortcuts: <Alt>-F for *File*, <Alt>-L for *Location*, <Alt>-G for *GageInfo*, <Alt>-R for *Reservoir*, <Alt>-D for *Data Ingest*, <Alt>-E for *Reference*, <Alt>-N for *NWSRFS*, <Alt>-S for *SyncDBs*, and <Alt>-H for *Help*.

If a specific site is selected in the main window, right-clicking anywhere in the highlighted bar will bring up a pop-up menu allowing quick access to the options that *require a site to be selected (Modify Location, River Gage, Rating Information, Crest History, Slope Profile, Average, Reservoir, and SensOK)*.

## **File**

There are two choices in this pull-down menu: *Preferences* and *Exit Application*.

To change which location table columns display in the main window, use the *Preferences* option from the *File* pull-down menu. The Preferences window can also be

started by pressing <Alt>-P. An example of the *Preferences* window is shown in Figure 3.

To exit raxbase, select *Exit Application* from the *File* pull-down menu or press <Alt>-Q.

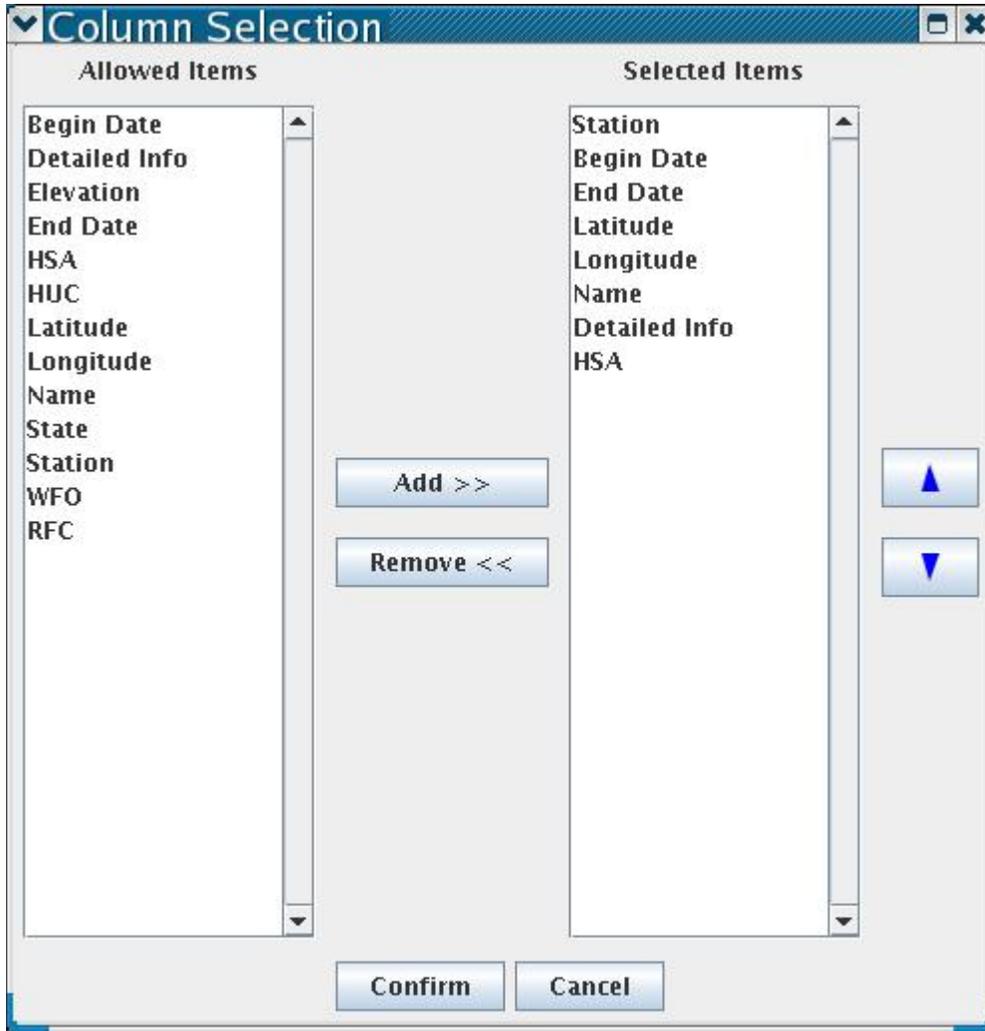


Figure 3. Preferences window.

### ***Location***

There are two choices in this pull-down menu: *Add Location* and *Modify Location*. Both of these options access the location table in the RAX DB. Examples of these two windows are shown in Figures 4 and 5.

In the *Add Location* window, the start date defaults to the current date and the end date defaults to "NULL". The *Add Location* window can also be started by pressing <Alt>-A.

A location must be selected in the main window in order to access the *Modify Location* window. The *Modify Location* window can also be started by pressing <Alt>-M or by double clicking on a location in the main window.

The screenshot shows a window titled "Add Location" with a blue header bar. The window is divided into two main sections: "Geographic/Physical" and "Database Controls".

**Geographic/Physical Section:**

- Location:
- Start Date:
- End Date:
- GOES:
- Name:
- Detail:
- Latitude:
- Longitude:
- Elevation:
- State:
- HUC:
- County FIPS:
- Zone Code:
- HSA:
- WFO:
- Post Code:
- DB Source:
- RFC:
- Country FIPS:

**Database Controls Section:**

Save and Close   Save   Close

Figure 4. Add Location Window.

**Geographic/Physical**

Location: POUC2  
 Start Date: 2007-11-17  
 End Date:  
 GOES:  
 Name: Fort Collins  
 Detail: Cache La Poudre R  
 Latitude: 9166666667  
 Longitude: 6916666667  
 Elevation: 4940  
 State: CO  
 HUC:  
 County FIPS: 067  
 Zone Code:  
 HSA: BOU  
 WFO: BOU  
 Post Code: 2  
 DB Source:  
 RFC: MB  
 Country FIPS: US

**Database Controls**

Save and Close   Save   Close

Figure 5. Modify Location Window.

### GageInfo

There are five choices in this pull-down menu: *River Gage* (rivercrit table), *Rating Information* (rating and ratingsshift tables), *Crest History* (crest table), *Slope Profile* (slopeprofile table), and *Average* (avg table). These options do not have <Alt> shortcuts, but can be accessed by right-clicking in the highlighted bar once a site has been selected.

A location must be selected in the main window in order to display any of these windows. Examples of these windows are shown in Figures 6 thru 10. One of the features in these windows that is particularly handy is the field information box, where hovering the cursor over a field name (not over the field entry box) will pop up a blue information box that provides more information about that field and, when possible, provides a list of valid values.

▼ RiverCrit Editor □ ×

LID: POU2 - PE HG - VDTIME: 2003-06-01 ▼

Flood Category Data	Processors Quality Control	Misc Data
Lid: POU2	LowScreen: <input type="text"/>	Stream: <input type="text"/>
PEHG	LowScreenF: <input type="text"/>	Latitude: <input type="text"/>
Vdtime: 2003-06-01	LowScreenQ: <input type="text"/>	Longitude: <input type="text"/>
Fis: 7.0	HighScreen: <input type="text"/>	Da: <input type="text"/>
FisF: <input type="text"/>	HighScreenF: <input type="text"/>	Mile: <input type="text"/>
FisQ: <input type="text"/>	HighScreenQ: <input type="text"/>	Zd: <input type="text"/>
Action: <input type="text"/>	DamScreen: <input type="text"/>	VDatum: <input type="text"/>
ActionF: <input type="text"/>	DamScreenF: <input type="text"/>	Cb: <input type="text"/>
ActionQ: <input type="text"/>	DamScreenQ: <input type="text"/>	Level: <input type="text"/>
Alert: <input type="text"/>	SigRate: <input type="text"/>	Pool: <input type="text"/>
AlertF: <input type="text"/>	SigRateF: <input type="text"/>	Por: <input type="text"/>
AlertQ: <input type="text"/>	SigRateQ: <input type="text"/>	Tide: <input type="text"/>
Bank: 4.5	SigRateT: <input type="text"/>	BackWater: <input type="text"/>
BankF: <input type="text"/>	ScreenRate: <input type="text"/>	RRevise: <input type="text"/>
BankQ: <input type="text"/>	ScreenRateF: <input type="text"/>	RSource: <input type="text"/>
Flood: 8.0	ScreenRateQ: <input type="text"/>	ResponseTime: <input type="text"/>
FloodF: <input type="text"/>	ScreenRateT: <input type="text"/>	ThresholdRunOff: <input type="text"/>
FloodQ: <input type="text"/>		uhgDur: <input type="text"/>
ModFlood: 9.0		
ModFloodF: <input type="text"/>		
ModFloodQ: <input type="text"/>		
MajFlood: 10.0		
MajFloodF: <input type="text"/>		
MajFloodQ: <input type="text"/>		
Record: <input type="text"/>		
RecordF: <input type="text"/>		
RecordQ: <input type="text"/>		

Remark:

Figure 6. River Gage Window

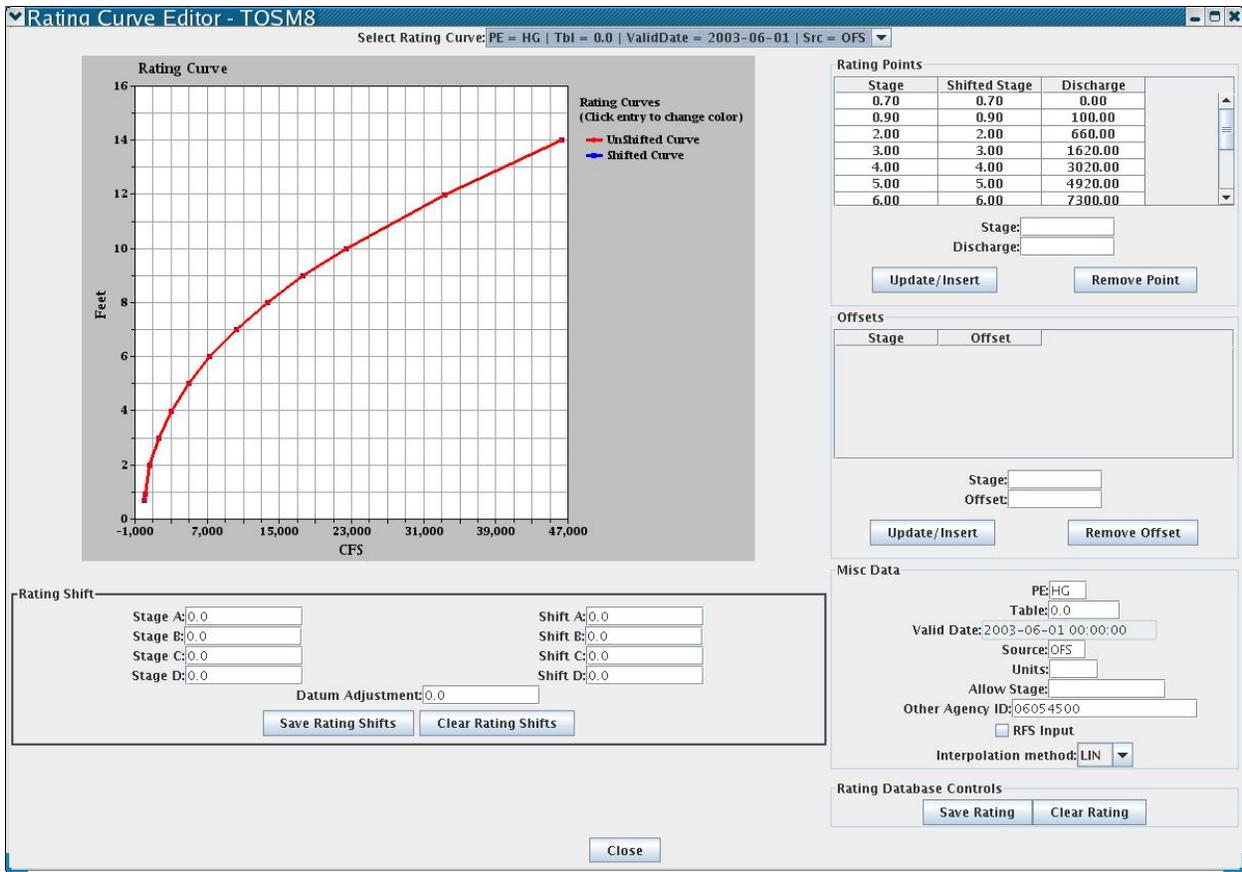


Figure 7. Rating Information Window

Note: If the default line colors (red for base, blue for shifted) in the rating plot are a problem, the user can change the colors. Clicking on the sample line beside either “UnShifted Curve” or “Shifted Curve” will pop up a color choice window which can be used to select a new color for that curve. (The new color can be chosen from a “Swatches” (default option), “HSB” or “RGB” presentation.)

The screenshot shows a software window titled "Crest Editor - POUC2 - Fort Collins". It contains a table with four columns: Stage, Flow, Date, and Time. The row with Stage 8.7 is highlighted in blue. Below the table is a "Delete" button. Underneath is a section titled "Info for Selected Crest" with input fields for Stage (8.7), Date (1984-06-01), Stage Quality Code, Time (21:00), Flow (7620.0), and Flow Quality Code. There is also a "Prelim" dropdown menu and three checkboxes: "Based on Old Datum", "Observed by High Water Mark", and "Affected by Ice Jam". At the bottom are buttons for "Save and Close", "Save", "Close", and "New".

Stage	Flow	Date	Time
11.90	16000.00	1942-06-01	21:00
9.90	9720.00	1944-06-01	21:00
11.60	13200.00	1946-06-01	21:00
8.90	8030.00	1948-06-01	21:00
12.20	21100.00	1949-06-01	21:00
11.40	12800.00	1965-01-06	21:00
10.10	10200.00	1975-06-01	21:00
11.40	12800.00	1976-06-01	21:00
8.31		1983-06-21	UNDEF
8.70	7620.00	1984-06-01	21:00
9.15		1991-06-02	UNDEF
10.46		1999-04-30	UNDEF

**Delete**

**Info for Selected Crest**

Stage:  Date:

Stage Quality Code:  Time:

Flow:

Flow Quality Code:  Prelim:

Based on Old Datum

Observed by High Water Mark

Affected by Ice Jam

Figure 8. Crest History Window

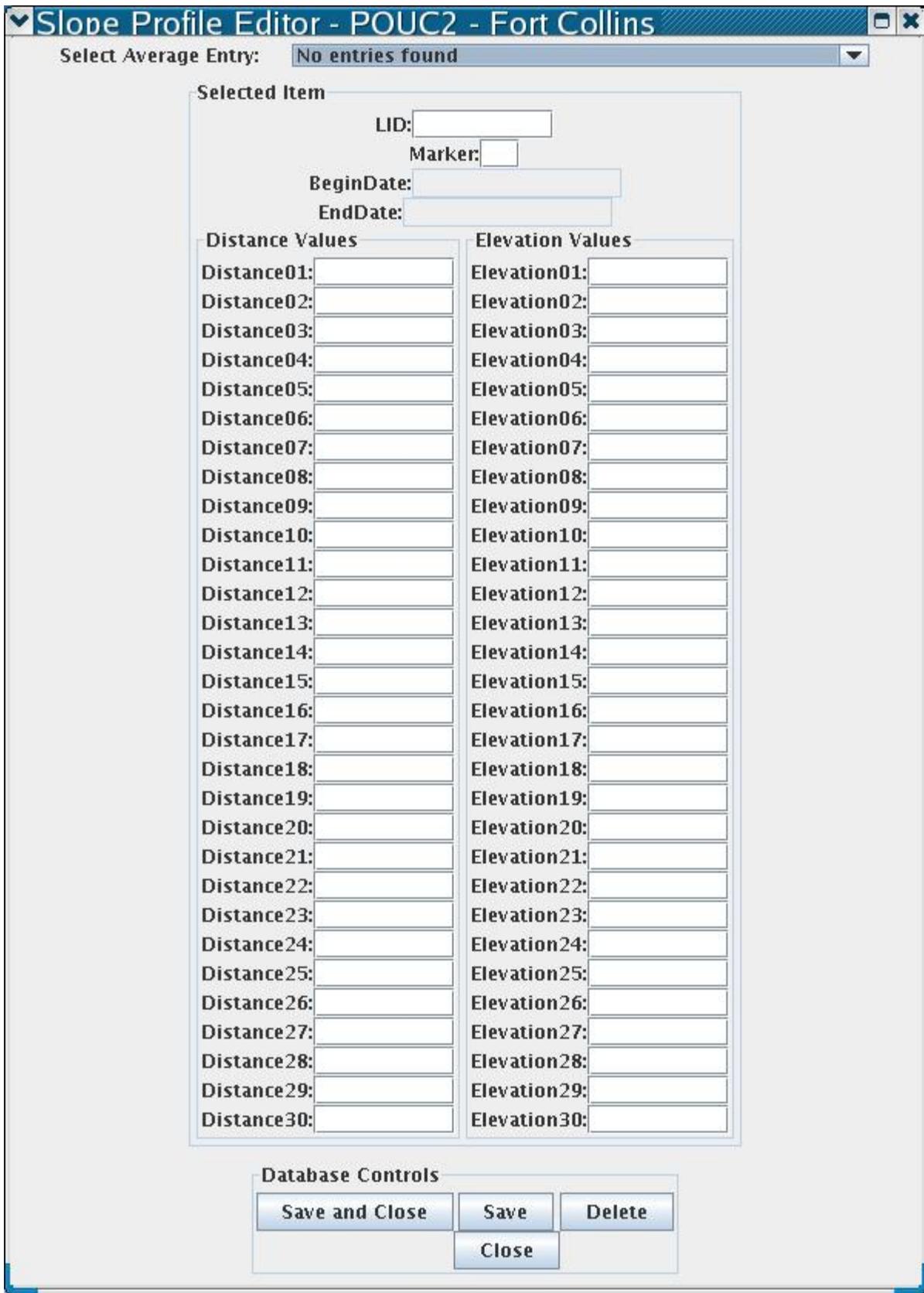


Figure 9. Slope Profile Window

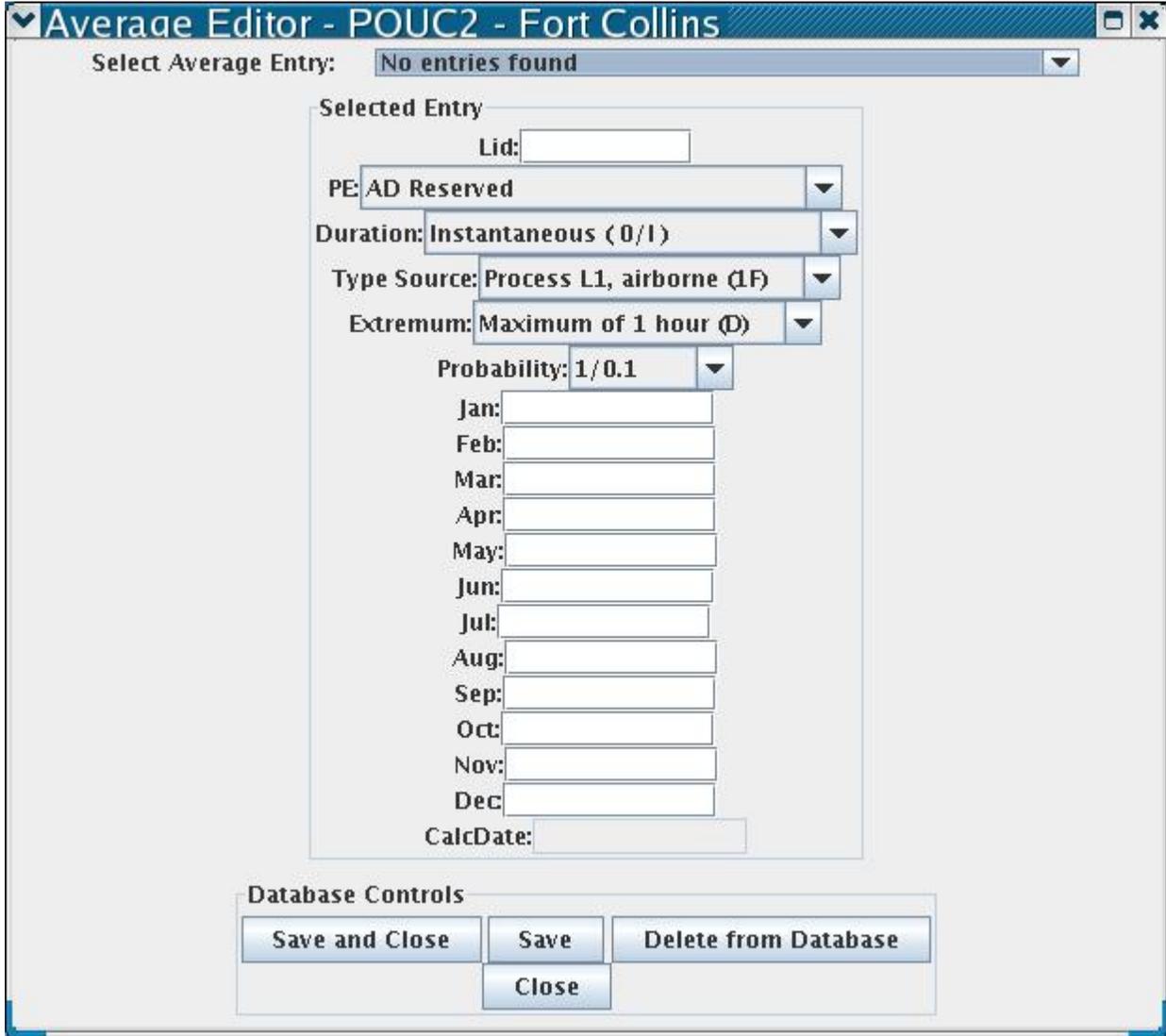


Figure 10. Average window.

### **Reservoir**

There is only one option in this pull-down menu, *Reservoir* (reservoir table). This option does not have an <Alt> short-cut, but can be accessed by right-clicking in the highlighted bar once a site has been selected.

A location must be selected in the main window in order to display this window. An example of this window is shown in Figure 11. One of the features in this window that is particularly handy is the field information box, where hovering the cursor over a field name (not over the field entry box) will pop up a blue information box that provides more information about that field and, when possible, provides a list of valid values.

**Reservoir Editor**

Service Begin Date: 2007-11-17

Information for MTTK1

Name: Tuttle Creek Lake  
 Begin Date: 2007-11-17  
 End Date:   
 Impound Date: 1959-07-20  
 Gates: 5  
 Type: Earth  
 Owner: COE

Uses

- Flood Control
- Hydroelectric
- Low Flow Augmentation
- Navigation
- Recreation
- Water Supply

Elevations

Max Surcharge: 1150.0  
 Top: 1159.0  
 Sill: 0.0  
 Reservoir: 0.0

Pools

Flood: 1136.0  
 Spillway: 1116.0  
 Conservation: 1075.0  
 Dead: 1061.0

Database Controls

Save Close Delete

Figure 11. Reservoir Window

## Data Ingest

There are four options in this pull-down menu: *Ingest Filter* (ingestfilter table), *Adjust Factor* (adjustfactor table), *QC Data Limits* (datalimits and locdatalimits tables), and *Sensok* (sensok table). These options do not have <Alt> short-cuts, although the *Sensok* option can be accessed by right-clicking in the highlighted bar once a site has been selected. Examples of these windows are shown in Figures 12 thru 16.

Note that a site does not need to be selected in the main window in order to access the *Ingest Filter*, *Adjust Factor*, or *QC Data Limits* windows. A site does need to be selected in the main window in order to access the *Sensok* window.

The *Adjust Factor* and *Sensok* windows have field information boxes. Hovering the cursor over a field name (not over the field entry box) will pop up a blue information box that provides more information about that field and, when possible, provides a list of valid values.

The QC Data Limits window has 2 options: *Default Limits* (Figure 14) and *Location Limits* (Figure 15). The window defaults to *Default Limits*. Use the “List:” field entry pull-down menu to select *Location Limits*.

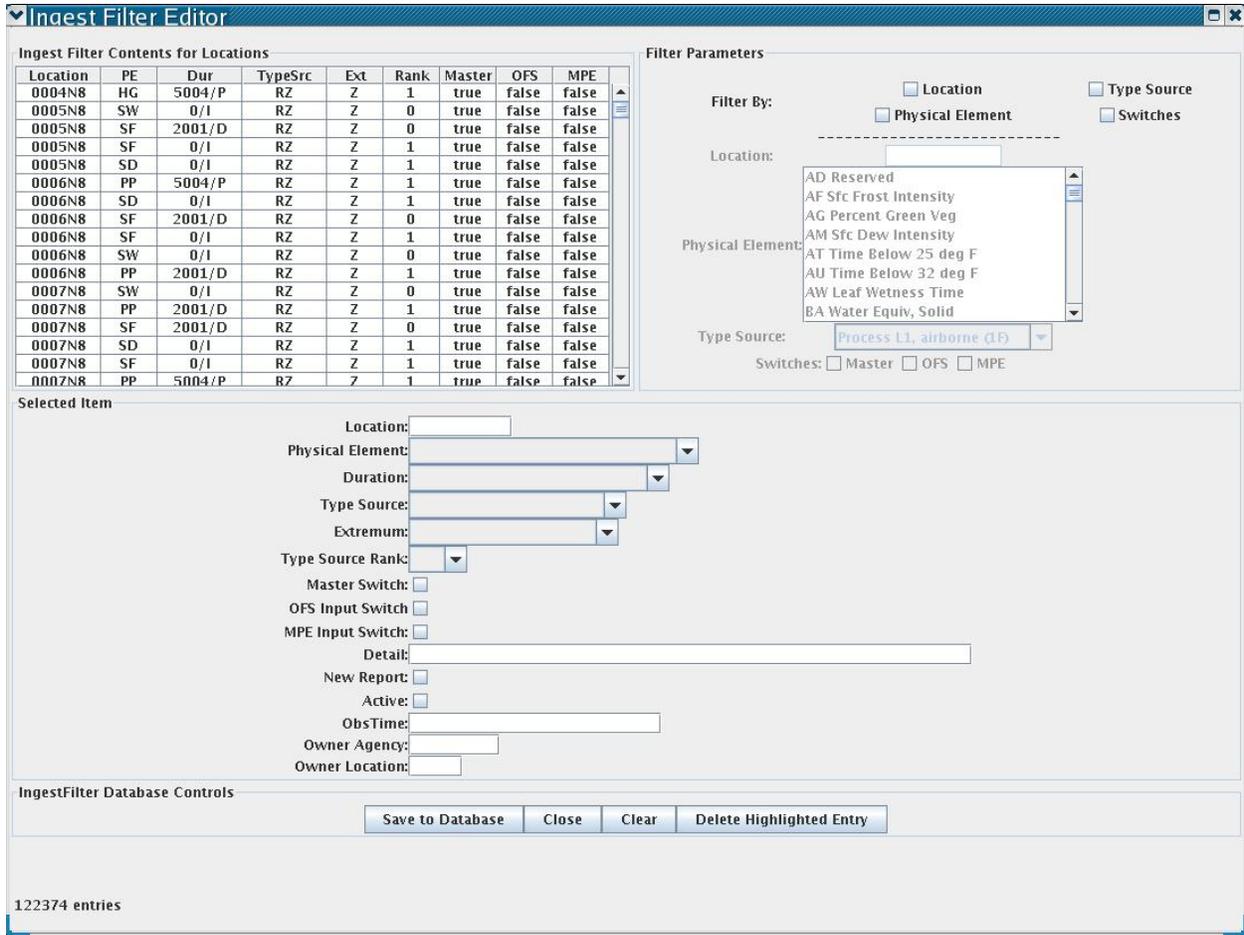


Figure 12. Ingest Filter Window

**Adjust Factor Editor**

Summary By Location of Data Adjustment Factors

Location	PE	Dur	TS	Extremum	Begin Date	Divisor	Base	Multiplier	Adder
TEST1	HG	0/I	RG	Z	2007-10-21	1.00	0.00	1.00	0.00
TEST1	PC	0/I	RG	Z	2007-10-21	1.00	0.00	1.00	0.00
LOGM8	HG	0/I	RG	Z	2007-11-17	1.00	0.00	1.00	0.40
WPTM8	HG	0/I	RG	Z	2007-11-17	1.00	0.00	1.00	1.13

Adjusted Value = (((Raw Value / Divisor) + Base) \* Multiplier) + Adder

**Selected Item**

Location:

Begin Date:

Duration:

TypeSource:

Extremum:

Divisor:

Multiplier:

Base:

Adder:

- AD Reserved
- AF Sfc Frost Intensity
- AG Percent Green Veg
- AM Sfc Dew Intensity
- AT Time Below 25 deg F
- AU Time Below 32 deg F
- AW Leaf Wetness Time
- BA Water Equiv, Solid
- BB Heat Deficit

Close    Update/Insert    Delete

Figure 13. Adjust Factor Window

**DataLimits Editor**

Limits

List: **Default Limits**

Filters

- Physical Element
- AD Reserved
- AF Sfc Frost Intensity
- AG Percent Green Veg
- AM Sfc Dew Intensity
- AT Time Below 25 deg F
- AU Time Below 32 deg F
- AW Leaf Wetness Time
- BA Water Equiv, Solid

Location	PE	Dur	Start	End	Gross Min	Gross Max	Reasonable Min	Reasonable Max	Rate of Change	Alert Limit	Alert Limit ROC	Alarm Limit
	HG	I/0	01-01	12-31	-10.00	-10.00						
	HP	I/0	01-01	12-31	400.00	400.00						
	HT	I/0	01-01	12-31	-10.00	-10.00						
	PC	I/0	11-01	12-31					4.01		4.01	
	PC	I/0	01-01	03-31					4.01		4.01	
	PC	I/0	04-01	10-31					6.01		6.01	
	PP	U/1	01-01	12-31	0.00	0.00						
	PP	C/15	01-01	12-31	0.00	0.00						
	PP	J/30	01-01	12-31	0.00	0.00						
	PP	B/1002	01-01	12-31	0.00	0.00						
	PP	T/1003	01-01	12-31	0.00	0.00						
	PP	F/1004	01-01	12-31	0.00	0.00						
	PP	Q/1006	01-01	12-31	0.00	0.00						
	PP	A/1008	01-01	12-31	0.00	0.00						
	PP	K/1012	01-01	12-31	0.00	0.00						
	PP	L/1018	01-01	12-31	0.00	0.00						
	PP	M/1007	01-01	12-31	0.00	0.00						

Limits for Selected Item

Duration: **Instantaneous (0/1)**

Start MM-DD:

End MM-DD:

- AD Reserved
- AF Sfc Frost Intensity
- AG Percent Green Veg
- AM Sfc Dew Intensity
- AT Time Below 25 deg F
- AU Time Below 32 deg F
- AW Leaf Wetness Time
- BA Water Equiv, Solid
- BB Heat Deficit
- BC Liquid Water Storage
- BD Temperature Index

Quality Control Limits

Gross Range:  Minimum  Maximum

Reasonable Range:

Rate of Change (ROC):  Units/Hour

Alert/Alarm Limits

Alert Limit:

Alarm ROC:

Buttons: Save and Close, Save, Close, Clear, Delete

Figure 14. QC Limits Window 1 (Default Limits page)

**DataLimits Editor**

Limits

List: **Location Limits**

Filters

Location

Physical Element

- AD Reserved
- AF Sfc Frost Intensity
- AG Percent Green Veg
- AM Sfc Dew Intensity
- AT Time Below 25 deg F
- AU Time Below 32 deg F
- AW Leaf Wetness Time
- BA Water Equiv, Solid

Location	PE	Dur	Start	End	Gross Min	Gross Max	Reasonable Min	Reasonable Max	Rate of Change	Alert Limit	Alert Limit ROC	Alarm Limit
12THST	HG	1/0	01-01	12-31	-7.00	-7.00	3.00	43.00			5.00	
17THST	HG	1/0	01-01	12-31	-13.00	-13.00	-3.00	37.00			5.00	
23RDST	HG	1/0	01-01	12-31	-6.00	-6.00	4.00	46.00			5.00	
ABIK1	HG	1/0	01-01	12-31	0.00	0.00	3.00	35.00		24.00	5.00	
ABRN1	HG	1/0	01-01	12-31	0.00	0.00	0.00	30.00		19.00	5.00	
ABSM8	HG	1/0	01-01	12-31	-10.00	-10.00	-2.00	8.00			2.00	
ADAK1	HG	1/0	01-01	12-31	0.00	0.00	1.00	27.00		15.00	5.00	
ADDM8	HG	1/0	01-01	01-31	0.00	0.00						
AGYM7	HG	1/0	01-01	12-31	0.00	0.00	3.00	38.00		17.00	5.00	
AKR14	HG	1/0	01-01	12-31	0.00	0.00	1.00	26.00		13.00	5.00	
ALDN1	HG	1/0	01-01	12-31	0.00	0.00	3.00	15.00		8.50	2.00	
ALEK1	HG	1/0	01-01	12-31	0.00	0.00	0.00	20.00		11.00	4.00	
ALLM8	HG	1/0	01-01	12-31	0.00	0.00	0.00	23.00			5.00	
ALNM7	HG	1/0	01-01	12-31	0.00	0.00	3.00	31.00			5.00	
ALTH4	HG	1/0	01-01	12-31	0.00	0.00	4.00	21.00		9.00	4.00	
ALTN8	HG	1/0	01-01	12-31	-9.00	-9.00	1.00	33.00			5.00	

Limits for Selected Item

Location:

Duration: **Instantaneous (0/1)**

Start MM-DD:

End MM-DD:

- AD Reserved
- AF Sfc Frost Intensity
- AG Percent Green Veg
- AM Sfc Dew Intensity
- AT Time Below 25 deg F
- AU Time Below 32 deg F
- AW Leaf Wetness Time
- BA Water Equiv, Solid
- BB Heat Deficit
- BC Liquid Water Storage

Quality Control Limits

Gross Range: Minimum  Maximum

Reasonable Range:

Rate of Change (ROC):  Units/Hour

Alert/Alarm Limits

Alert Limit  ROC

Alarm Limit  ROC

Save and Close Save Close Clear Delete

Figure 15. QC Limits Window 2 (Location Limits page)

**Sensok Editor - MTTK1 - Tuttle Creek Res**

Select Sensok Entry: **No entries found**

Selected Entry

LID:

PE: **AD Reserved**

Duration: **Instantaneous (0/1)**

Type Source: **Process L1, airborne (LF)**

Extremum: **Maximum of 1 hour (D)**

Probability: **1/0.1**

OKTime:

OK

Initials:

Reason:

Agency:

Agency Location:

Comment:

Database Controls

Save and Close Save Delete from Database Close

Figure 16. Sensok Window

## **Reference**

There are nineteen options in this pull-down menu: *Country, State, Counties, HUC2, HUC4, HUC6, HUC8, WFO\_HSA, RFC, ShefDur, Shefex, Shefpetrans, ShefPE, ShefPE1, Shefprob, ShefQC, ShefTS, Agency, and Prod.* There are no <Alt> shortcuts for these options. These options provide access to the same-named tables in the RAX DB. Refer to Appendix B for further information on the reference tables.

## **NWSRFS**

There is only one option in this pull-down menu: *Modctrl.* There is no <Alt> shortcut for this option.

## **SyncDBs**

There are nine options in this pull-down menu: *Location, Ingest Filter, Adjust Factor, River Crit, Crest, Rating/Shift, DataLimits, LocData Limits, and Reservoir.* Each option allows the user to sync selected meta-data information in the RAX DB with the current meta-data in the IHFS DB by either accepting all of the changes found by the application or by accepting changes on a row by row basis. An example of the *Location* window is shown in Figure 17.

Note that a site does not need to be selected in order to access any of these windows. There are no <Alt> shortcuts for these options. These windows may take a long time to display if a large number of differences are found between the two databases.

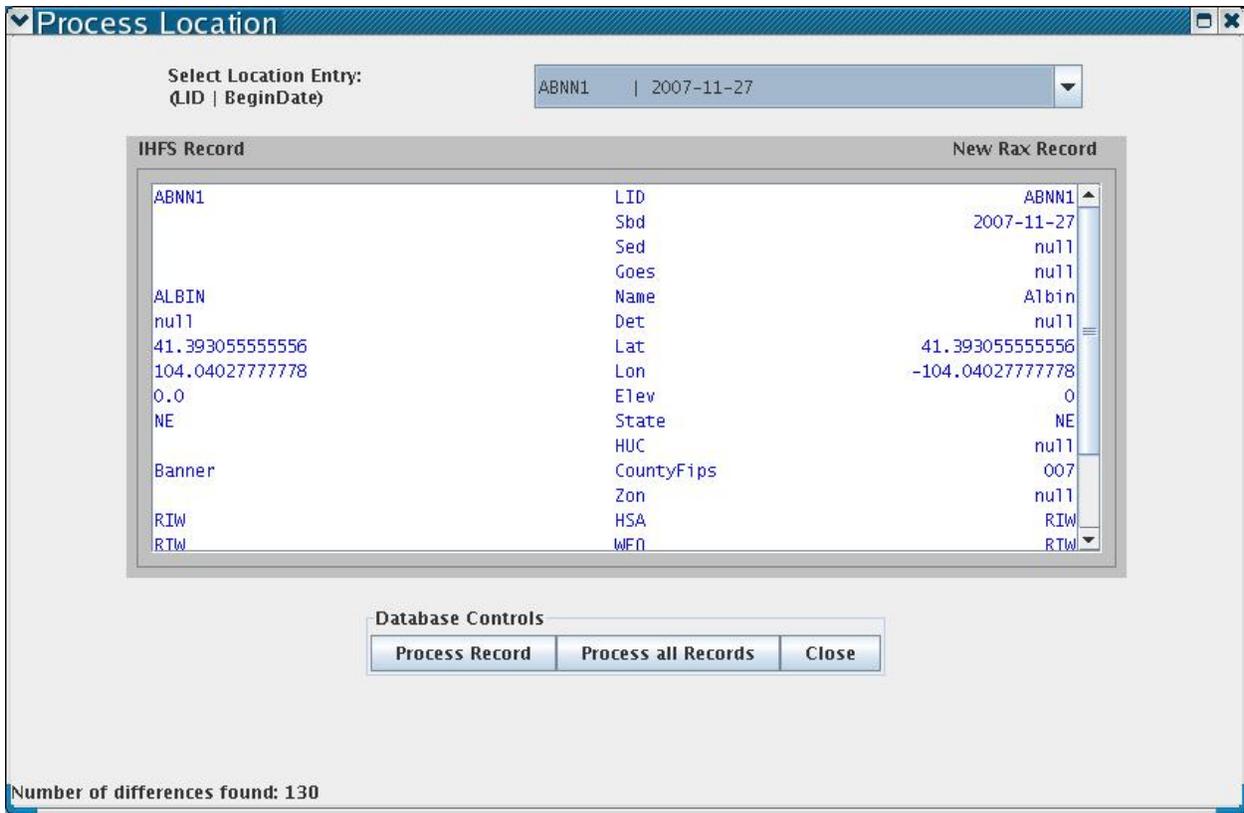


Figure 17. SynchDBs Location Window

After selecting one of the options, if no differences or no new data are found a message window pops up stating that no differences were found.



Figure 18. Sample "No Differences" pop up

### Help

There is currently only one option in this pull-down menu, *About*. The short-cut for this window is <Alt>-B. This option brings up an information window listing (among other things) the version and date of the application.

## Date and Date/Time Fields in the Various Windows

There are date or date/time fields in many of the windows the user accesses via the pull-down menus. To change a date the user clicks on the date field and a calendar window pops up. An example of the calendar (date selection) window is shown in Figure 19. An example of the date/time selection window is shown in Figure 20.

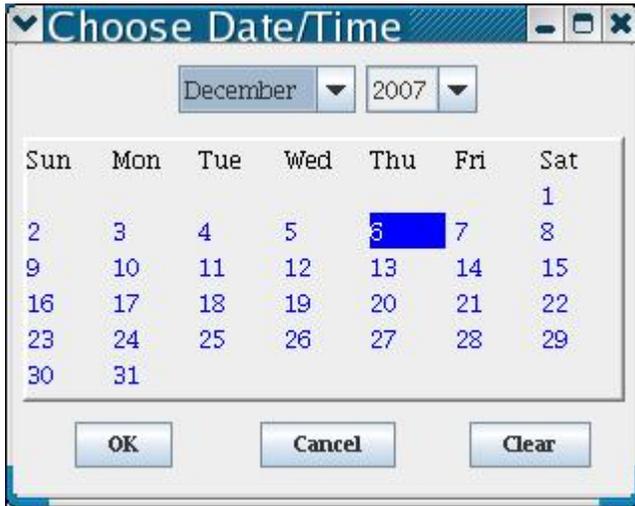


Figure 19. Date Selection Window

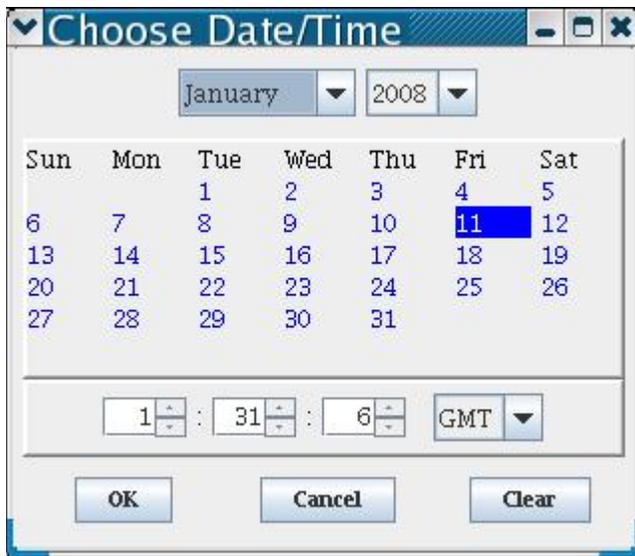


Figure 20. Date/Time Selection Window

## 4.0 Troubleshooting Information

If for some reason the application fails, contact the RFC Support Group.