# DATABASE UPDATE INSTRUCTIONS FOR USE WITH RUSLE2 VER 2.6.8.4 (Similar to previous versions)

The following are instructions to update the local RUSLE2 database after this new version is installed so that all the new functions work. This is extremely important with this version since the new energy calculator functions are contained in a new fuels folder and every field operation has been revised to include new diesel fuel equivalent values.

In a typical field office RUSLE2 is installed on each computer used by employees who do conservation planning. This may be the DC, soil conservationist and in many cases the technicians as well. Typically, only one copy of the local database is maintained in an office and the path to it is set on each computer running RUSLE2. Typically the local database used with previous versions is located on the shared drive in a field office.
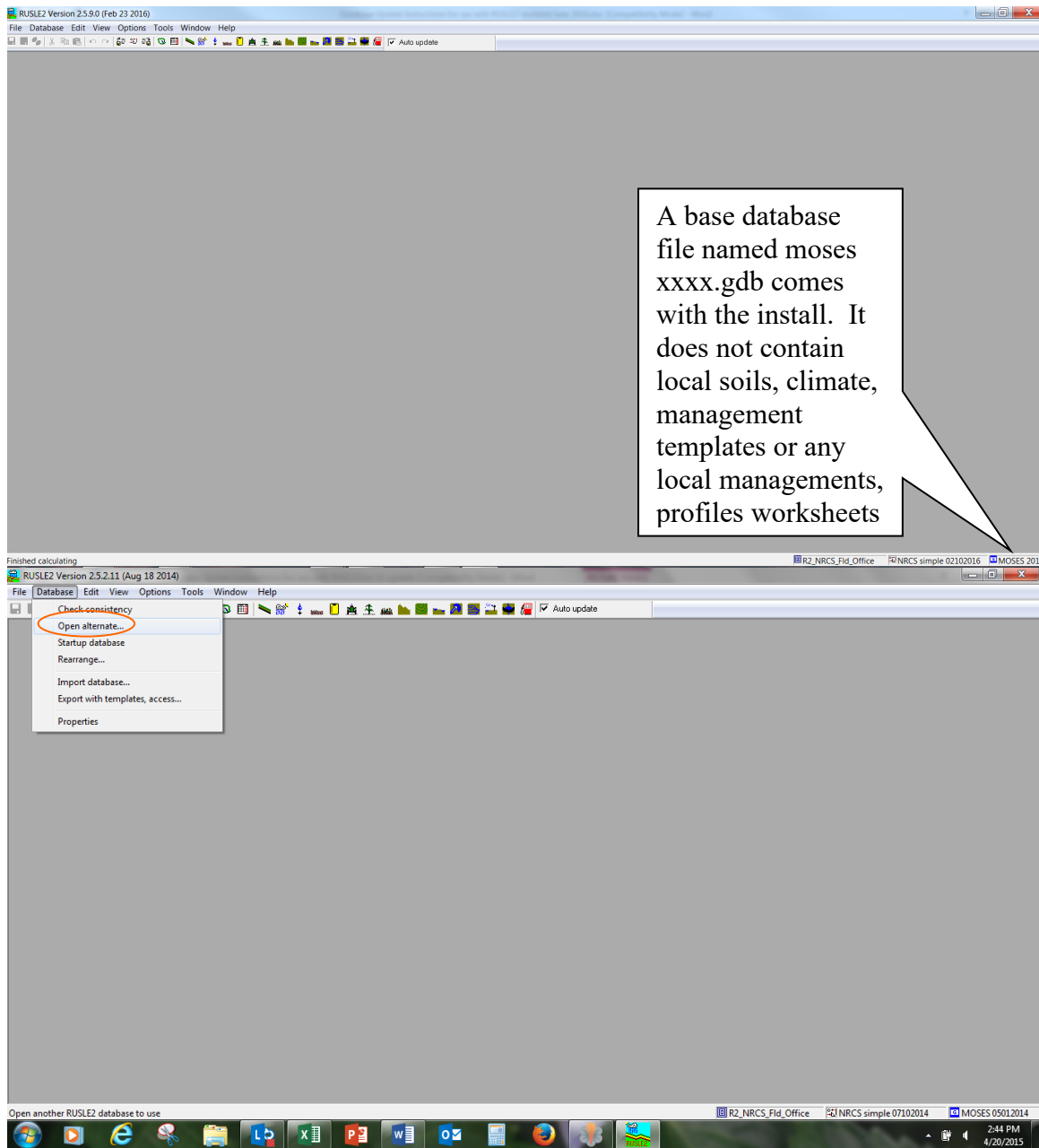
LOADING AND SETTING THE PATH TO THE LOCAL RUSLE2 DATABASE

After the new version install is performed, the local database needs to be located (shared drive or in the backup folder on the C drive).
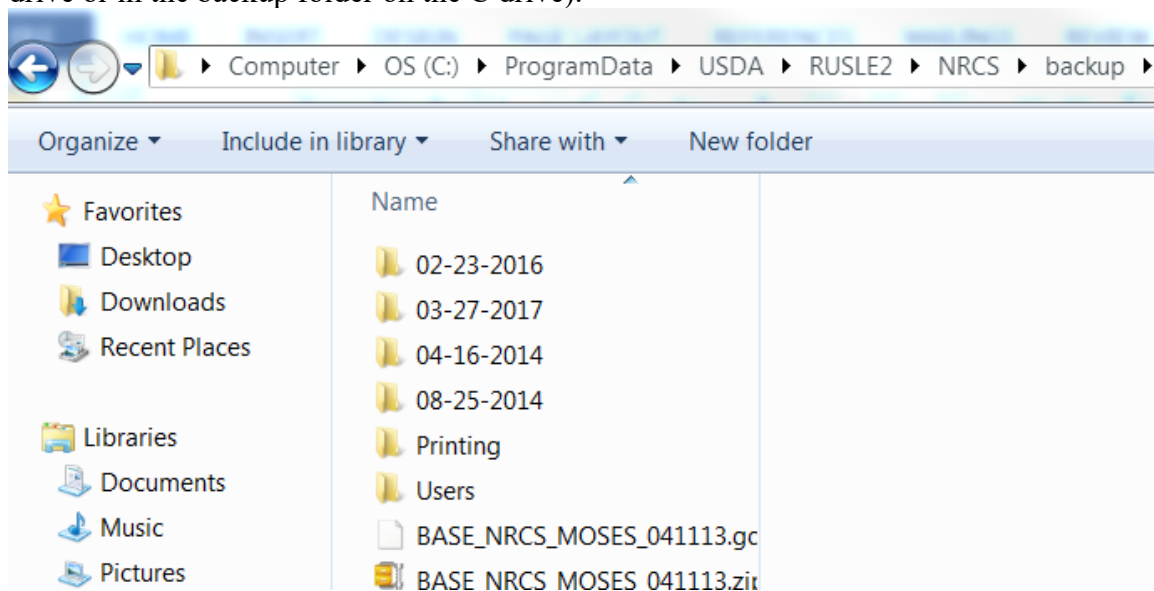

Your backup folder may have 03-37-2017 or the date of the most recent version.

You can move the local database to the location where you want to use it. It must then be loaded and the path to it set in the "database\startup database" dialog in RUSLE2 on each computer.   The active database file name is displayed in the lower right corner of the RUSLE2 screen.

A base database file named moses xxxx.gdb comes with the install. It does not contain local soils, climate, management templates or any local managements, profiles worksheets

 Two ways exist to open an alternate database. The previous screen shot shows the first which is to open the "database" dialog on the top RUSLE2 task bar and other is to simply right click on this database name in the lower right corner of the RUSLE2 screen and select "open alternate".
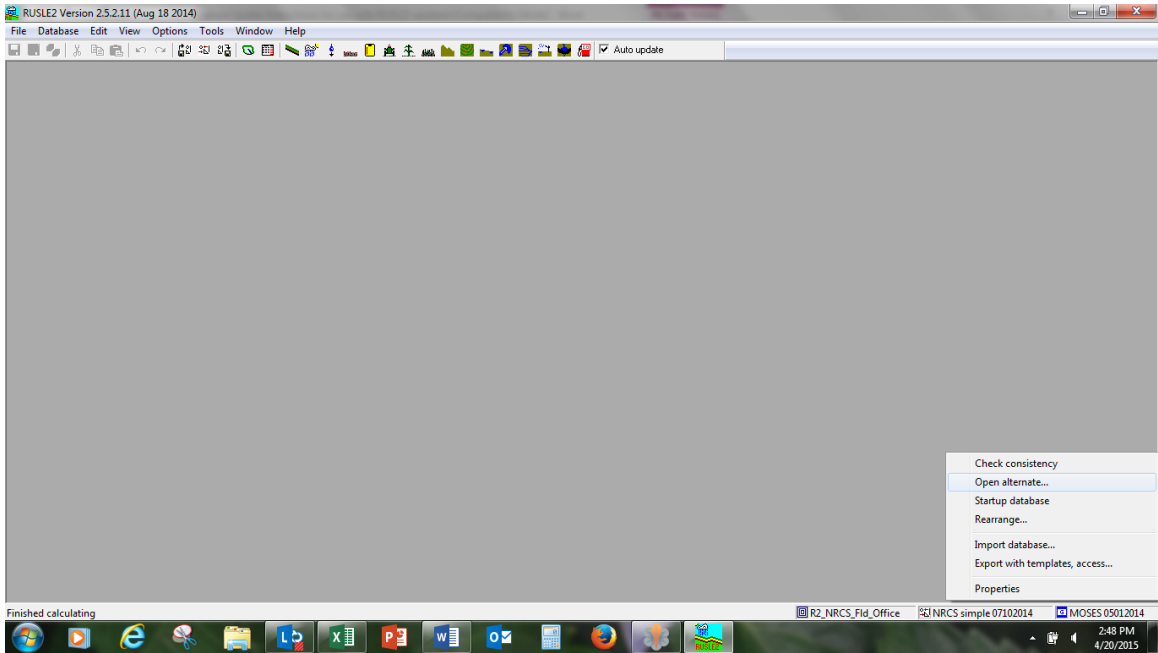
Then navigate to the appropriate location and select the old local database file and allow it to load. You can navigate to this file anywhere on the local network and set the path to it.
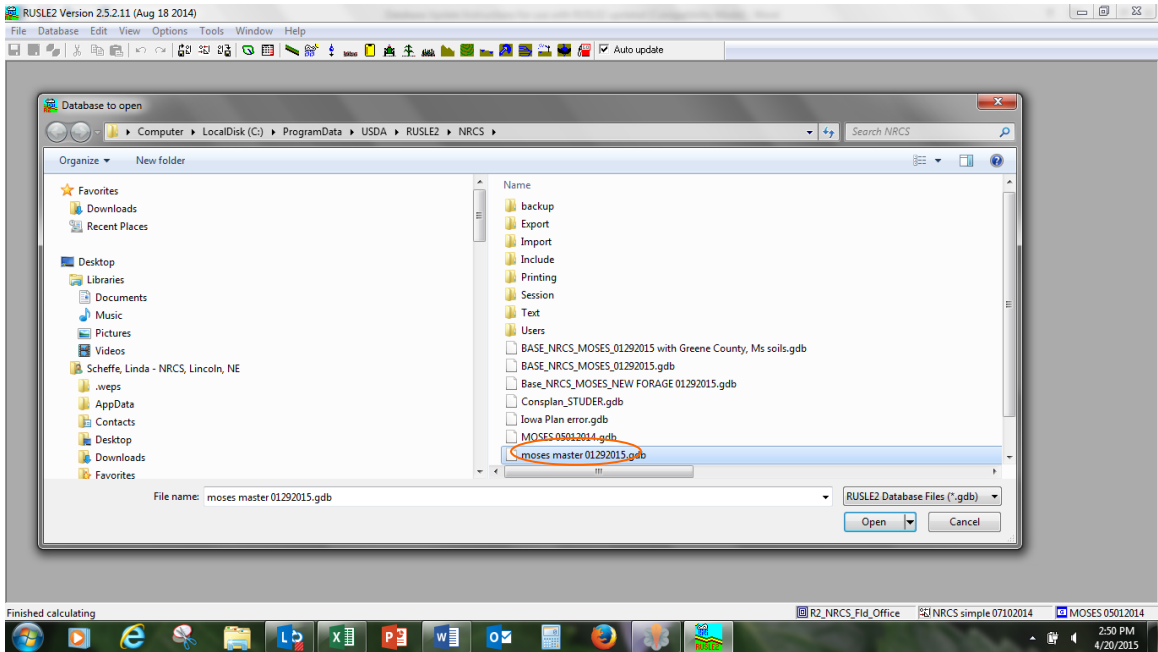
SETTING THE PATH TO THE DATABASE FILE:

Then, simply open the database dialog on the top RUSLE2 task bar and click "startup database" once with the left mouse button.

Left mouse click to set path to old database.
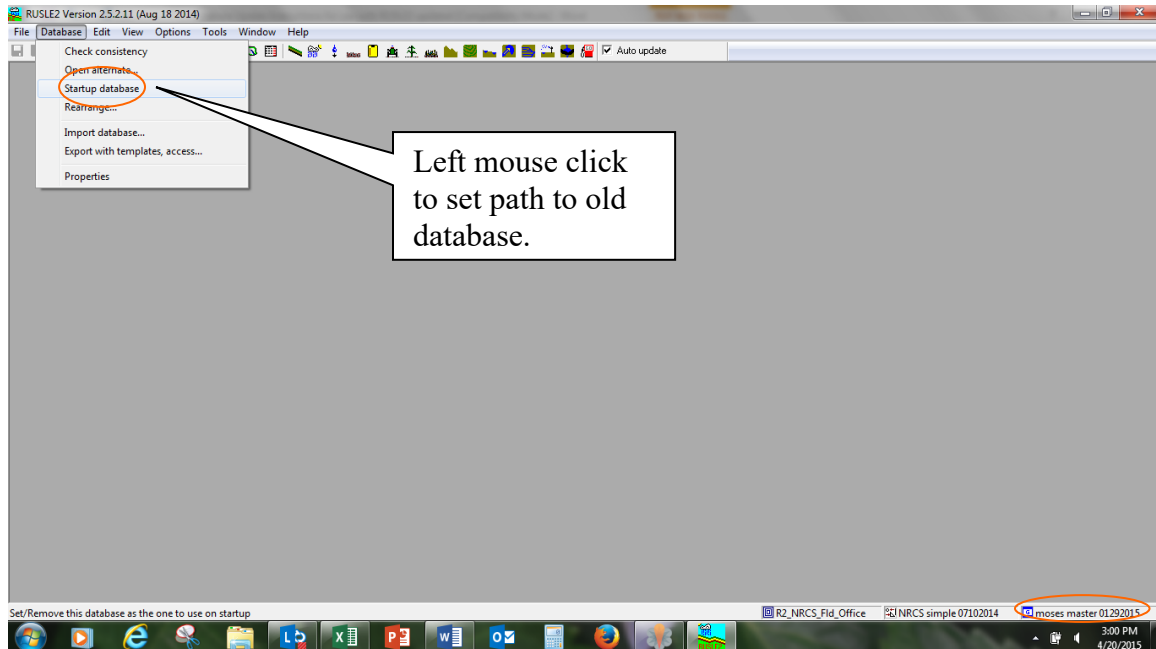
Reopen the database dialog and a checkmark should now appear beside this parameter.
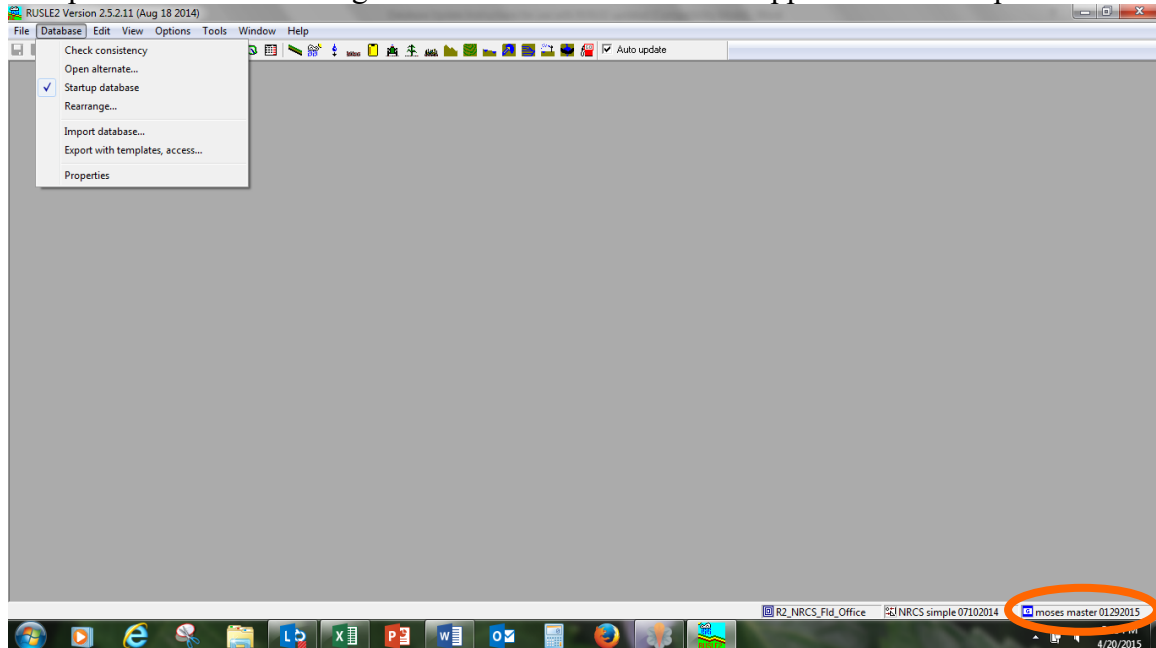
This means that the database file that is currently loaded (the name is displayed in the lower right corner of the RUSLE2 screen) will be automatically accessed each time the model is rebooted.

UPDATING THE LOCAL DATABASE

Base Database vs Database Update files:

1. The base database, such as **Base_NRCS_Moses_03302016**, is more complete than the database update file and has all of the parameters necessary to run RUSLE2 except local data, including climate, soils, and crop management templates. When there is a major change in database, such as CMZs, soils, operations, or vegetations, particularly deletions, it is recommended to archive the working moses database and build a new working moses database. The active database in RUSLE2 becomes the current base database into which local soils, climates, CMZs, and c folder managements, profiles, worksheets and plans are imported.

2. The database update file, such as**NRCS_Moses_updates_030104to03302016.gdb,** is not a complete database but only contains new additions and edits since the initial release of RUSLE2 and therefore must be imported into the current local database using the database\import function in RUSLE2. This file should never be used as the starting database since incomplete. It is only used to import into a base database or working moses database.

METHOD 1 DATABASE UPDATE PROCESS USING BASE DATABASE:

This is the recommended process if major changes have occurred in the database and if there are broken internal links in the local database. This involves archiving the old database and start fresh with the new version. This process involves using the base database (mosesxxxx.gdb file) that comes with the installer and importing specific parts of their local database or checking website to download latest base database to ensure using latest base database. Download as well any new soils data and new crop management zone templates and import directly into it. This would be a good time to go to the RUSLE2 website and get the latest soils data file(s) for the areas served by the field office as well as the latest management templates for the crop management zone (CMZ) in which the field office is located. Once those are imported into the moses.gdb file then one additional import can be made to bring in the climate data, local management records from the "C. Other local managements" folder under managements and any profiles, worksheets and plans from those folders in the local database. These can all be imported in one import session from the old database.

STEP 1: Download all files needed from the RUSLE2 website.

STEP 1a: Downloading RUSLE2 files – Base Database

Archive the working moses database and build a new working moses database.   The active database in RUSLE2 becomes the current base database into which local soils, climates, CMZ's and c folder managements, profiles, worksheets and plans are imported.

     a. Your existing local base database should be saved in C:\Program Data\USDA\Rusle2\NRCS\ (In latest version) and may be named "date_county.gdb".

     b. Right-click, copy the file, and paste it into the same location. Then right-click on your copy, and rename "file_name_archive_date.gdb" or save it to another appropriate location.

     c. Now, download and update any indicated databases as outlined in the following instructions:

1. Go to the RUSLE2 website and click "Download File" under Base Database & Misc Files

     Base Database & Misc Files
     Instructions
     Download File

2. Click on the most updated base database (Base_NRCS_Moses_03302016.zip) and hit "Save to". **Save the zip file under C:\ProgramData\USDA\Rusle2\NRCS**

     a. In this same ftp site, there is a folder "Latest Base Database Updates". The document in this folder titled "Database Updates 03302016.docx" explains what's new in the base database.

Name	Last modified	Siz
Parent Directory		
BASE_NRCS_MOSES_01292015.zip	29-Jan-2015 19:30	12
CSP presentation/	05-Apr-2006 18:55	
Farm Equipment presentation/	09-Mar-2006 22:05	
Importing soils, climate and managements_rev072006.doc	20-Jul-2006 15:55	565
Latest Base Database Updates/	29-Jan-2015 20:07	
Manure drymatter calclations/	24-Oct-2010 17:27	
NASIS Import "How to" files/	25-Oct-2005 15:50	
Printing_templates/	23-Oct-2014 14:33	
Soil Removal tables for B&B Nursery and Sod farms/	22-Apr-2005 16:53	
Soil removal procedure for subsidence on Histosols/	10-Feb-2006 17:16	
User_Screen_templates/	05-Feb-2015 21:59	

3. Extract the zip file
     a. Open Explorer and navigate to C:\ProgramData\USDA\Rusle2\NRCS\
     b. Right-click on the zip file, select "WinZip→Extract to here".
       You've now successfully downloaded the newest base database (moses) to your Local drive.

STEP 1b: Downloading/Saving RUSLE files – Climate

1. Go to the RUSLE2 website and click "Data Files" under Climate Data. Click on the state Climate file, such as IN_clim011603.zip. **Save the zip file under C:\ProgramData\USDA\Rusle2\NRCS\Import.**
2. Extract the zip file
     a. Open Explorer and navigate to C:\ProgramData\USDA\Rusle2\NRCS\Import

b. Right-click on the zip file, select "WinZip→Extract to

here".
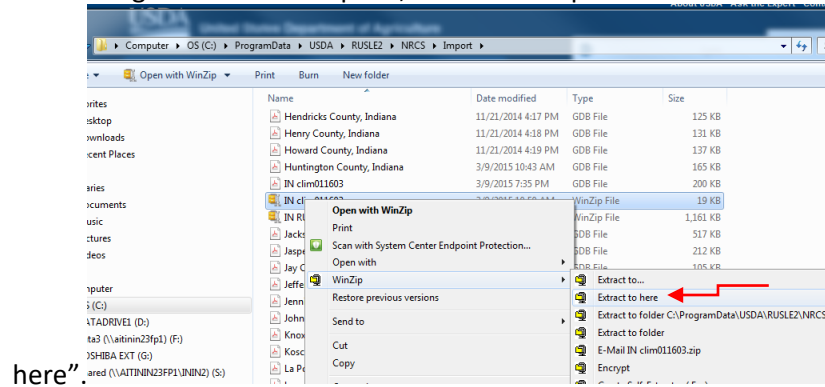
c. You've now successfully downloaded the state Climate data to your Local drive.

STEP 1c: Downloading/Saving RUSLE files –Crop Management Zones

1. Go to the <u>RUSLE2 website</u> and click "Data Files" under Crop Management Templates. Click on the Crop Management Zone file, such as, CMZ_04.zip. **Save the zip file under C:\ProgramData\USDA\Rusle2\NRCS\Import.**
2. Extract the zip file
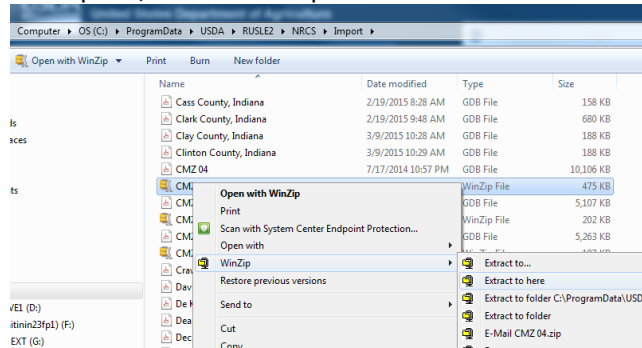   a. Open Explorer and navigate to C:\ProgramData\USDA\Rusle2\NRCS\Import.
   b. Right-click on the zip file, select "WinZip→Extract to here".

   c. You've now successfully downloaded the Crop Management Zones data to your Local drive.
   d. *You may need one or more CMZ files depending on the area(s) you cover. If multiple CMZs are needed, repeat steps in 1c to download all needed files. See the "Crop Management Zone Maps" on the RUSLE2 home page to determine which CMZs you need.*

**STEP 1d: Soils Data   (with Version 2.5.9.0 and 2.6.8.4, soils are brought into the local database with a 2 step import process) (further instructions below)**

STEP 2: Import the updated files into RUSLE Program
Now we want to bring in only the most up to date climate, soils and CMZ information into the updated database (Base_NRCS_Moses_03302016) then bring into this our locally developed managements.

Step 2a: Setting your new Base Database
1. Open RUSLE2.
2. Right-click on your startup database and select 'Open alternate'. Bring in the Base_NRCS_Moses_03302016 that you downloaded from the RUSLE2 site (located under C:\ProgramData\USDA\Rusle2\NRCS\).
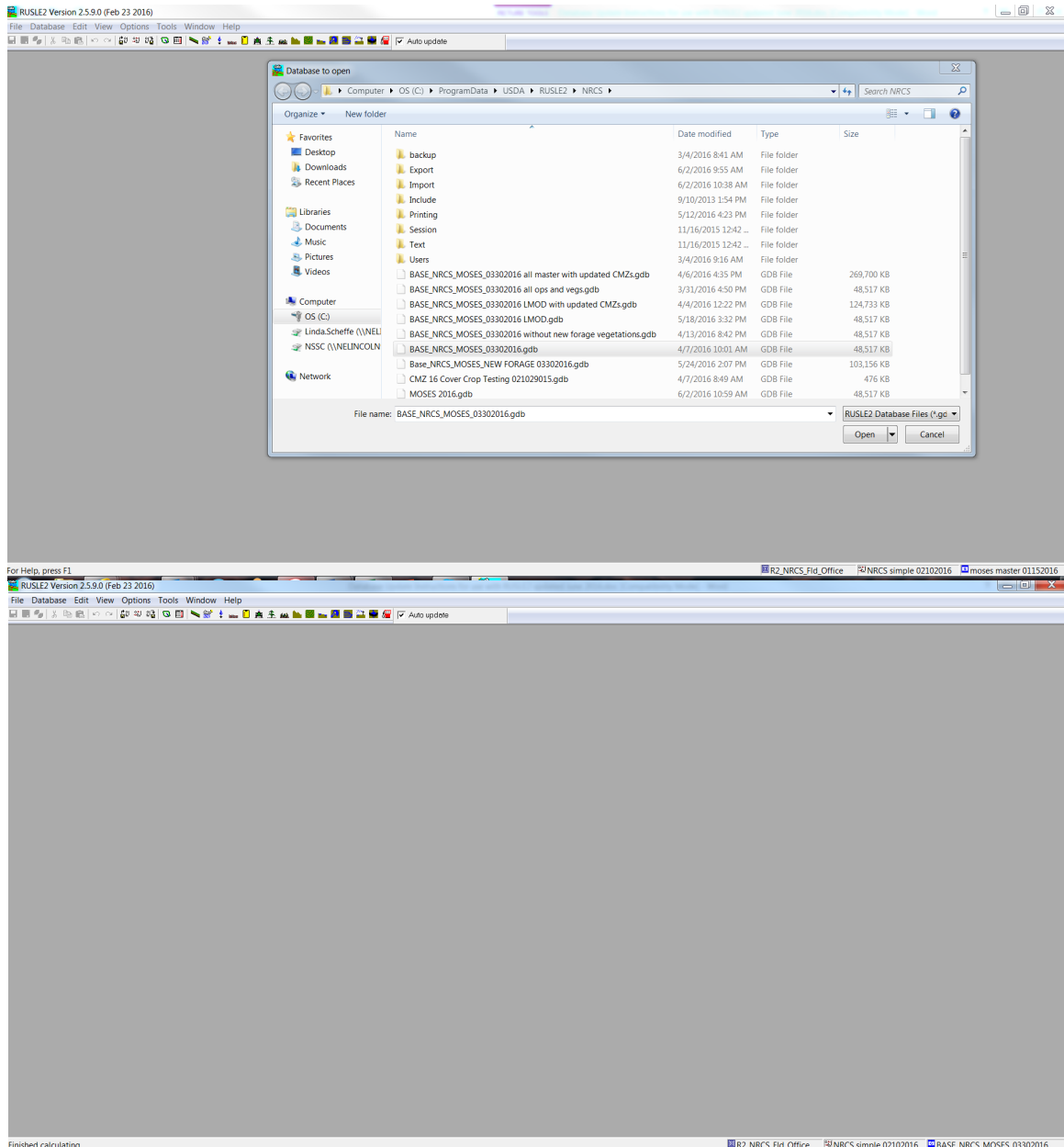

3. You have now set the Base_NRCS_Moses_03302016.gdb as your working base database in RUSLE2. Now we will bring into this the following:
   a. *Crop management zones*
   b. *Climate data*
   c. *Soils information (by county-for all counties you'll be working in)*
   d. *Local crop managements/rotations*

4. To set this as your default database, right-click on the database name and select "Startup database"

Step 2b: Importing the Climate Update file into your Current Local Working Database
1. Open RUSLE2.
2. Click on "Database", then "Import database........."
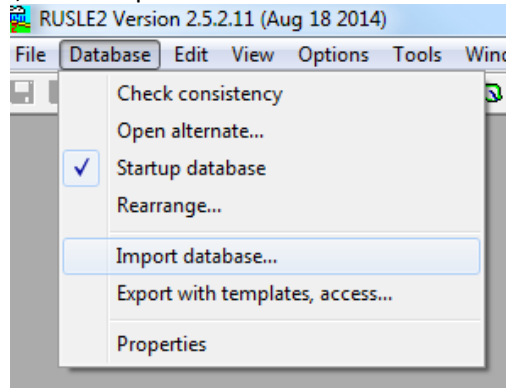
1. Navigate to the folder C:\ProgramData\USDA\Rusle2\NRCS\Import and select IN clim011603.gdb and click "Open".
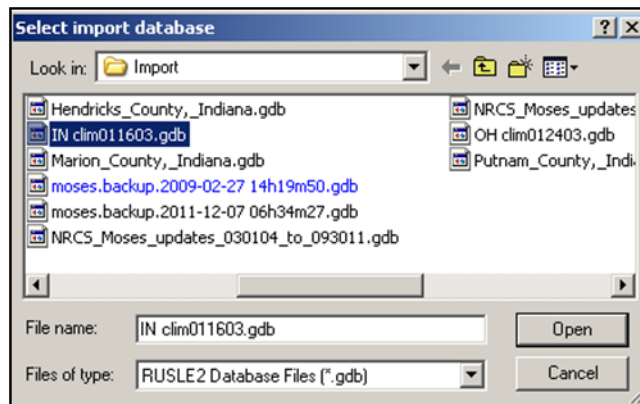
2. Select the 'climates' box on the "Import Database" (left-hand side) of the Import database window. Select "None" under 'Include dependent files, and "Import to same Folder". Click "Import".

3. Select the 'climates' box on the "Import Database" (left-hand side) of the Import database window. Select "None" under 'Include dependent files, and "Import to same

Folder". Click "Import".

4. Click "OK" when you see this warning.
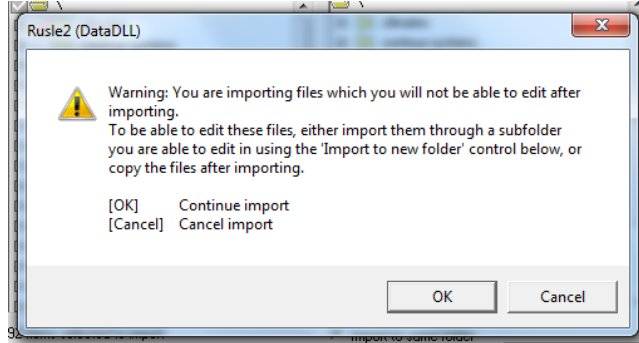
5. Let the import process run its course. Be patient-it may take a few seconds. Don't click the mouse. When the import is complete, click "OK".

6. Then click "OK" to acknowledge the import is finished.
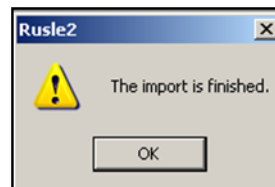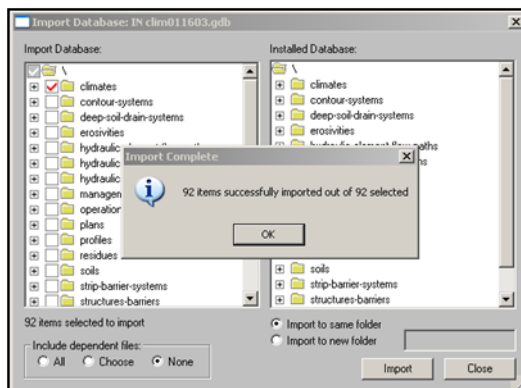
7. We can now proceed to update CMZs, soils, and bring in local managements the same way.

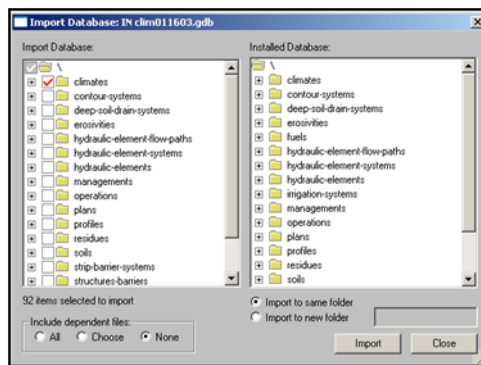**Step 2c: Importing the Crop Management Zones Update file into your Current Local Working Database**

1. Open RUSLE2.
2. Click on "Database", then "Import database…….."
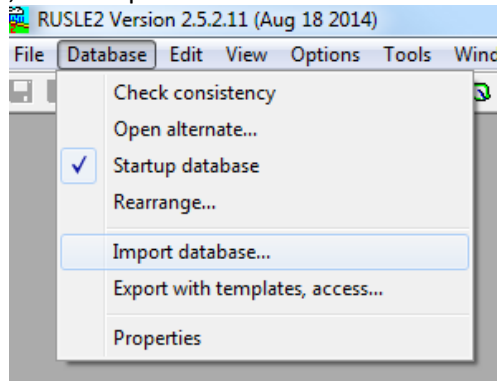
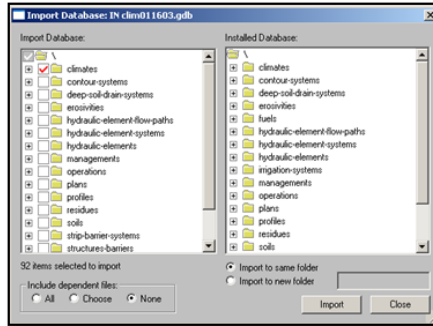3. Navigate to the folder C:\ProgramData\USDA\Rusle2\NRCS\Import and select CMZ 4.gdb and click "Open".
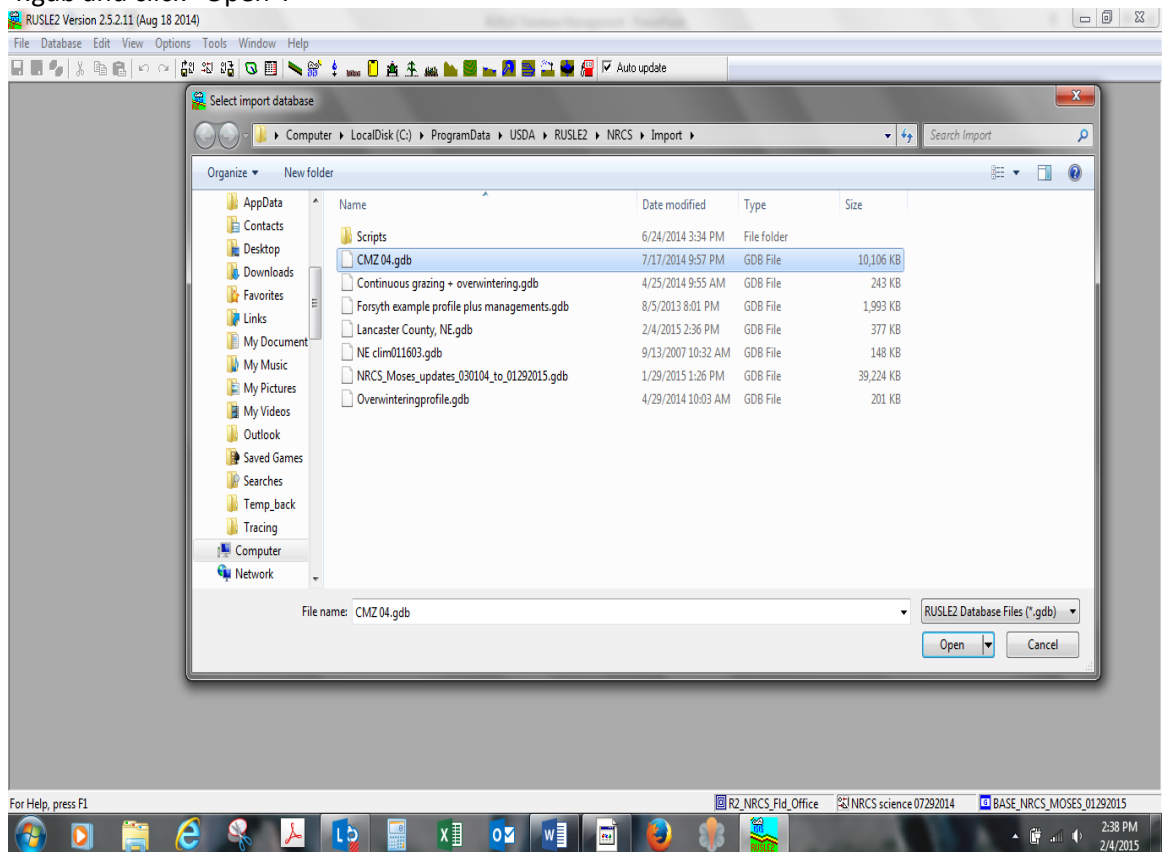
4. Select the 'managements' box on the "Import Database" (left-hand side) of the Import database window. Select "None" under 'Include dependent files, and "Import to same

Folder". Click "Import".
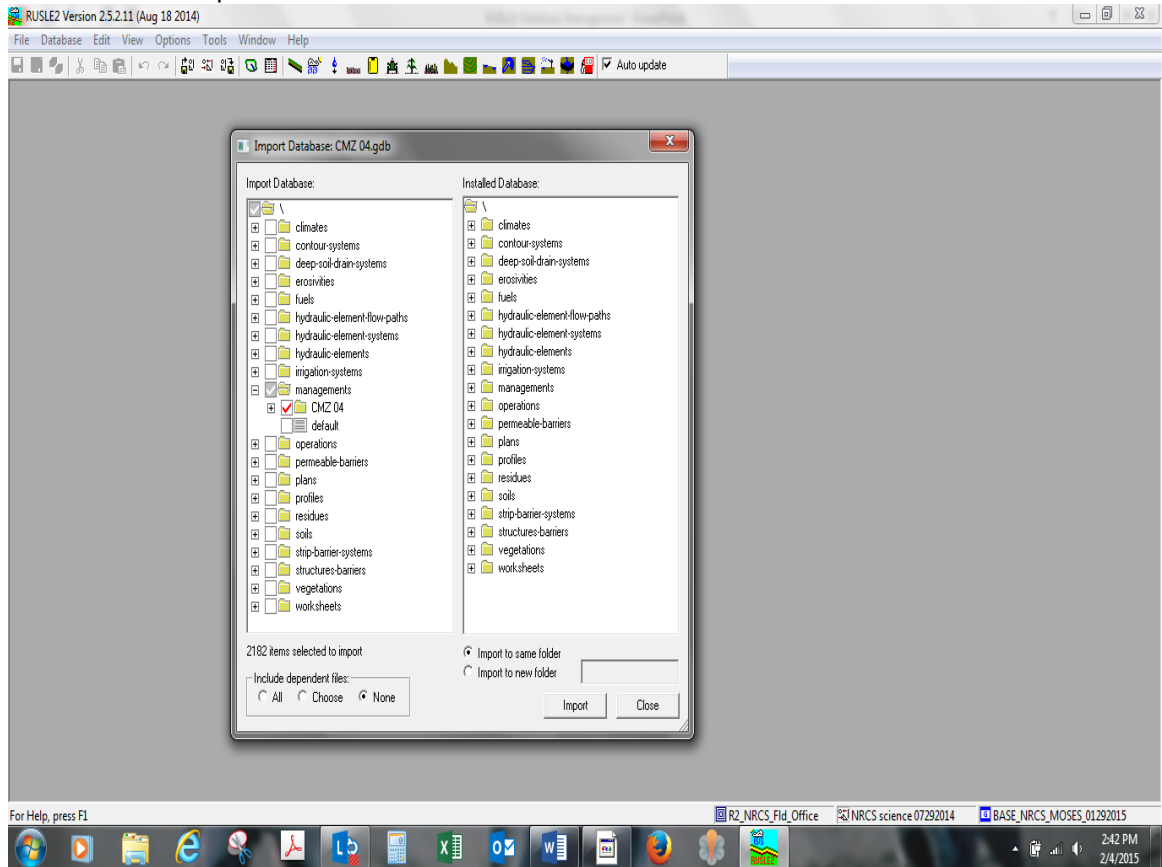
5. Proceed with steps 5-8 outlined under 2b.
6. *NOTE: if you need to import multiple Crop Management Zone files, repeat the steps outlined in 2c.*

Step 2d: Importing Soils Data into your Current Local Working Database
1. Open RUSLE2.
2. Click on "Import", then "SSURGO Soil database"
3. Select your State, County to import, click "OK". It is best to import one county at a time (and not the entire state or states) due to server timeouts.

SSURGO Import Tool

- ☐ Indiana
  - ☐ Adams
  - ☐ Allen
  - ☐ Bartholomew
  - ☐ Benton
  - ☐ Blackford
  - ☑ Boone
  - ☐ Brown
  - ☐ Carroll
  - ☐ Cass
  - ☐ Clark
  - ☐ Clay
  - ☐ Clinton
  - ☐ Crawford
  - ☐ Daviess
  - ☐ De Kalb
  - ☐ Dearborn
  - ☐ Decatur
  - ☐ Delaware
  - ☐ Dubois
  - ☐ Elkhart
  - ☐ Fayette
  - ☐ Floyd
  - ☐ Fountain
  - ☐ Franklin
  - ☐ Fulton
  - ☐ Gibson
  - ☐ Grant
  - ☐ Greene
  - ☐ Hamilton

Import all soils for selected counties ☑   OK   Cancel

Importing Soils

Import Finished

Imported Soils

| | Incompatible Soils |

soils\SSURGO\Boone County, Indiana\XfuC2 Miami-Rainsville complex, 6 to 12 percent slopes, eroded\Rainsville Silt loam 25
soils\SSURGO\Boone County, Indiana\XfuC2 Miami-Rainsville complex, 6 to 12 percent slopes, eroded\Miami Silt loam 65
soils\SSURGO\Boone County, Indiana\XfuB2 Miami-Rainsville complex, 2 to 6 percent slopes, eroded\Miami Silt loam 60
soils\SSURGO\Boone County, Indiana\XfuB2 Miami-Rainsville complex, 2 to 6 percent slopes, eroded\Rainsville Silt loam 30
soils\SSURGO\Boone County, Indiana\WtaA Whitaker silt loam, 0 to 2 percent slopes\Tuscola Silt loam 15
soils\SSURGO\Boone County, Indiana\WtaA Whitaker silt loam, 0 to 2 percent slopes\Whitaker Silt loam 62
soils\SSURGO\Boone County, Indiana\WtaA Whitaker silt loam, 0 to 2 percent slopes\Whitaker Silt loam till substratum15
soils\SSURGO\Boone County, Indiana\WquA Westland silty clay loam, 0 to 2 percent slopes\Westland Silty clay loam drained70
soils\SSURGO\Boone County, Indiana\WquA Westland silty clay loam, 0 to 2 percent slopes\Mahalaland Silty clay loam drained15
soils\SSURGO\Boone County, Indiana\WofB Williamstown-Crosby silt loams, 2 to 4 percent slopes\Crosby Silt loam 36
soils\SSURGO\Boone County, Indiana\WofB Williamstown-Crosby silt loams, 2 to 4 percent slopes\Williamstown Silt loam 62
soils\SSURGO\Boone County, Indiana\WmnA Waynetown silt loam, 0 to 2 percent slopes\Waynetown Silt loam 85
soils\SSURGO\Boone County, Indiana\WdrD2 Wawaka silt loam, 12 to 18 percent slopes, eroded\Ockley Silt loam 15
soils\SSURGO\Boone County, Indiana\WdrD2 Wawaka silt loam, 12 to 18 percent slopes, eroded\Wawaka Silt loam 75
soils\SSURGO\Boone County, Indiana\WdrC2 Wawaka silt loam, 6 to 12 percent slopes, eroded\Wawaka Silt loam 75
soils\SSURGO\Boone County, Indiana\WdrC2 Wawaka silt loam, 6 to 12 percent slopes, eroded\Ockley Silt loam 15
soils\SSURGO\Boone County, Indiana\WdrB2 Wawaka silt loam, 2 to 6 percent slopes, eroded\Wawaka Silt loam 75
soils\SSURGO\Boone County, Indiana\WdrB2 Wawaka silt loam, 2 to 6 percent slopes, eroded\Ockley Silt loam 15
soils\SSURGO\Boone County, Indiana\WdrA Wawaka silt loam, 0 to 2 percent slopes\Wawaka Silt loam 75
soils\SSURGO\Boone County, Indiana\WdrA Wawaka silt loam, 0 to 2 percent slopes\Ockley Silt loam 15
soils\SSURGO\Boone County, Indiana\UnvB Urban land-Williamstown-Crosby complex, 2 to 4 percent slopes\Crosby Silt loam 18
soils\SSURGO\Boone County, Indiana\UnvB Urban land-Williamstown-Crosby complex, 2 to 4 percent slopes\Williamstown Silt loam 31
soils\SSURGO\Boone County, Indiana\UnuA Urban land-Whitaker complex, 0 to 2 percent slopes\Whitaker Silt loam 32
soils\SSURGO\Boone County, Indiana\UnhA Urban land-Wawaka complex, 0 to 2 percent slopes\Wawaka Silt loam 38
soils\SSURGO\Boone County, Indiana\UmyA Urban land-Treaty complex, 0 to 1 percent slopes\Treaty Silty clay loam 44
soils\SSURGO\Boone County, Indiana\UkpB Urban land-Ockley complex, 2 to 6 percent slopes\Ockley Silt loam 40
soils\SSURGO\Boone County, Indiana\UkpA Urban land-Ockley complex, 0 to 2 percent slopes\Ockley Silt loam 40
soils\SSURGO\Boone County, Indiana\UkbD Urban land-Miami complex, 12 to 18 percent slopes, eroded\Ockley Silt loam 42
soils\SSURGO\Boone County, Indiana\UkbC Urban land-Miami complex, 6 to 12 percent slopes\Miami Silt loam 42
soils\SSURGO\Boone County, Indiana\UkbB Urban land-Miami complex, 2 to 6 percent slopes\Miami Silt loam 36
soils\SSURGO\Boone County, Indiana\UhuA Urban land-Mahalasville complex, 0 to 1 percent slopes\Mahalasville Silty clay loam 34
soils\SSURGO\Boone County, Indiana\UfxA Urban land-Fincastle complex, 0 to 2 percent slopes\Fincastle Silt loam 42
soils\SSURGO\Boone County, Indiana\UfcA Urban land-Cyclone complex, 0 to 1 percent slopes\Cyclone Silty clay loam 40
soils\SSURGO\Boone County, Indiana\UfnA Urban land-Crosby complex, 0 to 2 percent slopes\Crosby Silt loam 45
soils\SSURGO\Boone County, Indiana\ThrA Treaty silty clay loam, 0 to 1 percent slopes\Treaty Silty clay loam drained80
soils\SSURGO\Boone County, Indiana\SvzG Strawn-Rock outcrop complex, 35 to 70 percent slopes\Strawn Loam 55

(No Valid Horizons) Water 100
(No Valid Horizons) Udorthents rubbish100
(No Valid Horizons) Urban land 50
(No Valid Horizons) Urban land 50
(No Valid Horizons) Urban land 50
(No Valid Horizons) Urban land 50
(No Valid Horizons) Urban land 50
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(No Valid Horizons) Urban land 50
(No Valid Horizons) Urban land 50
(No Valid Horizons) Udorthents loamy100
(No Valid Horizons) Udorthents, sandy 100
(No Valid Horizons) Rock outcrop 35
(No Valid Horizons) Rock outcrop 40
(No Valid Horizons) Pits, sand and gravel 80
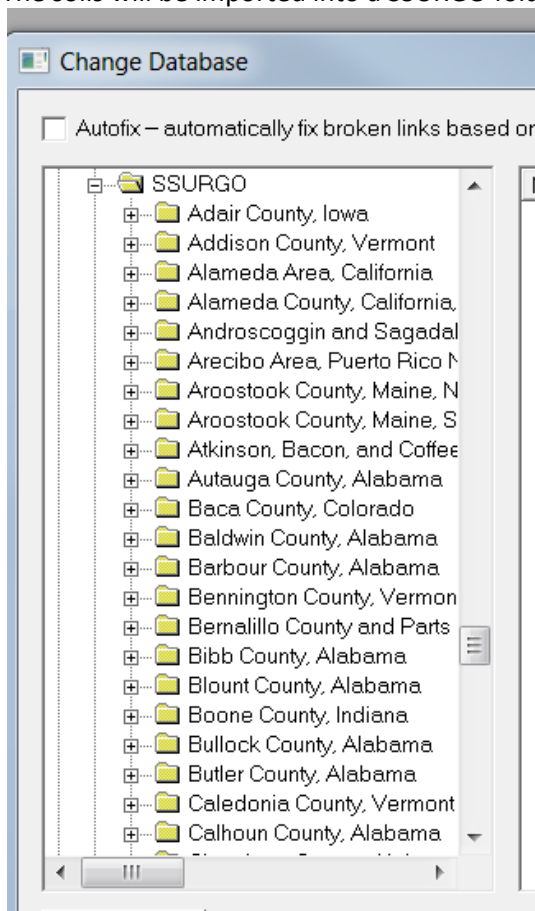
OK   Cancel

4. When import is complete, click "OK". If there any issues with importing a given soil, let your state/regional agronomist know.
5. The soils will be imported into a SSURGO folder in your database under soils:

Change Database

Autofix – automatically fix broken links based on

SSURGO
Adair County, Iowa
Addison County, Vermont
Alameda Area, California
Alameda County, California,
Androscoggin and Sagadal
Arecibo Area, Puerto Rico N
Aroostook County, Maine, N
Aroostook County, Maine, S
Atkinson, Bacon, and Coffee
Autauga County, Alabama
Baca County, Colorado
Baldwin County, Alabama
Barbour County, Alabama
Bennington County, Vermon
Bernalillo County and Parts
Bibb County, Alabama
Blount County, Alabama
Boone County, Indiana
Bullock County, Alabama
Butler County, Alabama
Caledonia County, Vermont
Calhoun County, Alabama

Now we have done the following:

- Started with the newest updated database (Base_NRCS_Moses_01292015.gdb)
- Imported updated climate
- Imported updated Crop Management Zones (CMZs)
  - With the updated CMZ information, we now have current a. and b. folder rotations.
- Imported updated soils information

Step 2e: Importing locally developed managements from your archived (old) moses database to the new Base_NRCS_Moses_01292015.gdb which will be renamed soon to your new working moses database.

1. Open RUSLE2.
2. Click on "Database", then "Import database…….."
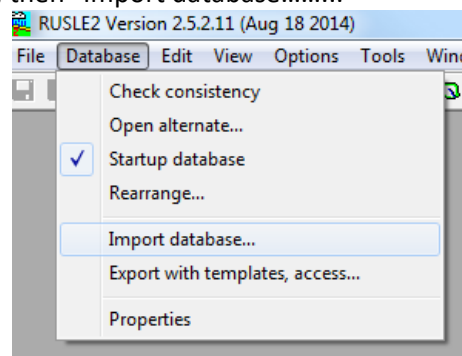
3. Navigate to the location of your original archived base database and select it. This file can be under folder C:\ProgramData\USDA\Rusle2\NRCS\Backup or S:\Service_Center\NRCS\RUSLE2\import. Click "Open".
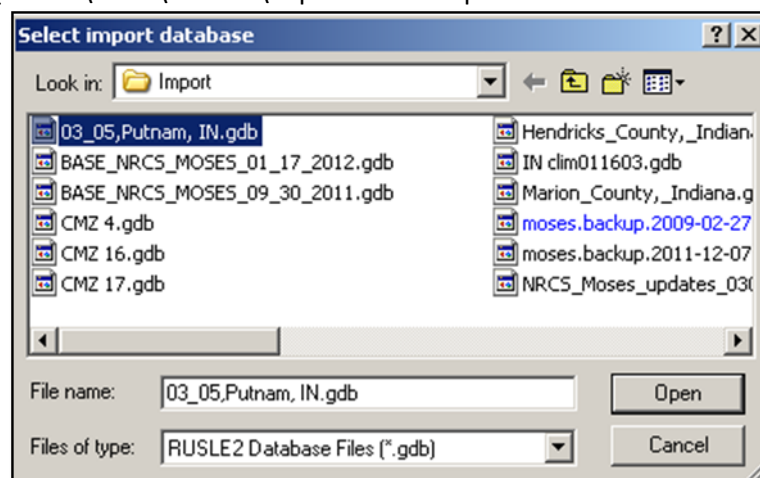
4. Remember that we want to pull over from our archived database the *local rotations* saved under your c. "Other Local Mgt Records" folder. Because of this, on the left hand

side, expand each CMZ and put a check next to each CMZ's c. "Other Local Mgt Records" folder. Select "None" under 'Include dependent files, and "Import to same Folder". Click "Import".
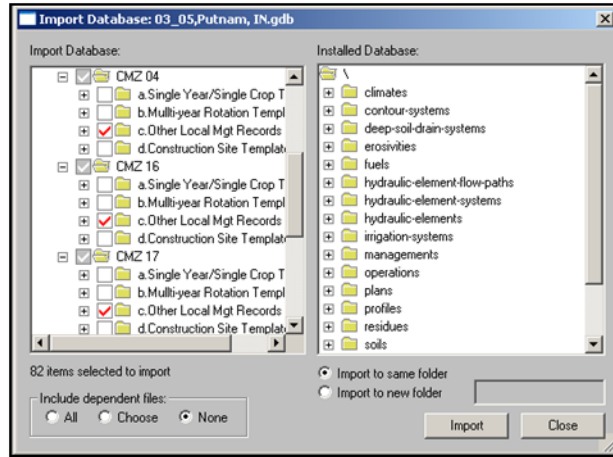
5. You may receive one or more 'Confirm Object Replace' warnings. Click "Yes to All".
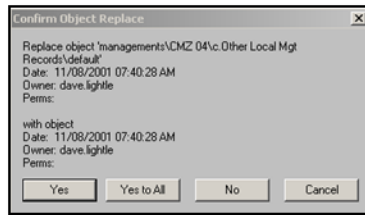
6. Proceed with steps 6-8 outlined under 2b.

7. Note: if you have previously developed profiles, worksheets, plans in your database, you can also bring these over using the steps outlined under Step 2e. However, under step 4 select the appropriate folder on the left (under Import Database).

Step 2f: Run Consistency Check and Repair Broken Links
As the database is maintained and updated nationally, some records such as operations or crops are renamed or moved to sub folders and this consistency check allows you to repair any links that were severed. This insures that the program will run properly with the items being imported.

1. Go to Database→ Check Consistency. If you receive any errors (i.e. broken links) you can run a repair to resolve the issue.
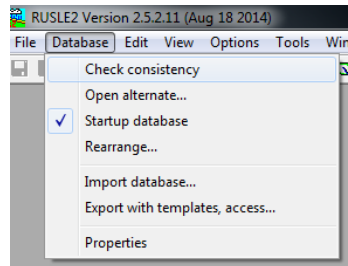
2. If any orphan records are noted, scroll down and reattach to the appropriate new record.
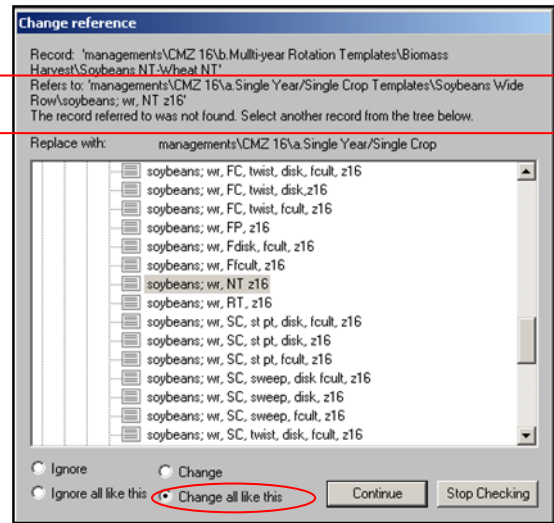
In this example, RUSLE2 can't find the old 'Refers to:' record. So, you'll need to navigate to the location of the file.

In this case, we navigated to: *managements\CMZ16\a. Single Year/Single Crop Templates\Soybeans Wide Row\soybeans; wr, NT z16*

Once we find that record, select 'change all like this' and hit 'Continue'.

Other 'broken links' you may see during this process are:
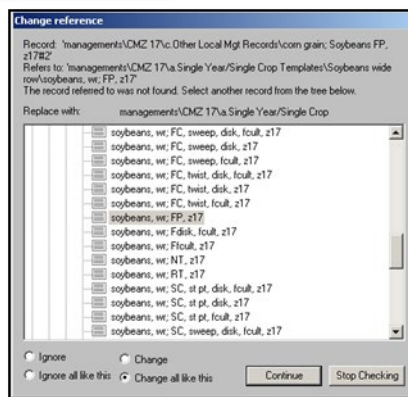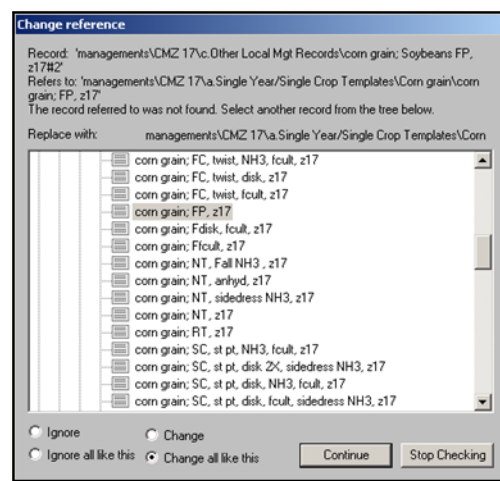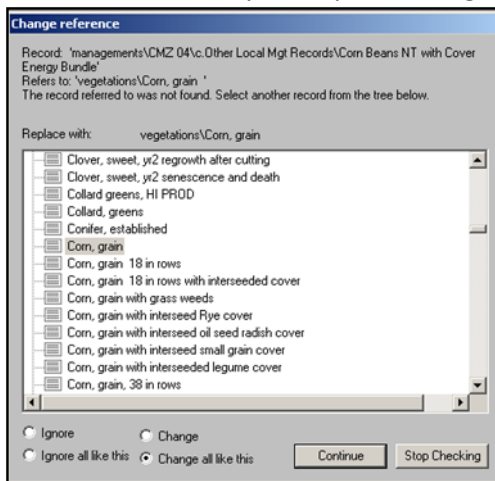
3. The window for the consistency check will close automatically. You will know it is completed when the lower left-hand corner of the RUSLE2 screen says "Finished Calculating".

Finished calculating

STEP3: Update File Names and Create Backup Copies

Step 3a: Rename your Updated Local Base database
We have now updated our new Base database with the following:

      a. *Crop management zones (CMZ files)*
      b. *Climate data*
      c. *Soils information (by county-for all counties you'll be working in)*
      d. *Local crop managements/rotations (from your archived local database)*

Once you have imported the updated climate, CMZ, soils, and local rotations you will want to rename your current local database.

1. Close RUSLE2.
2. Open windows explorer (My Computer) and navigate to the location of your saved local base database (should be C:\ProgramData\USDA\Rusle2\NRCS\)
3. Right-click on your local base database file and select "Rename".
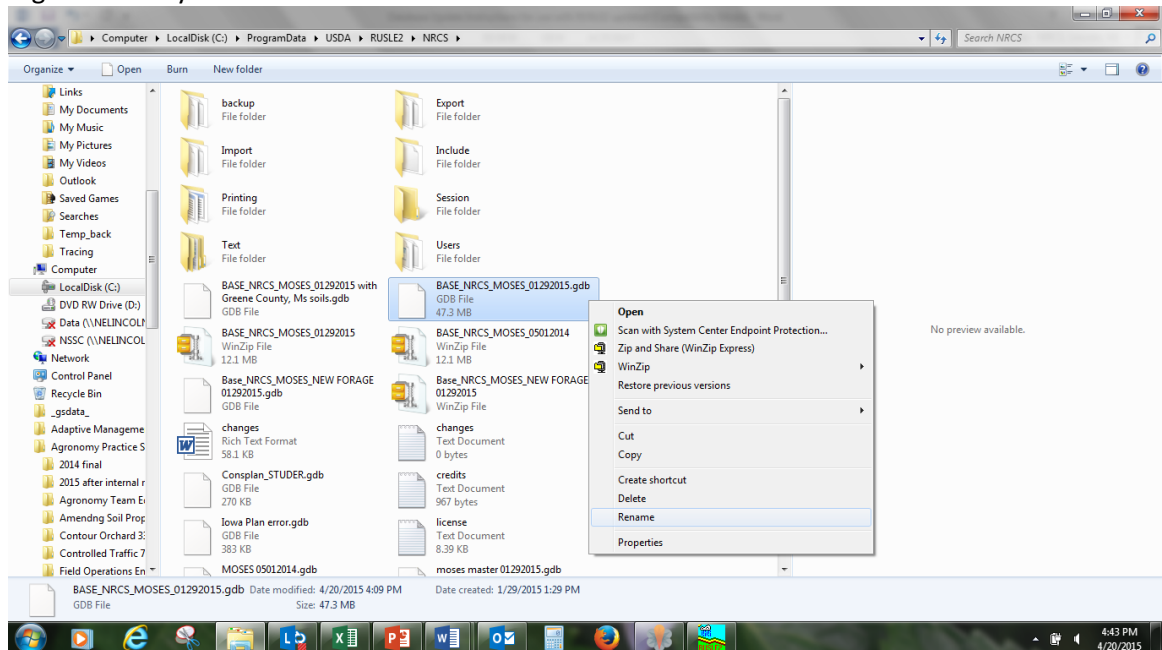
4. Rename the file with the current date (i.e. field office name moses_Date.gdb)
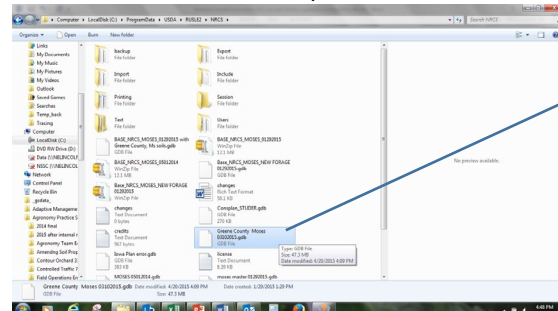
New name.gdb

5. Open RUSLE.

6. You will get a warning that RUSLE cannot find your base database. Click "No" so that RUSLE will open.

7. RUSLE will open, but it will have defaulted to an old 'moses.gdb'. You will need to load your renamed (updated) moses database: right-click on the location of where the current moses.gdb **is** and select "Open Alternate".

8. Select your moses database with the updated name (i.e. moses_database_Date.gdb) for use in RUSLE. (Remember, it should be located under C:\ProgramData\USDA\Rusle2\NRCS\).

9. If you would like this to be your 'Default' database that loads automatically on startup, right-click on its name and select "Startup Database".
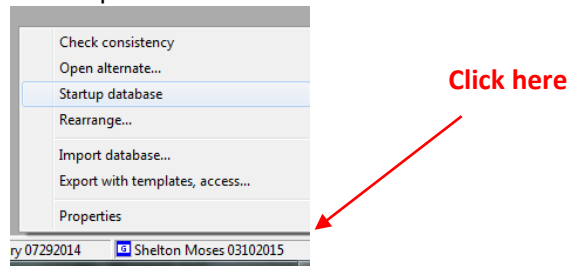
Step 3b: Create a Copy of your Updated Files on your Shared Drive
Copy all of your updated information, including your updated, renamed local base database from C:\ProgramData\USDA\Rusle2\NRCS\Import to S:\Service_Center\NRCS\RUSLE2\.

1. Open windows explorer. Navigate to C:\ProgramData\USDA\Rusle2\NRCS\
2. Go to Edit→Select All
3. Go to Edit→Copy
4. Using windows explorer, navigate to S:\Service_Center\NRCS\RUSLE2\.
5. Right-click in the white space in this folder and select "Paste".
6. Now you have a complete backup of the updated RUSLE files on your shared drive, in addition to the 'working' copies on the local drive. This backup is useful if you should ever need to restore any files to your local machine, or if you have multiple people in the office using RUSLE, they can 'borrow' your updated database by accessing the Shared drive location.

These instructions assume that you will be routinely accessing/working off of the RUSLE2 files located on the Local drive (C:\ProgramData\USDA\Rusle2\NRCS\). Some users may prefer to work off of the versions saved to their shared drive (S:\Service_Center\NRCS\RUSLE2\).

If users want to work from the S:\drive copy of the local base database, right-click on the startup database, select 'Open Alternate', map to the S:\Service_Center\NRCS\RUSLE2\import folder and open the copied local database. Then right-click and check this one as the new startup database. Your state/area agronomist can work with you to set up your local moses database.

METHOD 2 DATABASE UPDATE PROCESS USING DATABASE UPDATE FILE:

The database update file, such as **NRCS_Moses_updates_030104to01292015.gdb,** is not a complete database but only contains new additions and edits since the initial release of RUSLE2 and therefore must be imported into the current local database using the database\import function in RUSLE2. You will use this method when minor updates have been made to the database and you simply want to import the latest updates into your working moses. This file should never be used as the working moses since incomplete.

1. Go to the RUSLE2 website and click "Download File" under Base Database & Misc Files

2. Click on the most updated base database (for example NRCS_Moses_updates_030104_to_03302016.zip) and hit "Save to". **Save the zip file under C:\ProgramData\USDA\Rusle2\NRCS\Import.**
   a. In this same ftp site, there is a folder "Latest Base Database Updates". The document in this folder titled "Database Updates 03302016.docx explains what's new in the base database.
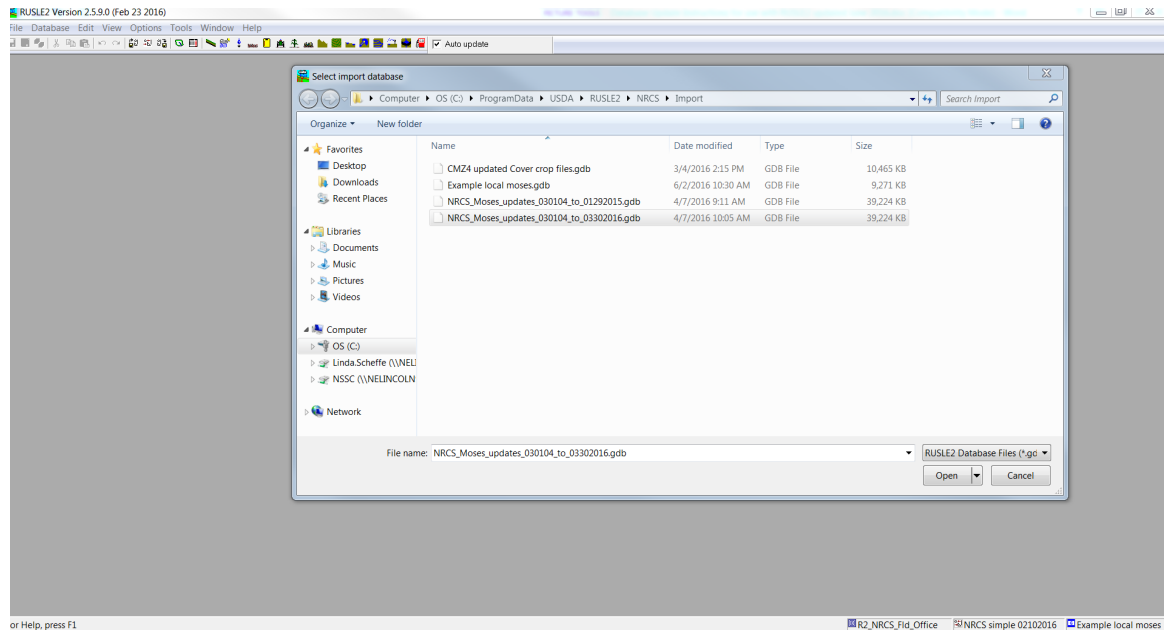

3. Extract the zip file
   a. Open Explorer and navigate to C:\ProgramData\USDA\Rusle2\NRCS\Import
   b. Right-click on the zip file, select "WinZip→Extract to here".

   c. You've now successfully downloaded the newest base database update to your Local drive.

4. Open RUSLE2, make sure your local database is the startup database:

5. Select Database, Import; navigate to the moses update.gdb, click open:

6. Once you have selected the file to import, a split screen will appear. The left side is the database file from which you will import and the right side is the database side into which you will import. All folders and all contents of the database update file should be selected for import by clicking the very top box on the left side of the split screen thus cascading the selections to all subfolders and contents.
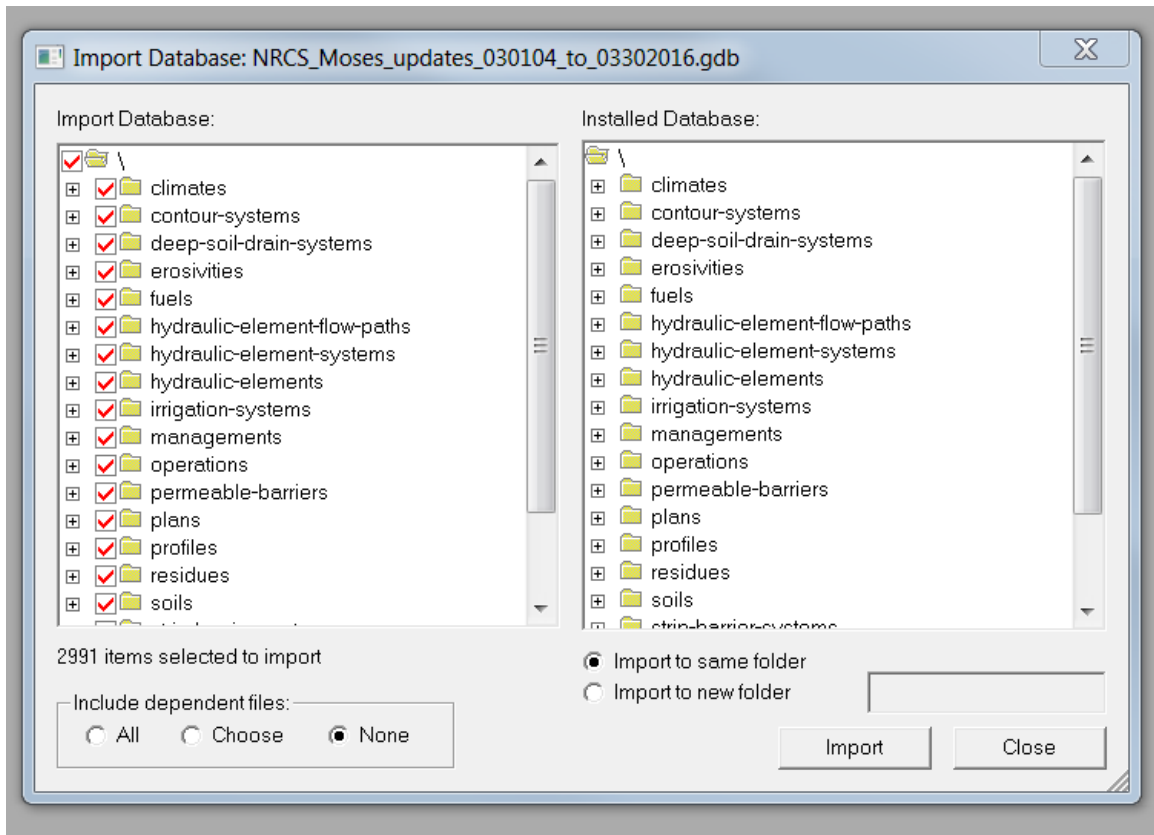
7. Click Ok
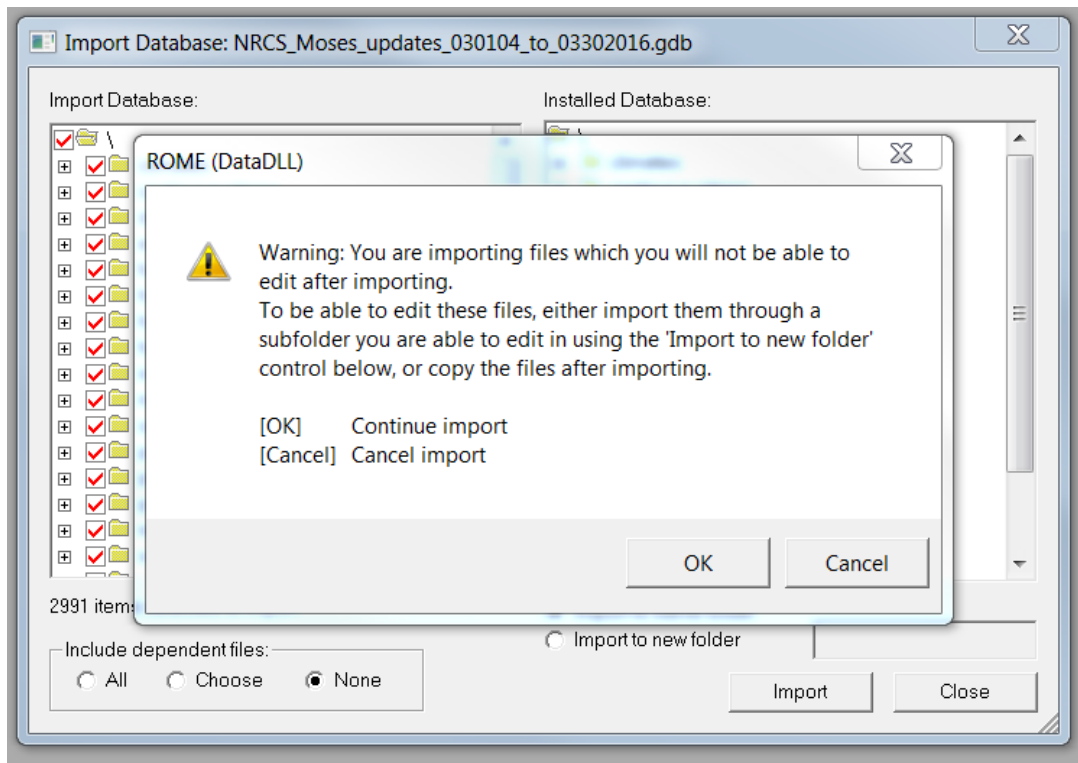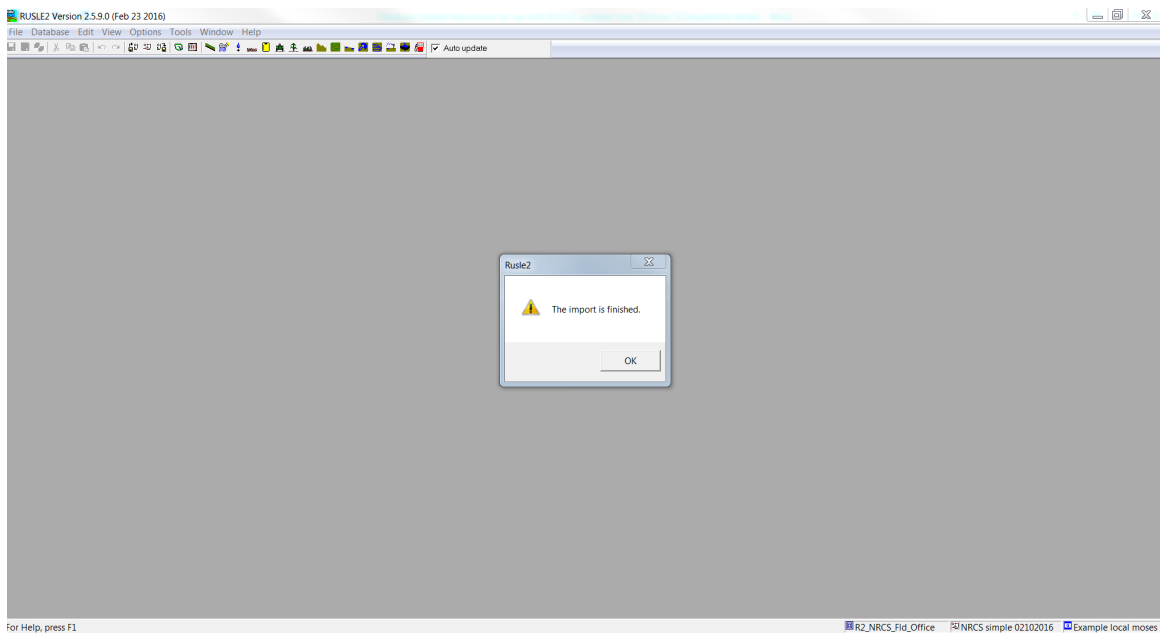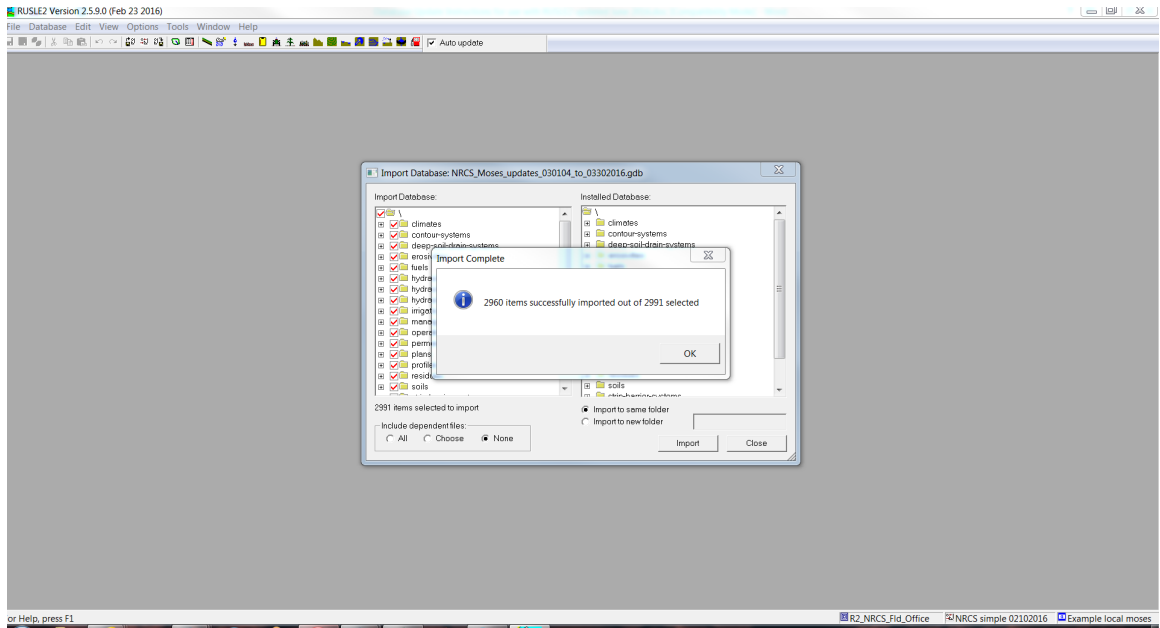
8. Select Database, Check consistency: (repair any broken links; ask for assistance)