Annual Soil Refresh Managing Queues

and Submitting Trackers to “flip the data”

Flipping the Data, Steps 1 thru 12 cover the steps involved to make the newly refreshed data available to WSS and SDA. The “Trackers” section covers the 5 database trackers and 1 application tracker that get submitted. Each tracker references back to the corresponding step in steps 1 thru 12.

Flipping the Data:

1. Prior to flipping the data, a tracker needs to be submitted to backup SDM and NASIS databases and put the data on servers in Kansas City. This can be submitted a week prior to the flip being done. -–Tammy does this but could also be done by DBA.

**~~The tracker for September 21 was~~** [**~~https://colab.sc.egov.usda.gov/cb/issue/660077~~**](https://colab.sc.egov.usda.gov/cb/issue/660077)

**The tracker for September 2022** [**https://colab.sc.egov.usda.gov/cb/issue/671196**](https://colab.sc.egov.usda.gov/cb/issue/671196)

**This is the first of seven trackers that is submitted. There are 5 DB trackers and 2 App trackers.**

1. Shut off queues – Tammy or Kyle can do this.

When the sdmOFFLINE data update is almost complete - use the following to create new SSA Exports, but **before doing this, disable the following:**

SoilsDashboard - Data Manager - Data Warehouse Polling - Update SSAs - DISABLE

SoilsDashboard - Data Manager - Daily Scheduled Tasks - Update Export Cache – DISABLE

**Data warehouse polling – Update SSAs** -automatically moves newly committed data in the warehouse to the sdmOFFLINE database.

**Daily Scheduled Tasks – Update Export cache** – automatically moves the new data in the precache to the cache directory.

New SSA exports will be created in the WSS File Share 2 - DownloadSoilsData - PreCache - SSA directory

1. Export from Offline a couple of surveys so they show up in precache but not in WSS. – Tammy or Kyle can do this.

Use the SoilsDashboard - Data Manager - Single Task Requests - Export SSA from Offline, use wildcards sparingly -- only to process 5 or less SSAs at a time.

Export a couple of SSA’s and have Soil Business verify that everything is correct before doing all the exports. Soil Business can give you some suggestions on what SSA’s you should export for this test. This should be done a week or two before the annual refresh flip of the data.

Run one export from OFFLINE and wait a day to make sure WSS is not showing the new SSA export files in the ‘Download Soils Data’ tab. If you do see the new export files, the 'Update Export Cache' is not disabled.

If this happens, this is how you fix the issue

* run 'Export SSA from ONLINE (need to generate the old SSA export)
* create DB Tracker - to tell PSO to move this export file to the 'cache' directory and delete the new one
* the correction will be visible the next day in WSS, it always takes a day to make things visible in WSS.

1. Run SQL to generate output file to be attached to Tracker to populate precache. – Tammy or Kyle or DBA can do this.

The following sql to that can be used to generate the exports for the entire sdmOFFLINE database – anything updated since ‘July 31, 2022’. Run this sql in SSMS and save the output. You will have to edit the output, remove the comma at the end. Tammy has this file stored in C:\Users\Tammy.Cheever\Documents\SQL Server Management Studio\Projects\ASR-query-to-get-output-for-dbtracker-update-precache.sql. Be sure to change the date in the sql. The output of the file gets split into 4 batches. See this year’s example at: C:\Users\Tammy.Cheever\OneDrive - USDA\Documents\Staging Server\FY23-Annual\_Refresh\_Results-Sep2022\Create\_SSURGOExports-fy2023.sql.

**~~The tracker for Sep 2021 was:~~** [**~~https://colab.sc.egov.usda.gov/cb/issue/660503~~**](https://colab.sc.egov.usda.gov/cb/issue/660503)

**The tracker for Sep 2022 is:** [**https://colab.sc.egov.usda.gov/cb/issue/671690**](https://colab.sc.egov.usda.gov/cb/issue/671690)

**This is the second of seven trackers that will be submitted.**

Create a DB Tracker for PSO so they can run the output of the sql on the production server. Do not need to assign it to PSO. They will pick it up automatically.

This process took 48.5 hours to completely refresh the precache. Put comment in tracker for the number of rows that will be processed. In Sep 2021 it was 3,374 rows. Once tracker is done, verify count. The folder should have twice as many files because on zip file is an empty template and the other zip file is all the data plus an empty template.

------- run to the SQL needed to create the export cache for all new data

------- edit last row - remove comma at the end -- parse the SQL to make sure it is

------- valid. Create a database tracker for PSO -- to run the SQL on nrcpSCI,26020

select 'insert INTO [sdmmgtONLINE].[dbo].[DataManagerTaskRequest] values '

select '(getdate(), ''' + areasymbol

+ ''', 16),'

from sdmoffline.dbo.sacatalog where saverest > 'July 31, 2022 01:00:00'

order by saverest DESC

SSA Exports are managed by a table in the sdmmgtONLINE database, table DataManagerTaskRequest. You can view the queue with the following SQL:

---------- shows the taskname for all dmtaskid

SELECT \* FROM sdmmgtONLINE.dbo.DataManagerTask

---------- displays list of SSA’s in the data manager queue

SELECT \* FROM sdmmgtONLINE.dbo.DataManagerTaskRequest

1. Verify correct number of files are in the “WSS File Share 2 - DownloadSoilsData - PreCache -SSA” folder https://soilsdashboard.sc.egov.usda.gov/DataManager/WSSFileShare?dir=DownloadSoilsData%2FPreCache%2FSSA%2F – Tammy and Kyle or Deepak can do this.

The folder should have twice as many files because one zip file is data only without a template and the other zip file (the one that has soildb in the name) is all the data plus an empty template.

1. After the precache has been populated and we have verified no updates are making it out to WSS, Tammy will submit the next two trackers.   Both should be put ON HOLD status and send email to Jamie Foster, PSO giving her heads up about the trackers.   Be sure to update dates in the tracker each year. Trackers should be processed on Sep 30th so data is available in WSS on Oct 1st. If the 30th is not on a Tuesday or Thursday, be sure to let PSO know so that they can have personnel available that night.

[~~https://colab.sc.egov.usda.gov/cb/issue/660672~~](https://colab.sc.egov.usda.gov/cb/issue/660672)~~-- DB Tracker for Sep 30, 2021 Soils Data Refresh~~

**This is the fourth of seven trackers that is submitted**

**The tracker for September 2022** <https://colab.sc.egov.usda.gov/cb/issue/671699> DB tracker for Sep 30, 2022 ASR

For the DB tracker only, assign the tracker to: Kyle Stephens, Deepak Ahuja, and Paltiel Kelsay. Make note in the tracker that these people are being assigned so they can track progress and answer questions if needed. They will not be doing the work of the tracker.

**This is the third of seven trackers that is submitted. This gets associated with the App tracker listed next.**

[~~https://colab.sc.egov.usda.gov/cb/issue/660675~~](https://colab.sc.egov.usda.gov/cb/issue/660675) ~~-- App Tracker for Sep 30, 2021 Perform IIS Reset after Soil Data Refresh~~

**This is the fourth of seven trackers that is submitted**

**The tracker for September 2022** <https://colab.sc.egov.usda.gov/cb/issue/671700> App Tracker for Sep 30, 2022 Perform IIS Reset after ASR.

1. Setup Teams meeting with Business staff (Kyle and Tammy), DBAs (Deepak and Paltiel) PM/GPM (Sanjay and Cliff), PSO (whoever is assigned to do the DB and APP trackers for the flip) for the night of “the flip” so that staff are available to answer any questions or issues PSO runs into.
   1. Monitor the progress of the work being done and verify that after the App tracker is done to reset IIS we see new data in WSS – Download Soils data tab. – The meeting can be setup by the PM or GPM.
   2. Verify in SDA by running this query:

Select area symbol, saversion, saverest

From sacatalog

This should result in seeing the refresh dates showing the recent updates

1. Tammy submit app tracker for pop-up message alerting customers to updated data coming.

**This is the fifth of seven trackers. The tracker for September 2022** <https://colab.sc.egov.usda.gov/cb/issue/666942>

Be sure to use the + symbol to create a brand-new tracker.

1. After DB and App Trackers are completed, Business team should verify the data refreshed in WSS and SDA
   1. To verify data in WSS, open WSS, click on Download Soils Data tab, click on Soil Survey Area (SSURGO) link. select a date. The date must be the date when ASR work began, not the date the flip was completed. For an Oct 1 refresh, you should be safe using July 31 date. Change the “State” drop down list to be “(All States and Territories)”. The screen should refresh and show you a notice “All Soil Survey Areas for All States and Territories have been updated since Jul 31, 2021. First 250 of 3373 displayed.” The “of 3373” should correspond with the number of surveys we updated this year. This count should already have been verified in the precache so it is unlikely that this number would be incorrect.
   2. Look at the links in the “Download Link” column. The dates in the file names should represent the current year’s dates.
   3. Download a couple of surveys and check that they work.
   4. To verify data in SDA, open SDA and run query “SELECT COUNT(\*) FROM sastatusmap WHERE saverest > '2022-07-31' ;” The results should correspond with the number of surveys in WSS. Or
   5. Run this query to get list of surveys updated “SELECT areasymbol, areaname, CONVERT(VARCHAR(10), [saverest], 126) AS saverest FROM sastatusmap WHERE saverest > '2021-07-31' ORDER BY areasymbol ;:
2. Update Data Availability Status Map (These instructions were pulled from the SDM User Guide November 19, 2013) Kyle Stephens can do this.

While the Export Cache is being updated, you can update the availability (status) map. This process involves:

• Exporting data from the data mart and importing it to ArcMap.

• Creating and saving the Data availability map in PDF and JPG formats.

**Note:** *This task should be performed by the GIS specialist whose is familiar with creating the map.*

1. On the Data **Manager** tab, in the **Single Task Requests** group, select **Manage Status Map**.

2. Click S**tart Export** to create the shapefile export of the status map.

3. Download the resulting file using the link provided.

4. Using ArcMap, create the PDF and JPG files, and then return to the **Manage Status Map** page to upload the files.

5. Complete the update by clicking the **Publish** button.

1. Submit DB Tracker to copy Cache files to KS City Server. – Tammy can do this. **The tracker for Sep 2021 is** [**https://colab.sc.egov.usda.gov/cb/issue/660729**](https://colab.sc.egov.usda.gov/cb/issue/660729) **This is the fifth of six trackers that is submitted. This is so Peaslee and crew can complete gSSURGO**

Keep this ON HOLD until after the soil refresh is done. This ticket may be worked on Friday, October 1st or the following week as it fits into the schedule.

Need a **copy** of all “wss\_SSA\_SSaid\_2021-….zip files (all the files that do not contain “soildb\_” in the file name to be copied from https://soilsdashboard.sc.egov.usda.gov/DataManager/WSSFileShare?dir=DownloadSoilsData%2FCache%2FSSA%2F to  
AIOMOKCC6NA102\SMB04\Soil\_Plant\_Science\_Division\NSSC\WSS\_SSURGO\FY2022 so that Steve Peaslee and Adolfo Diaz can begin the gSSURGO update.

There should be 3373 files to be copied over.

1. After Business is satisfied that the data being delivered via WSS is correct and there are no issues, a DB tracker needs to be submitted to:

Delete the sdmONLINE\_old

Delete the old cache --cache/SSA\_oldSep30

Restore the sdmOFFLINE database

The Sep 2021 tracker for this is <https://colab.sc.egov.usda.gov/cb/issue/661230>

**This is the sixth of six trackers that is submitted.**

Create a new tracker and associate it with the DB tracker used to flip the data <https://colab.sc.egov.usda.gov/cb/issue/660672>. Here is updated content for a new DB tracker to be put in for October 2021…

INSTANCE: NRCPSCI\NRCPSCI (10.203.20.95,26020)

1) The current database sdmONLINE\_OLD should be dropped before a new sdmOFFLINE database is created.

2.a) During the Soils refresh a new backup of the current sdmOFFLINE database was taken. Use this to restore a new sdmOFFLINE database.  
  
2.b) If you cannot find these backup files, then a current backup of the sdmONLINE database can be used. Only a backup of sdmONLINE that was created after September 30th will work.  
  
See tracker for details on the sdmOFFLINE backup that was mentioned above: https://colab.sc.egov.usda.gov/cb/issue/660672  
  
3). Delete old cache/SSA\_oldSep30 G:\App\FileShares\WSS\_Sub\WSS\DownloadSoilsData\Cache\SSA\_oldSep30)

12. After sdmOFFLINE is restored turn on Polling and Update Export Cache Tammy does this but Kyle could also do it.

SoilsDashboard - Data Manager - Data Warehouse Polling - Update SSAs - ENABLE

SoilsDashboard - Data Manager - Daily Scheduled Tasks - Update Export Cache – ENABLE

13. TO DO – May need to add additional steps for updating sdmmgtONLINE and sdmONLINE and in these environments

1. Dev2A

2. Dev0A

3. Dev1A

4. Test.Cert

5. And any UAT environments (I’m afraid I do not have a list of where SDA is used).

The snapshot jobs will need to be rerun on each target environment.

We will need some parallel file share restorations from Production so that secondary data that has been impacted by the refresh is also updated:

1. WssFileShare\DataAvailability

2. WssFileShare\RSS

3. Wss\DownloadSoilsData\Cache (and all child folders)

4. Wss\DownloadSoilsData\PreCache (and all child folders)

These updates should go to all environments where SdmmgtOnline and SdmOnline are updated.

**Trackers:**

1. DB Tracker for backing up SDM and NASIS – See Item #1 above

**The tracker for September 21 was** [**https://colab.sc.egov.usda.gov/cb/issue/660077**](https://colab.sc.egov.usda.gov/cb/issue/660077)**. See it as an example of what to enter.**

Need snapshot of databases: SDM and NASIS

Snapshots are pushed to: AIOMOKCC3DB111 drive O:\Geodata\ Will need to create a folder for each database.

NASIS snapshot needs to be restored on AIOMOKCC3DB110 as database NASISv2022

SDM snapshot needs to be restored on AIOMOKCC3DB111 as database SDMv2022

Snapshots can be restored by Andrew Quintana

1. DB Tracker to create SSURGO exports – See Item #4 above

The tracker for Sep 2021 was: <https://colab.sc.egov.usda.gov/cb/issue/660503>. See it as an example of what to enter.

1. DB Tracker for next year: May need to modify dates, server names, and related trackers –See Item #6 above.

The tracker for Sep 2021 was: <https://colab.sc.egov.usda.gov/cb/issue/660672> See it as an example of what to enter.

NOTE: ON HOLD until Thursday, September 29,2022 (9/29) -- 6 PM Mountain time to begin This tracker is assigned to: Deepak Ahuja, Kyle Stephens, Paltiel Kelsay, Susan McGlasson so they can track the progress and answer questions. They will not be doing the actual work.

INSTANCE: NRCPSCI\NRCPSCI (10.203.20.95,26020)

Soils - Publish new Soils data

Step 1: take a backup of current sdmOFFLINE (do this during the day, the database is now complete).

There is a job called 'Soils\_Drop Snapshots' - this looks like it drops the database connections and then the snapshots. This can be used instead of Steps 2 & 3 listed below. Start job at Step 1.

Step 2: drop database connections to the snapshot by running all steps of:- SQL AGENT JOB: Soils\_Kill\_sdmSnapConns If Step 2 is successful, skip Step 3. Only do Step 3 if Step 2 is unsuccessful.

Step 3 – drop existing sdm snapshot

============================== drop snapshot

run this if there are no spids with a connection to the sdm snapshot

USE master go

============================== --PRINT '-----------====================' --print 'drop sdm snaphot'

create date parameters DECLARE @begin\_date AS DATETIME DECLARE @end\_date AS DATETIME DECLARE @seconds AS VARCHAR(200) SET @begin\_date = GETDATE()

IF EXISTS(SELECT \* FROM sys.databases WHERE name = 'sdm' AND source\_database\_id IS NOT NULL) DROP DATABASE sdm WAITFOR DELAY '00:00:05'

SET @end\_date = GETDATE() SET @seconds = CAST(DATEDIFF(ss, @begin\_date, @end\_date) AS VARCHAR) PRINT 'drop sdm snapshot - seconds ' + @seconds go

Step 4 – Rename sdmONLINE database to sdmONLINE\_old -- you can delete the database after a week (Will need a tracker for doing this delete and associate it with this tracker).

Step 5 – Rename sdmOFFLINE database to sdmONLINE

Step 6 – File share work - WSS File Share: wss

If exists, delete old cache data --------------- Delete data in DownloadSoilsData/Cache/SSA\_oldSep30/

save existing cache data - rename downloadSoilsData/cache/SSA to downloadSoilsData/cache/SSA\_oldSep302022(G:\App\FileShares\WSS\_Sub\WSS\DownloadSoilsData\Cache\SSA --TO-- G:\App\FileShares\WSS\_Sub\WSS\DownloadSoilsData\Cache\SSA\_oldSep302022)

rename precache to cache –rename DownloadSoilsData/PreCache/SSA/ to DownloadSoilsData/cache/SSA (G:\App\FileShares\WSS\_Sub\WSS\DownloadSoilsData\PreCache\SSA --TO-- G:\App\FileShares\WSS\_Sub\WSS\DownloadSoilsData\Cache\SSA)

OR You can MOVE the SSA folder ONLY, from the /PreCache folder to the /Cache folder. Then create a new SSA (empty) folder under /PreCache folder

Step 7 - recreate sdm snapshot

Run SQL AGENT JOB: Soils\_Drop/Create Snapshots -- this will create the new snapshot

Wait for GAIA Team to confirm data is correct before closing this tracker. Check with Deepak Ahuja, Kyle Stephens, Tammy Cheever or Paltiel Kelsay to get confirmation data is correct.

Step 8 – Reset IIS

An Application Tracker will be created so this can be done after the database work is done.

1. AppTracker for next year: May need to modify dates and DB tracker number –See Item #6 above

The tracker for Sep 2021 was: <https://colab.sc.egov.usda.gov/cb/issue/660675> See it as an example of what to enter.

On 9/30/2022 – Soils will starting using new data. A database tracker has been created for this work. After completion of tonight's "annual soils refresh" database support tracker (see associated tracker https://colab.sc.egov.usda.gov/cb/issue/xxxxxxx),

Please perform an IIS reset on all WSS application servers (nrcsprd0300 - 0303), web service servers (0304 - 0309) and map servers (0310 - 0315).

Stopped IIS on the above WSS servers + the SDA server (Please coordinate with Tamara)

1. DB Tracker to copy cache files to Kansas City Server for gSSURGO to be done. May need to modify dates, server names, number of surveys to be copied and related trackers –See Item #10 above

The tracker for Sep 2021 was: <https://colab.sc.egov.usda.gov/cb/issue/660729>

See it as an example of what to enter.

Keep this ON HOLD until after the soil refresh is done. This ticket may be worked on Friday, October 1st or the following week as it fits into the schedule.

Need a **copy** of all “wss\_SSA\_SSaid\_2021-….zip files (all the files that do not contain “soildb\_” in the file name to be copied from https://soilsdashboard.sc.egov.usda.gov/DataManager/WSSFileShare?dir=DownloadSoilsData%2FCache%2FSSA%2F to  
AIOMOKCC6NA102\SMB04\Soil\_Plant\_Science\_Division\NSSC\WSS\_SSURGO\FY2022 so that Steve Peaslee and Adolfo Diaz can begin the gSSURGO update.

There should be 3373 files to be copied over.

1. DB Tracker to Create New sdmOFFLINE and delete old cache. May need to modify dates, server names, and related trackers –See Item #11 above

The tracker for Sep 2021 was: <https://colab.sc.egov.usda.gov/cb/issue/661230>

See it as an example of what to enter.

Create a new tracker and associate it with the DB tracker used to flip the data <https://colab.sc.egov.usda.gov/cb/issue/660672>.

Here is updated content for a new DB tracker to be put in for October 2021…

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See tracker for details on the sdmOFFLINE backup that was mentioned above: https://colab.sc.egov.usda.gov/cb/issue/660672  
  
3). Delete old cache/SSA\_oldSep30 G:\App\FileShares\WSS\_Sub\WSS\DownloadSoilsData\Cache\SSA\_oldSep30)

1. Application Tracker to put up pop-up message about refreshed data.

Here’s a link to an old Application Tracker that tells PSO to put a pop-up message on WSS.  <https://colab.sc.egov.usda.gov/cb/issue/549700>  This one has to do with https but it’s just a matter of telling them what file to update and what wording we want put in.

We typically put up a pop-up notice about the Soils refresh being done and then leave it until one of us gets tired of seeing it and submits another tracker to have it removed. Here’s a link to one of those old trackers… <https://colab.sc.egov.usda.gov/cb/issue/652202>

We can say whatever we want in the pop-up to alert users to the fact that the data was refreshed.  The pop-up is only going to be helpful to those people who happen to login to WSS while the pop-up is posted. We will still have to send a GovDelivery notice telling people the data was updated.

Tammy has to also send separate email regarding subscribing to Web Soil Survey in Farmers.gov/govDelivery.