

**Summary of Survey Results**  
**2012 Rhode Island Soils Survey Work Planning Conference**  
*June 28, 2012*

Thanks to Lisa Hollister and Lorraine Joubert with NEMO for compiling these results from our 2012 Soil Survey Work Planning Conference.

Where applicable' replies from Jim Turenne are provided in RED. Please email any comments or suggestions on improving our RI soils data to [jim.turenne@ri.usda.gov](mailto:jim.turenne@ri.usda.gov)

Fifty-six persons attended this workshop and a total of 35 attendees participated in this survey. Overall, the responses were positive, indicating the workshop was relevant and useful to the attendees. Many participants indicated they would apply the knowledge gained in this workshop to specific tasks requiring soil survey data. Several attendees provided thoughtful responses to the questions which will be useful in future survey efforts and workshop planning.

**Workshop Demographics:**

Affiliation	Response Percent	Response Count
<b>Private Sector</b>	<b>21%</b>	<b>12</b>
<b>Municipal</b>	<b>11%</b>	<b>6</b>
<b>State/Federal</b>	<b>46%</b>	<b>26</b>
<b>Nonprofit</b>	<b>9%</b>	<b>5</b>
<b>Other</b>	<b>13%</b>	<b>7</b>

**1. What are the main sources you use for Soil Survey Data in RI?**

Thirty-five attendees answered this multiple choice question, with the mode being 3 (responses). See below for frequency of responses.

	<b>No. of Responses</b>	<b>% Responses</b>
USDA-NRCS-Web Soil Survey and Soils Data Mart "Official Soils Data"	<b>14</b>	<b>16%</b>
RIGIS Soils Spatial Download	<b>14</b>	<b>16%</b>
ArcGIS Online	<b>8</b>	<b>9%</b>
DEM Environmental IMS Viewer	<b>12</b>	<b>14%</b>
Google Maps/Google Earth	<b>14</b>	<b>16%</b>
RI Digital Atlas	<b>3</b>	<b>3%</b>
The 1981 Published Copy (Hard Copy) <sup>1</sup>	<b>16</b>	<b>19%</b>
Soil/Web App for Smartphone	<b>4</b>	<b>5%</b>

<sup>1</sup> – please note the published soil survey report should be considered an archived copy (a snapshot of the soils in 1981) and longer "official" NRCS soils data. Sources

other than the Web Soil Survey/Soil Data Mart should also be checked to make sure they are updated. I try to keep all sources updated but a lag often occurs.

The frequency of responses was then sorted by affiliation (reported) in order to identify any differences in use of the various data sources by different professional organizations. The data suggests State/Federal attendees use a greater number of data sources than attendees from other affiliations (municipal, private, etc.) See below for frequency of responses.

	State/Federal	Municipal	Private	Non-profit	Other
USDA-NRCS-Web Soil Survey and Soils Data Mart "Official Soils Data"	7	0	4	0	2
RIGIS Soils Spatial Download	6	4	1	1	2
ArcGIS Online	5	0	1	0	1
DEM IMS Viewer	5	1	4	0	0
Google Maps/Google Earth	7	0	1	1	2
RI Digital Atlas	1	0	1	0	0
The 1981 Published Copy (Hard Copy)	6	4	3	1	0
Soil/Web App for Smartphone	3	0	0	0	1

**2. Tell us what you like/dislike about the USDA-NRCS Web Soil Survey, and what improvements you would like.**

Thirty-three attendees chose to answer this question; approximately half of the responses (15) indicated they had not used the web soil survey yet. Comments related to "like" varied and included the availability of data, ability to print maps, and relative ease of use. A common response to "dislike" was loading speed: many complained it was too slow. See below for actual responses.

**Actual Responses:**

- Site has not been taken advantage of (but I will be now)
- Not used
- Not really used-so easy to just grab the book (see comment above)

- Not used, but I plan on checking it out
- I really like the different facets that can be explored-it's very easy to navigate. The speed at which info can be accessed is a little slow.
- Not used yet
- Dislike: slow hard to navigate/find what you need..."what tab/section is \_\_\_ under?" Like: wealth of information all in one spot
- Not used
- Not used yet but it looks like a great resource- keep promoting it!!
- More options for annotating printouts (titles, descriptions) would be welcome. Speed? (sometimes slow)
- Haven't specifically used WSS previously
- Would like to use a soil series GIS layer that does not break soil area into different polygons based on slope percentage (ie shows soil series area as one polygon regardless of slope percentage)
- Easy to use
- Accessibility of the data/ease of access/ metadata and amount of specific soils data available is great
- Not used
- I find Web Soil Survey often crashes on me when I pick my AOI. I would rather use a different source. **They are working to fix this.**
- Haven't really used it yet- appeared too complex
- Make it faster to display data
- Not used
- Needs to be more user-friendly
- Not used
- Like: access to data, relative ease of use, nationwide. Dislike: bulkiness/cumbersome at times, slow at times
- I like how you can now import your own AOI, easy to navigate.
- Takes a relatively long time to generate map, great maps for use in reports
- Not used yet
- Slow
- Too slow
- Nothing in particular to comment on, plus or minus.
- Not used
- I like that the limitations to interpretations based on scale are made clear. It is a little pokey to load/use. Maybe clearer description of the applications/audiences? To bring in more users.
- Can take a while and crash when defining AOI- but probably can't help due to data size. Like that general public can learn to use and access soil maps and info of their property. Like that it can print a map!!\
- I'd like to use this- it looks good
- Should be clear, easy to find info for RI, simple design

### 3. What is your primary use (s) of Soil Survey Data?

Thirty-five attendees answered this question. See below for frequency of responses.

	Number of Responses
Regulatory purposes (hydric soils, Septic Systems, etc.)	20

Environmental (Prime Farmlands, Easements, etc)	<b>16</b>
Planning uses	<b>13</b>
Engineering uses	<b>13</b>
Creating interpretive maps	<b>10</b>
Project reviews	<b>10</b>
Educational uses	<b>11</b>
Other	<b>4</b>

***Actual Responses (other):***

- Stormwater BMP siting
- Forest management including timber harvesting
- Interested from my past profession
- Conservation
- Agriculture- planning BMPs, demonstration sites

**4. What is your level of expertise in using soil survey data?**

Thirty-five attendees answered this question. The majority of attendees indicated their level of expertise is moderate.

	<b>Number of Responses</b>
Expert (soil scientist with knowledge of soil survey data)	<b>10</b>
Moderate- have used soil surveys on and off	<b>23</b>
Novice- rarely used soils data, do not understand it	<b>3</b>
GIS user- use soils data as part of a GIS with other data	<b>4</b>
Other	<b>2</b>

***Actual Responses (other):***

- Landscape architect/planner
- Soil evaluator- 12 yrs. RI licensed
- Somewhere between GIS user and expert

**5. Tell us how we can improve the soil data, such as other types of interpretations to include, refinement of data, other platforms, or products for our soil survey.**

Twenty-two attendees answered this question. Responses varied, see specific comments below.

### **Actual Responses:**

- More data for smartphone apps and Google earth application – **we are working on providing all our soil data on Google Earth via KML with links to the data along with the freshwater soil data.**
- The site specific mapping method will be very useful for planning site development. More advertisement about the web soil survey smartphone app- I think many people are/would be interested, and it would generate even more excitement about soil! Also more data on soil microbiology. **I post any soils news on [www.twitter.com/SoilsNE](http://www.twitter.com/SoilsNE) or [www.facebook.com/soilsne](http://www.facebook.com/soilsne). Microbiology data has always been lacking, not sure how to provide it.**
- Keep updating, talk to geologists more. **We plan to update the spatial/tabular yearly (if funding provided), will talk to more disciplines in future!**
- Info on the HSG refinement should be helpful. Will await this info and guidance. **Hydrologic Soil Groups are going to be calculated from the criteria in the Engineering field book (<http://www.soils.usda.gov/technical/handbook/contents/part618.html#35>) we are working to enhance our Ksat data and tweak the data to fit.**
- Data output to other digital formats (word processors, spreadsheets)
- Hydric and fresh water riparian/subaqueous soil types with relationship to heavy metal concentrations. Reason= TMDL and river restoration/cleanups. **We will post the metal and phosphorus data for the subaqueous soils in the Google Earth KML.**
- Map developed/ urban areas as such with till substratum (instead of showing former soil series). **A work plan to update our urban and altered soils is underway will use the substratum phases and soil series in future updates.**
- Ksat data, keep soils data on developed land that used to be prime farmland. Is there a way to indicate change in land use in soils data? **This is a difficult decision to make – if we keep a developed area as a soil series and it is prime it will show up as prime farmland even though it is not. Having archived data available the user can use the old mapping to determine what the soil was mapped before the land use change.**
- Parent material/specific geologic classes- useful to non-scientists, helps me explain my goals to public. **Our soil parent material is an attribute field in RIGIS and a paper map is at: [http://www.ri.nrcs.usda.gov/technical/RI\\_Soil\\_Parent\\_Materials.pdf](http://www.ri.nrcs.usda.gov/technical/RI_Soil_Parent_Materials.pdf) we will be updating that soil parent material map soon.**
- Refining tools to sort out/eliminate lands suitable for conservation vs. lands not suitable for development.
- New hard copy (book) that shows latest info in lieu of website add eelgrass maps (SAV). **Sorry, there are no plans to publish paper copy surveys anymore – too expensive.**
- SSSM data could be added as information becomes available.
- Refinement of hydrologic groups.
- Get Jim Turenne more funding! **Not likely, but thanks☺**
- “user friendly”
- Subaqueous interps- shellfish, eelgrass.
- I am not proficient enough to offer constructive advice at this time.
- Current soil data is fine for my uses.
- Until I try using it, I can't really comment. I don't have GIS on my computer, so anything on the web is good.

- I want a RI wetlands smartphone app. This should include wetland vegetation information w/ seasonal changes. **Me too, I also want geology maps, NWI, FEMA...best to ask each agency responsible why they don't have apps available like the soilweb! You can view NWI/FEMA on phone by loading the KML to the Google Earth App.**
- Keep providing data to RIGIS, otherwise good.

**6. Do you use the coastal zone survey data for your work and do you think the mapping should continue to be a priority? How about the soil mapping of fresh water bodies?**

Thirty attendees answered this question. Frequency of responses is reported below.

	<b>Number of Responses</b>
I use or plan to use the RI Coastal Zone Soil Survey	<b>12</b>
The Coastal Zone Soil Survey (subaqueous soils) should continue to be a priority	<b>14</b>
The freshwater subaqueous soil mapping should be continued	<b>19</b>
Get back on land and update terrestrial soils!	<b>7</b>

**7. What topics would you like to see addressed in future workshops by the Society of Soil Scientists of Southern New England?**

Twenty-three attendees answered this question. Responses varied, see below for actual responses.

***Actual Responses:***

- Soils suitable for stormwater infiltration practices, septic systems
- Using soils data- actually I'm interested in how you decide to draw the lines for the landscape forms, especially to do the site specific mapping that probably could be a workshop but I suppose that's a class the soil scientists take. **Soil mapping and morphology at URI.**
- Field textural tests (hydric) particularly since before training are only ranked at 41%
- Septic systems, soil taxonomy, soil microbiology
- More subaqueous soil detail
- All of the above
- Guidance/hands-on workshops for SSSM/HSG methods joint workshop w/ state environmental agencies (DEM/CRMC) to discuss use/applicability of SSSM to stormwater management design
- Soils characteristics and heavy metal accumulation along riparian buffers. Reason: restoration projects and impacts

- Urban soil considerations for farming and gardening in urban areas. Interpreting soil science information to a general public audience
- Data collection and use of soils data
- Hydric soils, soil carbon and importance, LID, BMPs, septic, OWTS based on soils > why important
- How can we use soils instead of wet lands as a factor in determining “land sustainable for development” in land development and subdivision regulations or in zoning ordinance for “minimum lot size” (which is legally separate from density”)
- Hydric soils and septic systems
- Soil constraints for development which are good for/which should be avoided because too wet, too steep, too erodible...
- Hydric and septic systems
- Septic systems, soil estimation
- Septic systems
- Understanding map units- composition, distribution, using Lidar
- Data collection- describing soils, %carbon texture/modifier training (estimating oc)
- Septic systems
- Agricultural applications
- Information of stormwater- recharge, monitoring issues, w/ different types of soil, soil layers
- Wetlands- hydric soils, using site specific mapping standards for wetlands and low impact development.
- Using soils data/technology, esp. with new subaqueous

Will pass suggestion on to the Society of Soil Scientists of Southern New England for consideration.

**8. What is your main source(s) for getting news on the RI Soil Survey updates?**

Thirty-five attendees answered this question, with mode of 1 (response). The responses were then sorted by affiliation in order to determine how different organizations are most likely to get news of the soil survey. In both instances, word of mouth was the most frequent response. See below for frequency of responses.

	<b>Number of Responses</b>
Social media sites (@SoilSNE for example on Twitter/Facebook	<b>2</b>
RI NRCS Soil Page	<b>10</b>
RIGIS Site and List-serve	<b>10</b>
SSSSNE.org Webpage	<b>6</b>

Word of mouth	15
Other	7

	State/Federal	Municipal	Private	NonProfit	Other
Social media sites (@SoilSNE for example on Twitter/Facebook)	1	0	1	0	0
RI NRCS Soil Page	4	0	1	0	3
RIGIS Site and List-serve	4	3	1	0	1
SSSSNE.org Webpage	4	0	2	0	0
Word of mouth	9	2	2	1	0
Other	2	3	2	0	0

**Actual Responses (other):**

- I use the RI NRCS Soil Page infrequently, still using old hard copy
- None- until today
- RI- no longer on soil/agronomy groups
- Nesoil.com!
- URI NEMO Cooperative Extension
- I haven't had much interaction with them, but would like to do so in the future
- Jim Turenne
- Workshops- I can't remember how I found out about the web soil survey, but I think it was at a workshop.

**9. What format should be used for soil map unit descriptions?**

Thirty-one attendees answered this question. See below for frequency of responses.

	Number of Responses
Keep the fully narrative map unit descriptions	8
Develop semi-tabular map unit descriptions	12
Develop fully tabular map unit descriptions	8
Don't bother with soil map unit descriptions	0
Develop a soil map unit fact sheet with key properties, soil/landscape photos, and data	8
Other	3

**Actual Responses (other):**

- Not sure yet- need to use the on line format more before I form an opinion

- I like the idea of more meaningful markup on map units so key info is available at a glance
- Descriptive names, catina info- (place-based info), remains useful (predictive). **RI soil catena chart:**  
[http://www.ri.nrcs.usda.gov/technical/Soil\\_Catenas\\_Rhode\\_Island\\_2011.pdf](http://www.ri.nrcs.usda.gov/technical/Soil_Catenas_Rhode_Island_2011.pdf)
- Not sure
- I do not have the knowledge to provide a good opinion

**10. Any other comments about the RI Soil Survey program?**

Twelve attendees answered this question. Responses varied; see below for actual responses.

**Actual Responses:**

- Very helpful and user-friendly
- You're doing great things with data collection and display
- Keep up the good work- most people do not fully appreciate the complexity and importance of soils
- I do not think you should change the soil map units for recently developed land (UD). It would be much more useful to know what soil was the and/or what soil lies beneath the development (for inventory/planning/engineering). The aerial and land use maps will delineate the developed land.
- More outreach with other professionals like American Planning Association
- How often is the map data on Google soils updated? **I have the person who runs the site (UCAL) update the Google/Smartphone whenever we do an update to make sure you get the latest data!**
- Great stuff? Coastal, submerged soils in particular- how to build considerations of change (erosional deposition) relative to soil units?
- Great resource!
- I'd like to get involved!
- Excellent speakers
- Sounds really interesting
- Why raster maps? Vectors are handy when overlaying with other data. Have both? **We now offer both vector and raster, if interested in the raster send me an email.**

**11. If you use or would like to access user-friendly GIS maps (ArcGIS online) on the web what format is most useful?**

Thirty-three attendees answered this question with a mode of 1 (response). The responses were then sorted by affiliation in order to determine how different organizations are most likely to utilize user-friendly GIS maps on the web. The responses indicated nearly all of the attendees who chose to answer this question wanted the ability to create their own maps, regardless of affiliation. See below for frequency of responses.

	<b>No.of Responses</b>	<b>% Responses</b>
The simple "Map Gallery" where you can view pre-made maps.	<b>2</b>	<b>6%</b>

Create your own map by choosing map layers, change transparency and overlay them	<b>15</b>	<b>44%</b>
Both a & b	<b>14</b>	<b>41%</b>
Other	<b>3</b>	<b>9%</b>

	<b>State/Federal</b>	<b>Municipal</b>	<b>Private</b>	<b>Nonprofit</b>	<b>Other</b>
The simple “Map Gallery” where you can view pre-made maps.	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Create your own map by choosing map layers, change transparency and overlay them	<b>8</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>0</b>
Both a & b	<b>5</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>3</b>
Other	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Actual Responses (other):**

- I cannot load any software so I need a web-based system
- I prefer Arc GIS
- Currently a GIS user and don't need/use “user-friendly”

**12. What was the most useful part of the program?**

Thirty-one attendees answered this question. Responses varied: see below for actual responses.

**Actual Responses:**

- Learning about new mapping and implications for management purposes
- Seeing how to use the subaqueous soil mapping techniques
- Making them easily available
- Awareness of data development and how to access it
- Jim's part
- Knowing where the latest information can be found
- Good capsule of new information. Maybe a hands on exercise for these reasonable maps would be helpful for local partners
- Overview of available soils geospatial data. Overview of subaqueous soils mapping work and applications
- The different datasets created
- Explanation of different soils data sites, what used for, and how to access them
- SSSM presentation
- I really enjoyed all the updates on recent work. The history from Jim was nice. Jill and Mark had great presentations
- Hydrologic soil group info
- Hearing about the updates on recent work

- All
- Info on web access
- Information about Thursday burrito night at Ocean Mist!! Subaqueous soils.
- Great way to keep current and stimulate discussion.
- Mapping
- Update on research
- All presentations were useful in different ways
- Site-specific soil survey
- All presentations- good picture of what is current with RI soil survey program
- Access to updated soil maps
- I enjoyed learning about subaqueous soil processes
- All good- each built on the previous
- RI NEMO Map Gallery
- Being exposed to and understanding the newly developed survey and inventory methodology.
- Informing participants of new resources available for use online
- Learning about the site specific mapping methods. We realized there was a problem when stormwater designers weren't doing test pits in areas they planned detention basins in, etc. Seems like it is even more important now w/ the new Stormwater design manual.
- New site-specific procedures and hydric soil indicators

### **13. What was the least useful part of the program?**

Eighteen attendees answered this question, although few answers identified a specific part of the program as not being useful. See below for specific responses.

#### ***Actual Responses:***

- Even the stuff I won't personally use, I still found interesting and I think is just good information for me to know
- None
- Carbon data within soils (although I found it enlightening and interesting)
- None
- The history was interesting but probably the least useful. I'd still leave it in!
- All pretty useful
- Although the final segment was very interesting, it may have dealt with information more detailed than I might use in day-to-day review work.
- Methods of determining hydro soil groups
- None
- I do not get involved much with subaqueous soils.
- everything was useful
- all good
- all useful
- some of Mark's acronyms/abbreviations were unfamiliar
- early soil survey history
- Some of the industry specific info- subaqueous and shellfish

**14. How do you plan to use the information presented today, and is there anything you will do differently?**

Twenty-nine attendees answered this question. Nearly all of the responses indicated the attendee was planning to use information from the workshop in their professions and many of the responses indicated a specific task to which they will apply knowledge gained during the workshop. See below for actual responses.

***Actual Responses:***

- I will definitely utilize more of the soil data/mapping sites as well as the social media sites
- I plan on learning more about the freshwater subaqueous mapping and utilizing more of the online resources
- Apply reservoir/pond sub-aq. Mapping and HSG to watershed protection efforts
- Help in prep of statewide quaternary map
- More aware of changes- ditch the old RI soil survey
- I will check out the websites, and keep an eye out for any RIDEM regulation changes that may come of new information
- Useful input tool for engineering riverine restoration project
- Better use of available soils geospatial data through RIGIS, NRCS, ArcGIS databases and tools available online looking ahead- consideration/mapping of subaqueous soils in the Scituate Reservoir and tributary reservoirs and using this info to inform management.
- School, work, education
- SSSM for determination of HSG on large-scale protects for stormwater management
- I received a lot of insight. I hope to use these ideas to guide my own research, planning for site specific projects and in my work with NRCS
- Will need to review HSG info further
- Look into SSSM and new RI soil updates
- Planning for land use and conservation at state and local levels
- Accessing RI community resource inventory maps
- I hope to utilize the soil data websites that I have not yet used
- Will explore WSS further
- Attempt to use these technologies in my classes in high school
- Hopefully I will feel more empowered to access these tools as part of my work
- Learned people to approach about resources
- Continue to become knowledgeable of the resources currently available and soon to be available- NEMO map gallery!!
- In review of proposed developments, town projects, assist with planning decisions
- I've been relying on out dated information- need to work from web-based sources
- To prepare permits (stormwater, wetland, CRMC, water quality, army corps) for Navy projects at Naval Station Newport

- Utilize the NRCS web site for sure!
- To assist regulatory review of projects
- Well I guess I should stop using the book and get used to the web-based NRCS site
- Update our data, keep an eye out for new mapping procedures and indicators, and subscribe to automatically get updates!

## 15. Final Thoughts?

Nineteen attendees chose to answer this question. Comments were very positive, indicating the workshop was useful and relevant to the attendees.

### ***Actual Responses:***

- Great update- thank you! It would be great to be able to complete this evaluation online afterwards- or to fill out with more time and email it.
- Thanks for a great workshop!
- This is a great workshop and its great to get this update of where RI is with soils
- How to change perception (popular understanding) of soil as a living resource, as opposed to an inert material.
- Wonderful!
- Great fruit!
- Great conference!
- Good job- nice location!
- Urban land updates- Don't lose to original data! Important info for things like stormwater runoff retrospect-planning
- Great review and very informative!
- Congratulations on your map update progress
- Thank you, very informative
- Thanks!
- Will await the guidance info/manual resulting from Jill Phillips work to better assess HSG values in project reviews (Subdivisions, development projects, etc)
- Great Conference
- Great session
- There were so many questions I wanted to ask Dr. Stolt that I couldn't find a place to start (on carbon sequestration research). Almost makes me want go back to school! Of course they were on plant-soil relationships... please keep users in the loop- you are doing a great job!
- Excellent show
- Great program!
- Great conference!
- Thanks!