

SOIL CHANGE WORKING GROUPS NEWSLETTER

SOIL SCIENCE SOCIETY OF AMERICA (SSSA) AND INTERNATIONAL UNION OF SOIL SCIENCES (IUSS)

WELCOME!

Welcome to the first newsletter of the SSSA & IUSS Working Groups on Soil Change, human-forced soil change that is accelerating from local to global scales.

These are challenging times for soil scientists, as they are for all of humanity. We need all the good ideas, colleagues, and new understanding we can get. This newsletter advances the working groups' objectives, to promote:

- 1) the science of human-soil relations, i.e., anthro-pedology;
- 2) networking of researchers, research sites, data sets, and models that help quantify soil change from local to global scales; and
- 3) new forms of communication that articulate the importance of soil, soils research, and human-soil relations.



More kids need to understand the importance of soil to their present and future!

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Of special interest:

- * At the 2012 AGU in San Francisco, the **4th Global Soil Change Symposium** is being organized in the Biogeosciences Division (B029)
- * **Northeast Soil Monitoring Coop** held its 6th (and large!!) annual meeting in 2012. See <<http://www.uvm.edu/~nesmc/>>, Greg Lawrence, USGS
- * **National Soil Carbon Network** aims to bring soil carbon data on line. See <<http://www.fluxdata.org/nscn/SitePages/Home.aspx>>, or Luke Nave, Univ. Michigan
- * **First Global Soils Week** 18-22 Nov in Berlin!! <<http://globalsoilweek.org/cms/>>

2012 SSSA MTG INCLUDES SOIL-CHANGE SESSION

The 2012 SSSA Meeting in Cincinnati includes an all-day session on soil change that was proposed by the Soil Change Working Group entitled, "How is the Anthropocene Transforming Pedology." Sponsored by S5 and co-sponsored by S7, the session will include a number of excellent speakers. John Galbraith & Dan Richter moderate, with the following authors on more than 15 talks & posters:

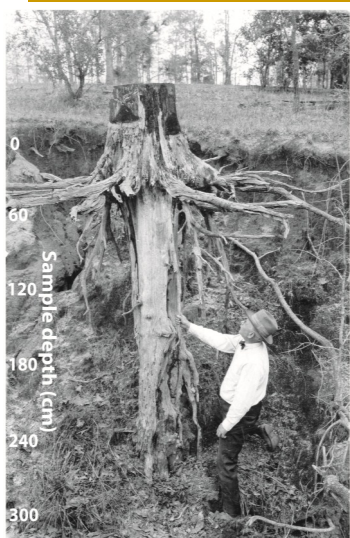
K.Scow, K.Lorenz, J.Weigelt, R.Lal, K.Toepfer, S.Dadio, P.Drohan, R.Losco, D.L.Johnson, D.N.Johnson, D.Weindorf, Y.Zhu, N.Bakr, S.Nuss, A.McWhirt, B.Haggard, J.Lofton, I.Dror, B.Yaron, B.Berkowitz, J.Galbraith, C.Stiles, R.Bryant, M.Stolt, H.Lin, M.Konen, K.Osterloh, S.McCarragher, L.Guo, W.Greenberg, D.Richter, D.H.Yaalon, B.R.Dubay, W.L.Daniels, J.Howard, R.Amundson, S.Al-Ismaily, A.K.Al-Maktoumi, A.Kacimov, S.Al-Saqri, H.Al-Busaidi, and M.Al-Haddabi.

Do your best to attend and participate !!

WORKING GROUP NEWS

- The IUSS and SSSA Working Groups have established contact with the International Union of Geological Science's Working Group on the Anthropocene. The IUGS WG is writing a book on the Anthropocene, with at least one chapter on soils. See: <www.quaternary.stratigraphy.org.uk/workinggroups/anthropocene/>

- The SSSA's Soil Change WG needs a new chair for 2012-13, and a ballot will be issued electronically later this summer of 2012. Two well qualified candidates are available to vote for: **J.K. Ladha & Ted Zobeck**
JK's and Ted's bios will be emailed in coming weeks along with directions on electronic voting.



USFS Photo 1927

Lutz and Chandler 1946

Roots of many plants like this longleaf pine are deeper than we often imagine!

NEW PAPERS, NEW RESEARCH, FUTURE MEETINGS

NEW SCIENTIFIC PAPERS & BOOKS

Bacon, A. et al. 2012. Coupling meteoric ¹⁰Be with pedogenic losses of ⁹Be to improve soil residence time estimates on an ancient North American interfluvial. *GEOLOGY* 40 (9): 1-4.

Charzynski, P. et al. 2011. Ekranic technosols and urbic technosols of Torun necropolis. *Geologija* 53: 179-185.

CSA News. 2012. Grand challenges for the crop sciences. <<https://www.soils.org/files/publications/csa-news/grand-challenges-for-crop-science.pdf>>

Franzluebbers, A.J., Endale, D.M., Buyer, J.S., Stuedemann, J.A. 2012. Tall fescue management in the Piedmont: Sequestration of soil organic and total nitrogen. *SSSAJ* 76:1016-1026.

Grunwald, S. et al. 2011. Digital soil mapping and modeling at continental scales: Finding solutions for global issues. *SSSAJ* 75: 1201-1213.

Issues in Environmental Science and Technology, vol. 35. Soils and Food Security (new book, in process).

Janzen, H.H. et al. 2011. Global prospects rooted in soil science. *SSSAJ* 75:1-8.

Lawrence, G.B., W.C. Shortle, M.B. David, K.T. Smith, R.A.F. Warby, & A.G. Lapenis. 2012. Early indications of soil recovery from acidic deposition in U.S. red spruce forests. *SSSAJ* doi:10.2136/sssaj2011.0415

Lin, H. 2011. Three principles of soil change and pedogenesis in time and space. *SSSAJ* 75:2049-2070. doi:10.2136/sssaj2011.0130

Nave L.E., Vance E.D., Swanston C.W., and Curtis P.S. 2011. Fire effects on temperate forest soil C and N storage. *Ecological Applications* 21: 1189-1201.

Robinson D.A., et al. 2012. Soil natural capital and ecosystem service delivery

in a world of global soil change. In: *Soils and Food Security*. Vol. 35 (Ed. R.E. Hester & R.M. Harrison) Issues in Environmental Science and Technology. RSC Publishing, London. (In Press)

Richter, D. and D. Yaalon. 2012. "The changing model of soil" revisited. *SSSAJ* 76: 766-778.

Richter, D. and SSSA Soil Change Working Group. 2011. Human-soil relations are changing rapidly: Proposals from SSSA's cross-divisional soil change working group. *SSSAJ* 75: 2079-2084.

Robinson, D.A. et al. 2011. Natural capital, ecosystem services and soil change: why soil science must embrace an ecosystems approach. *Vadose Zone Journal*. 11: doi:10.2136/vzj2011.0051.

Yaron, B., I. Dror, and B. Berkowitz. 2012. *Soil-subsurface change*. Springer-Verlag, Berlin.

NEW RESEARCH/EDUCATION

Research planning grant to network, sample, and comprehensively analyze intensively managed soils from 30-40 long-term field experiments. Supported by the Wallace Genetic Foundation, starting summer 2012. Contact: Dan Richter, Duke Univ.

Univ. Maine's new IGERT! <http://umaine.edu/news/blog/2012/07/09/handling-the-effects-of-abrupt-climate-change/>

UPCOMING MEETINGS

Jul 4-7, 2012 EUROSOIL, Bari, Italy

Aug 13-17, 2012 Cong. of Dokuchaev Soil Sci. Soc., Petrozavodsk, Russia

Aug 26-30, 2012 7th Intern. Acid Sulfate Soil Conf., Vaasa, Finland

Oct 21-24, 2012 SSSA Annual Meeting, Cincinnati, OH

Oct 22-26, 2012 Integrated Soil Fertility Management in Africa, Nairobi



Golf course soil profiles exhibit unique pedogenic features (St. Andrews Old Course Photo)

SIX K12 SITES

- soils4teachers.org
- <https://www.soils.org/digdeeper>
- <https://www.soils.org/lessons/ask>
- <http://www.iheartsoil.org/>
- <http://www.soil-net.com/>
- <http://www.unmillenniumproject.org>



An Everett, WA technosol, a soil of the Anthropocene (Exxon Mobile Photo)

COOL, COOL YOUTUBES, Etc...

YouTubes —

The amazing Frank Gibbs:

<<http://www.youtube.com/watch?v=HLzcvQ5sKQo>>

<http://www.youtube.com/watch?v=eroGrAjLLZk&feature=youtube_gdata_player>

On soil memory from Maria Altmann:

<http://www.youtube.com/watch?feature=endscreen&v=V7ZrwlEcQ_c&NR=1>

The incomparable Dr. Dirt, Prof. Clay Robinson:

<<http://www.youtube.com/watch?v=mA78nPn41F4&feature=relmfu>>

<<http://www.youtube.com/watch?v=iavK9ga4UpM&feature=relmfu>>

Goddard Lab's 26 seconds of Global Warming:

<http://www.nasa.gov/topics/earth/features/2011-temps.html>

A Touching Video from the Amazon & Patrick Marie Lavelle, "Un feliz suelo" (A happy soil):

<http://www.youtube.com/watch?v=UC6cYA_fa6c&feature=channel&list=UL>

"A City Soil Speaks", thanks to Laura Lamb Brown-Lavoie:

http://www.youtube.com/watch?v=x_e3tTc_Hw4&feature=share

An hour YouTube w/Prof. Gary Sposito on Hans Jenny:

<<http://www.youtube.com/watch?v=y3q0mg54Li4>>

Etc... —

Ron Amundson on "The fate of the soil in the 21st century":

<<http://baylorsariat.com/2011/10/28/researcher-explores-human-soil-damage/>>

Flowers from urban soils:

<<http://cityroom.blogs.nytimes.com/2012/05/01/in-vacant-lots-and-backyards-a-flower-business-grows/#postComment>>

