

Recent classification proposals for anthropogenic soils (ICOMANTH). 5 September, 2012

**Note: I distilled this from John Galbraith's presentation materials (which he covered at the 2012 NECSS Conference in Orono, ME. Tony Jenkins*

1. HAHT – Human affected/Human Transported soils.
2. Historically these influences show up at multiple levels in taxonomy, or not at all.
Directly or indirectly showing up from family to order.
3. Horizon names:
 - a. Prefix – caret ^ used to identify horizons formed in human-transported material (HTM)
 - b. Master horizon – M for manufactured layer (asphalt, concrete, geotextile, plastic, rubber) used as a root-limiting subsurface layer. The upper surface is a root-limiting contact.
 - c. Suffix – u for the presence of artifacts
4. Reclassify Arents
5. New Family Classes
 - a. Mantle of human transported material (HTM) >50cm or whole soil above rock.
6. HAHT Material Class Examples (*Family* level)
 - a. Methanogenic
 - b. Bituminic
 - c. Spoliwastic
 - d. Gypsifactic
 - e. Combustic
 - f. Medioartifactic
 - g. Aquadensic
 - h. Dredgic
 - i. Subsidic
 - j. Concretic
 - k. Asphaltic
 - l. Ashifactic
 - m. Megaartifactic
 - n. Pauciartifactic
 - o. Metalic
 - p. Spolic
 - q. More?
7. Examples:

*Fine, mixed, thermic **Alfic** Udarents could become Fine, **dredgic**, mixed, acid, thermic*

***Anthroportic** Udorthents*

8. Modify the definition of “Fluvent__” and “Cumulic ” subgroups to exclude irregular decrease in OC with depth due to burial of soil material by human activity.
9. A list of properties for HTM and HAM given, use “accumulation of evidence” (best professional judgment) for identification.
10. Associated changes to the National Soil Survey Handbook:
 - a. Anthropogenic Features will be decommissioned as a broad category (NASIS data element).
 - b. The term will be replaced by three new categories in NASIS to describe geomorphic items at the earth’s surface or in shallow water.
 - i. **Anthroscape** – A human-modified “landscape” of substantial and permanent alterations
 - ii. **Anthropogenic Landform** - A discrete, human-made “landform” on the earth’s surface. Constructional and excavated
 - iii. **Anthropogenic Microfeature** - A discrete, individual, human-derived form. Constructional, excavated, and buried
11. Specific *Subgroups*:
 - a. Extragrade subgroup formative elements for use throughout Soil Taxonomy. Humic, Dystric, or Eutric could be added to Anthropic, Plaggic, or Plagghaplic if needed.
 - i. **Anthraltic** (from Gr. *Anthropos*, human and L. *alterāre*, to change)
 - ii. **Anthraquic** (anthraquic conditions)
 - iii. **Anthropic** (have an anthropic epipedon)
 - iv. **Anthroportic** (from Gr. *Anthropos* human and L. *portāre* to carry)
 - v. **Plaggic** (have an plaggen epipedon)
 - vi. **Plagghaplic** (upper 25-49 cm of material qualifies for plaggen)
 - vii. **Sulfuric** (has a sulfuric horizon)

The specific proposals are working their way through the process for changes to soil taxonomy and the NSSH per the procedures of the National Cooperative Soil Survey. They are currently being tested or recently completed testing in soil surveys in NYC and elsewhere.

With regard to the Urban Soils Workshop pits, which are certainly HAHT examples, I wonder how the above geomorphic terms and family and subgroup proposals might apply?

More Info: ICOMANTH = <http://clic.cses.vt.edu/icomanth/>