A Big Earth Data Platform for Three Poles

**Dataset of soil texture on the Qinghai-Tibet Plateau (2010)**

1、Description

Soil data are extremely important at both global and local scales, and in the absence of reliable soil data, land degradation assessments, environmental impact studies and sustainable land management interventions are severely hampered。By Soil information data in the urgent need of the World, especially under the background of the convention on climate change, international institute for applied systems analysis (IIASA) and the UN food and agriculture organization (FAO) and the Kyoto protocol on Soil carbon measurement and the United Nations food and agriculture organization (FAO)/international global agriculture ecological assessment (GAEZ v3.0) jointly established under the sponsorship of a new generation of World Soil Database (Harmonized World Soil Database version 1.2) (HWSD V1.2).
The 2010 data set of soil texture on the qinghai-tibet plateau was culled from the world soil database.Data format :grid format, projected as WGS84.The main soil classification system used is fao-90.Unique verification identifier of core soil institution unit:
Mu\_global-hwsd database soil mapping unit identifier that connects GIS layers.
MU\_SOURCE1 and MU\_SOURCE2- source database mapping unit identifiers；
SEQ- soil unit sequence in the composition of soil mapping unit;
Soil classification system USES fao-7 classification system or fao-90 classification system (SU\_SYM74 resp.su\_sym90) or fao-85 (SU\_SYM85).

The main fields of the soil property sheet include:
ID(database ID)
MU\_GLOBAL(soil unit identifier) (global)
SU\_SYMBOL Soil mapping unit
SU\_SYM74(FAO74classify );
SU\_SYM85(FAO85classify);
SU\_SYM90（FAO90The soil name in a soil classification system)；
SU\_CODE Soil mapping unit code
SU\_CODE74 Soil unit name
SU\_CODE85 Soil unit name
SU\_CODE90 Soil unit name
DRAINAGE(19.5);
REF\_DEPTH(Soil reference depth);
AWC\_CLASS(19.5);
AWC\_CLASS(Soil available water content);
PHASE1: Real (The soil phase);
PHASE2: String (The soil phase);
ROOTS: String (Depth classification of obstacles to the bottom of the soil)；
SWR: String (Characteristics of soil moisture content)；
ADD\_PROP: Real (A specific soil type in a soil unit that is associated with agricultural use)；
T\_TEXTURE(Topsoil texture);
T\_GRAVEL: Real (Percentage of aggregate volume on top)；( unit：%vol.)
T\_SAND: Real (Top sand content)； ( unit：% wt.)
T\_SILT: Real (surface silt content);(unit: % wt.)
T\_CLAY: Real (clay content on top);(unit: % wt.)
T\_USDA\_TEX: Real (top-level USDA soil texture classification);(unit: name)
T\_REF\_BULK: Real (top soil bulk density);(unit: kg/dm3.)
T\_OC: Real (top organic carbon content);(unit: % weight)
T\_PH\_H2O: Real (top ph) (unit: -log(H+))
T\_CEC\_CLAY: Real (the cationic exchange capacity of the clay layer at the top);(unit: cmol/kg)
T\_CEC\_SOIL: Real (cation exchange capacity of topsoil) (unit: cmol/kg)
T\_BS: Real (top basic saturation);(unit: %)
T\_TEB: Real (top exchange base);(unit: cmol/kg)
T\_CACO3: Real (top carbonate or lime content) (unit: % weight)
T\_CASO4: Real (top-level sulfate content);(unit: % weight)
T\_ESP: Real (top layer exchangeable sodium salt);(unit: %)
T\_ECE: Real (top-level conductivity).(unit: dS/m)
S\_GRAVEL: Real (percentage of bottom gravel volume);(unit: % vol.)
S\_SAND: Real (content of underlying sand);(unit: % wt.)
S\_SILT: Real (substratum silt content);(unit: % wt.)
S\_CLAY: Real (clay content in the bottom layer);(unit: % wt.)
S\_USDA\_TEX: Real (USDA underlying soil texture classification);(unit: name)
S\_REF\_BULK: Real (bulk density of underlying soil);(unit: kg/dm3.)
S\_OC: Real (bottom organic carbon content);(unit: % weight)
S\_PH\_H2O: Real (base ph) (unit: -log(H+))
S\_CEC\_CLAY: Real (cation exchange capacity of the underlying cohesive soil);(unit: cmol/kg)
S\_CEC\_SOIL: Real (cation exchange capacity of underlying soil) (unit: cmol/kg)
S\_BS: Real (underlying basic saturation);(unit: %)
S\_TEB: Real (underlying exchangeable base);(unit: cmol/kg)
S\_CACO3: Real (content of underlying carbonate or lime) (unit: % weight)
S\_CASO4: Real (substrate sulfate content);(unit: % weight)
S\_ESP: Real (underlying exchangeable sodium salt);(unit: %)
S\_ECE: Real (underlying conductivity).(unit: dS/m)
This database is divided into two layers, in which the top layer (T) has a soil thickness of (0-30cm) and the bottom layer (S) has a soil thickness of (30-100cm).。

Refer to the instructions for other attribute values HWSD1.2\_documentation.pdf，The Harmonized World Soil Database (HWSD V1.2) Viewer-Chinese description andHWSD.mdb。

2、Keywords

Theme：Soil,Soil depth,Organic matter,Soil texture,Soil moisture/Water content,Soil water holding capacity
Discipline：Terrestrial Surface
Places：Tibetan Plateau
Time：2010

3、Data details

1.Scale：None

2.Projection：

3.Filesize：27.9MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.7 | - |
| west：60.9 | - | east：106.6 |
| - | south：22.9 | - |

5、Time frame:None--None

6、Reference method

References to data:

Food and Agriculture Organization of the United Nations（FAO）. Dataset of soil texture on the Qinghai-Tibet Plateau (2010). A Big Earth Data Platform for Three Poles, 2019

References to articles:

Fischer, G., Nachtergaele, F., Prieler, S., van Velthuizen, H.T., Verelst, L., & Wiberg, D. (2008). Global Agro-ecological Zones Assessment for Agriculture (GAEZ 2008). IIASA, Laxenburg, Austria and FAO, Rome, Italy.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

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