Soil sample data for locust plague analysis around Baiyangdian Lake in 2002

SHI Ruixiang
(Institute of Geographic Sciences and Natural Resources Research, CAS, Beijing 100101, China)

Abstract: Soil sample data for locust plague analysis around Baiyangdian Lake in 2002 (SSDLPA_BaiyangLake_2002) was conducted from 14 soil samples which were collected from June 21-22, 2002 around Baiyangdian Lake, east of China, where locust plague was serious in June 2001. The data includes two parts, part one is the spatial data indicating the geo-location where the samples are located, and part two is the attribute data of samples. The attribute data is consisted of soil texture, pH value, soil water content, soil salinity etc. The data collection was funded by the National Basic Research Program, Ministry of Science and Technology of China, 2000 (MOST 973 program).

Keywords: Baiyangdian Lake; locust; soil
DOI: 10.11821/dlxb2014S016
Citation: SHI Ruixiang. Soil sample data for locust plague analysis around Baiyangdian Lake in 2002. Global Change Research Data Publishing and Repository, 2014. DOI: 10.3974/geodb.2014.01.16.v1. http://www.geodoi.ac.cn/WebEn/doi.aspx?doi=10.3974/geodb.2014.01.16.v1

1 Introduction

Soil sample data for locust plague area around Baiyangdian Lake in 2002 were obtained from field investigation, sampling and indoor physical and chemical analysis, which was supported by MOST 973 "Disaster mechanism and regulation on major plant diseases and insect pests" (G2000016210) . The author has published a paper titled "Distribution of locusta migratoria manilensis and soil in the locust plague area at Baiyangdian"[1]. To improve data sharing, the SSDLPA_BaiyangLake_2002 data are to be published. The data are the geographical information system data, including soil texture, pH value, soil water content, soil salinity etc.

2 Dataset description

The descriptions of the soil sample data for locust plague analysis around Baiyangdian Lake in 2002 (SSDLPA_BaiyangLake_2002) are recorded. The information includes the dataset full name, dataset short name, corresponding author, authors, geographical region of the dataset content, year of the dataset, number of the dataset tiles, dataset spatial and temporal resolution, dataset format and size, data publisher, data sharing platform and contact information, technical editors, foundation and the data sharing policy. Table 1 summarizes the

Received: 2014-04-08; **Accepted:** 2014-06-20
Foundation: Ministry of Science and Technology of P. R. China (MOST), 973 "Disaster mechanism and regulation on major plant diseases and insect pests", No.G2000016210
Author: SHI Ruixiang (1974-), Assitant Professor in database development and ecosystems. E-mail: shirx@igsnrr.ac.cn

Table 1 Summary of the SSDLPA_BaiyangLake_2002 metadata

Full name of dataset	Soil sample data for locust plague analysis around Baiyangdian lake in 2002		
Short name of dataset	SSDLPA_BaiyangLake_2002		
Author	SHI Ruixiang, Institute of Geographic Sciences and Natural Resources Research, CAS. shirx@igsnrr.ac.cn		
Geographical region	38º54′29″N-38º55′28″N, 115º50′11″E-115º51′16″E		
Year of the dataset	June 21-22, 2012		
Data format	SSDLPA_BAIYANGLAKE_2002.shp	Data Size	10.5 KB
Data publisher	Global Change Research Data Publishing and Repository, DOI: 10.3974/		
Data access and services platform	Global Change Research Data Publishing and Repository, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, http://www.geodoi.ac.cn National Data Sharing Infrastructure of Earth System Sciences of China, http://www.geodata.cn		
Academic editors	LIU Chuang, XU Xinliang, HE Shujin		
Data sharing policy	The author of the dataset agrees to publish the data here according to the Article I of Data Sharing Policy of the Global Change Data Publishing and Repository, which states that the dataset can be used freely for research, education, and decision making; any users for commercial uses should get formal permission from IGSNRR/CAS.		

main metadata elements of the SSDLPA_BaiyangLake_2002 dataset.

3 Methods

3.1 Sampling area

The sampling area is located in the west of Baiyangdian Lake. A total of 14 samples were collected, in which, 9 sampling points were from area with middle locust density on June 17, 2001, 5 sampling points were from area with high locust density on June 17, 2001. The locations of sampling points were shown in Figure 1.

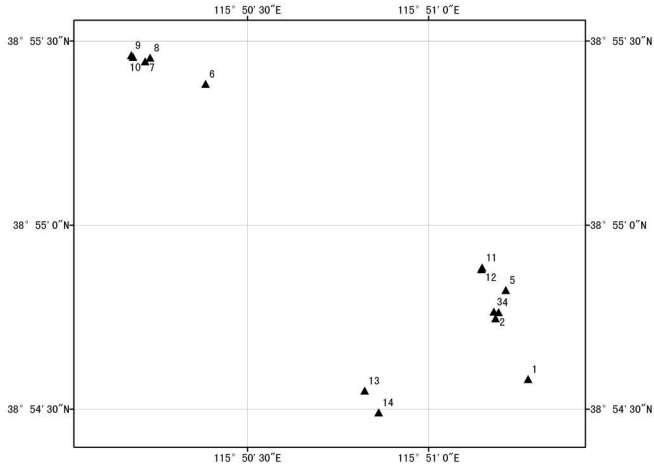


Figure 1 Locations of sampling points (SSDLPA_BaiyangLake_2002.shp)

3.2 Date of sampling collection

The soil was sampled on June 21-22, 2002. The soil samples from No.1 to No.10 were obtained on June 21. The others were acquired on June 22, 2002. It rained at night on June 21, 2002.

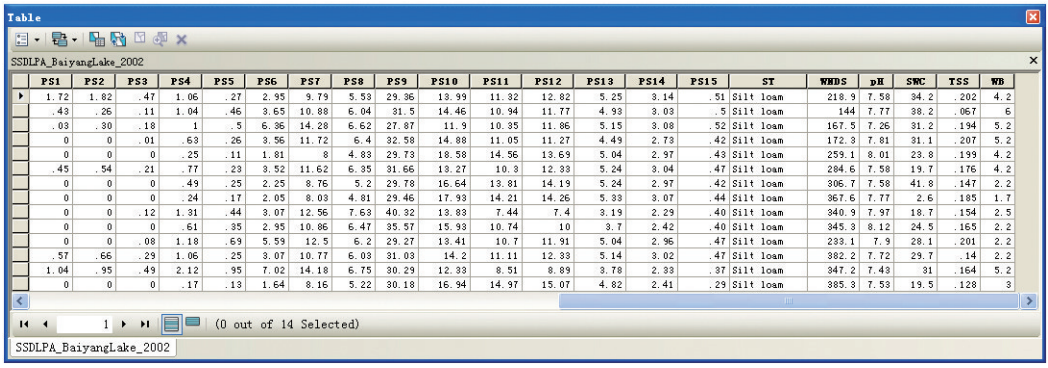
3.3 Sampling depth and laboratory for sample testing

Samples collection: Sampling depth: 2-6 cm below ground (the surface eluvia soil was removed before the soil was sampled)[2-6].

Data was abstracted from the collected samples in the Open Laboratory of Land Surface System, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences.

3.4 Methods for testing soil particle size distribution, soil water content, soil salinity and pH value

Methods for testing soil particle size distribution, soil water content, soil salinity and pH value were shown in references[1, 7-10]. The attribute data of soil sample were obtained (Figure 2).



Table

SSDLPA_BaiyangLake_2002

	PS1	PS2	PS3	PS4	PS5	PS6	PS7	PS8	PS9	PS10	PS11	PS12	PS13	PS14	PS15	ST	WNDS	pH	SWC	TSS	WB
▶	1.72	1.82	.47	1.06	.27	2.95	9.79	5.53	29.36	13.99	11.32	12.82	5.25	3.14	.51	Silt loam	218.9	7.58	34.2	.202	4.2
	.43	.26	.11	1.04	.46	3.65	10.88	6.04	31.5	14.46	10.94	11.77	4.93	3.03	.5	Silt loam	144	7.77	38.2	.067	6
	.03	.30	.18	1	.5	6.36	14.28	6.62	27.87	11.9	10.35	11.86	5.15	3.08	.52	Silt loam	167.5	7.26	31.2	.194	5.2
	0	0	.01	.63	.26	3.56	11.72	6.4	32.58	14.88	11.05	11.27	4.49	2.73	.42	Silt loam	172.3	7.81	31.1	.207	5.2
	0	0	0	.25	.11	1.81	8	4.83	29.73	18.58	14.56	13.69	5.04	2.97	.43	Silt loam	259.1	8.01	23.8	.199	4.2
	.45	.54	.21	.77	.23	3.52	11.62	6.35	31.66	13.27	10.3	12.33	5.24	3.04	.47	Silt loam	284.6	7.58	19.7	.176	4.2
	0	0	0	.49	.25	2.25	8.76	5.2	29.78	16.64	13.81	14.19	5.24	2.97	.42	Silt loam	306.7	7.58	41.8	.147	2.2
	0	0	0	.24	.17	2.05	8.03	4.81	29.46	17.93	14.21	14.26	5.33	3.07	.44	Silt loam	367.6	7.77	2.6	.185	1.7
	0	0	.12	1.31	.44	3.07	12.56	7.63	40.32	13.83	7.44	7.4	3.19	2.29	.40	Silt loam	340.9	7.97	18.7	.154	2.5
	0	0	0	.61	.35	2.95	10.86	6.47	35.57	15.93	10.74	10	3.7	2.42	.40	Silt loam	345.3	8.12	24.5	.165	2.2
	0	0	.08	1.18	.69	5.59	12.5	6.2	29.27	13.41	10.7	11.91	5.04	2.96	.47	Silt loam	239.1	7.9	28.1	.201	2.2
	.57	.66	.29	1.06	.25	3.07	10.77	6.03	31.03	14.2	11.11	12.33	5.14	3.02	.47	Silt loam	382.2	7.72	29.7	.14	2.2
	1.04	.95	.49	2.12	.95	7.02	14.18	6.75	30.29	12.33	8.51	8.89	3.78	2.33	.37	Silt loam	347.2	7.43	31	.164	5.2
	0	0	0	.17	.13	1.64	8.16	5.22	30.18	16.94	14.97	15.07	4.82	2.41	.29	Silt loam	385.3	7.53	19.5	.128	3

1 (0 out of 14 Selected)

SSDLPA_BaiyangLake_2002

Figure 2 The attribute data of soil samples (See the reference [1])

4 Data unit and related instructions

In the attribute database of soil, the attribute data includes items as soil texture (ST), pH value (pH), soil water content (SWC) and total soil salinity (TSS). The weight units of net dried soil (WNDS) and bag (WB) are grams (g); the unit of soil water content is %; the unit of total salt salinity is %. The soil particle size is divided into 15 grades as Table 2.

Table 2 Grades of the soil particle size

PS No.	Size (μm)	PS No.	Size (μm)
1	1000.0-2000.0	2	600.0-1000.0
3	500.0-600.0	4	250.0-500.0
5	200.0-250.0	6	100.0-200.0
7	60.0-100.0	8	50.0-60.0
9	20.0-50.0	10	10.0-20.0
11	5.0-10.0	12	2.0-5.0
13	1.0-2.0	14	0.5-1.0
15	0.2-0.5		

5 Conclusions and acknowledgements

The data are the soil sampling data in the locust plague area of Baiyangdian Lake in June 2002. They are the fundamental data for studies on the soil properties in this region.

Thanks to Prof. XIE Baoyu and Dr. JI Rong from Institute of Zoological, CAS and Dr. LIU Tuanjie and Dr. ZHANG Xia from Institute of Remote Sensing Application, CAS for their help in the soil survey.

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