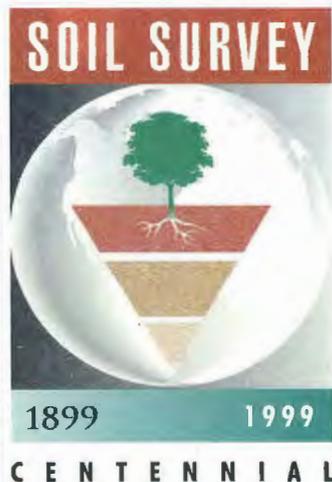


1999 Soil Survey Centennial Planning Guide

Celebrating the Centennial of the National Cooperative Soil Survey Program



*“Treat the Earth well: it was not given to you by your parents,
it was loaned to you by your children.”*

Ancient American Indian Proverb

What is the Soil Survey?



The National Cooperative Soil Survey (NCSS) is a nationwide partnership of Federal, regional, State, and local agencies and institutions. This partnership works together to investigate, inventory, document, classify, and interpret soils and to disseminate, publish, and promote the use of information about the soils of the United States and its trust territories. The activities of the NCSS are carried out at national, regional, and State levels.

NRCS is responsible for the leadership of soil survey activities of the U.S. Department of Agriculture, for the leadership and coordination of NCSS activities, and for the extension of soil survey technology to global applications.

A major responsibility of NRCS is to conduct soil surveys on private lands in the United States. Soil surveys contain information in the form of detailed soil maps, data tables, and text narratives that can be used in land-planning programs. A soil survey contains predictions of soil behavior for selected land uses and highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are interpreted for many different users. Farmers, foresters, and agronomists can use a soil survey to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.



When an endeavor reaches a milestone, we customarily congratulate everyone involved in it and the National Cooperative Soil Survey is no different.

For 100 years, the folks of the Soil Survey have done an outstanding job of making us all aware that soil is more than something under foot. Thanks to their efforts, people inside as well as outside of agriculture can experience the well-being and prosperity that can come from an appreciation of soil.

The Soil Survey is commemorating its anniversary by issuing a planner that gives us a close look at some of our Nation's most important soils, giving us the information we need to use the land wisely and protect it for future generations.

This planner is too important and informative simply to hang on a wall. Share it with your family and friends. I know that everyone who reads it will gain an appreciation for the necessity and diversity of our Nation's soil.

Dan Glickman
Secretary of Agriculture

Farmers and ranchers are often called "people of the soil." At USDA, we know the expression applies to everyone. Our reliance on the soil and what it produces makes us all "people of the soil."

Despite our close connections to the soil, most people don't know what soil looks like below its surface, and are unfamiliar with the enormous variety of soils that our Nation holds. I am pleased that the National Cooperative Soil Survey is marking its 100th year of service with the release of this unique planner.

This planner is more than a collection of photos, words, and maps. It represents a century of sound, scientific study and the efforts of people who dedicate themselves to guiding our uses of the land. To them, we owe a great debt of gratitude and best wishes for continued success.

Richard Rominger
Deputy Secretary of Agriculture



During the past 100 years, the people of the National Cooperative Soil Survey have done much more than look at the land. They have seen changes in the demands that we make of the land and done their best to guide us as we strive to make the right decisions about land use. They also have shown us how deeply our lives are connected to the land and advised us about how to use the land wisely.

I ask you to take a few quiet moments and pay close attention to the information that the Soil Survey has so well presented in this planner. On the maps, locate where you live; read the descriptions of the 12 soil orders; and consider what the soil offers you: the security that comes from a steady supply of food, a place to build your home, and so much more. As you do these things, I guarantee that you will become more aware of how you and your community are linked to the land.

That linkage and making us aware of it are just two of the reasons why the National Cooperative Soil Survey is so important. The Soil Survey is committed to making sure that this generation leaves a proud legacy on the land for the next 100 years and beyond. I encourage you to learn more about the Soil Survey, become more familiar with soils where you live, and use this planner as a starting point for your personal commitment to conserving and protecting soil.

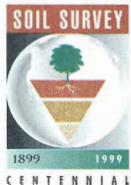
James R. Lyons
Under Secretary for Natural
Resources and Environment

The National Cooperative Soil Survey has reached the century mark. In that time, it has exceeded the mandate it received from Congress to join with State governments and land-grant universities to investigate and take inventory of the Nation's soils.

Since its inception, the National Cooperative Soil Survey has been a dynamic endeavor. Starting with the first soil surveys conducted in 1899 in the Pecos Valley of New Mexico, the Salt Lake Valley of Utah, the Connecticut Valley of Connecticut and Massachusetts, and in Cecil County, Maryland, the survey has evolved into a comprehensive system that is based on sound science and that keeps a continuing commitment to the study, protection, and preservation of our Nation's soil.

This soil orders planner was created as part of the Soil Survey Centennial celebration. In addition to highlighting each month one of America's 12 soil orders, this planner commemorates a Federal, State, and local partnership that has generated a vast amount of information about the Nation's soils for 100 years and is still going strong. In this centennial year, we extend our sincere appreciation to the many dedicated people who have helped make the National Cooperative Soil Survey a success.

Pearlie S. Reed
Chief
Natural Resources
Conservation Service



Soil Science is a discipline that is vital to the Earth's survival and prosperity. The Soil Science Society of America (SSSA) strives to ensure that society's needs for knowledge about the vital soil resource and expertise for the wise use and management of soils are met.

The Society aims to advance and serve soil science in all its forms. The SSSA intends to foster the legitimacy and embellish the image of soil science and to promote its rightful place among the sciences and professions contributing to the sustainable management of the natural resources base from which society's well-being is derived and upon which it is dependent. The Society serves both the discipline and profession of soil science. For information about the SSSA, visit our World Wide Web site <<http://www.soils.org/sssa.html>> or contact the Soil Science Society of America, 677 South Segoe Road, Madison, WI 53711-1086; phone 608-273-8095.

A handwritten signature in black ink that reads "Gary W. Petersen".

Gary W. Petersen
President, SSSA

Soils of the United States

Many have marveled at the beauty of the American landscape as seen through satellite images. These scenic wonders delight the eyes when one travels by road, rail, or air. Few realize that beneath the ground is another world of beauty and richness, the source of our agricultural and environmental bounty—the soil. Soil resources are the roots of the wealth and heritage of the Nation. Our rich soil fed and helped clothe our ancestors. The U.S. Department of Agriculture is committed to maintaining soil quality through wise management to help feed and clothe future generations.

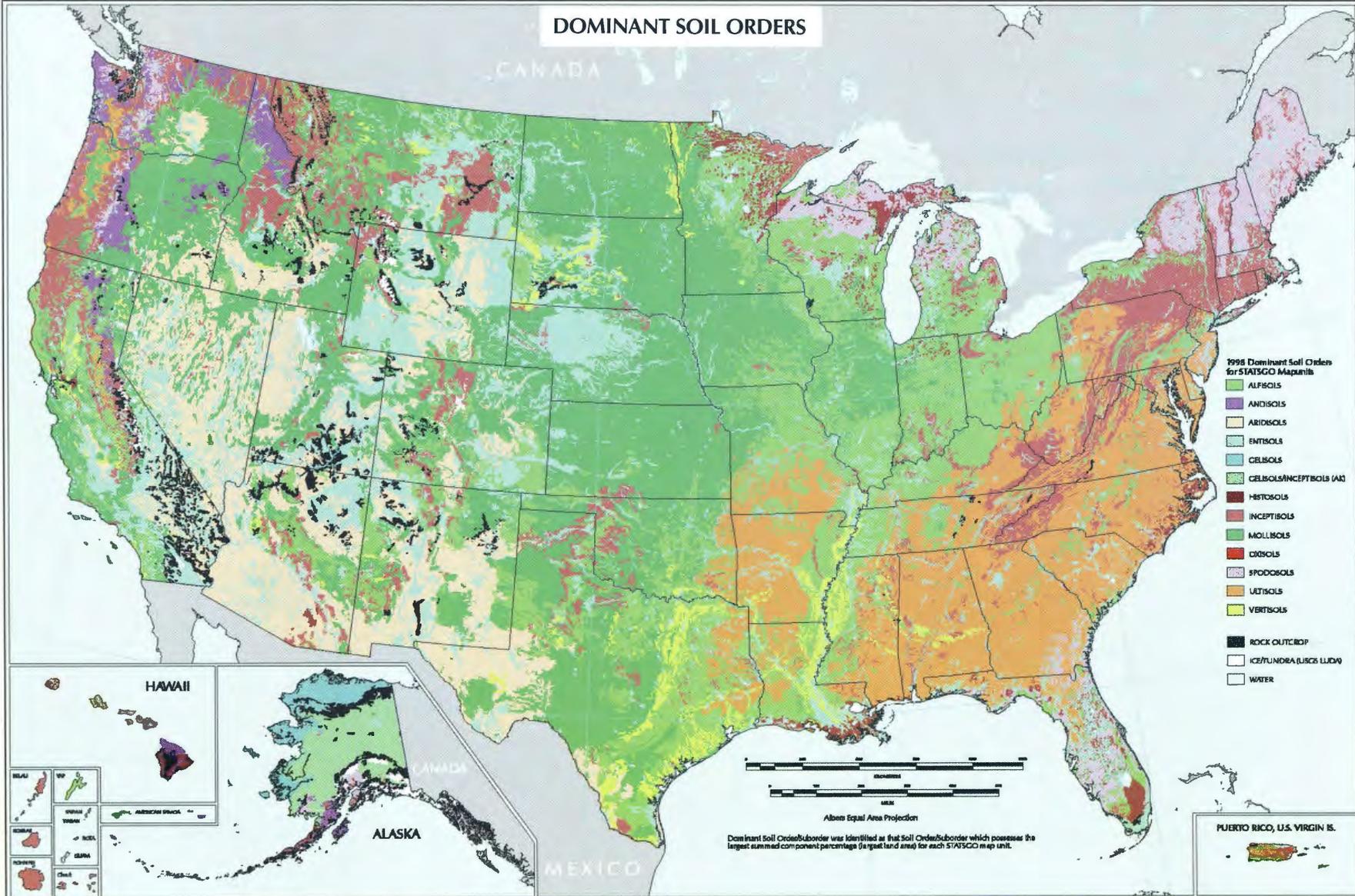
Of the 18,000 different soils in the United States, each has distinct properties that determine its potential for human use. For example, dry soils of deserts and soils on steep slopes are best retained for wilderness, wildlife management, watershed protection, or other non-intensive uses. Soils on gentle slopes in areas of favorable climate can be used for intensive agriculture. Some soils, such as those in wetlands, have unique environmental functions that must be respected and preserved. To maintain ecological stability, we must match land use to soil properties. To do this, we must understand soils, know where they occur on the landscape, and evaluate their unique properties and limitations.

Through its Soil Survey Program, the Natural Resources Conservation Service (NRCS) studies and inventories the soil resources of the Nation. The agency uses this data to assist land users in managing and conserving their soils. A soil classification system, Soil Taxonomy, similar to taxonomic systems used to classify plants and animals, helps to organize our knowledge by placing each of the 18,000 soils found on the American landscape into 1 of 12 orders. In a hierarchical system, each order is then subdivided into suborders, great groups, and families.

Name of Order	Formative Element	Meaning of Formative Element
Alfisols	Alf	From archaic soil science term “pedalfer,” (Al, aluminum and Fe, iron)
Andisols	And	Japanese “ ando ” for black
Aridisols	Arid	Latin “ aridus ” for dry
Entisols	Ent	From “recent”
Gelisols	Gel	Latin “ gelare ” for to freeze
Histosols	Hist	Greek “ histos ” for tissue
Inceptisols	Incept	Latin “ inceptum ” for beginning
Mollisols	Moll	Latin “ mollis ” for soft
Oxisols	Oxi	French “ oxide ” for oxides
Spodosols	Spodo	Greek “ spodos ” for wood ash
Ultisols	Ulti	Latin “ ultimus ” for ultimate
Vertisols	Verti	Latin “ vertare ” for turn over

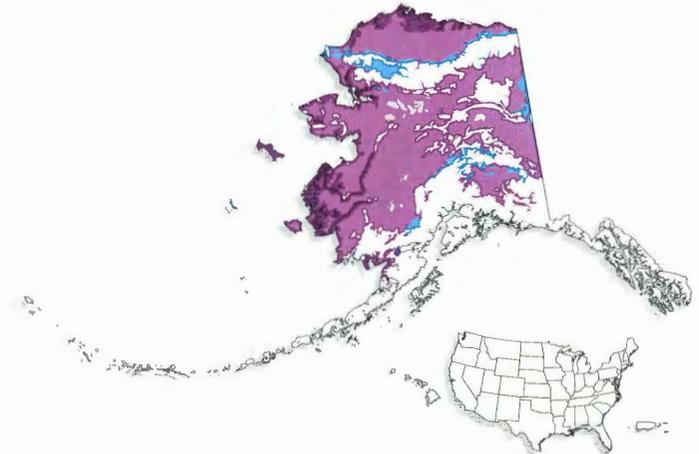
In this planner, illustrations are used to highlight a soil order each month with images of a typical landscape and typical land usage accompanied by a map of the United States and its territories showing the distribution of the suborders.

US Soil Map



The Gelisols

These are the soils of tundra regions, mainly in Alaska, which remain frozen for long periods of the year. The frozen subsoil, called permafrost, thaws periodically. The alternate thawing and freezing of ice layers results in special features in the soil, such as frost-heaving, displacement of materials and, on the soil surface, deformed landscape or thermo-karst features seen in the photograph. For many of these soils, the extremely slow decomposition of organic matter due to cold temperatures results in the formation of a muck or peat layer at the surface.



DOMINANT SUBORDERS

- Histels
- Orthels
- Turbels

January 1999

December

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20	21	22	23	24	25	26
27	28	29	30	31		

February

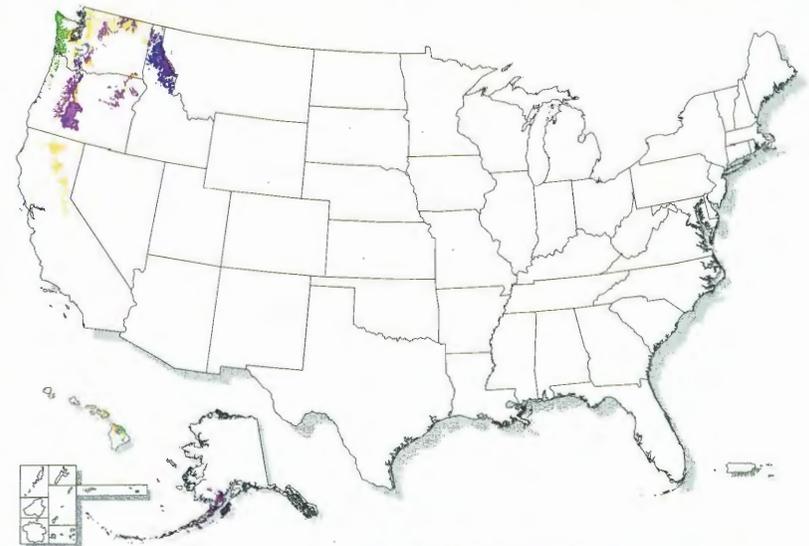
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<p><i>The Agriculture Appropriation Act of 1896 authorized "investigations of the relation of soils to climate and organic life" by the Department of Agricultural Soils, Weather Bureau. The National Soil Survey Laboratory opened in January 1976 in Lincoln, NE, eventually consolidating three smaller soil survey labs.</i></p>					<p>1 New Year's Day</p>	<p>2</p>
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	<p>18 Martin Luther King, Jr.'s Birthday</p>	19	20	21	22	23
24	25	26	27	28	29	30
<p>January 26-29, National Society of Consulting Soil Scientists, Inc. Meeting, Washington, DC</p>						
31	<p><i>Soil Survey parties began work in 1899 under the Division of Soils in the Department of Agriculture in cooperation with State Universities. The first soil surveys were in the Pecos Valley of New Mexico, the Salt Lake Valley in Utah, the Connecticut Valley of Connecticut and Massachusetts, and in Cecil County, Maryland.</i></p>					

The Andisols

Andisols form in material that has recently been ejected from volcanoes and are commonly found on land surrounding the Pacific Rim, where a chain of volcanoes rims the Pacific Ocean. Many volcanoes have erupted several times during the past hundred to million years. As a result, Andisols often have distinct layers. As plants grow, die, and decompose on the soil during long intervals between successive eruptions, organic matter builds up and gives Andisols their characteristic dark color. On steep slopes, the soils are generally under forest. On more gentle slopes, Andisols are highly valued for agriculture because of their innate fertility and ability to hold large amounts of water.



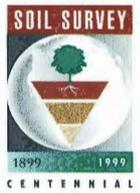
DOMINANT SUBORDERS

- | | | |
|--|--|---|
|  Aquands |  Udands |  Xerands |
|  Cryands |  Ustands | |
|  Torrands |  Vitrands | |

February 1999

January
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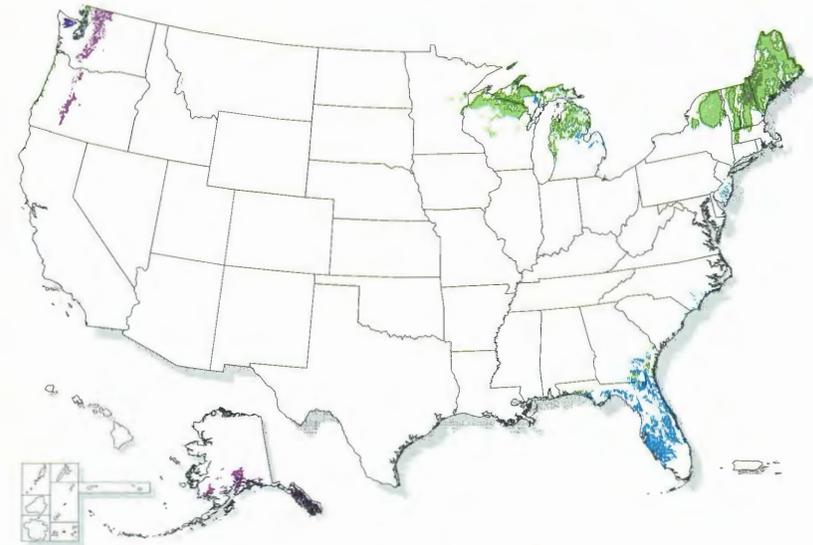
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28 29 30 31



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14	15 Presidents Day	16	17	18	19	20
21	22	23	24	25	26	27
	February 22-25, NRCS State Soil Scientists Meeting, Memphis, TN					
28	<p><i>Sets of Instructions to Field Parties were issued in 1902 and included a list of the 192 soil types recognized at that time. The soil series concept was presented in the instructions in 1903. South Dakota established Houdek as the State Soil in February 1990.</i></p>					

The Spodosols

These soils are common in humid, cool, temperate areas, such as in the north-eastern and northwestern parts of the United States, and in some sandy areas near the southeast coast. Spodosols typically have a dark surface layer high in organic matter. Below the surface is a distinctive bleached, ash-gray horizon, or layer, from which organic matter and iron have been removed (the soil gets its name from the bleached horizon). The soils are acid and generally under forest. Although some Spodosols are used for agriculture, this requires very careful water and fertility management.



DOMINANT SUBORDERS

 Aquods	 Orthods
 Cryods	
 Humods	

March 1999

February

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April

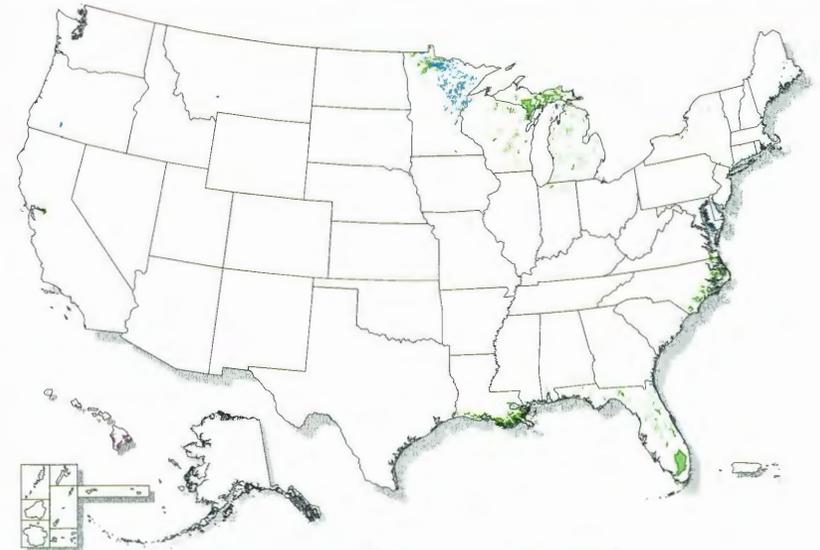
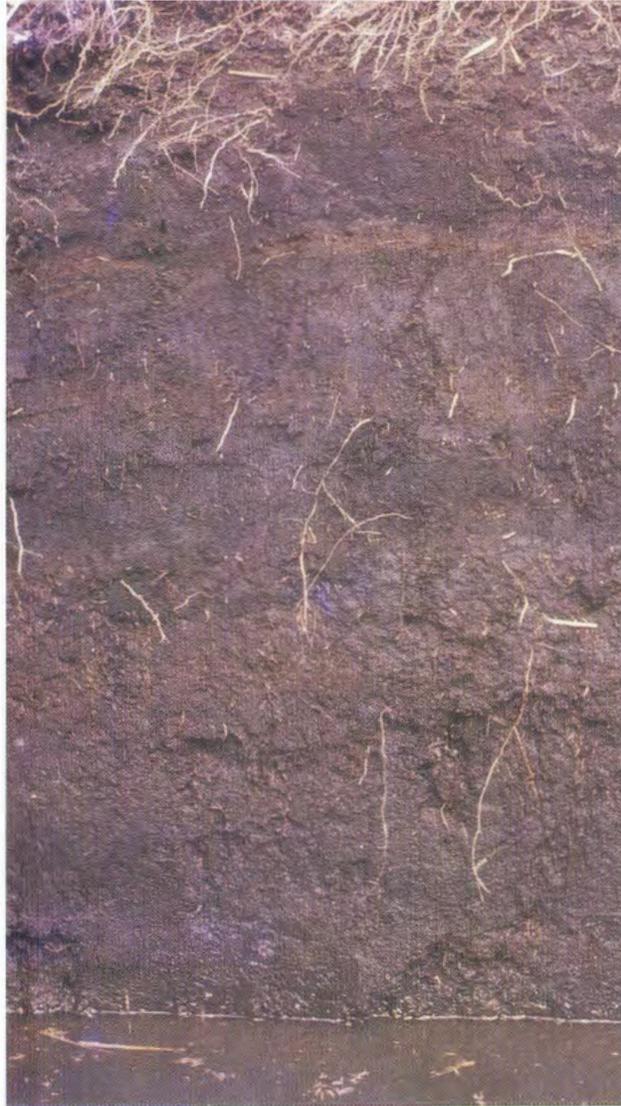
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18	19	20	21	22	23	24
25	26	27	28	29	30	



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
					March 25-28 National Science Teachers Association Annual Meeting, Boston, MA	
28	29	30	31	<i>Vermont established Tunbridge as the State Soil in March 1985. Arkansas established Stuttgart as the State Soil in March 1997.</i>		
March 25-28 Science Teachers						

The Histosols

Histosols are composed almost entirely of organic matter in all stages of decomposition. They occur in many environments, from Alaska to the tropical islands of Hawaii and Puerto Rico. In the cold regions, low temperatures retard organic matter decomposition. In warm regions, Histosols develop in areas where the soil is saturated almost constantly with water. They typically occur along coasts or in depressions near large river systems. Constant saturation of the soil or excessively cold temperatures prevent organic matter from decomposing. Histosols form many areas of valuable wetlands. They are fragile soils. If drained, they can decompose rapidly, causing the land surface to subside.



DOMINANT SUBORDERS

- Fibrists
- Saprists
- Folists
- Hemists

April 1999

March

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May

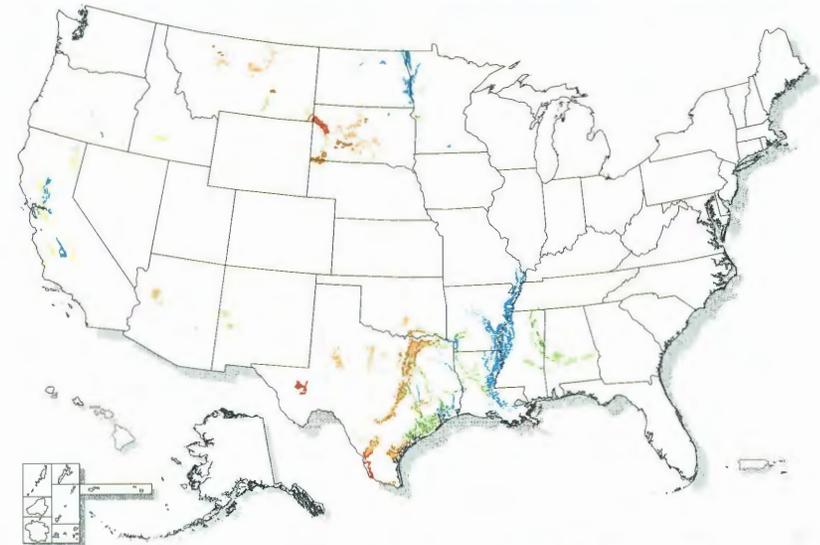
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23	24	25	26	27	28	29
30	31					



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<i>Oklahoma established Port as the State Soil in April 1987. Kansas established Harney and Kentucky established Crider as their State Soils in April 1990. West Virginia established Monongahela and Alabama established Bama as their State Soils in April 1997.</i>				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22 Earth Day	23	24
April 19-23, Agriculture-Earth Partnership, National Mall Event						
25	26	27	28	29	30 National Arbor Day Celebration	
April 25-May 2, Soil Stewardship Week Theme: "In the Children's Hands"						

The Vertisols

These soils are characterized by the presence of a mineral in the clay fraction called montmorillonite. This mineral swells markedly when moist and shrinks when dry. As a result, Vertisols develop wide cracks upon drying. When the soil is moistened, the cracks close. Swelling and shrinking of the subsoil results in the formation of shiny surfaces called slickensides. Structures built on these soils, such as fences, buildings, and roads, may be displaced or cracked due to the swelling pressure. The Blacklands of Texas, which run from north to south in a narrow band from the Texas/Oklahoma border through Dallas/Ft. Worth to San Antonio, are dominated by such soils.



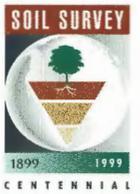
DOMINANT SUBORDERS

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|  Aquerts |  Uderts |
|  Cryerts |  Usterts |
|  Torrerts |  Xererts |

May 1999

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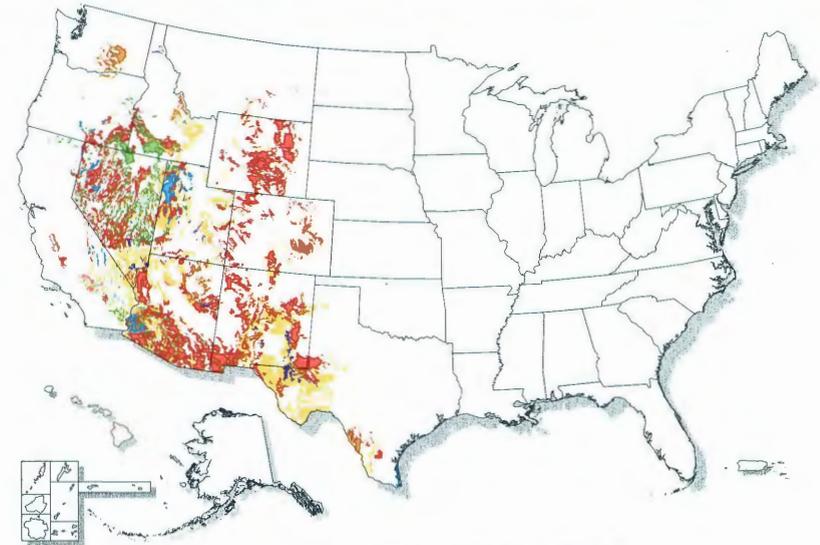
June
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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<p><i>In 1927 Curtis F. Marbut presented a system of soil classification to the International Congress of Soil Science that was later published in the Agricultural Atlas of 1935. The system defined classes on the basis of soil characteristics and was one of the first with a formal hierarchy of categories.</i></p>						<p>1 April 26-May 2 Soil Stewardship Week</p>
2 April 26-May 2 Soil Stewardship Week	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
<p>May 23-29, International Soil Conservation Organization meeting at Purdue University, West Lafayette, Indiana</p>						
30	31 Memorial Day	<p><i>Florida established Myakka as the State Soil in May 1989. Massachusetts established Paxton as the State Soil in May 1991.</i></p>				

The Aridisols

Aridisols are the dry soils of deserts. They do not receive enough rain to permit normal agriculture. In the dry desert climate, high evaporation causes salts to accumulate in the soil. The soils may have horizons with accumulation of carbonates, gypsum, and/or halite, or sodium chloride. Salinization, or salt build-up, is the greatest danger in using Aridisols for irrigated agriculture. The desert margin areas may be used for grazing, but most areas of true deserts are retained as wilderness.



DOMINANT SUBORDERS

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|---------|--------|--------|
| Argids | Cryids | Salids |
| Calcids | Durids | |
| Cambids | Gypsid | |

June 1999

May

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23	24	25	26	27	28	29
30	31					

July

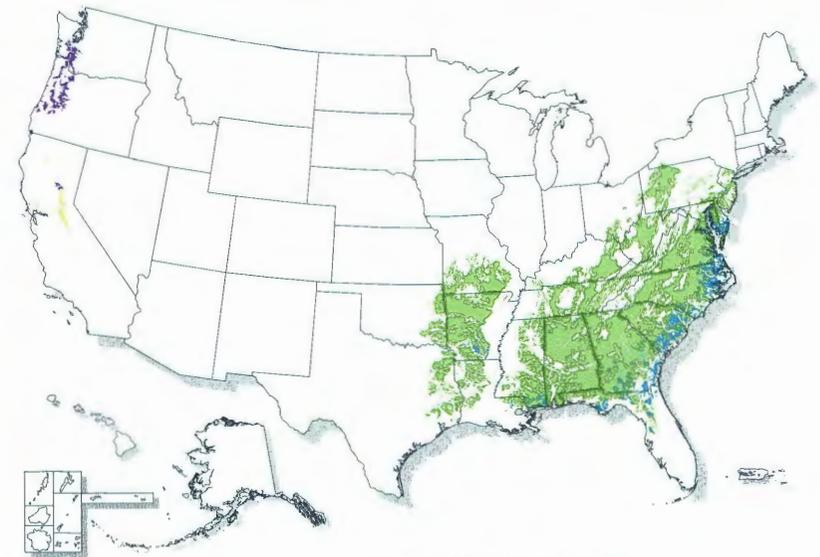
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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<i>Nebraska established Holdrege as the State Soil in June 1979.</i>	1	2	3	4	5	
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June 6-9, Keep America Growing Conference, Philadelphia, PA						
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	<i>The first Soil Survey Congress was held in the United States in 1927. Participants traveled by train across the United States and parts of Canada.</i>		
June 27-July 2, National Cooperative Soil Survey Conference, St. Louis, MO						

The Ultisols

The Ultisols are highly weathered soils. However, unlike the Oxisols, Ultisols have a subsurface horizon that is enriched with clay. The surface soil usually is coarser-textured, making it easy to till, while the clay-enriched subsoil stores water and nutrients for plant roots to use. Ultisols occupy large areas near the southeastern coast of the United States. They also occur in Hawaii and Puerto Rico.



DOMINANT SUBORDERS

- Aquults
- Humults
- Udults
- Ustults
- Xerults

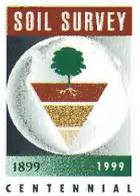
July 1999

June

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August

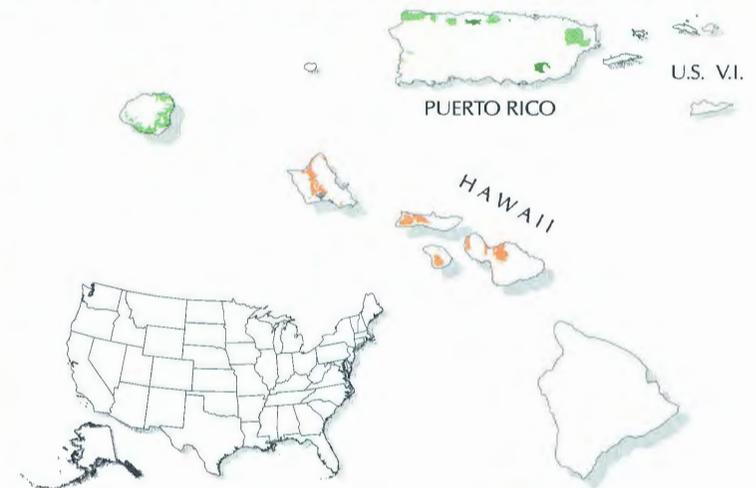
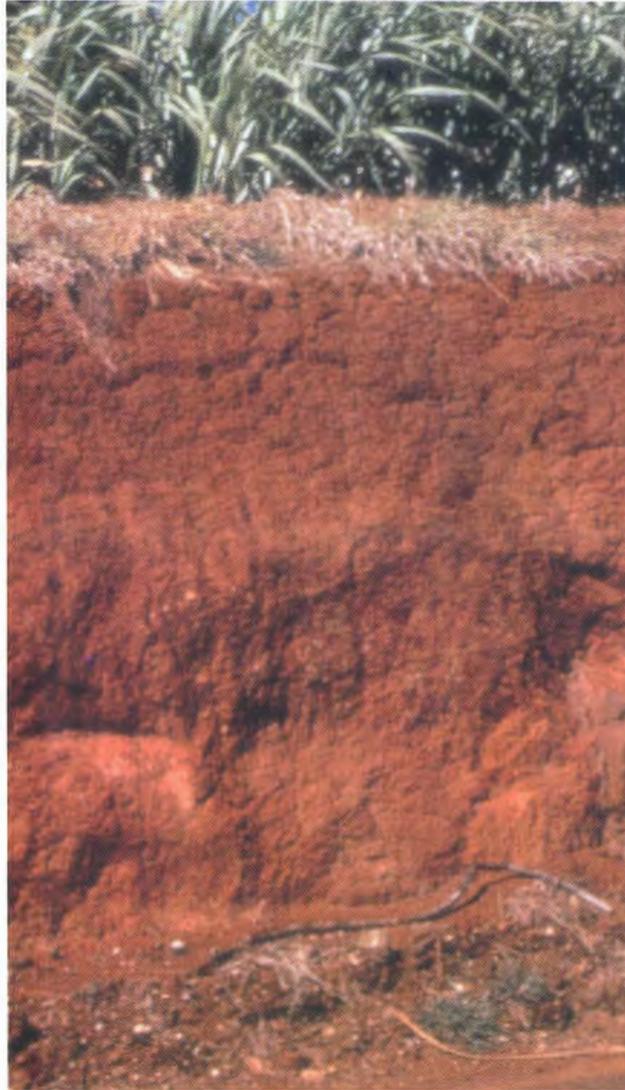
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29	30	31				



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<p><i>The Yearbook of Agriculture of 1938 included a revision of Curtis F. Marbut's Soil Classification System. It was written by Charles E. Kellogg, who was appointed to take over the Bureau of Soils when Marbut retired in 1934. California established San Joaquin as the State Soil in 1997.</i></p>				<p>1</p>	<p>2</p>	<p>3</p>
				<p>June 27-July 2 National Cooperative Soil Survey Conference St. Louis, MO</p>		
<p>4</p> <p>Independence Day</p>	<p>5</p>	<p>6</p>	<p>7</p>	<p>8</p>	<p>9</p>	<p>10</p>
<p>11</p>	<p>12</p>	<p>13</p>	<p>14</p>	<p>15</p>	<p>16</p>	<p>17</p>
<p>18</p>	<p>19</p>	<p>20</p>	<p>21</p>	<p>22</p>	<p>23</p>	<p>24</p>
<p>25</p>	<p>26</p>	<p>27</p>	<p>28</p>	<p>29</p>	<p>30</p>	<p>31</p>
<p>July 27-August 1, Nationwide Envirothon, Humboldt State University, Arcadia, CA</p>						

The Oxisols

The Oxisols occur only in the tropics. They have been recognized in Hawaii and Puerto Rico. Oxisols are intensely weathered, resulting in colors that are yellow to red from the accumulation of large amounts of iron oxides (hence the name Oxisols). Even if they are clayey, their ability to retain nutrients and water is low, as the clay fraction consists of iron oxides and kaolinite. A variety of tropical crops can be grown in humid areas, but successful agriculture requires the generous application of fertilizer.



DOMINANT SUBORDERS

- Aquox
- Perox
- Torrox
- Udox
- Ustox

August 1999

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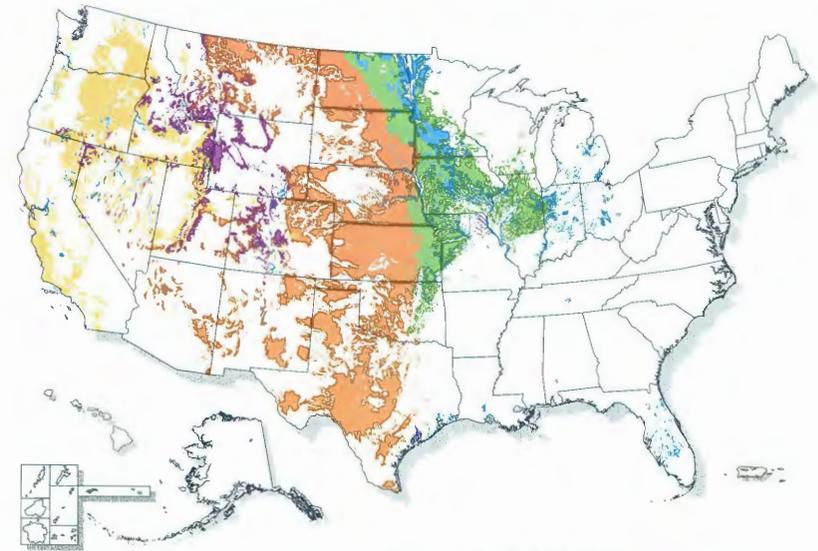
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19 20 21 22 23 24 25
26 27 28 29 30



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 July 27-August 1 Envirothon	2	3	4	5	6	7
8 August 8-11, Soil & Water Conservation Society Meeting, Biloxi, Mississippi	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27 August 26-30 North American Association for Environmental Education Annual Meeting, Cincinnati, OH	28
29 August 26-30 NAAEE Annual Meeting Cincinnati, OH	30	31 <i>Hugh Hammond Bennett left the soil survey program of the Bureau of Soils in 1932 to become the first Chief of the Soil Erosion Service, which later became the Soil Conservation Service and is now the Natural Resources Conservation Service.</i>				

The Mollisols

Mollisols have a distinctive dark surface horizon that is enriched with organic matter. This surface layer has a soft, fluffy feel. Mollisols are naturally fertile and generally can hold large amounts of water. These soils are prized for agriculture. They typically produce high yields of corn, soybeans, wheat, and other food crops. In some drier areas, irrigation is necessary for optimum productivity.



DOMINANT SUBORDERS

- | | | |
|---------|----------|---------|
| Albolls | Rendolls | Xerolls |
| Aquolls | Udolls | |
| Cryolls | Ustolls | |

September 1999

August
S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31

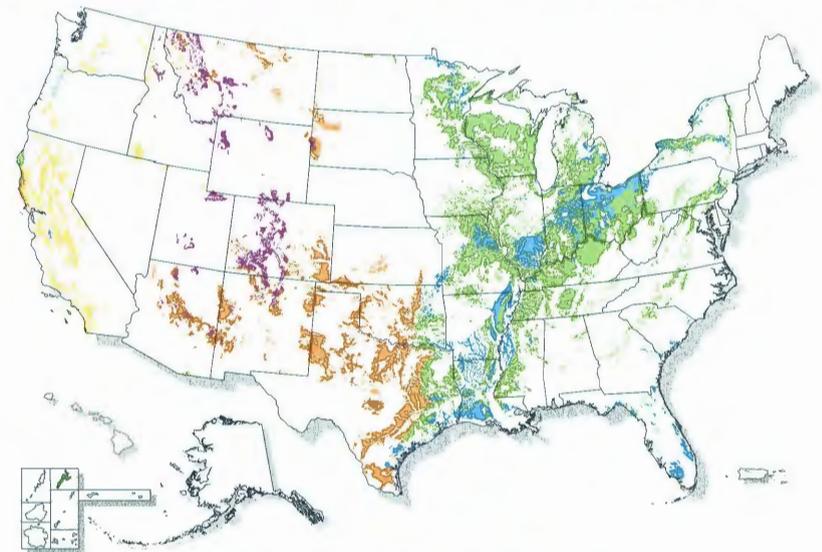
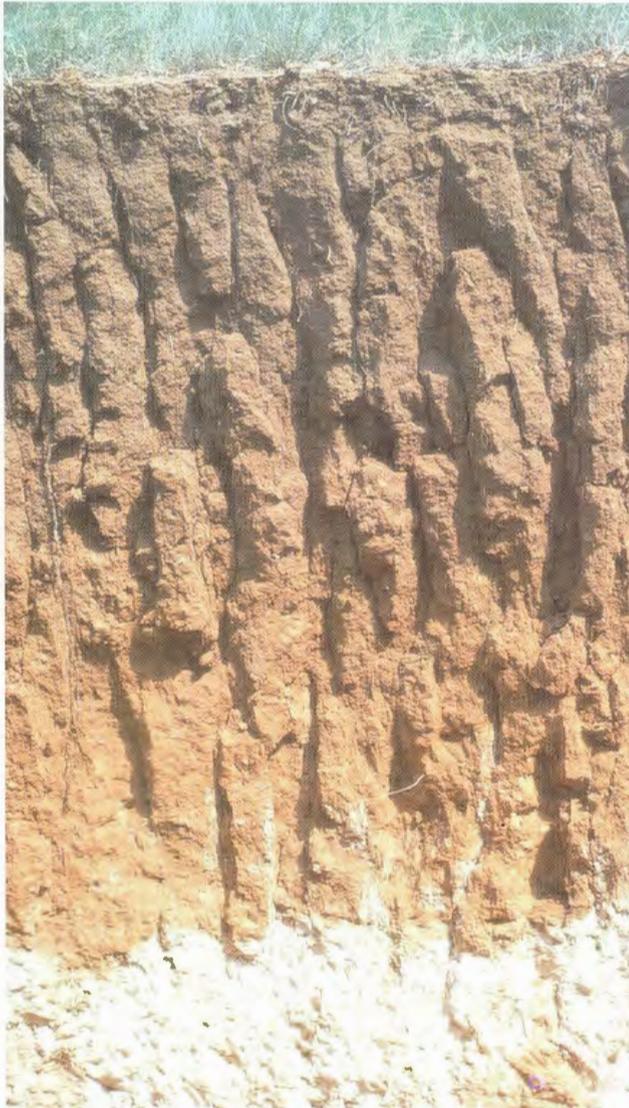
October
S M T W T F S
1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<i>The first Soil Taxonomy approximation of September 1951 evolved into the publication of <u>Soil Taxonomy</u> in 1975, with 10 soil orders, and publication in 1998, with 12 soil orders. The seventh approximation of 1960 was modified in 1965 with a supplement adopted for soil survey work.</i>						
5	6 Labor Day	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	<i>Wisconsin established Antigo as the State Soil in September 1983.</i>	

The Alfisols

Alfisols are very productive soils if there is an adequate supply of moisture. Countries fortunate enough to have large areas of Alfisols and Mollisols typically denote them as “the breadbasket.” Alfisols have the potential to be productive for thousands of years if they are conserved and managed properly. However, if mismanaged, they can degrade rapidly through wind and water erosion.



DOMINANT SUBORDERS

- | | |
|---|---|
|  Aqualfs |  Ustalfs |
|  Cryalfs |  Xeralfs |
|  Udalfs | |

October 1999

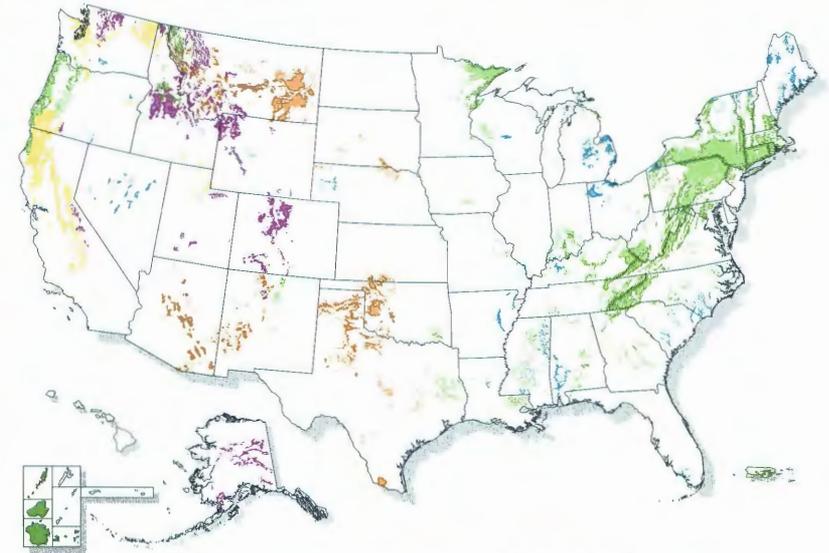
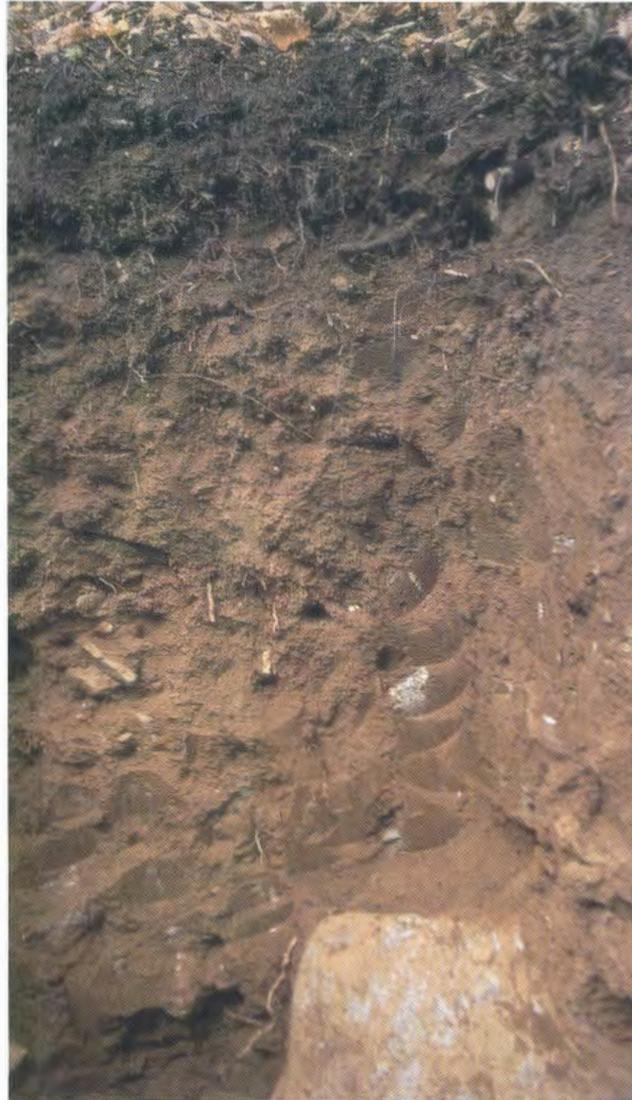
September							November								
S	M	T	W	T	F	S	S	M	T	W	T	F	S		
			1	2	3	4				1	2	3	4	5	6
5	6	7	8	9	10	11	7	8	9	10	11	12	13		
12	13	14	15	16	17	18	14	15	16	17	18	19	20		
19	20	21	22	23	24	25	21	22	23	24	25	26	27		
26	27	28	29	30			28	29	30						



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<i>The responsibility of the National Cooperative Soil Survey Program was assigned to the Soil Conservation Service on October 14, 1952.</i>					1	2
3	4	5	6	7	8	9
10	11 Columbus Day	12	13	14	15 October 15-17, American Association for the Advancement of Science Celebration The National Mall, Washington, DC	16 October 14-17, Girl Scouts of the USA Triennial Meeting, Kansas City, MO
17 October 15-17 AAAS Celebration October 14-17 Girl Scouts	18	19	20	21	22	23
24	25	26	27	28	29	30
			October 27-29, FFA Career Show, Louisville, KY			
			October 27-30, National Association of Biology Teachers Annual Meeting, Salt Lake City, UT			
31 October 31- November 4 Soil Science Society	<i>The first soil surveys used a plane-table and alidade. Use of aerial photography was first tested in 1923 in Louisiana and was first used for soil survey work in Indiana in 1929. The Charles Lindbergh Flying Society provided some of the early photography.</i>					

The Inceptisols

The prefix “incepti” connotes that Inceptisols are young or in the beginning stage of soil formation. Many Inceptisols are shallow to bedrock or occur on steeply sloping land. Others occur on stream terraces that are subject to only intermittent flooding. Inceptisols occur in a wide variety of climates, from frigid Alaska to tropical Hawaii. Large areas of these soils remain in forest. Where slope and other conditions permit, some Inceptisols of humid regions are used for agriculture. In semi-arid regions, most Inceptisols are used for grazing lands.



DOMINANT SUBORDERS

- | | |
|-----------|---------|
| Anthrepts | Udepts |
| Aquepts | Ustepts |
| Cryepts | Xerepts |

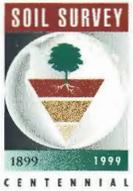
November 1999

October

S	M	T	W	T	F	S
				1	2	
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

December

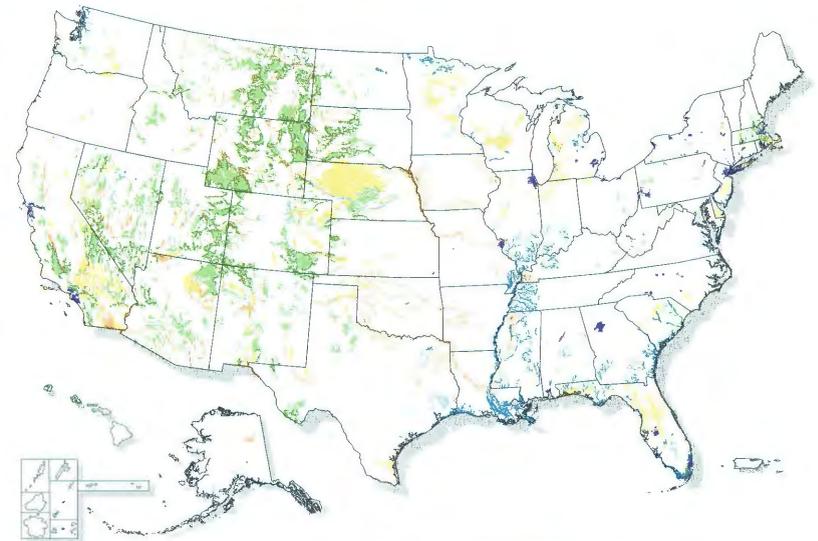
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
October 31-November 4, Soil Science Society of America meeting, Salt Lake City, UT						
7	8	9	10	11 Veterans Day	12	13
14	15	16	17	18	19	20
21	22	23	24	25 Thanksgiving Day	26	27
28	29	30	<i>The Bureau of Chemistry and Soils published the Soil Survey Manual in 1937. This was the first formal guide used by the Division of Soil Survey. The Soil Survey Manual was updated or revised in 1952, 1965, and 1993.</i>			

The Entisols

The Entisols are young or recent soils that show little evidence of soil formation. They are common on alluvial deposits, which are subject to frequent flooding, and on steep slopes, where conditions for deep weathering and soil formation are reduced. They also form on very resistant geologic material, such as deep deposits of coarse sand. Entisols occur throughout the United States in a wide range of climatic conditions. Some Entisols formed in alluvium along streams are very valuable for agriculture. However, protection from flooding is required. Many areas of wet Entisols support hydrophytic vegetation and form valuable wetlands.



DOMINANT SUBORDERS

- | | |
|--|--|
|  Aquents |  Orthents |
|  Arenets |  Psammentis |
|  Fluvents | |



Natural Resources Conservation Service

December 1999

November

S	M	T	W	T	F	S
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

January

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<i>Michigan established Kalkaska as the State Soil in December 1990.</i>			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25 Christmas Day
26	27	28	29	30	31	

To learn more about your soil, contact your local Natural Resources Conservation Service office. It's listed in the telephone book under U.S. Government, Department of Agriculture, or find it at the following Internet address: <<http://www.nrcs.usda.gov>> where you will follow the path, "about NRCS/our organization/state offices."

For more information about events relating to the soil contact:

American Association for the Advancement of Science
1200 New York Avenue, NW
Washington, DC 20005
Girl Scouts of the USA
Triennial Meeting
420 5th Avenue
New York, NY 10018-2798

FFA National Career Show
National FFA Center
P.O. Box 68690
Indianapolis, IN 46268-3589

Keep America Growing Conference
123 Brick Church Road
Fairfax, VT 05454

National Arbor Day Foundation
National Arbor Day
100 Arbor Avenue
Nebraska City, NE 68410

National Association of Biology Teachers (NABT)
Annual Meeting
11250 Roger Bacon Drive #19
Reston, VA 20190-5202

Natural Resources Conservation Service (NRCS)
Attn: Conservation Communications Staff
P.O. Box 2890
Washington, DC 20013

National Science Teachers Association
1840 Wilson Boulevard
Arlington, VA 22201-3000

North American Association for Environmental Education
1255 23rd St. NW
Suite 400
Washington DC 20037

Soil Science Society of America
677 South Segoe Road
Madison, WI 53711-1086

Soil Stewardship Week and Envirothon
National Association of Conservation Districts
P.O. Box 855
League City, TX 77574

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