such as soil moisture stress, pests, diseases, etc., that reduce yield. Both the positive and negative factors are interdependent and interact, making yield predictions complicated. A good candidate for chaos theory?

Chaos theory provides a new tool for investigation. I hope some smart graduate student will use it to help us better understand the processes that control soils, their behavior, and their response to management.

The 1957 Conservation Needs Inventory:
A Historical Aspect of Soil Survey

Arthur D. Kuhl

Resources Inventory and Soil Survey have had a close relationship in the Soil Conservation Service (SCS) for the past 30 yr. Both of these activities inventory and monitor conditions on the land. Soils data is a basic ingredient in SCS Resources Inventory. It is interesting to note that the first statistical approach used to gather this type of data developed from a method designed to sample physical land conditions in a statistical manner (Arnold et al., 1960; Taylor, 1958).

In 1956, the first modern inventory of the conditions and trends of the nation’s soil and water resources began under the direction of Ezra Taft Benson, Secretary of Agriculture (USDA, 1956). It was called the National Inventory of Soil and Water Conservation Needs or the Conservation Needs Inventory (CNI) and was the first inventory of this type to use a statistical sampling method to gather data. Most of us in the field called this inventory the 57 CNI because the field work began in June 1957 even though the published report was named The 1958 Soil and Water Conservation Needs Inventory (Schmude, 1988). In 1977 and thereafter, these inventories were renamed National Resources Inventories (NRI). Two previous inventories had been completed before this time using other methods to gather data (Schmude, 1988). The 1934 National Erosion Reconnaissance Survey used a reconnaissance method to gather information on sheet and rill erosion, gully erosion, and wind erosion. The 1945 CNI presented a summary of soil and water conservation needs for the nation and states.

Budget Bureau document no. 40-5759 (USDA, 1957) and several Soils Memorandums and Conservation Needs Memorandums were issued to establish the policy and procedure to carry out this inventory. Soils Memorandum SCS-21 dated October 1958 consolidated much of the information contained in previous memorandums (USDA-SCS, 1958). Many of the policies and procedures that were set forth in this memorandum and Budget Bureau document no. 40-5759 still guide the policies and procedures carried out in present-day inventories, such as the 1987 NRI. This sort of continuity is necessary to provide trending between inventories.

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