More than 300,000 acres of peat and related organic soils have been mapped in California. Of this total, some 50,000 acres represent the numerous small and relatively unimportant bodies located in widely-separated parts of the state. A few of these occur at sea-level, others at elevations of 4,000 feet or more; some of them are subject to summer frosts, others to no frost at all; most of them represent accumulations of tules, oat-tails, reeds, and associated plants, although some very minor bodies of woody peat and sphagnum peat also occur. While these minor occurrences have considerable pedologic significance no further attention will be directed to them at this time.

The remaining quarter million acres represent the great area of highly organic soils located at the confluence of Sacramento and San Joaquin rivers in central California. In that locality, a thick layer of accumulated plant remains radiates fan-like from a point near the junction of the two rivers and extends northward toward Sacramento, eastward to Stockton, and southward to the vicinity of Tracy. This mantle rests upon a base of mineral sediments and increases in thickness from a minimum of less than 2 feet along its eastern margin to a maximum of more than 40 feet at its western apex. Its average thickness is about 18 feet.

A century ago, this region was one vast tule marsh, abounding in wild fowl and natural life. It lay at or near sea-level, just east of the relatively narrow Carquinez Straits, the only outlet to the sea for the great interior basin of 58,000 square miles. Major streams and hundreds of interlacing, lesser waterways traversed the delta region and divided it into scores of interfluvial units, or "islands". Bordering these channels were relatively high, stream-built ridges. On these, the dense growth of tules which characterized the marshland as a whole, was replaced in part by a cover of reeds, sedges, and scattered woody hydrophytes. Many of the minor sloughs headed in small bodies of open water—seldom more than 100 acres in size—and in these lilies and associated water plants were common.

Today, this Delta Region constitutes a distinct and valuable part of California's great agricultural structure. Divided into more than 100 definitely-named islands and tracts, practically all of it has been reclaimed and brought under cultivation. A variety of intensively grown crops are produced. Yields are frequently of record proportion—repeatedly more than 1,000 bushels of potatoes per acre have been harvested. During the 10-year period, 1924-33 inclusive, the value of crops produced in this region averaged some $25,000,000 annually. This represents an average annual return of $100 per acre for the entire quarter million acres involved.

Separated on the basis of their broader characteristics into members of the slightly Egbert and Ryde series and into the almost purely organic Peat. In the present survey, a major endeavor has been not only to cover the surveyed portion, but also to differentiate the peat and related deposits into consistent, recognizable and mappable types and series. Although material progress has been made, it is still underway and the present conclusions should be considered as subject to such possible modification as further study may indicate.

As a part of this work, much of the available and pertinent literature was reviewed. With all of this a basic and fundamental error was to have existed. There has been no clear recognition of the distinction between Peat—the raw soil material—and the ORGANIC SOILS, on the one hand, and ORGANIC SOILS, on the other. Peat is a geological formation—resembling lignite and coal. It is used as a fuel and comprises the relatively raw remains of a variety of plants (from mosses to trees) which have accumulated and preserved under appropriate circumstances. Obviously, it is subject to classification—but it is not soil. The new definition. It is age-old, and the term, one offered in standard dictionaries.

Recent confusion in the usage of this word arose through the initial and unfortunate adoption of a term used variously and cautiously by the farmer and layman.

Organic soil, on the other hand, is correctly applied to the alteration produced by the weathering of the tule-reed peat and related types of material. In the survey, it early became evident that a definite distinction existed between Peat—the soil material—and the organic soils weathered from peaty materials. This distinction has been maintained throughout our work and is the basis for the following separations:

1. Peat. Only a few scattered generally small islets in the stream channel still support a native cover of tules and reeds in their virgin condition. These are pea per and, following Dachnowski-Stokes, we designate as the "San Joaquin fibrous tule reed peats" to differentiate them from classes of peat which occur elsewhere.

A standing characteristic of this material, brown to dark brown, fibrous and matted, are defensible remains of tule, reed and similar slough-plants.

2. The Venice series\(^1\) is an initial extensive occurrence throughout the southern portion of the Delta Region. The surface to a depth of about 12 inches is a dark soft, fine granular, peaty loam. Brown largely from contemporary vegetation, uncommon in this layer giving it a somewhat fibrous quality. The subsoil, or underlying.