Geographer of the United States, Thomas Hutchins. His successor, Rufus Putnam, was given the title “Surveyor General of the Northwest Territory” under the terms of the Act of May 18, 1796. He wrote letters of instruction to deputy surveyors as did his successors, Jared Mansfield and Josiah Meigs. In 1815, Edward Tiffin, who succeeded Meigs as Surveyor General of Territories east of the Mississippi, issued the first signed and dated general instructions for the guidance of deputy surveyors, though they were partially based on an unsigned, undated manuscript prepared earlier by Mansfield. Other printed circulars followed.


SURVEYING, LAND – The determination of boundaries and areas of tracts of land. Land boundaries are usually defined by ownership, commencing with the earliest owners through successive ownerships and partitions. Land surveying includes the re-establishment of original boundaries and the establishment of such new boundaries as may be required in the partition of the land. See CADASTRAL SURVEY.

SURVEYOR GENERAL – Prior to 1925, an officer in charge of the survey of the public lands. The Act of May 18, 1796, abolished the office of the Geographer of the United States and provided for the appointment of a Surveyor General. President George Washington appointed Rufus Putnam Surveyor General of the Northwest Territory under the terms of this act. See ACT OF MAY 18, 1796, GEOGRAPHER OF THE UNITED STATES, UNITED STATES SUPERVISOR OF SURVEYS and CHIEF, DIVISION OF CADASTRAL SURVEYS.

SURVEY, ORIGINAL – See ORIGINAL SURVEY.

SUSPENDED APPLICATION OR ENTRY – An application or entry upon which adverse action by the Bureau of Land Management has been deferred.

SUSPENDED SURVEY – Also called suspended plat. When question or doubt arises concerning an accepted survey, all actions related to the area covered may be held in abeyance until the matter is resolved. The survey may be corrected, reinstated or cancelled, either in whole or in part, but no action based on the plat may be initiated or completed while the survey is suspended. See CANCELLATION.

SWAMP – 1) Low lying land saturated with moisture and overgrown with vegetation but not covered with water. 2) Land at elevations below the upland such as would be wet and unfit for agriculture without construction of artificial drainage. See MARSH, SALT MARSH and SWAMP AND OVERFLOWED LANDS.

SWAMP AND OVERFLOWED LANDS – Any quarter-quarter section or lot the greater part of which was so swampy or subject to overflow during the planting, growing or harvesting season, in the majority of years at or near the date of the grant of such lands, as to be unfit for cultivation in any staple crop of the region in which it is located without the provisions of some artificial means of reclamation. In common usage “swamp” and “overflowed” lands are regarded as synonymous. See SWAMP-LAND GRANT, LOUISIANA SWAMP LAND ACT OF 1849, SWAMP LANDS ACT OF 1850, SWAMP LANDS ACT OF 1860, STAPLE CROP, TIDELANDS, MARSH and SALT MARSH.

SWAMP-LAND GRANT – A State grant consisting of public lands deemed swampy and unfit for cultivation. The lands were granted to enable the various states receiving them to aid in their reclamation. See SWAMP AND OVERFLOWED LANDS, LOUISIANA SWAMP LAND ACT OF 1849, SWAMP LANDS ACT OF 1850, SWAMP LANDS ACT OF 1860 and IN PRAESENTI.

SWAMP LANDS ACT OF 1850 – The Act of September 28, 1850 (9 Stat. 519), extended the Louisiana Swamp Land Act to the other public-land States then in the Union. See LOUISIANA SWAMP LAND ACT and SWAMP LANDS ACT OF 1860.

SWAMP LANDS ACT OF 1860 – This March 12, 1860 Act (12 Stat. 3) extended the Swamp Lands Act to the States of Minnesota and Oregon. The various swamp-land grants were carried over into R.S. sec. 2479 (43 U.S.C.A. sec. 982). For a notable exception to the swamp-land laws, see ARKANSAS COMPROMISE ACT. See LOUISIANA SWAMP LAND ACT OF 1849 and SWAMP LANDS ACT OF 1850.

T (Land Status Records) – Township.
TA (Land Status Records) – Tentative Approval.
TALL MER (Land Status Records) – Tallahasee Meridian.
TC (Land Status Records) – Timber culture.
TCP (Land Status Records) – Timber Cutting Permit.
TEL (Land Status Records) – Telephone.
TELEG (Land Status Records) – Telegraph.
TEMP (Land Status Records) – Temporary.
TERM (Land Status Records) – Terminate, Termination.
T&M (Land Status Records) – Trade and Manufacturing.
TMB (Land Status Records) – Timber.
T & M SITE – Trade and Manufacturing Site.
TN – Tennessee.
TNS (Land Status Records) – Townsite.
TP (Land Status Records) – Township.
TR (Land Status Records) – TRACT.
TRANS (Land Status Records) – Transmission.
TRF (Land Status Records) – Transfer.
TRFD (Land Status Records) – Transferred.
TRF JURIS (Land Status Records) – Transfer of Jurisdiction.
TR STA (Land Status Records) – Triangulation Station.
TRSP (Land Status Records) – Trespass.
T/S (Land Status Records) – Timber and Stone.
TS – Town site. The permanent monuments placed at each turning point of town-site boundary lines are marked not only with the usual subdivisional information, but also with the capital-letter initials of the town-site name followed by TS.
TX – Texas.
TACK LINE – A straight line projected from point (tack) to point as opposed to a solar line run along an astronomic bearing with a solar attachment.
TALLAHASSEE MERIDIAN – The principal meridian governing surveys in Florida and in a small part of Alabama; it was adopted in 1824.
TALLY – 1) Five chains as measured with a two pole chain. 2) A method of keeping track of count.
TALLY PIN – A chaining pin.
TALUS – A slope. Especially a steep slope formed by an accumulation of rock debris. See CONTINENTAL TALUS, SCREE SLOPE.
TALWEG – See THALWEG and RULE OF THALWEG.
TANGENT – 1) A straight line that touches a given curve at only one point and does not intersect it. 2) In the public lands surveys, a straight line, tangent to a parallel of latitude, usually at a township corner. 3) That part of a traverse of alignment included between the point of tangency (P.T.) of one curve and the point of curvature (P.C.) of the next curve. 4) A trigonometric function of an angle. See TANGENT SCREW*.
TAYLOR ACT EXCHANGE – An exchange consummated under the provisions of section 8 of the Taylor Grazing Act. See EXCHANGE, PRIVATE EXCHANGE and STATE EXCHANGE.
TENEMENT – In its original, proper and legal sense, “tenement” signifies everything that may be held, if it is a permanent nature, whether it is corporeal or incorporeal. Though often applied to houses and other buildings or to lands, it is also applicable to offices, rents, franchises and so forth. See CORPOREAL, INCORPOREAL and HEREDITAMENT.
TERRITORY (methods of acquisition) – The United States has acquired territory principally by the following three methods:
1. by treaty
2. by joint resolution of the two houses of Congress
3. by statute.
TERRITORY – In American law, a portion of the United States, not within the limits of any state, which has not yet been admitted as a state of the Union, but is organized with a separate legislature, and with executive and judicial officers appointed by the president.
TERRITORY NORTHWEST OF THE OHIO RIVER – The Territory bounded on the west by the Mississippi River and a line running north from its source to the international boundary, on the north by the boundary line between the United States and the British possessions, on the east by the Pennsylvania and New York State lines, and on the south by the Ohio River. It was made up of claims of Virginia, Connecticut and Massachusetts, and comprised an area of approximately 278,000 square miles. From this territory the states of Ohio, Indiana, Illinois, Michigan and
Wisconsin were formed. It also included that part of Minnesota which lies east of the Mississippi River and the northwest corner of Pennsylvania.

**TESTIMONY** – Evidence given by a competent witness, under oath or affirmation; as distinguished from evidence derived from writings and other sources. The words “testimony” and “evidence” are not synonymous. See EVIDENCE and WITNESS, EXPERT.

**TEXAS ACCESSION** – The Republic of Texas was admitted as a State in 1845, but retained title to all unoccupied lands. Thus, Texas was not a public-land State. Part of this territory was, however, purchased by the United States in 1850, and is now included in the States of Kansas, Colorado, New Mexico, Oklahoma and Wyoming. This purchase added approximately 75 million acres of public lands to the United States.

**THALWEG** - The “downway,” meaning the course taken by boats going downstream in a river. The line following the lowest part of a valley, whether under water or not. The intricacy of detail in ordinary relief often makes difficult a practical location of a thalweg; in a survey of a political boundary line this difficulty may assume considerable weight. A thalweg may also be defined as the line down the center of the main channel of a stream or as the line of greatest slope, cutting all contours at right angles. See THREAD OF THE STREAM and RULE OF THALWEG.

**THENCE** – In surveying and in metes and bounds descriptions, the term designates that the course and distance given thereafter is a continuation from the course and distance given before.

**THENCE DOWN THE RIVER** – This phase, as used in a surveyor’s field notes, is construed to mean “with the meanders of the river.”

**THEODOLITE** – A precision surveying instrument for measuring horizontal and vertical angles. The graduated circles are usually read by means of optical microscopes and are more precisely graduated than are the circles on a transit. See TRANSIT.

**THEORETICAL CORNER**.

**THIRD PRINCIPAL MERIDIAN** – The principal meridian, adopted in 1805, which governs surveys in a large part of Illinois. It is abbreviated 3rd Prin. Mer.

**THIRTEEN ORIGINAL COLONIES** – See THIRTEEN ORIGINAL STATES.

**THIRTEEN ORIGINAL STATES** – The Thirteen Original Colonies, upon revolt from the British Crown, became sovereign, independent states. They are: New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina and Georgia.

**THREAD OF THE STREAM** – Though the courts do not always agree on definitions, the great weight of authority is to the effect that the thread of the stream is the center of the main channel thereof. If there are two prominent channels, the thread of the stream is the center of the channel used for navigation. See THALWEG and MEDIUM FILUM ACQUAE.

**THROW** – In mining, the vertical distance between the parts of a vein which have been separated by a fault, measured at right angles to the strike of the fault. A horizontal fault can have no throw, and a vertical fault can have no heave. See HEAVE.

**TIDAL CURRENT** – A horizontal movement of the water caused by gravitational interactions between the sun, moon and earth. See TIDE.

**TIDAL DATUM** – A reference for leveling defined by tidal phase observation and measurements. Mean sea level is usually used as the datum for elevations. Mean high water, mean low water and similar terms are tidal datums.

**TIDE** – The periodic rising and falling of the water that results from the gravitational attraction of the moon and sun acting upon the rotating earth. See TIDAL CURRENT.

**TIDE, EBB** – The movement of the tidal current away from the shore or down a tidal stream. The correct technical term is “Ebb Current.”

**TIDE, FLOOD** – The movement of a tidal current toward the shore or up a tidal stream. The correct technical term is “Flood Current.”

**TIDELANDS** – Coastal areas situated above mean low tide and below mean high tide, particularly the areas alternately covered and uncovered by the daily tides. As part of the bed of navigable waters, such lands belong to the states by right of sovereignty. Tidelands, including coastal “salt marshes” are not subject to survey. In contrast, coastal marshes not covered by daily tides are “swamp and overflowed lands” within the meaning of the various “Swamp Lands Acts,” and are subject to survey. See NAVIGABLE WATERS, LOUISIANA SWAMP LANDS ACT OF 1849, SWAMP LANDS ACT OF 1850, SWAMP LANDS ACT OF 1860 and SWAMP AND OVERFLOWED LANDS.

**TIDE, NEAP** – See NEAP TIDES.

**TIE** – A survey connection to an existing station or corner of the Public Lands from a point whose position is desired to be referenced.
TIE IN – 1) To make a connection to a previously determined point. 2) To connect corner accessories, topographic and cultural features to the survey.

TIE POINT – The point to which a survey connection is made.

TIER (United States public land surveys) – Any series of contiguous townships situated east and west of each other; also, sections similarly situated within a township.

TIMBER AND STONE ACT – An 1878 act which authorized the negotiated sale of public lands especially valuable for either timber or stone, and otherwise unfit for cultivation. The Timber and Stone Act was repealed in 1955.

TIMBER AND STONE ENTRY – An entry of public lands valuable for timber and stone made under laws now repealed. See TIMBER AND STONE ACT.

TIMBER CULTURE ACT – In 1873 Congress passed an act to encourage the growth of timber on the western prairies. It provided for the entry of public lands if the entryman planted and cultivated trees on a specified part of the land. The law was repealed in 1891.

TITLE – In real property law, title is a means whereby the owner of lands has the just possession of his property.

TITLE 43 – Refers to Title 43 (Public lands) of the United States Code (U.S.C.), or to Title 43 (Public Lands: Interior) of the Code of Federal Regulations (C.F.R.).

TOPOGRAPHY – Collective or individual features both natural and cultural, improvements, significant changes in character of land and relief which are tied to a point on the survey line or are intersected by it. See TOPOGRAPHY*.

TORRENS REGISTRATION SYSTEM – The basic principle of the system is the registration of the title to the land, instead of recording the evidence of such title.

TOWN LOT – A subdivision of a townsite or of an urban subdivision.

TOWN LOT ENTRY – A cash entry of a town lot within a townsite. See TOWNSITE.

TOWNSHIP – The unit of survey of the public lands; normally a quadrangle approximately 6 miles on a side with boundaries conforming to meridians and parallels within established limits, containing thirty-six sections, some of which are designed to correct for the convergence of meridians or range lines. See FRACTIONAL TOWNSHIP.

TOWNSHIP CORNER – A corner of a township. See CLOSING TOWNSHIP CORNER.

TOWNSHIP LINES – The township boundaries that run north and south are termed “range lines;” with few exceptions the range lines are run on cardinal and have been intended to be on cardinal. The boundaries running east and west are termed “township lines.” By law, they were intended to be on true parallels of latitude.

TOWNSHIP PLAT – See PLAT.

TOWNSITE – An area of public lands which has been segregated for disposal as an urban development, often subdivided into blocks, which are further subdivided into town lots.

TOWNSITE ENTRY – A cash entry of a townsite.

TOWNSITE RESERVE – A reservation of public lands which have potential value as a townsite. See MUNICIPAL RESERVES.

TOWNSITE SURVEY – A survey of street and lot boundaries executed to segregate from the public lands an area qualifying under the townsite laws.

TRACT – Generally, a metes and bounds survey of an area at large within a township. In modern public land surveys the term is used specifically to mean a parcel of land that lies in more than one section or that cannot be identified completely as a part of a particular section. Tract numbers begin with the next higher number of the numerical designation within a township, for example: if there is an old numbers are sequential and no number is repeated within a township, for example: if there is an old Mineral Lot No. 37, the tract would be Tract No. 38. If a tract falls across a township line it is given a separate number in each township. See LOT.

TRACT BOOK – Starting about 1800, tract books designed primarily for the maintenance of permanent records of all transactions involving public domain lands were created and maintained in local land offices. Tract books were the companion records to the land office “status plat.” Prior to the beginning of the records improvement program in 1955, these records constituted the records required in accordance with 43 C.F.R. 1813.1-1. Over the years, many of the tract books became worn and mutilated making status difficult to determine. To protect these books from further damage and to preserve the information they contain, these records are now microfilmed. As this is done, the tract books are transferred to the appropriate Federal records center as part of the National Archives. See LAND OFFICE STATUS PLAT, HISTORIC INDEX, MASTER TITLE PLAT and USE PLAT.

TRADE AND MANUFACTURING SITE (Alaska) – Section 10 of the Act of May 14, 1898, as amended August 23, 1958, authorizes, under its terms and provisions, the sale of not more than 80 acres of land in Alaska possessed and occupied in good faith as a trade and manufacturing site.

TRADE-AND-MANUFACTURING-SITE ENTRY – A cash entry of 80 acres or less in Alaska which are used as a trade or manufacturing site.
TRANSIT – A repeating surveying instrument for measuring horizontal and vertical angles. The graduated circles are usually not graduated as precisely as are those on a theodolite. See THEODOLITE.

TRANSPORTATION ACT OF 1940 – Act of September 18, 1940 (54 Stat. 954). See RELEASED RAILROAD CLAIMS.

TRANSVERSE MERCATOR MAP PROJECTION – A conformal map plotting system in which points on the ellipsoid are mathematically projected onto a cylinder whose axis is oriented 90° (transverse) to the axis of the ellipsoid. The cylinder surface may meet the ellipsoid at the map center or it may cut below the surface (secant) creating two parallels where the scale is exact. The secant form of this projection is the basis of State Plane Coordinate Systems where the zone extends north-south more than east-west.

TRAVERSE – In surveying, a sequence of lengths and directions of lines between points on the earth, obtained by field measurements and used to determine the positions of the points through use of trigonometric computations.

TREATY OF GHENT, 1814 – By the treaty of peace concluded at Ghent (Belgium) on December 24, 1814, it was agreed to provide for a final adjustment of the boundaries described in the Treaty of 1783 that had not yet been ascertained and determined, embracing certain islands in the Bay of Fundy and the whole of the boundary line from the source of the River St. Croix to the most northwestern point of the Lake of the Woods.

TREATY OF GUADALUPE HILDAGO – The peace treaty signed Feb. 2, 1848, at the close of the Mexican War, and proclaimed July 4, 1848. See MEXICAN CESSION.

TREATY WITH GREAT BRITAIN, 1782 – The original limits of the United States were first definitely described in the provisional treaty concluded with Great Britain on November 30, 1782.

TREATY WITH GREAT BRITAIN, 1783 – The definite treaty of peace with Great Britain concluded on September 3, 1783, defines the boundaries of the United States in terms similar to those of the provisional treaty. The northern boundary became at once a fruitful source of dissension between the two countries. From the time of the conclusion of peace almost to the present day (1954) the definite location of this line has been subject to a series of treaties, commissions, and surveys.

TREATY WITH SPAIN, 1795 – The southern boundary of the United States was described in definite terms by the treaties with Great Britain of 1782 and 1783, but its location was not accepted by Spain and was disputed by that country until settled by the treaty concluded on October 27, 1795.

TREATY WITH SPAIN, 1819 – The treaty of February 22, 1819, settled conflicting claims between the United States and Spain concerning East and West Florida. The third article of the treaty defines the boundary between the United States and the Spanish possessions in the Southwest. The western boundary of the United States south of the 42nd parallel, as fixed by this treaty, was confirmed by treaty with Mexico on January 12, 1828, since by that time Mexico had gained independence from Spain.

TRESPASS – An unlawful act causing injury to rights or property of another. As used in BLM, an unauthorized use of federal lands or resources.

TRIANGULATION STATION – A marked and/or described point whose position has been determined by triangulation. The usage has broadened to include any precise control station.

TRUE – 1) The correct value, as distinguished from an assumed value or approximate value. 2) An adjective applied to bearings indicating astronomic or geodetic values. See TRUE LINE.

TRUE LINE – A line of constant bearing (Rhumb Line) between two corners of a survey.

TRUSTEE DEED – A deed which is issued by the trustee in connection with the sale in Alaska of a town lot in a trustee town site.

TRUSTEE TOWN SITE, Alaska – An area of public land in Alaska which has been segregated for disposal as an urban development, the town lots which are sold by a trustee appointed by the Secretary of Interior.

TRUST PATENT – See PATENT, TRUST.

TRUST TERRITORY OF THE PACIFIC ISLANDS – Islands in the western Pacific; the Caroline, Marshall and Mariana (except Guam) Groups. Formerly under Japanese mandate, they were placed under the administration of the United States Department of the Interior through an agreement with the United Nations following World War II.

T-SHEET – A topographic map or chart prepared by the former Coast and Geodetic Survey, and now by the National Ocean Survey, including the manuscript copy. The topographic map is identified with a number, prefixed with the letter T, such as T-5542. As now prepared they are prefixed “TP” (topographic-photogrammetric). The term “T-Sheet” is an inhouse expression to denote such maps and charts.

TUNNEL – In mining, a lateral or horizontal passage underground intended to reach the vein or mineral deposit, where a drift may begin. See DRIFT, SHAFT and ADIT.

TUNNEL LOCATIONS – Tunnel sites are acquired in accordance with local rules and customs, but may not exceed 3000 feet as imposed by Federal law. When a lode is discovered within a tunnel, the owner is called upon to make a
surface location of the vein or lode as required by law. Discontinuing operations for 6 months constitutes abandonment of all right to the veins along the line of the tunnel.

TURNING POINT – In meandering, or in any irregular survey, “turning point” is synonymous with “angle point.” In leveling, however, “turning point” refers to an intermediate point of known elevation in a level circuit.

TWENTY-FOUR-MILE TRACTS – The largest unit in the rectangular system of surveys. Each area controlled by a principal meridian and a base line is divided into tracts by means of standard parallels or correction lines (true parallels of latitude) located at intervals of 24 miles to the north and south of the base line and by means of guide meridians (true meridians) spaced at intervals of 24 miles east and west of the principal meridian. Because of the convergence of the meridians, the distance between the guide meridians is 24 miles only at the starting points; at all other points, the distance is less by the amount of the convergence. Twenty-four-mile tracts were first specified in the 1881 Manual of Surveying Instructions.

U

UA (Land Status Records) – Unit Agreement.
UINTAH SPEC MER (Land Status Records) – Uintah Special Meridian.
UNAPPROPRIATED PUBLIC LANDS – See VACANT AND UNAPPROPRIATED PUBLIC DOMAIN LANDS.
UNAPPROVED SURVEY – A cadastral survey which has not, for whatever reason, reached the status of an accepted survey. See ACCEPTED SURVEY.
UNAPPROVED SURVEY – A cadastral survey which has not, for whatever reason, reached the status of an accepted survey. See ACCEPTED SURVEY.
UNINTAH SPECIAL MERIDIAN – The Uintah Meridian governs surveys in a small part of Utah. It was adopted in 1875.
UMIAT MERIDIAN – The principal meridian governing surveys in the northern part of Alaska. It was adopted in 1956.
UNITED STATES CODE – A compilation, under 50 subjects, or titles, of the general and permanent laws of the United States in force as of an indicated date. Most of the statutes governing the operations of the Bureau of Land Management appear in Title 43, “Public Lands,” and title 30, “Mineral Lands and Mining.” Many laws relating to Alaska are found in Title 48, “Territories and Insular Possessions.”
UNITED STATES COURTS OF APPEALS – Sometimes U.S. Circuit Courts of Appeals. The middle level of the federal judicial hierarchy. There is one such court in each of the 11 judicial circuits into which the United States is divided. As the name indicates, the jurisdiction is exclusively appellate; they have no original jurisdiction. In cases where a court of appeals has held a State statute invalid because of repugnancy to the Constitution or a law or treaty of the United States, an appeal may be taken to the Supreme Court. In all other cases its decisions are final except as