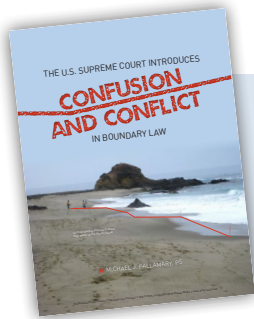


U.S. SUPREME COURT REDUCES

CONFUSION AND CONFLICT IN BOUNDARY LAW

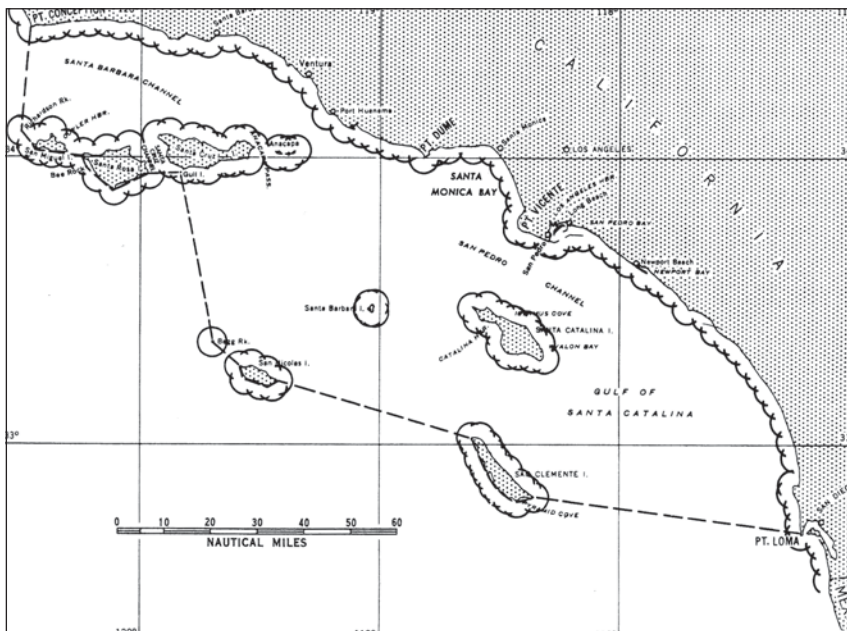


Editor's Note: This article is in response to Michael J. Pallamary's article titled *The U.S. Supreme Court Introduces Confusion and Conflict in Boundary Law* in the March 2015 issue.

With all due respect to both Michael Pallamary and Gregory Helmer—both of whom are California colleagues known to me to be knowledgeable and credible experts in boundary and geodesy (respectively)—the issue presented in the latest round of *The United States vs. California* highlights a fundamental misconception amongst many in our profession regarding the legal importance of science, mathematics, and measurement. It also highlights a fundamental misconception regarding the purpose of litigation.

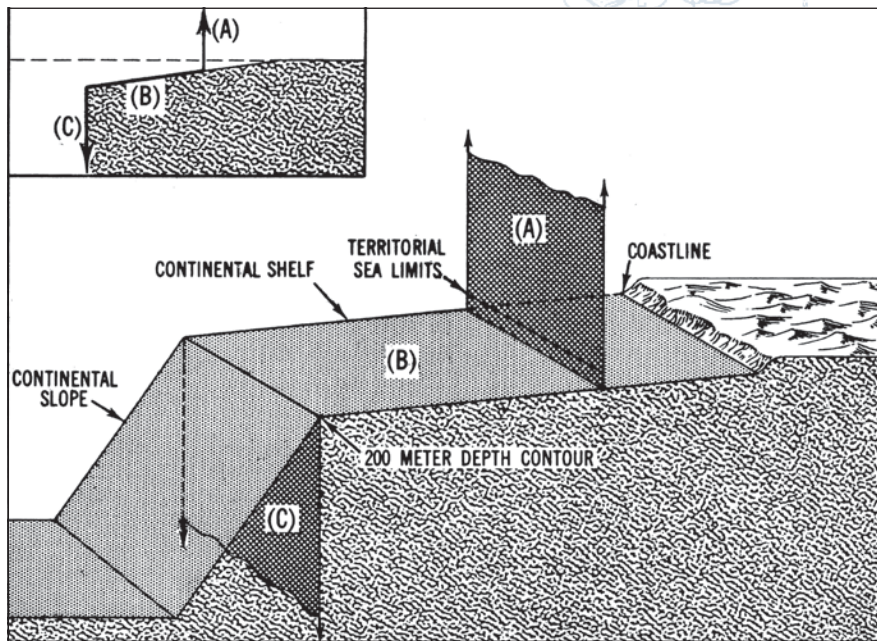
In his March 2015 article Mr. Pallamary describes a recent decision of the Supreme Court of the United States (SCOTUS) regarding the off-shore jurisdictional limit between state and federal authority. The article, quite correctly, points out that the decision changes the nature of the boundary from being ambulatory (dynamic/moveable) to being fixed (permanent) which has both significant legal and practical effects. The article also quite correctly points out that the court's decision lacks the technical specificity which our profession (and California statutory law) considers to be necessary in the surveying application of coordinate systems. The article asserts that this lack of specificity could produce a two meter variability in the location of that jurisdictional limit.

To properly understand the situation a little bit of science and history are required. In the 1920's the State of California issued leases for the exploitation of a possible off-shore oil and gas field in the Santa Barbara Channel. After the wells proved viable there was a flood of applications to both the federal



Off shore islands along the Southern California coast, known collectively as the Channel Islands. The scalloped line around each represents the 3 mile territorial limit each island independently generates.

» CHUCK KARAYAN, PS



Globally, Continental Shelves have an average 0.2% grade and Continental Slopes generally range between 3.5 and 6.0%

and state governments (there was an uncertainty as to who had jurisdiction). The federal government initially rejected the applications asserting that the State owned the bed out to the “3 mile limit”. Subsequently the United States reversed its position and claimed the off-shore seabed as its own. During the 1930’s there were numerous administrative and legislative attempts to resolve the disputed ownership, but none succeeded.

During World War II the dispute was “put on the back burner”. On September 28, 1945, Harry S. Truman signed a Presidential Proclamation which said “. . . the government of the United States regards the natural resources of the subsoil and seabed on the Continental Shelf beneath the High Seas but contiguous to the coasts of the United States as appertaining to the United States, subject to its jurisdiction and control.” In 1946 the Department of Justice filed three civil law suits collectively known as *The Submerged Land Cases* (*U.S. v California*, *U.S. v Texas*, and *U.S. v Louisiana*); it pursued the California suit as its “pilot case” allowing the others to lag behind. On June 23, 1947 SCOTUS decided that ownership of the seabed by coastal states was limited to tidewater (the area between high and low tide) and that the federal government owned the seabed beyond the low water mark.

In 1953, three years after the Texas and Louisiana cases had also been decided,

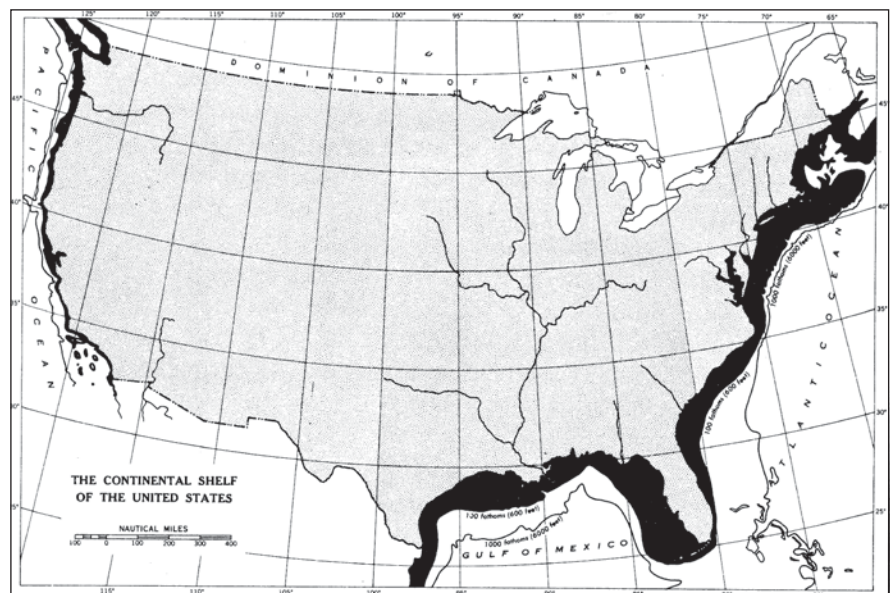
Congress passed the Submerged Lands Act (67 Stat 29)—also known as Public Law 31—acknowledging the coastal states ownership of “all lands beneath tidal waters from Mean High Tide to 3 miles off shore.” The legislature overrode the court to conform with what most Americans had assumed the law to be, e.g. that the states owned the continental shelf (seabed) out to the U.S. territorial limit.

The Continental Shelf does not have a consistent width, in fact it is rather narrow along the Pacific Coast and quite wide

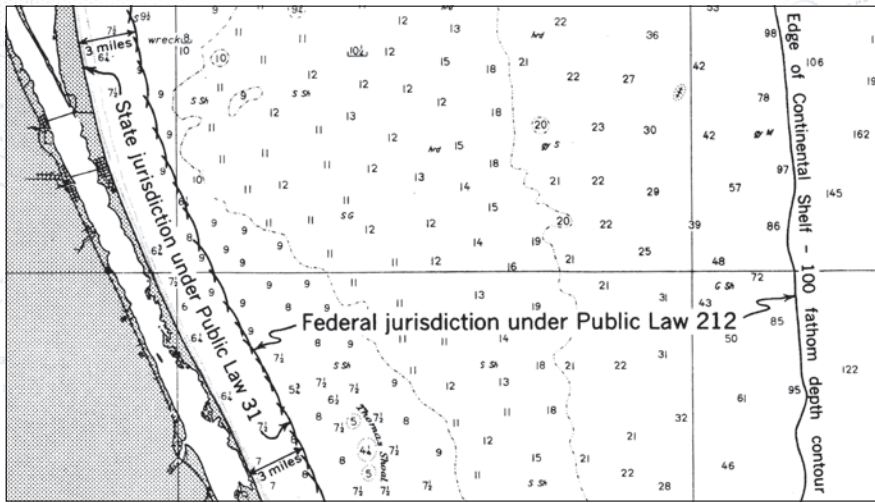
along the Gulf Coast. Likewise, it does not terminate at a constant depth.

At the same time that Congress was dealing with the Submerged Lands Act it was also considering the Outer Continental Shelf Act (67 Stat 462). That Act (known as Public Law 212) explicitly was not an extension of sovereignty—a new boundary beyond the three mile limit—it was an *extra-territorial* assertion of rights; the distinction being a claim of dominion (control) without imperium (ownership). Public Law 212 defines its area of coverage as extending out to a depth of 100 fathoms. The result was to bring the resources under 140,000 square miles of the Atlantic Ocean, 135,000 square miles of the Gulf of Mexico, and 25,000 square miles of the Pacific Ocean under federal “jurisdiction and control”. There was an additional 550,000 square miles off the coasts of Alaska that were similarly included.

As Mr. Pallamary’s article indicates, the ensuing years have been fraught with disagreements as to the application of SCOTUS’s basic decision and Congress’s modification. And, as he points out, the determination (location) of public-private littoral boundaries is a complex issue. The



Public Law 212 established Federal Jurisdiction to the 100 fathom depth on the Continental Shelf adjacent to the United States. The diagram shows the 100 and 1000 fathom contours.



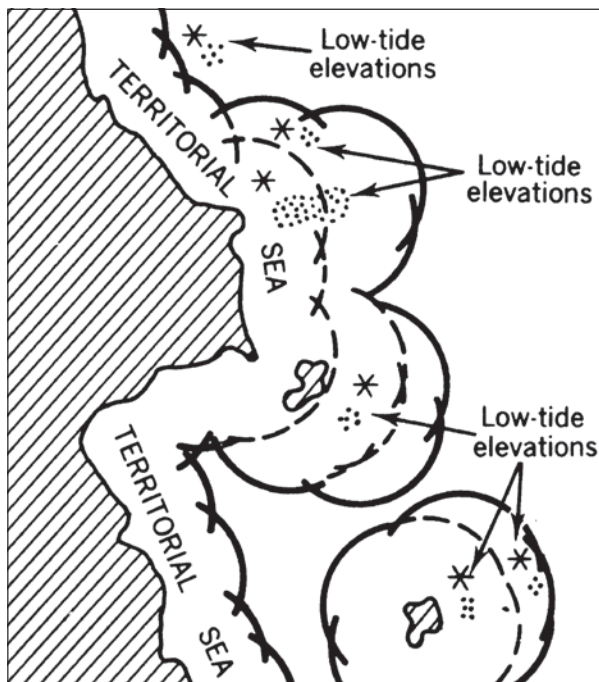
State jurisdiction, under the Submerged Lands Act extends to 3 nautical miles (except for Texas and the Gulf Coast of Florida where it is 3 marine leagues). Federal jurisdiction under the Outer Continental Shelf Act extends to a depth of 600'.

position of the Territorial Limits is also complex, not only because both Mean Low Water and coastal topography are dynamic but also because the shape of the coastline and the presence of off-shore islands/shoals may have an effect as well.

Mr. Pallamary and Mr. Helmer criticize SCOTUS's majority opinion on the grounds: (1) that it makes conflicting reference to NAD 83 and WGS 84 as though they are equivalencies—which they are not—thereby injecting an uncertainty of several feet; (2) that it lacks technical specificity regarding the datum tag and epoch date employed, thereby injecting additional uncertainty including tectonic movement over time; and (3) that the decree uses *nautical miles* while the Submerged Lands Act used *geographic miles*, further exacerbating the ambiguity. All of

these are valid scientific/mathematical/measurement criticisms.

Boundaries in general and water boundaries in particular have suffered (and continue to suffer) from judicial scholars and officials using scientific and technical terminology in less than precise manners. One of the foundational legal texts on littoral boundaries (*De Jur Maris* by Lord Matthew Hale, 1666) described the high water mark as being at “the foreshore which is overflowed by ordinary, or *neap* tides, which happen between the full and change of the moon”. Although scientifically unsound the idea has been perpetuated in the law of some states today.



Some islands/shoals/rocks extend the territorial limits beyond “3 miles from the coastline”, some generate territorial waters around themselves which are independent of the “coastal territorial waters”, and others do not effect the limit.

In 1935 SCOTUS declared that the Ordinary High Water Mark is *legally* the same as the Mean High Tide Line, which is to be derived from 18.6 year NOAA data (*Borax Consolidated v Los Angeles*, 296 U.S. 10). The scientific/measurement fact is that the Ordinary High Water Mark and the Mean High Tide Line are almost invariably found at different locations. No less of an authority than George M. Cole (*Water Boundaries*, © 1997 John Wiley & Sons) has indicated that Mean Higher High Tide would likely have better replicated the physical location of OHWM (but even that standard would leave some difference between the physical and statistical definition of the public-private boundary—in any event, the legal definition has no ambiguity).

Mr. Pallamary also expresses concern over the most recent SCOTUS decision changing the federal-state boundary from being ambulatory to being fixed-in-place. We must keep in mind the purpose of litigation, which is to resolve real-world disputes quickly, fairly, and permanently. While it is possible that some “secondary litigation” may be needed to clarify the technical problems which Mr. Pallamary has described, the magnitude of those problems is far less than the potential differences of a variable coastline and tide-datum, off-shore conditions (islands, shoals and rocks) controlling the Territorial Limits (which is therefore ill-defined). Moreover, the navigator of a vessel three plus miles off-shore has major locational problems due to such variables. Adopting a fixed position for the boundary is, admittedly, less than perfect but it is, in my opinion, an improvement over the prior situation—it reduces the magnitude of variability. ■

Chuck Karayan is a licensed surveyor in Oregon and California, he was educated as an Earth Scientist and attended the University of San Fernando Valley, College of Law. His private practice is focused on boundary and title issues—most of his clients are attorneys. Chuck teaches continuing education courses for surveyors, engineers, attorneys, etc. and is an Adjunct Senior Lecturer in Surveying at the University of Wyoming where he teaches Coastal and Inland Water Boundary courses.