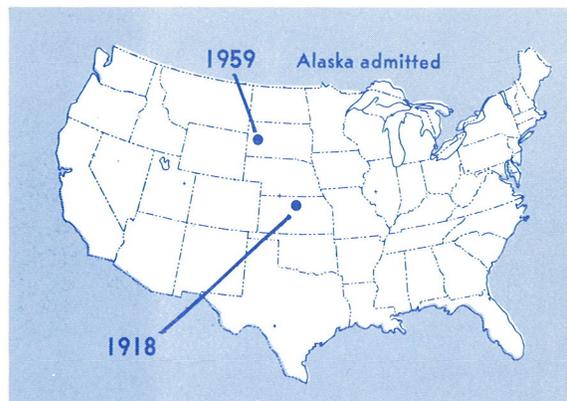


# Geographic Center of the United States

The admission of Alaska and Hawaii to the Union as States during 1959 has aroused public curiosity as to where the geographic center of the United States lies.

Determining the geographic center of an irregular area on the earth's surface is a precarious business at best. There is no unique solution and none of any scientific significance. Several methods of approach are available. The one employed by the Coast and Geodetic Survey is probably best termed as the center-of-gravity method. Imagine a map of the area for which the geographic center is to be determined, has been placed on a piece of cardboard of uniform thickness and that this is cut carefully along the outline of the map. The center of gravity of this map outline, or what might be called the geographic center, is that point at which the map will balance.

The geographic center of the forty-eight conterminous states was determined by the Coast and Geodetic Survey in 1918 by the method described. This geographic center is approximately at latitude  $39^{\circ} 50'N$ , longitude  $98^{\circ} 35'W$ , near Lebanon, Kansas. When Alaska was admitted to the Union, the geographic center of the forty-nine states shifted about 439 miles northwest to a point at approximately latitude  $44^{\circ} 59'N$ , longitude  $103^{\circ} 38'W$ , about eleven miles west of Castle Rock, Butte County, South Dakota. In arriving at this determination the geographic center of Alaska was determined by the method described



and was found to be at latitude  $63^{\circ} 50'N$ , longitude  $152^{\circ} 00'W$ , with an uncertainty of about 15 or 20 miles in any direction. The geographic center of the combination of Alaska and the forty-eight conterminous states is considered to be on the great circle connecting their geographic centers at a point where the two areas would "balance"; i.e., considering each having a weight, proportional to its area, concentrated at the corresponding geographic center.

Later when Hawaii was admitted to the Union, its geographic center was determined to be at latitude  $20^{\circ} 15'N$ , longitude  $156^{\circ} 20'W$ , with an uncertainty set at about 3 or 4 miles in any direction. The geographic center of the fifty states was then determined as being on the great circle connecting the geographic centers of the forty-nine states and Hawaii at a point where these areas would "balance." The effect of including Hawaii was rather small since its area is only about 1/560 of that of the forty-nine states. The geographic center of the fifty states, thus determined, then shifted about six miles west-southwest to latitude  $44^{\circ} 58'N$ , longitude  $103^{\circ} 46'W$ , which is approximately 17 miles west of Castle Rock, Butte County, South Dakota. The uncertainty of this determination is set at about 10 miles in any direction.

