The geology and climate of the Outer Banks of North Carolina played an important part in the success of the Wright brothers. The same conditions that favored the development of the Outer Banks sand hills, known as *Mendanos* to geologists, also assisted the Wrights in their experiments.

The first English travelers to leave a graphic detailed record of the North Carolina coastline was John White in 1590. His map shown here, depicts the coast as would have been seen by the colonists as they approached our coast. In over 500 years little has changed regarding the basic shape of the Outer Banks, although storms often cut new inlets in the dunes. The generally southward drift of the sand is influenced by the prevailing winds and current eddies in the ocean created as a result of the warm waters of the Gulf Stream offshore.

The first map to show the “Three sand hills” of Kill Devil Hills was the 1738 Wimble map shown here. The hills are more or less in their current location on the island and while the relationship to the Albemarle Sound is not exactly as it today, the hills were apparently large land features some 200 years before the Wrights flew around them.
During the U.S. Civil War and shortly thereafter detailed mapping was made of the Outer Banks. This chart shown here is from the 1876 Coast Survey of North Carolina. The dunes structure and surrounding ponds are clearly shown on the map. This graphic shows the area around Kill Devil Hills that greeted the Wrights as it was around 1900.

The question we must ask in Mapping the (W)Right Hills is: “Where are the major sites the Wrights flew around in their historic 1908 public flights?” Fortunately the intrepid bicycle makers left us a useable map of their May 14th, 1908 flights. The map, shown here, is included in a letter written from Dayton by Orville to Wilbur on 3rd. Orville notes that the distances on the map are not to scale, but that “the angles are correct.” The distances to local landmarks (“Little Hill by the Sound”, the “Umbrella Trees”, West Hill, and the Sand Ridge”) were measured by the Wrights and noted on the map. Also depicted are the routes of the two major May 14th flights and where the last flight of the day crashed.
Measuring the angles given by Orville on his map, one can locate where these landmarks are today on the current U.S. Geological Survey 7.5 minute topographic map shown here to the right. The line labeled “L” shows the vector to the “Little Hill by the Sound,” the “T” line shows the vector to the “Umbrella Tree,” and the “S” line the vector to the Sand Ridge. The lower line represents the correct distance from the shed to the West Hill, which checks out correctly between the current map and the map drawn by the Wrights in 1908. The distances to the other landmarks cited by Orville on the map were then postulated given the measurements by the Wrights and the scale on the topographic map. The locations are shown with “x” on the current topographic map. While the tree has remained in the postulated location, the “Little Hill by the Sound” and the Sand Ridge have moved south from the locations cited by Wright in 1908.

Here is a photograph of the so called Umbrella tree (which is actually a Live Oak) shown at it’s current location in Kill Devil Hills. The Sand Ridge can be observed by driving along First Street toward the Sound.