Jiaozhou Bay

The **Jiaozhou Bay** (simplified Chinese: 胶州湾; traditional Chinese: 膠州灣; pinyin: *Jiāozhōu Wān*; German: ***Kiautschou Bucht***, 36°7′24.44″N 120°14′44.3″E) is a bay located in the prefecture-level city of Qingdao (Tsingtau), Shandong Province, China.

The bay has historically been romanized as **Kiaochow**, **Kiauchau** or **Kiao-Chau** in English and **Kiautschou** in German.

History

- The Jiaozhou Bay Bridge is a cable-stayed bridge that spans the Jiaozhou Bay in China. It is the second longest sea-crossing bridge in the world, with a total length of 42.5 kilometers (26.4 miles).
- The bridge was designed by a team of Chinese engineers led by Wang Mengshu. Construction began in 2011 and was completed in 2015.
- The bridge was opened to the public on December 30, 2015. It cost ¥12 billion (US$1.7 billion) to build.

Construction

- The Jiaozhou Bay Bridge is made of concrete and steel. The concrete piers are hollow shafts that were built layer by layer. The steel deck was constructed in sections and then lifted into place.

- The bridge has 600 stay cables, each of which is made of 37,000 strands of wire. The cables are anchored to the pylons and the deck.
- The bridge was built using a variety of techniques, including traditional construction methods and innovative new technologies. For example, a special type of concrete was used to resist the corrosive effects of the seawater.

Design

- The Jiaozhou Bay Bridge is a graceful and elegant structure. The pylons are slender and tapered, and the cables are thin and delicate. The bridge blends in with the natural landscape, and it does not dominate the surrounding area.
- The design of the bridge was inspired by the surrounding mountains and the waves of the sea. The pylons are shaped like mountain peaks, and the cables resemble waves.
- The Jiaozhou Bay Bridge is a marvel of engineering and design. It is a symbol of modern China and a testament to the ingenuity of its builders.

Here are some additional details about the Jiaozhou Bay Bridge:

- The bridge is designed to withstand earthquakes up to 8.0 on the Richter scale and winds up to 250 kilometers per hour (155 miles per hour).
- The bridge has a two-hinged stiffening girder system, which allows the entire structure to flex and sway in response to wind and earthquake forces.
- The bridge has pendulums designed to damp forces. These pendulums are located at the top of the pylons and they help to absorb energy from the wind and waves.
- The bridge expands up to 2 meters (6.6 feet) a day because of heating. This expansion is accommodated by the use of expansion joints in the bridge deck.