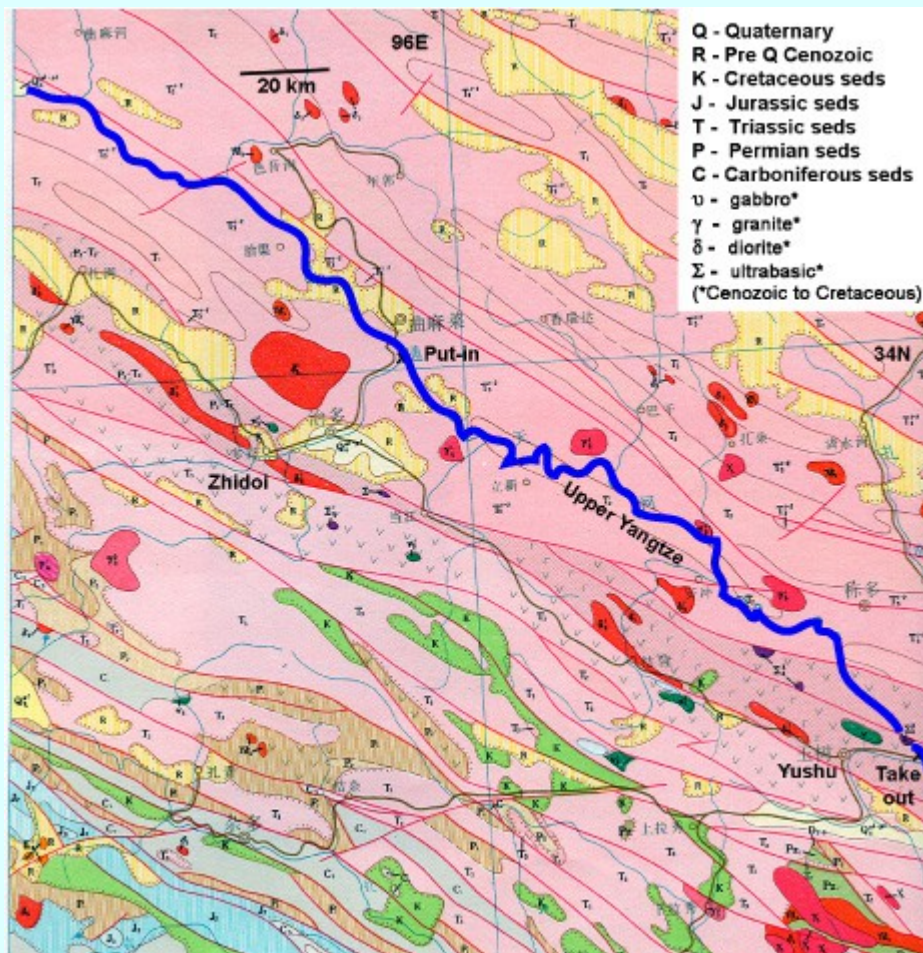


Geology and Geography of the Yangtze Headwaters Area

Geologic Map of the Yangtze Headwaters Area



Map produced by the Chinese Ministry of Geology and Mineral Resources
Original scale 1:1,000,000

The Yangtze is called the Tongtian He in its headwaters region. The headwaters are located in the southwest part of the Oligocene block of the Tibet-Qinghai Plateau, near the NW extension of the Jinsha Fault. The area is characterized by folded and faulted mid to Paleozoic to early Cenozoic sedimentary rocks occurring in fault bounded NW trending blocks. The average elevation is about 16,000 feet, typical of this part of the Plateau.

The Jinsha regional fault system separates the Eocene block, which began to uplift about 50 mya, from the Oligocene block, which began to uplift about 40 mya. Paleozoic rocks occur primarily in the Eocene block to the SW of the river canyon. The river cuts through Triassic rocks with minor exposures of early Cenozoic rocks (Paleocene-Eocene). These are also the primary rocks NE of the river. Numerous small granitic to dioritic Cretaceous intrusives occur on both sides of the river, primarily in Triassic rocks.

The size and shape of early Cenozoic rock exposures suggests the sediments were eroded from nearby older rocks and deposited in small basins created by early folding events as uplift of the Plateau progressed northeastward. Consequently, the upper Yangtze tributaries probably didn't integrate to develop as a major river drainage until mid Cenozoic.



Photo by Tony Griesbach

In the upper river valley, the river bed is filled with glacial gravels, as seen in the photo above. As the river gains volume and cuts deeper into the crystalline rocks, gravels have been scoured and bedrock obstacles become more common.