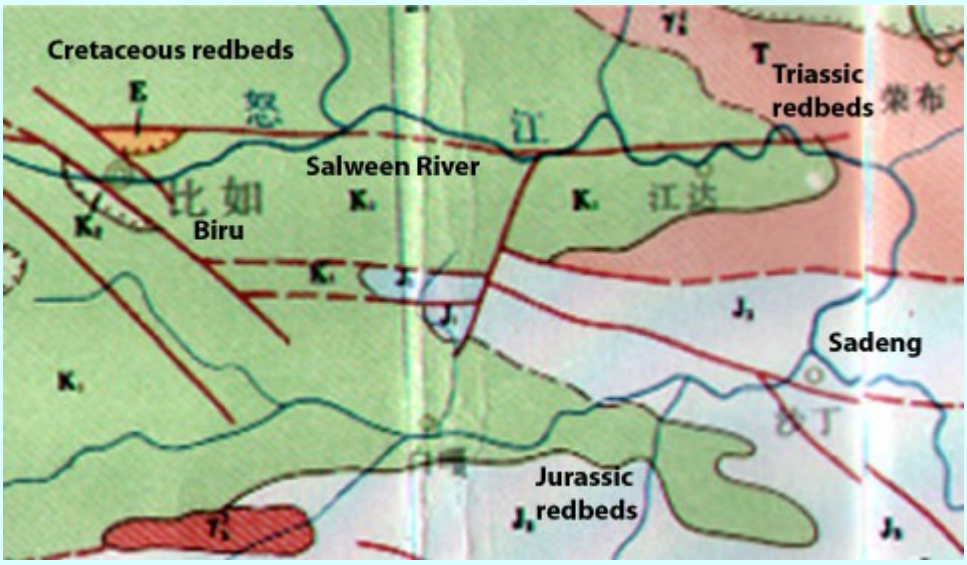
Geology and Geography of the Salween Headwaters Area

Geologic Map of the Salween from Biru to Sadeng

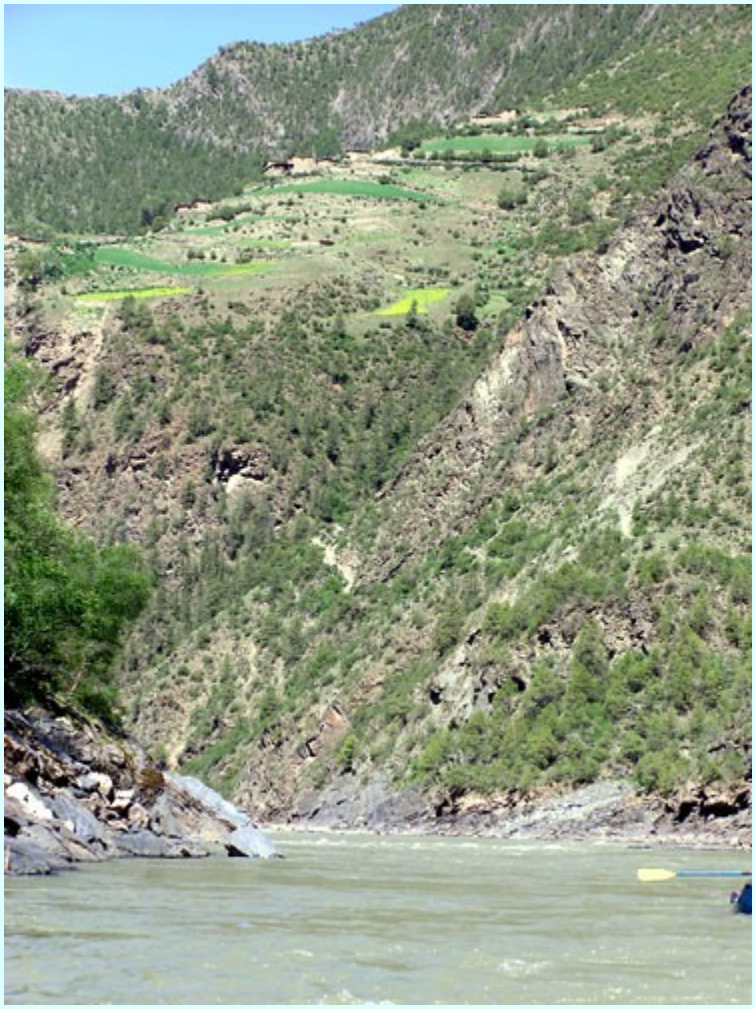


Map produced by the Chinese Ministry of Geology and Mineral Resources
Original scale 1:1,000,000

This section of the headwaters of the Salween is located in the east central part of the Eocene block of Tibet, near the NW extension of the Ailao Shan Fault. Like the section from Nagqu to Biru, the area is characterized by folded and faulted Mesozoic sedimentary rocks unconformably overlying unmapped Paleozoic high grade metamorphic rocks (migmatites, acid intrusives and schists). Faults generally trend E-W or NW. The average elevation is about 16,000 feet, typical of the Tibetan Plateau. The E-W fault shown following the river east of Biru was not evident.

The Triassic, Jurassic and Cretaceous sediments are typically red clastic rocks. Together, they are well over 2000 feet thick, as seen in the scenic view below (looking southeast). These sediments were deposited on and near a coastal plain prior to the collision of India and China. The underlying crystalline rocks that outcrop in the canyon above Biru are exposed from the river to increasing elevations as one progresses further downstream and eventually represent most of the gorge that is visible from river level (2,000 - 3,000'). They represent Paleozoic continental collision.

Mesozoic redbeds west of Biru. Photo by Cindy Appel



Paleozoic metamorphics form the canyon east of Biru. Photo by Cindy Appel

In general, the river bed is filled with glacial gravels and rapids are due to constriction.

However, there are major rapids formed by landslides. As the river gains volume and cuts deeper into the crystalline rocks, gravels have been locally scoured and bedrock obstacles become more common.

In places the river followed deeply entrenched meanders, suggesting that in its early history it flowed through a basin filled with unconsolidated sediments, probably its own as it found its way off the rising Tibetan Plateau.