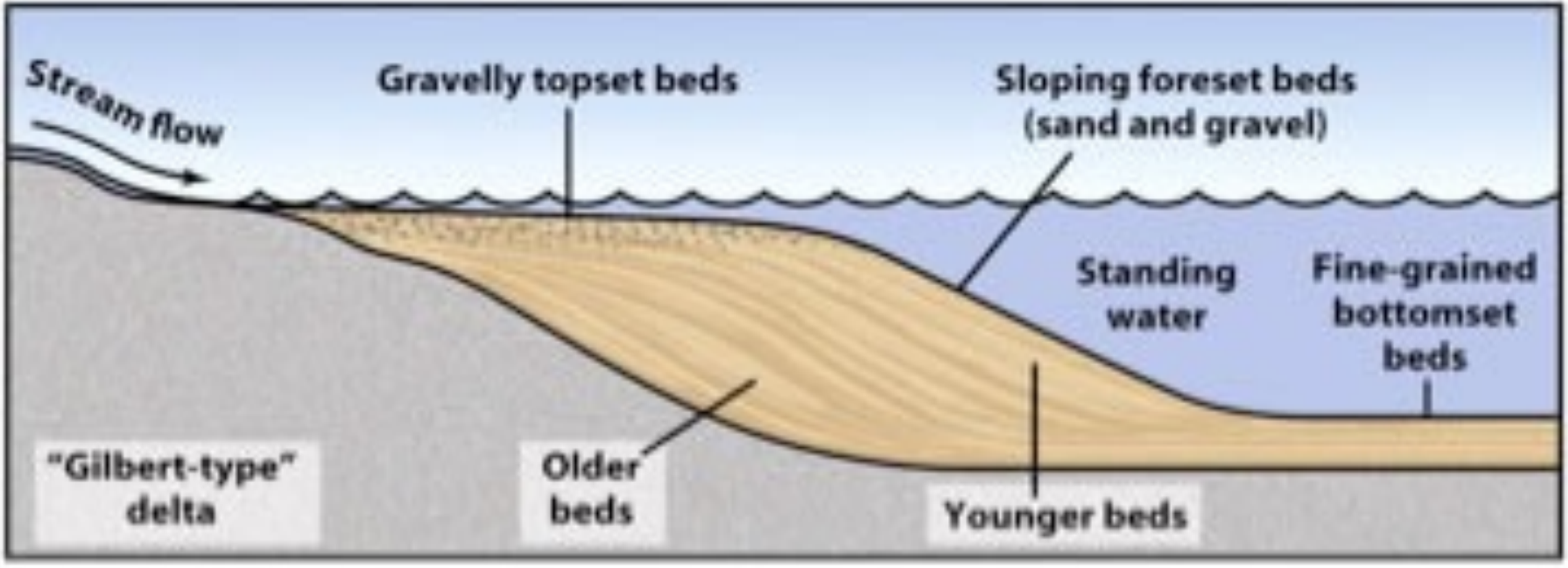
School of Geosciences

Early description

- In 1890, American geologist Grover Karl Gilbert recognized that the deposition of finer-grained material farther away from the shoreline also created a distinctive vertical sequence in delta deposits.


Stream flow
Gravelly topset beds
Sloping foreset beds
(sand and gravel)
Standing
water
Fine-grained
bottomset
beds
"Gilbert-type"
delta
Older
beds
Younger beds

- The resulting foreset layer is thus graded from coarse nearshore to fine offshore.

- The bottomset layer consists of the finest material, deposited far out.

- As this material continues to build outward, the stream must extend its length and forms new deposits, known as topset layers.

Early description

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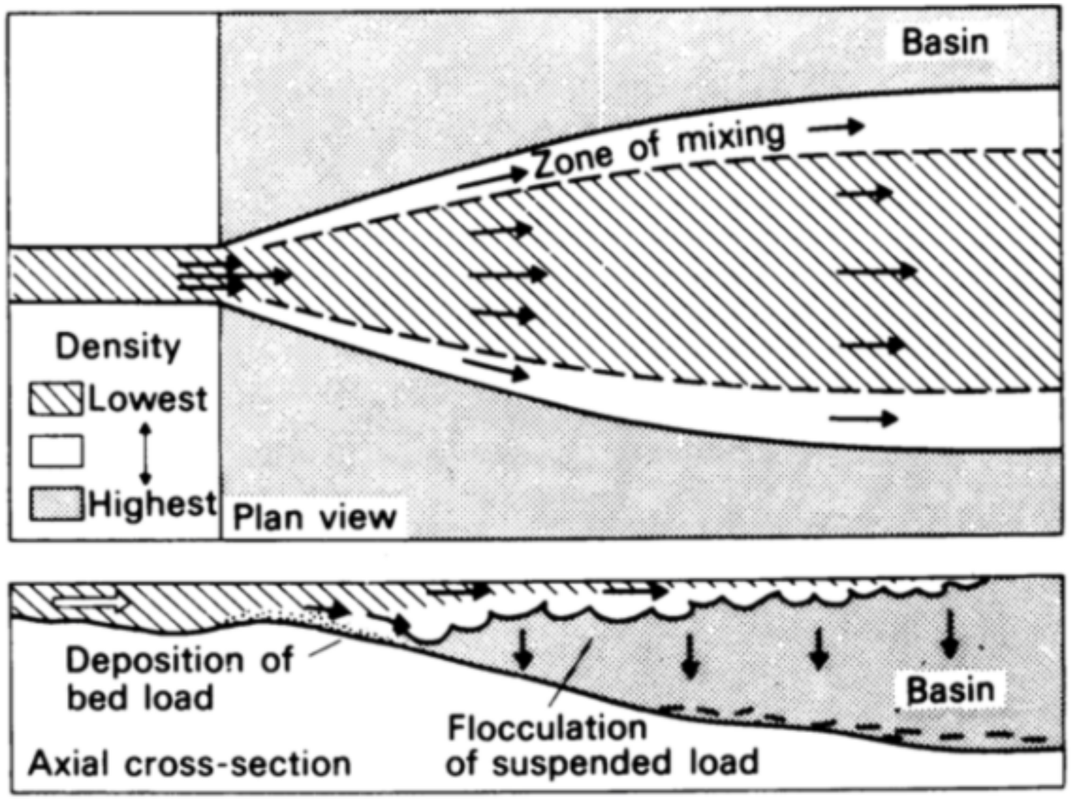
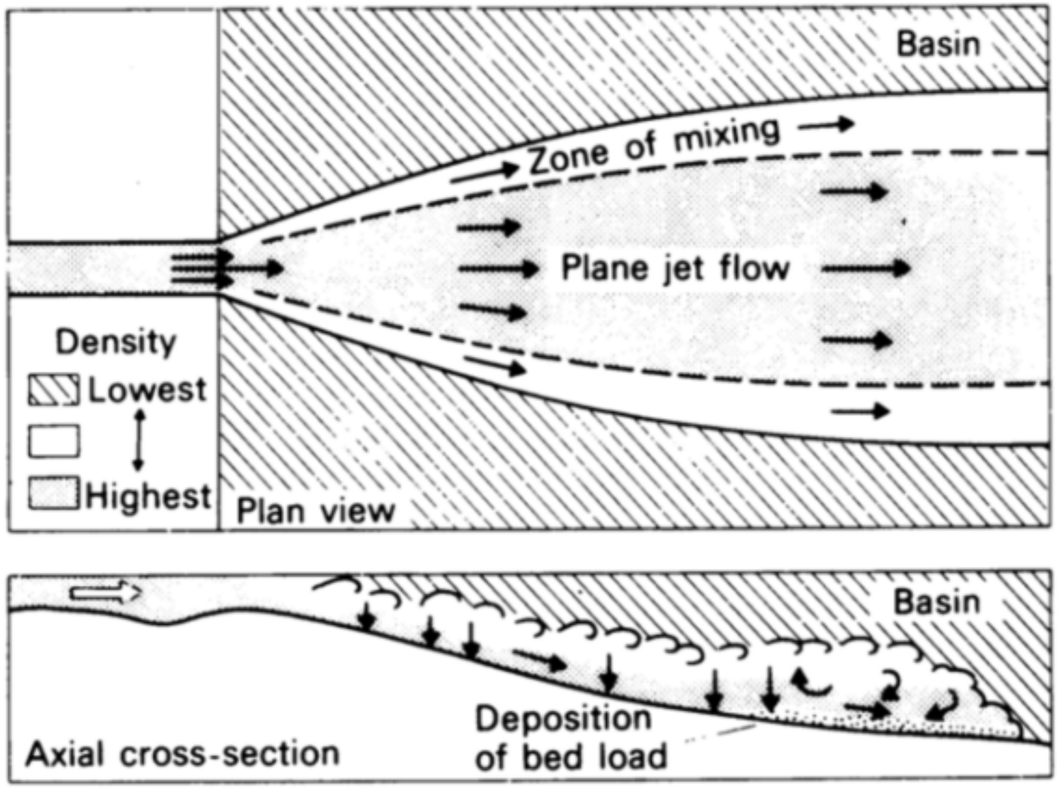
Influence of grain size





Hypopycnal : inflowing water has a lower density than basin water (buoyancy), leading to separation of bed load and suspended load.

Hyperpycnal : inflowing water has a higher density than basin water, leading to inertia-dominated density currents.