

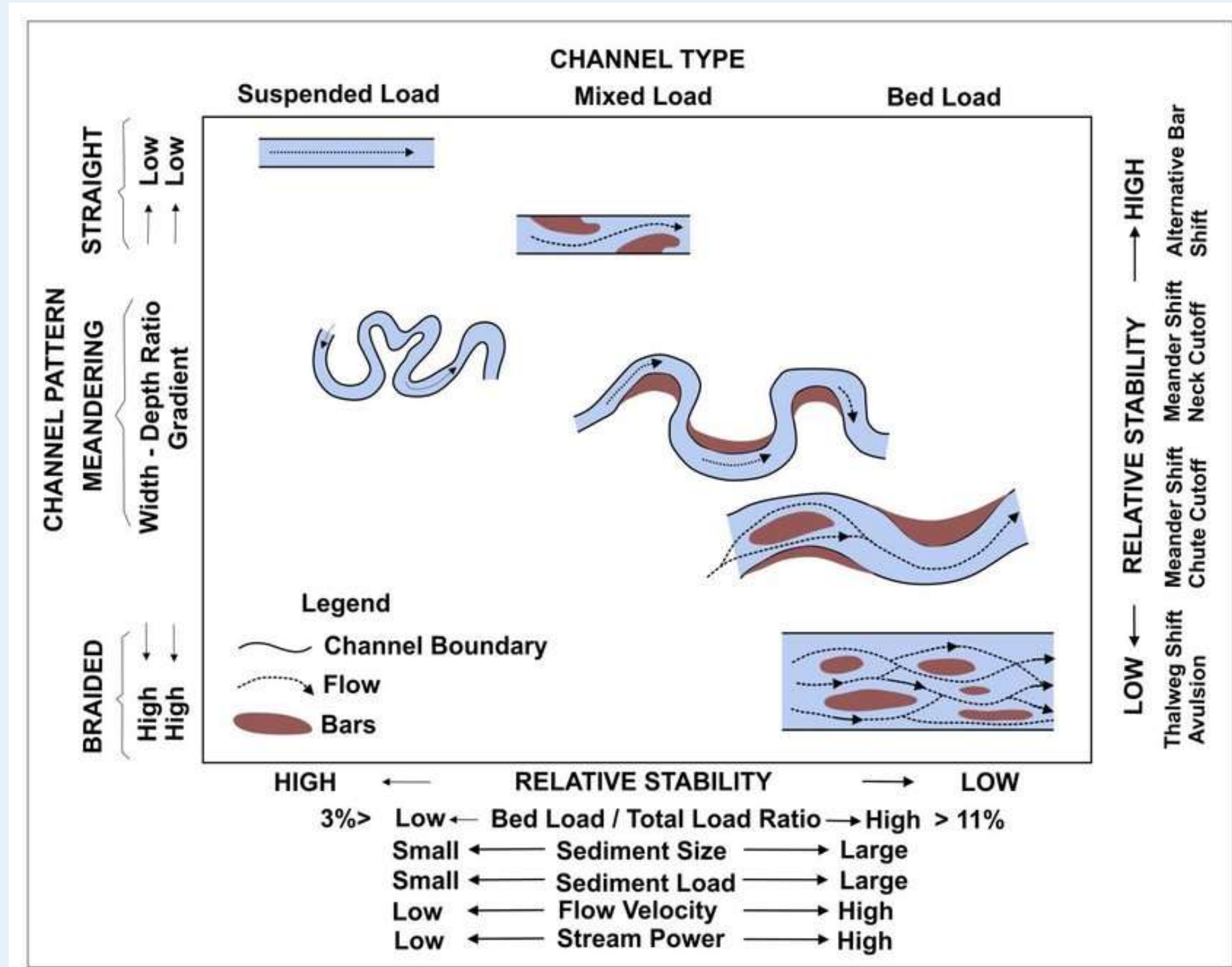
Course Contents

1. Fluvial System
2. Flow mechanics
3. Longitudinal Profile
4. Erosion processes
5. Sediment transportation
- 6. Channel morphology**
7. Floodplains
8. Terraces

Channel Morphology and Pattern

Alluvial Channels

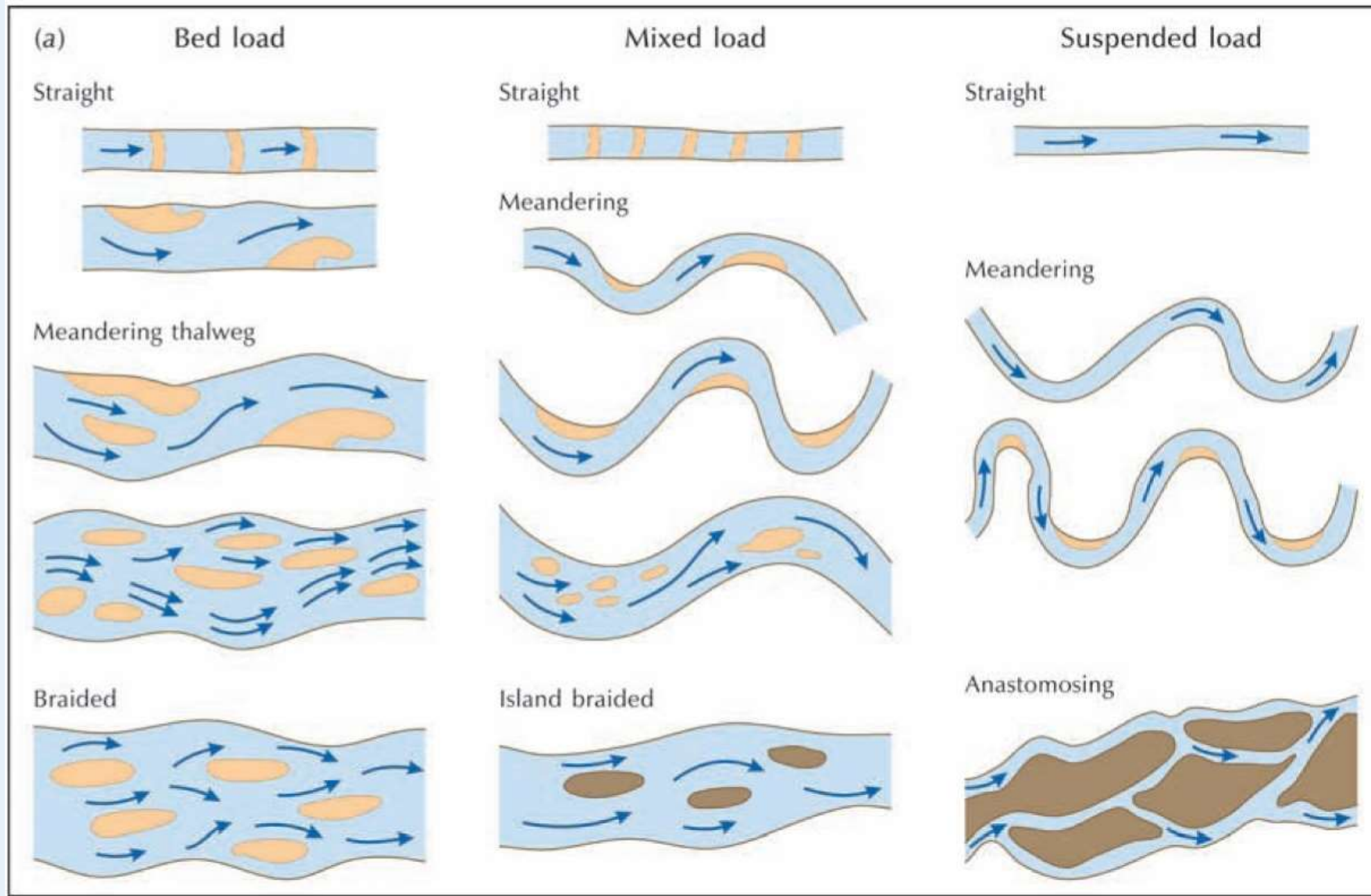
Schumm's classification of alluvial rivers.



Channel Morphology and Pattern

Alluvial Channels

1. Straight channels

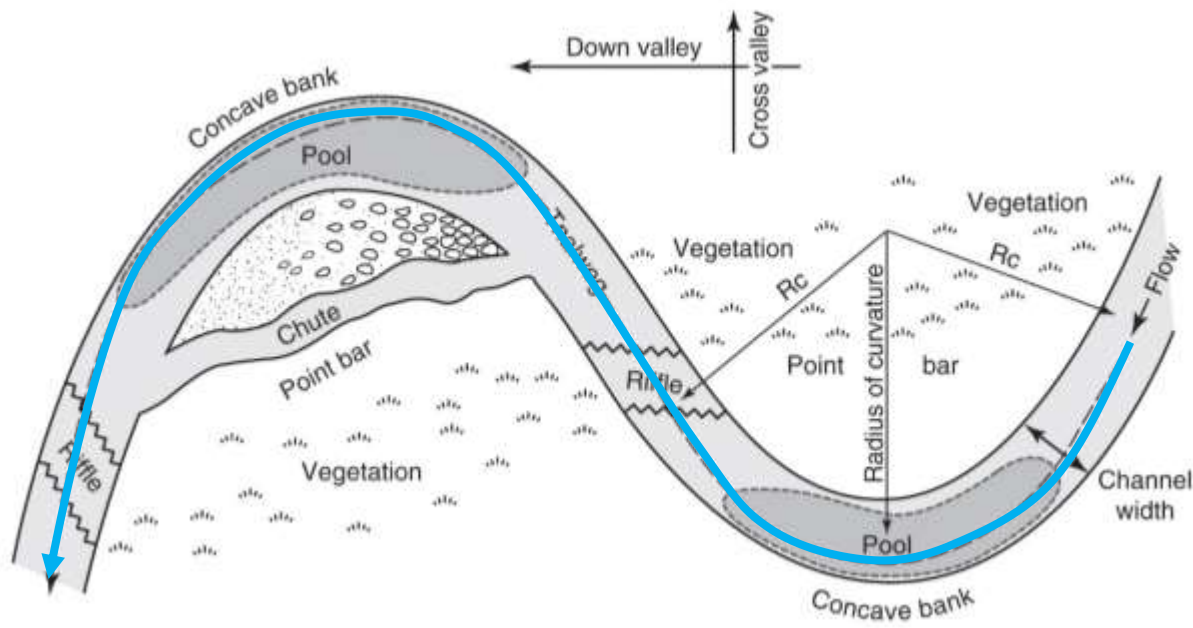


Channel Morphology and Pattern

Alluvial Channels

2. Meandering Channels

Meandering rivers are the most common type of channel pattern on the Earth.

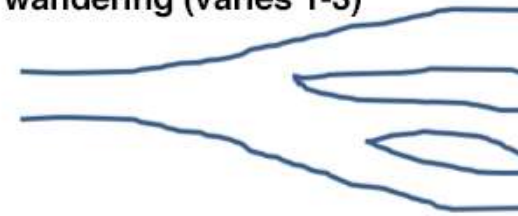


Number of channels

single



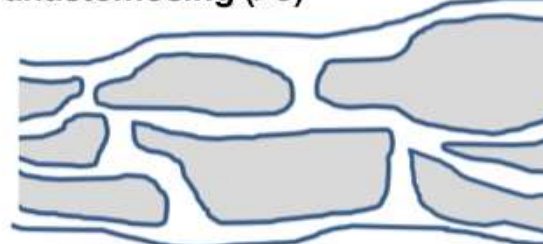
wandering (varies 1-3)



braided (>3)



anastomosing (>3)



discontinuous



Degree of Sinuosity

straight (1 to 1.05)



low sinuosity (1.06 to 1.3)



sinuous (1.3 to 3)



Type of Sinuosity

regular



irregular



tortuous

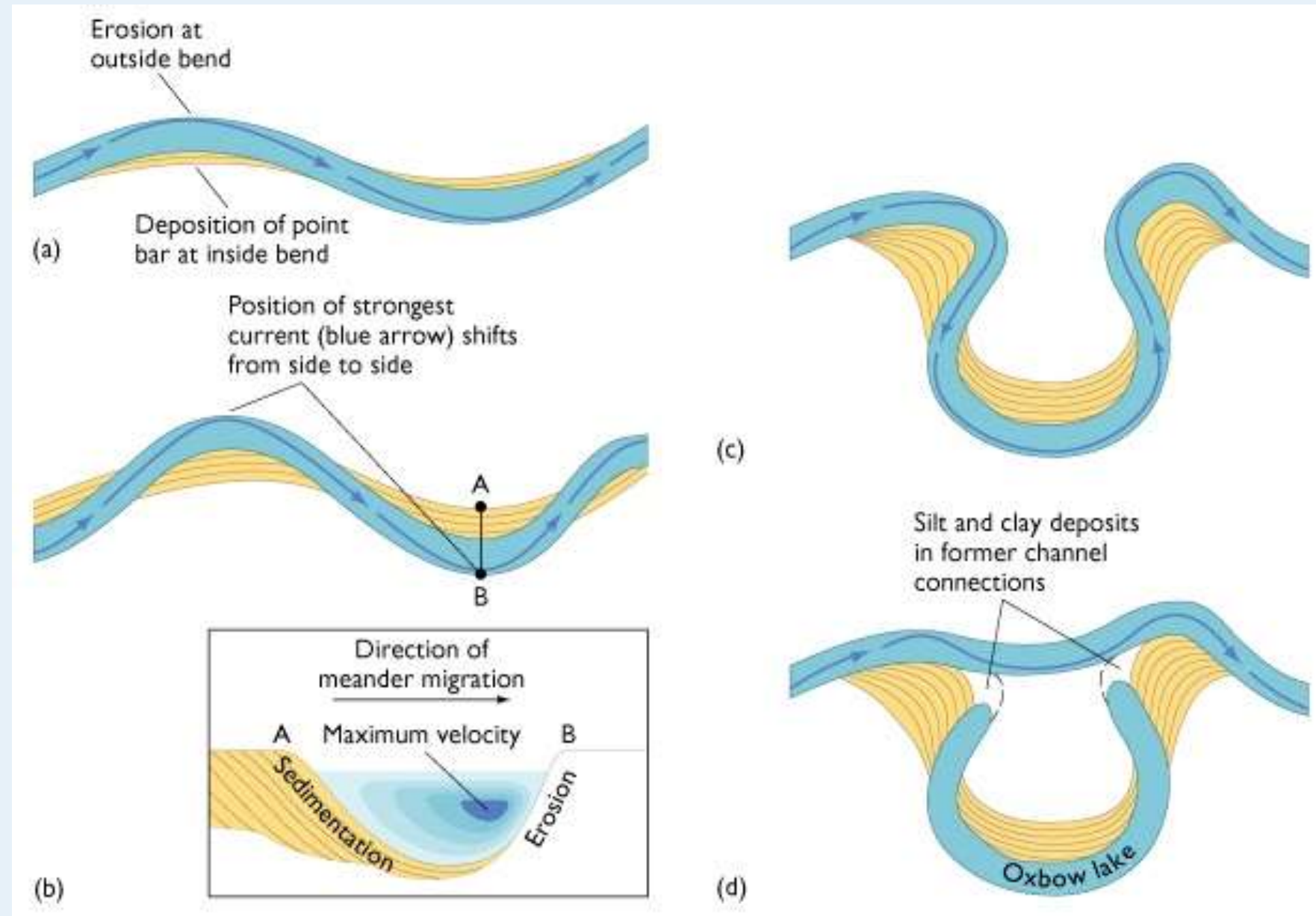


<https://www.e-education.psu.edu/earth111/node/871>

Channel Morphology and Pattern

Alluvial Channels

2. Meandering Channels



Channel Morphology and Pattern

Alluvial Channels

2. Meandering Channels



Channel Morphology and Pattern

Alluvial Channels

2. Meandering Channels



Channel Morphology and Pattern

Alluvial Channels

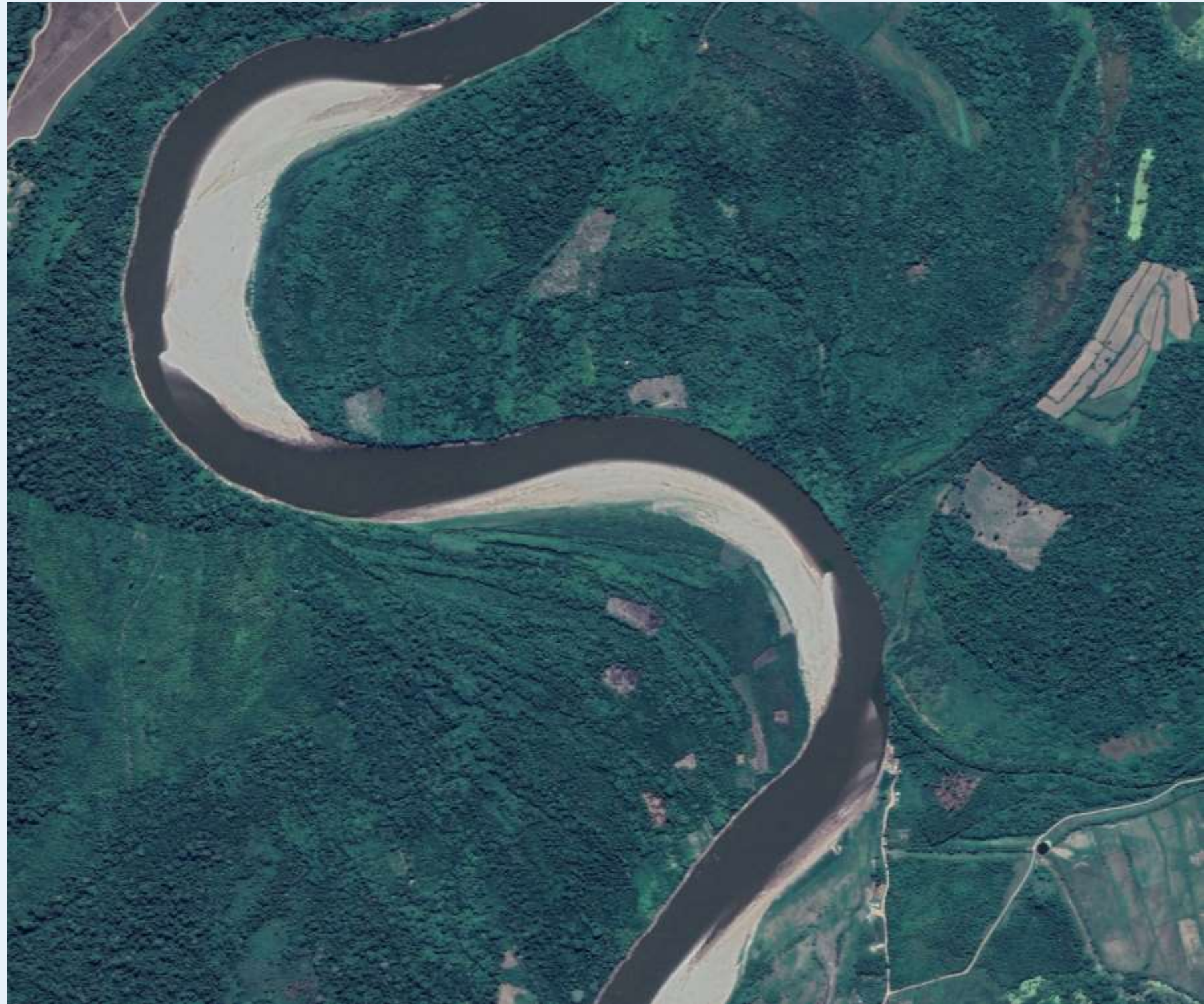
2. Meandering Channels



Channel Morphology and Pattern

Alluvial Channels

2. Meandering Channels



Channel Morphology and Pattern

Alluvial Channels

2. Meandering Channels

https://www.youtube.com/watch?v=izgc3vFimP8&ab_channel=Geo deGraaf

https://www.youtube.com/watch?v=kJuWNjYBudI&ab_channel=Sate llitetimelapse



<https://www.nps.gov/articles/meandering-stream.htm>

Channel Morphology and Pattern

Rakaia River New Zealand

Alluvial Channels

3. Braided rivers

Braided rivers are characterized by multiple, unstable channel and ephemeral bars formed by intense bed-load transport, and a set of very active channel processes. The separate channels of a braided stream are divided by islands or bars. Bars which divide the stream into separate channels at low flow are often submerged at high flow.



<https://eos.org/opinions/reimagining-stem-workforce-development-as-a-braided-river>

Channel Morphology and Pattern

Rakaia River

Alluvial Channels

3. Braided rivers

https://www.youtube.com/watch?v=sYekCDkV-3o&ab_channel=DanielGarc%C3%ADa-Castellanos



<https://pixels.com/featured/braided-streams-of-the-rakaia-river-david-wall.html>

Channel Morphology and Pattern

Alluvial Channels

4. Anabranching and
'Anastomosing'



<https://twitter.com/HaggardHawks/status/928803144318046208/photo/1>

Channel Morphology and Pattern

Alluvial Channels

4. Anabranching and

'Anastomosing'



https://www.researchgate.net/publication/312577782_Synthesizing_the_Scientific_Foundation_for_Ordinary_High_Water_Mark_Delineation_in_Fluvial_Systems/figures?lo=1&utm_source=google&utm_medium=organic

Channel Morphology and Pattern

Alluvial Channels

4. Anabranching and 'Anastomosing'



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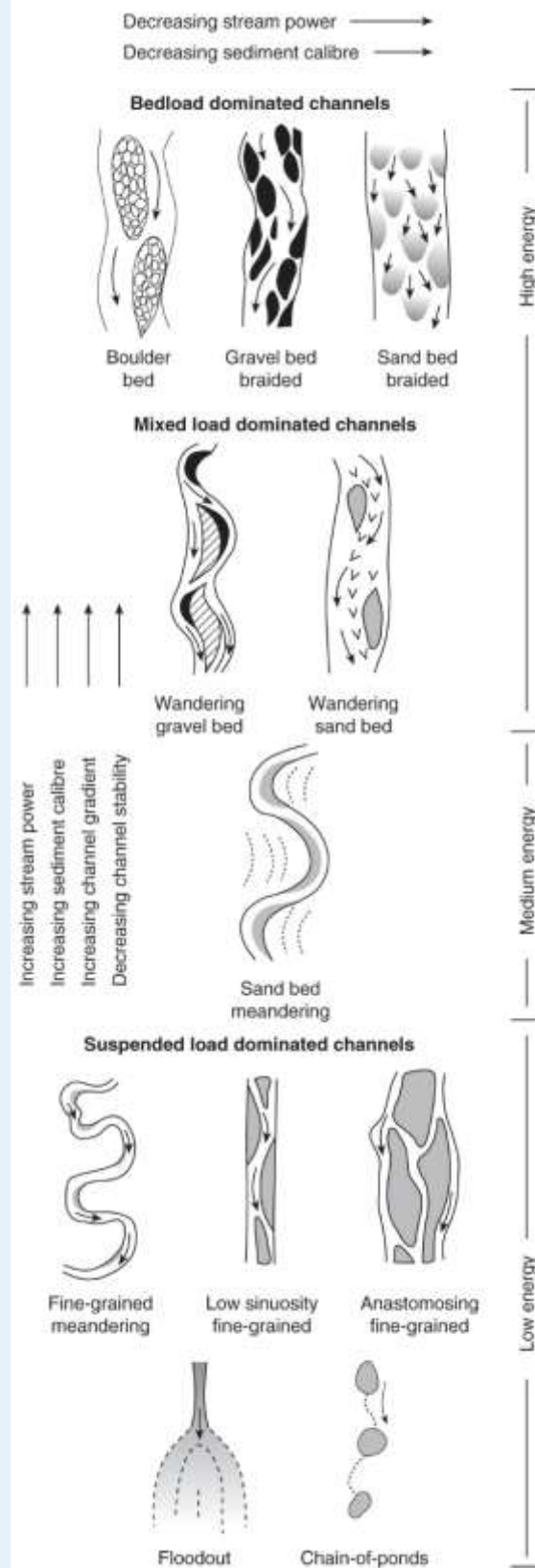


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<https://www.agefotostock.com/age/en/details-photo/yukon-river-in-whitehorse-yukon-territory-canada/IBR-475101>

Channel Morphology and Pattern

Alluvial Channels



Charlton, R. 2007 Fundamentals of Fluvial Geomorphology