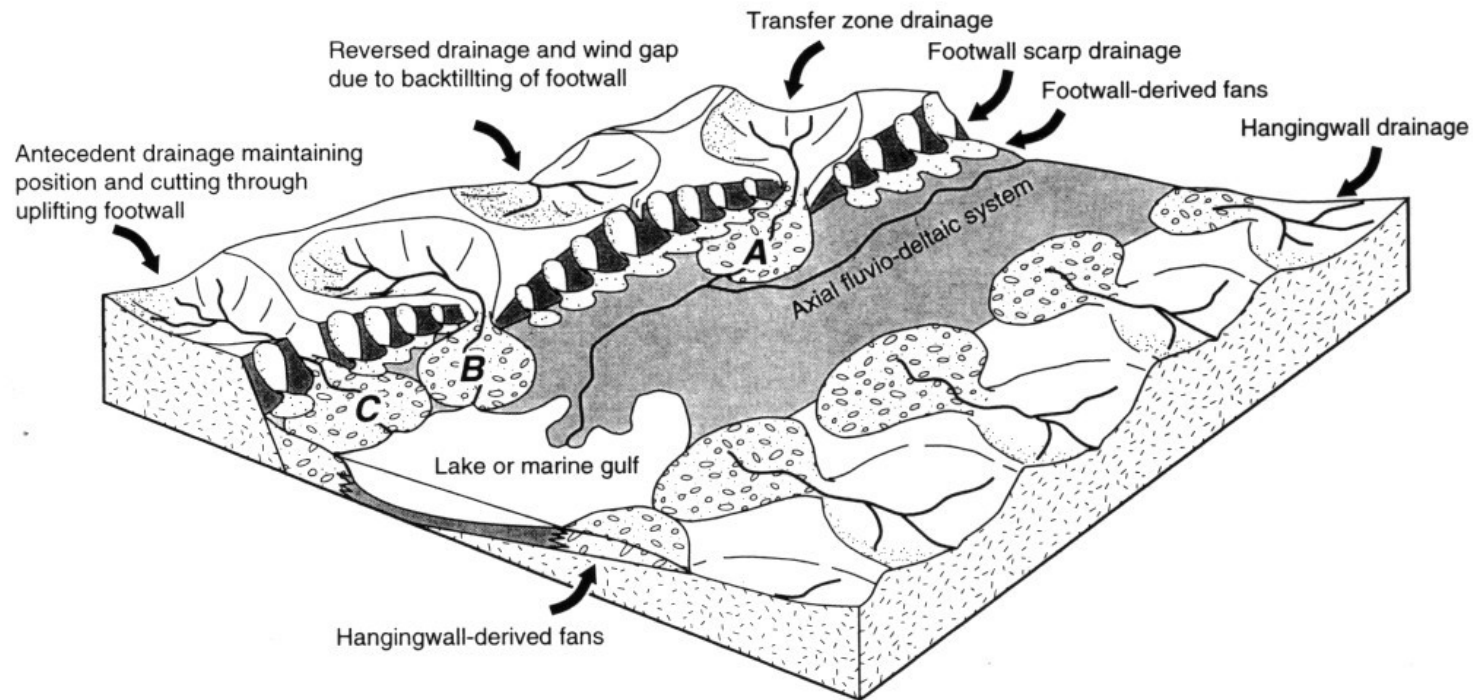


Sedimentologia – GSA0252

Facies e ambientes aluviais

Prof. André Marconato

Ambientes continentais

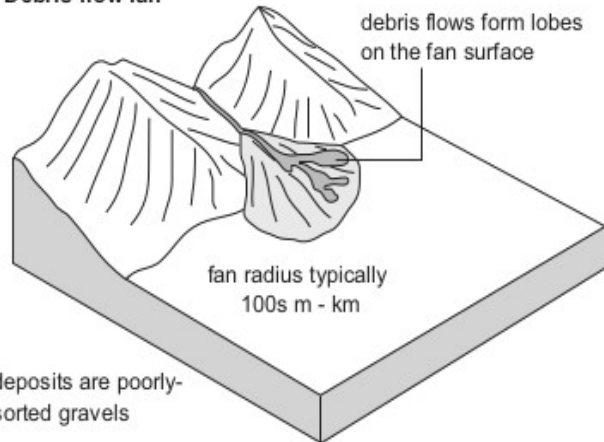


Leques aluviais



Leques aluviais

Debris-flow fan



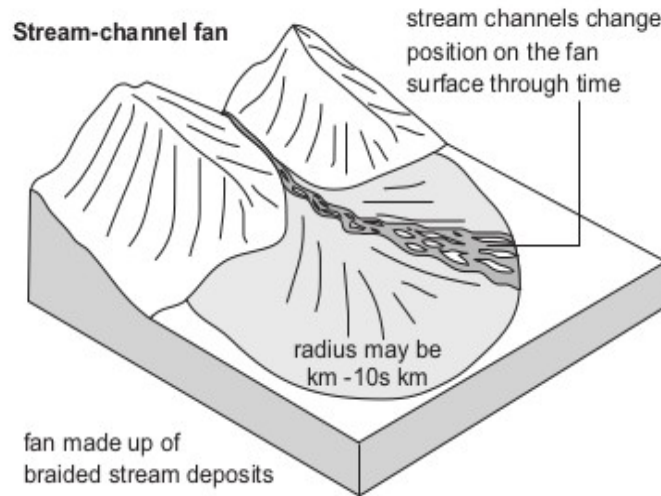
CC BY-SA 4.0, 3.0, 2.0, 1.0, 0

Debris flow alluvial fan					
Scale	Lithology				
		MUD	SAND	GRAVEL	
		clay silt	vf m c	vc gran pebb cobb -boul	
ms- 10s m					Debris flow dominated fan. Matrix-supported, poorly sorted conglomerate beds, no sedimentary structures

Diagram illustrating a sheetflood fan. The fan is shown spreading out over a surface, with the radius typically 1-10 km. The deposits are stratified sands and gravels. A label indicates that sheet floods spread out over part of the fan surface.

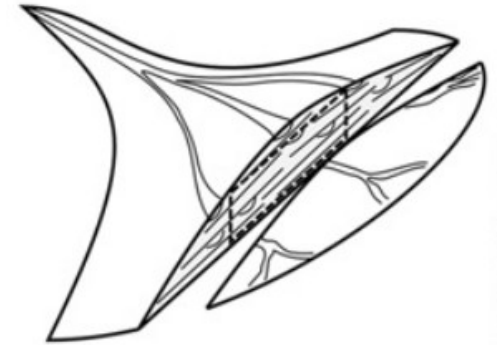
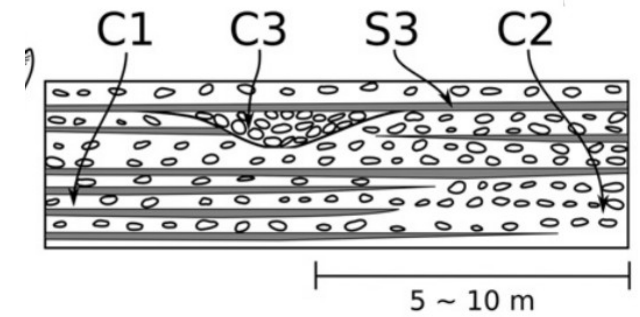
Sheetflood alluvial fan						
Scale	Lithology	MUD	SAND	GRAVEL	Structures etc	Notes
		day silt vl f m vc	gran pebb cobb boul			
ms- 10s m						Sheetflood fan deposits. Horizontally stratified conglomerate and sandstone

Leques aluviais

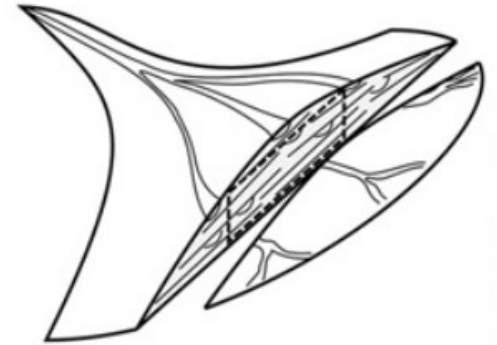
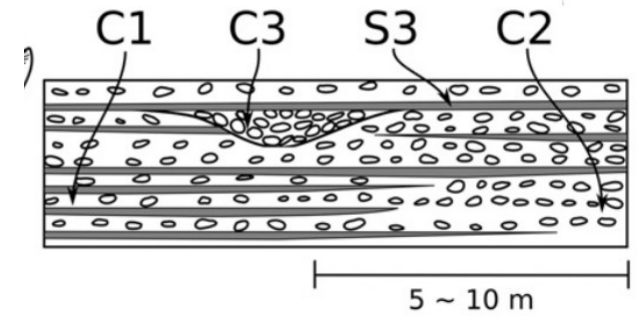


Stream channel alluvial fan										
Scale	Lithology						Structures etc	Notes		
		MUD		SAND		GRAVEL				
		clay	silt	vf	m	vc	gran	pebb	cobb	boul
ms - 10's m										

Leques aluviais



Leques aluviais



Sistemas fluviais



Rios Entrelaçados
(Rio Resurrection – Alaska)

Os canais possuem razão
largura/profundidade >40
(podendo passar de 300)

Rios Meandrantos (Owens
Valley – Canadá)

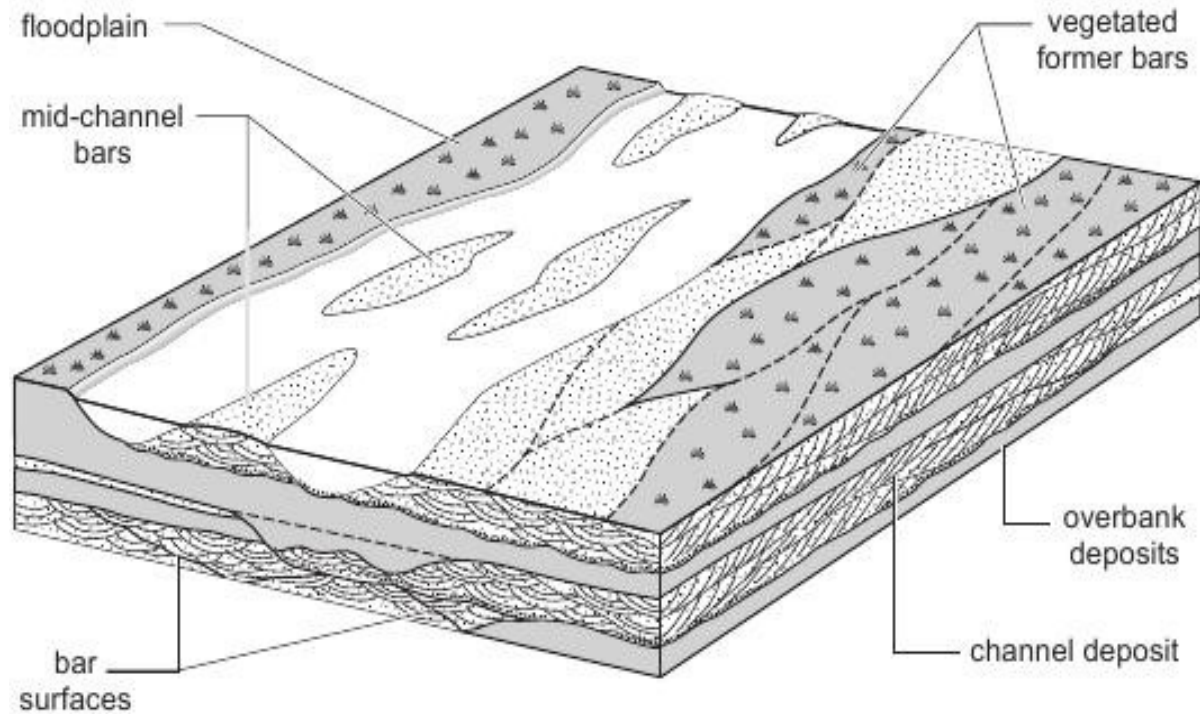
Canais com alta
sinuosidade e razão



Sistemas Entrelaçados



Sistemas Entrelaçados



Braided river					
Scale	Lithology	MUD	SAND	GRAVEL	Structures etc
		clay silt	vf m vc	gran pebb cobb boul	
metres					Overbank muds and thin sands with soils and roots
					Channel-fill succession of cross-bedded sands, decrease in cross-bed set thickness upwards, fining-up
					Scoured base of channel

Sistemas Entrelaçados



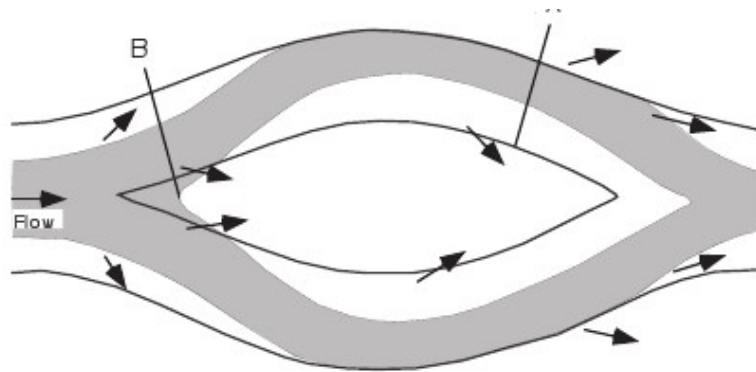
Sistemas Entrelaçados



Sistemas Entrelaçados



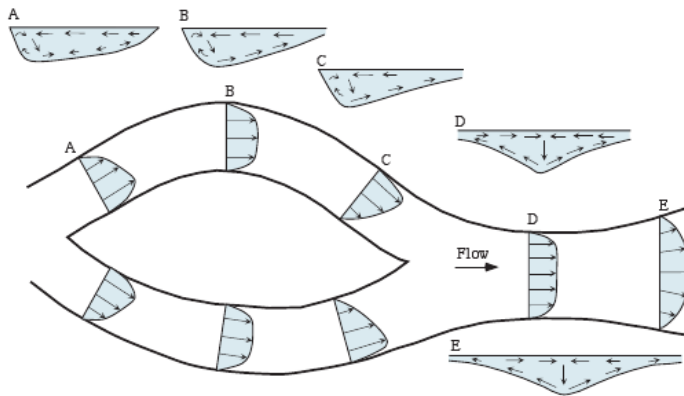
Sistemas Entrelaçados



- Potential rising-stage erosion, falling-stage deposition
- Potential rising-stage deposition, falling-stage erosion

➔ Potential cross-bar channel directions at high stage

A



Sistemas Entrelaçados

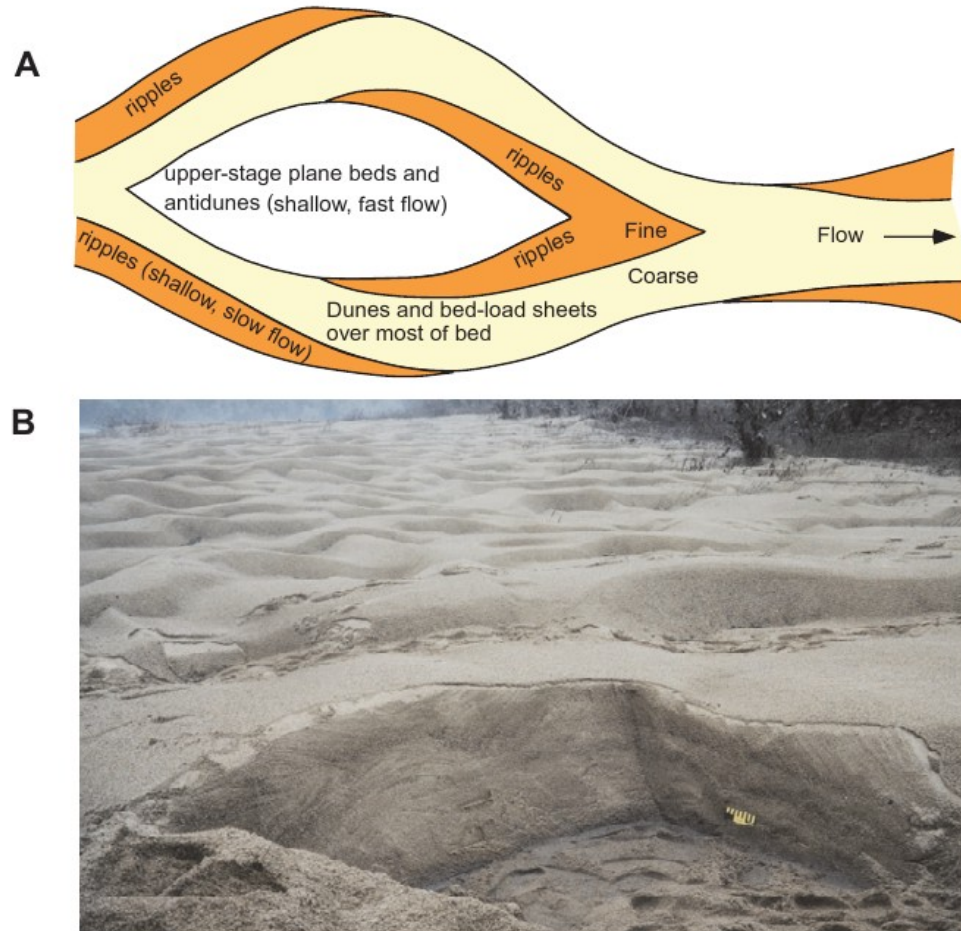
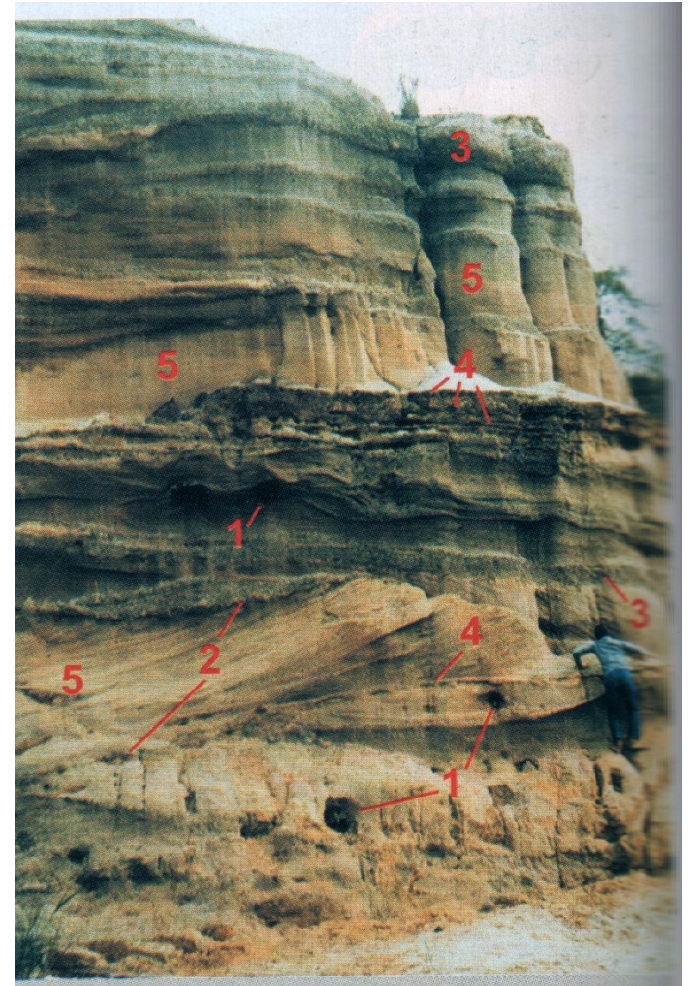
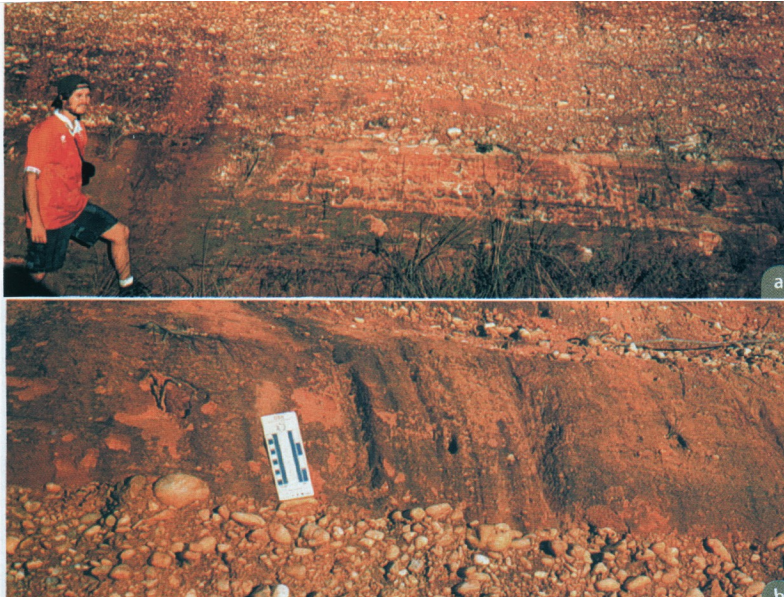


FIG. 11.—**A)** Schematic distribution of bedload grain size and sub-bar-scale bed forms in sandy and gravelly rivers at bankfull flow stage. Ripples occur only in sands with diameter less than about 0.7 mm. The boundary between coarse and fine sediment is actually gradational. **B)** Dunes preserved on the upper part of a point bar (Congaree River, South Carolina, U.S.A.) following a flood. Medium-scale trough cross strata exposed in trench in foreground. The scale in the trench is 0.15 m long, and the trench is about 0.75 m deep.

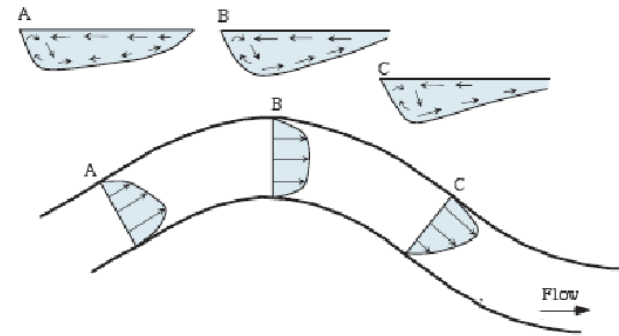
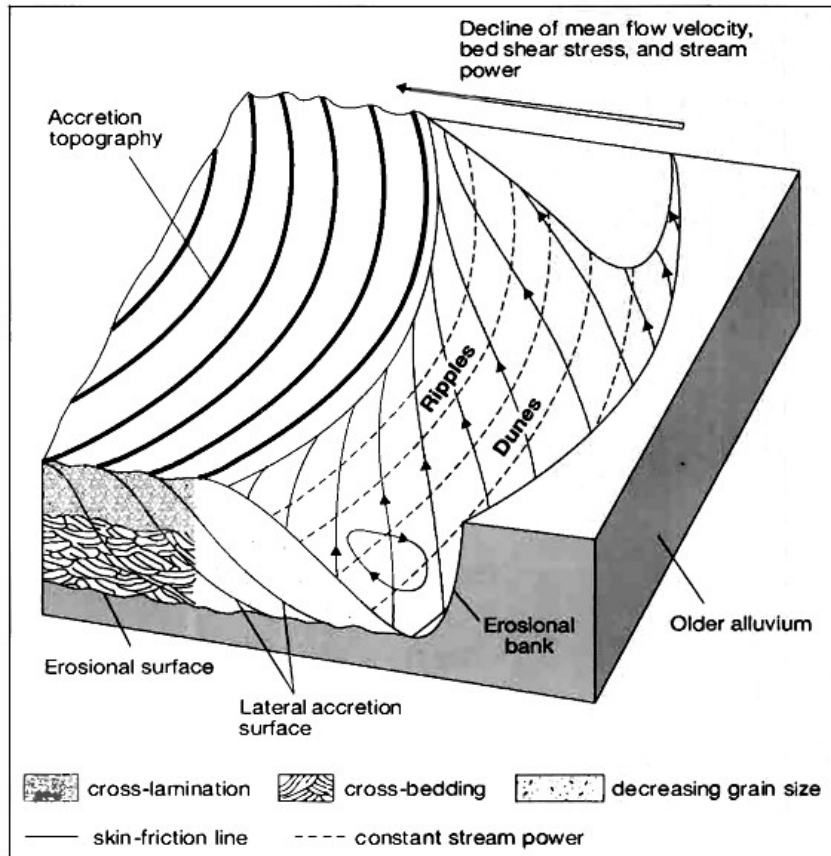
Sistemas Entrelaçados



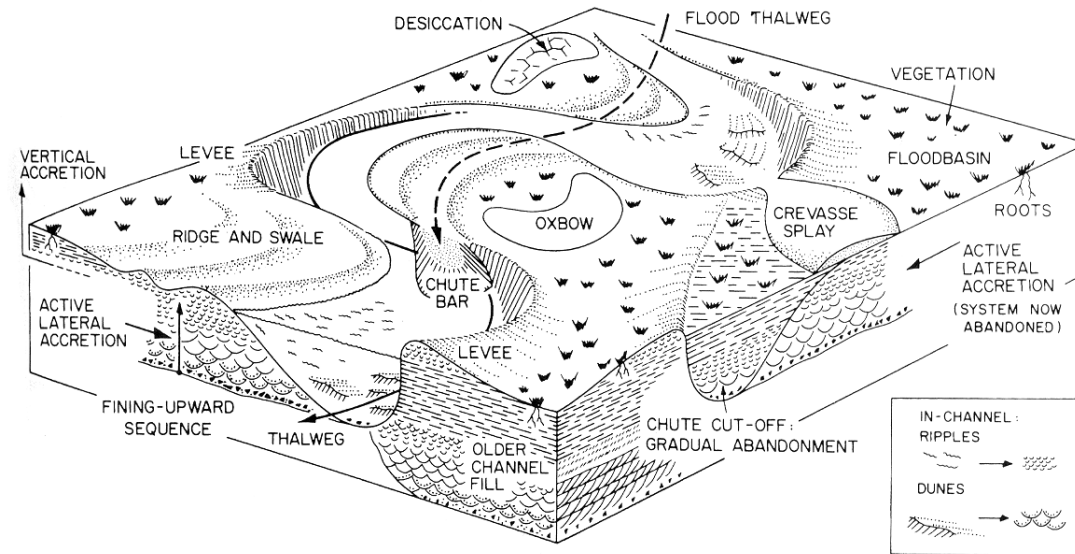
Sistemas meandранtes

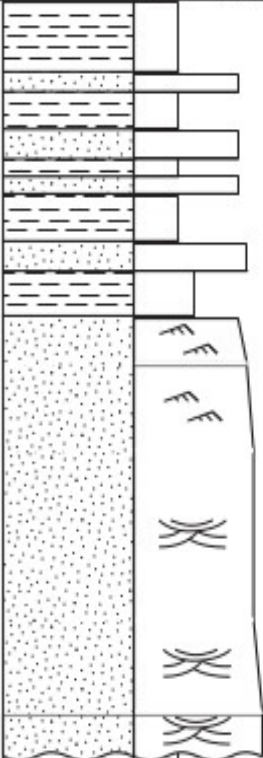
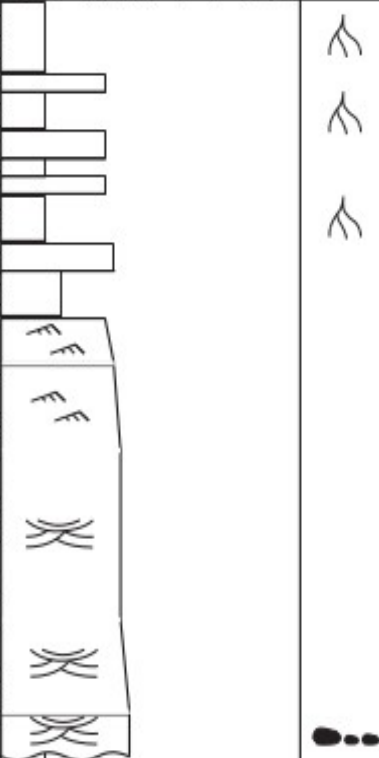


Sistemas meandranes



Sistemas meandranes

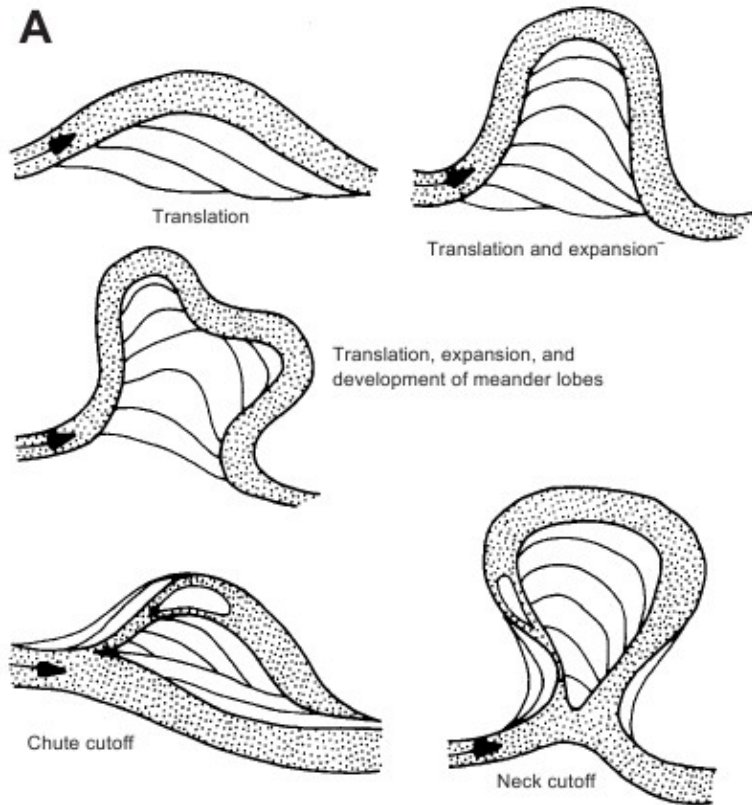


Meandering river												
Scale	Lithology	MUD SAND GRAVEL									Structures etc	Notes
		clay	silt	vf	m	vc	gran	pebb	cobb	boul		
metres												Overbank muds and thin sands with soils and roots Channel-fill succession of cross-bedded sands and cross-laminated sands, fining-up. Lateral accretion surfaces perpendicular to cross-beds. Scoured base of channel

Sistemas meandrantes



Sistemas meandranes



Sistemas meandranantes



Senguerr River, Argentina

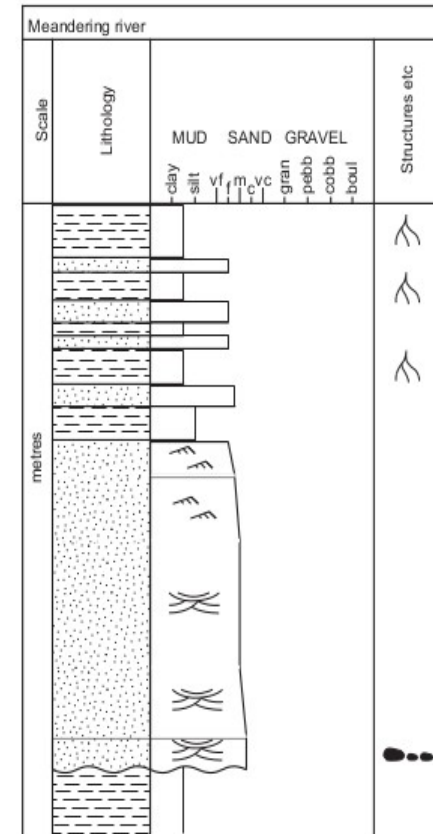
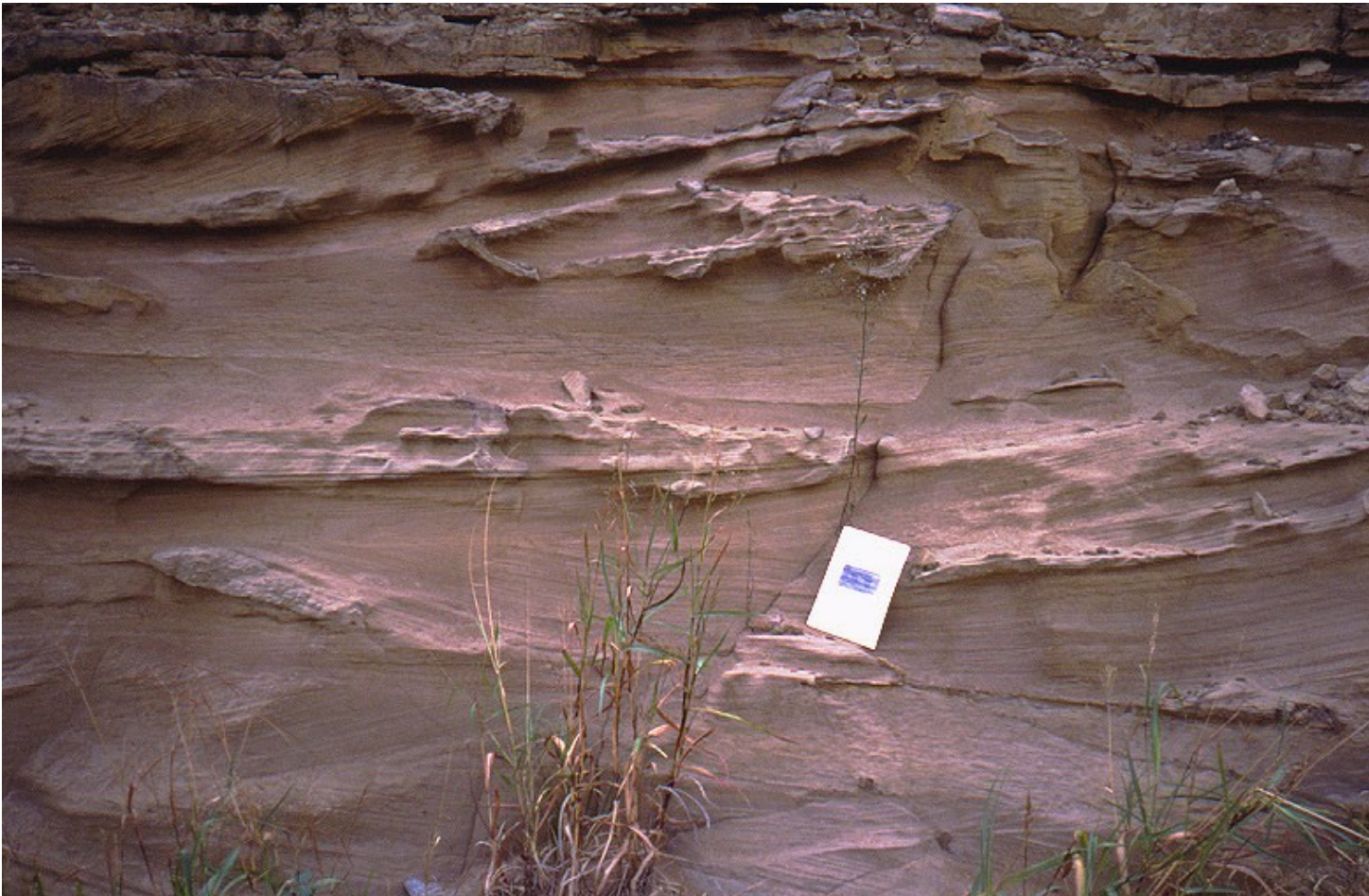
Sistemas meandranantes



A close-up photograph of a sandy beach. The sand is a mix of light and dark brown tones, with numerous small, light-colored pebbles and shells scattered across the surface. The texture is granular and uneven, with some areas appearing more saturated or darker than others. The lighting is natural, highlighting the various shades and textures of the beach material.

Meandering river			
Scale	Lithology	MUD SAND GRAVEL	Structures etc
		clay silt vf mc vc gran pebb cobb boul	
metres			

Sistemas meandranantes



Meandering river		
Scale	Lithology	Structures etc
	MUD SAND GRAVEL clay silt vf f m c vc gran pebb cobb boul	
metres		

Meandering river			
Scale	Lithology	MUD SAND GRAVEL	Structures etc
		clay silt vf mc vc gran pebb cobb boul	
metres			

Variedade de estilos

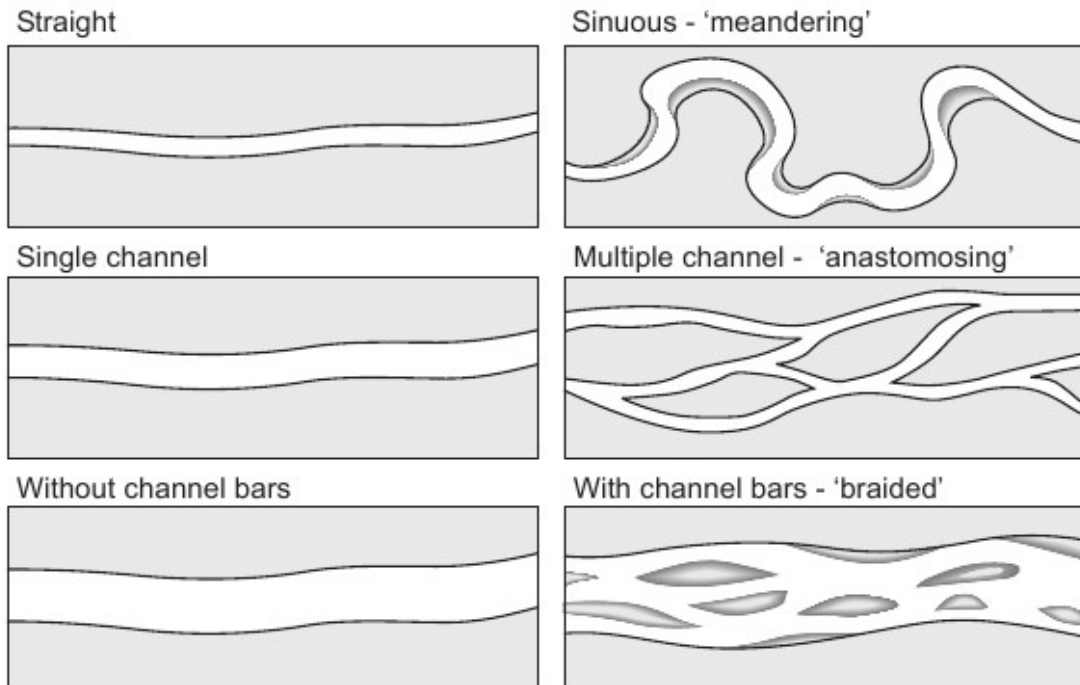
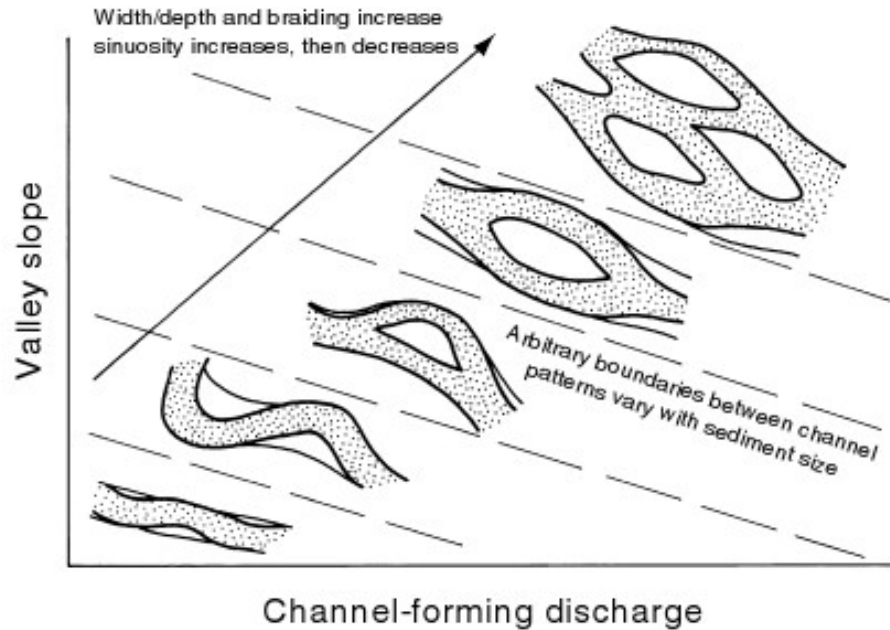


Fig. 9.3 Several types of river can be distinguished, based on whether the river channel is straight or sinuous (meandering), has one or multiple channels (anastomosing), and has in-channel bars (braided). Combinations of these forms can often occur.

Variedade de estilos

A



B

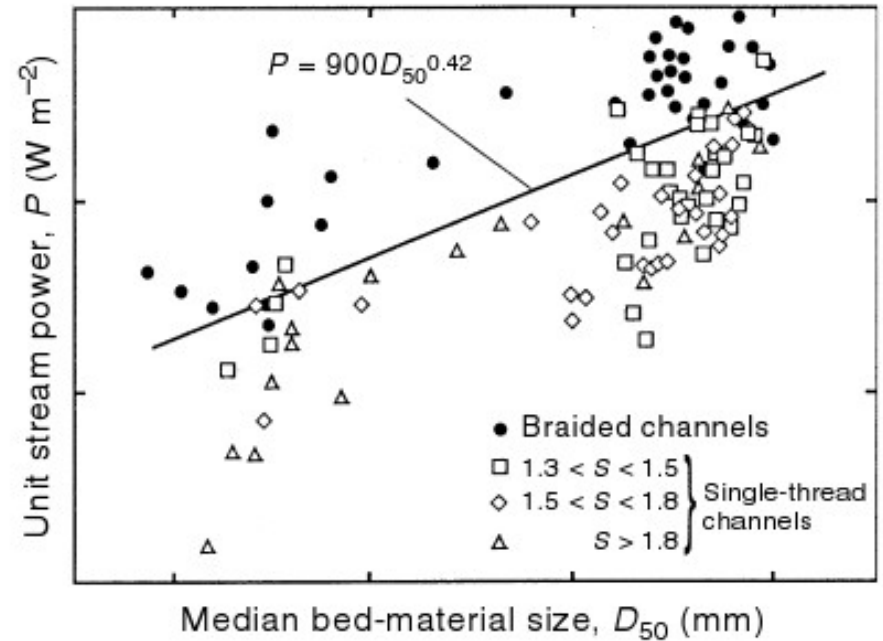
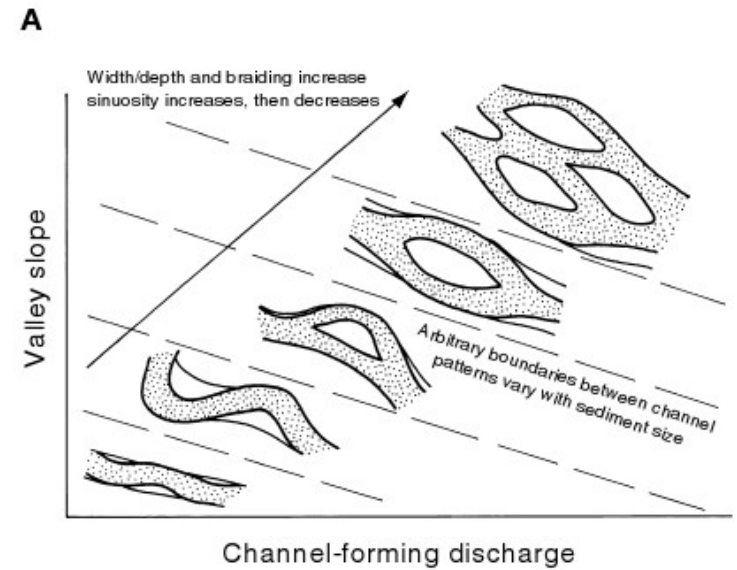
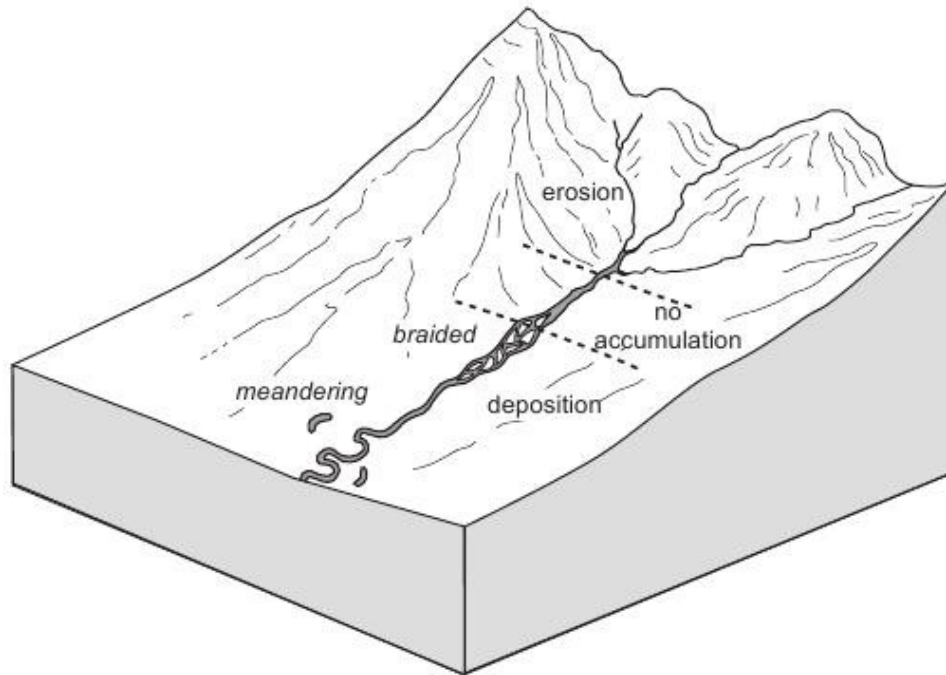


FIGURE 13.17. (A) Gradual variation of equilibrium channel patterns with channel-forming water discharge, valley slope, and sediment size. (B) Prediction of channel patterns as a function of stream power per unit bed area and bed material size; S = sinuosity. After Van Den Berg (1995).

Variedade de estilos



Bibliografia Recomendada

Boggs, S. 2012. Principles of Sedimentology and Stratigraphy. 5th Ed. Prentice Hall. 585p.

Nichols, G. 2009. Sedimentology and Stratigraphy. 2nd Ed. Willey-Blackwell. 419p.

Pedreira da Silva, A.J.C.L, Aragão, M.A.N.F., Magalhães, A.J.C. 2008. Ambientes de sedimentação siliciclástica do Brasil. Beca-BALL Edições. 343p.