


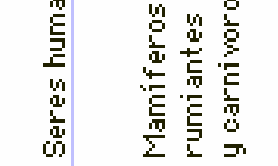

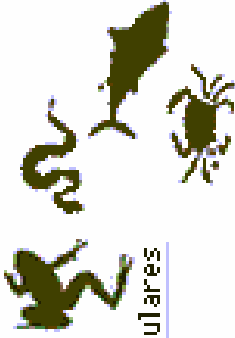

ERA

PERIODO

* LÍMITES TEMPORALES APROXIMADOS

ÉPOCA

FORMAS DE VIDA ORIGINADAS

CENOZOICO	CUATERNARIO	<ul style="list-style-type: none"> Reciente u holoceno 10.000 Pleistoceno 2.500.000 	Seres humanos	
	TERCIARIO	<ul style="list-style-type: none"> Plioceno 12.000.000 Mioceno 26.000.000 Oligoceno 38.000.000 Eoceno 54.000.000 Paleoceno 65.000.000 	Mamíferos ruminantes y carnívoros	
MESOZOICO		<ul style="list-style-type: none"> Cretácico 136.000.000 Jurásico 195.000.000 Triásico 225.000.000 	Primates - Plantas con flor Aves Dinosaurios - Mamíferos	
PALEOZOICO		<ul style="list-style-type: none"> Pérmico 280.000.000 	Reptiles - Bosques de helechos Anfibios - Insectos Plantas terrestres vasculares Peces - Cordados Crustáceos - Trilobites	
		<ul style="list-style-type: none"> CARBONÍFERO <ul style="list-style-type: none"> Devónico 320.000.000 Silúrico 345.000.000 Ordovícico 395.000.000 Cámbrico 430.000.000 PRECÁMBRICO <ul style="list-style-type: none"> 700.000.000 1.500.000.000 3.500.000.000 4.650.000.000 + 	Algas Células eucarióticas Células procarionóticas	

METÁFORA DEL TIEMPO GEOLÓGICO



Origen de la tierra

Origen de la vida

Primeros pluricelulares

Se inicia la colonización de los continentes

Aparición de los reptiles

Primeros mamíferos

Extinción de los dinosaurios

13.30 horas: diferenciación humanos/chimpancés

23.37 horas: aparición del Homo sapiens

23.58 horas: Altamira

Penúltima campana de Nochevieja: Colón viaja a América

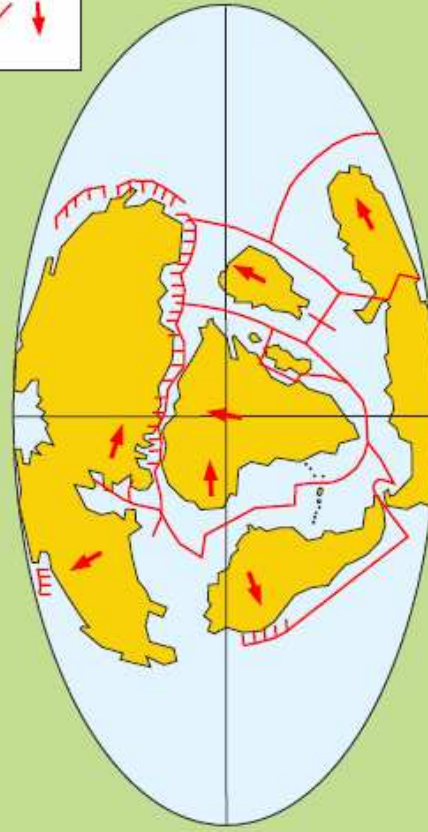
DERIVA DE LOS CONTINENTES



200 millones de años



135 millones de años



65 millones de años



Actualidad

PANGEA

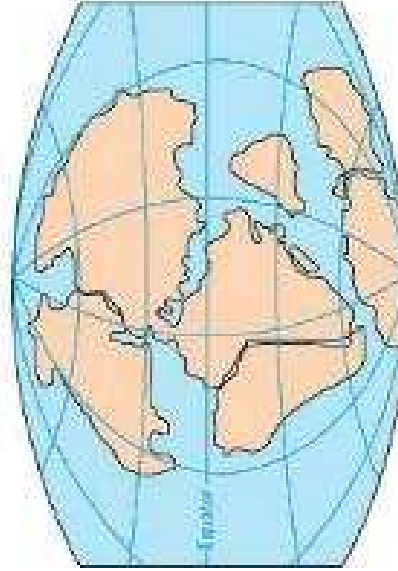




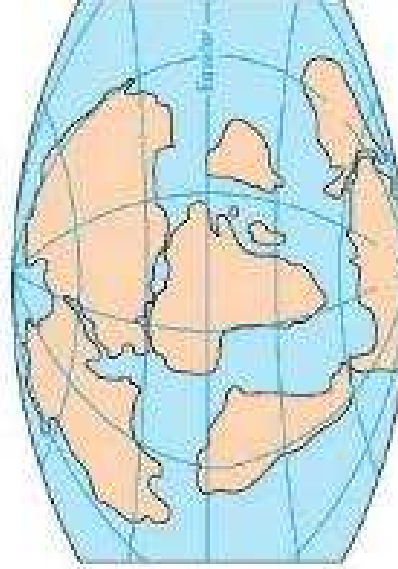
PERMIAN
225 million years ago



TRIASSIC
200 million years ago



JURASSIC
155 million years ago

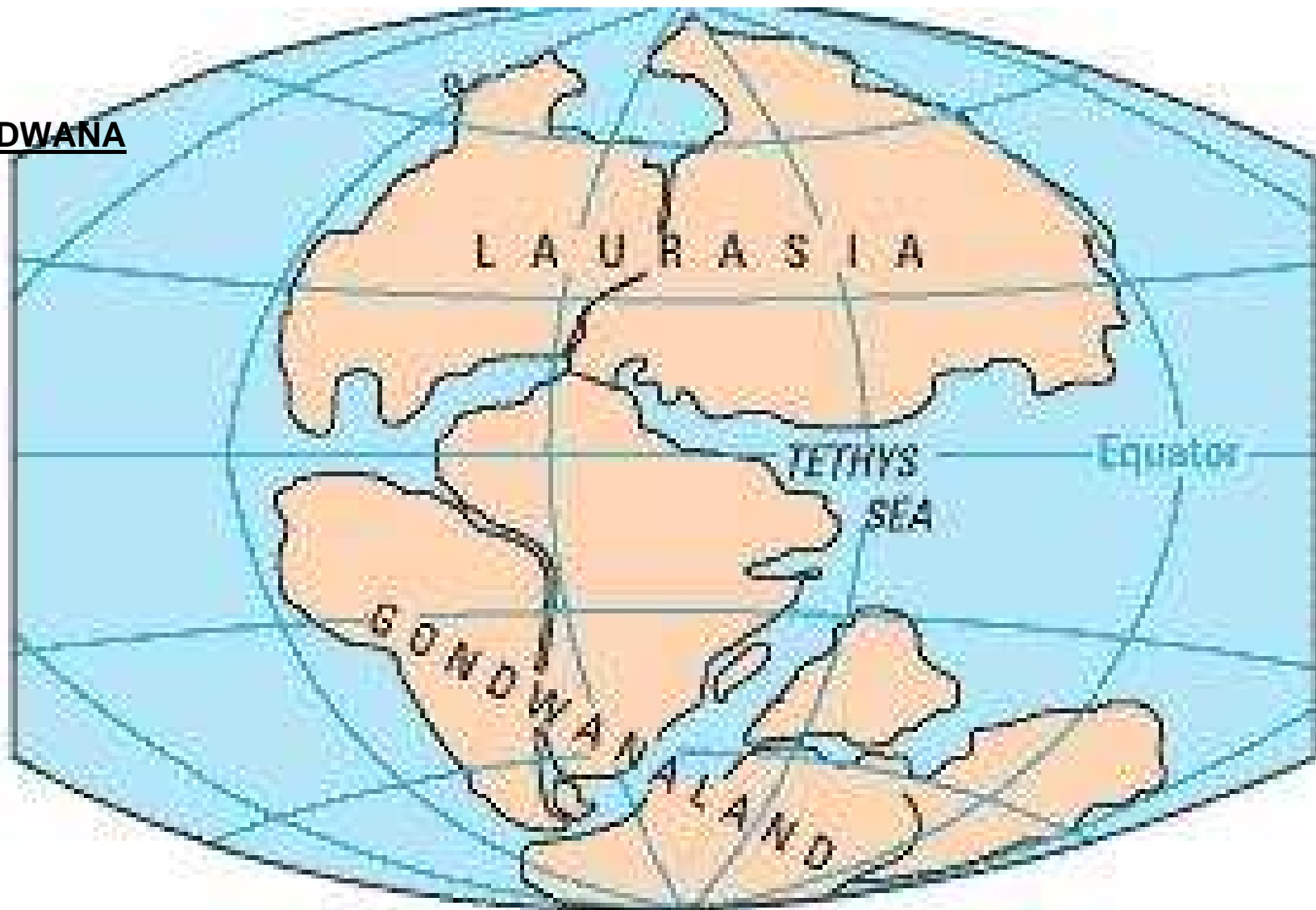


CRETACEOUS
65 million years ago

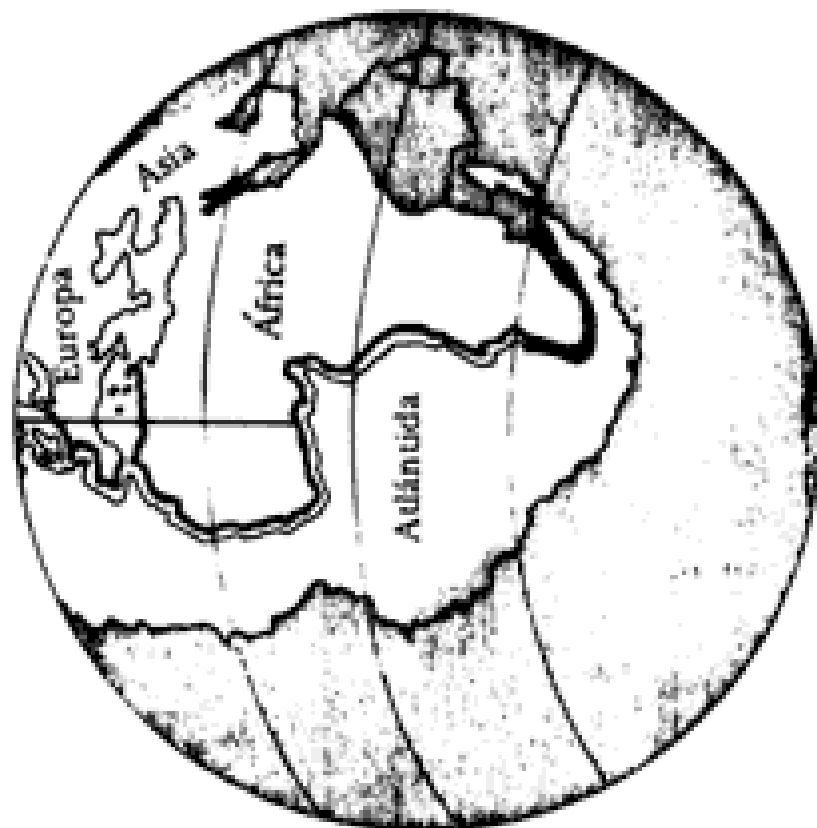


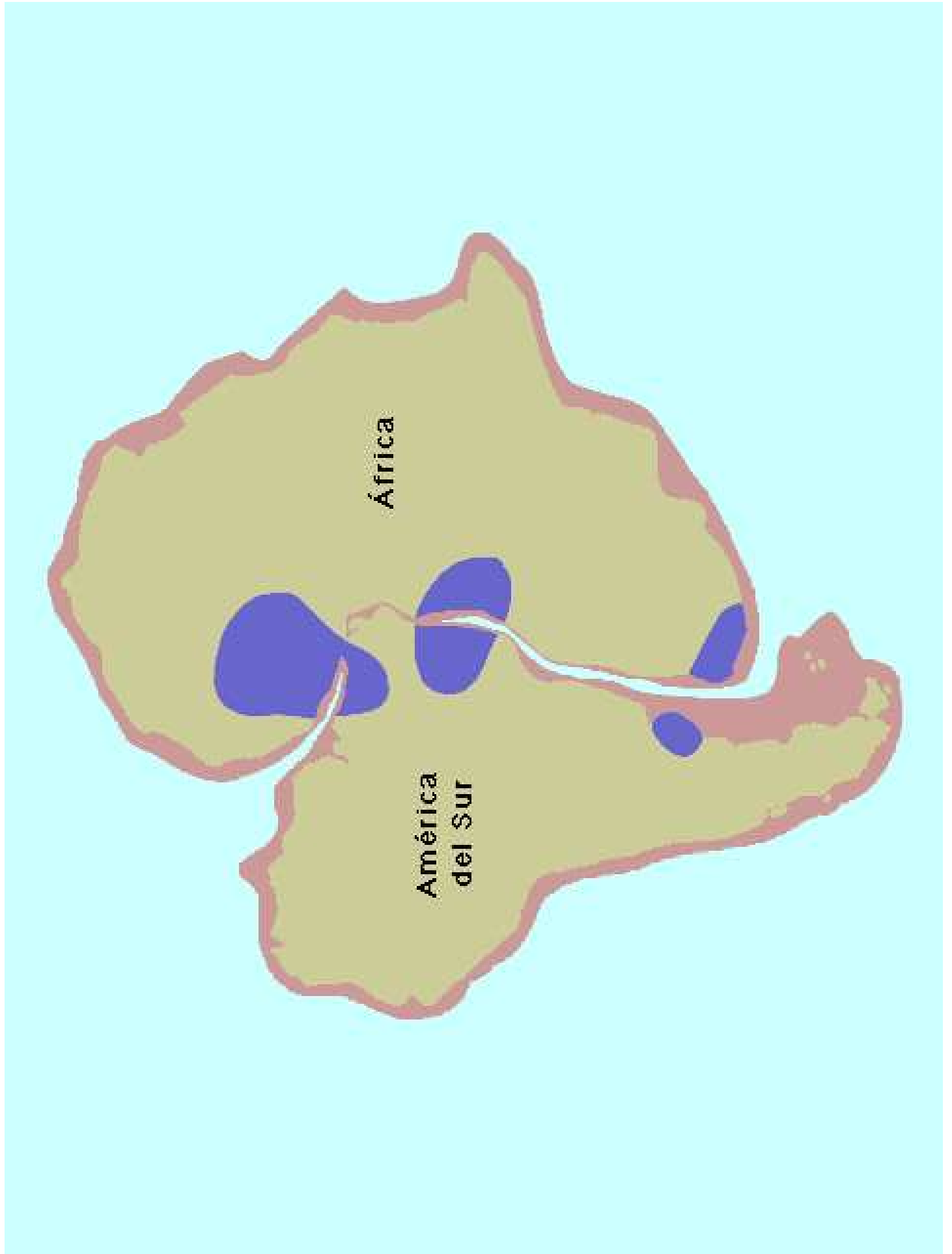
PRESENT DAY

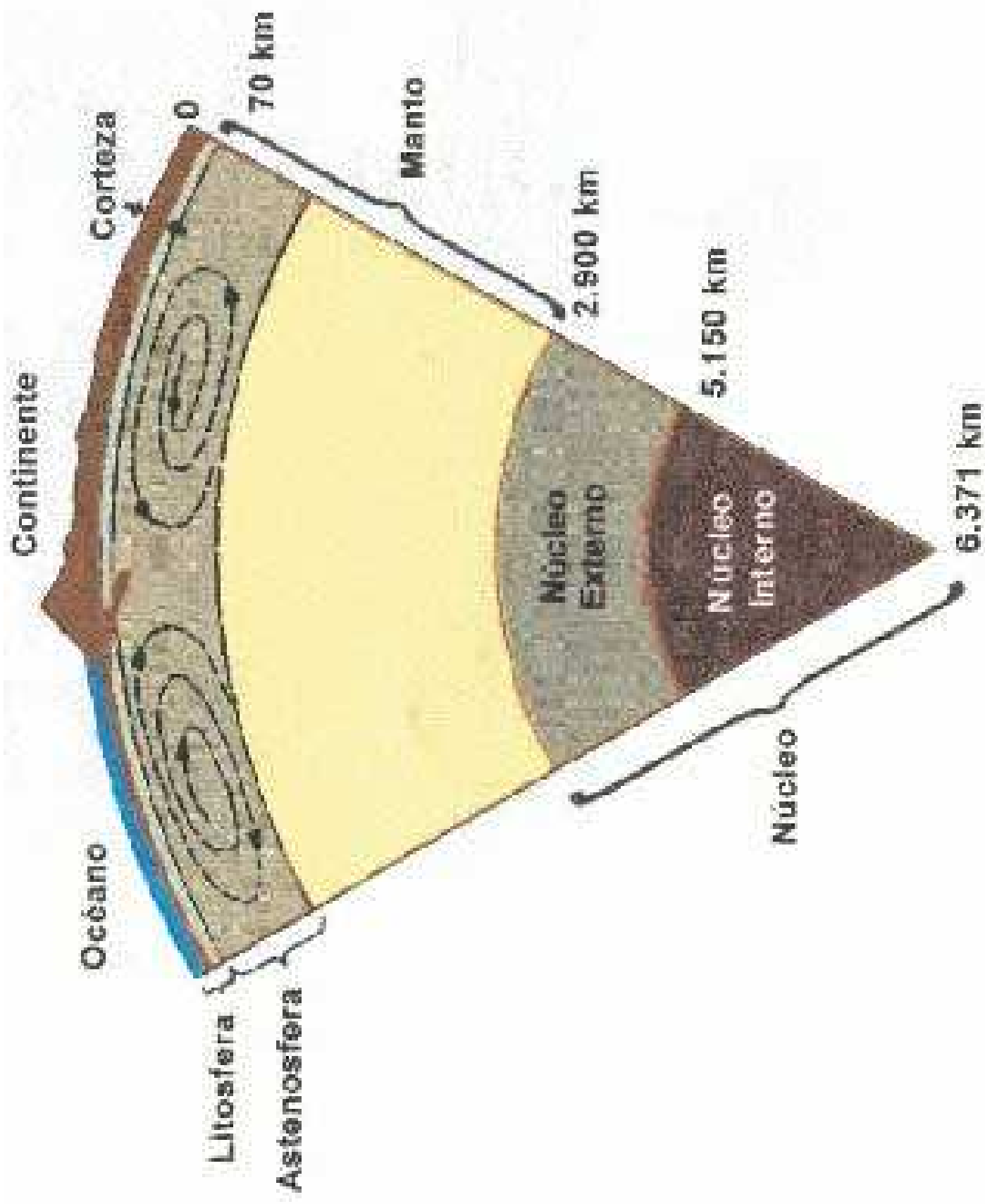
GONDWANA

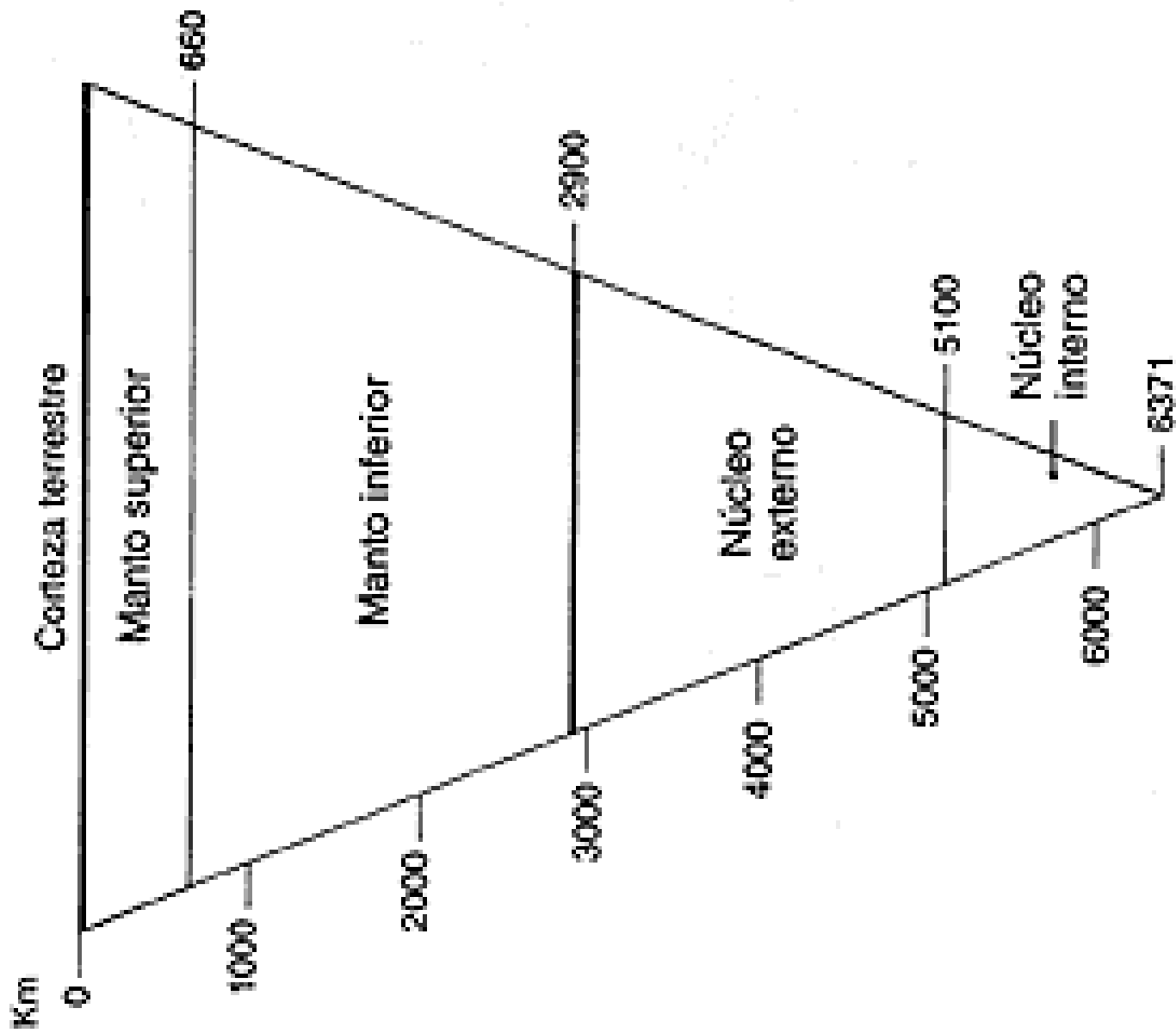


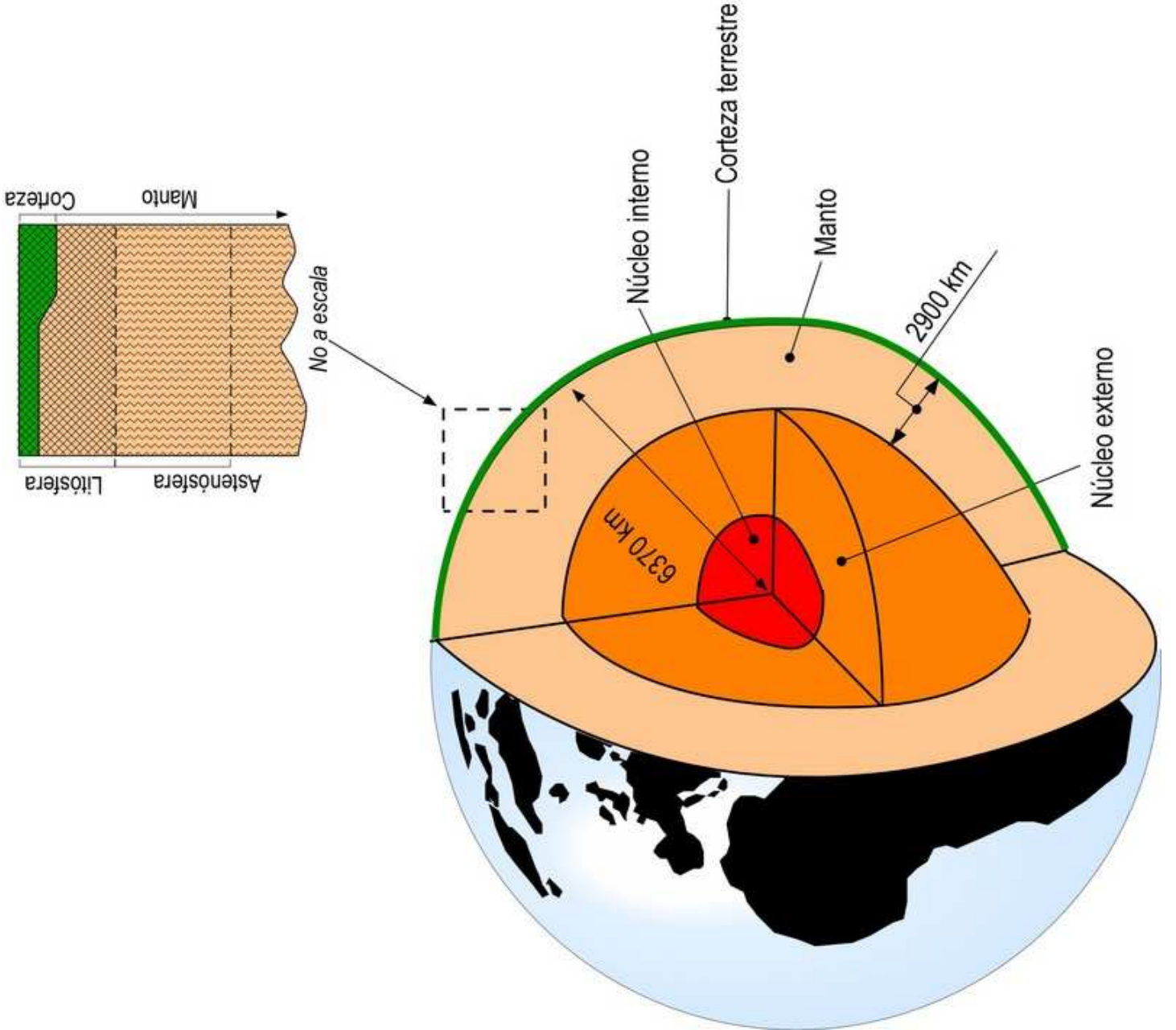
TRIASSIC
200 million years ago

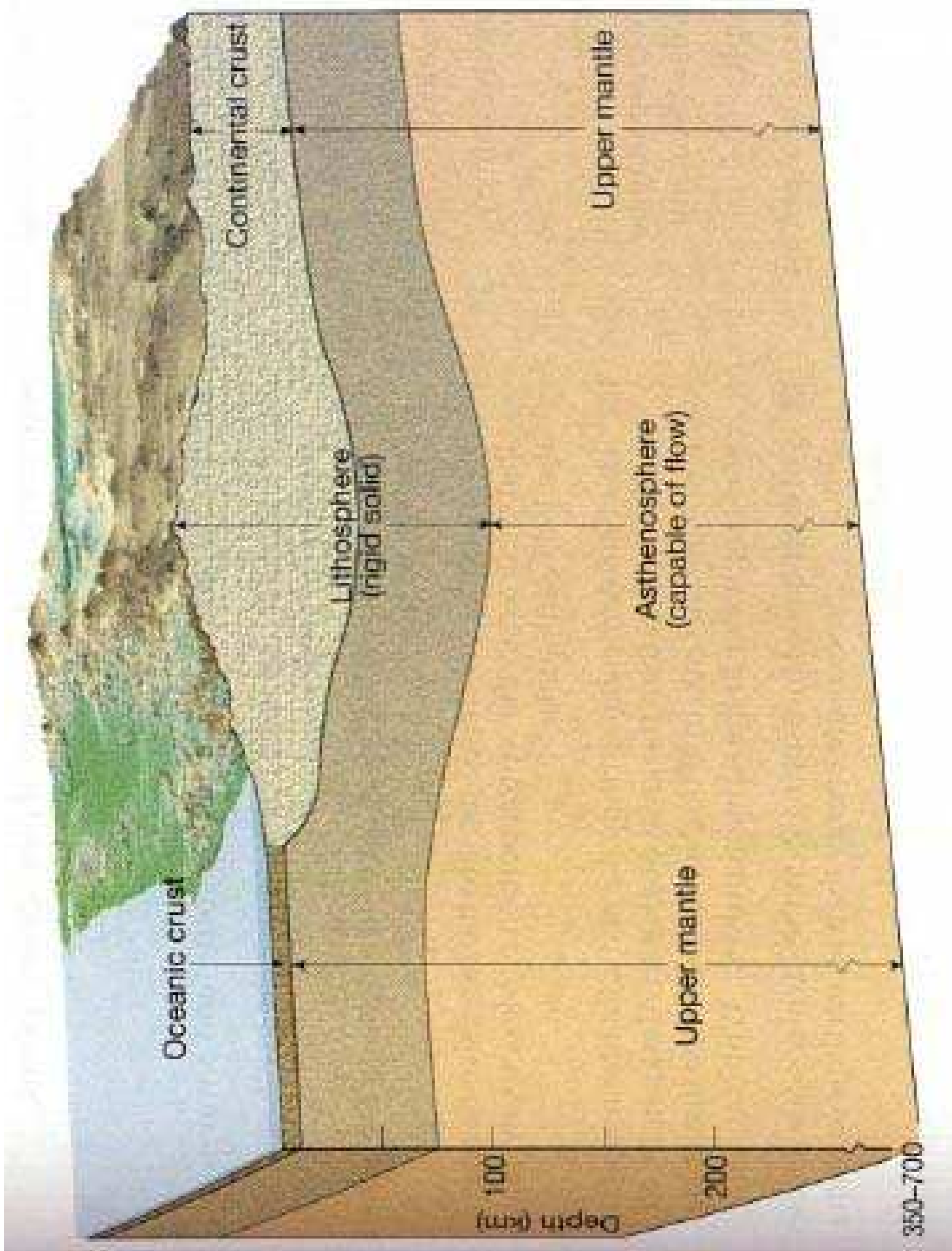


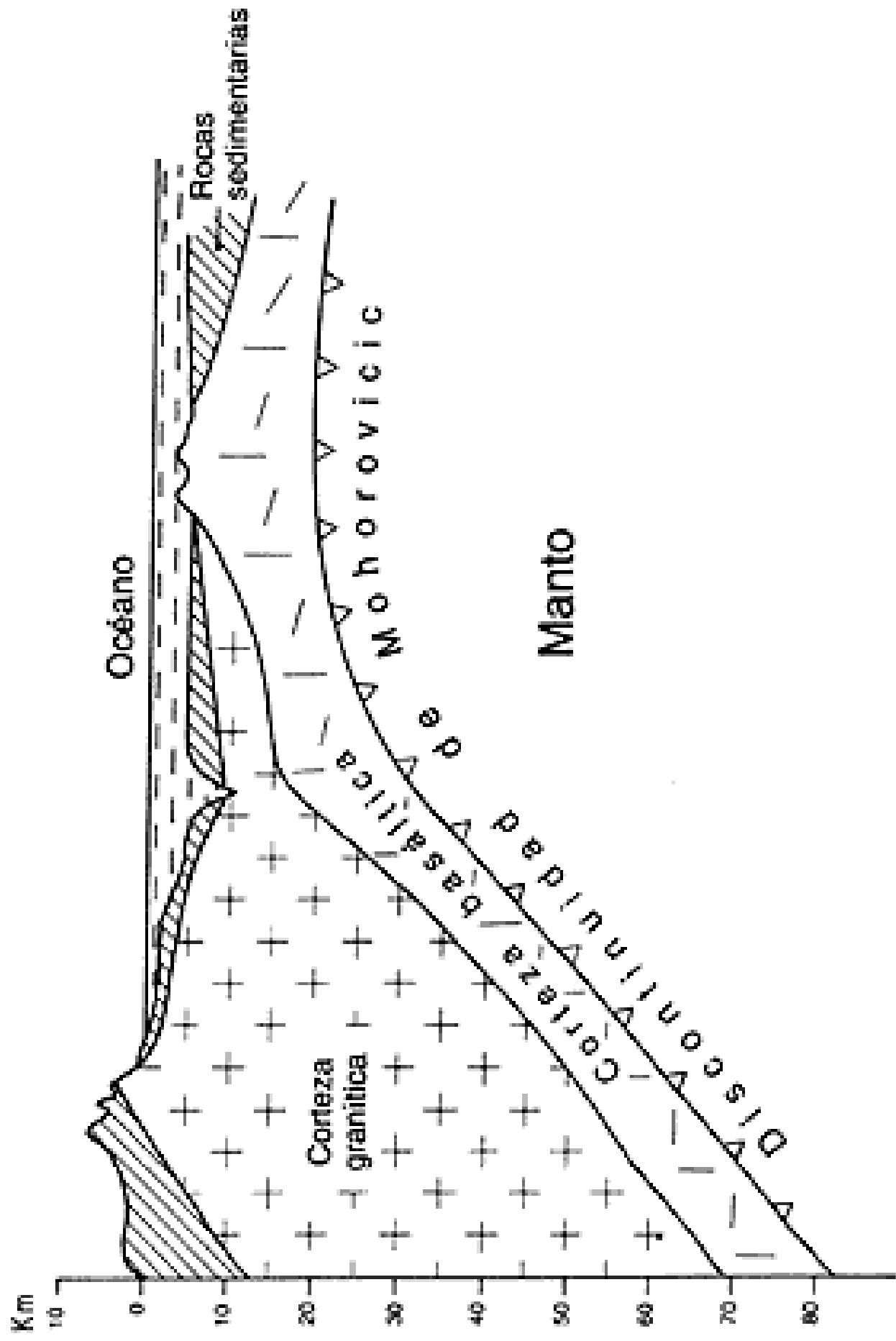


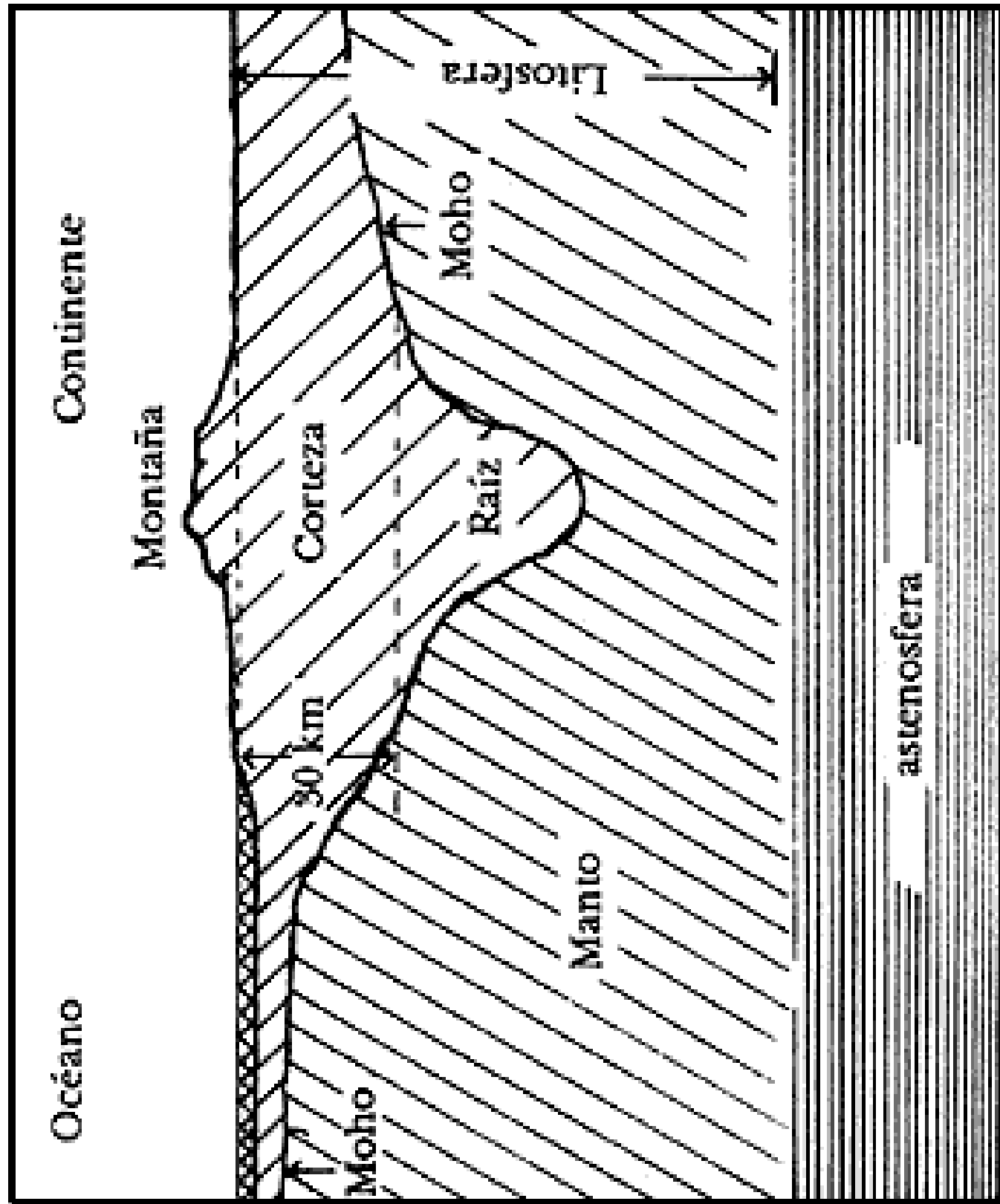


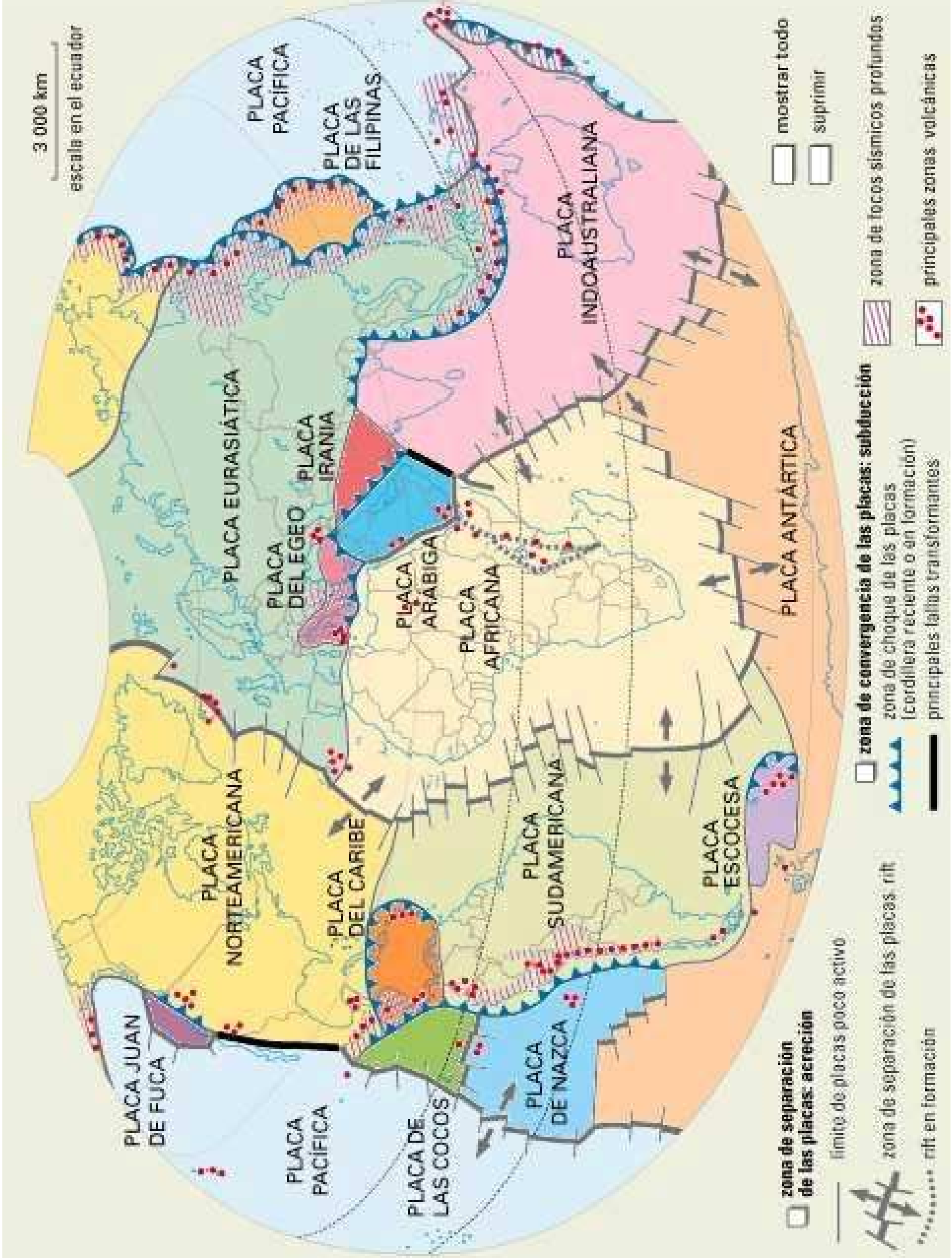












PLACA JUAN DE FUCA

PLACA NORTEAMERICANA

PLACA DEL CARIBE

PLACA PACÍFICA

PLACA DE LAS COCOS

PLACA DE NAZCA

PLACA SUDAMERICANA

PLACA AFRICANA

PLACA ARABIGA

PLACA DELEGEO

PLACA IRANIA

PLACA EURASIÁTICA

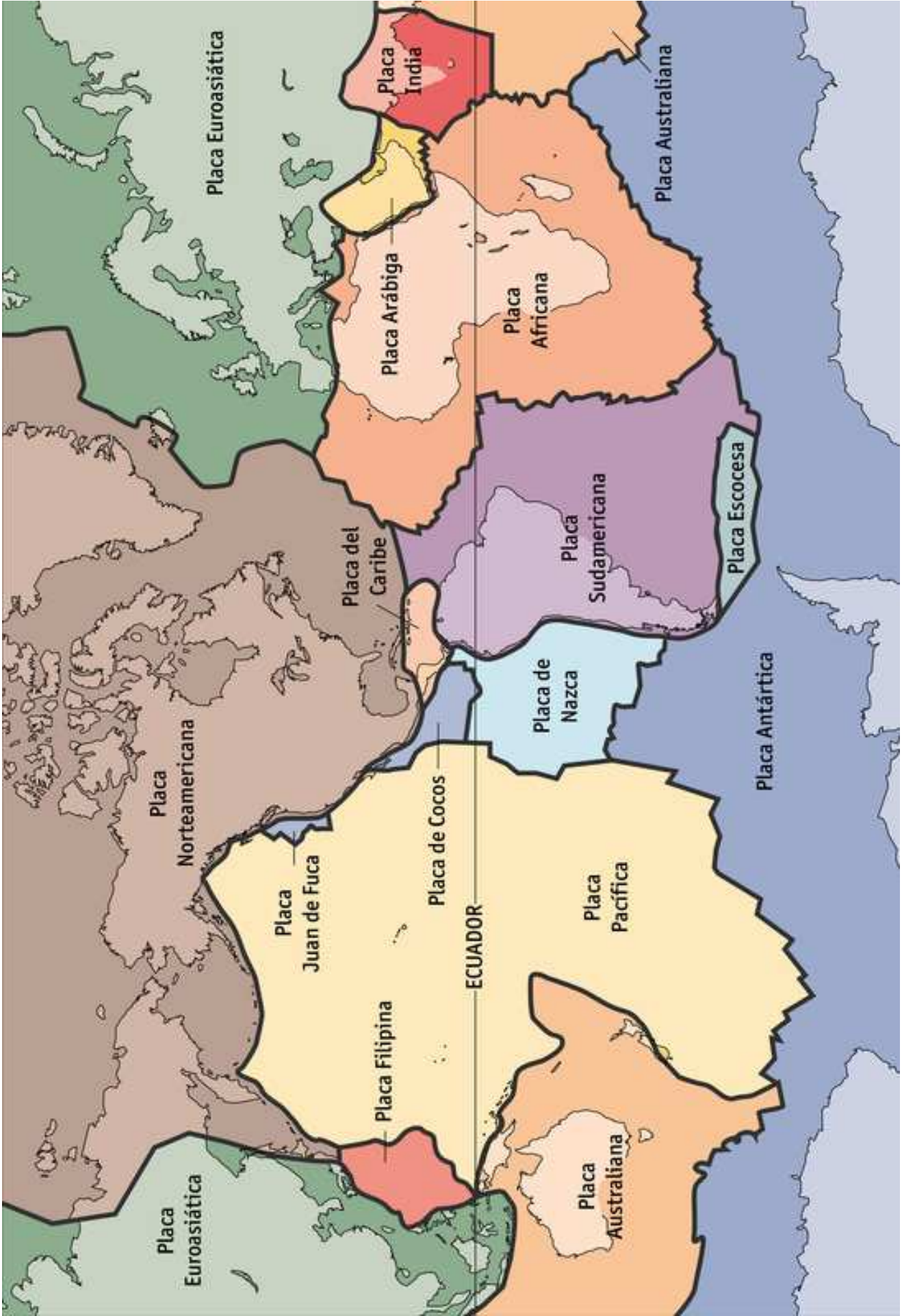
PLACA PACÍFICA

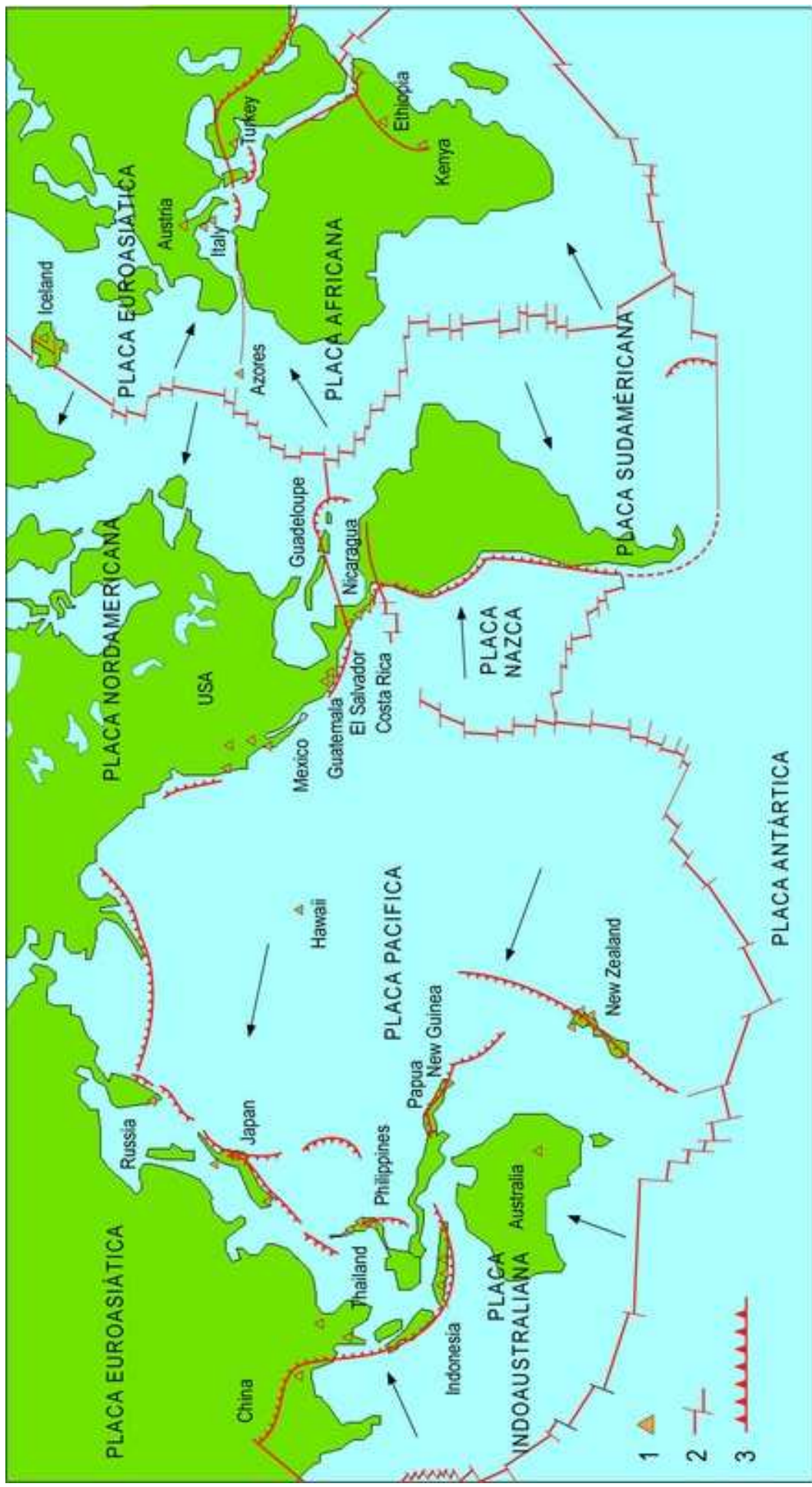
PLACA DE LAS FILIPINAS

PLACA INDOAUSTRALIANA

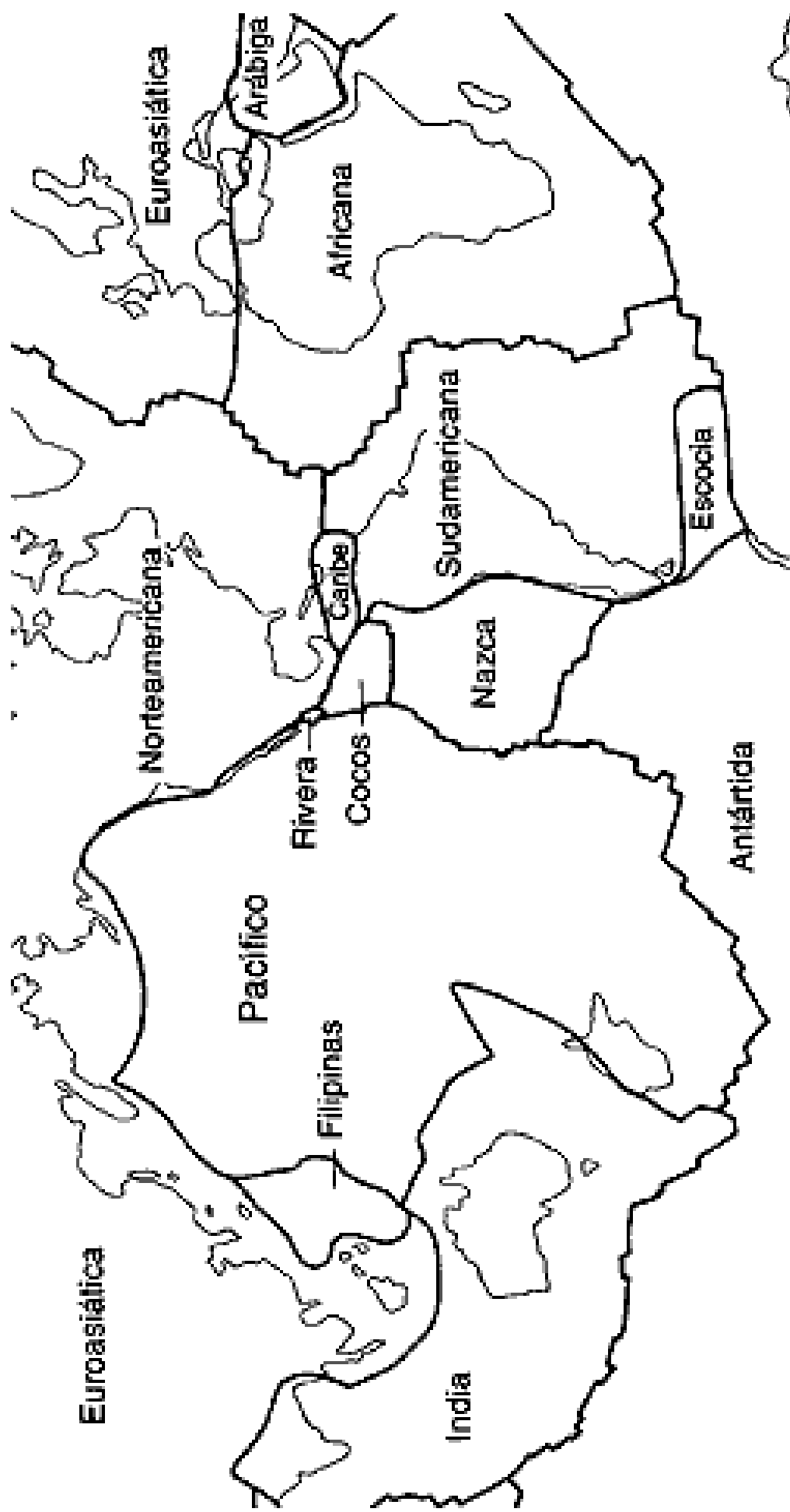
PLACA ANTÁRTICA

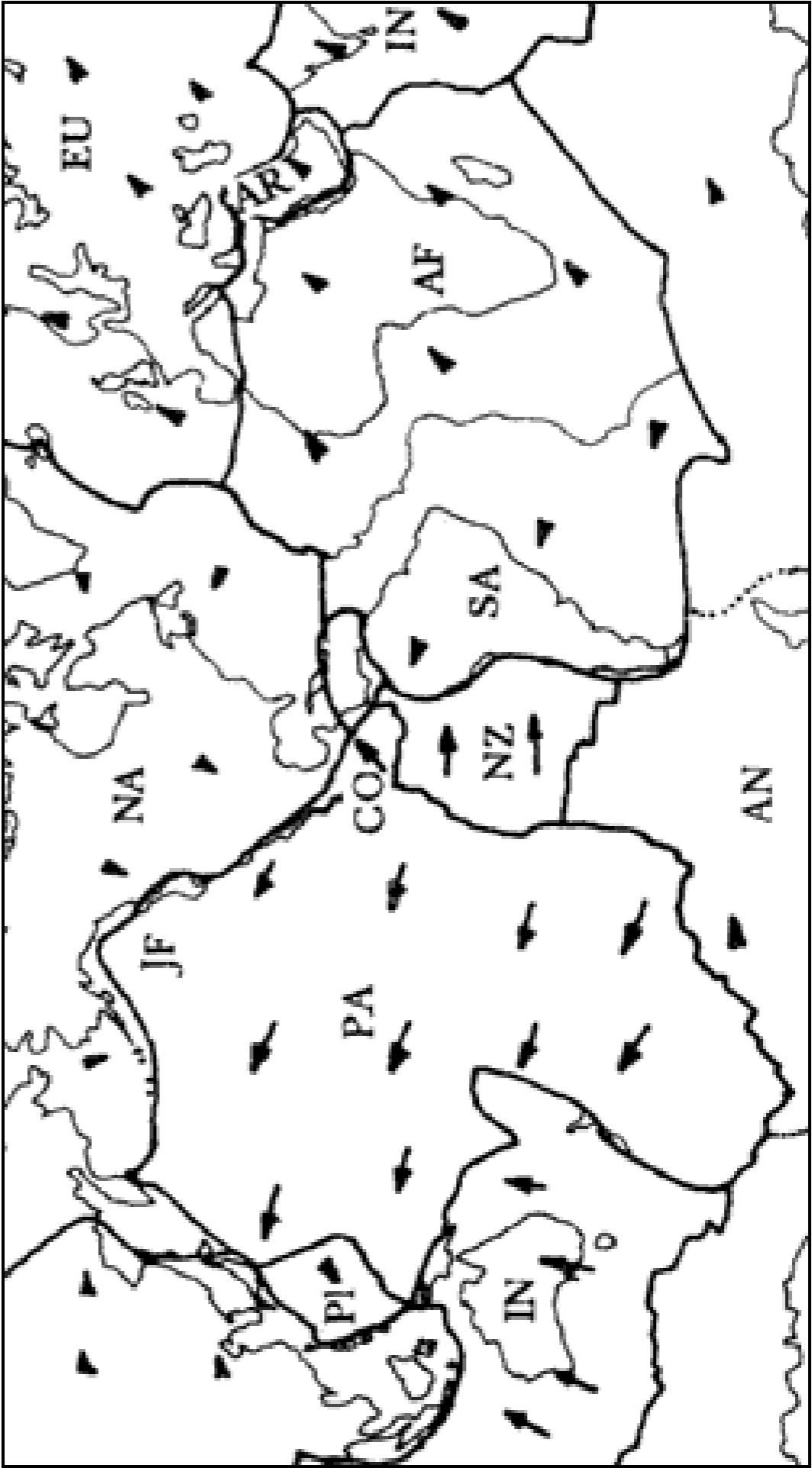
PLACA ESCOCESA

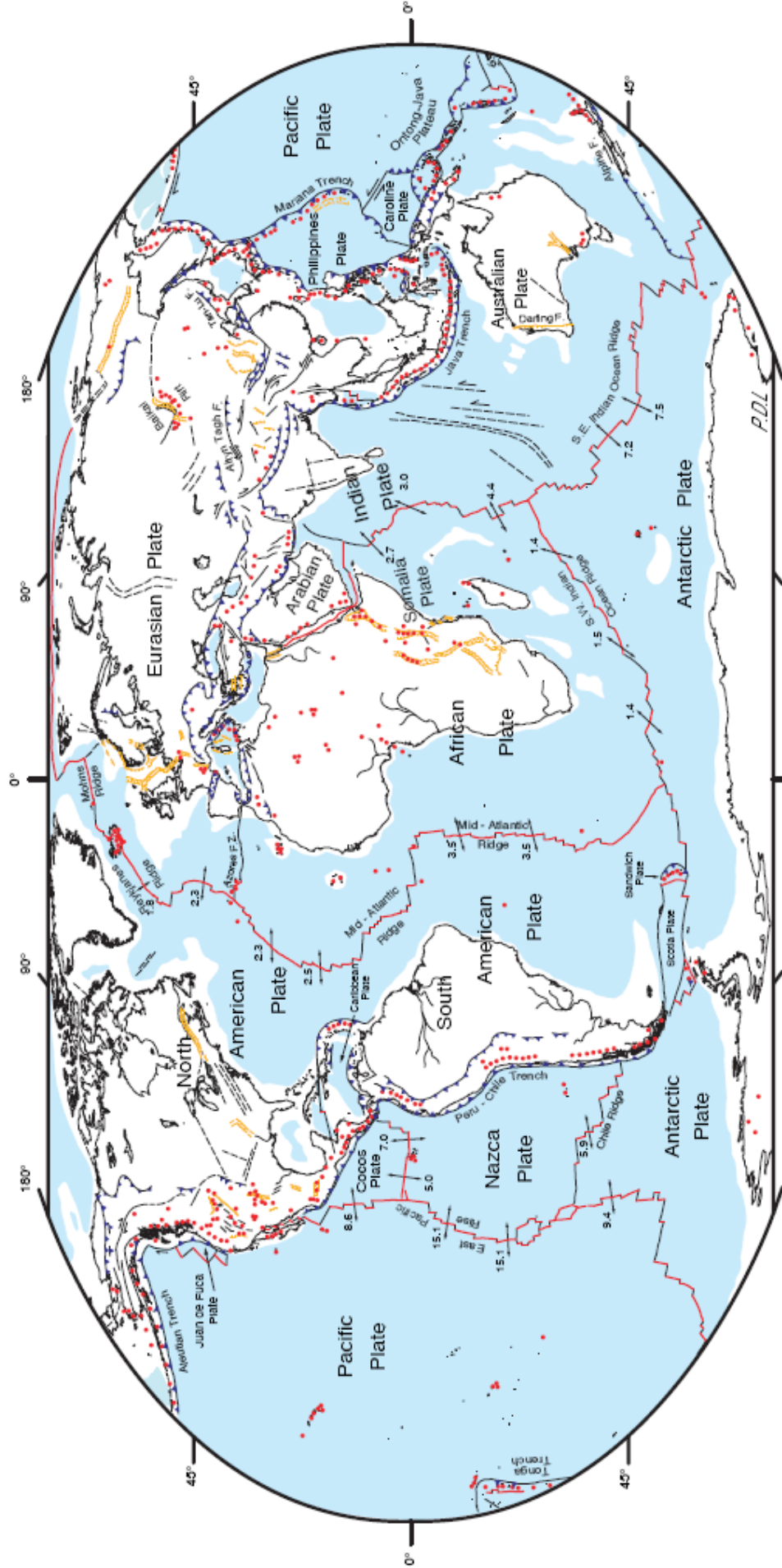




- 1
- 2
- 3







LEGEND

- Actively-spreading ridges and transform faults
- Total spreading rate, cm/year
- Major active fault or fault zone, dashed where nature, location, or activity uncertain
- Normal fault or rift, hachures on downthrown side
- Reverse fault (overthrust, subduction zones), hachures on upthrown side
- Volcanic centers active within the last one million years; generalized. Minor basaltic centers and seamounts omitted.

Robinson Projection

- Mainly oceanic crust
- Mainly continental crust

October 2002

GLOBAL TECTONIC ACTIVITY MAP OF THE EARTH
 Tectonism and Volcanism of the Last One Million Years

DTAM - 1

NASA/Goddard Space Flight Center
 Greenbelt, Maryland 20771

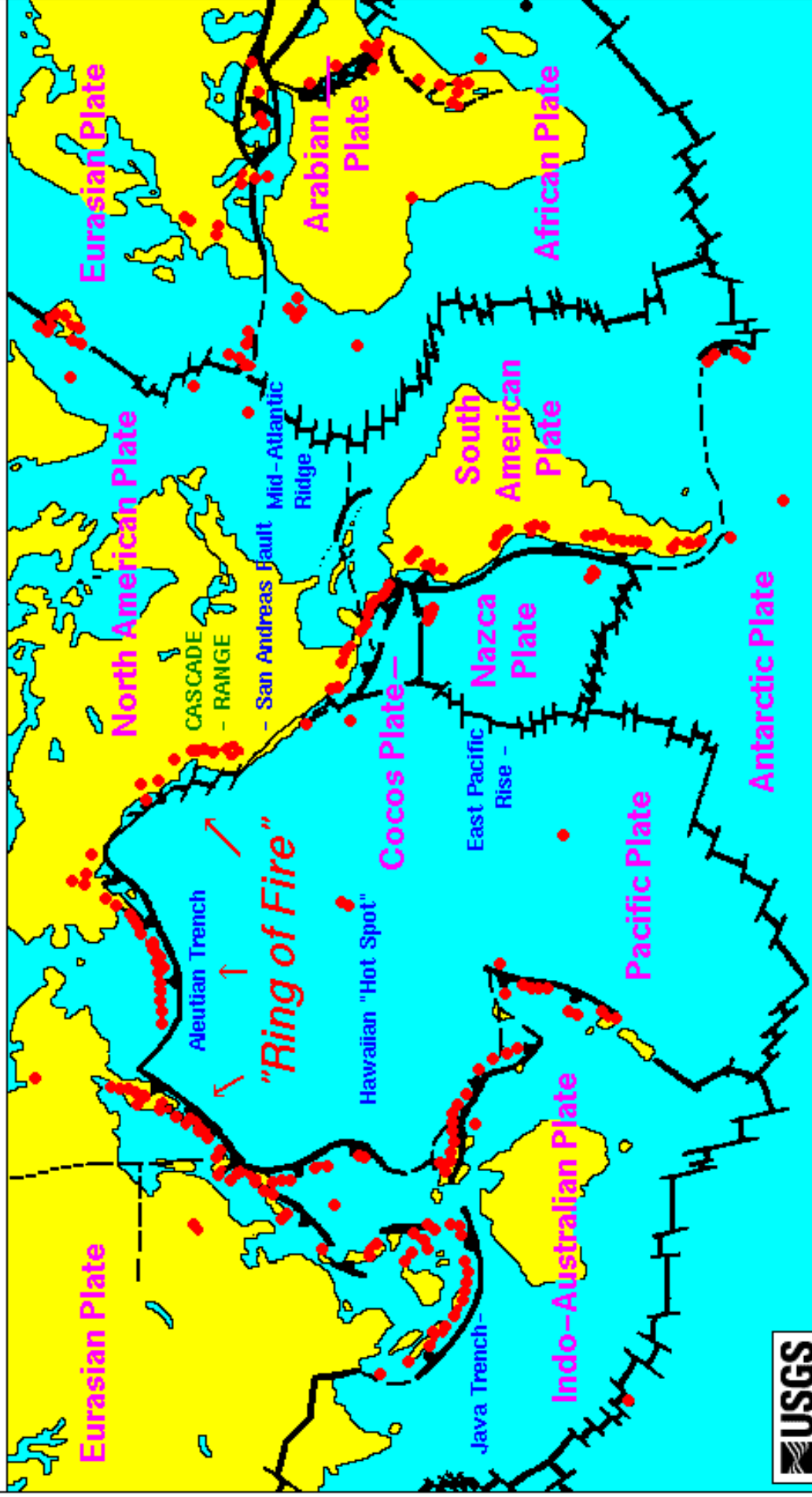


LAVA





Active Volcanoes, Plate Tectonics, and the "Ring of Fire"



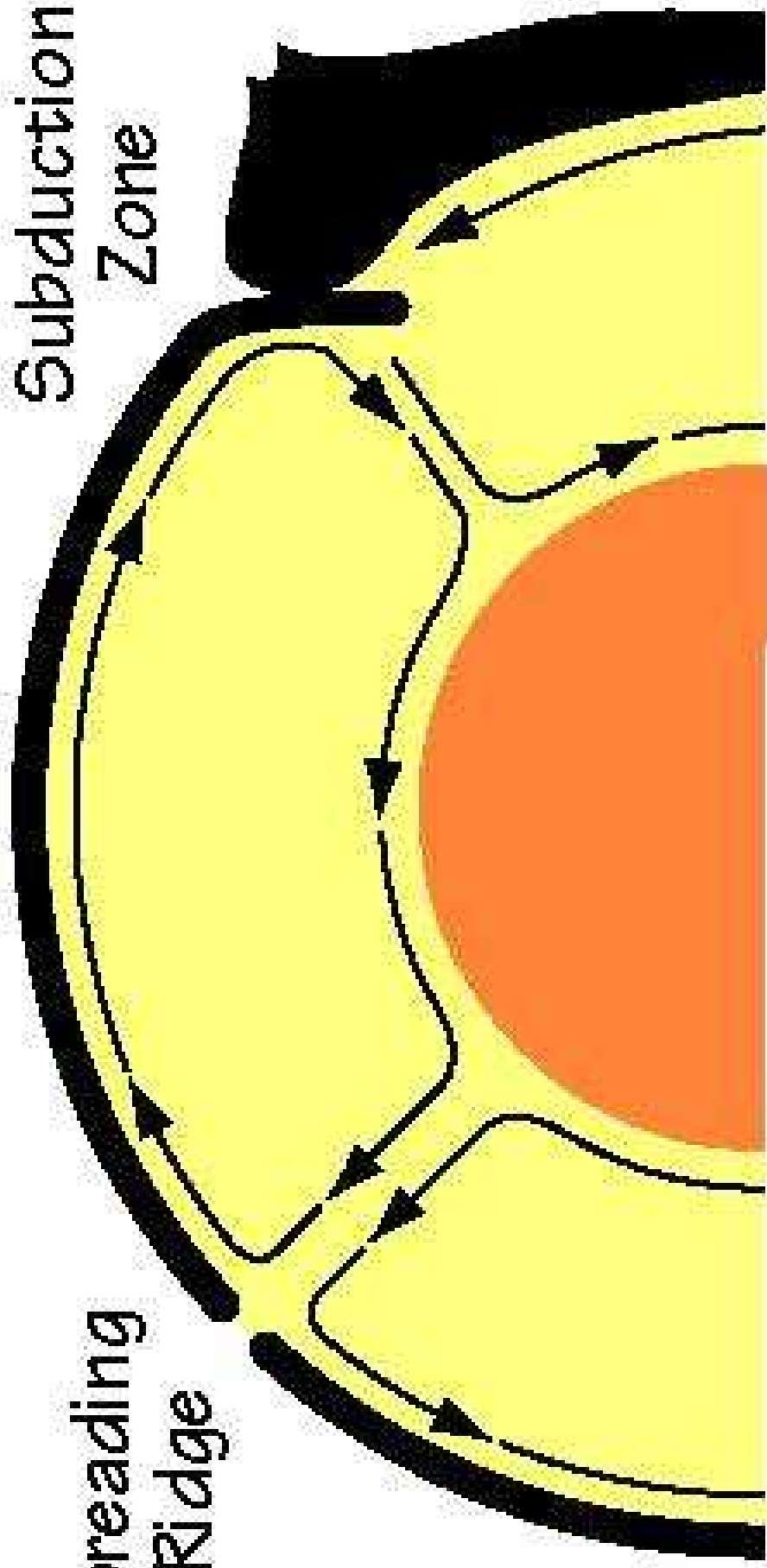
Topinka, USGS/CVU, 1997, Modified from: Tilling, Heikler, and Wright, 1987, and Hamilton, 1976

FALLA DE SAN ANDRÉS

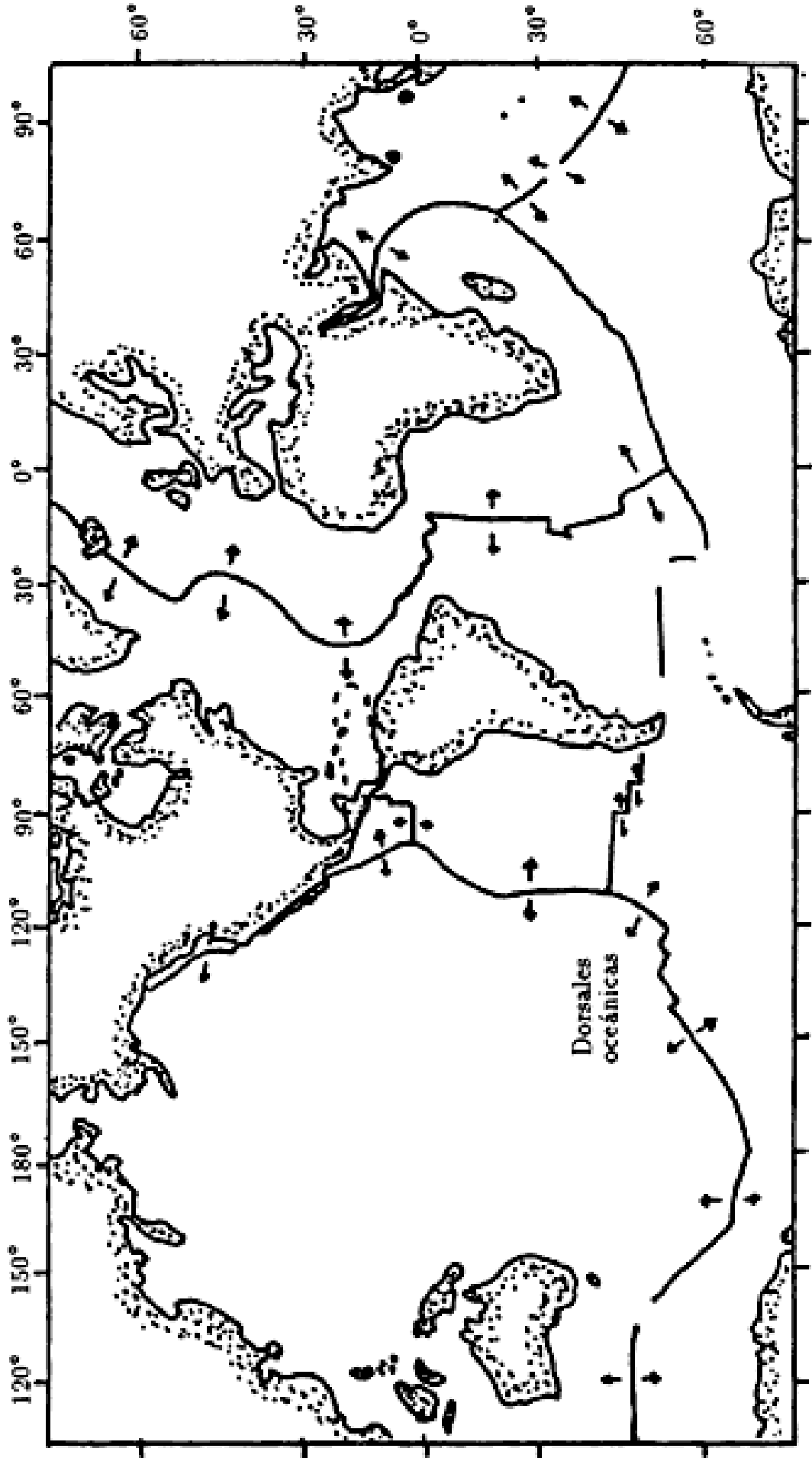


Spreading
Ridge

Subduction
Zone



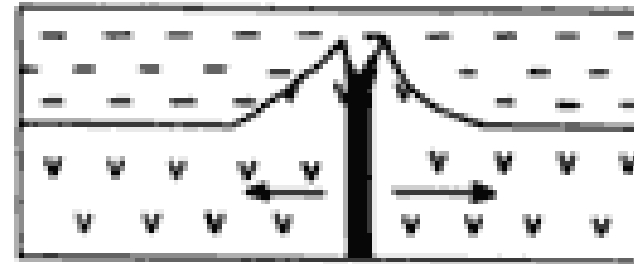
DEEP MANTLE CONVECTION



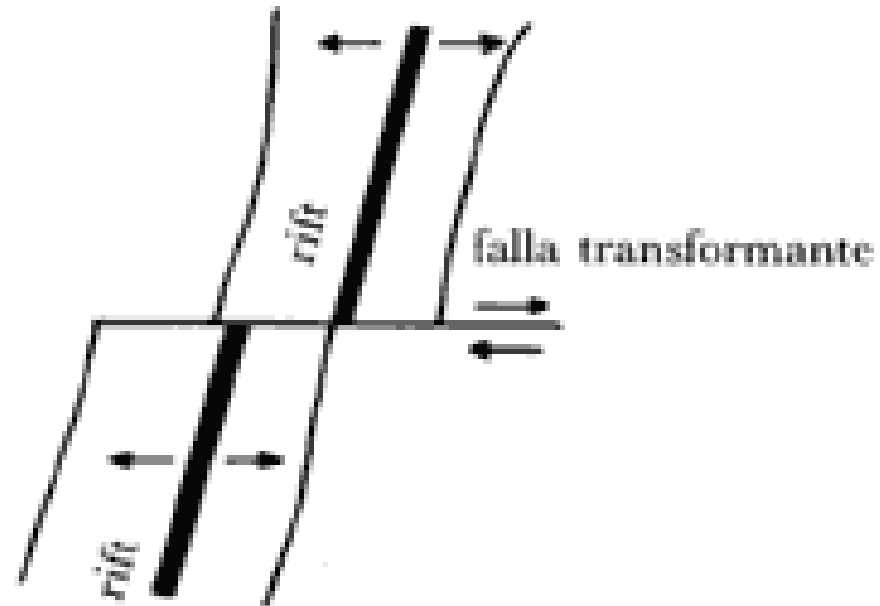
COMPORTAMIENTO DE LOS LÍMITES DE PLACA

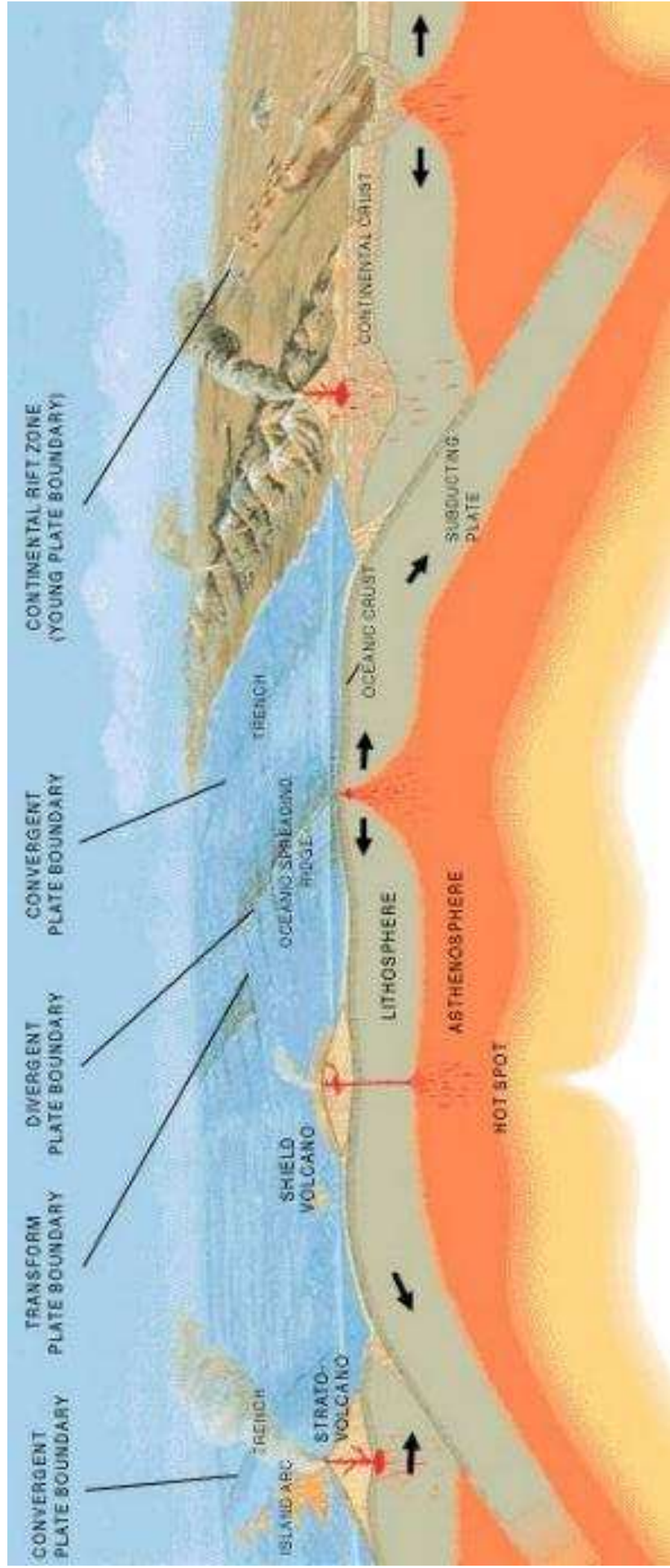


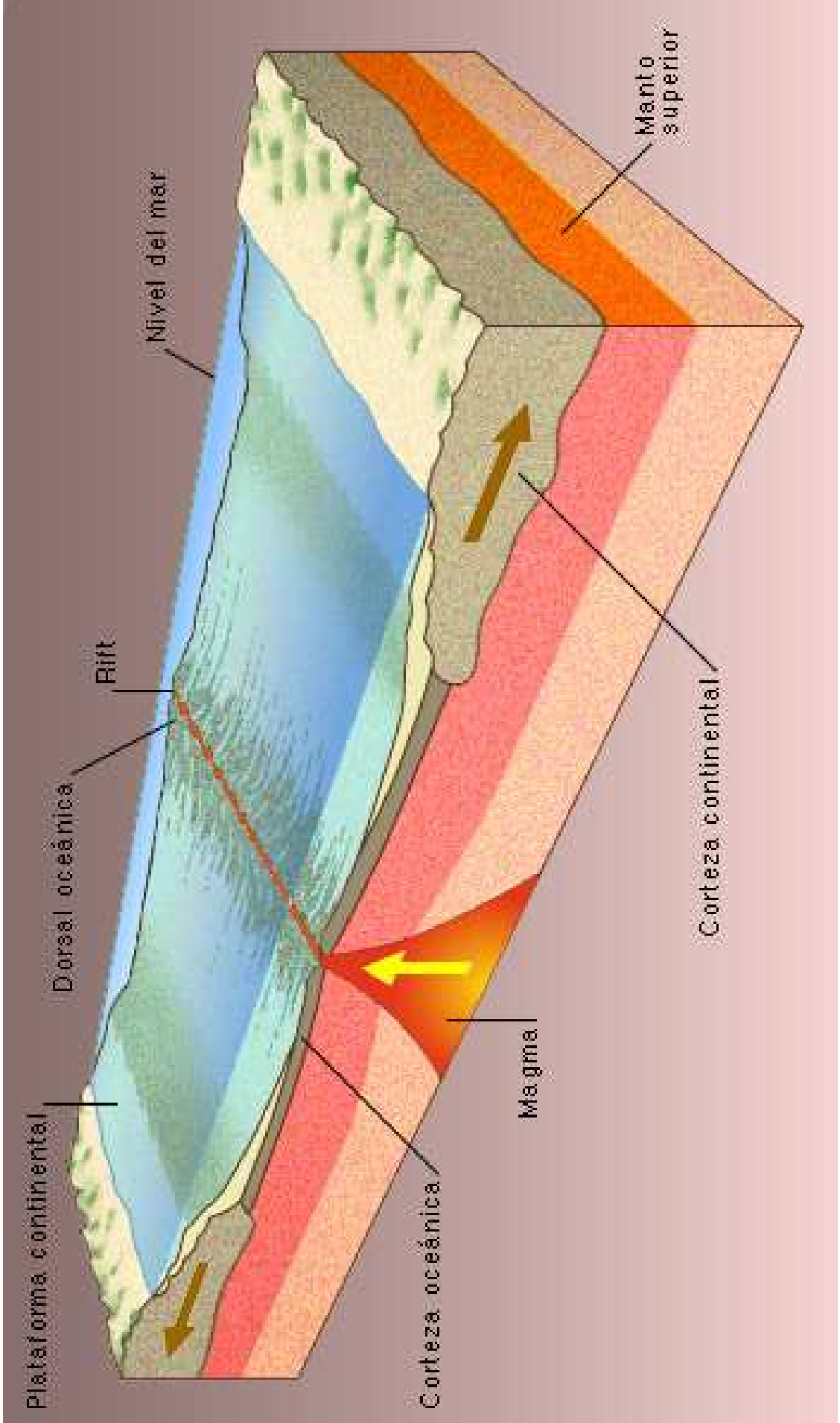
subducción

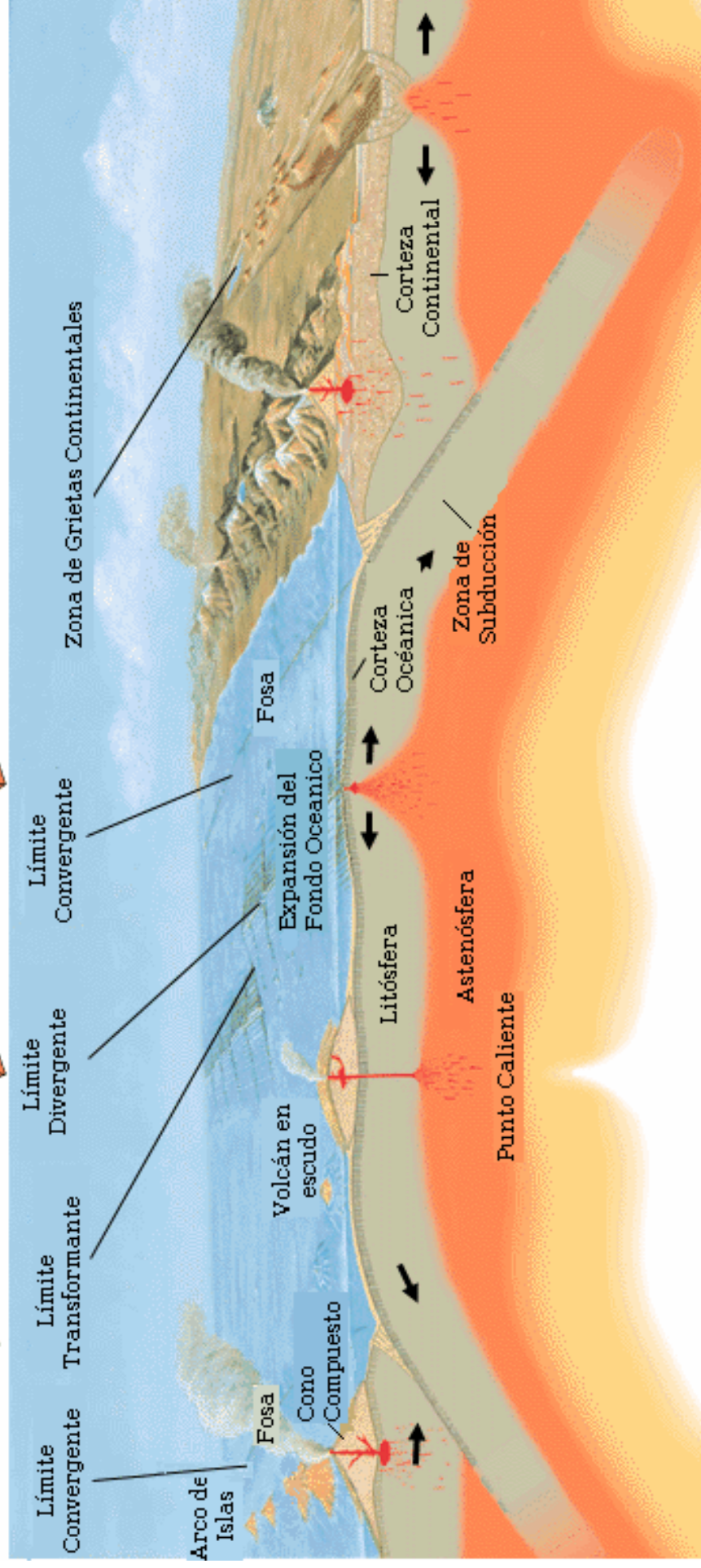
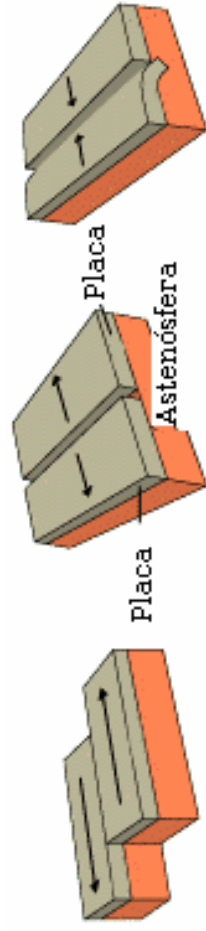


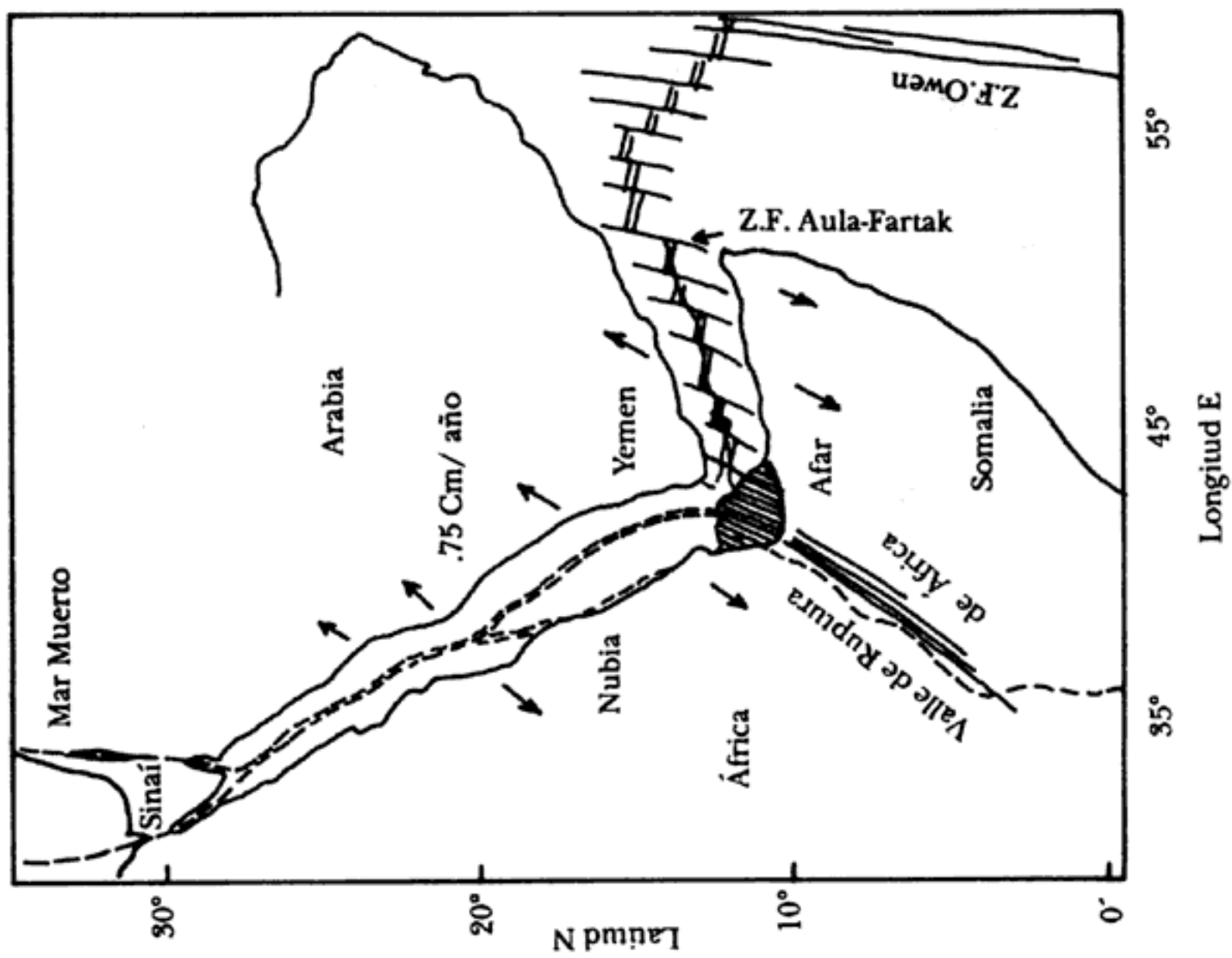
distensión

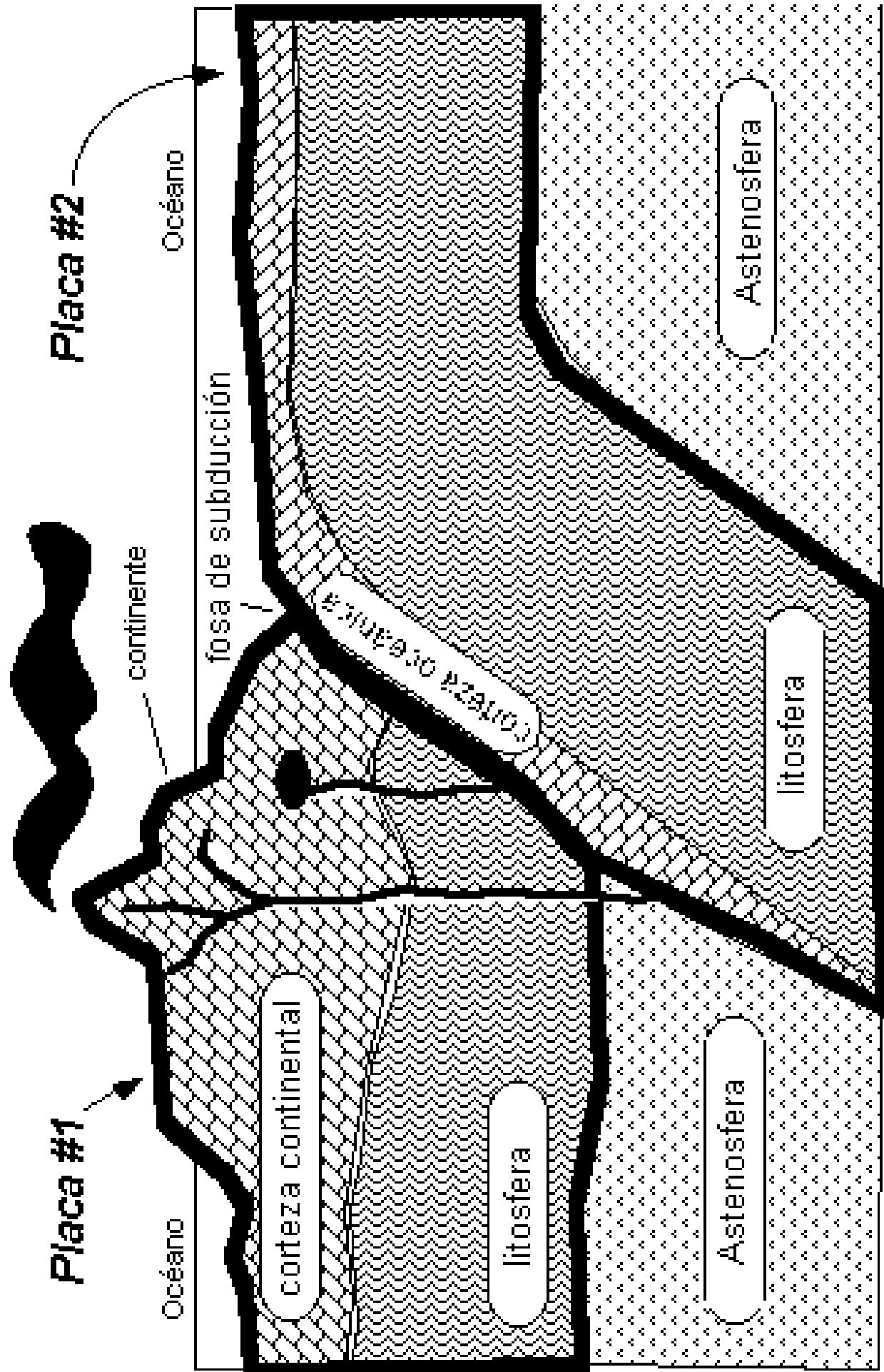


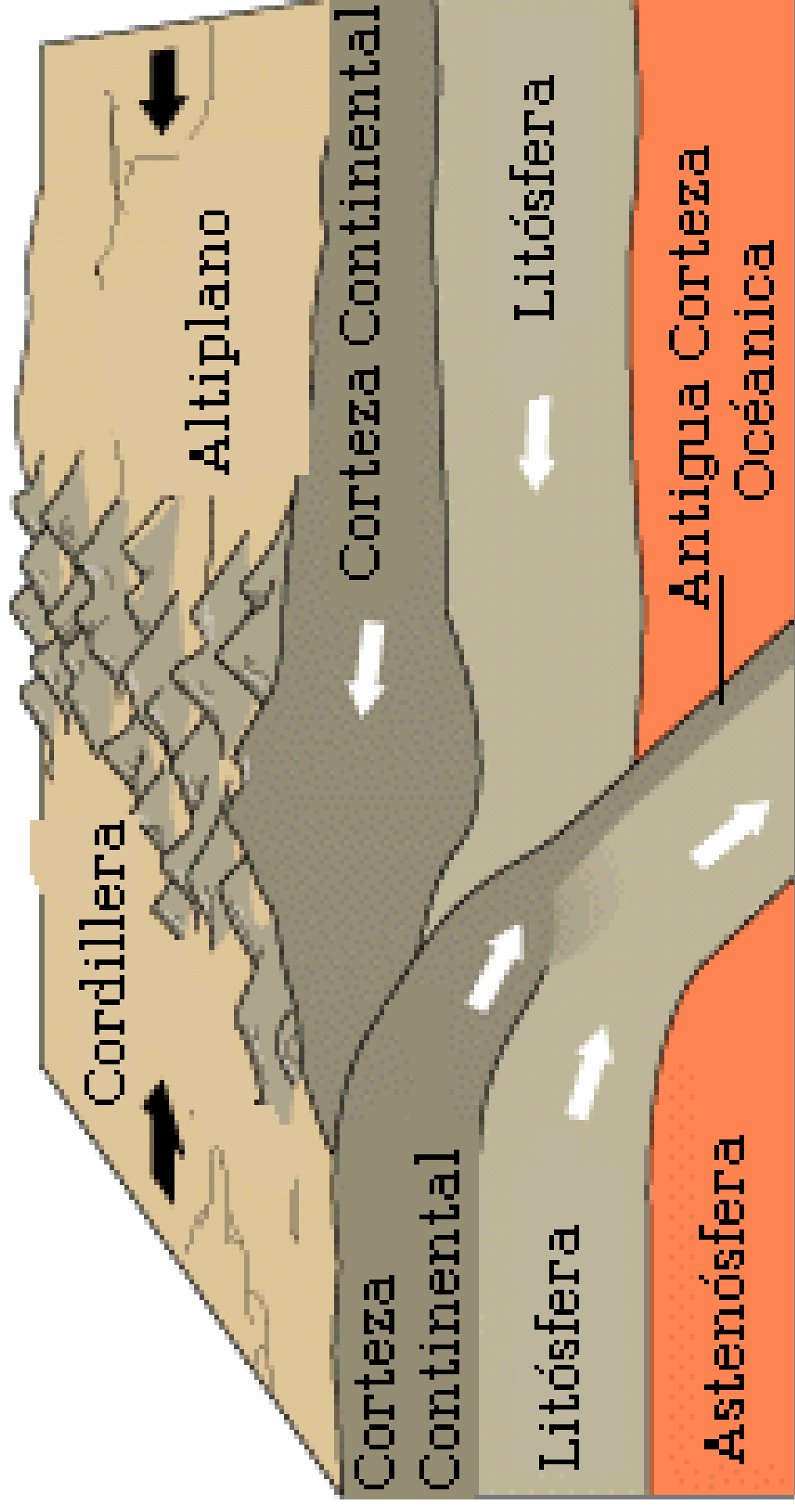




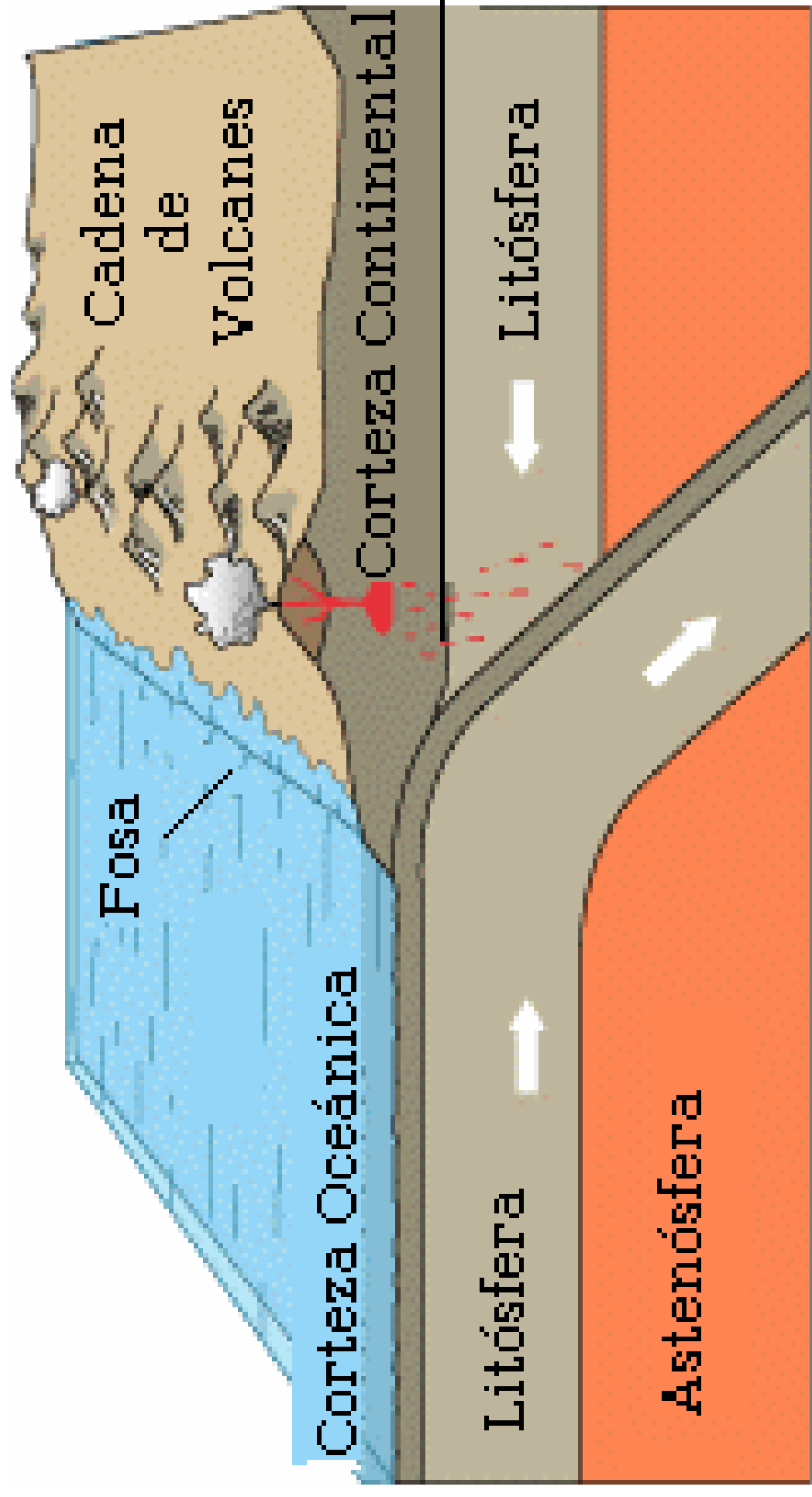




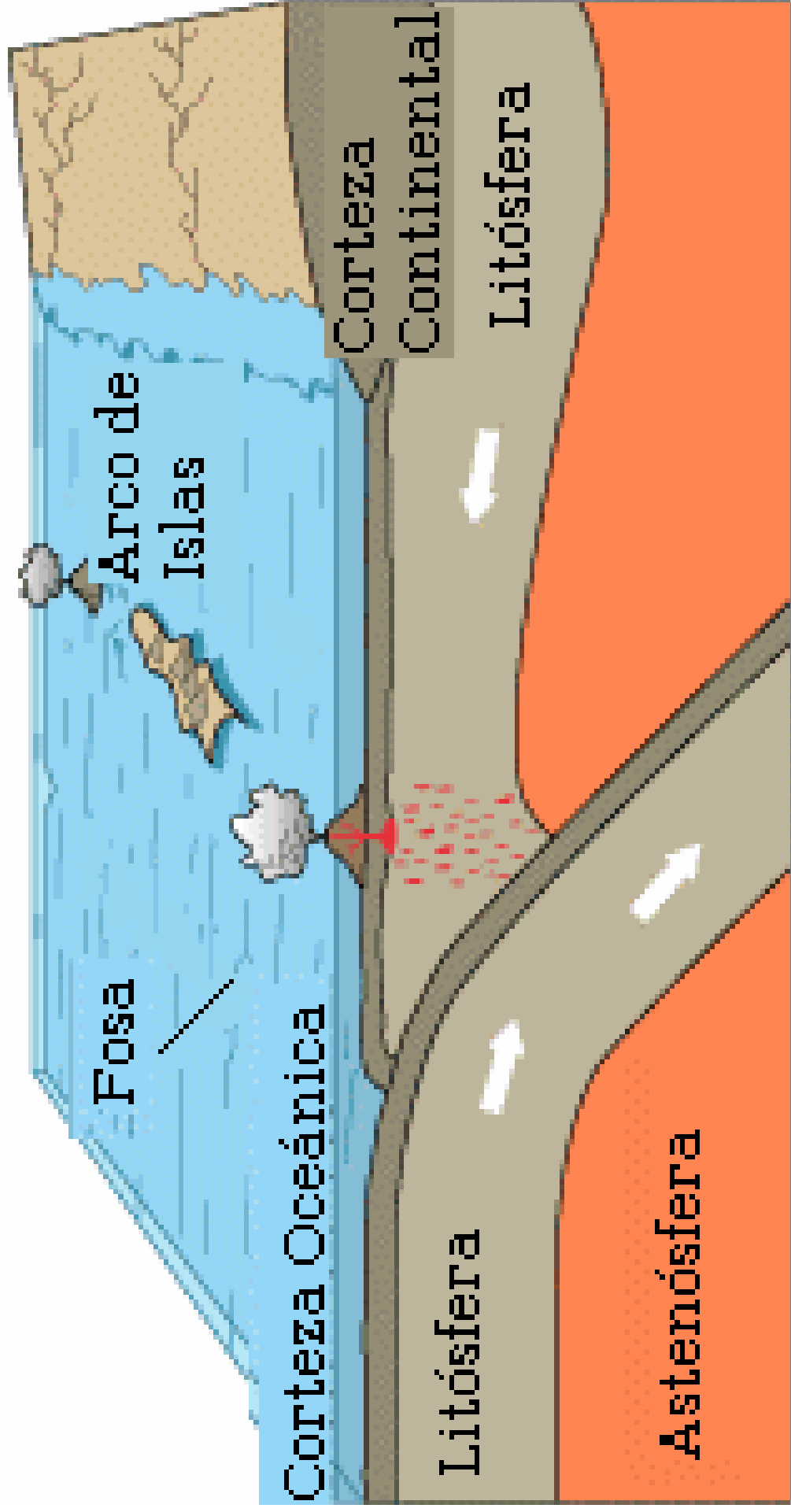




Convergencia Continental - Continental

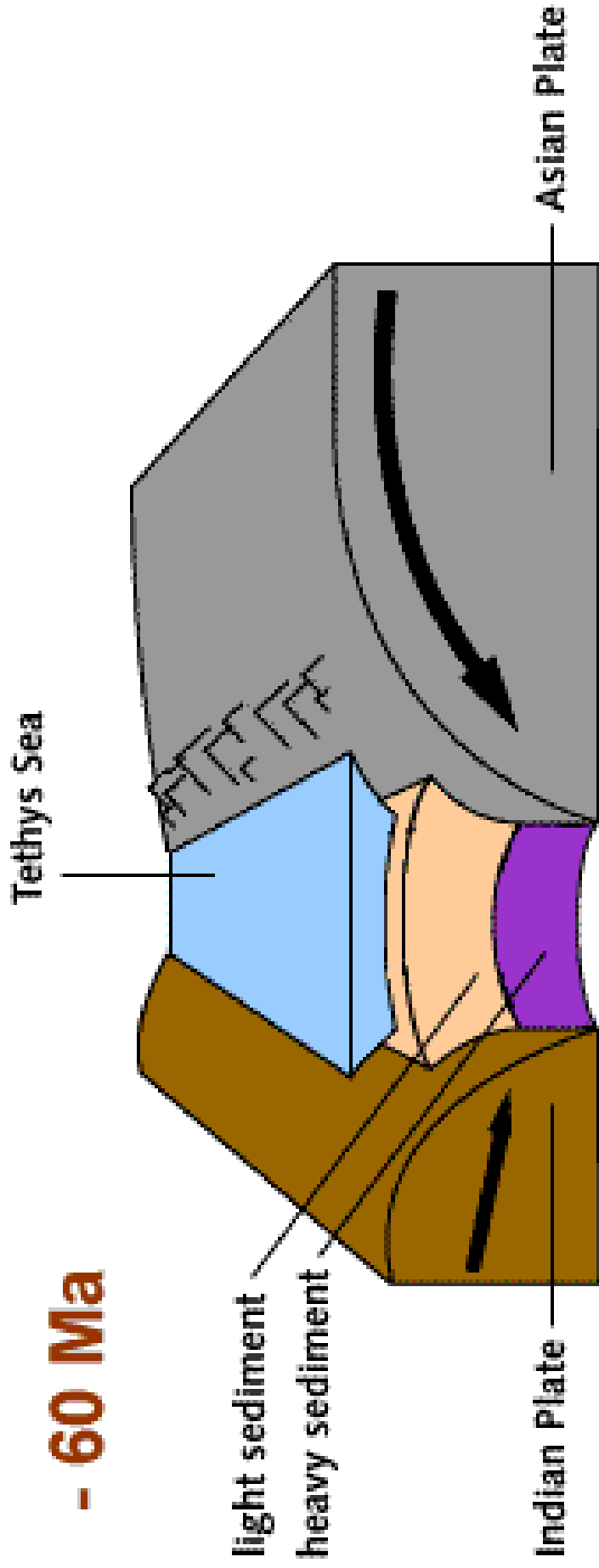


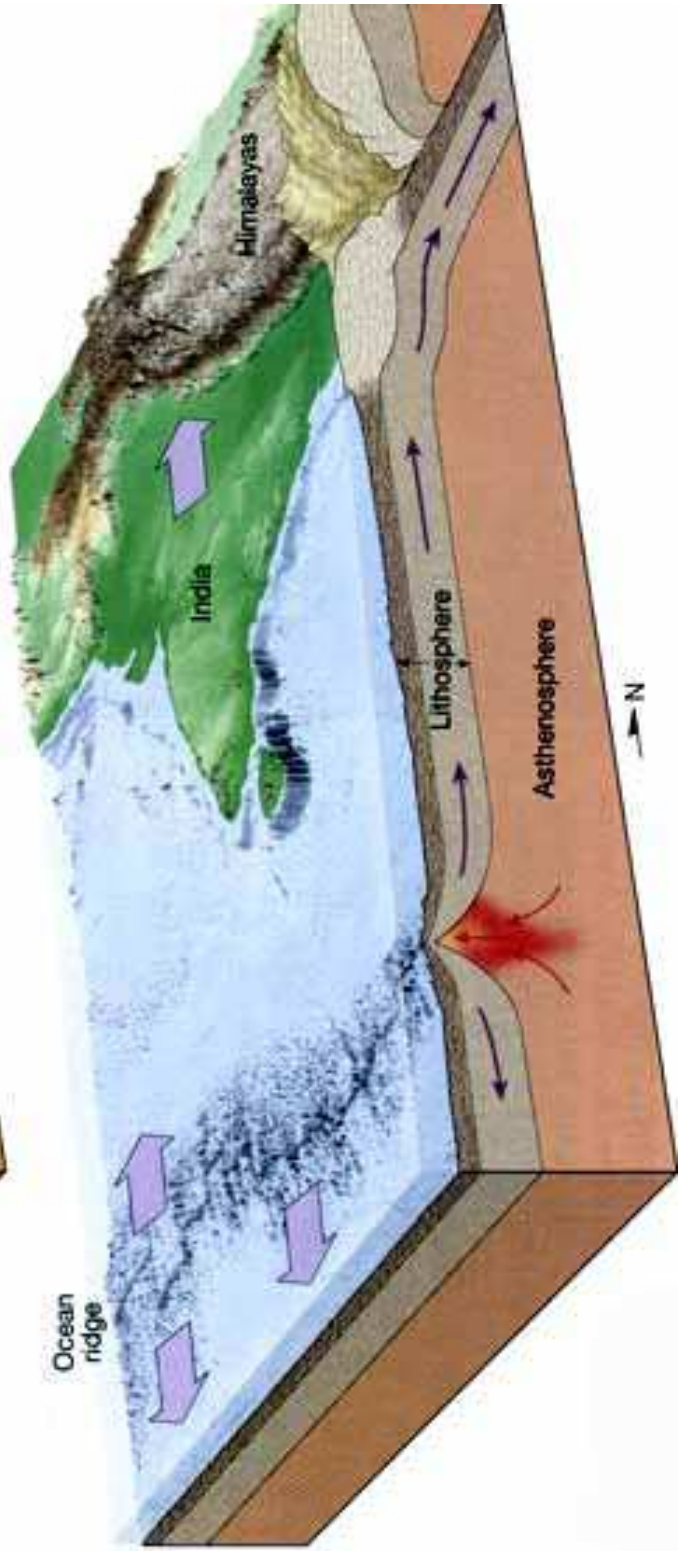
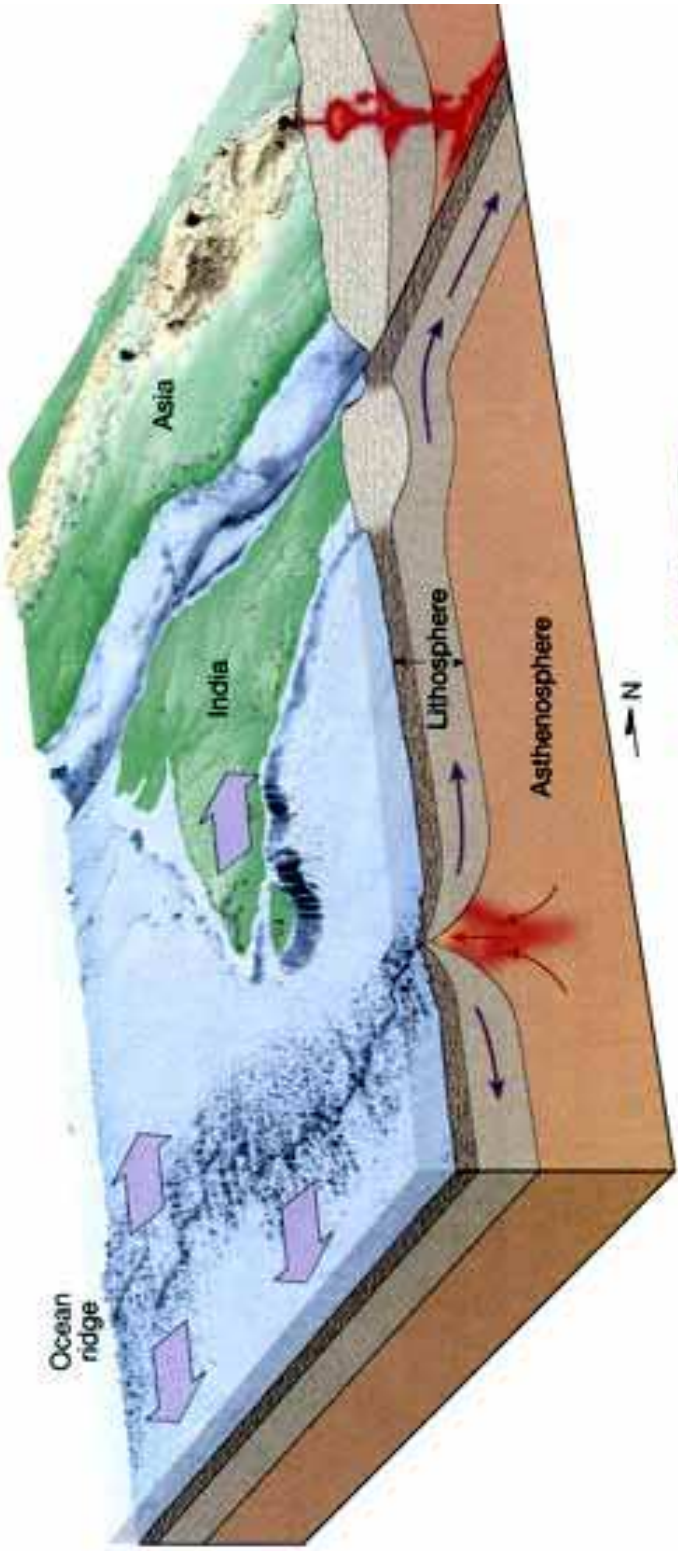
Convergencia Océánica-Continental

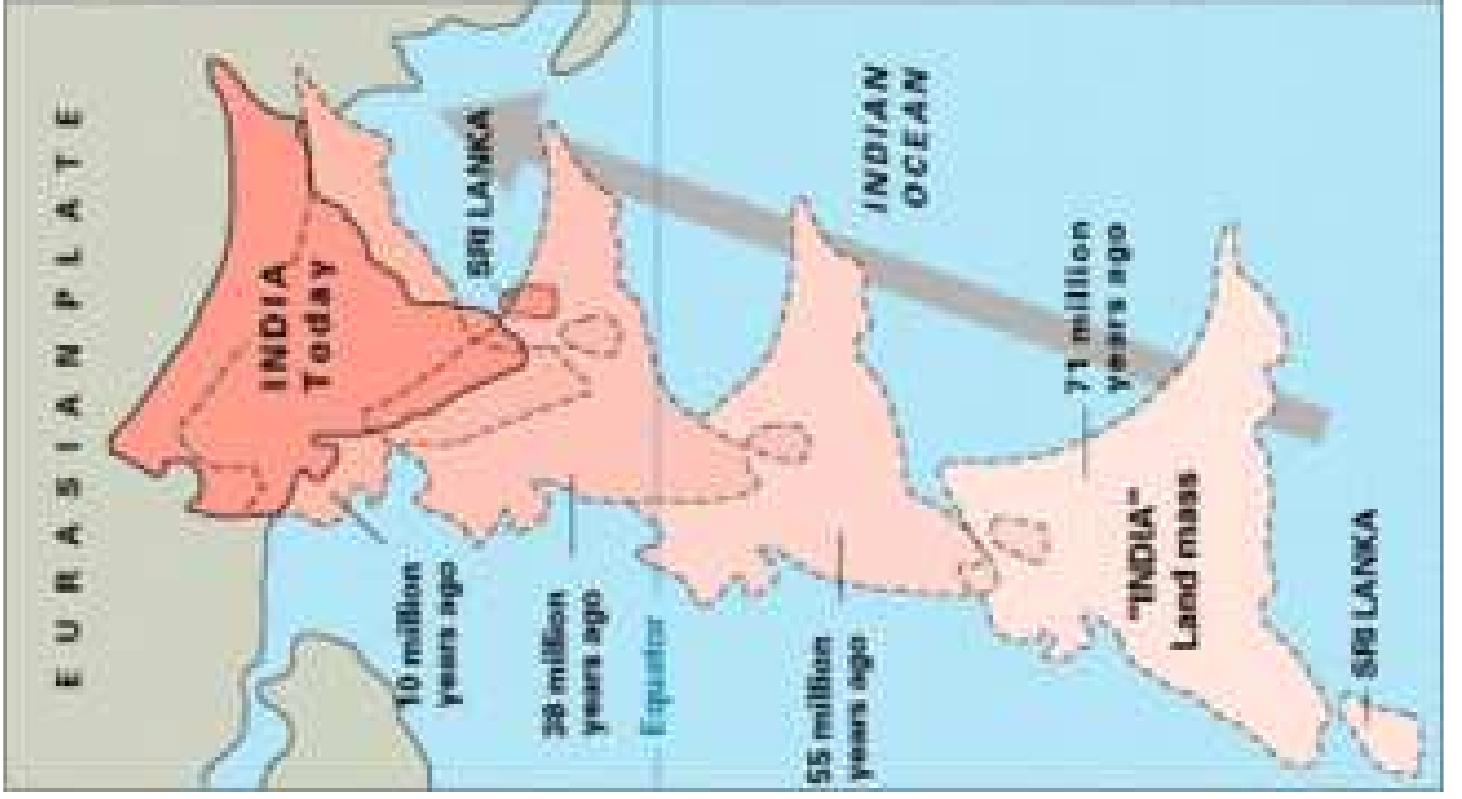


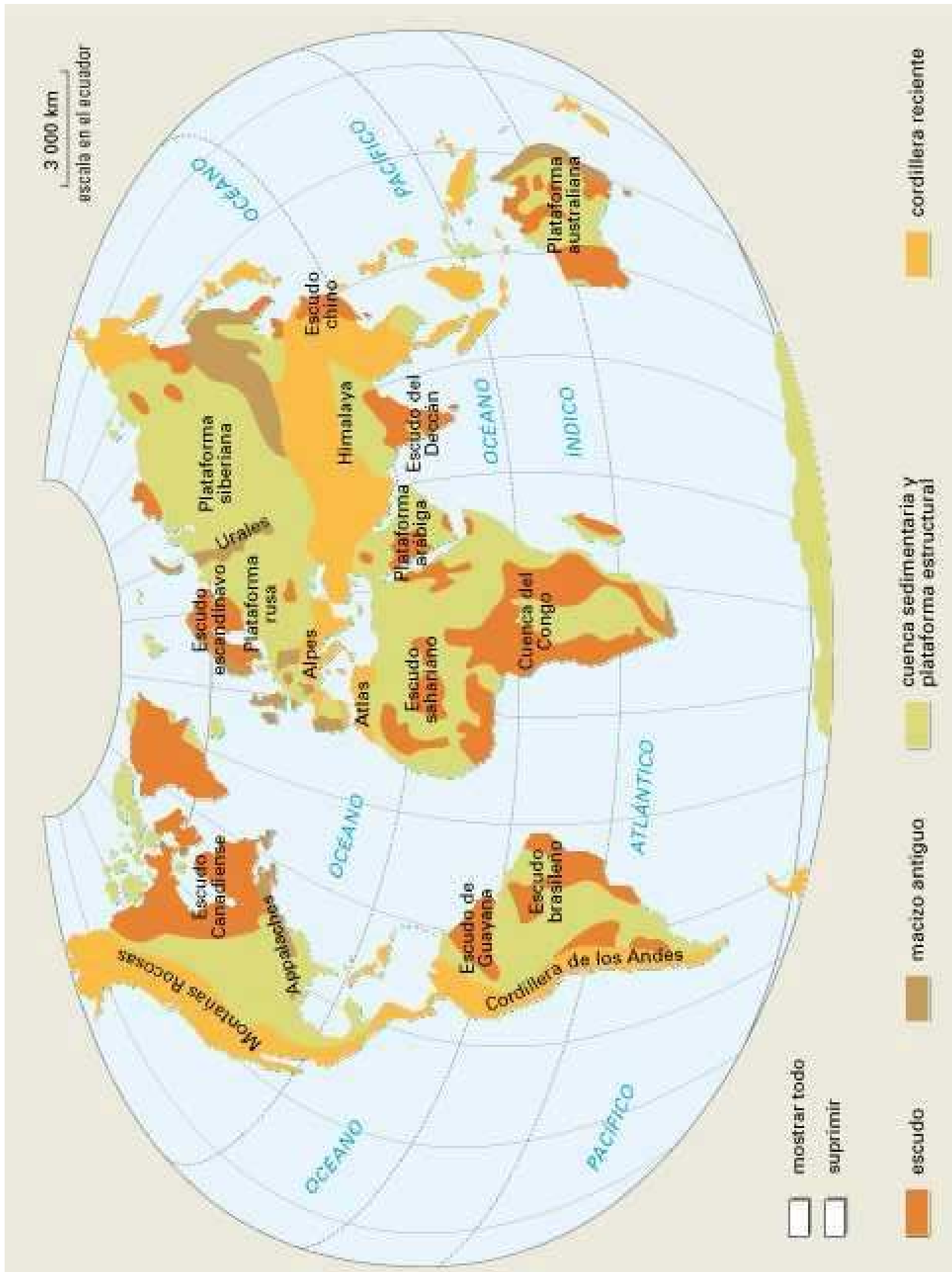
Convergencia Océánica - Océánica

- 60 Ma

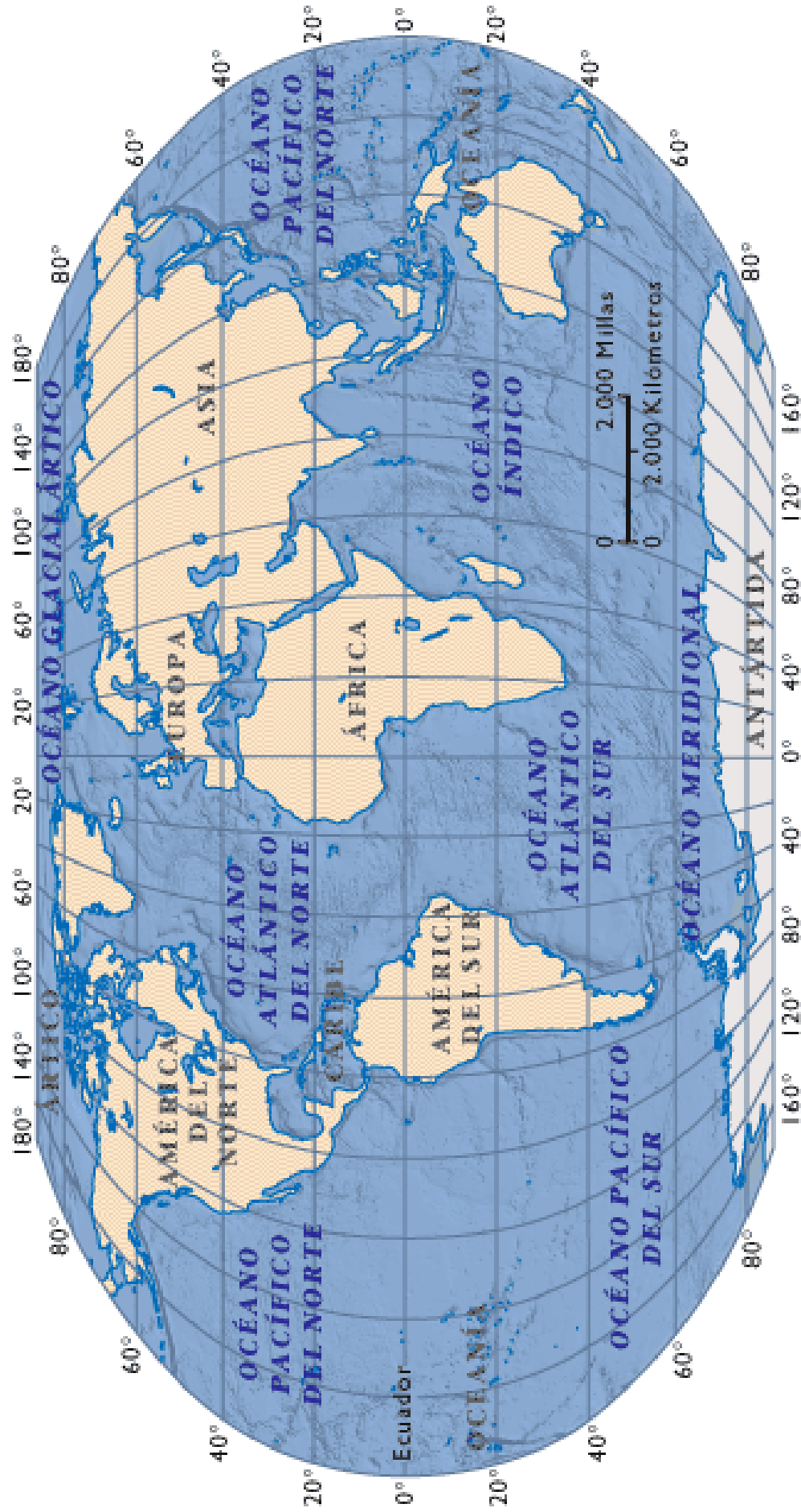




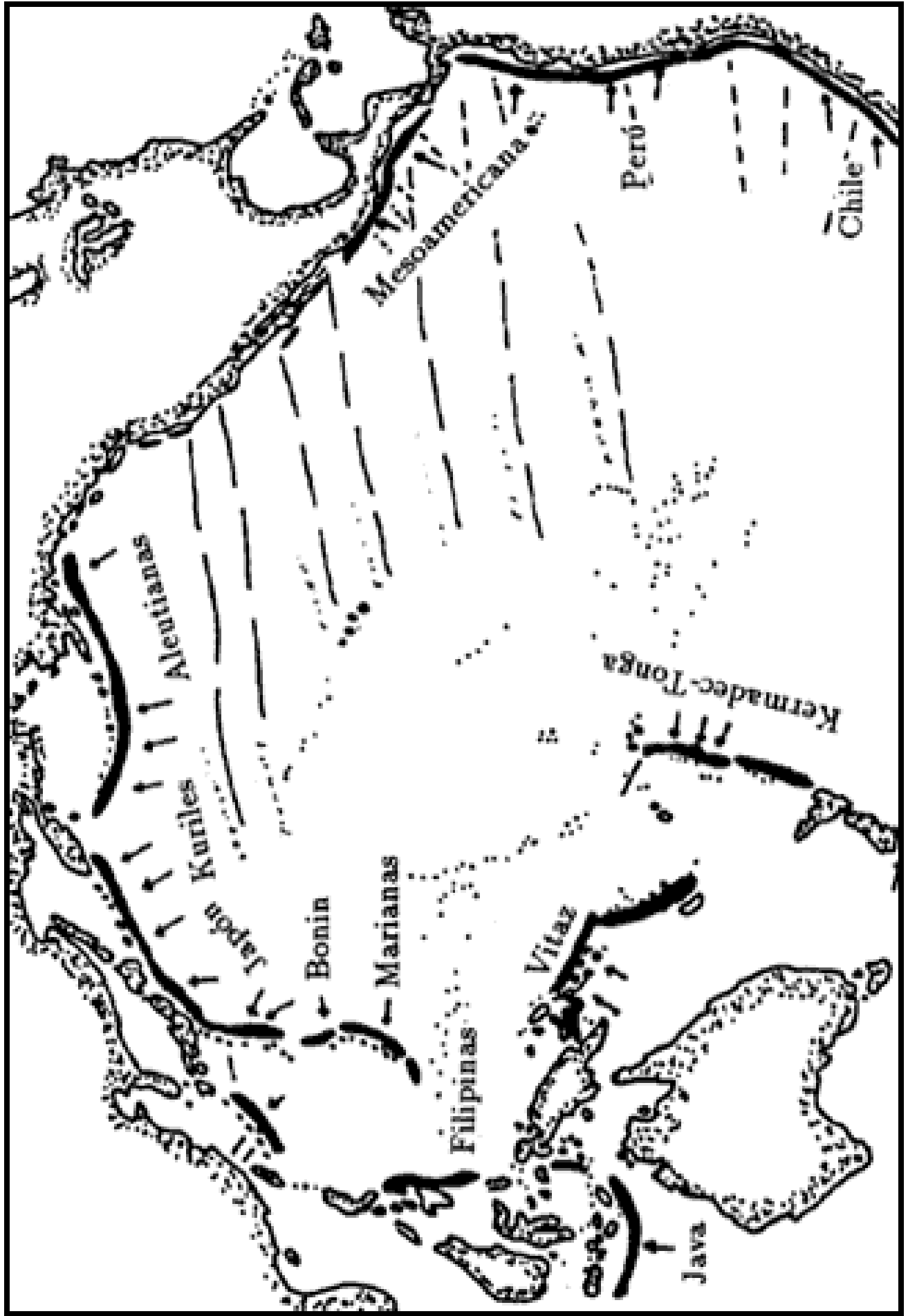


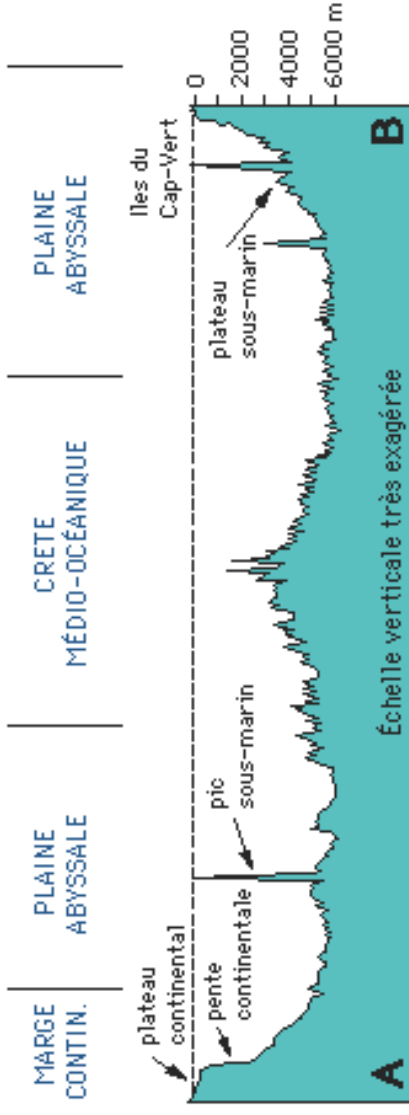
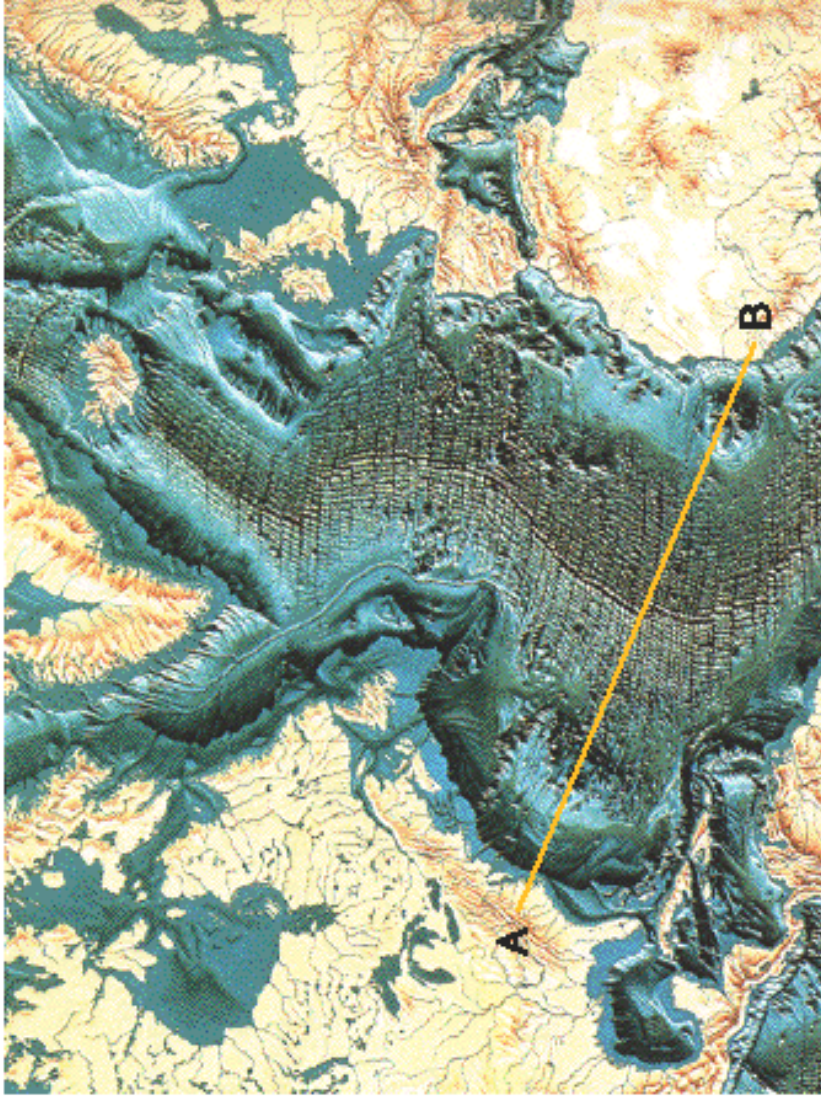


Océanos

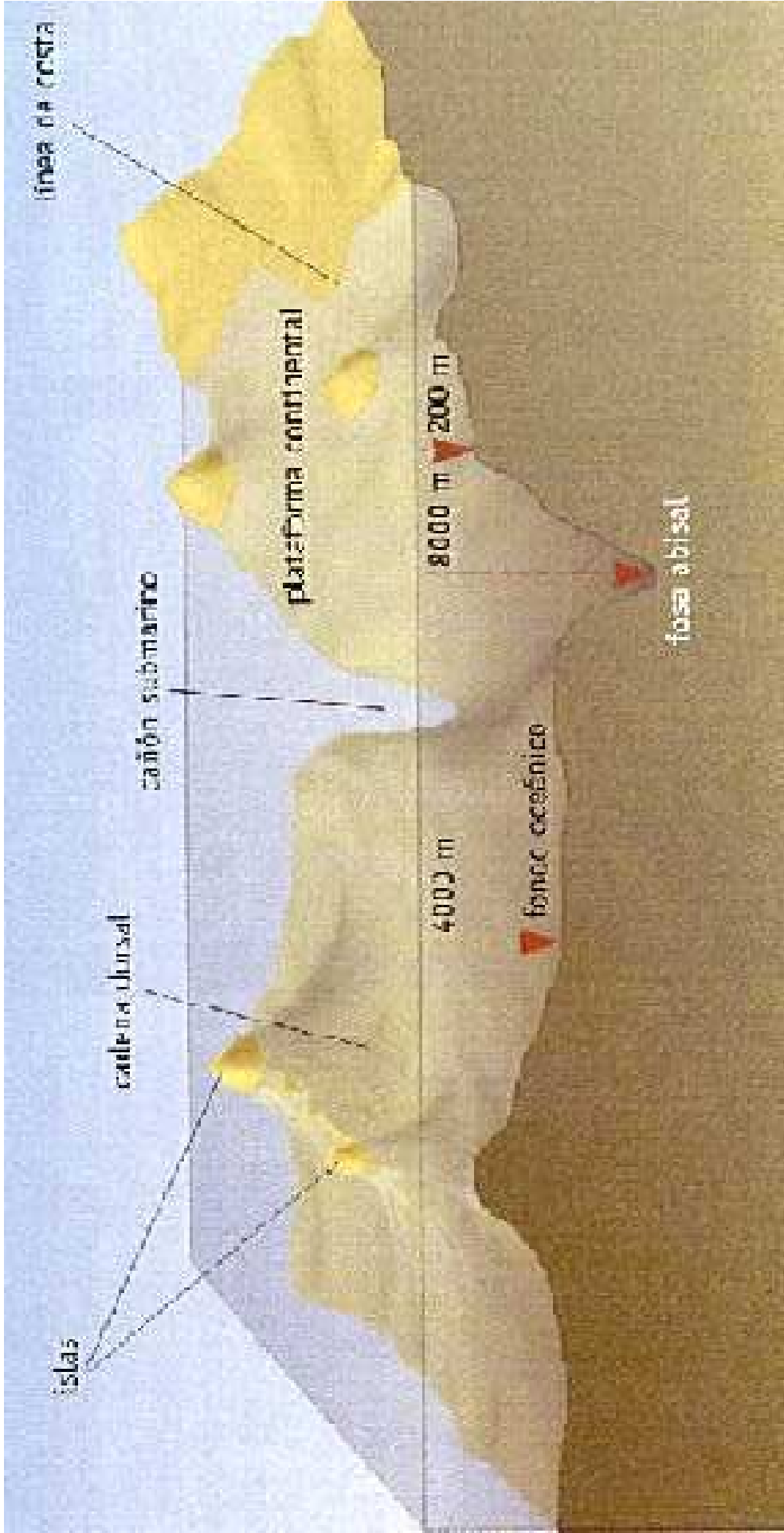


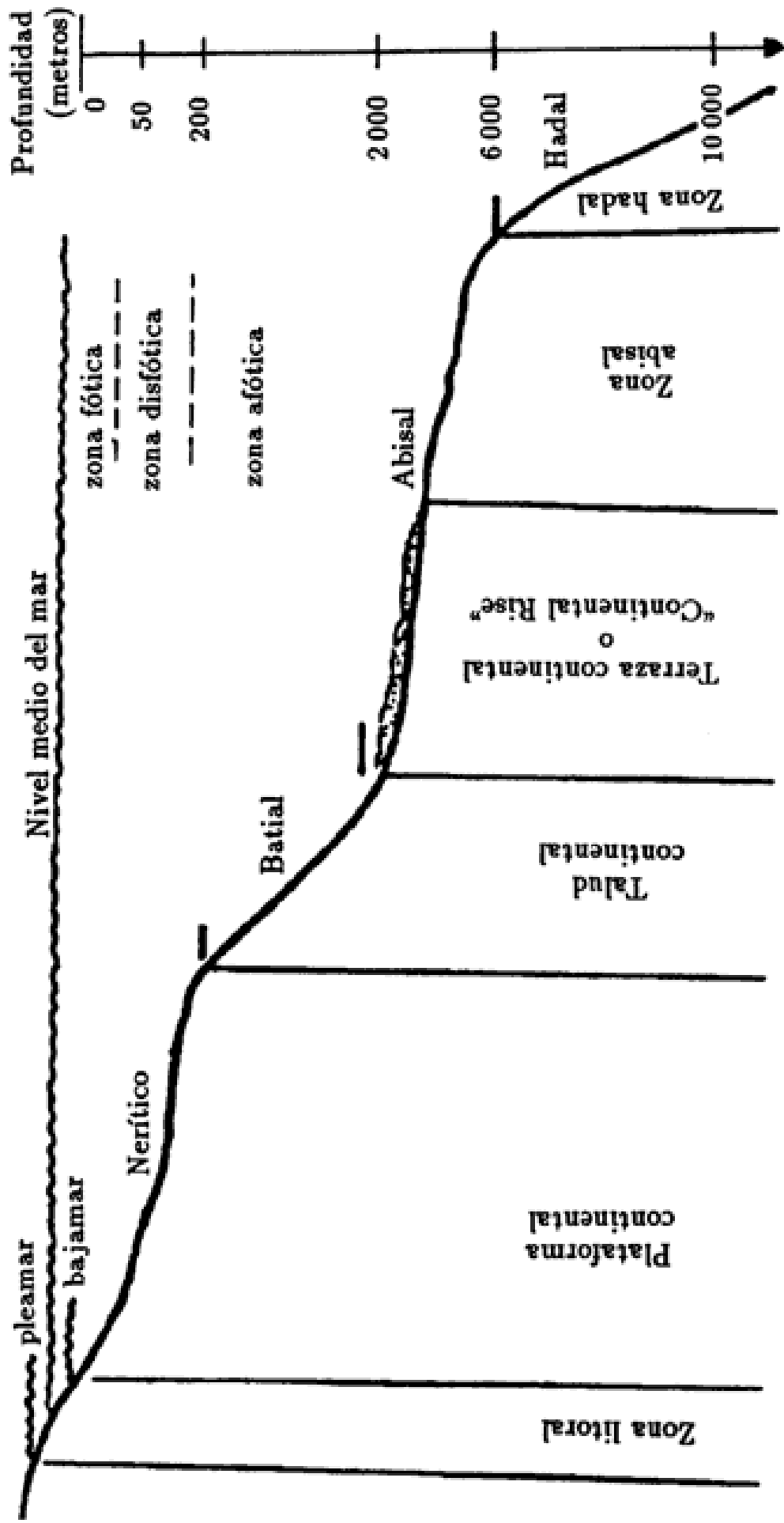


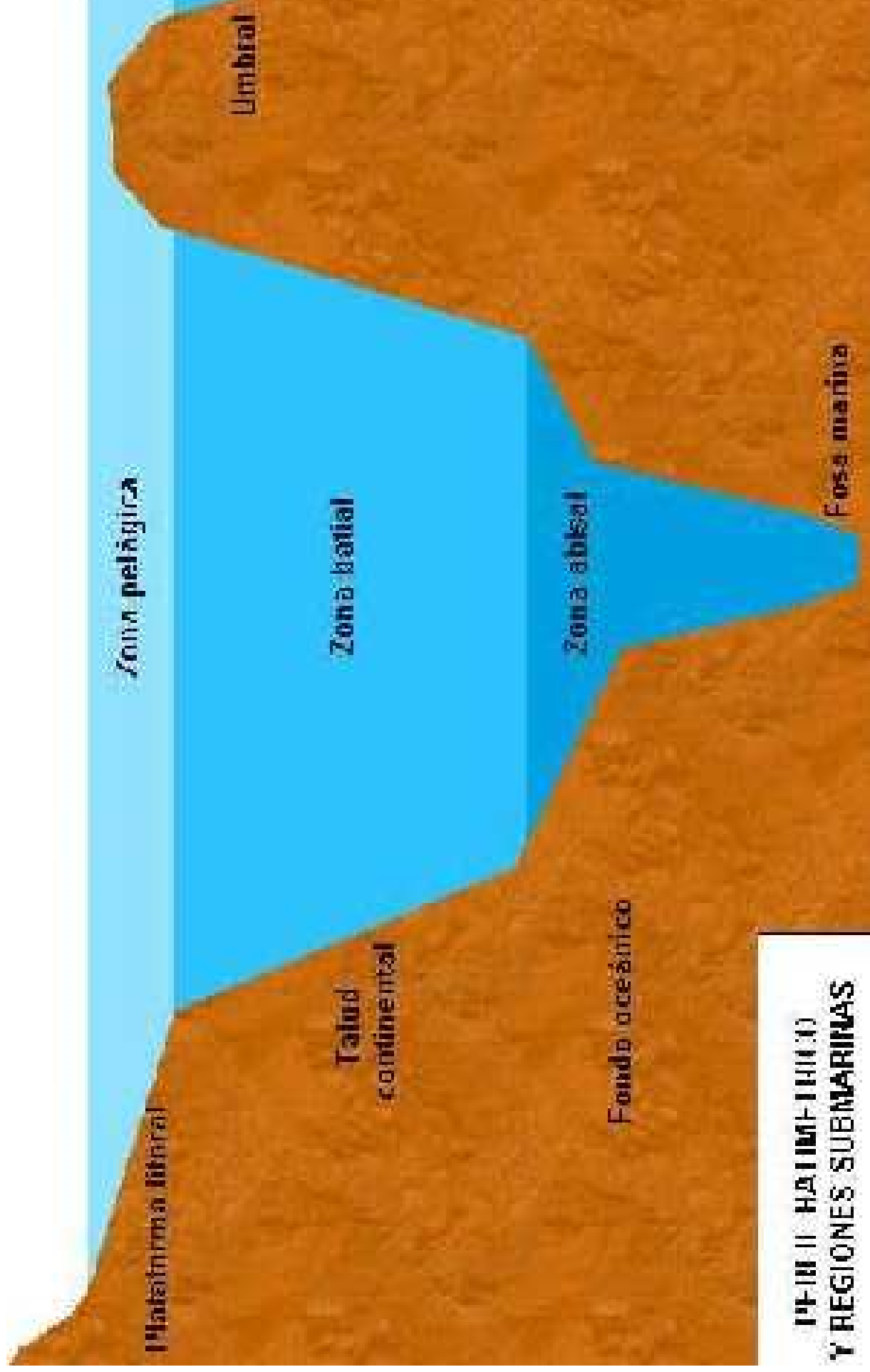




Ce profil à travers l'Atlantique-Nord va du Cap Hatteras (USA) au Cap Vert (Afrique) ; il montre les principaux éléments du relief des fonds océaniques. Il n'y manque que les fosses profondes (jusqu'à 11 000 m) qu'on retrouve au pourtour du Pacifique.



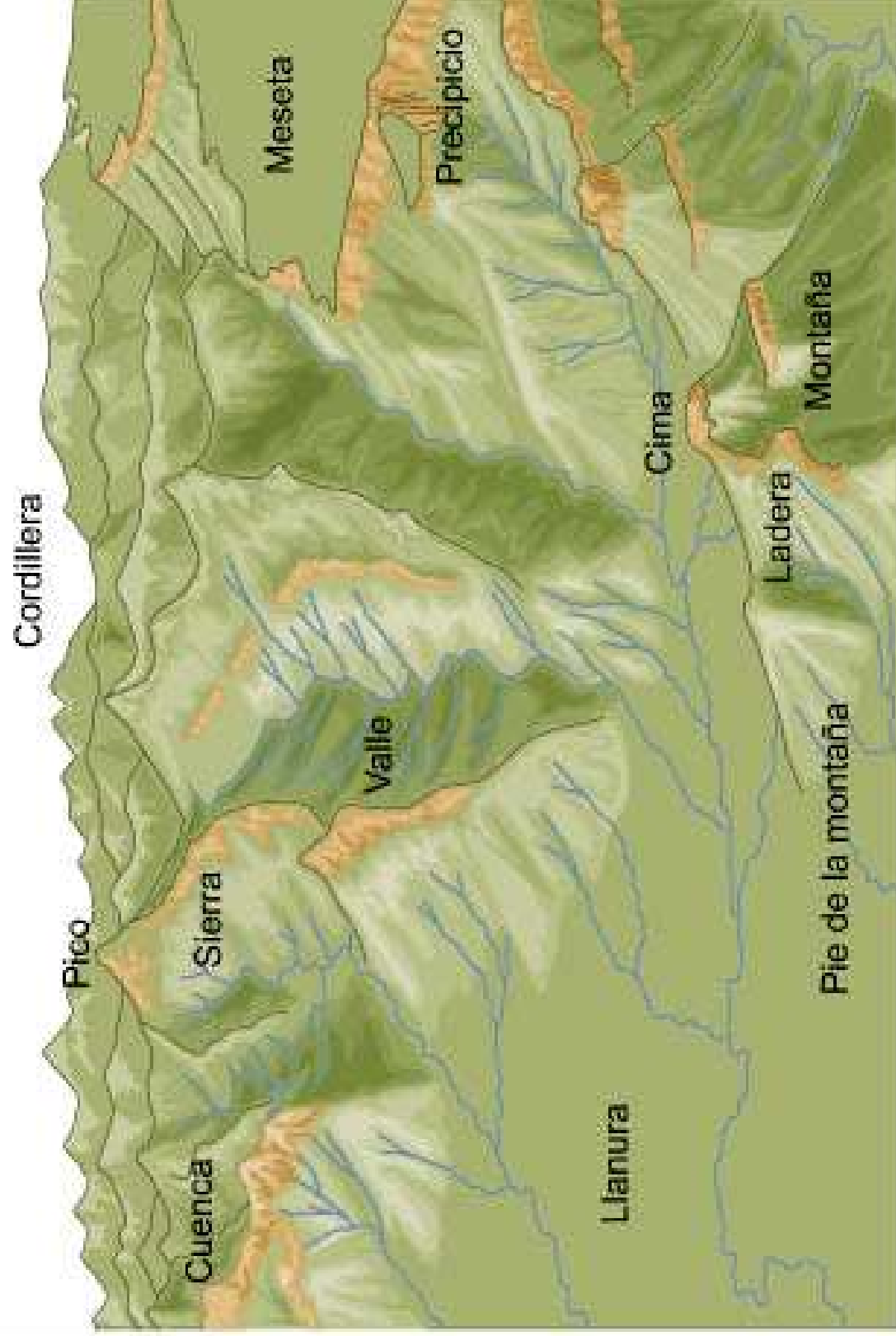


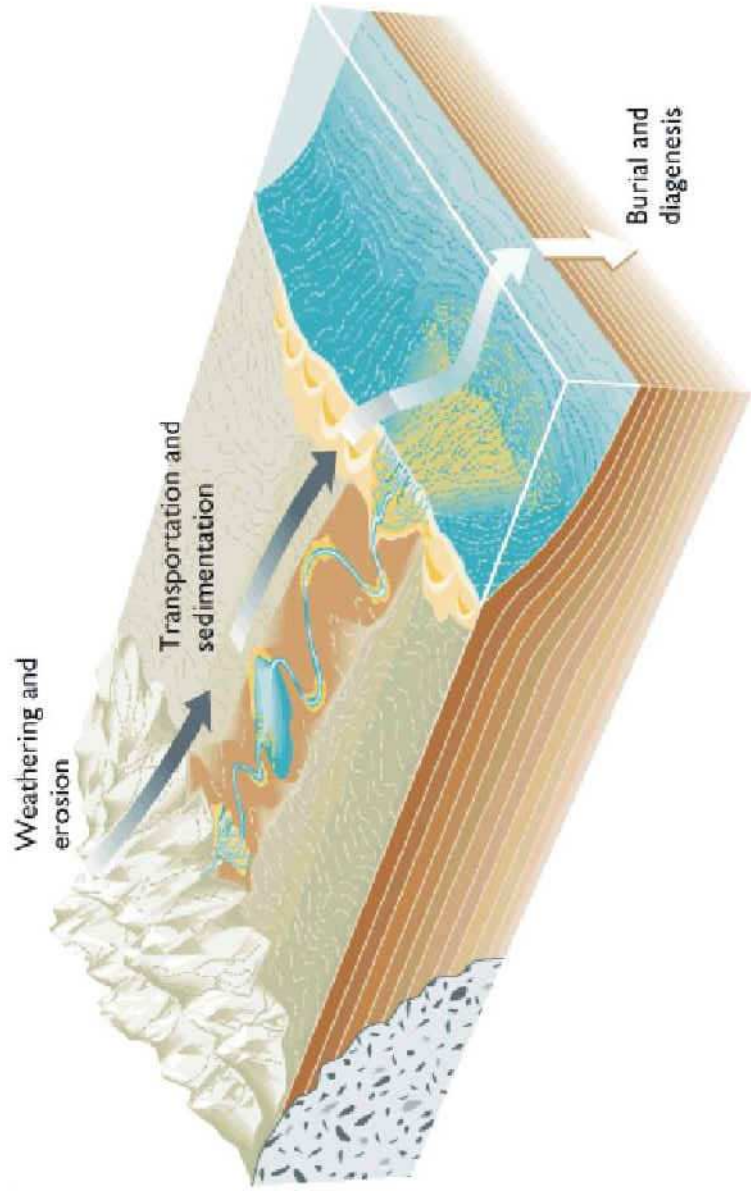


IV-III II HALLIMF-III (I) Y REGIONES SUBMARINAS

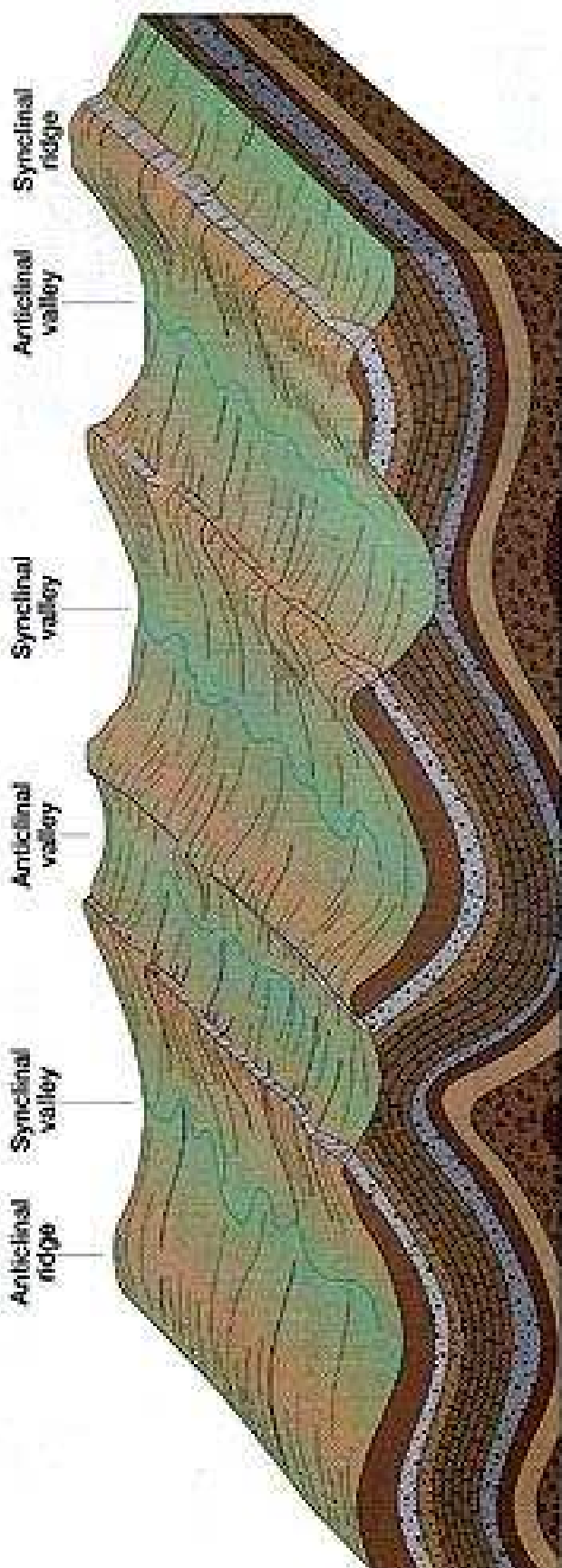
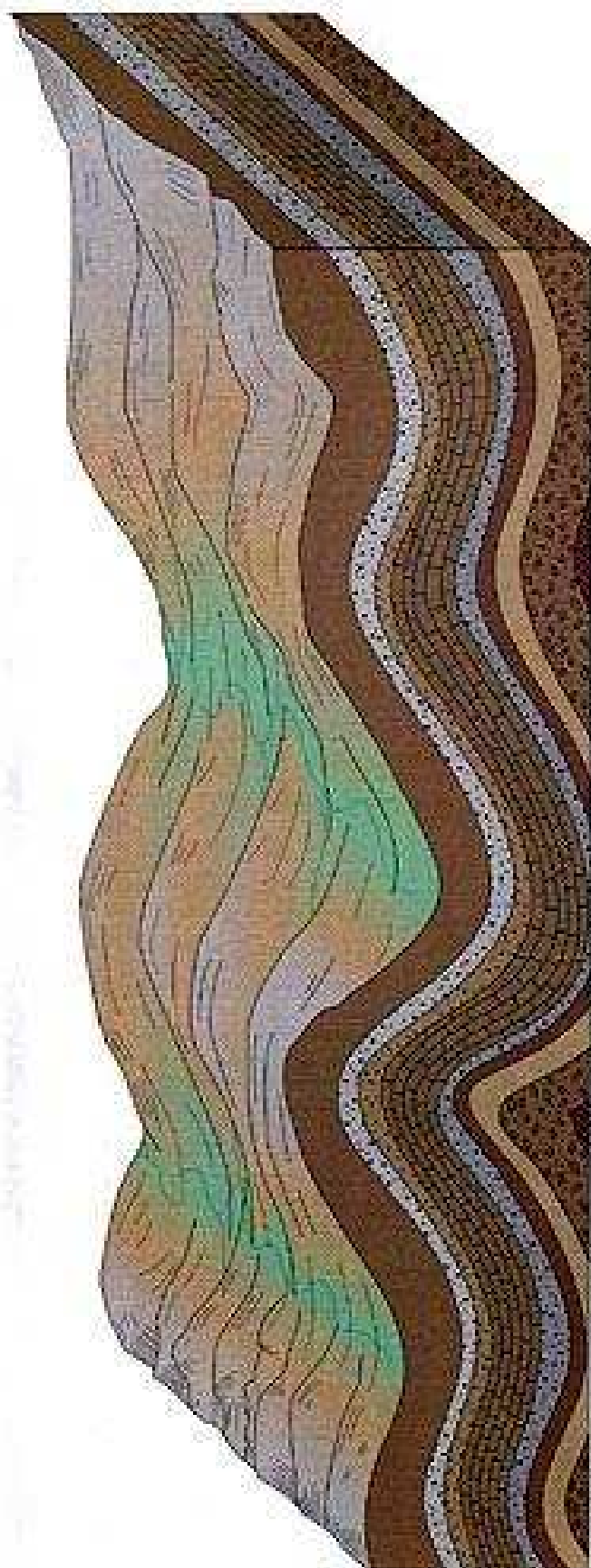
Relieve continental

Existen dos formas de relieve: uno es el continental y otro el submarino. La figura muestra las diversas formas del relieve de la litosfera o relieve continental.

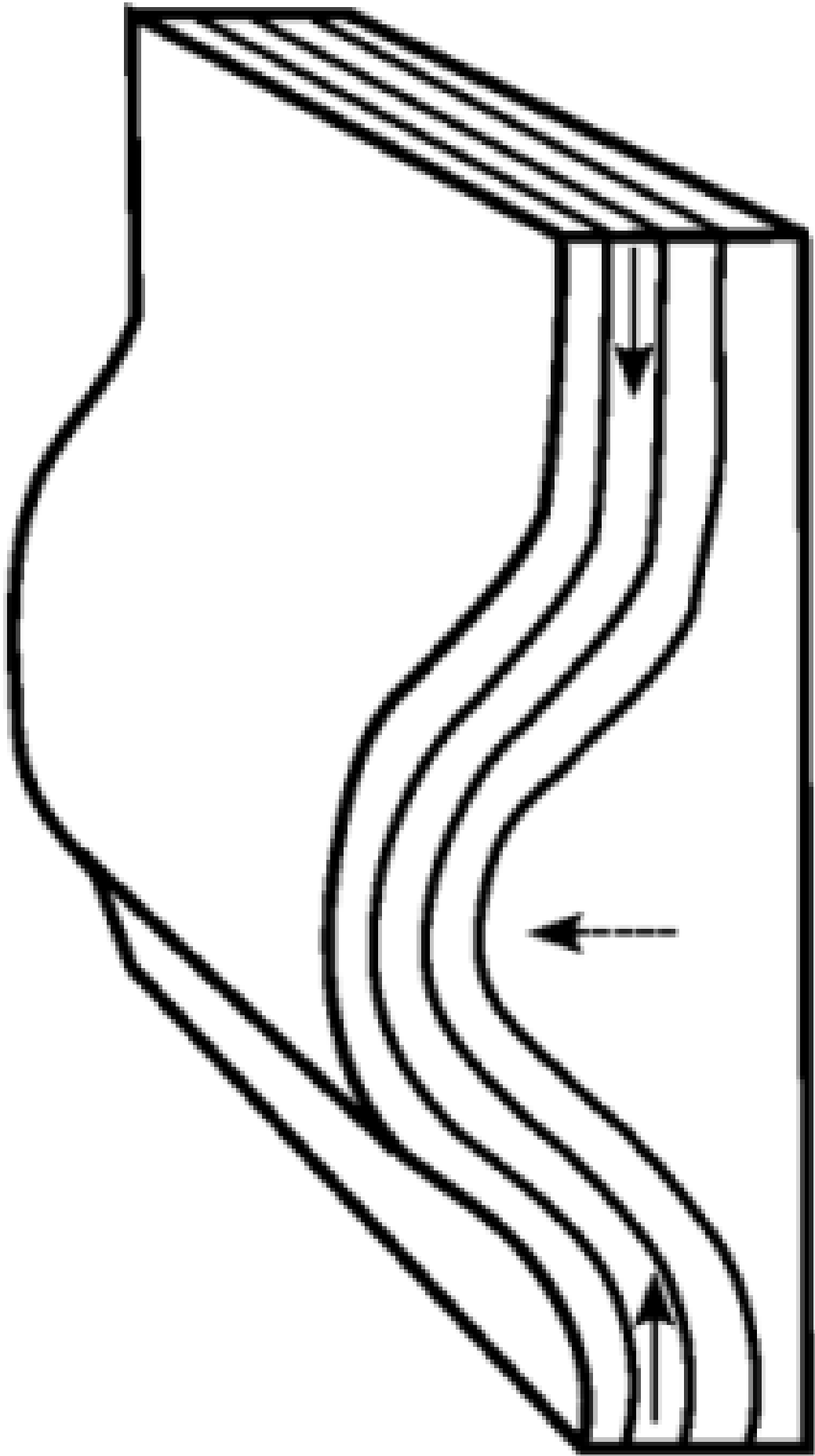


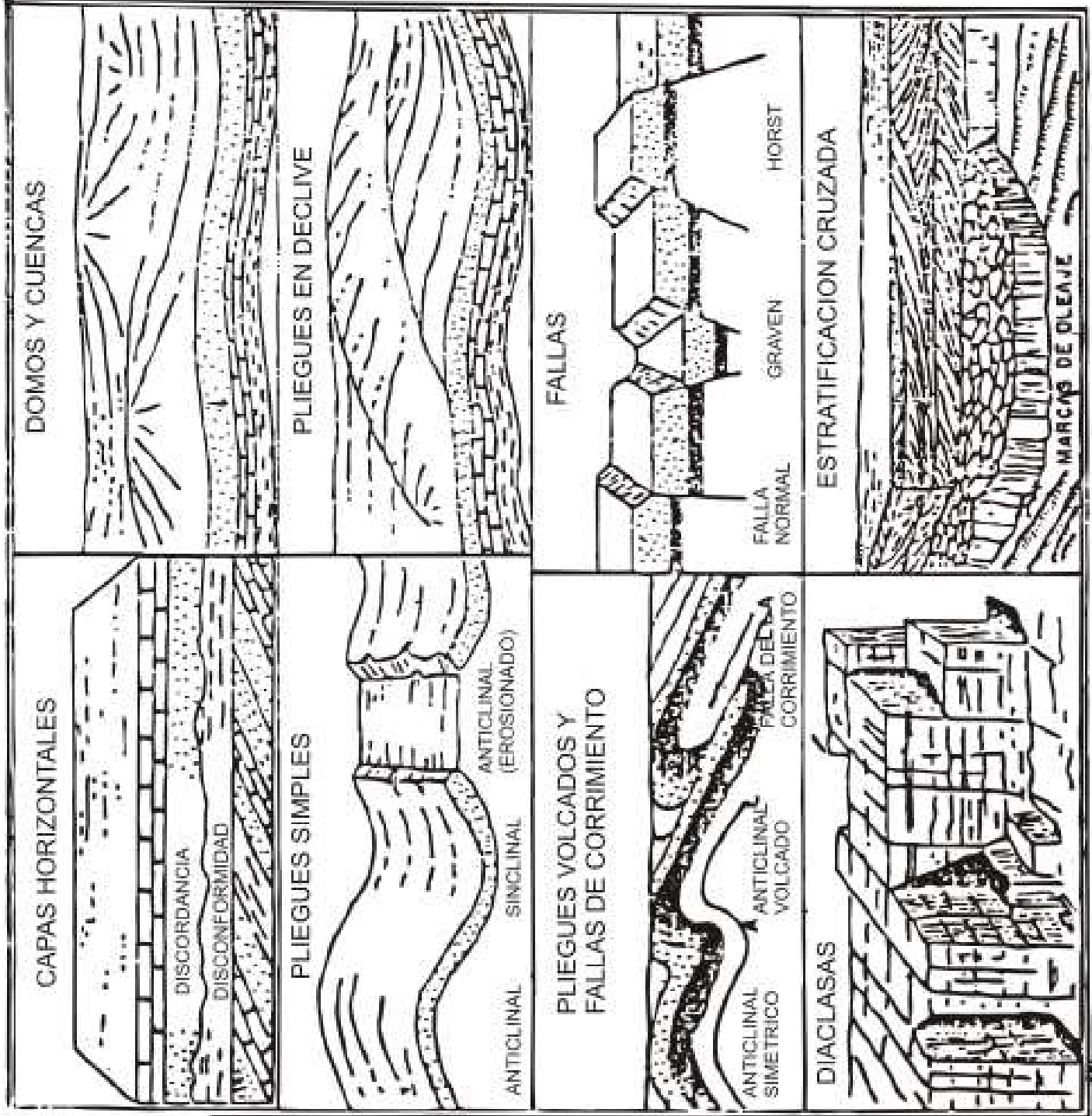






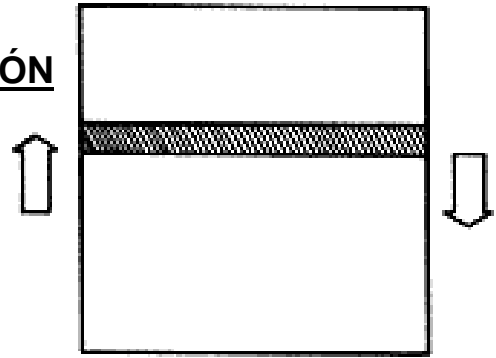
(a)



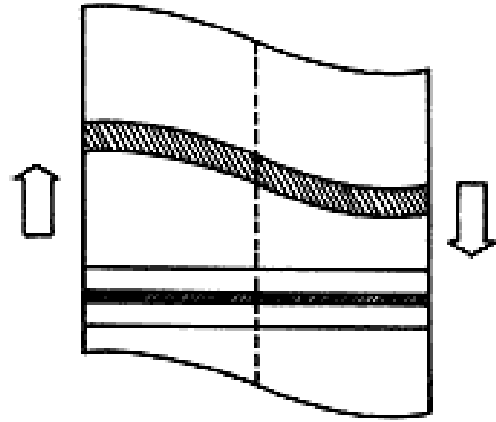




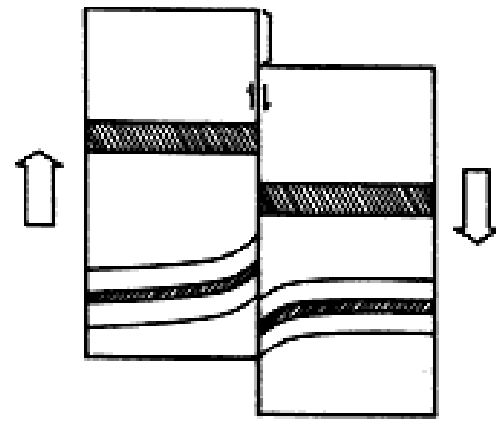
**FALLA:
FORMACIÓN**



(a)



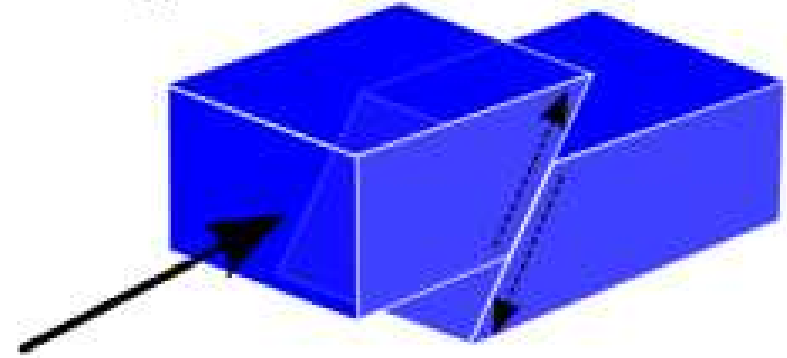
(b)



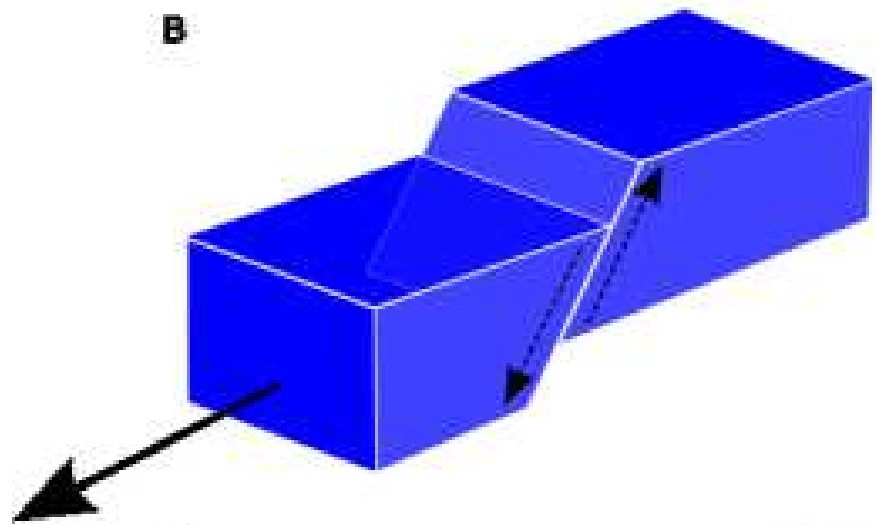
(c)

TIPOS DE FALLAS

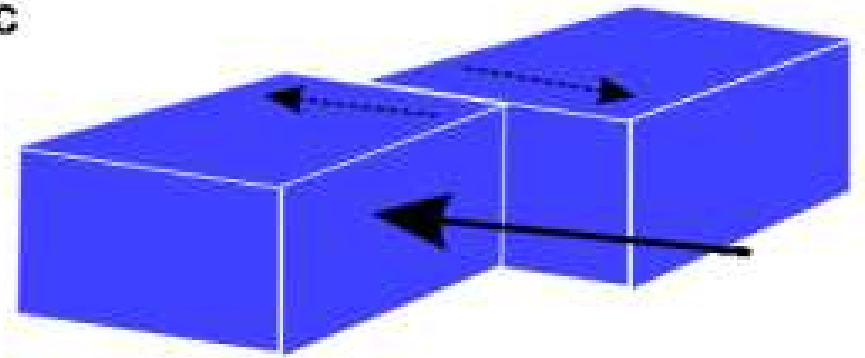
A



B

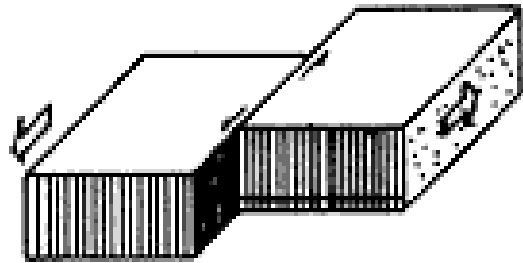


C

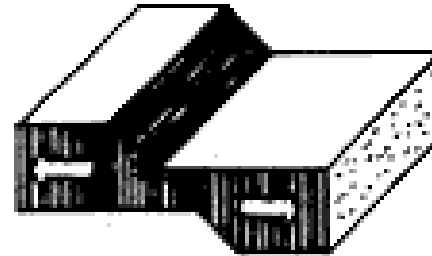


TIPOS DE FALLAS

(a) Transcurrente



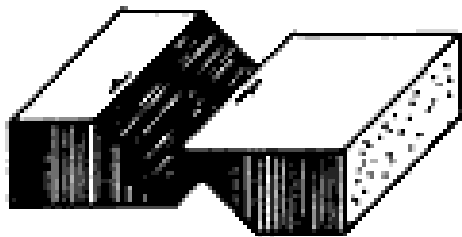
(b) Normal



(c) Reversa



(d) Mixta



(e) Graben

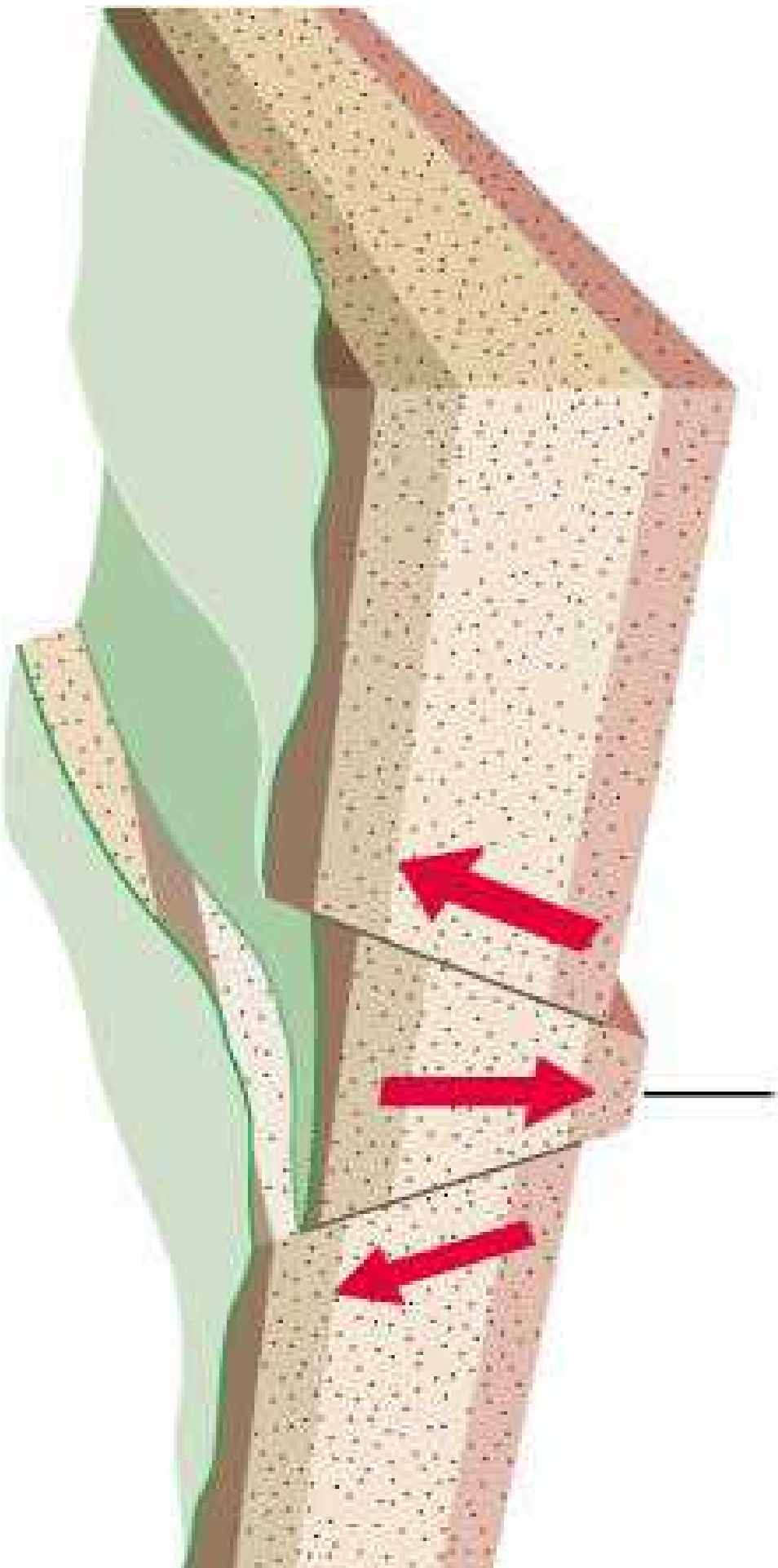


(f) Horst

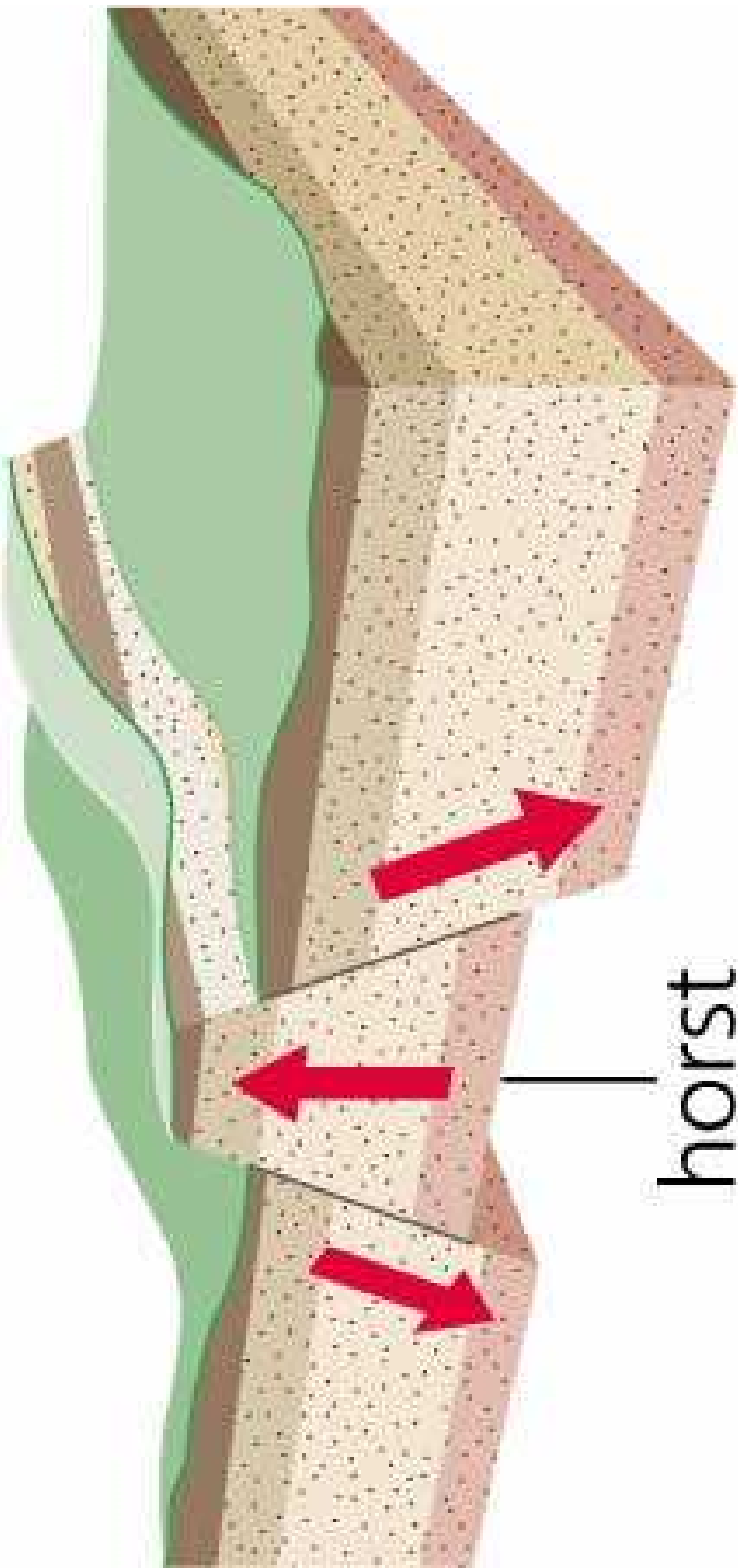








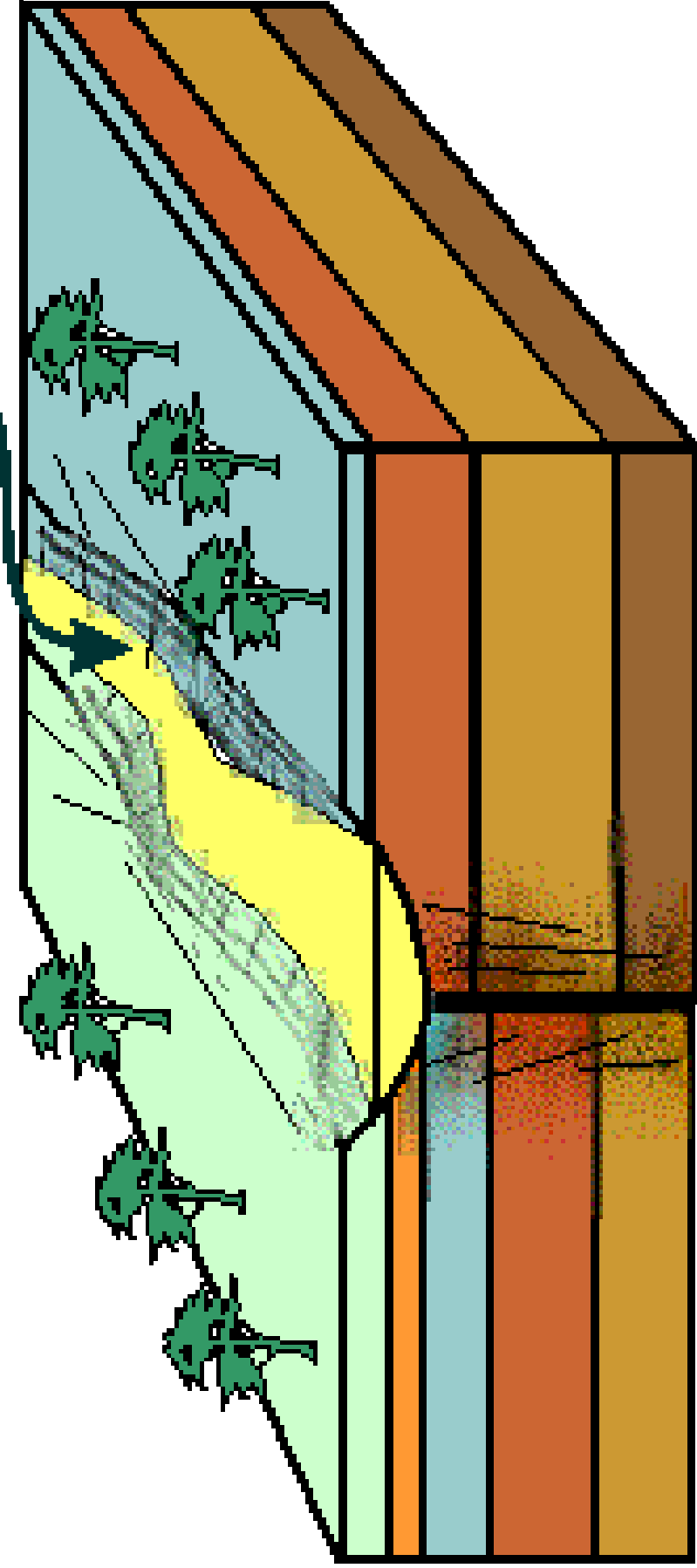
fosa tectónica



horst

Falla y morfología

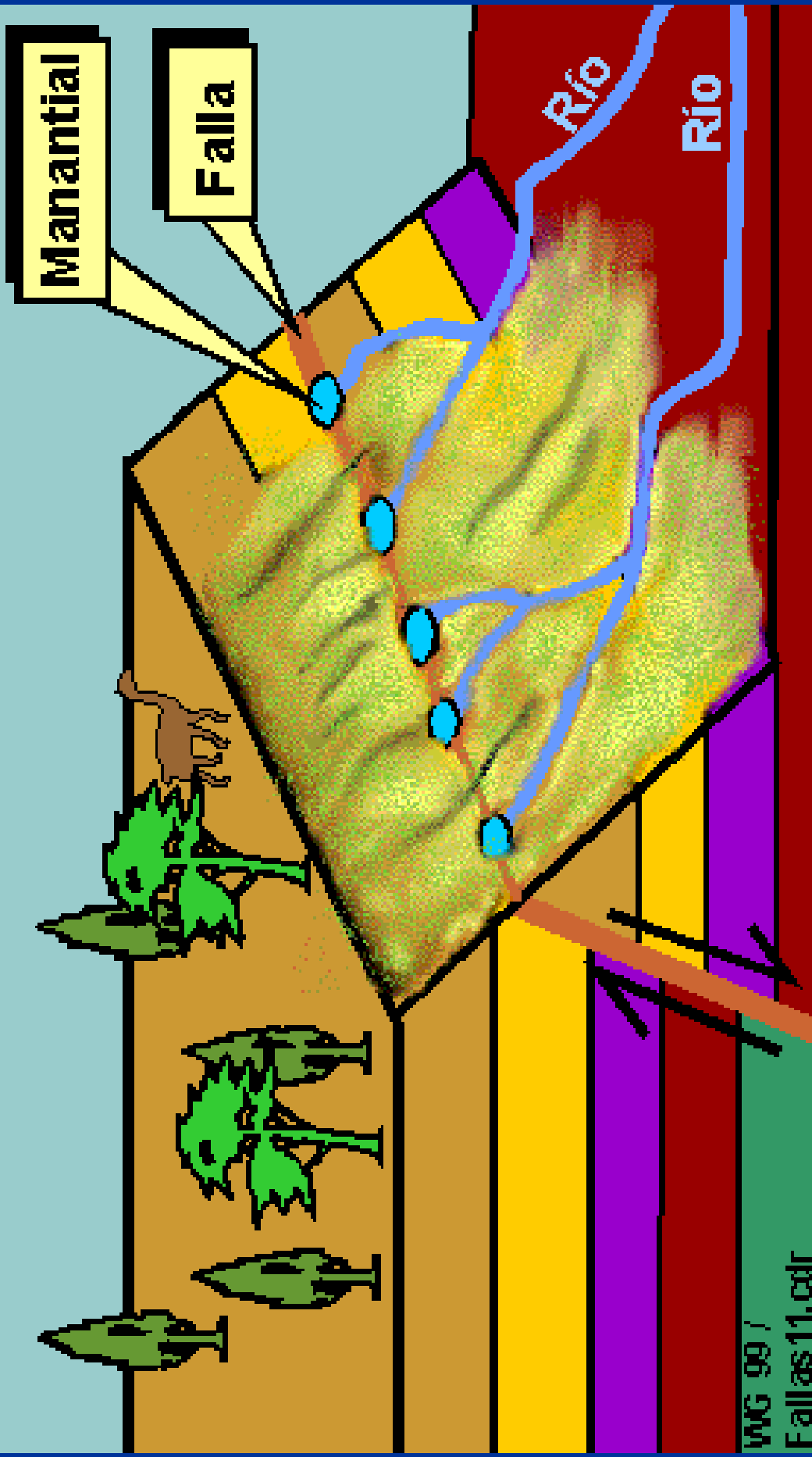
Depósitos aluviales



Falla,
zona de falla

wvg99 / Fallmor1.cdr

Manantiales y fallas tectónicas

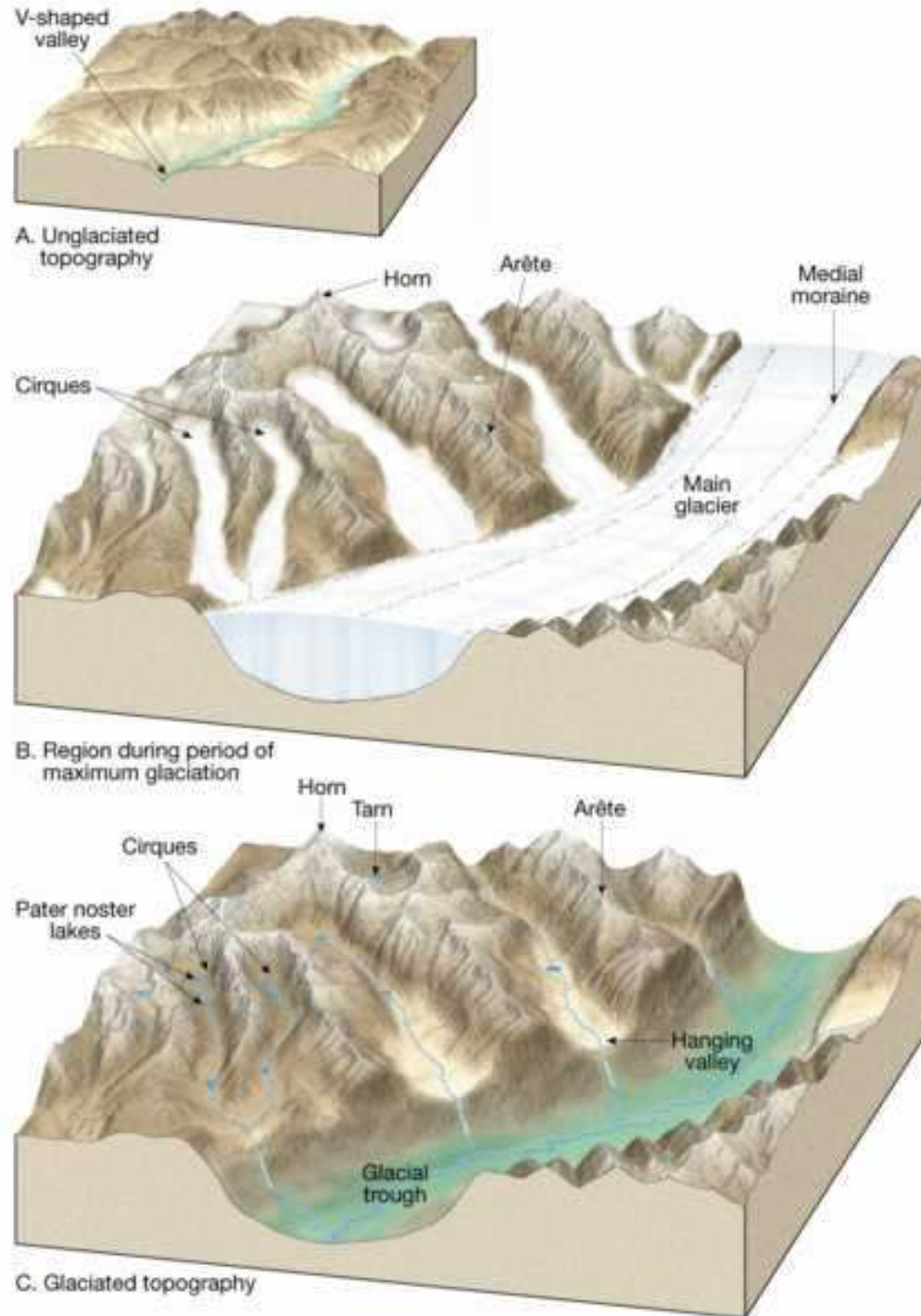


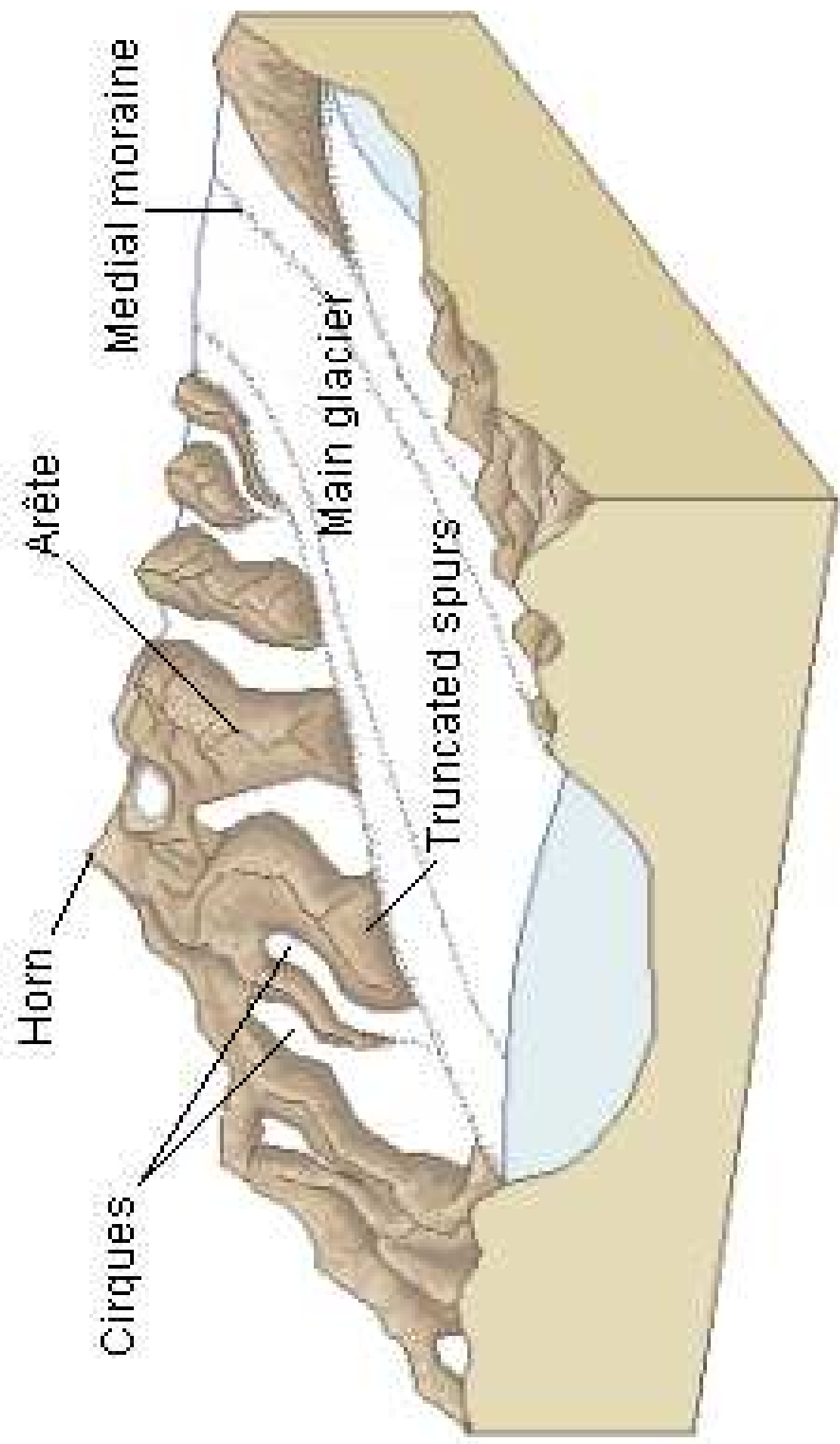


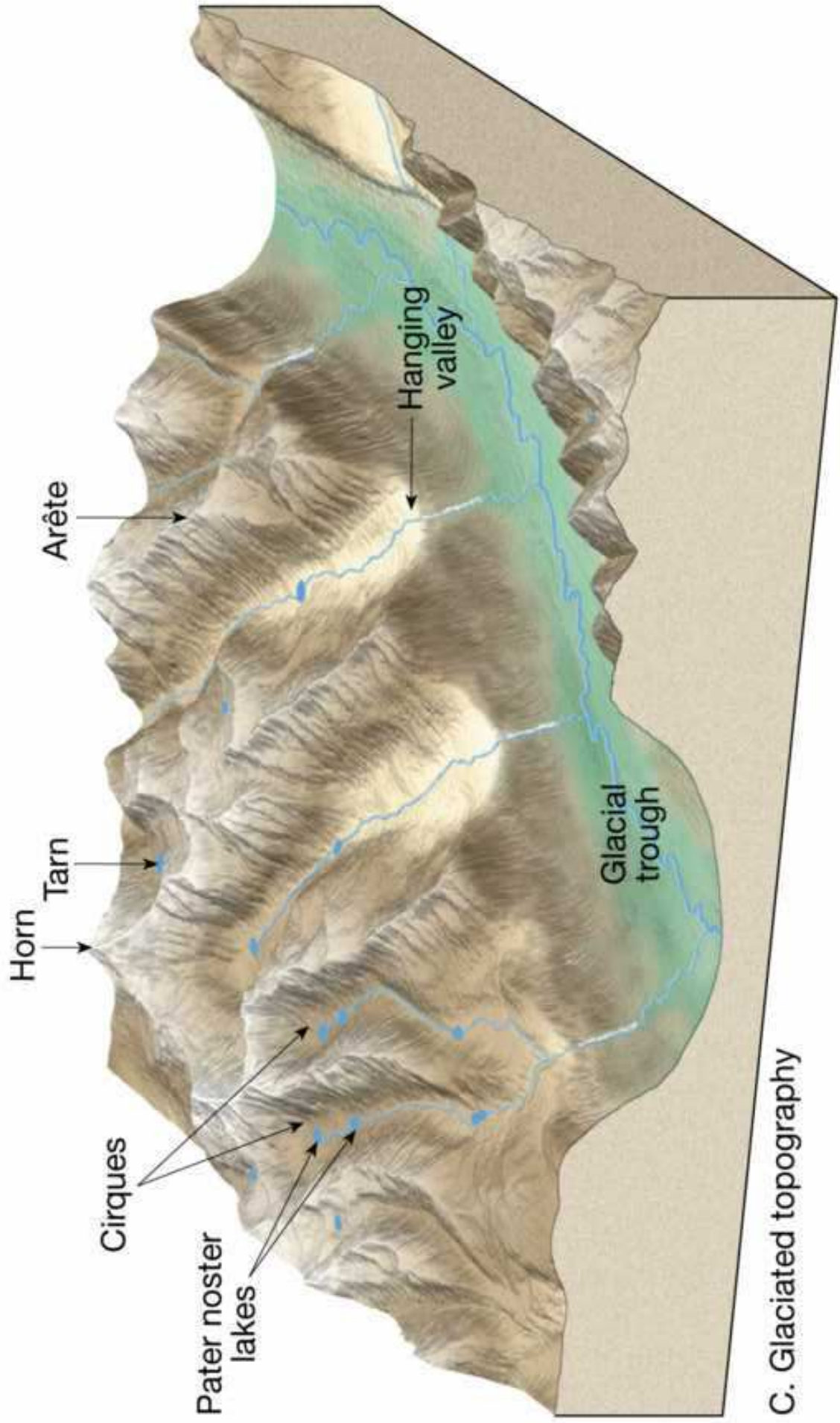




EROSIÓN GLACIAL







C. Glaciated topography

CIRCO



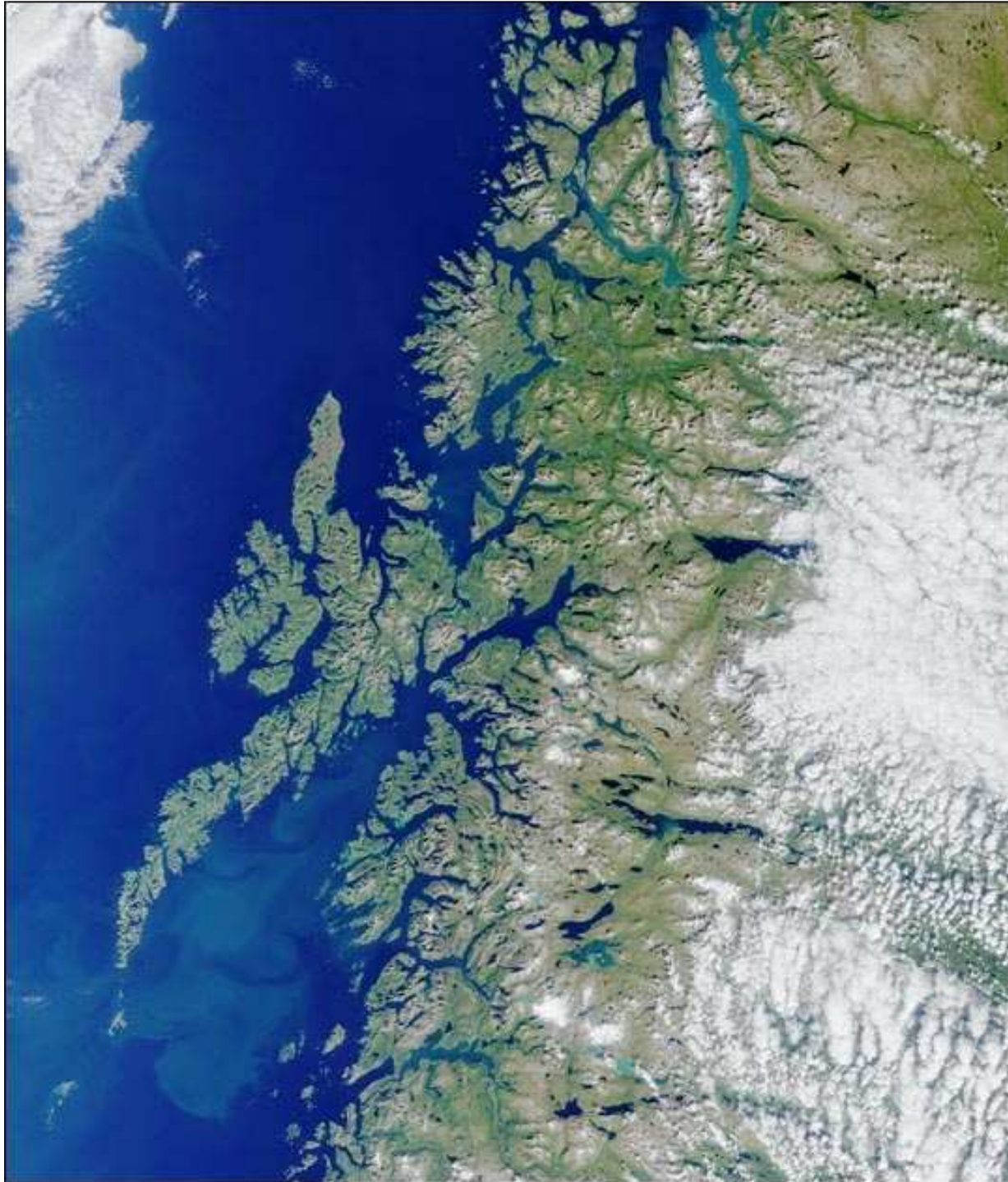
CANCHAL O PEDRIZA



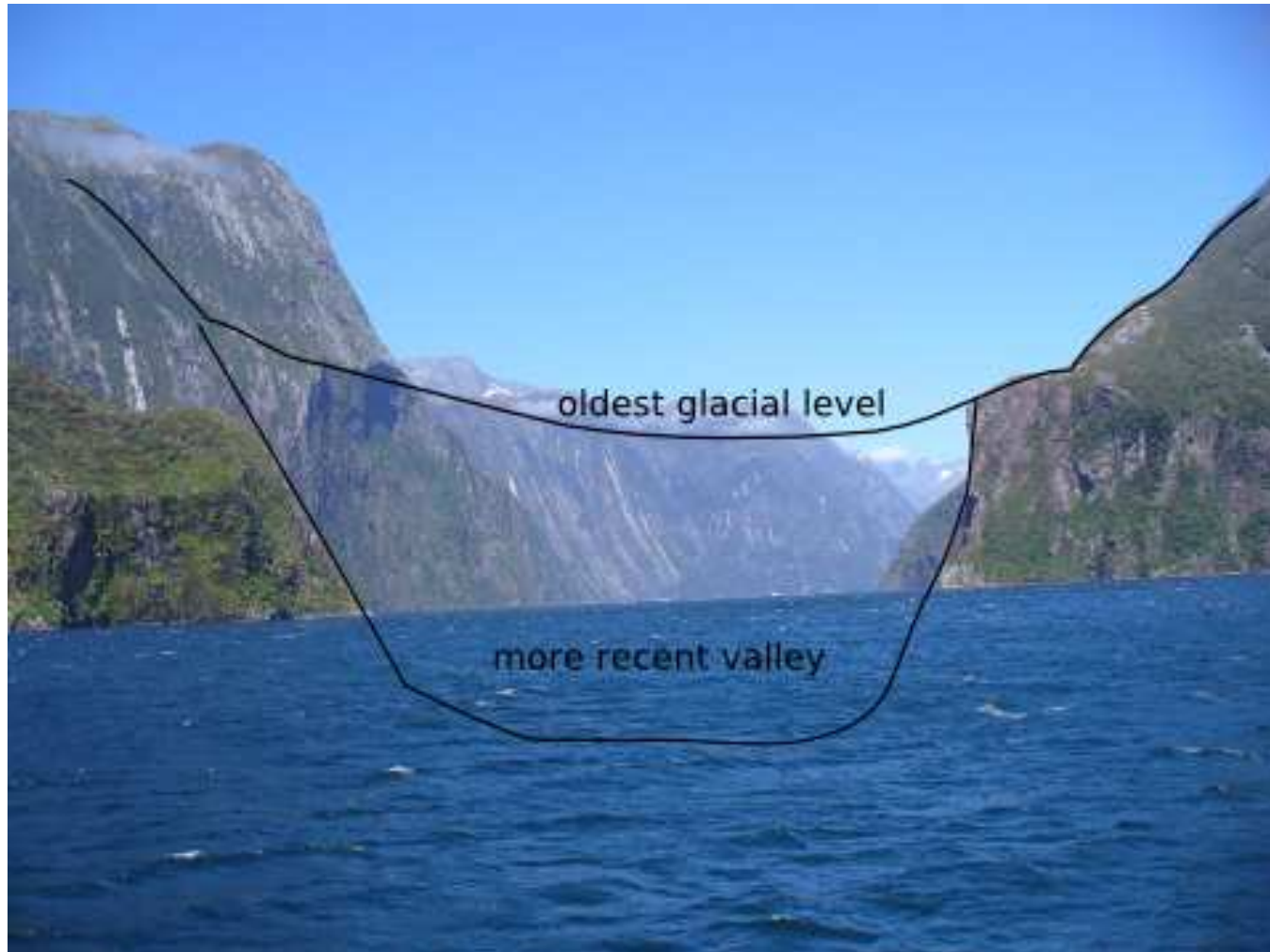
CANCHAL



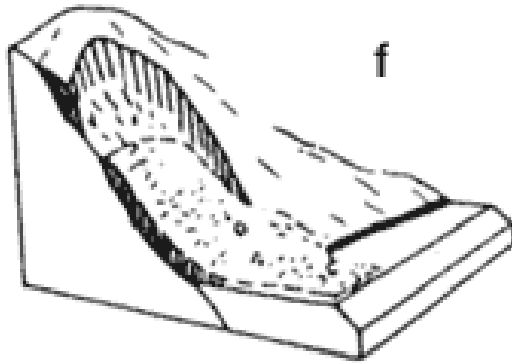
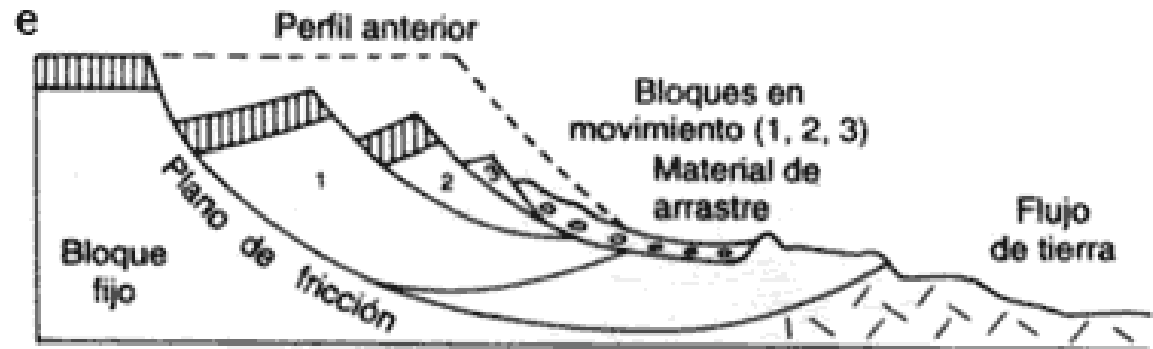
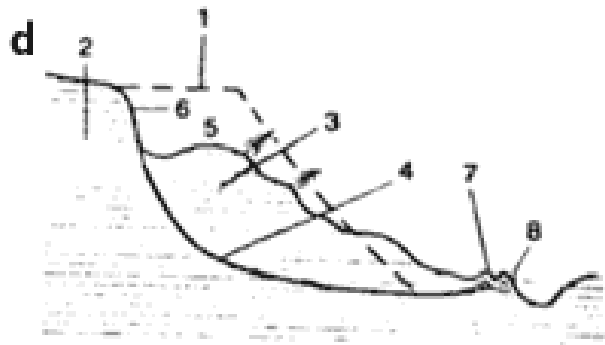
FIORDOS



FORMACIÓN DE UN FIORDO



SOLIFLUXIÓN

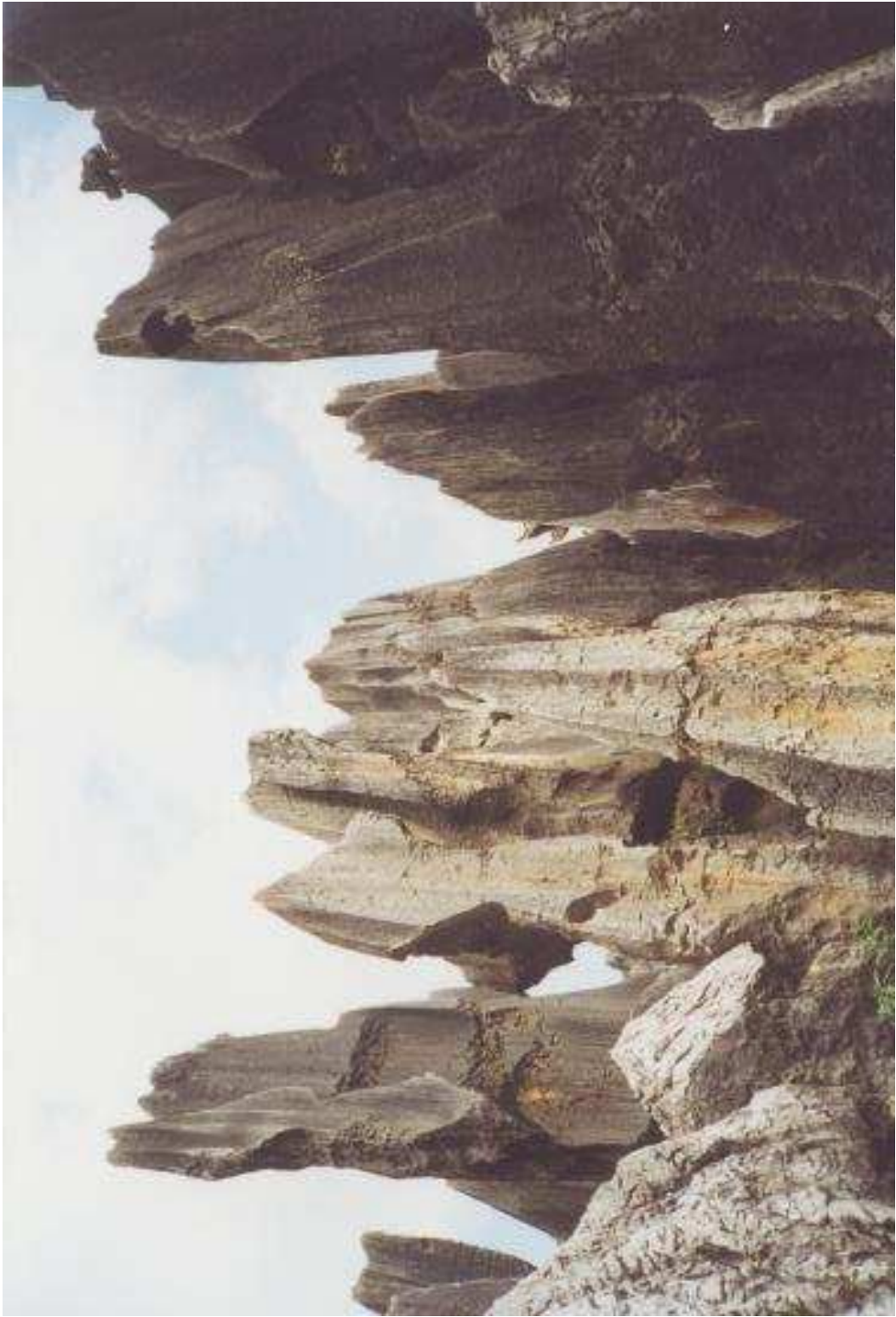


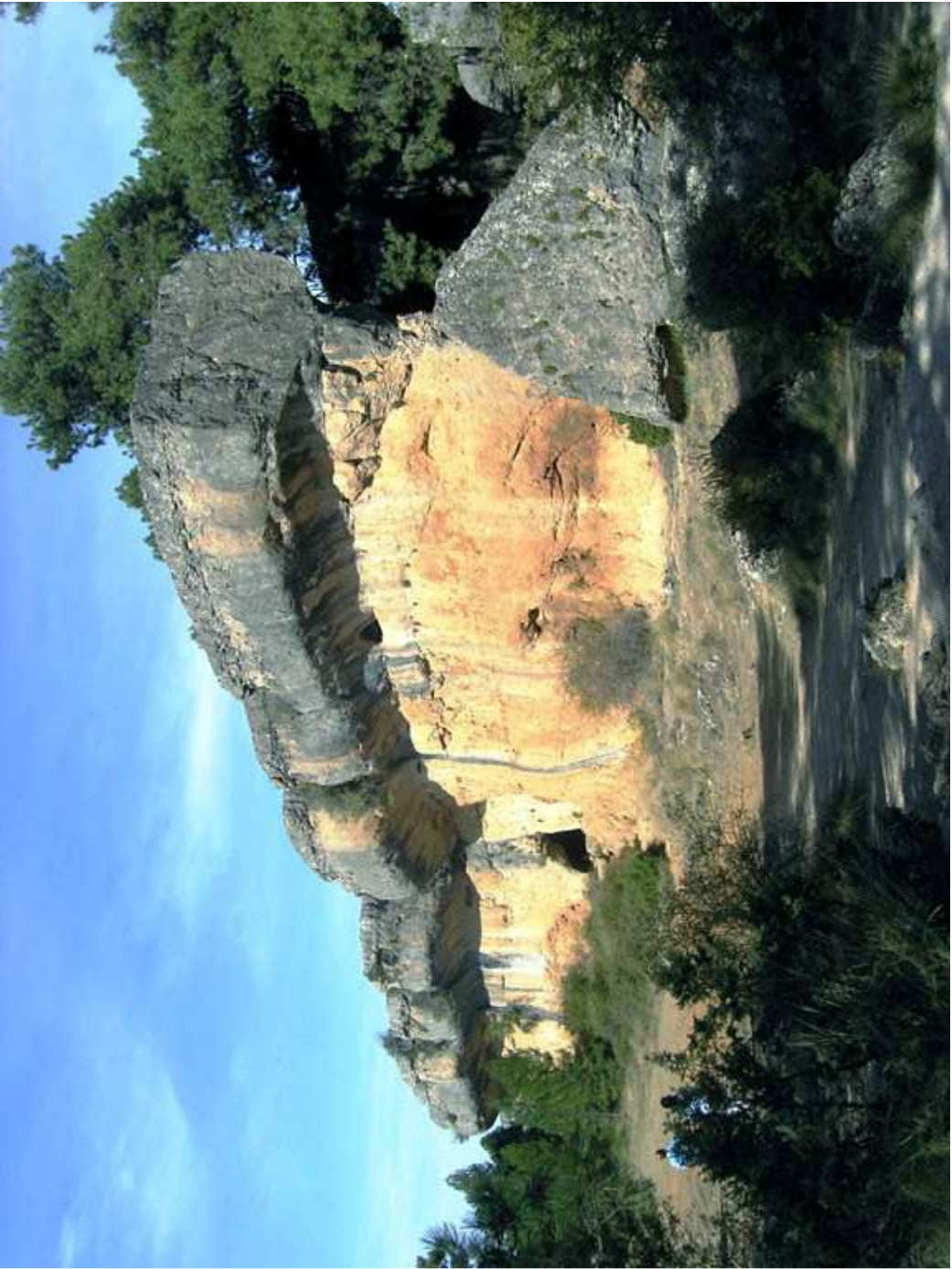
EROSIÓN: LA METEORIZACIÓN











TORCAL DE ANTEQUERA









GELIVACIÓN

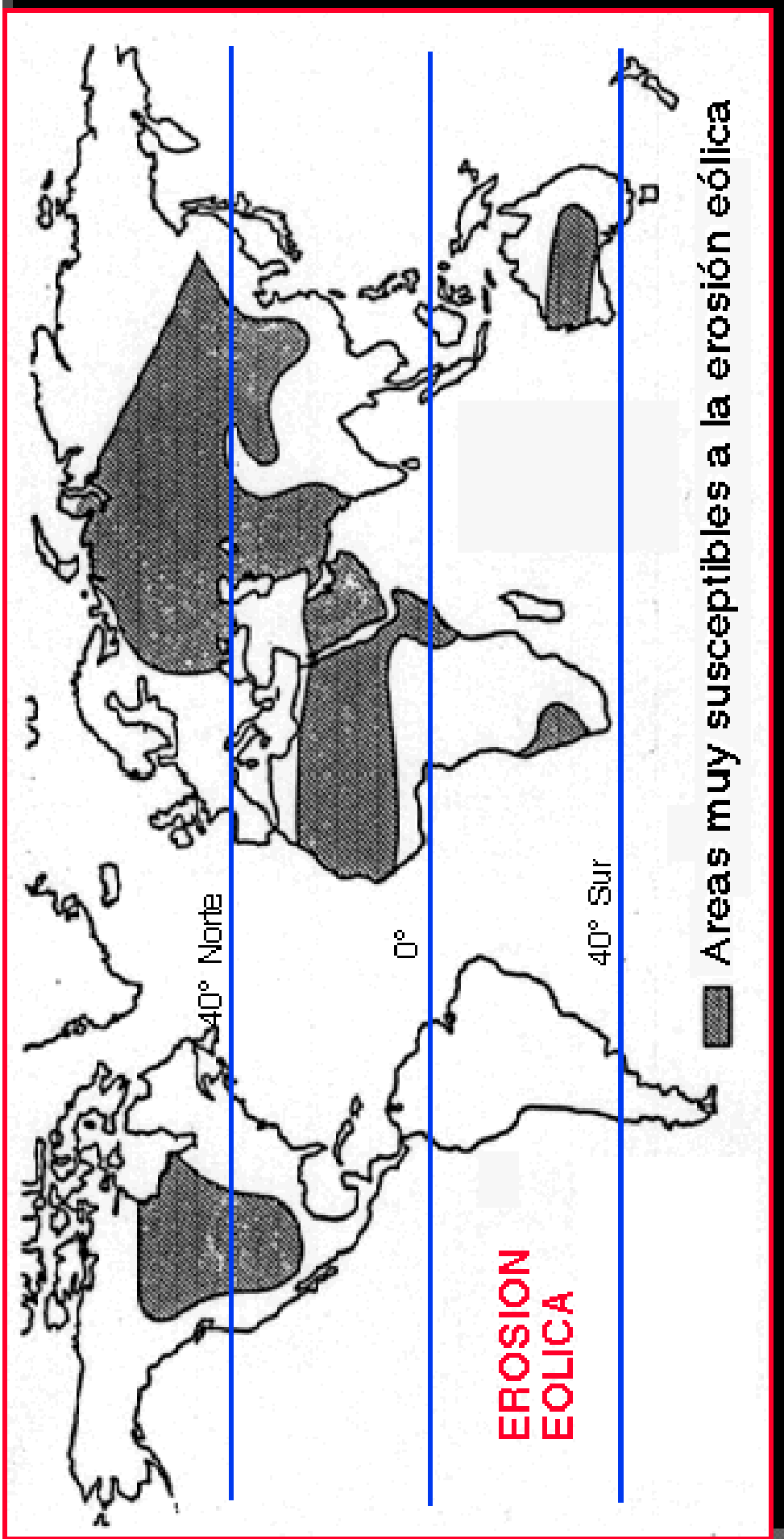


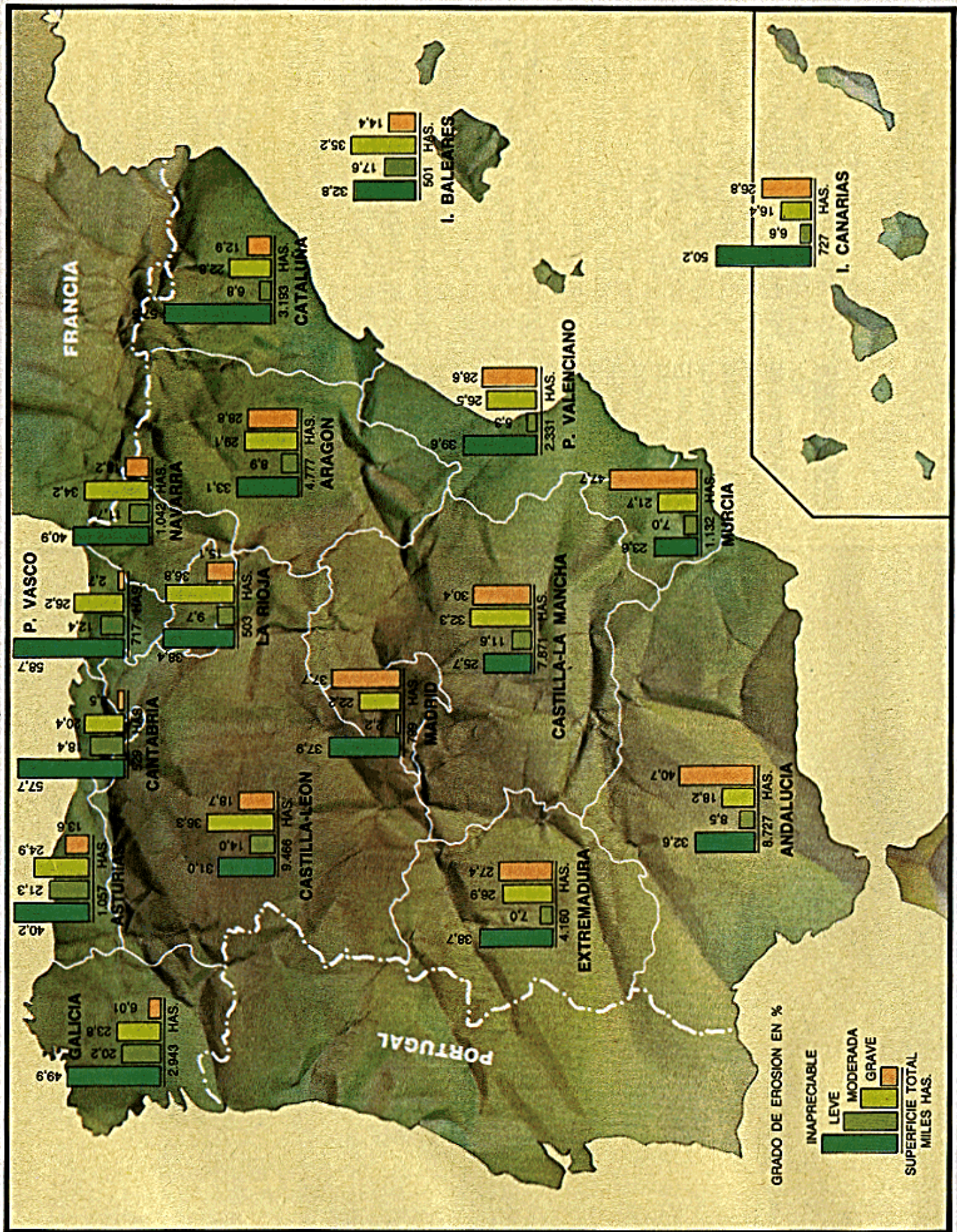




ERG







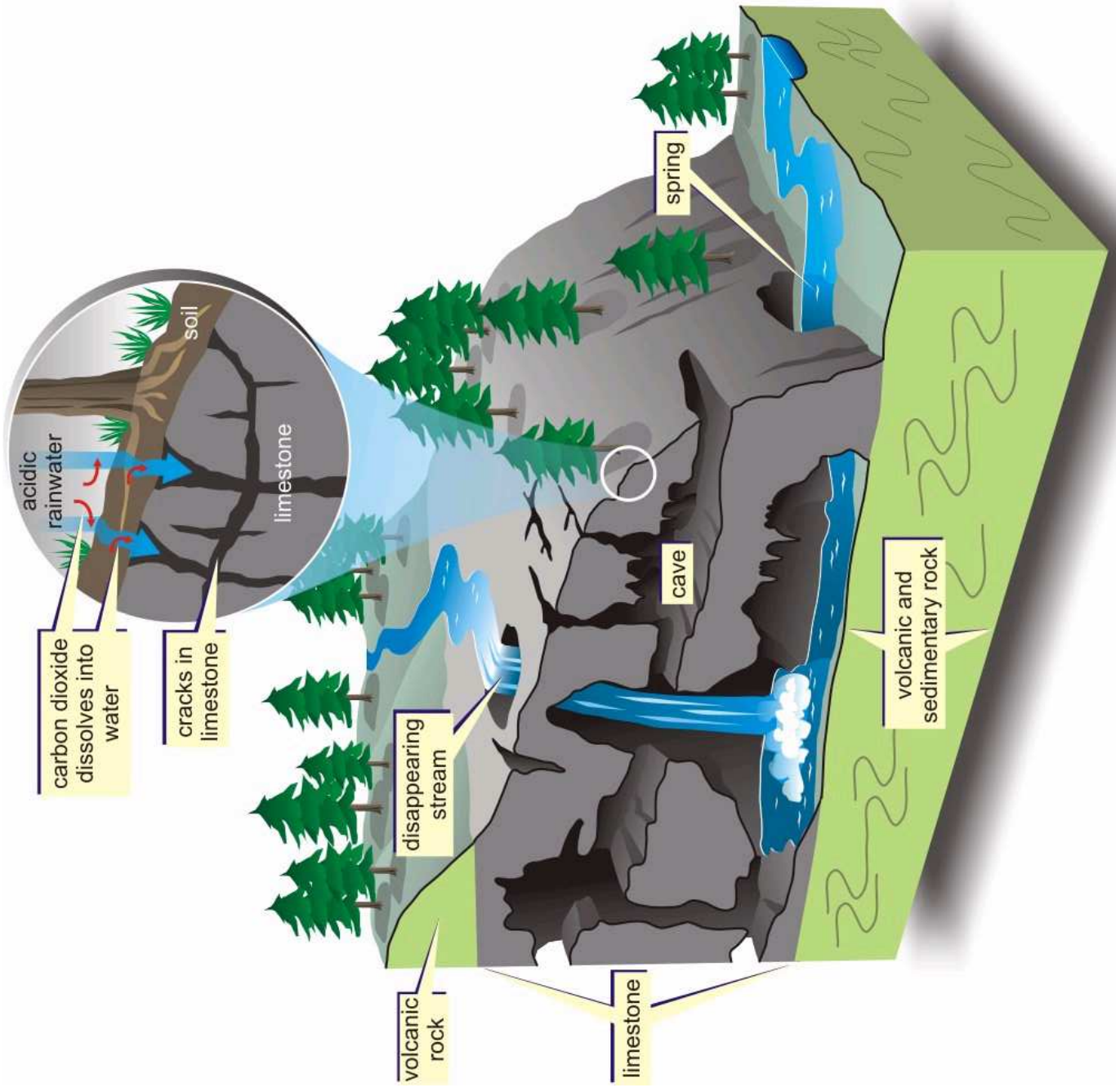
EFFECTO DE LA ARIDEZ



WGR9

SUELO LATERÍTICO





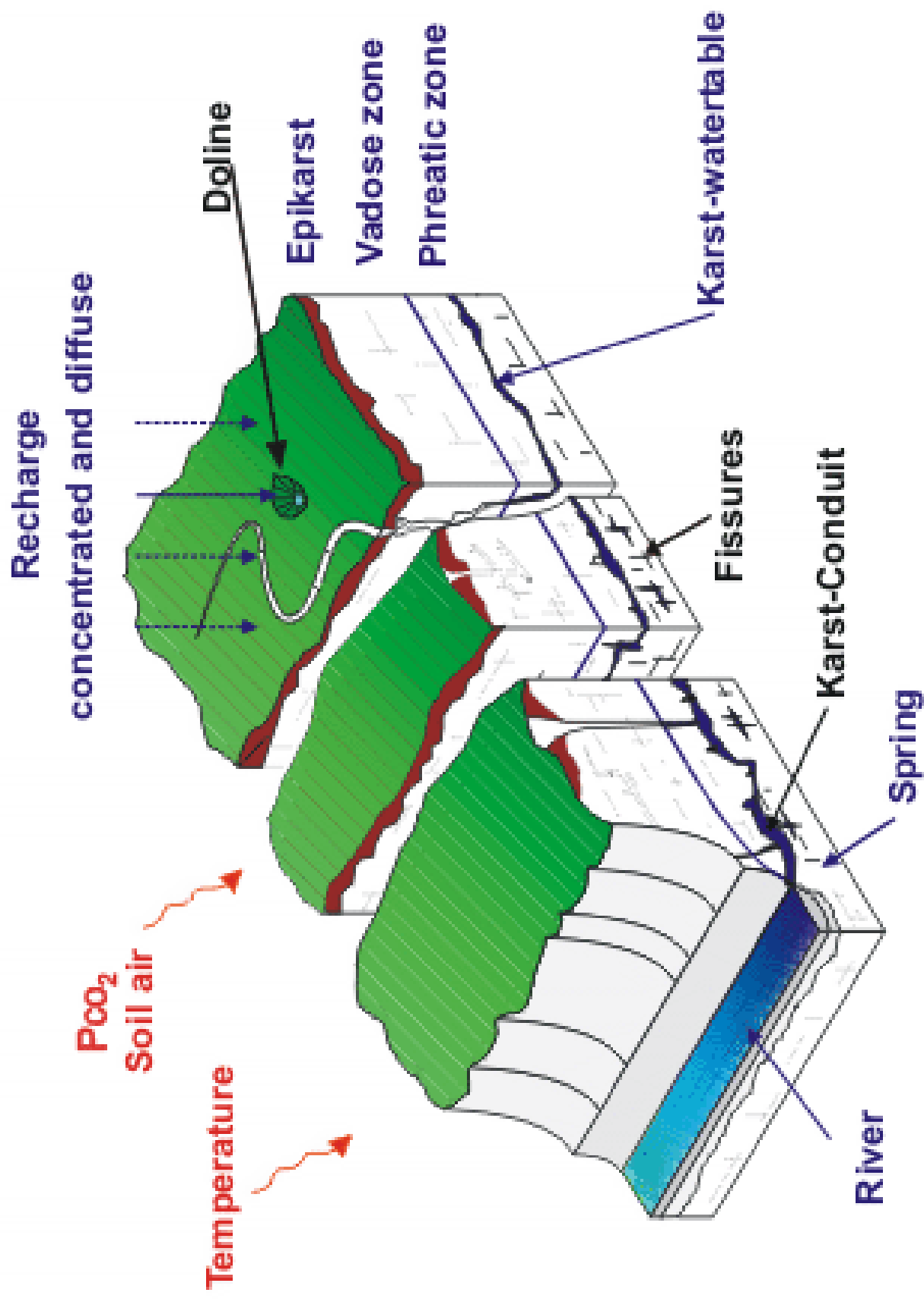
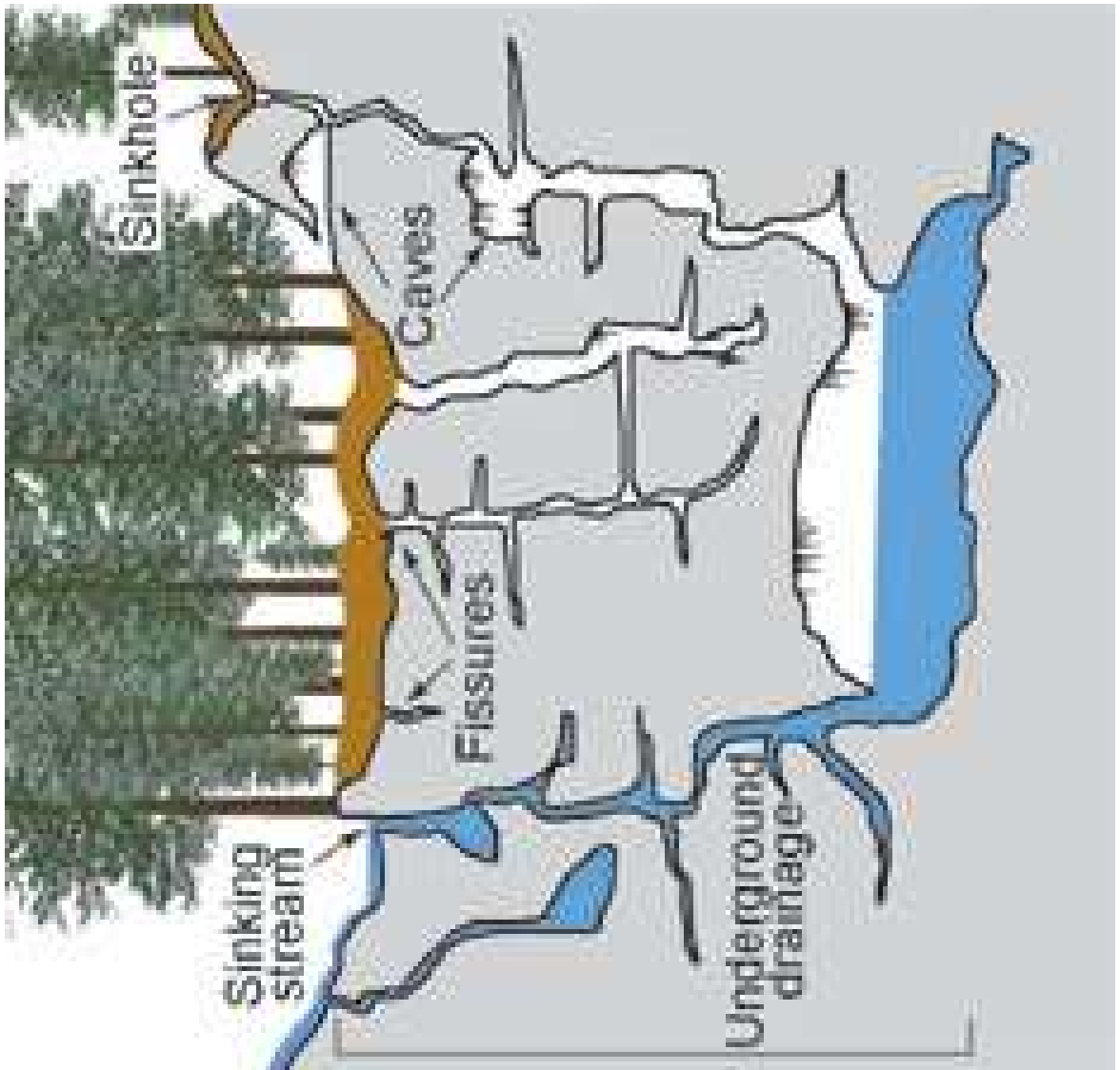


Figure 2: Components of a karst aquifer.

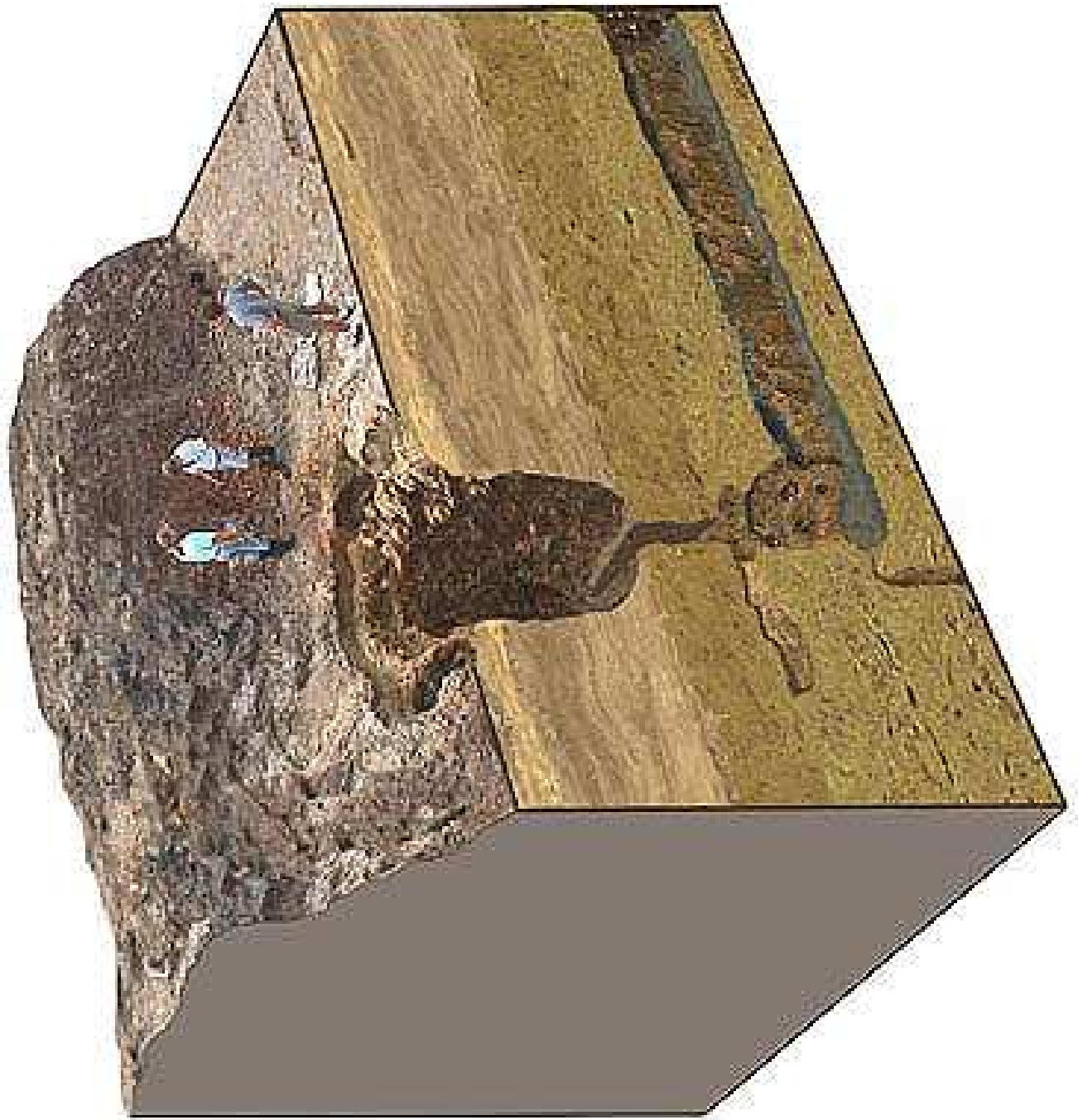






LAPIAZ

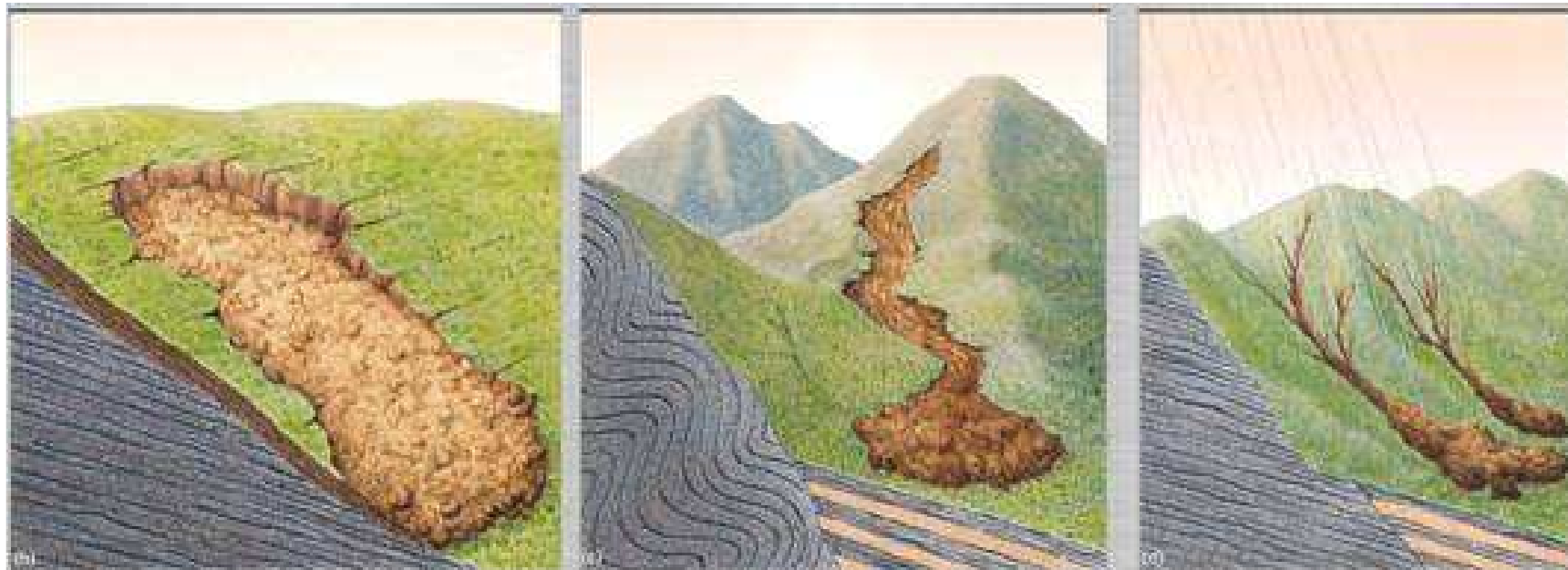




DOLINA

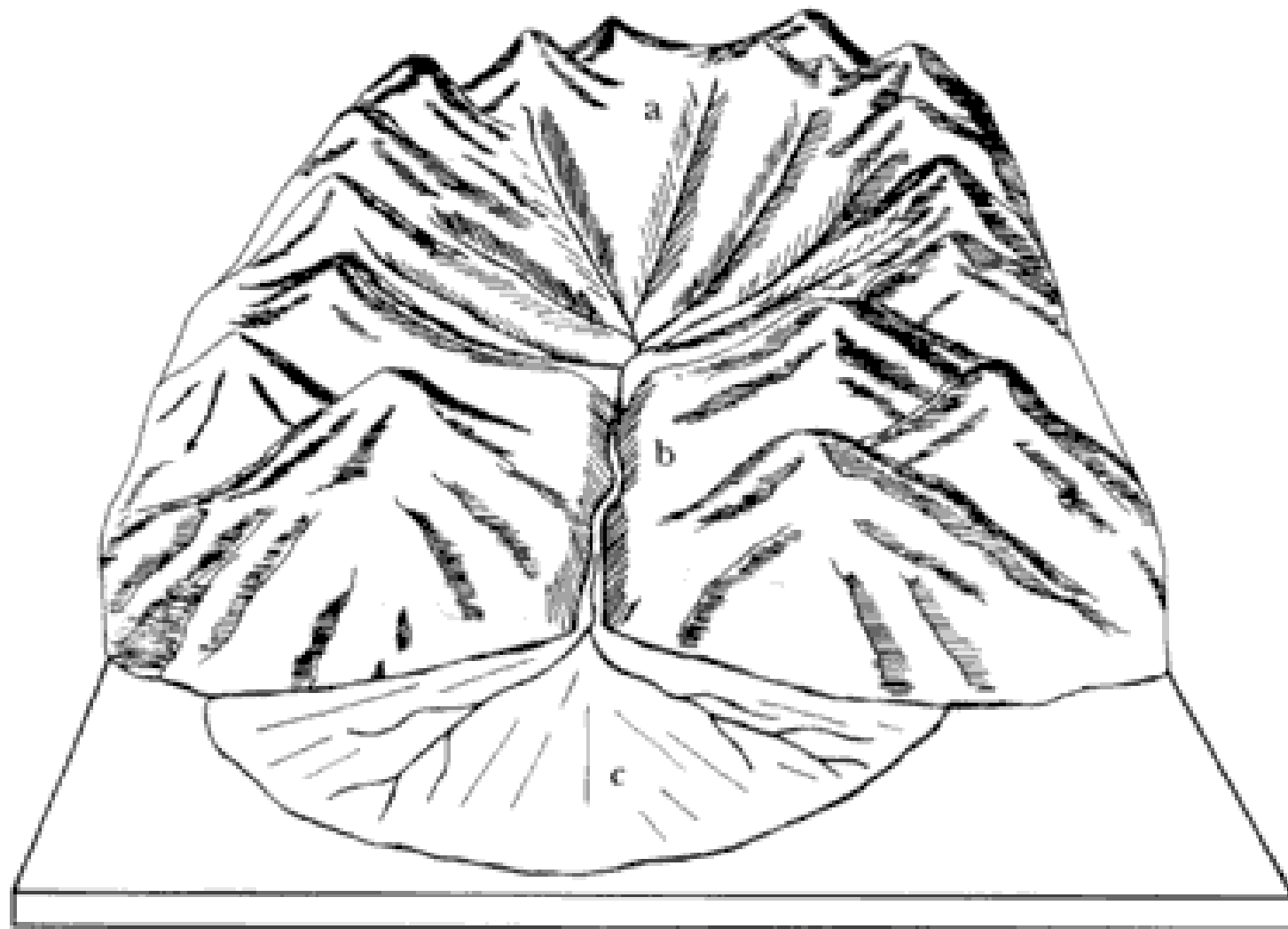


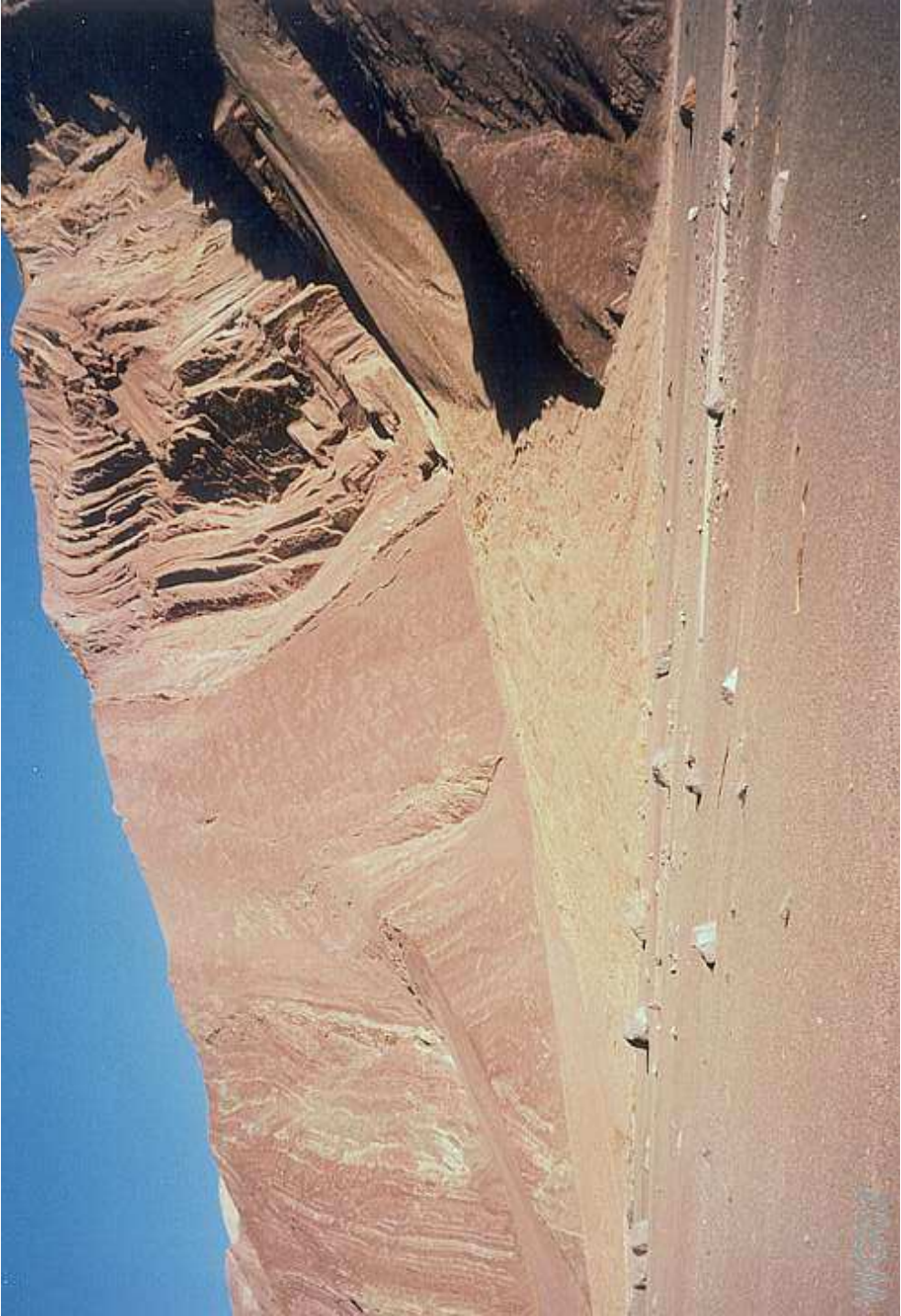
ARRASTRES Y DESLIZAMIENTOS





ALUVIÓN

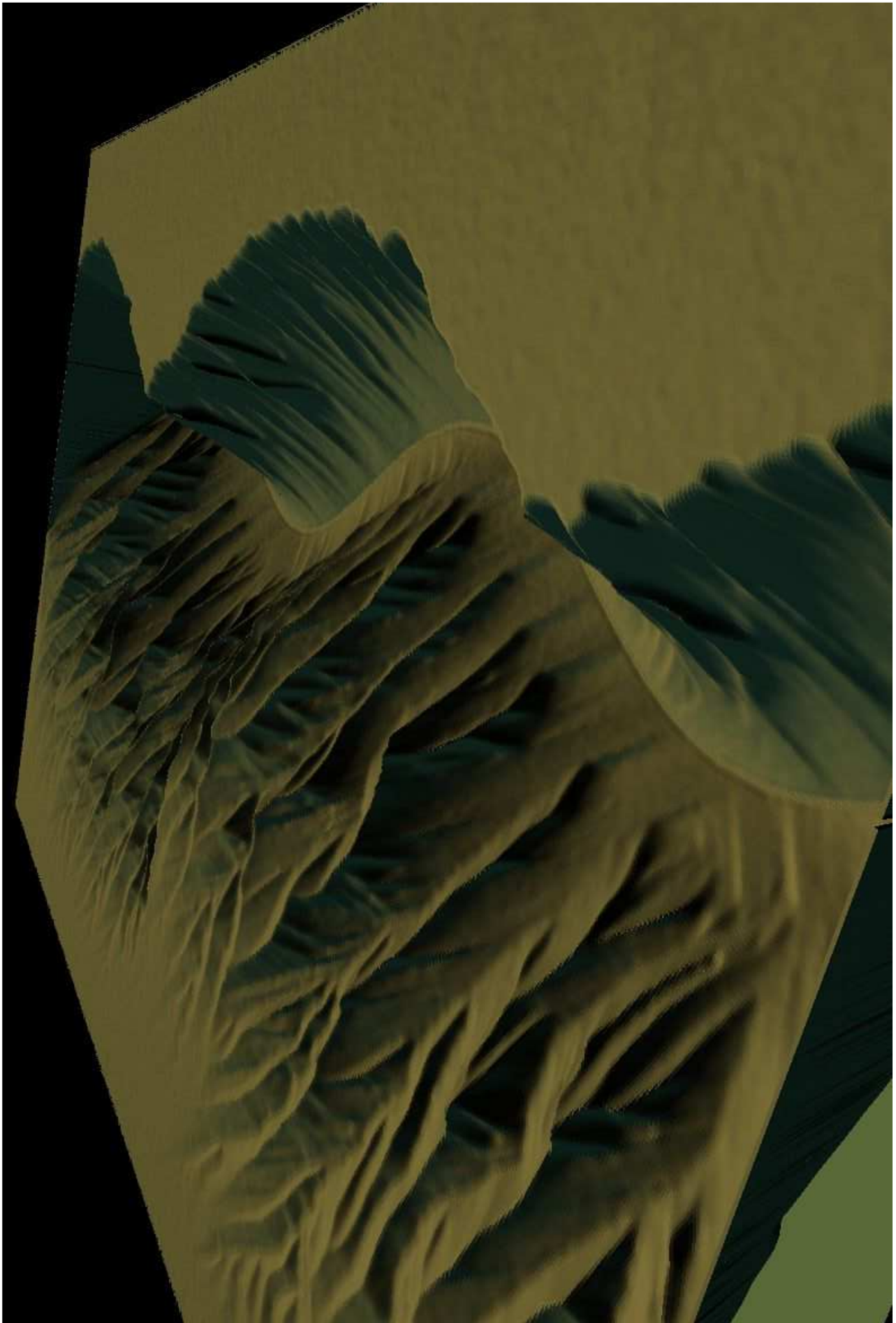




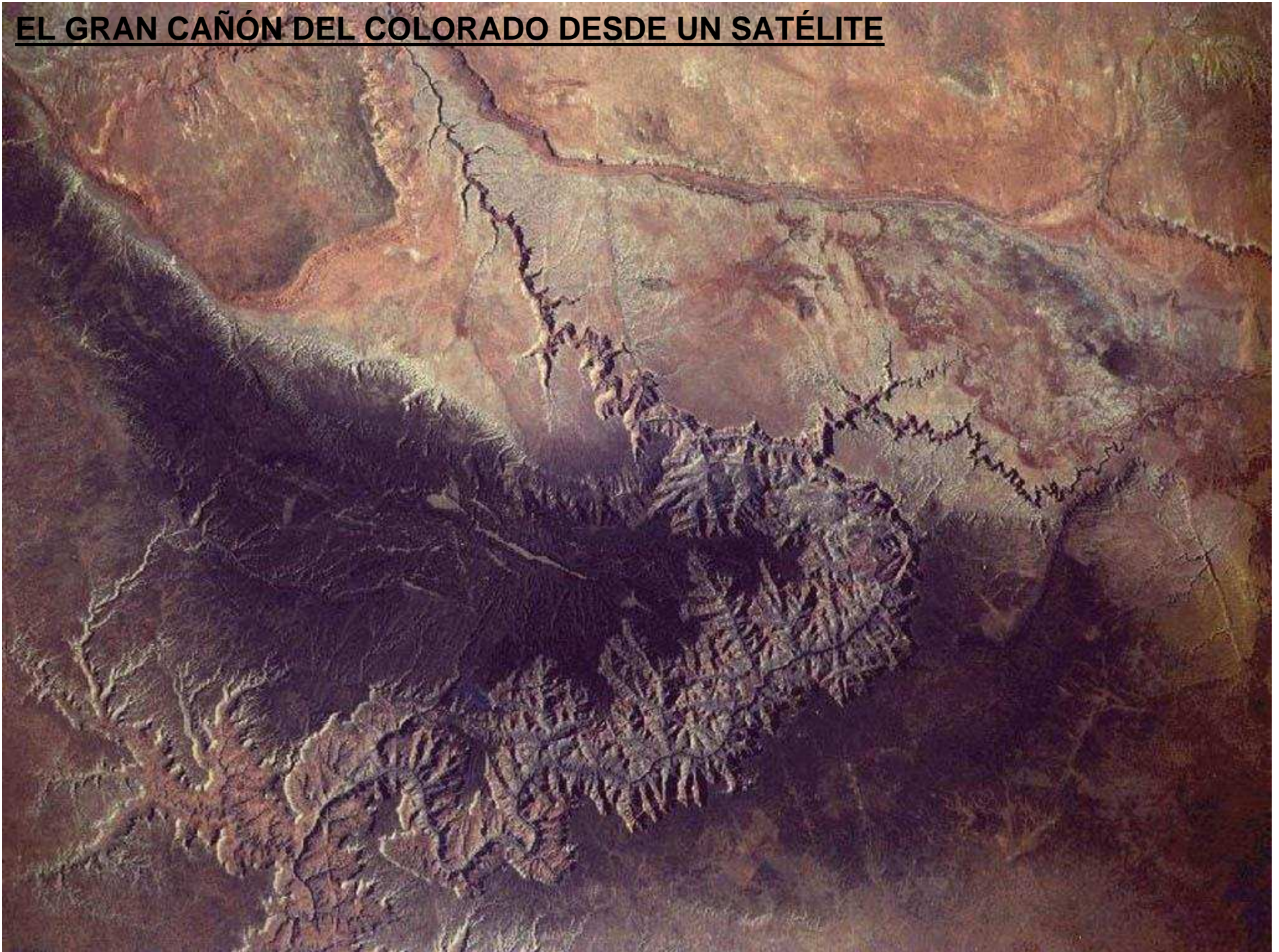


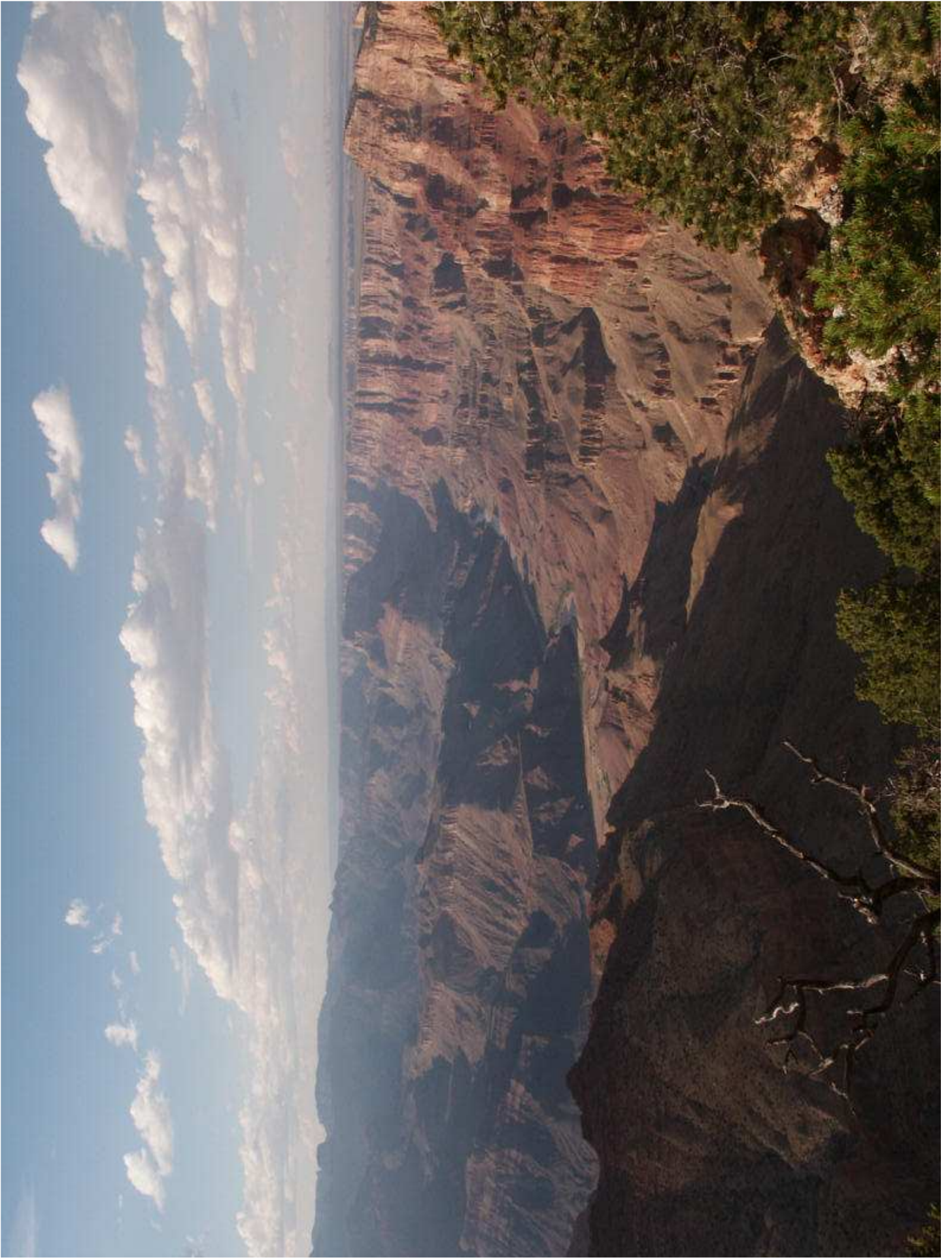
BARRANCO



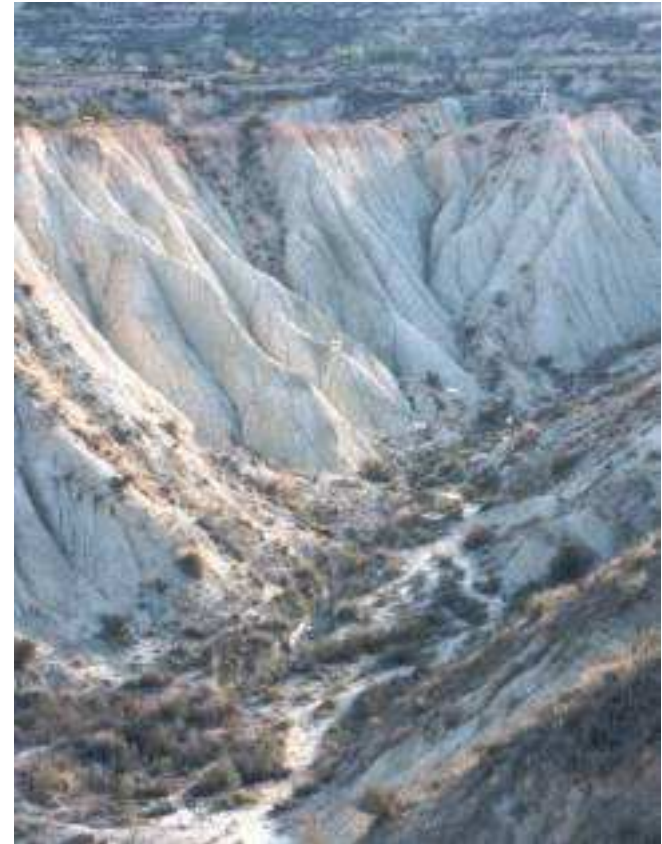


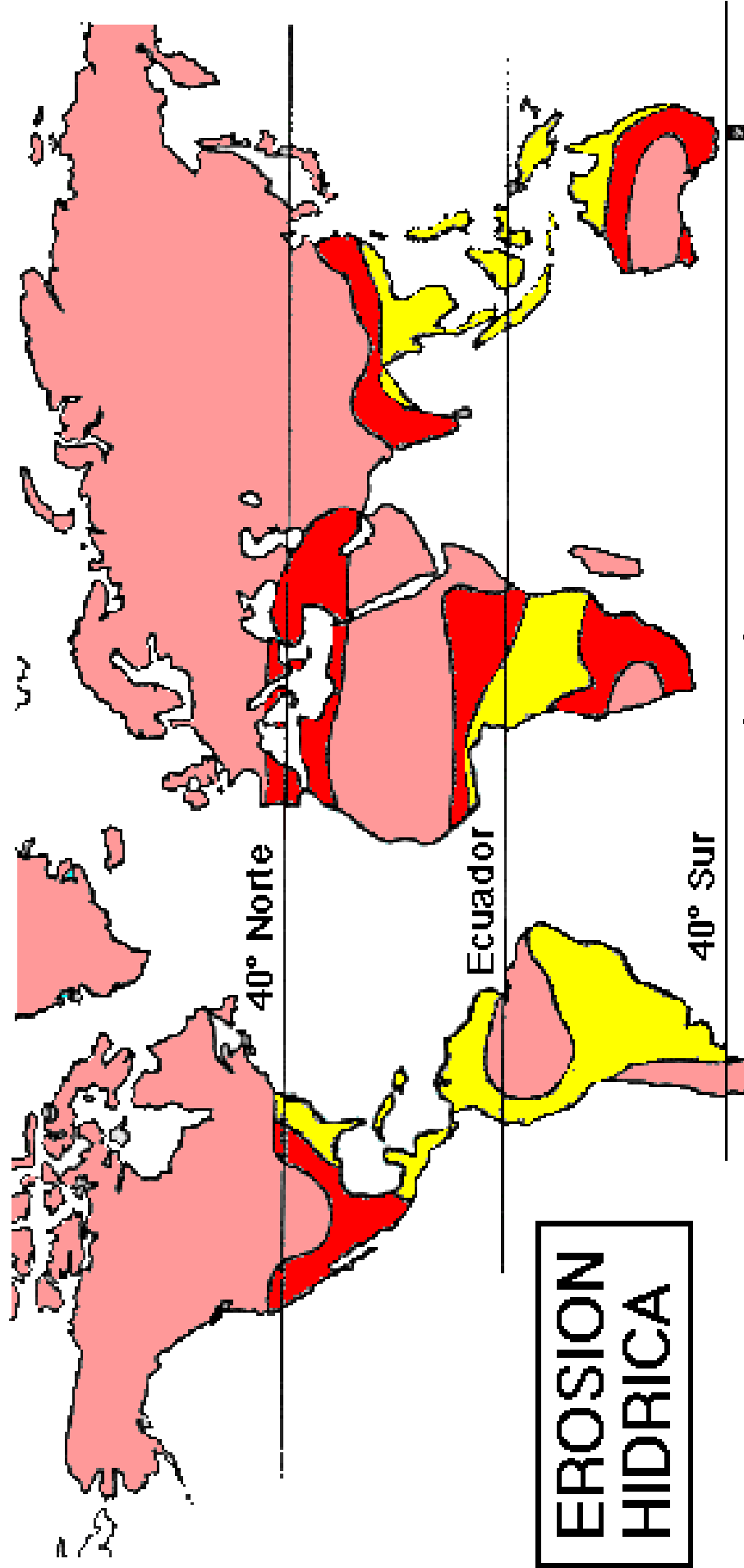
EL GRAN CAÑÓN DEL COLORADO DESDE UN SATÉLITE





CÁRCAVA



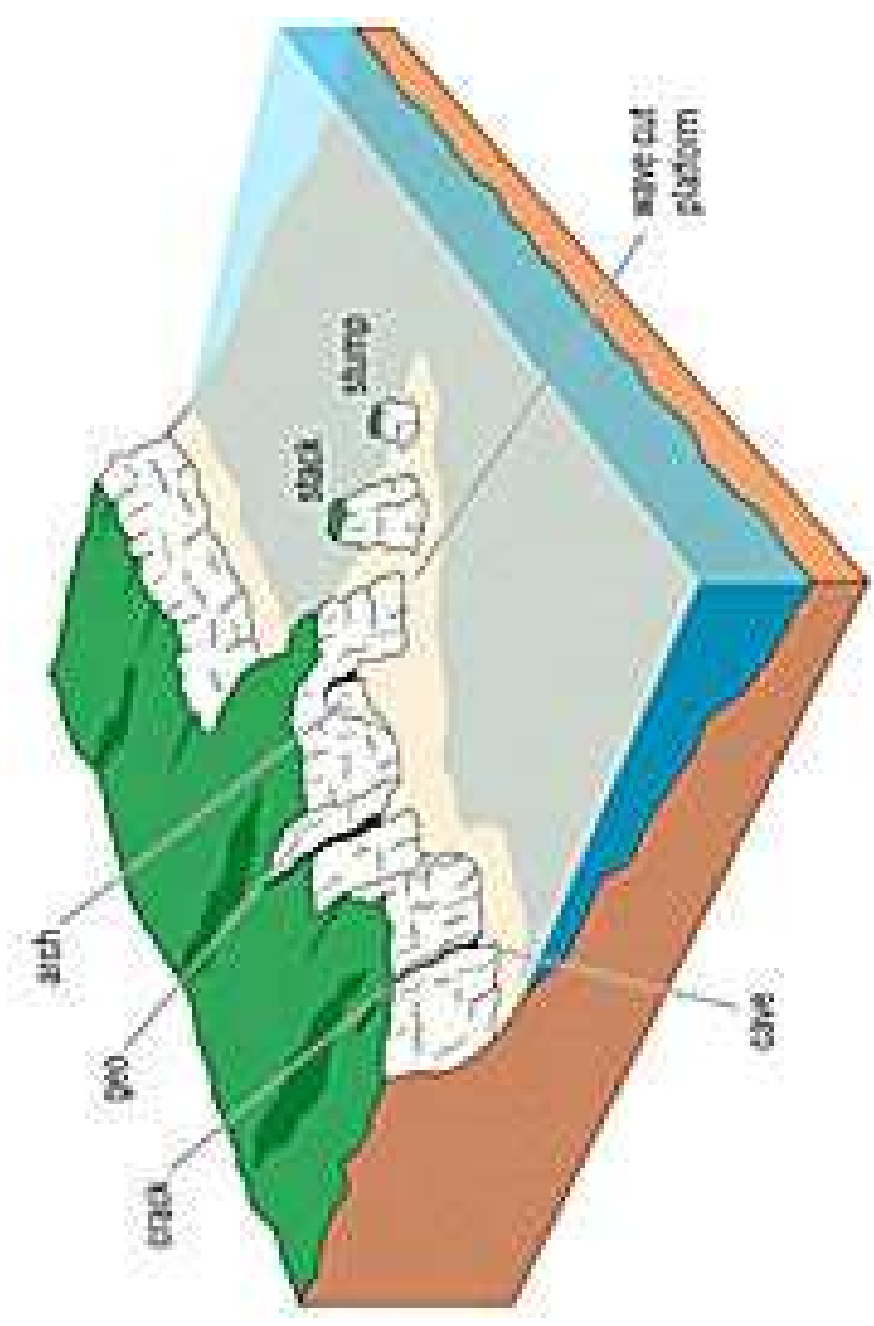


EROSION HIDRICA

- Areas muy susceptibles a la erosión hídrica
- Areas susceptibles a la erosión hídrica al eliminar la vegetación natural

TERRAZAS FLUVIALES





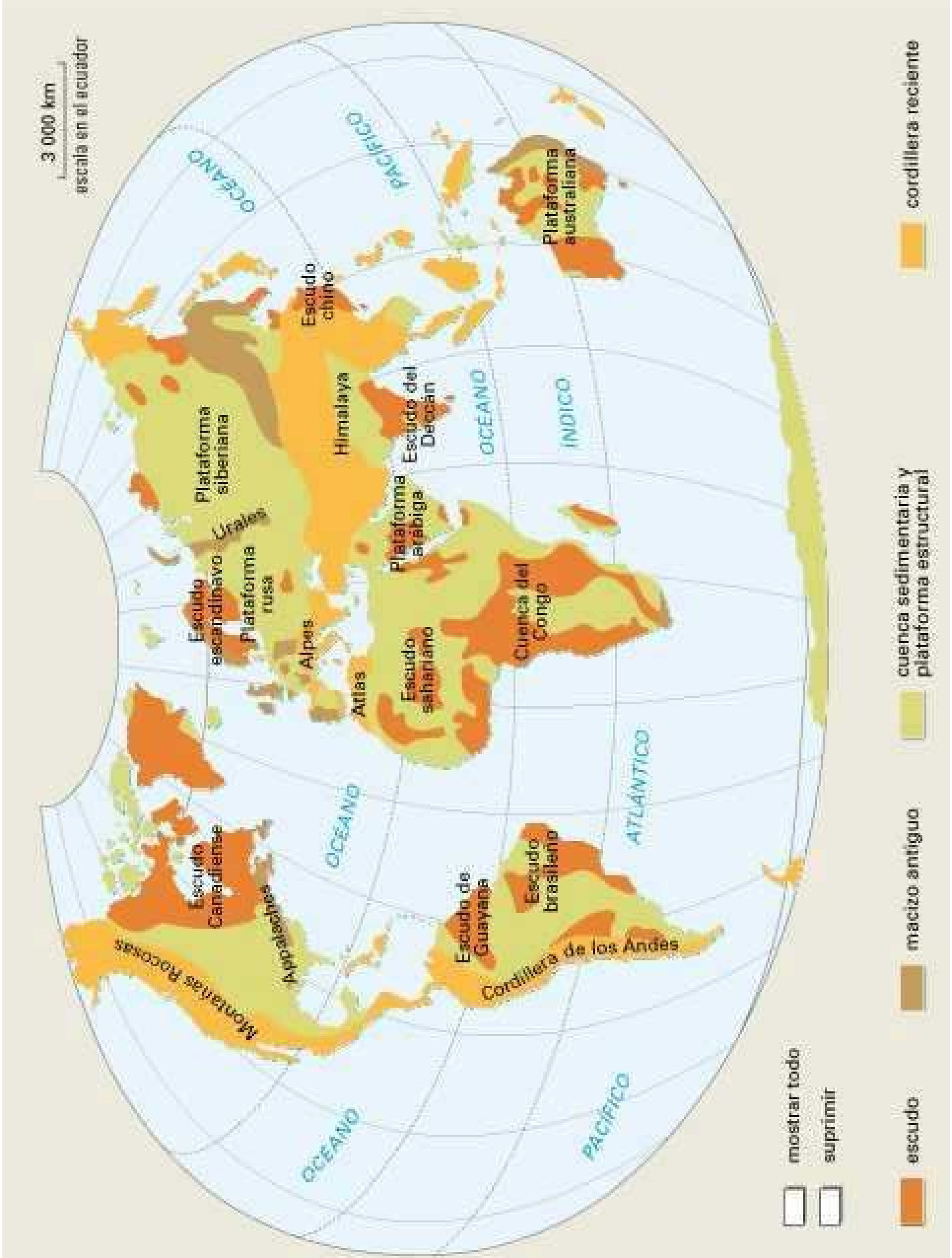
EROSIÓN: EL MAR

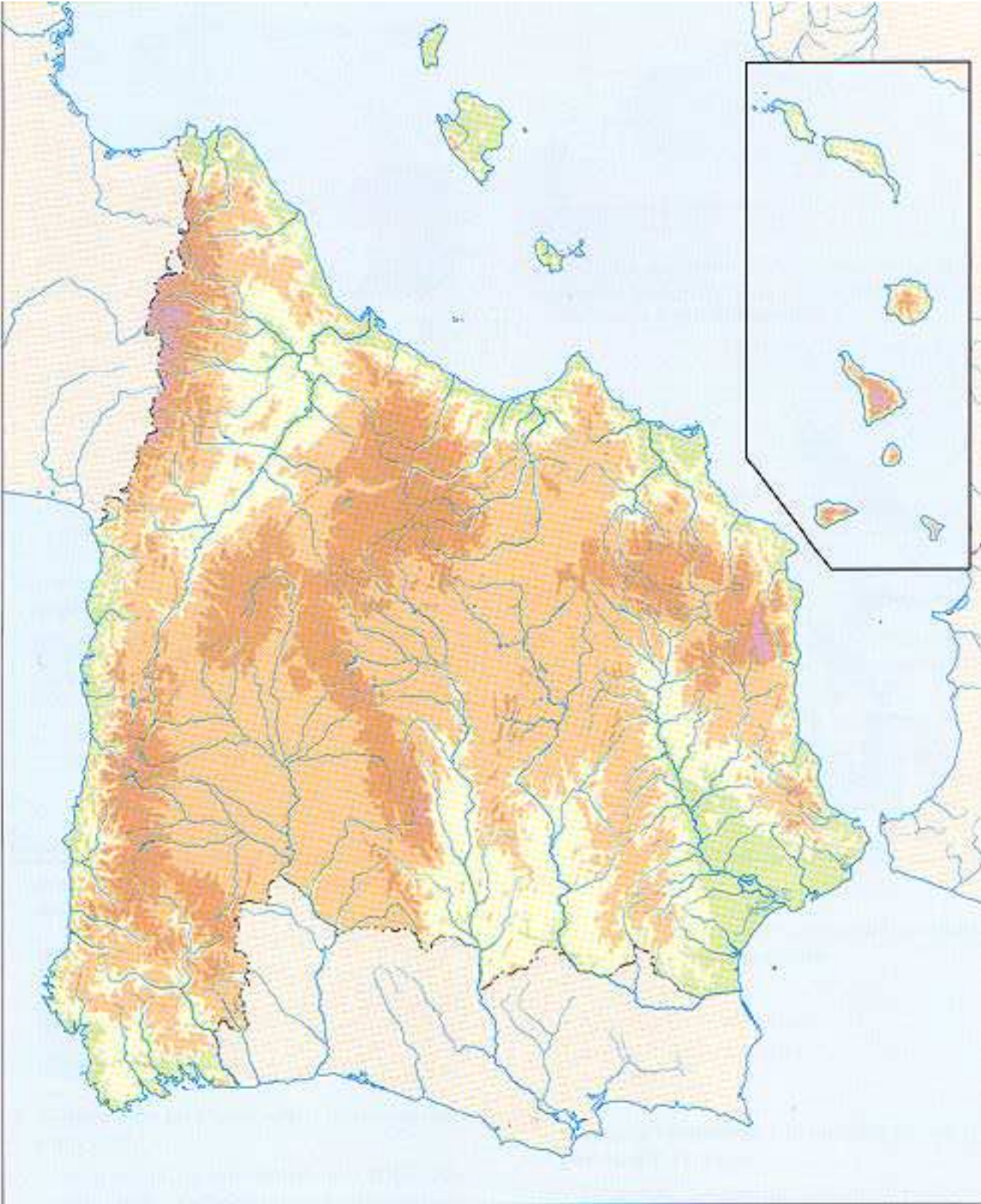


EROSIÓN: LOS SERES VIVOS









UNIDADES DEL RELIEVE

