

Biogeography. Lecture 23

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Outline

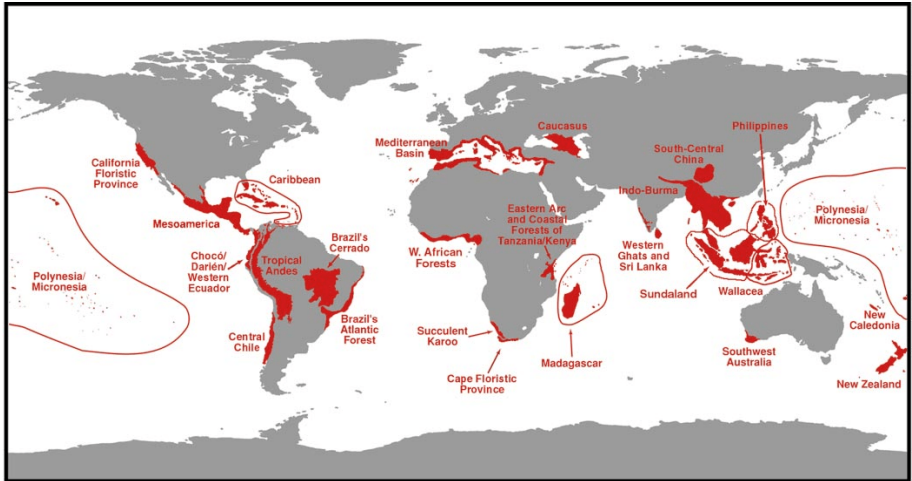
Biogeography of the World

- Biogeography rules

- Biogeography of South America, or Neotropics



Biodiversity hotspots of the world



(From Myers et al., 2000)



Biogeography of the World

Biogeography rules



Biogeography rules

- ▶ Allen's rule: endotherms minimize surface in cold climates and maximize in warm climates
- ▶ Bergmann's rule: northern are bigger
- ▶ Carlquist's rule: island plants tend to be woody
- ▶ Flight rule: island insects and birds often do not fly
- ▶ Foster's rule: island species tend to be either giants or dwarves
- ▶ Gloger's rule: pigmentation increases in humid climates



Biogeography of the World

Biogeography of South America, or Neotropics

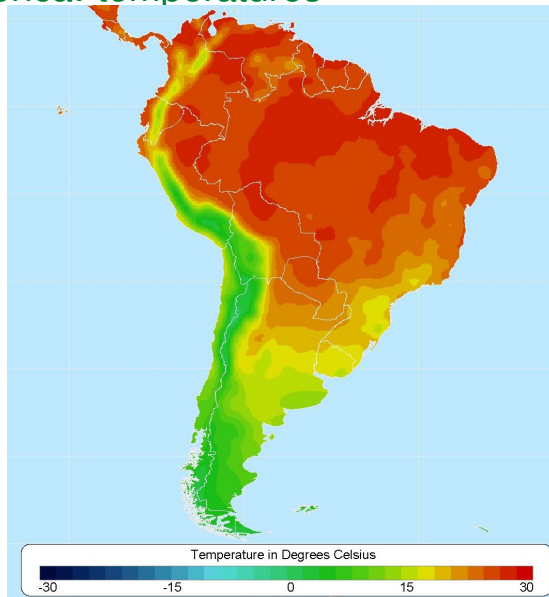




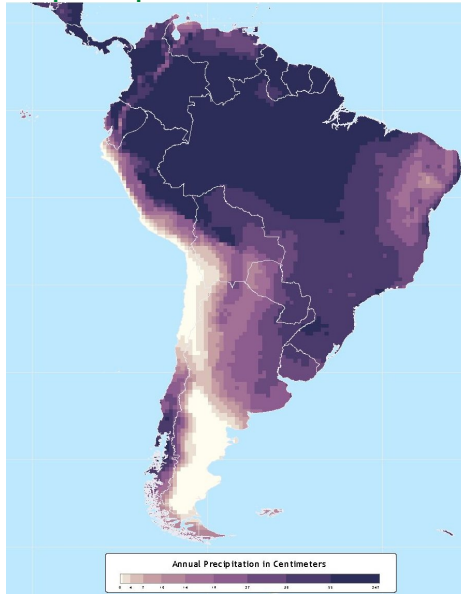
[Southern, tropical, low, new Andes, Amazon and Parana]



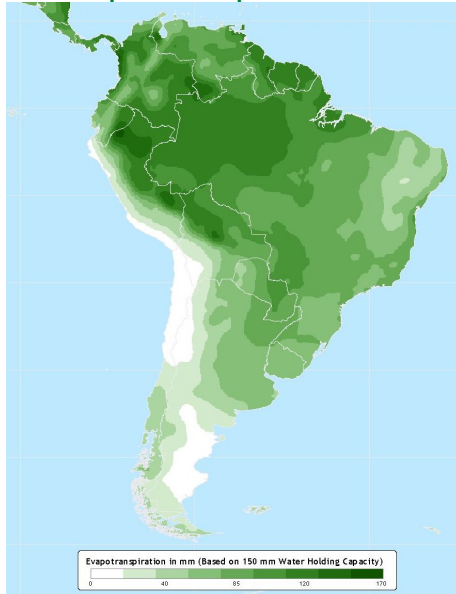
South America: temperatures



South America: precipitation



South America: evapotranspiration



LEGEND

AGE IN MILLION YEARS	PERIOD	SUB-DIVISION
240-250	QUATERNARY	(Q)
60-2	TERTIARY	(T)
209-65	MIOCENE	<ul style="list-style-type: none"> Chapadmalal (C) 120-65 my Ugavita (U) 100-55 my Trujillo (T) 75-65 my
165-225	LATE PALEOZOIC	<ul style="list-style-type: none"> Carboniferous (C) 280-250 my Permian (P) 250-225 my
570-340	EARLY PALEOZOIC	<ul style="list-style-type: none"> Devonian (D) 360-340 my Carboniferous (C) 340-300 my Permian (P) 250-225 my Triassic (T) 250-200 my Jurassic (J) 200-140 my Cretaceous (C) 140-65 my
175-65	LATE PRECAMBRIAN	<ul style="list-style-type: none"> Proterozoic (P)
2400-750	MIDDLE PRECAMBRIAN	<ul style="list-style-type: none"> Archean (A)
2400-750	EARLY PRECAMBRIAN	<ul style="list-style-type: none"> Archean (A)
2400-750	EARLY PRECAMBRIAN	<ul style="list-style-type: none"> Archean (A)
100-0	QUATERNARY	<ul style="list-style-type: none"> Quaternary (Q)
100-0	QUATERNARY	<ul style="list-style-type: none"> Quaternary (Q)
100-0	QUATERNARY	<ul style="list-style-type: none"> Quaternary (Q)

MINERAL DEPOSITS PRINTED IN RED

- Oil and Gas Producing Areas
- Major Faults
- Major Volcanic Zones
- Major Tectonic Zones
- Major Tectonic Zones
- Major Tectonic Zones

Scale: 0 200 400 Kilometers

South America: ecoregions



South America: 13 biogeographical regions

1. Tropical Central America
2. West Indies
3. Venezuela and Guiana Shield
4. Amazonian Basin
5. Brazilian Northeast
6. Brazilian Plateau
7. Gran Chaco
8. North and Central Andes (Columbia, Ecuador and Peru)
9. Pampas
10. Atacama desert
11. *Galapagos Islands*
12. Patagonia and Juan Fernandez
13. *South American Antarctic Islands*



For Further Reading



South America.

http://en.wikipedia.org/wiki/South_America



A. Shipunov.

Biogeography [Electronic resource].

2014—onwards.

Mode of access: http://ashipunov.info/shipunov/school/biol_330



A. Shipunov.

Introduction to Biogeography and Tropical Biology [Electronic resource].

2017—onwards.

Mode of access: http://ashipunov.info/shipunov/school/biol_330/intr_biogeogr_trop_biol/intr_biogeogr_trop_biol.pdf

