UNIVERSITY OF MOBILE

Wayne E. Sirmon

GEO 301

World Regional Geography

Geography 301

World Regional Geography

Aug 25	**Online Quiz – Chapter 1**
Aug 29	**Online Quiz – Chapter 2**
Sept 1	**Online Quiz – Chapter 3**
Sept 3	**1st paper topic selection due**
Sept 5	**Map Exam**
Oct 15	**1st Paper DUE**

Expect changes to syllabus:

More on-line quizzes

Less pages to reports (but more emphasis on finding good references)

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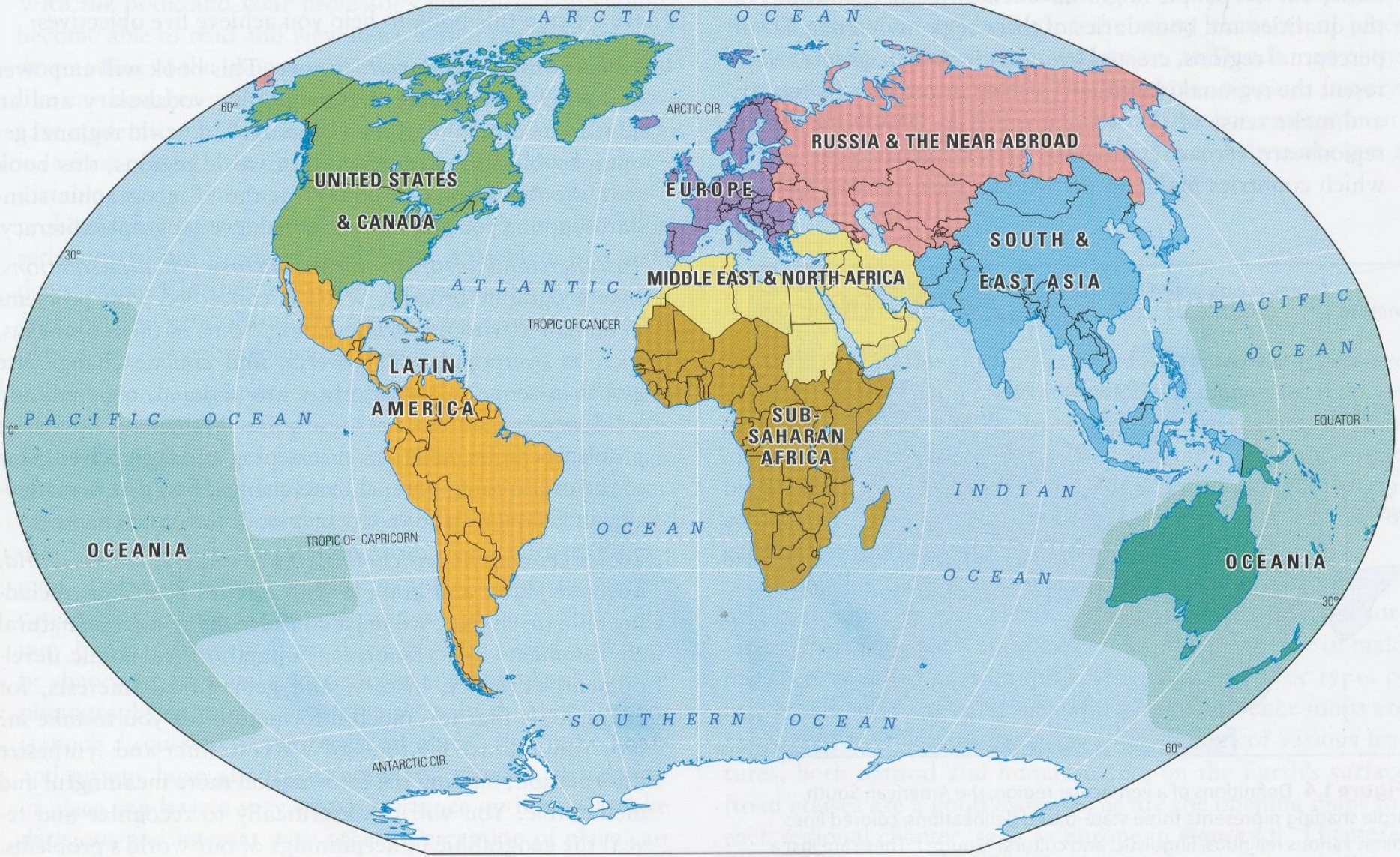
World Regional Geography



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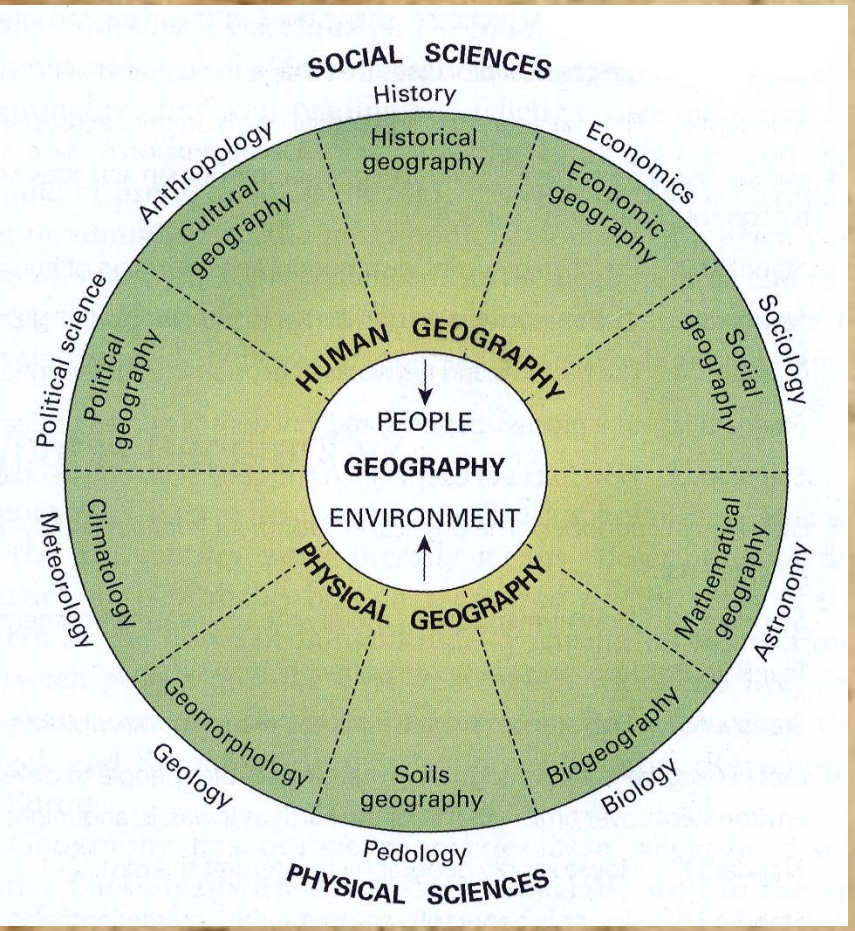
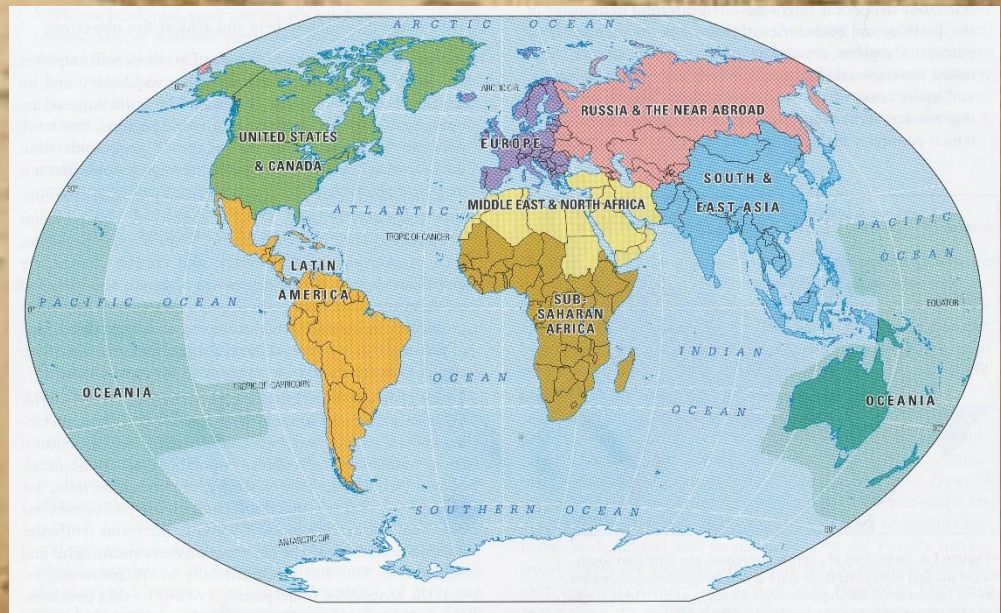


Subfields of Geography

Regional Geography



Geography 301
Chapter Two – Physical Processes and World Regions

Kick Start Questions:

August 27

What is the history of "Plate Tectonics?

WORLD CLIMATES — The Koppen climate classification system

WATER, WATER EVERWHERE — Is water the earth's most critical resource?

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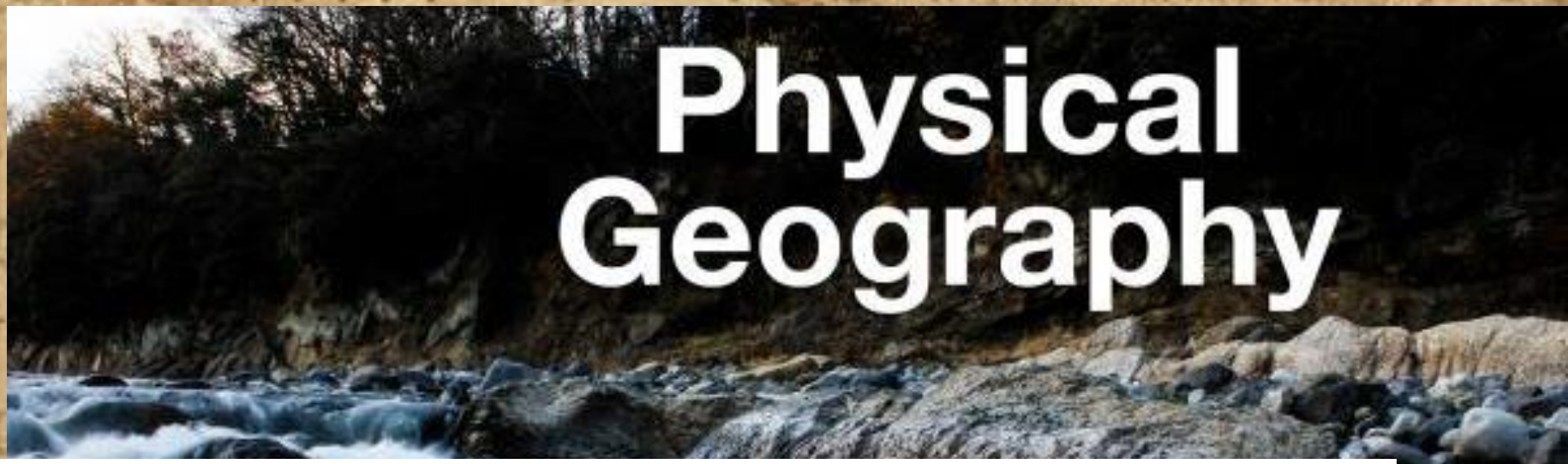

Plate Tectonics

Patterns of Climate and Vegetation

Biodiversity

Oceans

Climate Change

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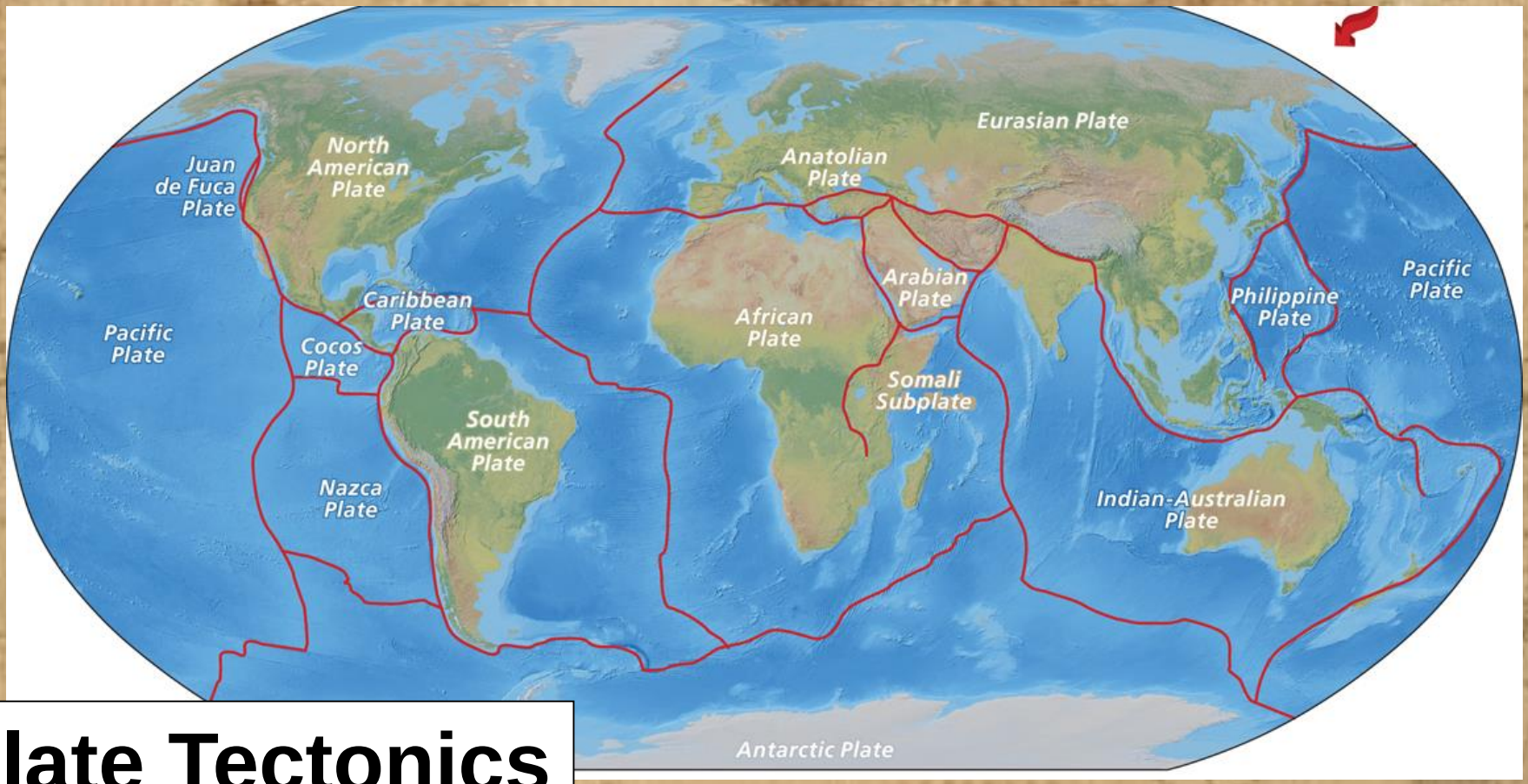

Plate Tectonics

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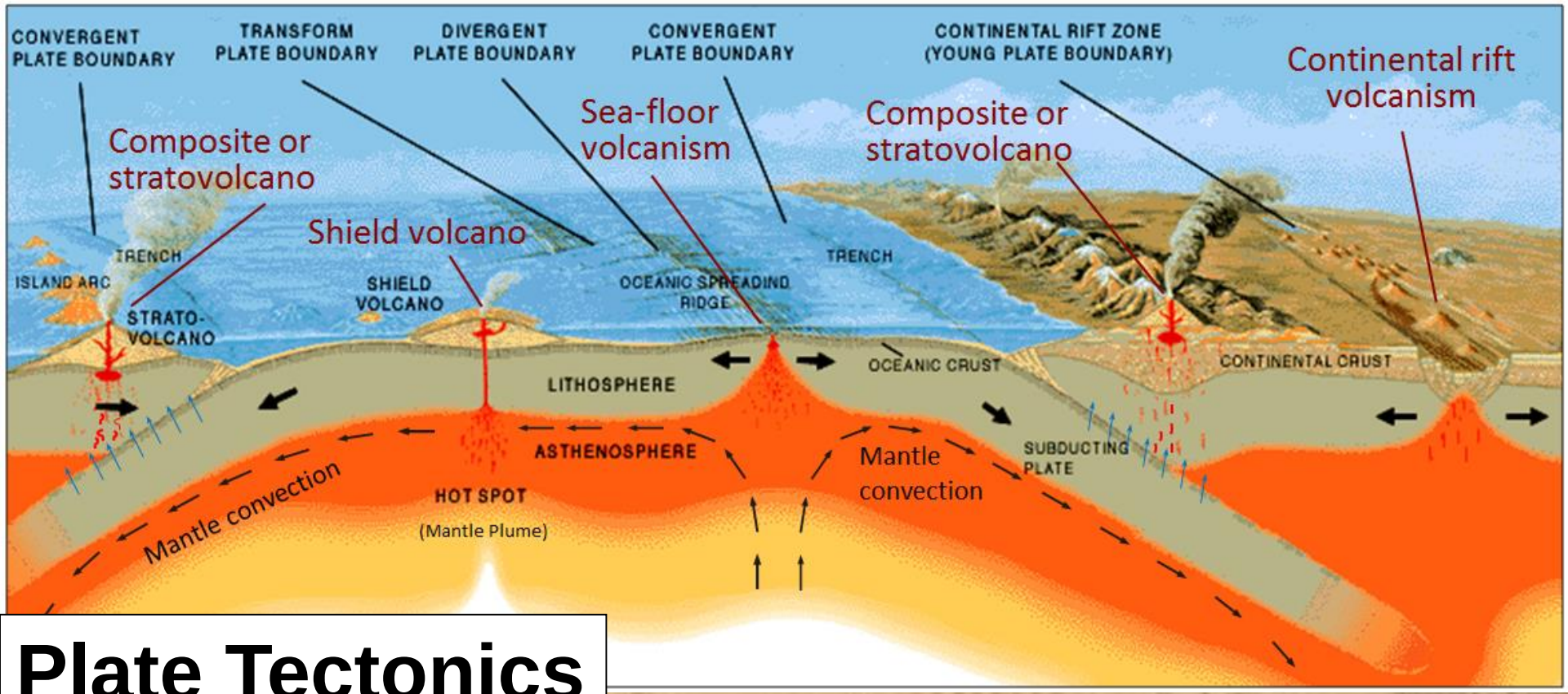

Plate Tectonics

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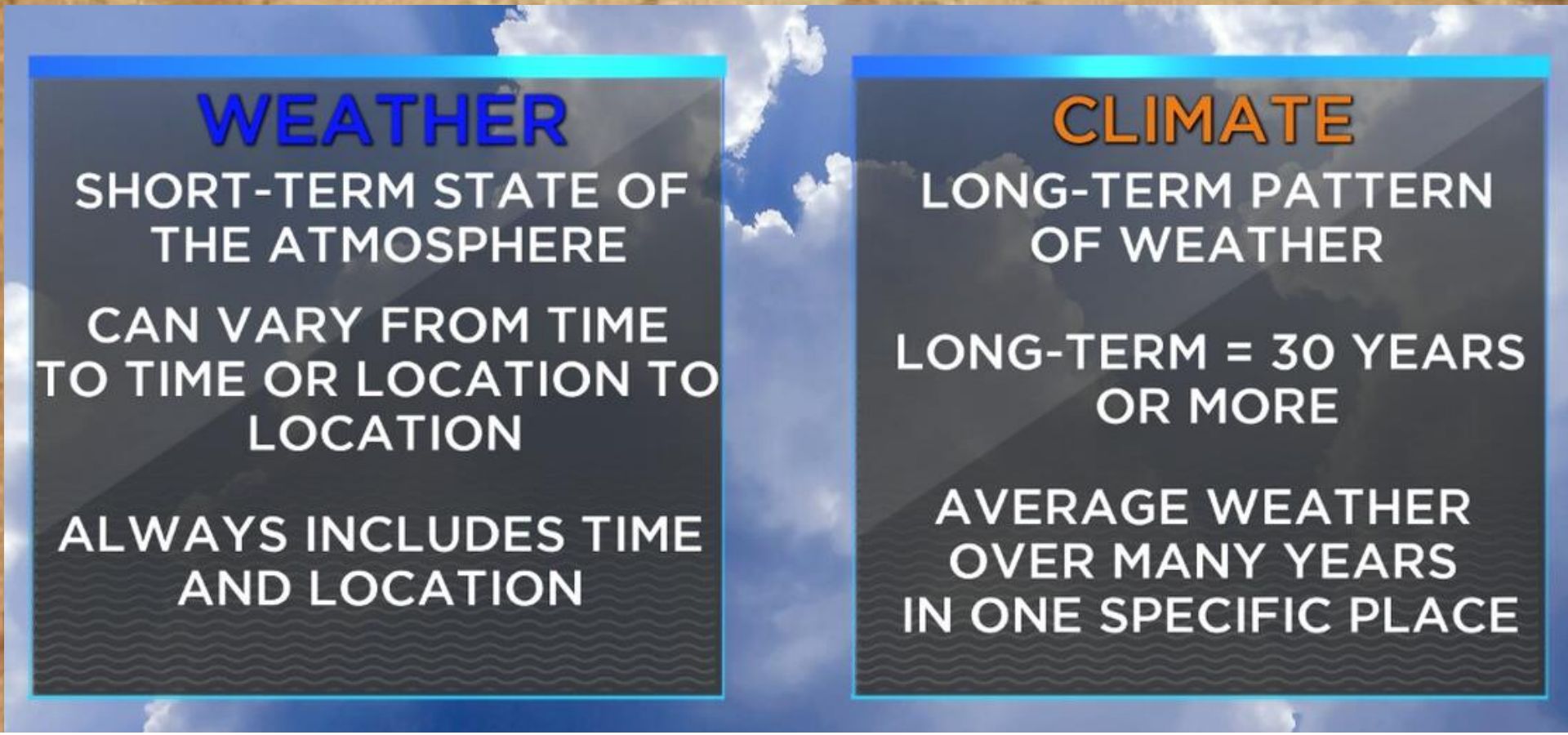

Weather is your mood.
***Climate is your personality*.**

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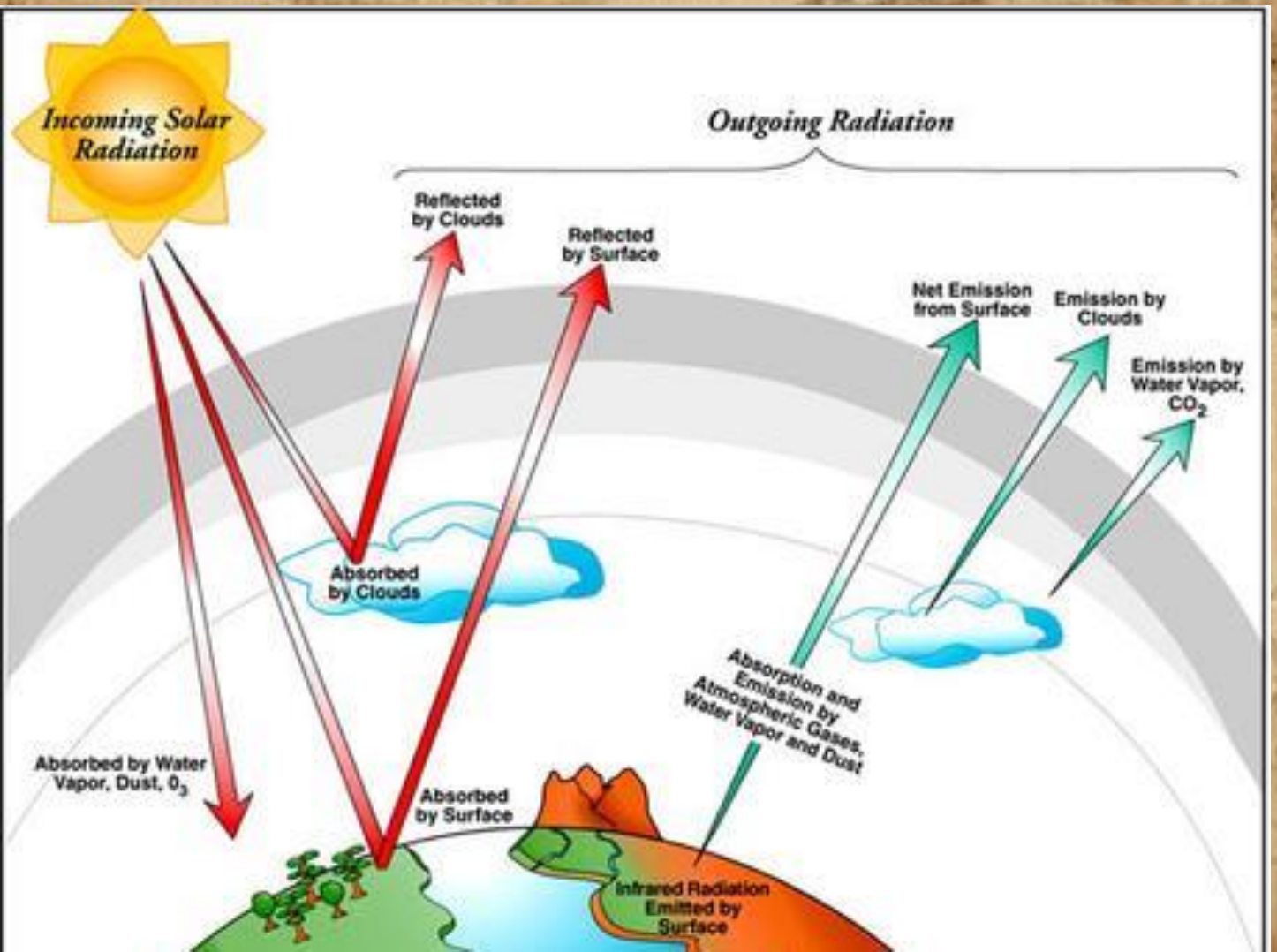
World Regional Geography



Uneven heating of earth results in temperature and therefore air pressure gradients.

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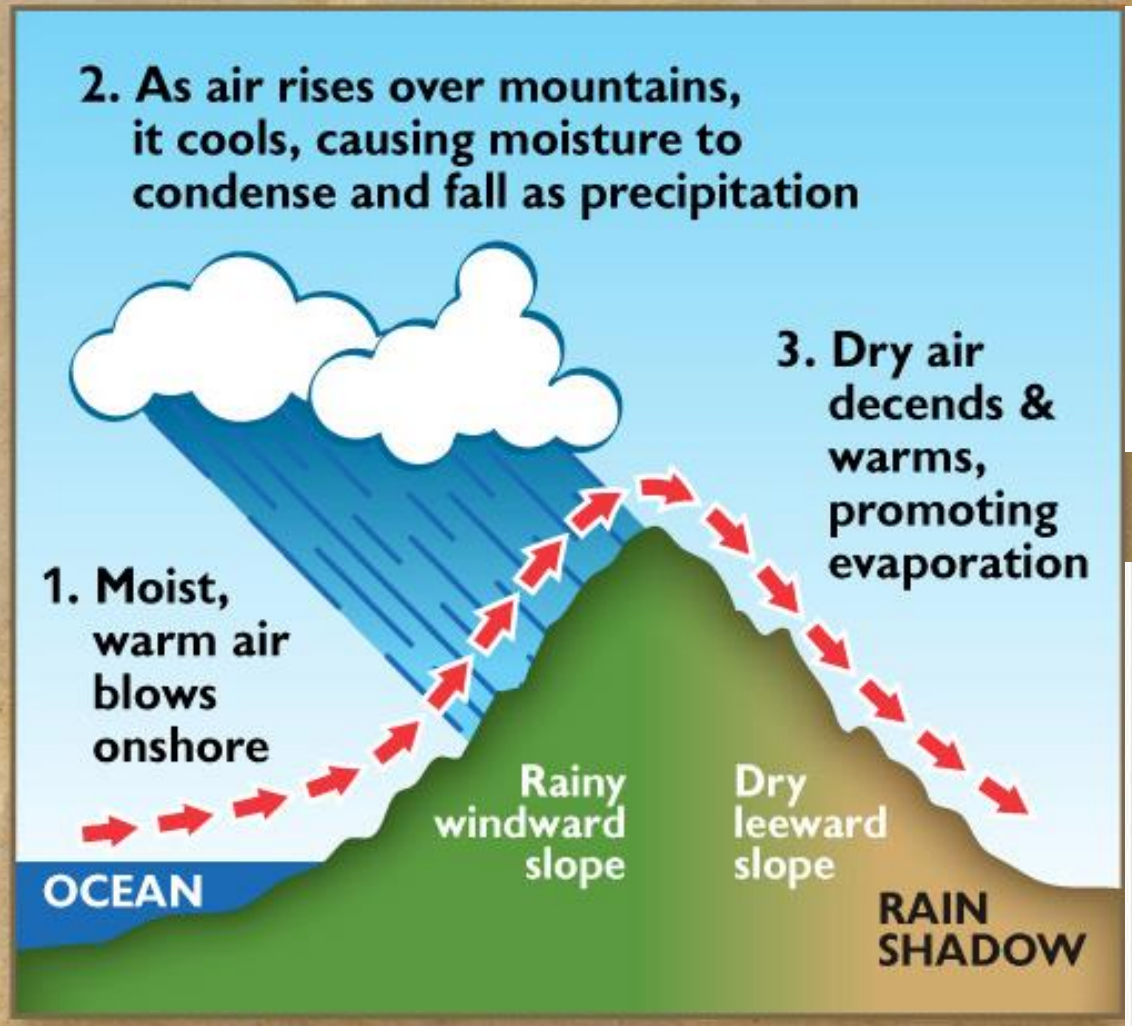
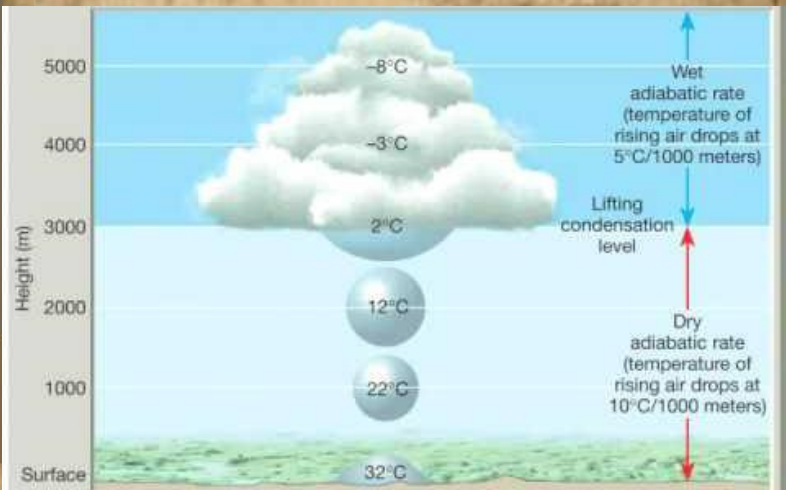
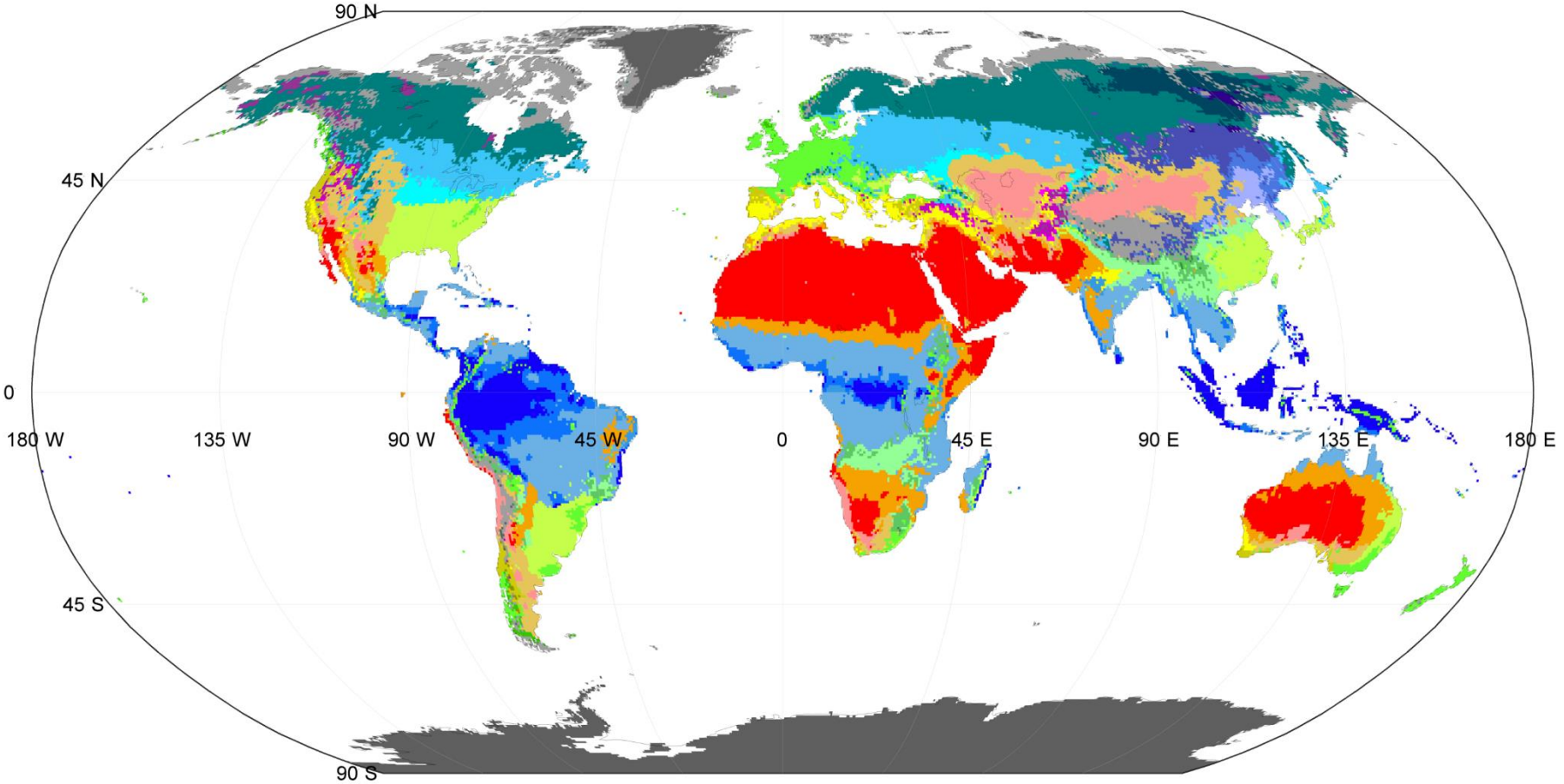


The amount of moisture air can hold is a function of temperature and pressure.

Dry air 7°F Wet air 3.5°F



World map of Köppen climate classification for 1901–2010



Af Am As Aw BWh BWk BSh BSk Csa Csb Csc Cwa Cwb Cwc Cfa Cfb Cfc Dsa Dsb Dsc Dsd Dwa Dwb Dwc Dwd Dfa Dfb Dfc Dfd ET EF

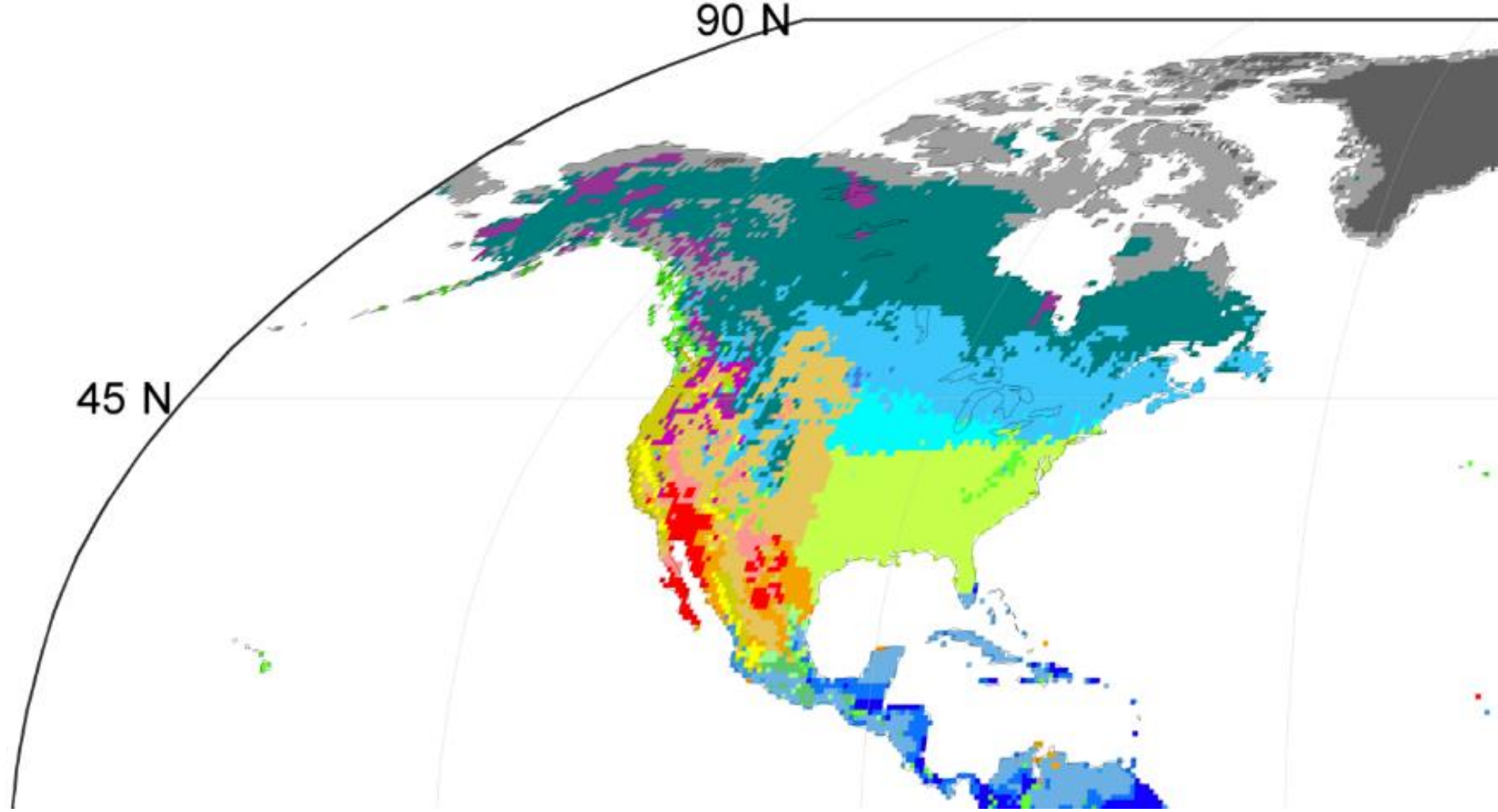
First letter	Second letter		Third letter
A: Tropical	f: Fully humid	T: Tundra	h: Hot arid
B: Dry	m: Monsoon	F: Frost	k: Cold arid
C: Mild temperate	s: Dry summer		a: Hot summer
D: Snow	w: Dry winter		b: Warm summer
E: Polar	W: Desert		c: Cool summer
	S: Steppe		d: Cold summer

Data source: Terrestrial Air Temperature/Precipitation: 1900-2010 Gridded Monthly Time Series (V 3.01)

Resolution: 0.5 degree latitude/longitude

Website: http://hanschen.org/koppen

Ref: Chen, D. and H. W. Chen, 2013: Using the Köppen classification to quantify climate variation and change: An example for 1901–2010. Environmental Development, 6, 69-79, 10.1016/j.envdev.2013.03.007.



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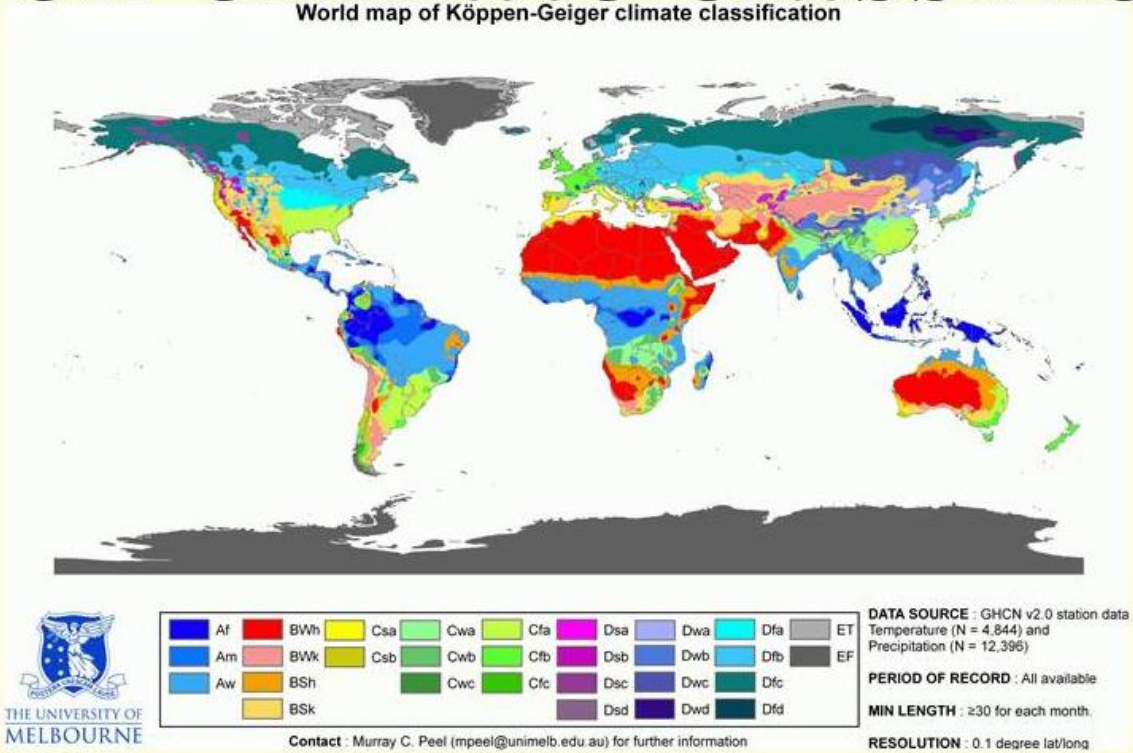
Köppen climate classification



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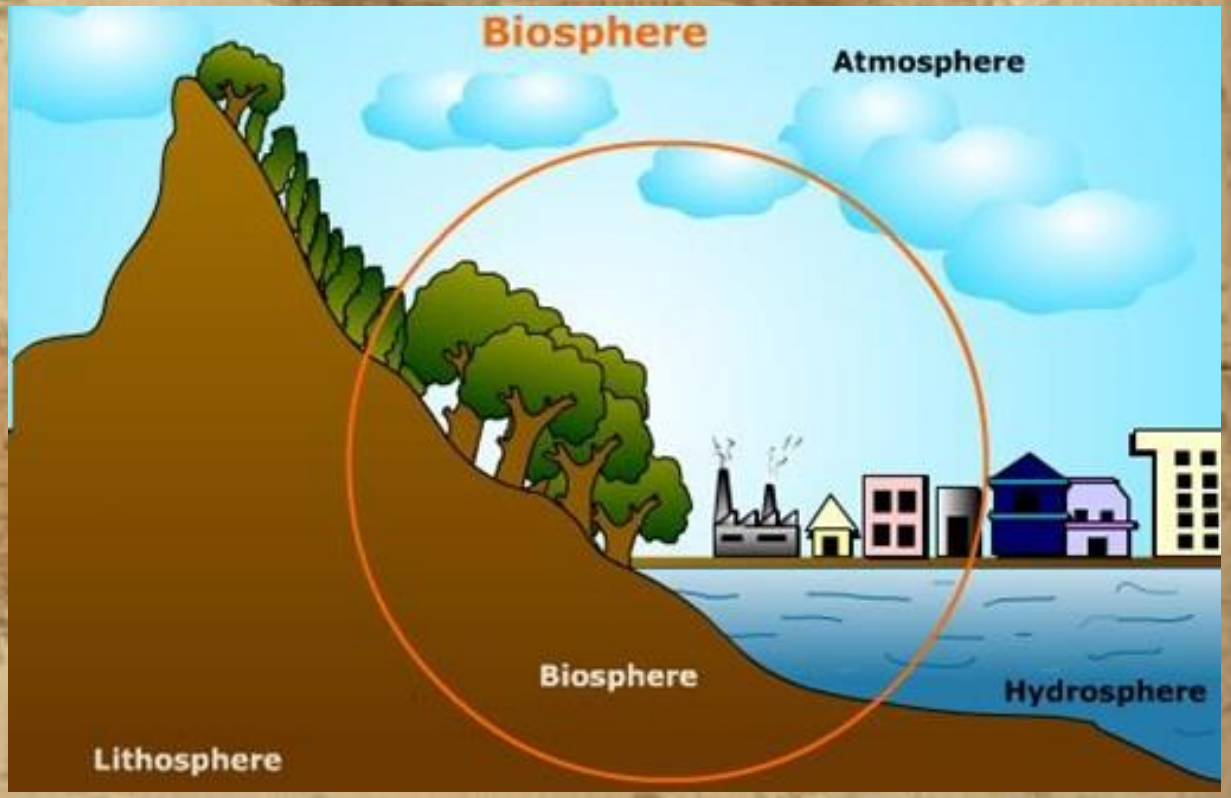
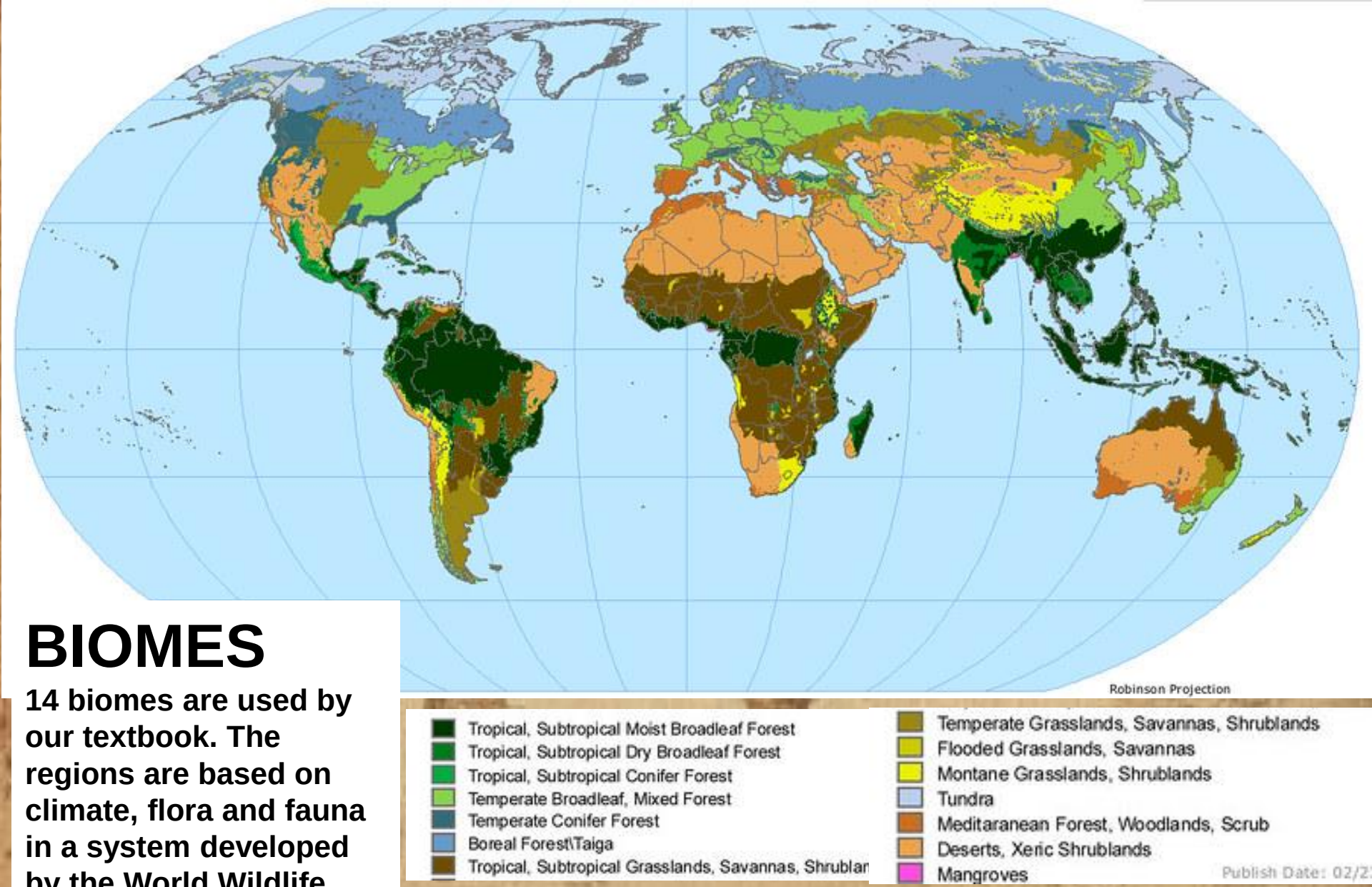
BIOSPHERE

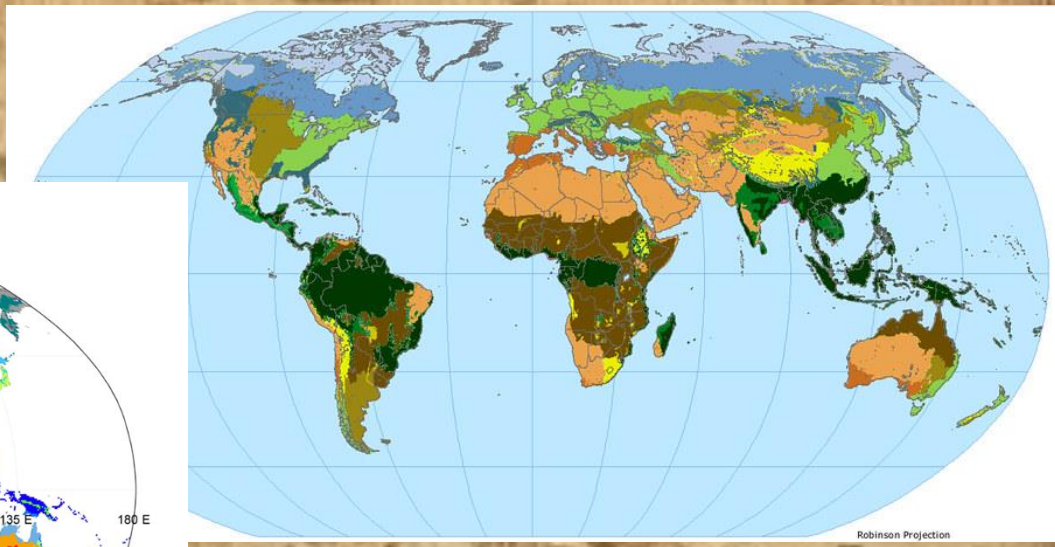
The entirely of the Earth's integrated physical spheres, with humans and other impacts included as part of nature.





BIOMES

14 biomes are used by our textbook. The regions are based on climate, flora and fauna in a system developed by the World Wildlife Fund.



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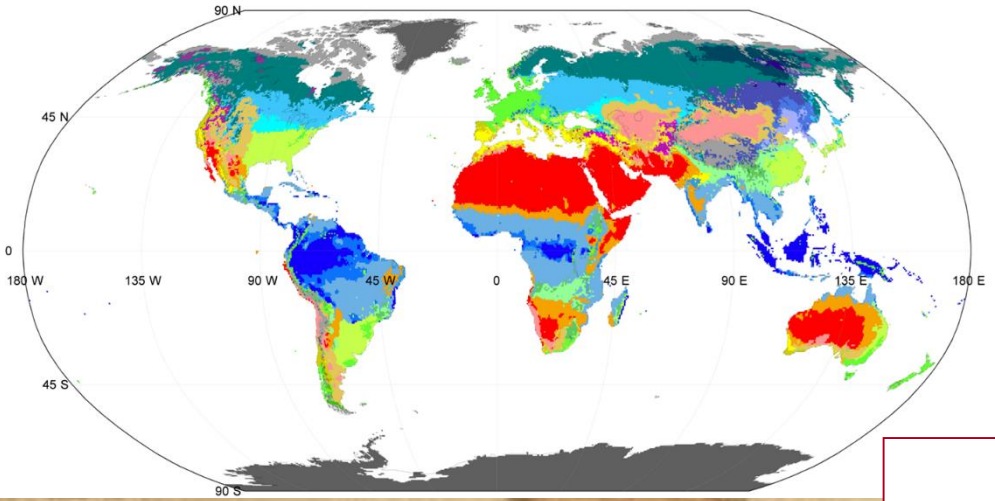

Climate vs Biome

Characteristic	Climate	Biome
Classification	By temperature and rainfall	Primarily by plant life
Relationship	Influences biomes	Influenced by climate
Field of study	Atmospheric science	Biology

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Water

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Water

Using TWO online "water footprint calculators" estimate what your water footprint is (not counting living in a dorm).

Email me your results by Wednesday evening and be ready to discuss it in class on Thursday.

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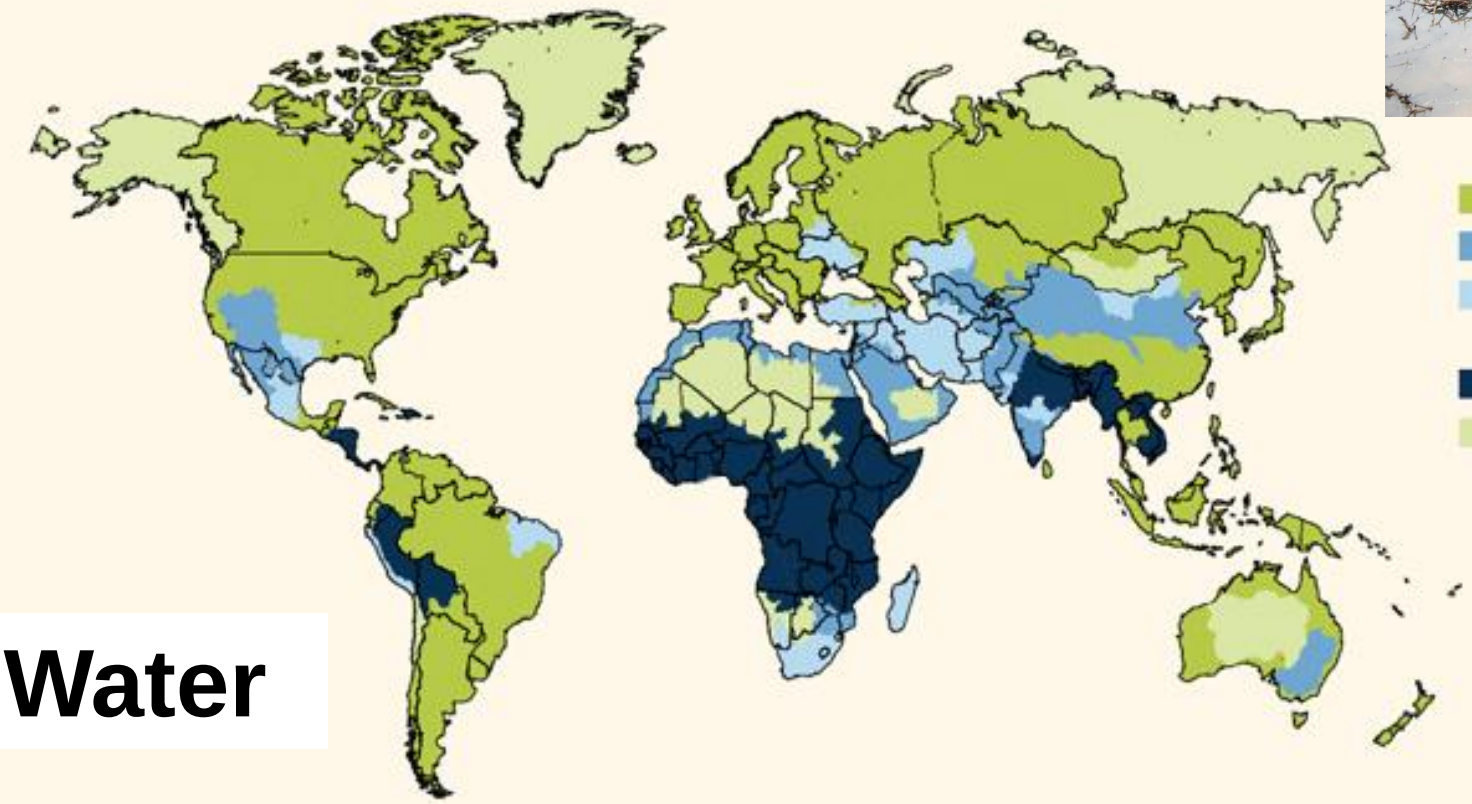
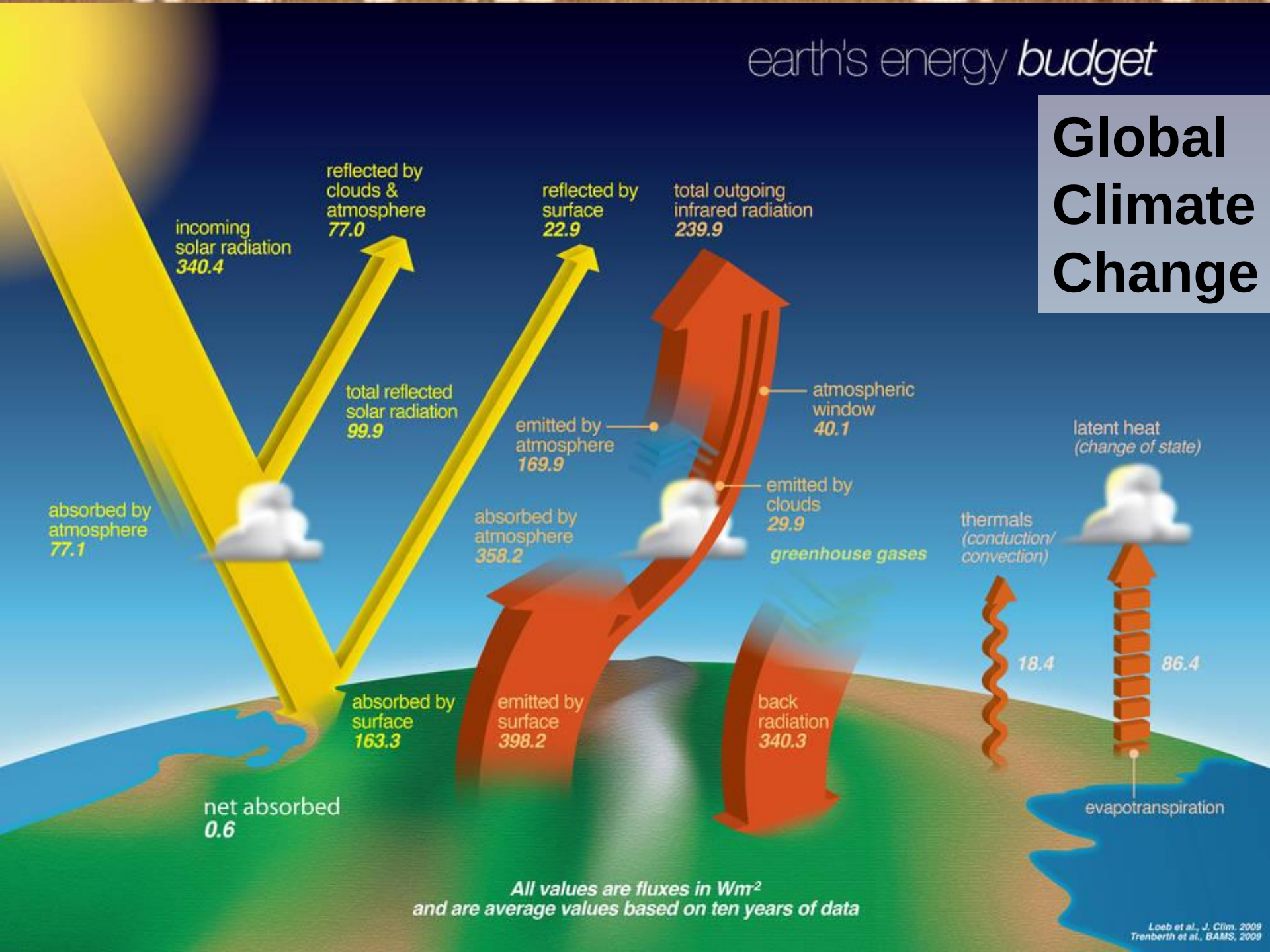
World Regional Geography

Global physical and economic water scarcity
(*a lack of investment in water infrastructure*)



Water


earth's energy budget
Global Climate Change
incoming solar radiation 340.4
reflected by clouds & atmosphere 77.0
reflected by surface 22.9
total outgoing infrared radiation 239.9
total reflected solar radiation 99.9
emitted by atmosphere 169.9
atmospheric window 40.1
emitted by clouds 29.9
absorbed by atmosphere 77.1
absorbed by atmosphere 358.2
greenhouse gases
latent heat (change of state)
thermals (conduction/ convection)
18.4
86.4
absorbed by surface 163.3
emitted by surface 398.2
back radiation 340.3
evapotranspiration
net absorbed 0.6
All values are fluxes in Wm-2
and are average values based on ten years of data
Loeb et al., J. Clim. 2009
Trenberth et al., BAMS, 2009

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World Regional Geography

Global Climate Change

NEXT

Geography 301
Chapter Two –
Global Climate Change

Kick Start Questions for next time:

August 29

What gases are labeled "greenhouse gasses"? Why?

The predicted rise in sea level is caused by what two effects of increased temperature? What percentage is assigned to each?

What is meant by "carbon sequestration"?