

**GEOG 101
PART II**

Environment and Resources
Chapters 2, 3, 4, and 5

Prof. Anthony Grande
Hunter College Geography

Lecture design, content and presentation ©2018
Individual images and illustrations may be subject to prior copyright.

**EXAM 1 and ATLAS Ex Cr
WILL BE RETURNED
ON FRIDAY**

REMINDE RS

- ❖ Two required essays are due by **Tuesday, March 27, 2018**. Late penalty will be applied. (A third essay may be used for extra credit in place of a "Think Geographically" essay.)
- ❖ Extra Credit: "Think Geographically" Essays from any five of the textbook's 12 chapters.
 - Last day to submit is Dec 11 but it is best to do them as you finish reading a chapter.

ESSAY TOPICS (choose any two):

- Contributions of a noted geographer, earth scientist or explorer (chapter 1)
- Relationship of climate change to a listed current event topic (ch. 2)
- Discuss a natural process that is deemed a natural hazard (ch. 3)

➤ Any essay may be submitted before the deadline. Don't wait for the night before to write them!!

Textbook Chapters: 2, 3, 4, 5

9: Introduction to People and their Physical Environment

- I. Introduction to the Physical Environment
- II. Earth-Sun Relationship
- III. Earth Systems
 - A. The Hydrosphere: Oceans
 - B. The Atmosphere: Weather and Climate
 - C. The Lithosphere: Geologic Influences
- IV. Earth Habitat
 - A. Biosphere
 - B. Natural Controls and Cycles
 - C. Human Impact
 - D. Natural Hazards

EXAM 2 covers all the topics listed

3

People and their Physical Environment

- ❖ **There is a relationship between people and nature**, especially dynamic earth processes (chapters 2 and 3)
 - ✓ People interact with the processes.
 - ✓ People have an **impact** on earth systems (chapters 4 and 5).
 - ✓ The Earth is composed of a complex of systems and subsystems that act as a whole.
- **When one thing changes, other things also change!**
- **This is called "interrelationship."**

4

Landscapes



- ✓ **Physical landscape** = natural conditions
- ✓ **Cultural landscape** = imprint of human activity
 - Physical landscape influences the development of cultural landscape:
 - economic activity
 - architecture/clothing
 - technology/inventions





People and their Physical Environment

There is a relationship between people and nature. (Chapters 2 and 3)

6

People and their Physical Environment

People identify and interact with the existing conditions and the processes creating them.

7

People and their Physical Environment

People have an impact on earth systems (chapters 4 and 5) and the result is the cultural landscape: the human imprint on the physical environment.

Copy of this diagram is in the Handouts section of the Home Page

PHYSICAL LANDSCAPE + CONDITIONS = cultural landscape

8

People and the Physical Landscape

- **People cope** with their environment and deal with natural processes.
- The natural processes that harmful to them are called **“hazards.”**
- Likewise, actions of **people impinge on nature** and can be disruptive (hazardous to nature!) as pollution, agricultural methods, importing non-native plants, insects and animals, killing/extinction of various species of living things.

9

People and Physical Processes

There is a relationship between people and nature.

When dynamic earth processes adversely affect people they are called “Natural Hazards.”

Prepare and Be Aware

10

People and their Physical Environment

❖ **Again, to stress this point:**
The earth is made up of a complex of systems and subsystems that act as a whole.

When one thing changes, other things change too!

It is called “interrelationship.”

Examples: global climate change; dam/reservoir construction; turning a agricultural area into a suburb or shopping mall with a huge parking lot.

11

Interrelationship: An example of global warming

Warmer temperatures can occur naturally or can be caused by human activity.

Global Warming and Airline Industry

1. Rising sea level - flooded runways; storm surges
2. Hot runways - buckled concrete; melting tar
3. Decrease air density - longer runways needed; lighter loads
4. Extreme high temperatures - affect on aircraft operations and electronics

The same diagram can be used to show the effects of global cooling.

12

Earth Statistics

Limited land area

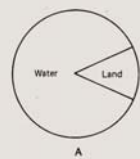
- Circumference = 25,000 mi
- Diameter = 8,000 mi
- Total area = 197 million sq. mi.
- Water area = 139 million sq. mi. (71%)
- Land area = 58 million sq. mi. (29%)

Human population: est. 7.6 billion in 2018

13

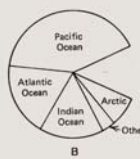
Earth Segments

Earth




A

The Oceans



B

The Land Masses




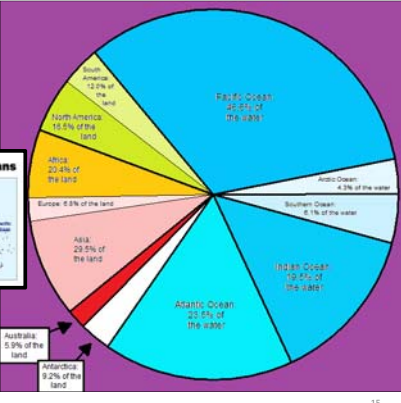
C

14

Whole Earth

World Continents and Oceans





15

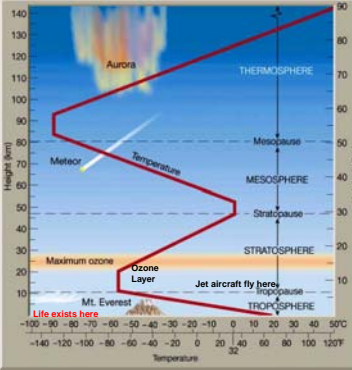
Spaceship Earth

1. Closed environment.
2. Life depends on a critical balance of elements to survive.
3. Life exists at the bottom of a 600 mi thick "ocean of air" composed of:
 - 78% nitrogen
 - 21% oxygen
 - 1% other of which .03% is CO₂ (carbon dioxide)
4. The bottom of the atmosphere is 5-7 mi thick and composed of air, water vapor and dust particles.
5. This provides the comfort zone of air pressure, humidity and light.

16

Layers of the Atmosphere

- Traces of Earth's atmosphere are found as far as 6000 mi. from the surface.
- The densest portion is closest to the surface and extends only 7 miles up.
- Temperature varies with the composition of the layers.
- Ozone in the stratosphere absorbs heat as do the ionized particles of the thermosphere.
- Ozone Layer protects all life on Earth from the ultraviolet rays of the sun.



17

Role of the Geographer and those who are Geographically Literate

1. Study interrelationships (*people + knowledge of processes = better habitat*)
2. Espouse conservation/preservation (*recurring theme*)
3. Monitor human influence (*short period on earth/great change*)
4. Counsel political realities (*haves vs. have-nots*)
5. Push for sustainable development within an area's carrying capacity (*working with nature; limited resources that are unevenly distributed*)

18

NEXT

EARTH-SUN RELATIONSHIPS

19