Environmental Science 3205

Unit I: Introduction to Environmental Science

Earth's Beginnings:

- As of today, earth is the **ONLY** planet we know that can support life.
- This is odd, considering that the earth is made up of the **SAME MATERIAL** as the other planets.

How the Earth was Made?

- There was a big cloud of **DUST & GAS** that pushed in on itself. (This is what made the sun.)
- The sun then started giving off **HEAT, LIGHT, & RADIATION**.
- There were smaller clouds of dust and gas surrounding the sun.
- They formed smaller clumps called **PLANETESIMALS**. (We call planets)

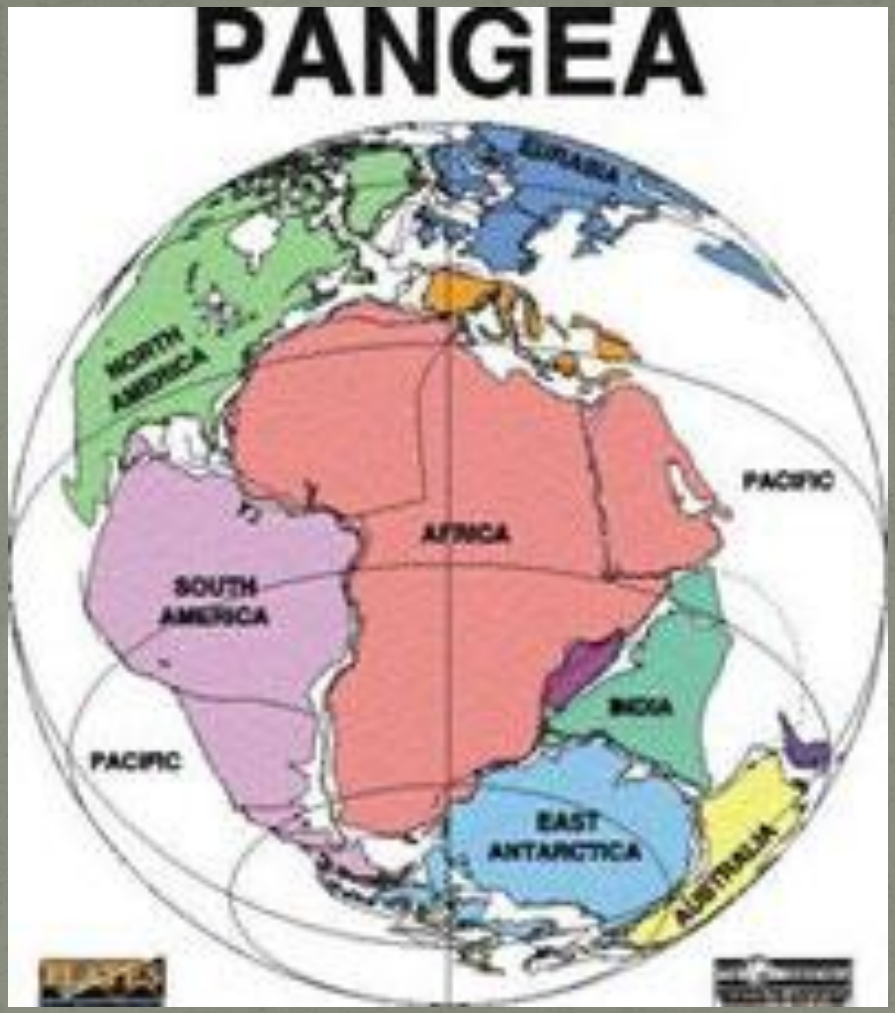
Our Earth:

- When our planet earth was created it was very violent with **STORMS**, **EARTHQUAKES**, **TORANDOES**, **VOLCANOES** everywhere.
- Its first period was called the "**HELLISH PERIOD**".
- It was constantly violent and hammered by asteroids, meteors and comets.
- Its first atmosphere was **POISONOUS**.

- Then it started giving off gases as it cooled down – water vapor, carbon dioxide, etc…(but no oxygen).
- As it cooled the crust began to harden and a surface developed.
- Earth's next period was called the "**1st LIFE PERIOD**".
- Only certain types of bacteria could handle the harsh environment.

- **But an atmosphere was starting to develop.**
- The last period of Earth's development was the "**OXYGEN PERIOD**" where some plants could produce oxygen.
- Now continents could form and stabilize.
- A supercontinent was formed called **PANGEA**. Has evolved into the 7 continents we have today.
- **OXYGEN** was the most important part of the earth's formation.
- Oxygen creates conditions for life as we know it.

PANGEA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Earth as a Spaceship:

- The Earth has been compared to a spacecraft — confined, self-sufficient and traveling through space.
- It is a **CLOSED SYSTEM**; practically nothing comes in with the exception of energy in the form of heat and light from the sun and nothing leaves except heat and reflected light.
- All of the basic elements that Earth and all its living creatures need or can have are already on Earth or in its atmosphere.

- These basic elements are either **RENEWABLE** or **NON-RENEWABLE**.

- A natural resource is renewable if it is replenished at a rate comparable to its rate of consumption by humans or other users.

- As the human population increases, the resources needed to sustain them and all the other species on the planet do not and cannot increase.

- Many of us seem to have separated ourselves from its environment, to view the natural world as nothing more than a series of resources to be taken and used to whatever degree we want or can financially afford.

- Food comes from supermarkets, electricity comes from light sockets, water flows out of taps from unknown sources.