

# Warm-up

1. Describe lines of Longitude and Latitude in your own words.
2. Which kind of map has contour lines?
3. What is constant at any point along a contour line?
4. How does advanced mapping technology help Earth Scientists?

# Earth System Science



Chapter 1, Section 4

- **Earth = “Dynamic” planet**

- Many separate but interacting parts
- Spheres

- **Earth Scientists:**

- Study how separate parts affect each other.
- Chemistry, Biology, Physics, Math, etc...

# The Earth System

Air

Water

Land

Life



# Systems?

- **Group of interacting parts that form a complex whole.**

- Ex: Solar system

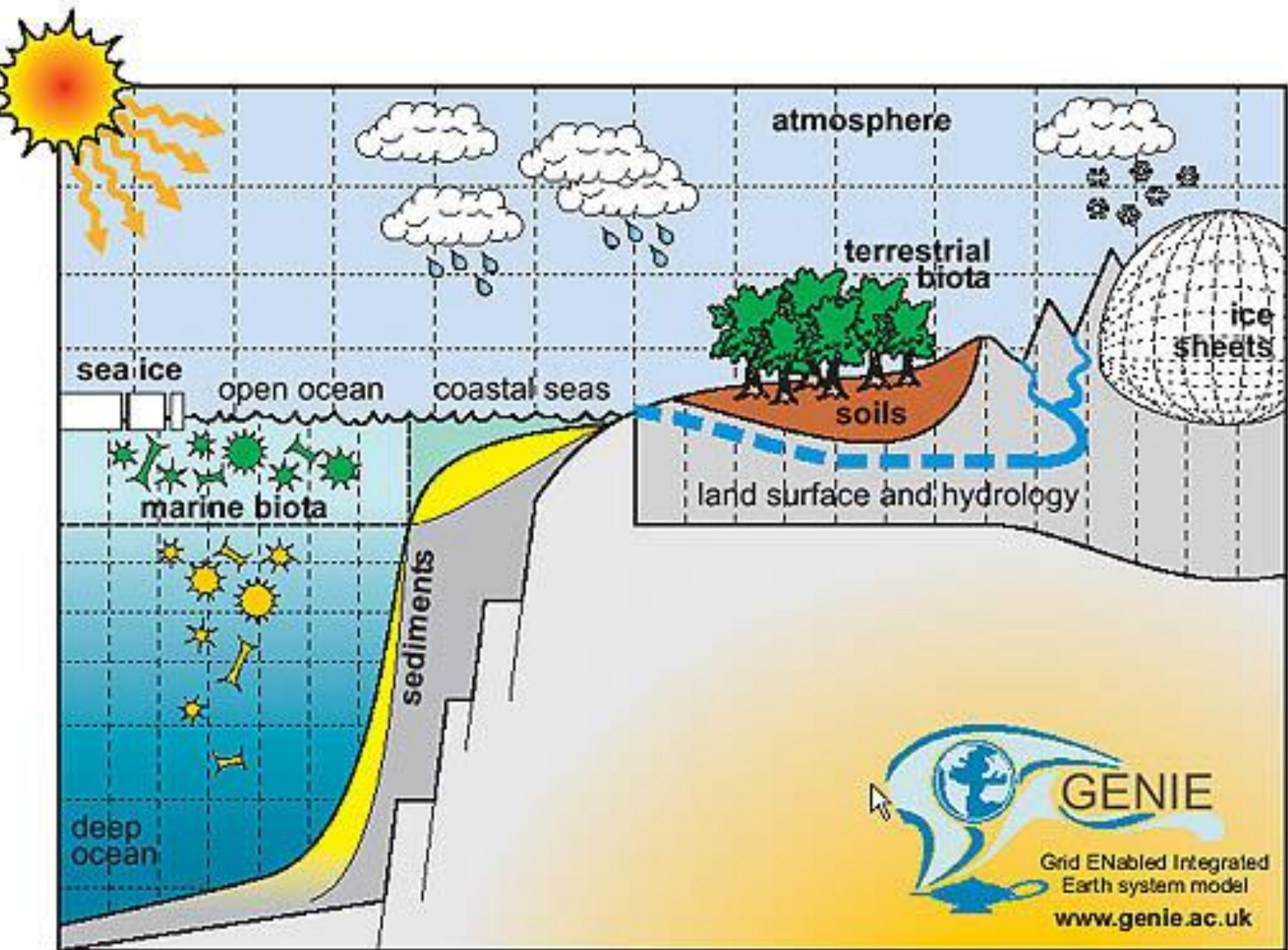
- **Natural systems work because of Energy.**

- Ex: Sun → Heat → Movement

- **“Open Systems”**

- **Energy & Matter enters/leaves system.**

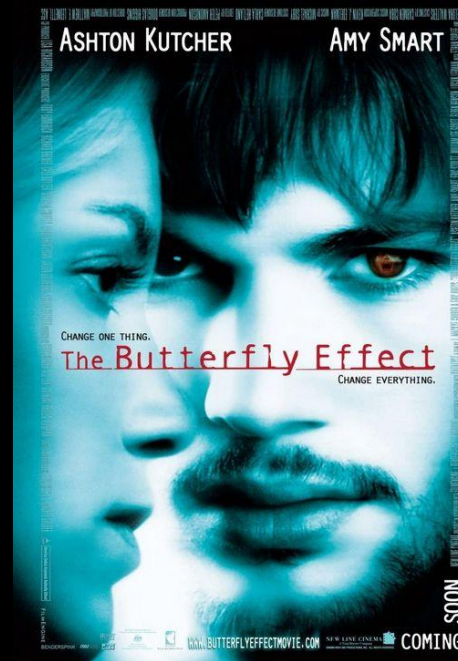
- Ex: River.

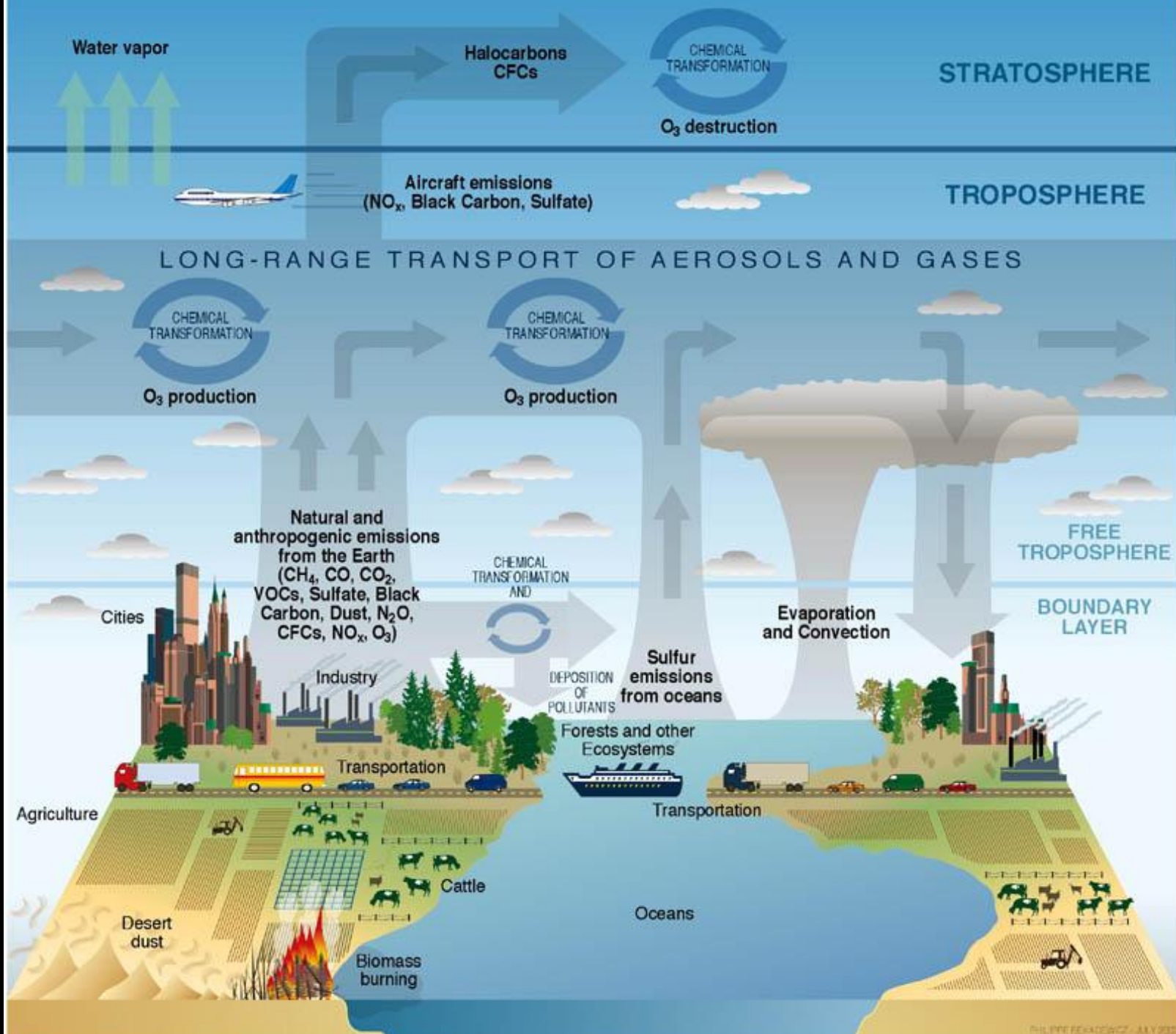


- Change one part = changes other parts.

- Human actions create changes in all other parts of the Earth system

- Gasoline use
- Trash
- Farming
- Sea walls





# Sources of Energy.

## 1. Sun!

“Powers” processes in:

- |                          |                   |
|--------------------------|-------------------|
| – <u>Atmosphere</u>      | (Weather/Climate) |
| – <u>Hydrosphere</u>     | (Ocean Currents)  |
| – <u>Earth’s Surface</u> | (Erosion)         |

## 2. Earth’s Interior!

- “Ancient heat”
- Radioactive decay → makes heat

“Powers”:

- Internal Processes → Mountain making, volcanoes.

# “Environment”

Everything that surrounds & influences an organism.

1. **Biological**

2. **Social**

3. **Non-living**



- **Temperature**
- **Humidity**
- **Sunlight**

# “Environmental Science”

- **Study, Relationship...**  
**Humans & Natural Environment.**

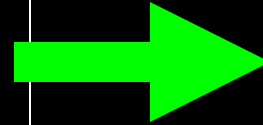


# “Resources”

Necessary items.

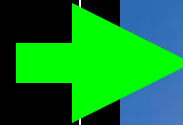
## 1. Renewable:

- Replenish quickly

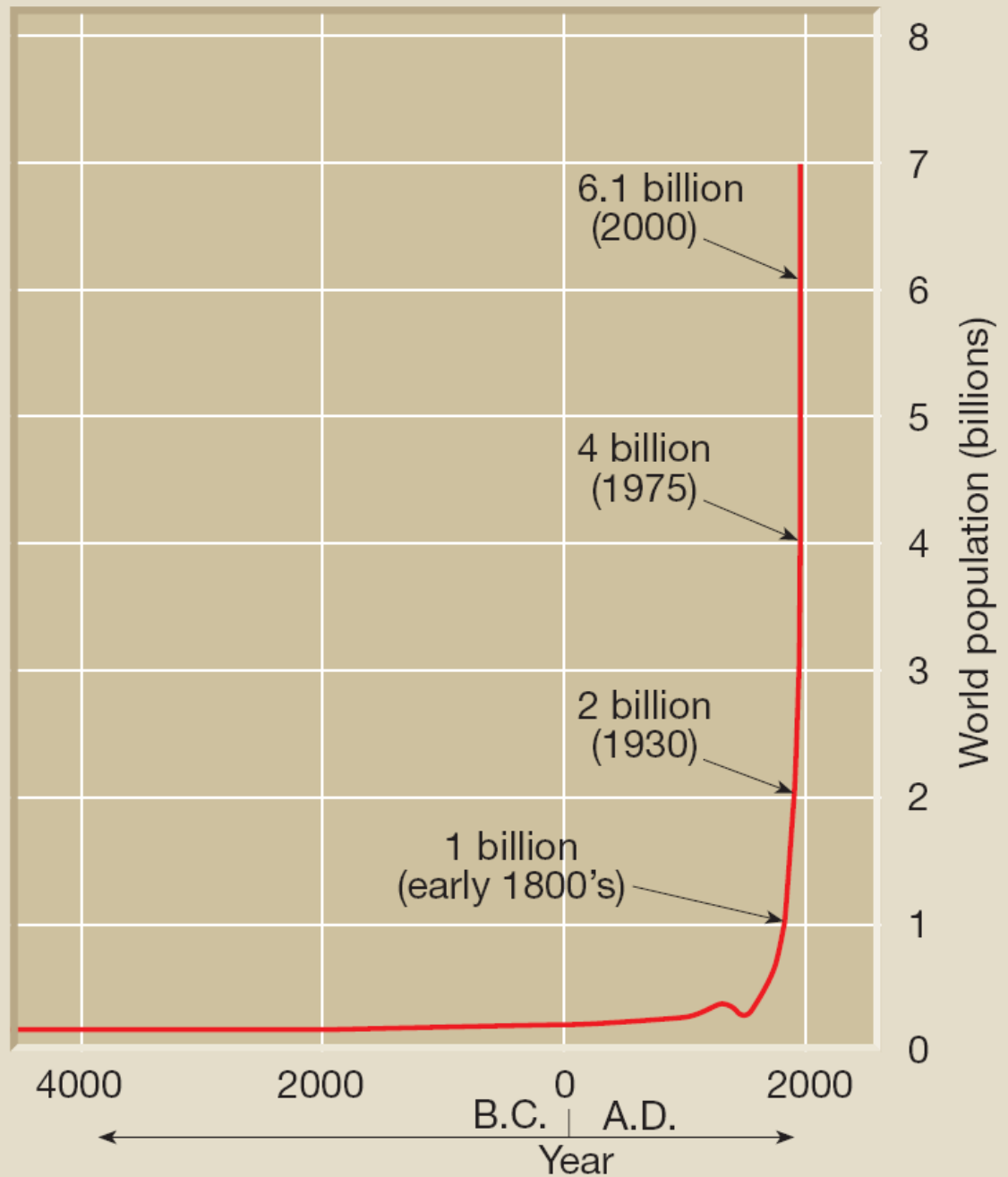


## 2. Non-renewable:

- Replenish VERY slowly.
- **Limited!**



# Human Population Growth



# Problem.

↑ Human Population = ↑ Demand for Energy Resources.

We Must find a way to meet the ↑ demand for non-renewable resources.

We change.  
Or, we all die.

# Reflection

1. List **3 activities** that you do in a typical day.
2. Below each activity write **1 renewable resource** and **1 non-renewable resource** that you use in this activity.
- 3. Think.**
4. List an alternative resource for each non-renewable resource that you use each day.
5. Is your consumption absolutely **NECESSARY**?
6. Write a paragraph explaining how you might change your habits.

# Assignment

- Read Chapter 1, Section 4 (pg.18-22)
- Do Section 1.4 Assessment #1-8 (pg. 22)