

**Unit****9****Human Impacts on the Environment****Environmental Geography**

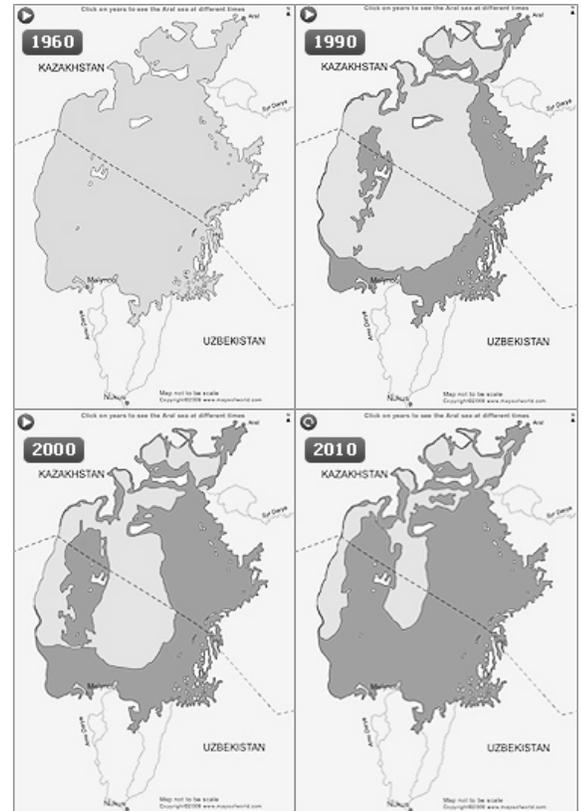
The following information corresponds to Chapter 13 in your textbook. Note: All of the following information in addition to your reading is important, not just the blanks you fill in.

**The Human Impact**

- There may be more than \_\_\_ million types of organisms in the world today.
- Many human activities cause \_\_\_\_\_; list a few:
- Resources that are replenished even as they are being used are \_\_\_\_\_ resources, and resources that are present in finite quantities are \_\_\_\_\_ resources.

**Water**

- The available supply of \_\_\_\_\_ water is not evenly distributed across the globe; much of the precipitation is lost through \_\_\_\_\_ and \_\_\_\_\_, but much seeps downward through porous rock-holding rocks called \_\_\_\_\_ (provide millions with fresh water).
- Nearly  $\frac{3}{4}$  of all the fresh water in the world is consumed in \_\_\_\_\_, not in cities. \_\_\_\_\_ use another 20%, sometimes contributing heavily to pollution.
- One of the great ecological disasters of the 20<sup>th</sup> c. has involved the \_\_\_\_\_ Sea, located between Kazakhstan & Uzbekistan; streams that fed this large sea were diverted to \_\_\_\_\_ the surrounding desert (mainly for commercial cotton production); chemical \_\_\_\_\_ have ruined the groundwater below, causing a major health crisis.
- The distribution of water is sustained by the \_\_\_\_\_ cycle, which brings rain and snow from the oceans to the landmasses ... but the amounts are not constant across different regions.
- As much as half of Israel's water comes from the \_\_\_\_\_ River and an aquifer beneath the \_\_\_\_\_; Israel – a more developed country – consumes more water than the \_\_\_\_\_ Arabs; the water issue complicates the settlement of \_\_\_\_\_ disputes among Israel and its neighbors.

**Atmosphere**

- The atmosphere is a largely \_\_\_\_\_ resource, however scientists are concerned that human \_\_\_\_\_ will result in long lasting, possibly permanent, damage.
- \_\_\_\_\_ gases (CO<sub>2</sub>, methane, nitrous oxides,...) are increasing; estimates of the degree of \_\_\_\_\_ - induced (anthropogenic) \_\_\_\_\_ differ.
- Since the end of the “\_\_\_\_\_”, global temperatures have been warming.
- \_\_\_\_\_ rain is caused by the burning of fossil fuels (coal, oil, natural gas); emitted by cars, industries,...; it can be \_\_\_\_\_ enough to do great damage over time; e.g. lake acidification, stunting of forests, loss of crops & fish,...

**The Land**

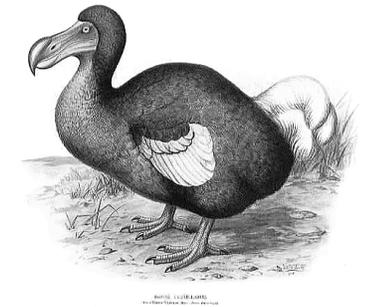
- The world's forests, especially in the \_\_\_\_\_ and \_\_\_\_\_ latitudes, play a critical role in the \_\_\_\_\_; the destruction of vast tracts of forest is called \_\_\_\_\_ and its rate has \_\_\_\_\_ since the 1990s (in the 1980s the rate was around \_\_\_\_\_ million hectares per year; by 2010 the rate was \_\_\_\_\_ million).
- \_\_\_\_\_ has been a “quiet crisis;” \_\_\_\_\_ pressure has been a major cause; what are some examples?

- The U.S. is the largest producer of \_\_\_\_\_ waste (4.5 lbs. per person per day); containers, packaging, etc...
- \_\_\_\_\_ landfills: prepared areas for waste disposal (includes a floor of materials to treat seeping liquids).
- Poorer countries have open garbage dumps; \_\_\_\_\_ regions (US, EU, Japan) export solid waste to the periphery.
- \_\_\_\_\_ waste is caused by chemicals, infectious materials, etc.; \_\_\_\_\_ waste has two types: \_\_\_\_\_-level: give off small amounts of radiation – industry, hospitals, research facilities, nuclear power plants are the main sources of these minor contaminants; \_\_\_\_\_-level: nuclear power plants & nuclear weapons facilities; may cause massive pollution and contamination (no satisfactory means of disposal (but \_\_\_\_\_ effectively blocks some).



## **Biodiversity**

- There are between \_\_\_\_ - \_\_\_\_ million species in the world today; only around \_\_\_\_\_ million species have been identified.
- \_\_\_\_\_ travel has introduced new species worldwide, and has threatened many species (e.g. Columbian exchange); the combination of human population pressure, technology & economic forces lead to \_\_\_\_\_ endangerment & extinction.
- \_\_\_\_\_ bird: hunted to extinction – Mauritius (in the Indian Ocean); an estimated \_\_\_\_\_ species of birds on tropical Pacific Islands, for example, became extinct following human settlement.



## **Causes of Environmental Change**

- \_\_\_\_\_ considers the roles of “political economy, power and history in shaping human-environmental interactions”; \_\_\_\_\_ is often considered in understanding environmental change.
- Humans across the world do not \_\_\_\_\_ nor \_\_\_\_\_ in exactly the same ways; \_\_\_\_\_ - \_\_\_\_\_ could subsist on resources within an area of around 26 kilometers, but urban dwellers in core regions have access to resources from all over the \_\_\_\_\_; a baby born in the U.S. at current rates consumes about \_\_\_\_\_ times as much energy over a lifetime as a baby born in Bangladesh (food, housing, metals, paper, etc.).
- \_\_\_\_\_ innovations have produced hazardous & toxic by-products (& increased the pace of env. change).
- Each innovation in \_\_\_\_\_ has required increased resource use – for movement, but also to build and maintain the related \_\_\_\_\_ (roads, railroads, tracks, seaports, airports, etc.).
- Consumption of material goods is closely linked to consumption of \_\_\_\_\_; much of our supply today comes from nonrenewable \_\_\_\_\_ fuels (coal, oil, natural gas).
- In countries like Saudi Arabia, Iraq, Kuwait, Iran, and the UAE, the extraction and exportation of oil accounts for around \_\_\_\_\_ percent of total revenue ... to adjust, states like Kuwait have worked toward alternative industries such as \_\_\_\_\_ (the conversion of saltwater to freshwater).
- “Clean” \_\_\_\_\_ energy has been massively sought after; \_\_\_\_\_ have increased in demand (used for wind turbines, electric cars, computers, screens, cell phones, etc.); the mining and \_\_\_\_\_ processing of rare earth metals is naturally harmful; a combination of looser environmental laws and labor costs led to increased production in \_\_\_\_\_; \_\_\_\_\_ rare earth element from trash can improve their availability.

## **Environmental Policies**

- Many international agreements have been spear-headed by \_\_\_\_\_ (NGOs) that operate outside the formal political arena; one example of an NGO is the \_\_\_\_\_ (GEF) – a joint project of the United Nations and the World Bank; the GEF funds projects related to six issues (since 1992):
- 168 countries signed an agreement proposed by the UN Environment Program dealing with \_\_\_\_\_ in 1993; they work to reduce activities that have a negative impact; ongoing struggle to find a balance between the need of \_\_\_\_\_ countries to promote local economic development & preserve biodiversity.
- A naturally occurring \_\_\_\_\_ layer exists in the upper levels of the stratosphere; protects the Earth from the Sun’s harmful \_\_\_\_\_ rays; \_\_\_\_\_ (chlorofluorocarbons) found in refrigerants, fire extinguishers, and aerosol cans were found to be harmful; \_\_\_\_\_ was signed in 1987 to deal w/ CFCs.
- The \_\_\_\_\_ was signed in 1997 by more than 80 countries; laid out plans to reduce the emission of \_\_\_\_\_ gases; the \_\_\_\_\_ has decided to go its own course; in 2009, the \_\_\_\_\_ endorsed a continuation of the Kyoto Protocol, signed by 141 countries.