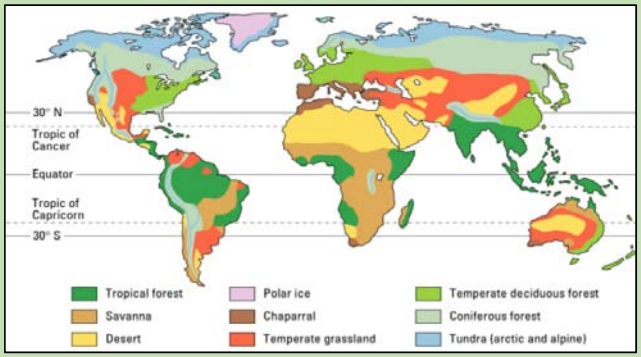
People and the Biosphere

Memory Organiser

1

DEFINITION: The BIOSPHERE is the part of our planet where all living organisms exist. It is divided into BIOMES based on their climate and plant and animal species e.g. rainforest, taiga, polar, desert



2

Why are certain biomes e.g. rainforests only found in certain locations?

It all comes down to the intensity of the suns heat (solar radiation) at different latitudes. The equator (the most famous line of latitude) receives the most intense solar radiation all year round and is therefore the hottest part of our planet. It is also the wettest as intense heat causes intense evaporation and therefore rainfall. Hence why you find rainforests near the equator.

As you move further north or south from the equator towards the poles the climate tends to get colder.

3

Local/small-scale factors affecting biome location:

- **Altitude**-high up in mountain ranges the diversity of plant and animal life is tiny due to the fact that the air is thinner and the temperature is colder the higher up you go.
- **Soil**-if soil is acidic in an area it is less likely to have a large diversity of plants and therefore animals living there

4

How does the biosphere regulate oxygen, water and soil health?

Oxygen-Trees and other vegetation absorb CO2 through their leaves and release oxygen into the atmosphere

Water-Trees and other vegetation reduce surface run-off of rain by intercepting it. The removal of trees can lead to increased risk of flooding

Soil health-Trees and other vegetation drop their leaves, these rot down and the nutrients enter the soil , the b=vegetation then uses these nutrients again to help them grow.

5

What goods and services does the biosphere provide?

Provisional Goods: **Products that can be obtained from ecosystems** - **Food: fish, games, crops** - **Timber** - **Fuel wood ect.**	**Supporting Services:** **These keep the ecosystem healthy** - **Nutrient cycle** - **Photosynthesis** - **Soil formation to help with plant growth**
Regulating Services: **Services that link to other physical systems and keep the planet healthy** - **Storing carbon, and emitting oxygen** - **Purifying water and regulating the flow of water within the hydrological cycle.**	Cultural Services: The benefits brought to people either visiting or living in the ecosystem - Recreation and tourism - Education and science

- **Indigenous people** are exploiting the rainforest biome through: Use of wood and leaves for homes, hunting indigenous animals
- **Large companies (TNC's)** are exploiting the rainforest biome through: Cattle ranching, palm oil plantations, logging, building dams for electricity

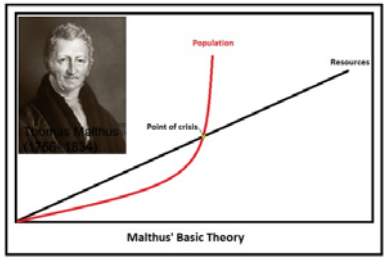
6

Why is there an increasing demand for natural resources?

	Rising global population	Rising Affluence (average global income)	Increasing urbanisation (% of people living in towns/cities)
1975	4.1 billions	US$ 3700 per person	38%
2015	7.3 billions	US$ 10,400 per person	55%
Resource demand:	Larger population means a great demand for food and water with large areas of forest cleared for farmland	Increased income means people use more energy resources. People tend to buy more consumer goods and therefore energy is needed in the productions of these too.	Large towns and cities have resulted in sprawling over biomes and resulting in the destruction of natural environments.

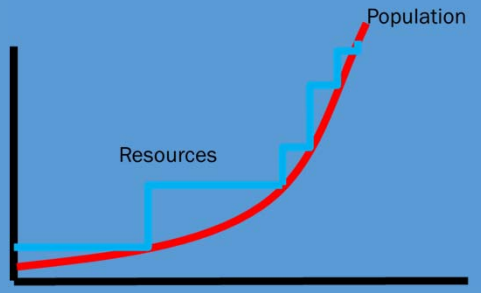
7

What theories exist that help us to understand the relationship between people and resources?



Malthus vs. Boserup

Malthus' theory was that population growth would eventually outstrip resources and we would descend into famine =, war and disease would spread. **Boserup** believed in 'necessity being the mother of invention' which means that when faced with resource depletion people would invent a solution to tackle it e.g. GM crops or large-scale farming etc.



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