Biodiversity Hotspots

Biodiversity hotspots are areas that contain a huge number of species, of which some are endemic. In order to classified as a hotspot they must meet two strict criteria:

- Have at least 1,500 vascular plants as endemic species
- Must have 30% of less or its original natural vegetation, meaning that it must be threatened to be a hotspot

There are 35 designated hotspots which cover less than 2% of the Earth's surface, but contain 44% of the worlds plant species and 35% of the worlds animal species. There are several bodies such as the World Conservation Monitoring Centre and Conservation International that have identified the 35 hotspots.

Location of hotspots:

The map on the right shows the distribution of hotpot globally. You can see that a large number of hotpot are found in the tropics, north and south of the equator. This is due to:

- Warm and wet climate means there are less limiting factors

- Nutrient recycling can occur fast meaning the area is more nutrient rich

Further more many hotspots are seen on islands, this could be due to the fact that there area a greater number of endemic species here due to isolation e.g. the Galapagos Islands.

Classification:

There are 25 land based hotspots which are divided into 3 categories, these are:

1. ***Continental Hotspots*** - these are the richest in terms of biodiversity, empales include the Cape floral region in South Africa
2. ***Large Island or Continental Island Hotspots*** - these harbour diverse and distinct species which can include fauna that is long extinct on the main continents
3. ***Small Island Hotspots*** - these have low species numbers but contain a high proportion of endemics. Species are susceptible to extinction due to the small populations, physical disturbance and human exploitation as well as the introduction of alien species.

There are a number threats to biodiversity, examples of these are:

- Habitat change
- Climate change
- Introduction of alien or invasive species
- Overexploitation
- Deforestation
- Pollution

CASE STUDY : Continental Hotspot: Fynbos, South Africa

The Fynbos is a major vegetation type that this found in a small region of South Africa known as the Cape Floral Regions. It is the smallest and richest area with the highest known concentration of plant species at 1,300 per 10,000 km2. The region is home to 7700 plant species, or which 70% are endemic. The region was created due to the unusual geology and soils, topography and distinctive fire regime. However, the region is being threatened due to the a number of reasons such as:

- The introduction of alien and invasive species
- Commercial forest using non-naive species such as the European pine
- Frequent bush fires. This may be as a result of an increase in global temperatures due to climate change
- Construction of housing estate around Cape Town are destroying habitat and using land
- Increased farming in the area due to an increase in population