

## Watch: The Worlds 10 Deadliest Mountains.

How can mountains be dangerous?



### UK Mountains

[CLICK HERE TO EXPLORE](#) Ben Nevis – Scotland-highest mountain in Britain –1344m  
Mount Snowdon –highest mountain in Wales- 1085m  
Scafell Pike- highest mountain in England- 978m

### Formation of the Andes **(3)**

The best example of a **destructive plate boundary** is found when the **Nazca plate** is **subducted** and melted underneath the **South American plate** to form the Andes.

### DESTRUCTIVE PLATE BOUNDARY:

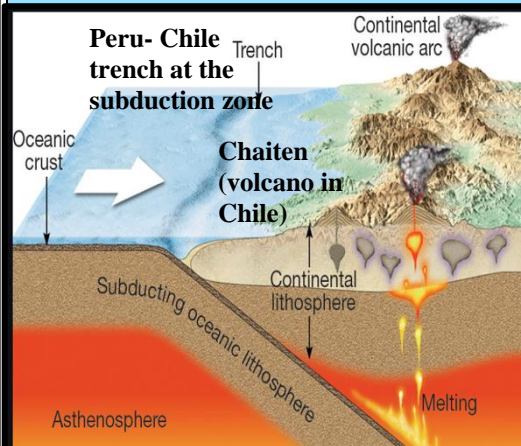
(Oceanic and Continental plate colliding) As they crush together, the **densest (heavy) oceanic plate**, is pushed and melted underneath (**subducted**) the least dense (lightest) **continental tectonic plate**.

**Volcanoes** are found here (e.g.: **Chaiten, in Chile**) as crust is melted into magma and rises again in an eruption.

[WATCH HOW THE ANDES FORMED](#)

### World Mountain Ranges

1. Himalayas (South East Asia-Nepal, China, Tibet)-home to Mt Everest-located at the border between India and Nepal-largest mountain in the world (above sea level) -8,848m
2. Alps- spreads across 8 countries in middle of Europe (France, Monaco, Italy, Switzerland, Liechtenstein, Austria, Germany, Slovenia)- Mt Blanc is the highest mountain in the alps- 4808m (above sea level)
3. Andes Mountains (western edge of South America-Venezuela, Chile, Ecuador, Peru, and Bolivia)- Its various landscape contains glaciers, volcanoes, grassland, desert, lakes and forest.



# MOUNTAINOUS REGIONS

4. Rocky Mountains (western North America-Canada and New Mexico)
5. Appalachians (eastern North America)
6. Atlas Mountains (north western Africa-spanning across Morocco, Algeria and Tunisia)
7. Ural Mountains (eastern Europe- western Russia)
8. Zagros Mountains (western Asia-Middle East- spans across Iran, Iraq and south eastern Turkey)
9. Great Dividing Range (East of Australia)

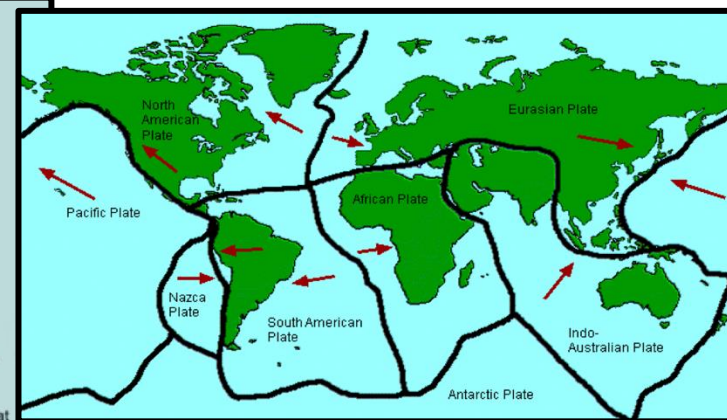
### Formation of the Himalayas: Mt Everest **(1)**

The best example of a **collision plate boundary** is found where the **Indo-Australian plate** collides and folds with the **Eurasian plate** to form the Himalayas.

The **Himalayas** continue to rise by 1cm a year at the rate at which fingernails grow.

[WATCH HOW THE HIMALYAS FORMED](#)- 80 MILLION YEARS IN THE SPACE OF 2 MINUTES.

**COLLISION PLATE BOUNDARY** Where two **equally dense continental plates collide, crumple up together and fold** at the **collision zone**. As no crust is subducted or melted to make molten magma, there is **no volcanic activity**.

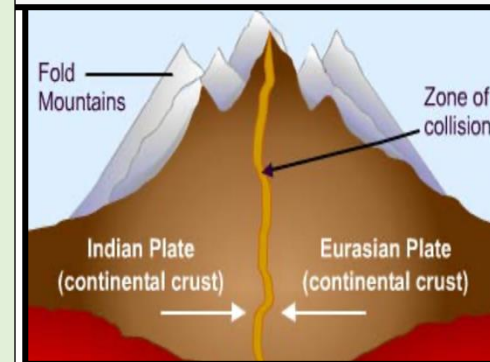
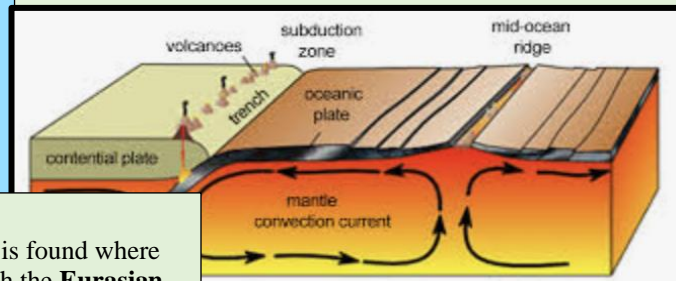


### Formation of Mountains:

Mountains are located near the boundaries of **plate tectonics**. They form at **destructive and collision plate boundaries**, which is where two plates move towards each other.

### RECAP: What are plate tectonics? [WATCH VIDEO](#)

The Earth's **crust** (top layer), which has a varied thickness, is made up of seven large **tectonic plates** and numerous other smaller plates. The plates can either be **'light' continental plates** or **'heavy' oceanic plates**. The plates are sections of the **crust** that "float" on the **mantle**, which is made up of **molten rock** (semi-liquid, "gooey caramel" **magma**). The plates move due to the circulation of intense heat (**convection currents**) within the **mantle**.







# MOUNTAINOUS REGIONS: MT EVEREST

**Location of Mt Everest**  
Tallest 'land' mountain in the world (8848m high): situated in South East Asia, in Nepal, which is between India and China.

**Did you know?**  
The first recorded person to climb Mt Everest was a New Zealand Mountaineer, Edmund Hillary, in 1953.

**Extreme 'hostile' climate conditions:**  
temperature decreases with increased altitude (height). The higher up the mountains, the colder it gets.  
  
The climate ranges from tropical at the base of the mountains to permanent ice and snow at the highest elevations  
Summer: The warmest average daytime temperature (in July) is only about -19 °C on the summit (mountain peak).  
Winter: In January, the coldest month, summit temperatures reach an average of -36 °C and can drop as low as -60 °C.

**Flora (plants):**  
Himalayan vegetation varies according to both altitude and climatic conditions.  
Deciduous forests in the foothills. Temperate forests in the middle altitudes.  
Coniferous alpine forests in higher altitudes due to their ability to grow fast in the short summers and cope in extremely cold conditions.  
These forests finally give way to alpine grasslands and high-altitude meadows (low lying shrubs due to short growing seasons and windy conditions). Followed by scrublands (rocky with little vegetation) which finally lead up to the permanent snowline.

**Fauna (animals):** WATCH: What animals can you see?  
The Himalayan Mountains contains a diverse range of habitats and provides home to many endangered species such as the Snow Leopard, Red Panda and Musk Deer.

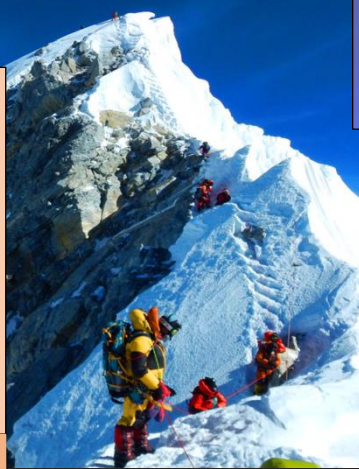
**Animal adaptations- Snow leopards**  
The snow leopard lives high in the Himalayas of central Asia. They are adapted to extreme cold temperatures as low as -32°C and extremely high altitudes  
Because of their shy behaviour and uncanny, almost mystical ability to disappear among the rocks, snow leopards have entered the folklore of local peoples in many countries and have been described as shape-changing mountain spirits or the ghost cat of the Himalayas! Resultantly, they are extremely difficult to radio tag and track for research purposes.

Most active at night, snow leopards are powerful predators capable of killing prey two to three times their own weight every 10 to 15 days. Blue sheep and ibex are their main food, along with marmots, game birds, small rodents, and livestock. Problems arise in the winter, when marmots are hibernating, and snow leopards turn to livestock for food. This brings them into conflict with herders and farmers. This puts snow leopards in direct competition with people.

The International Union for Conservation of Nature has classified this large cat as 'vulnerable', which means that the snow leopard is at high risk of becoming extinct. This is because the global population is less than 10,000; there are only 3400-4500 left in the wild across 12 countries, and this number is expected to decrease again by 10% by 2040. A total of 32 threats to their survival have been identified, the main threats are: starvation due to prey reductions; illegal poaching; as well as habitat destruction and disturbances due to human activities, infrastructure developments and climate change.

**WATCH VIDEO: How do they survive in these extreme conditions? AND Why are they at risk of extinction?**

**Land use and recreational (leisure) activities:**  
All mountainous regions attract lots of tourists both regionally and internationally. People visit Mt Everest specifically because of its bucket list appeal; it's significant 'world's highest mountain' status and because it offers the most challenging but adrenaline thrill seeking experiences. Leisure activities consist of skiing, climbing, mountain-biking and hiking. Also, skydiving over the top of Mt Everest is one of the top 10 skydiving places in the world! [CLICK HERE](#) to explore variously priced expeditions and tours, try to resist planning or booking a trip!  
  
At lower altitudes the land is used for grazing livestock and arable farming. Precipitation draining into water streams on Mt Everest's slopes provides the main water source flowing through many Asian countries, such as the huge population living in Kathmandu, which is the capital city of Nepal.



**Did you know?**  
**SURVIVAL TIP:** if you get caught up in an avalanche, spit and gravity will inform you which direction to frantically start digging!

**The impacts of tourism:**  
Nepal is a developing country dependent on farming as their main source of income. Tourism to capital city Kathmandu accounts for 10 percent of its GDP'. Tourism is growing; it has increased by 50-60% since the 1990s; number of **tourists** who visit the **Everest** region each year is around 35000.

Positive impacts:	Negative impacts:
<ul style="list-style-type: none"> <li>-Economic opportunities- profits from tourist expenditures improve existing services such as roads, healthcare and education facilities</li> <li>-increased employment opportunities (e.g.: tour guides, restaurant's, expedition providers)</li> <li>-Encourages local craftsmanship (sentimental souvenirs)</li> <li>-rise in standards of living</li> <li>-Visitors meet local people, experience another culture, and learn to respect cultural traditions and the environment</li> <li>- Efforts and empathy to support the least developed regions. Visitors are able to return home, share experiences and encourage support and aid efforts at times of crisis (e.g.: Nepal earthquake 2015)</li> </ul>	<ul style="list-style-type: none"> <li>-Working in the tourist industry often low paid and seasonal (not a reliable source of income)</li> <li>-Waste disposal issues: <a href="#">Himalayas in danger of becoming a giant rubbish dump</a> (e.g.: oxygen cylinders, human faeces and at least 200 dead bodies!)</li> <li>-Leads to potential risk of water contamination affecting water sources for many Asian countries.</li> <li>- Visitors walking erode pathways, degrade designated trails</li> <li>-Disturb wildlife and destroy plants</li> <li>-increased pressure on local services and resources</li> <li>-<a href="#">Water shortages have plagued Kathmandu for years</a> ...Can Kathmandu cope with extra tourists when for the past 10 years it struggles to provide bathing or washing water to hotels?</li> <li>-road congestion and air pollution</li> <li>-deforestation- timber from trees for building and space needs clearing of trees for new developments to support growth of tourism (e.g.: need another airport, road bypass or hotels)</li> <li>-Deforestation can lead to increased risk of landslides and flooding; trees act as a natural flood defence.</li> <li>-Loss of culture identity among mountain people as they are increasingly exposed to different cultures.</li> </ul>

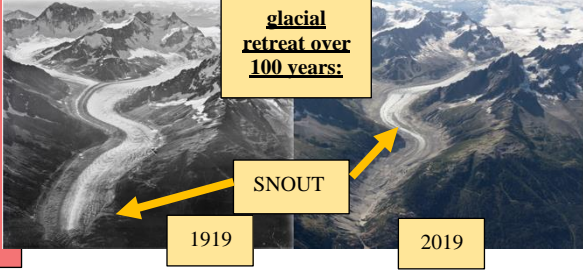
**Natural Hazards:**  
Avalanches "a mass of snow, ice, and rocks falling rapidly down a mountain.

They can be caused by heavy Snowfall, increased temperatures, movements or vibrations produced by machinery, explosives or 'yodelling', and earthquakes

The 2015, 7.8 magnitude Nepal Earthquake, caused an avalanche which buried base camps on the slopes with snow. Resultantly, 19 deaths were recorded with many people still missing. survivors were rescued by helicopter [WATCH THE DISASTER](#)

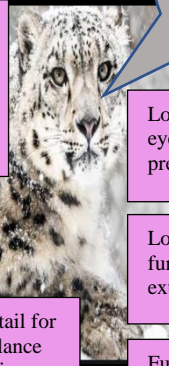
**The death zone:**  
perhaps the biggest danger is the altitude. Most climbers are not accustomed to the high altitude and low oxygen levels and rely on oxygen canisters they bring along. This is why the area above 8,000 meters (26,000 feet) elevation on Everest is called the "death zone." Climbers who spend long periods in this region can develop altitude sickness. As popularity of the climb has increased, ques of climbers has made this zone even more deadlier with "traffic jams", a deadly inconvenience

**Climate change:**  
-Since 1919, global temperatures have increased by 1°C .  
-This has caused the glacier tops of Mt Everest to melt at an increasing rate; this process is known as glacial retreat.  
-The melt water creates a flood risk; Nepal's army had to drain the Imja Lake near Mount Everest in 2016 after its water from rapid glacial-melt had reached dangerous levels.  
-Melting ice reduces the mountains ability to reflect the sun's rays. This consequentially traps more heat into the atmosphere and the increasing exposure of rocks, increases the amount of solar heat absorbed.  
-DISTURBING NEWS: [Melting glaciers are exposing dead bodies](#) that were buried in the snow. (March 2019 BBC News)



Deep nasal cavities and chest hold larger volumes of oxygen deprived air. Nose has special passages to warm cold air before entering lungs.

Small ears to reduce heat loss in cold climates.



**Did you know?**  
1 fur coat requires the skin of 7 dead snow leopards

Long-distance eyesight for hunting prey.

Long underbelly fur for warmth in extreme cold

Fur colours camouflage with rocks and snow

Long thick tail for jumping balance and blanketing around body for warmth.