HIGH ALTITUDE

GROUP 22

GROUP MEMBERS.

ADJEI CHRISTIAN.	9194919
AFTIFAH RODDICK BONSU.	9196519
KARIKARI ANN AGYAKOMAH TAWOAH.	9210419
BANGYA LOIS MBAMA.	9204219
TURKSON BEATRICE OFORIWAA.	9220019

INTRODUCTION

- High altitude environments are defined as those at and over 2500 masl (meters above mean sea level).
- These areas exhibit distinct atmospheric conditions

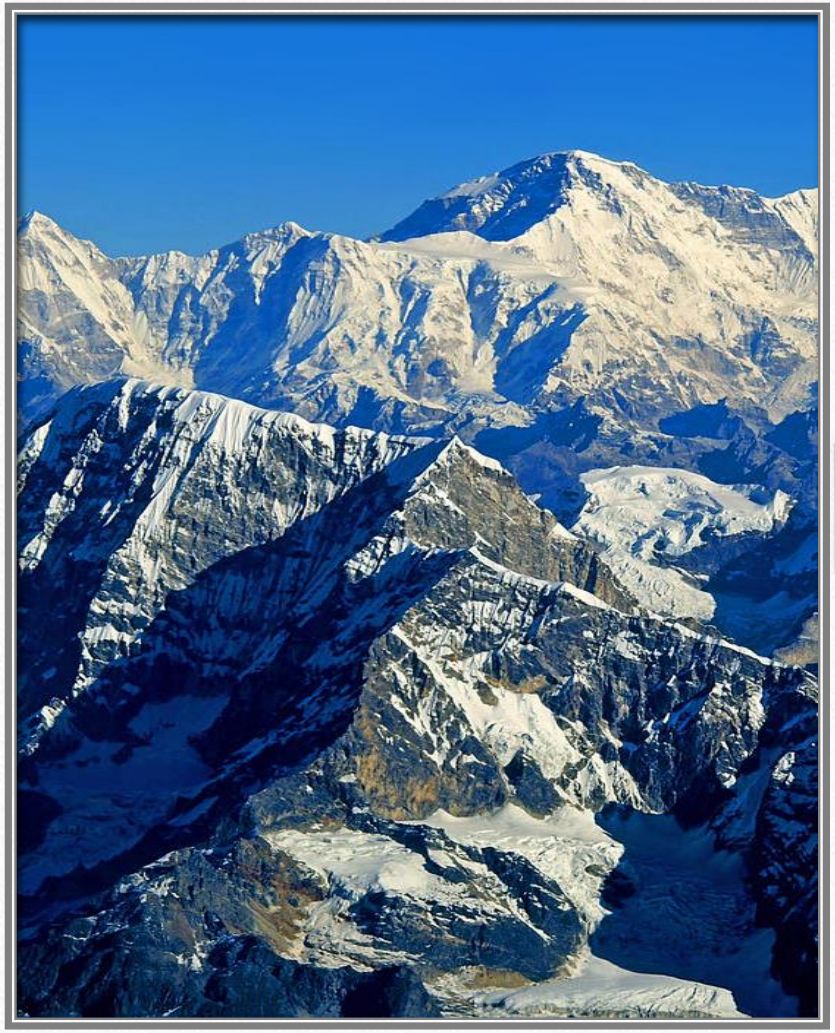
DEFINITION CONT'D

- High altitude (1500 to 3500 m)
- Very high altitude (3500 to 5500 m)
- Extreme altitude (above 5500 m)

EXAMPLES OF HIGH ALTITUDES

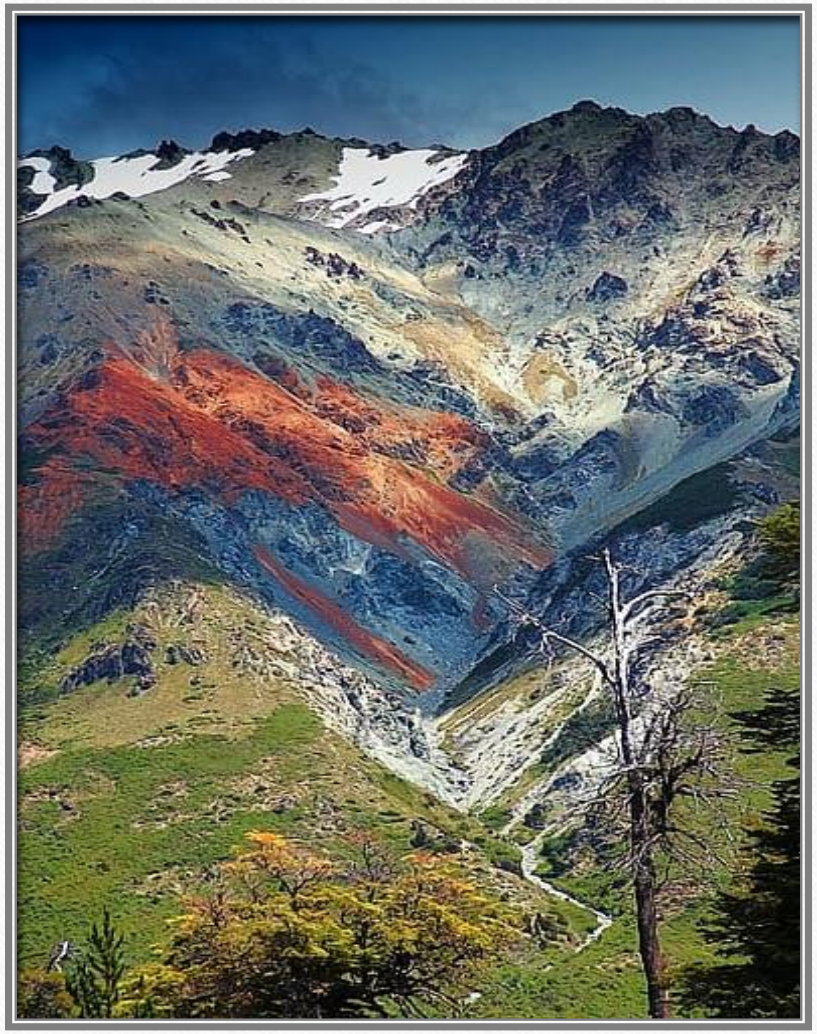
THE HIMALAYAS

- Spans across several countries including Nepal, India and Bhutan and Tibet.
- Home to the highest peaks on Earth.
- Examples include Mount Everest (8,848masl) Kanchenjuga (8486masl) and Annarpurna (8091masl).



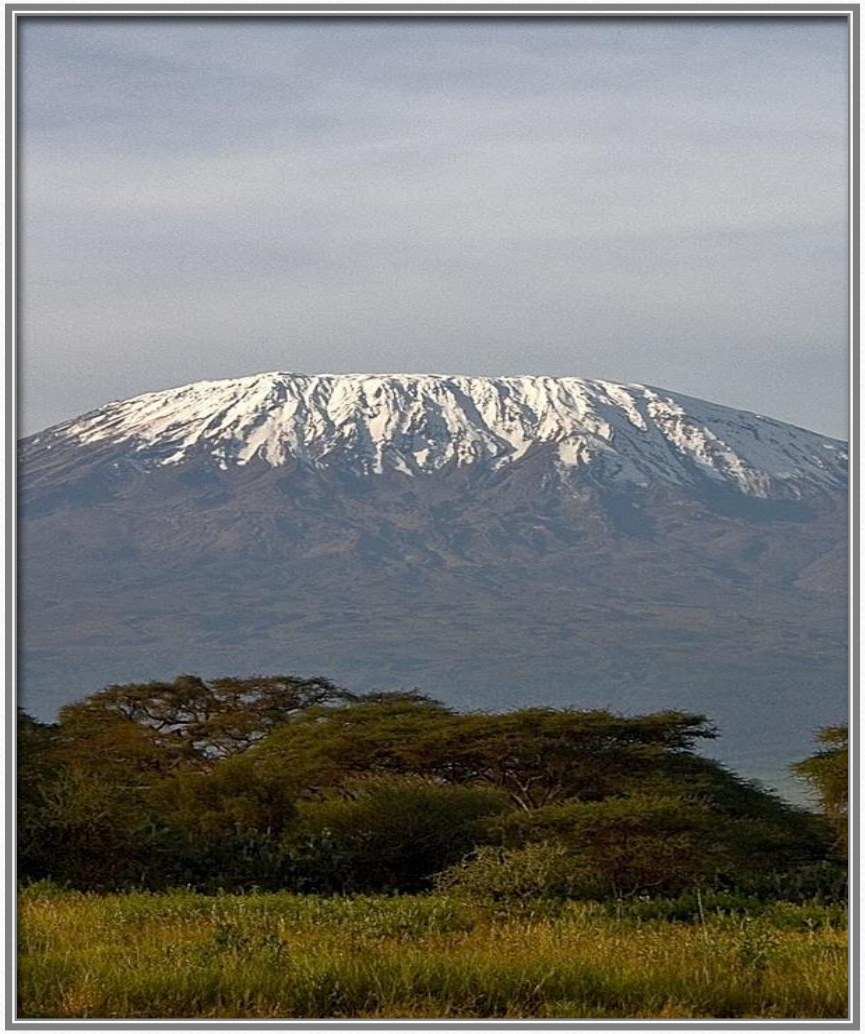
THE ANDES MOUNTAIN RANGE

- The longest mountain range in the world.
- Stretches along the coast of South American including Peru , Bolivia , Ecuador and Chile.
- This includes Mount Aconcagua in Argentina, the highest peak in the Andes (6961masl) and Huascaran in Peru (6768masl).



CONT'D

- Notable ones in Africa include Mount Kilmanjaro (5895masl) in Tanzania, Mount Kenya(the second highest mountain in Africa)



CHARACTERIC FEATURES

- Cold Temperatures
- High UV radiations
- Low oxygen level
- Decreased pressure
- Limited nutrient
- Rapid temperature fluctuations
- Glacial features
- Unique fauna and flora

EXAMPLES

- Alpine plants, such as the Edelweiss, are commonly found at high altitudes.
- The highest-altitude plant species is a moss (21,260 ft) on Mount Everest.
- The sandwort Arenaria bryophylla is the highest flowering plant in the world, occurring as high as 6,180 m (20,280 ft).
- Physiological adaptations of plants to high altitudes include:
- Small leaf size to reduce water loss and withstand harsh weather conditions.
- Deep root systems to access water in the rocky terrain.
- Ability to tolerate low temperatures and high levels of UV radiation.

EXAMPLES CONT'D

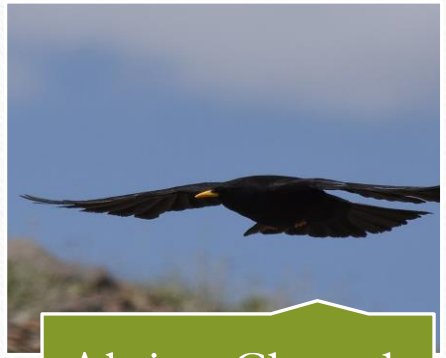
- Animals like the snow leopard, mountain goat, and pika are well-adapted to high-altitude environments.
- Physiological adaptations of animals to high altitudes include:
- Increased lung capacity to extract more oxygen from the thin air.
- Larger heart size to pump oxygen-rich blood efficiently.
- Efficient oxygen transport mechanisms, such as a higher concentration of hemoglobin in the blood.

Alpine Gentian

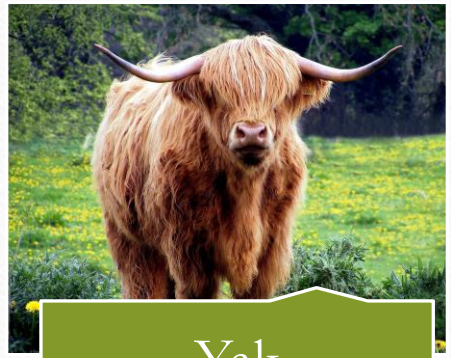
Mountain Goat

Snow Leopard

Pika



Alpine Chough



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CONCLUSION

- Organisms at high altitudes have evolved various physiological adaptations to survive and thrive in challenging environments.
- Understanding these adaptations can provide insights into the remarkable resilience of life in extreme conditions.

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