ANDEAN FORESTS: ENVIRONMENTAL SERVICES

Andean forests are extremely important for the **strategic environmental services** they provide. **40 million people** are directly dependent on the provision of environmental services of Andean forests.

---

**ANDEAN FORESTS: WATER AND CLIMATE CHANGE**

Future changes in the amount of rainfall and its seasonality will affect ecosystems by **increasing soil drought and reducing water retention capacity of soil** and, consequently, this could increase **flow variability**.

In the long run, changes in the volume of glaciers could cause considerable changes in the seasonal hydrology patterns of glaciers downstream.

Changes in **coverage and land use** may result in the modification of water yield.

---

**ANDEAN FORESTS: WATER AND CLIMATE CHANGE (cont.)**

In the long run, changes in the volume of glaciers could cause considerable changes in the seasonal hydrology patterns of glaciers downstream.

Changes in **coverage and land use** may result in the modification of water yield.

---

**ANDEAN FORESTS: BIODIVERSITY AND CLIMATE CHANGE**

Changes in temperature may reduce the area of **distribution** of ecosystems which would result in a decrease in the number of species.

A drop in biodiversity due to a reduction in the area of the ecosystem would be expected, but also an increase in the number of species due to higher temperature.

Along with climate change, variations in the climatic niches extensions of the Andean biomes are also expected as these would tend to show an upward **vertical displacement**.

---

**ANDEAN FORESTS: CARBON AND MITIGATION POTENTIAL**

Andean forests, moorlands and wetlands contain important **global carbon stocks**. These stocks are as large as, or larger than, those of the Amazon forests. This is due to high carbon stock in the soils of these forests.

**Climate change** could jeopardize the capacity of Andean forests to supply climate regulation services.

---

**HYDROLOGICAL SERVICES**

- High water production
- Water regulation
- Reduction or prevention of sedimentation

---

**ANDEAN FORESTS: BIODIVERSITY AND CLIMATE CHANGE (cont.)**

Changes in temperature may reduce the area of distribution of ecosystems which would result in a decrease in the number of species.

A drop in biodiversity due to a reduction in the area of the ecosystem would be expected, but also an increase in the number of species due to higher temperature.

Along with climate change, variations in the climatic niches extensions of the Andean biomes are also expected as these would tend to show an upward **vertical displacement**.

---

**ANDEAN FORESTS: WATER AND CLIMATE CHANGE (cont.)**

In the long run, changes in the volume of glaciers could cause considerable changes in the seasonal hydrology patterns of glaciers downstream.

Changes in **coverage and land use** may result in the modification of water yield.

---

**ANDEAN FORESTS: WATER AND CLIMATE CHANGE (cont.)**

In the long run, changes in the volume of glaciers could cause considerable changes in the seasonal hydrology patterns of glaciers downstream.

Changes in **coverage and land use** may result in the modification of water yield.

---

**ANDEAN FORESTS: BIODIVERSITY AND CLIMATE CHANGE (cont.)**

Changes in temperature may reduce the area of distribution of ecosystems which would result in a decrease in the number of species.

A drop in biodiversity due to a reduction in the area of the ecosystem would be expected, but also an increase in the number of species due to higher temperature.

Along with climate change, variations in the climatic niches extensions of the Andean biomes are also expected as these would tend to show an upward **vertical displacement**.