

3. Slovakia - Weather and Climate

A. Climate

- the northern temperate zone – *Name the seasons in our country.*

Weather is caused by the damp and cold *oceanic air masses* from the west of Europe. On the other hand, from the east of Europe, our weather is influenced by the dry and hot *continental air masses* resulting in hot summers and frosty winters. Temperature and precipitation is caused by changes in sea-level, slope aspect (north/south facing), segmentation of relief, etc.

B. Weather

= the current (actual) weather conditions

- Ø varied and caused by the location of the country located close to the polar fronts (colder polar air mass in the north and warmer subtropical in the south)
- Ø *Cyclones* = low pressure air masses
 - o blowing eastwards
 - o cloudy skies
 - o rainfall in warmer summer and snowfall in colder winter
 - o the most common during winter and spring
- Ø *Anticyclones* = high pressure air masses
 - o hot and dry summers but strong frosty winters
 - o the most common in autumn
- Ø *Static (anti)cyclones*: Icelandic Cyclone, Azorian Anticyclone, Siberian Anticyclone, Iranian Cyclone

C. Air Temperature

- ✓ it depends on the sea-level (100 m → 0,3°C-0,7°C)

- ✓ winter *temperature inversions* – *cold air descends* down the valley but it is sunny and warm on the top of mountains

Which areas are the coldest and which are the warmest ones?

C: W:

Which month is the coldest and which one is the warmest?

C: W:

D. Precipitation

...depends on the altitude, rain and snow is accumulated

= windward sides of mountains are damper

= after warming and rising upon the ridges while dry air descends behind mountains = rain shadow

June and July are the wettest months, the driest period is during January and February, snowy winters.

Give an example of dry area and a humid area in our country.

Dry: Humid:

E. Climatic zones

- Ø reflect spatial differences of climate in our land
- Ø it depends on altitude, by influence of continental location
- Ø **the warm climatic zone** – *lowlands*, lower hollow basins to 400 m asl.
 - these areas have more sunshine than other areas, there are the highest temperatures, moderate winters, little precipitation (520 – 750 mm)
 - the most fertile area (corn, wheat, sugar beet, pepper, watermelon, grapes, peach, apricot)
 - average temperatures = 8-10°C (Dunajská nížina lowland, Východoslovenská nížina lowland)
- Ø **moderately warm climatic zone** – *uplands*, bottom of hollow basins
 - e.g. Oravská kotlina hollow basin, Hornádska kotlina hollow basin
 - average temperatures = 4-8°C, 800-1200 mm of precipitation
 - rye, oats, barley, potatoes
- Ø **cold climatic zone** – the highest parts of mountains
 - over 800 m asl., high air humidity and lot of precipitation (1300 – 2000 mm – often the snow form)
 - average temperatures -3-4°C
 - woods, meadows, pastures.

Why do lowlands in Slovakia receive most of the sunshine?

F. Atmosphere

§ E + SE wind direction, polluted by transport and factories, e.g. energy, metallurgy, chemicals, construction

§ e.g. Zemianske Kostol'any, KE, ZH, BA, Nováky, SA, Strážske, Jelšava, Lubeník, BB, Rohožník, Lietavská Lúčka.

What is the name for the prevailing winds in our country?

Write these keywords down!