

## NORTH MACEDONIA



Source: esri

### General

North Macedonia - officially the Republic of North Macedonia - is located on the Balkan peninsula in South-eastern Europe. It was part of Yugoslavia. North Macedonia borders Serbia in the North, Albania in the West, Greece in the South, and Bulgaria in the East. The country has an area of 2.57 Mha (million hectares) with in 2020 a population of 2.08 million, or 0.8 persons per ha (Wikipedia and United Nations, 2019).

### Climate and geography

The northern and western parts of the country are relatively close to a Continental climate and the southern and eastern to a Mediterranean climate. The climate of the plains is a Mediterranean climate. North Macedonia has four seasons, but the lengths of the seasons varies based on geography. The spring is often very short. Summers are subtropical and it is not uncommon to see temperatures of above 40 °C during this season, especially in the plains along the valley of the Vardar River. Winters, although moderate, can be quite cold. Snowfall during winter is common and occasionally heavy. The average annual temperature of the air is 11.5 °C, but the plains experience higher temperatures, 15 °C. The warmest month is July, which has an average temperature of 22.2 °C and the coldest is January, with a temperature of 0.3 °C. The rainfall is abundant in the western and eastern parts of the country, but the temperature decreases significantly in the Vardar Region. This region sees warmer winters. The month of October is the wettest with 61 mm; the driest is August with 28 mm. Rains are most common in the spring and fall (source: Wikipedia).

North Macedonia is a landlocked country that is geographically clearly defined by a central valley formed by the Vardar River and framed along its borders by mountain ranges. The terrain is mostly rugged, located between the Šar Mountains and Osogovo, which frame the valley of the Vardar River. Three large lakes - Lake Ohrid, Lake Prespa and Dojran Lake - lie on the southern borders, bisected by the frontiers with Albania and Greece. The region is seismically active and has been the site of destructive earthquakes in the past, most recently in 1963 when Skopje was heavily damaged by a major earthquake, killing over 1,000 people.

### Existing polders

The Group Polder Development (1982) mentions that in the Pelagonia Valley polders were under study. At Google Earth it can be observed that at some places there should be polders, especially in the plains around the three large lakes.

It also looks like that there are polders in the floodplain of the Vardar River.

Some characteristics of the polders in Macedonia are shown in Table I

### Proposed polders

No proposed polders have been identified.

### References

Group Polder Development, Department of Civil Engineering, Delft University of Technology, 1982. *Polders of the World. Compendium of polder projects*. Delft, the Netherlands

United Nations, Department of Economic and Social Affairs, Population Division. 2019. *World Population Prospects, medium prognosis. The 2019 revision*. New York, USA.

*Bart Schultz*

*Lelystad, August 2022*

Table I. General characteristics of existing polders in North Macedonia

Name	Reclamation	Area in ha	Type *)	Latitudes	Longitudes	Elevation in m+MSL	Land use
Polders in the Pelagonia Valley			RLL	41° 11' N	20° 40' E	690	Agriculture
Polders in the flood plain of the Vardar River			RLL	41° 34' N	21° 57' E	159	Agriculture
Total							

\*) RLL = reclaimed low-lying land; LGS = land gained on the sea; DL = drained lake