

► THE CLIMATE OF TORUŃ (POLAND) BASED ON DOCUMENTARY EVIDENCE AND INSTRUMENTAL DATA

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Toruń is situated in the central part of northern Poland which has a temperate transitional climate. Early instrumental measurements and observations were undertaken there in 1740. Regular meteorological observations, however, were started by German meteorological service in the second part of the 19th century and were conducted till 1920. After the First World War, meteorological observations were continued by the Polish meteorological service. Quality control data sets were published for many years in yearbooks. Monthly series of air temperature and precipitation in Toruń in the period from 1871 to 2010 were standardized using Alexandersson's and Moberg's methods. The mean annual air temperature in the period from 1871 to 2010 reached 7.7°C. The warmest month in the analysed period was July with the mean temperature of 18.2°C and the coldest was January (-2.5°C). The mean air temperature in spring (7.3°C) was lower than in autumn (7.9°C). The coldest year was 1940 (5.6°C) and the warmest was 2000 (9.7°C). The mean annual sum of precipitation in the period reached 517.6 mm. The highest monthly total of precipitation was observed in July (76.8 mm), while the lowest occurred in February (24.6 mm). In the whole analysed period, the most humid year was 1980 (844.0 mm) and the driest was 1900 (304.2 mm). In the period from 1871 to 2010, a statistically significant trend in the air temperature was noted (0.1°C/decade). On the other hand, the precipitation revealed no significant changes.

► THE HISTORY OF THE OSLO TEMPERATURE SERIES STARTING IN 1837

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The Oslo series (60°N – 11°E) is not as well known as the Swedish series Stockholm and Uppsala, which are situated approximately at the same latitude as Oslo. This may be due to the shorter length of the Oslo series. However, the Oslo series is remarkable in the sense that two different observation systems were in use on the same site (Astronomical Observatory) for 57 years, 1877–1933. The astronomers were in charge of one of the series, with observation 5 times a day in wall cages, whereas the meteorologists were in charge the other one, with observations 3 times a day in a screen of type Wild, named after its constructor Heinrich Wild. This screen was a gift from the Russian institute in St. Petersburg. The parallel measurements show that the Wild screen was much overheated compared to the wall cage except in mid winter. In clear weather in summer the difference amounted to 2°C. In 1937 all observations at the Astronomical Observatory were stopped and resumed at a field near the new premises of the Norwegian Meteorological Institute at Blindern outside the city centre. A composite Oslo series based on the observations at the Astronomical Observatory and Blindern was established through a homogenisation process. No urban influence was detected in the series as the observations were from outskirts of the city. However, ongoing construction works near the present site may lead to an urban influence in the future. The linear warming trend during the 175 years of the composite Oslo series amounts to 1.4°C.