

Considering that the most serious problem connected with the atmosphere and the climate is climate change, this paper analyses the existing series of temperature and precipitation data and presents the main conclusions and recommendations of the Third Report on Climate Change in Catalonia (2016). We also discuss the local change of the climate caused by the urban reality and we deal with the heat island phenomenon within the Barcelona area. Additionally, the paper focuses on air pollution by sulphur and nitrogen oxides, ozone or particulate matter (PM), and its effects on the environment and people's health. We conclude by making some proposals and recommendations relating to the improvement of the official meteorology services and of the air pollution surveillance network; to the application of the provisions of Law 16/2017 on climate change; and to measures such as the greening of cities, energy transition, and others.