IV. AIR QUALITY IN THE CZECH REPUBLIC

The evaluation of air quality set forth in this yearbook covers the entire territory of the Czech Republic. Documentation of compliance with legal requirements including areas where none of the pollution limit values are exceeded is one of the fundamental principles of Directive 2008/50/ES. Where the targets for ambient air quality stipulated in this Directive are not met the member states are obliged to take measures towards compliance with the pollution limit values and long-term air pollution targets. Air quality assessment is carried out with regard to the protection of population health and the protection of ecosystems and vegetation.

The air quality was evaluated for this yearbook employing the calculation criteria in Annex I of Directive 2008/50/ES and Annex IV of Directive 2004/107/ES. These annexes set the data quality targets for ambient air quality assessment. According to Annex I of Directive 2008/50/ES and Annex IV of Directive 2004/107/ES, air quality may be evaluated only using data from monitoring stations at which the requirement of minimum data collection of 90% was met, not including losses of data as a consequence of regular calibration or normal maintenance of the instrumental technology. Without prejudice to Annex I of Directive 2008/50/ES, data collection and calculation of statistical parameters are based on the criteria set forth in Annex XI of this Directive. As a consequence of these changes, some of the data presented in earlier yearbooks may differ slightly from the data presented in this yearbook.

The concentrations measured at the monitoring stations form the basis for evaluation of the air quality. The monitoring network is densest in areas with the highest pollution concentrations but nonetheless covers the entire Czech Republic. The National Air Quality Monitoring Network (NAQMN), operated by CHMI, forms the backbone of monitoring stations. It consists of both automated monitoring stations (AIM) and manual monitoring stations (MIM), from which samples are analysed in the CHMI laboratories. At many locations, the air pollution is monitored simultaneously by both automatic and manual methods. The national pollution monitoring network is supplemented by the monitoring stations of other organisations and their measurements are also employed in evaluating the air quality.

Fig. IV.1 Colour scale in the legend of the areal maps of polluting substances for classification of areas by assessment thresholds and areas above the pollution limit.

	≤ lower assessment threshold
	lower assessment threshold – upper assessment threshold
	upper assessment threshold – limit value (LV)
	> limit value (LV)

Map interpretation is an essential starting point for indication of areas where the pollution limit levels are exceeded from the viewpoint of protection of human health, for which the legislation requires preparation of programmes to improve the air quality or regulatory rules. A new uniform colour scale was introduced to improve orientation in the area maps of pollutants where a specific colour corresponds to a particular level of the air pollution (Fig. IV.1). Red symbols indicate substantial exceeding of the pollution limit level; other basic thresholds between categories consist in the lower and upper assessment limits. The diagram maps clearly depict the trends in pollution level characteristics in 2009–2019.

The graphs showing a course of pollution characteristics of selected pollutants in agglomerations and in the whole territory of the Czech Republic since 2009 (if data are available) show variations of air pollution levels, variations of pollution levels during the current year and pollutant concentrations at individual monitoring stations. A new uniform colour scale has been introduced to improve orientation in the graphs where a specific colour corresponds to a particular type of station (Fig. IV.2).

This is a simplified classification, which is based on the official EoI classification, including subcategories (for more detailed explanation and details, see CHMI 2020d). In the tables in the annex, the stations with the highest values of air pollution characteristics in 2019 are listed by individual pollutants. The values are arranged in descending order and the grey background indicates exceeding of the pollution limit level.

	Simplified classification	EoI locality classification
	regional stations (REG)	B/R/xxx-REG
	rural stations (R)	B/R/xxx-NCI
	suburban background stations (SUB)	B/S/xxx
	urban background stations (UB)	B/U/xxx
	traffic stations (T)	T/x/xxx
	industrial stations (I)	I/x/xxx

Fig. IV.2 Colour scale in the legend of the graphs for classification of monitoring stations by a type of station (x signifies any letter in the classification)