Analysis of temporal variations of urban noise in a large city after the application of European Noise Directive

Rey-Gozalo G.

Barrigón-Morillas J.M.

Montes-González D.

Atanasio-Moraga P.

Vílchez-Gómez R.

Trujillo-Carmona J.

As indicated in the European Noise Directive, noise maps must be updated every five years. Recently, the third phase of application of the Directive has been completed, in which the results of the noise maps were communicated to the European Commission. A comparative study of the situation of urban noise in Madrid (Spain) from the values obtained through a set of monitoring stations distributed throughout the city is presented in this paper. The results show that action plans against noise have managed to reduce the sound values registered in the urban roads used to access and cross the city and in the residential roads. However, the urban roads that communicate the different areas of the city have not had any sound level variation. Residential areas with airports, railway stations or green areas have experienced an increase in sound levels. Therefore, for the coming years, the City Council of Madrid should consider new temporal and spatial sampling strategies based on "in situ" measurements.