Vol. 9 (1): 17-22 (2019)

BIOMONITORING OF SO2 SPATIAL DISTRIBUTION ON THE TERRITORY OF THE REPUBLIC OF MOLDOVA

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Received June, 2018; Accepted July, 2018; Published January, 2019;

DOI: https://doi.org/10.31407/ijees9103
UOI license: http://u-o-i.org/1.01/ijees/35690804

ABSTRACT

Based on the Air Quality Assessment Grades (GECA) and the Lichens Toxicity Scale (STL) versus SO2, developed by us, was tested the air quality, in 2007 and 2017, from 60 and 107 forest ecosystems and stations, respectively, in order to achieve air quality monitoring at national and international level by non-instrumental methods, for honoring Republic of Moldova's obligations under the Geneva Convention (1979). It was established that the moldavian forest ecosystems do not contain reserves to critical loads of SO2 pollution, the annual average for the vegetation season for dendrological species is 0.02 mg / m3 air, and for communities of lichens and cyanobacteria (organisms sensitive to pollution) - only 0.01 mg / m3. Lichens indication demonstrated that the current level of air pollution with SO2 is between 0.05 and 0.5 mg/m3, what indicates long-term, adverse effects, manifested in all studied forest ecosystems. Over 10 years, air quality has improved, particularly in the northern and central areas of the country, while the southern and south-eastern areas remained practically unchanged. Of the 107 ecosystems and stations, evaluated in 2017, it was found that in 10 forest ecosystems the air quality is assessed as *clean air*, 24 - *low polluted air*, 54 - *moderate polluted air*, 15 - *polluted air*, 4 - *high polluted air* and those with *critical polluted air*, were missing.

Keywords: lichens, bioindication, air pollution, SO_2, monitoring.