Country Fact Sheet

2018-2020

MOLDOVA

Introduction

This fact sheet was developed by the European Environment Agency under the air component of the EU funded ENI SEIS II East project with an objective to increase the use and public accessibility of air quality measurement data in the ENI East countries. The aim of this document is to describe the state of play of air quality monitoring and data management.

This factsheet was prepared by the team of experts from the European Environment Agency (EEA), Norwegian Institute for Air Research (NILU), 4sfera and the national experts from the Republic of Moldova.

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1.   Legal framework

- Law no.1515 from 16.06.1993 on environment protection:
http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311604
- Law no. 1422 from December 1992 on air protection:
http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=312772
- Law no.1536 from February 1998 on hydrometeorological activity:
http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311612
- Environmental Strategy (Government Decision #301 from 24th April 2014):
lex.justice.md/UserFiles/File/2014/mo104-109md/anexa_1_301.doc
- **L**aw #852 from 14.02.2002 on approving of the Regulation on trade regime and regulating of the use of halogenated hydrocarbons that deplete the ozone layer:
http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=313251
- Association agreement between Republic of Moldova and European Union (Law #112 from 02.07.2014).
http://lex.justice.md/md/353829
- Air protection Strategy which is at the promotion stage at the Government.

Other Regulations

- The Convention on Long-Range Transboundary Air Pollution (CLRTAP) (Parliament's Decision no. 399-XIII from 16.03.1995)
- Aarhus protocol on Persistent Organic Pollutants (Law no. 1018-XV from 25.04.2002)
- Gothenburg protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Signed by R.M on23 May 2000)
- Protocol on Heavy Metals (Law no. 1018-XV din 25.04.2002)
- Convention for the Protection of the Ozone Layer and The Montreal Protocol on Substances that Deplete the Ozone Layer (Parliament's Decision no. 966 from 24.07.1996)

2.   Institutional framework

1. Ministry of Agriculture, Regional Development and Environment (MARDE)
2. Hydrometeorological State Service (SHS)
3. Inspectorate for Environment Protection (IEP) or State Ecological Inspectorate
4. The National Bureau of Statistics (NBS)
5. Environment Agency (EA) - this institution is approved officially by the Government but not functional yet

Roles of the Institutions:
- MARDE – policy elaboration regarding air quality
- SHS–air quality monitoring

- IEP or IES –ensures atmospheric emission standards compliance from fixed and mobile pollution sources, inspects to detect and counteract negative impacts on atmospheric air, etc.
- EA– issues permits and prepares reports.
- NBS - develops statistical information on country outlook, social-economic development and provides statistics to the public authorities, economic entities, and citizens. NBS coordinates production and dissemination of the official statistics (of the country's official statistics bodies).
- MARDE and NBS vote annually the Common Order on approval of the report on environmental protection including how data is to be collected, which outlines responsibilities of both institutions in the process of data collection and processing.
- The "Air Protection" annual administrative report is approved by NBS and MARDE by a Common Order since 2009. These reports are collected by the local agencies of the MARDE and NBS performs the final processing, aggregating and compiling.

3.   Management of ambient air quality monitoring

- No reference laboratory.
- Two institutions ensure instrument maintenance:
    – INM-National Metrology Institute
    – CMAC- Centre of Metrology Applied and Certification
- Data from manually stations is sent by email.
- Accreditation certificate is delivered according to EN ISO / IEC 17025.
- Air quality data is compared with the national guidance.

Dissemination
- Statistical Yearbook of the Republic of Moldova (tables and graphs) http://www.statistica.md/pageview.php?l=en&idc=263&id=2193
- Publication "Natural resources and environment in Moldova" (tables, graphs and maps) http://www.statistica.md/pageview.php?l=en&id=3242&idc=350
- Publication "Territorial statistics" (tables) http://www.statistica.md/pageview.php?l=en&id=4290&idc=350
- Statistical databank (PC-Axis program, which allows: developing of individual tables; Constructing graphs, copying and exporting data) http://www.statistica.md/pageview.php?l=en&idc=407&nod=1&

Dissemination (SHS)
- The information on the air pollution level is available on the SHS web site www.meteo.md (maps, graphs, daily bulletin on air pollution), alert bulletin http://www.meteo.md/index.php/ro/maps/moldova
- http://www.meteo.md/index.php/calitatea-mediului/hri-zilnice-privind-poluarea-aerului-atmosferic/
- http://www.meteo.md/images/uploads/pages_downloads/Calitatea_aerului14091.pdf
- SHS Yearbook

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Dissemination (MARDE)
- State of the Environment in the Republic of Moldova 1990-2014
  http://old.mediu.gov.md/images/Anunturi/SOER_agregated.docx
- State of the Environment in the Republic of Moldova 2007-2010
  http://old.mediu.gov.md/images/documente/starea_mediului/rapoarte/nationale/p
  3_SM_eng.pdf
- Yearbook: "Environmental Protection in the Republic of Moldova"

At regional level
- Same for the whole country
- Regional Reference laboratory: NILU- Norwegian Institute for Air Research (chemical coordination centre)
- Instrument maintenance (including performance testing): Proficiency Testing – organized by NILU -yearly
- Documented quality control system: CMCAARM-is accredited according to EN ISO / IEC 17025
- Air Quality Reporting (ex. "real-time"-, monthly-, annual reporting): Annual reporting to NILU

4. Pollution source management related to air quality
- Participated in air quality research projects in EU on Air quality governance

5. Measurement Network

Number of stations
19 air quality monitoring stations: 17 are located in five large industrialized centres of the country:
- Chisinau: 6
- Balti: 2
- Ribnita: 2
- Tiraspol: 3
- Bender: 4

Other:
- Leova: Cross-border station
- Rezina (Mateuţi) – automated station that initially determines 12 parameters, now due to technical problems the measurement level is lower.

Station meta data
- Geo coordinates
- Station type (i.e. urban, suburban, rural)
- Station height above sea level

- Dominant emission sources
- Approximate distance to emission source (ex. meters to roadside)

<u>Instruments</u>
- Parameters measured:
  The automatic station initially measured- 12 parameters, now due to technical problems the measurement level is lower.
  <u>Basic pollutants</u>:
  - Particulate matter (*Total Suspended Particulate*)
  - Sulphur dioxide
  - Carbon monoxide
  - Nitrogen dioxide
  <u>Specific pollutants</u>:
  - Soluble sulphates
  - nitric oxide
  - Phenol
  - Formaldehyde
  - PM 10 and PM 2,5 in Chisinau

<u>Instrument models</u>
ПУ-4Э, ПУ-3Э, MIGUNOV-M822, ECHO PM, LVS-1, SS - 2000 Sequential Air Sampler

<u>Software</u>
- Data acquisition: Monitoring is carried out according to a set schedule (three times a day $7^{00}, 13^{00}, 19^{00}$)
- Database: Local, Regional and National

6. Conclusions from Regional AQ Workshops (September 2018 and November 2019)

<u>Status</u>
- Manual monitoring
- QA protocols in place
- Automatic station (no communication)
- No database

<u>Need for assistance</u>
- May require calibration/maintenance protocol for automatic equipment
- Review existing data (both automatic/manual)

7.   Conclusions from country visit (March 2020)

Status
- Moldova relies on discrete manual monitoring. Despite some automatic equipment has been operational, these have discontinued.
- E-Reporting tool, Raven demonstrated during visit.
- There is no IT infrastructure in place to centralize and gather data from existing and future automatic stations

Training requirements
- AQ Data management
- Management of AQ monitoring network
- Standardization and modelling
- Data reporting
- Setting up Reference Laboratory for AQ monitoring

Data exchange with EEA
- Raven tool installed https://raven.mediu.gov.md/.
- Up-To-Date hourly air quality data exchange is not possible (no functional automatic equipment).
- Up-To-Date air quality data exchange is possible with manual data on a daily basis.
- Provided technical assistance to convert data into Raven.
- Raven is to be set up with monitoring stations in the Chisinau and Balti networks.