Working Group on Environmental Monitoring and Assessment

Twenty-Fourth session, Geneva and online, 11-12 April 2022

Agenda Item 7. Progress in environmental monitoring and assessment, including institutional and regulatory mechanisms and infrastructure at the national level

Overview of existing environmental monitoring and assessment system of Georgia and latest developments in this regard

Presenter: Lasha Akhalaia

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Department of Environment and Climate Change
Ministry of Environmental Protection and Agriculture of Georgia

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Structure of the Presentation

I. Regulatory Framework

II. State of Environment Reporting

III. Environmental Indicators

IV. Ambient Air

V. Water

VI. Soil

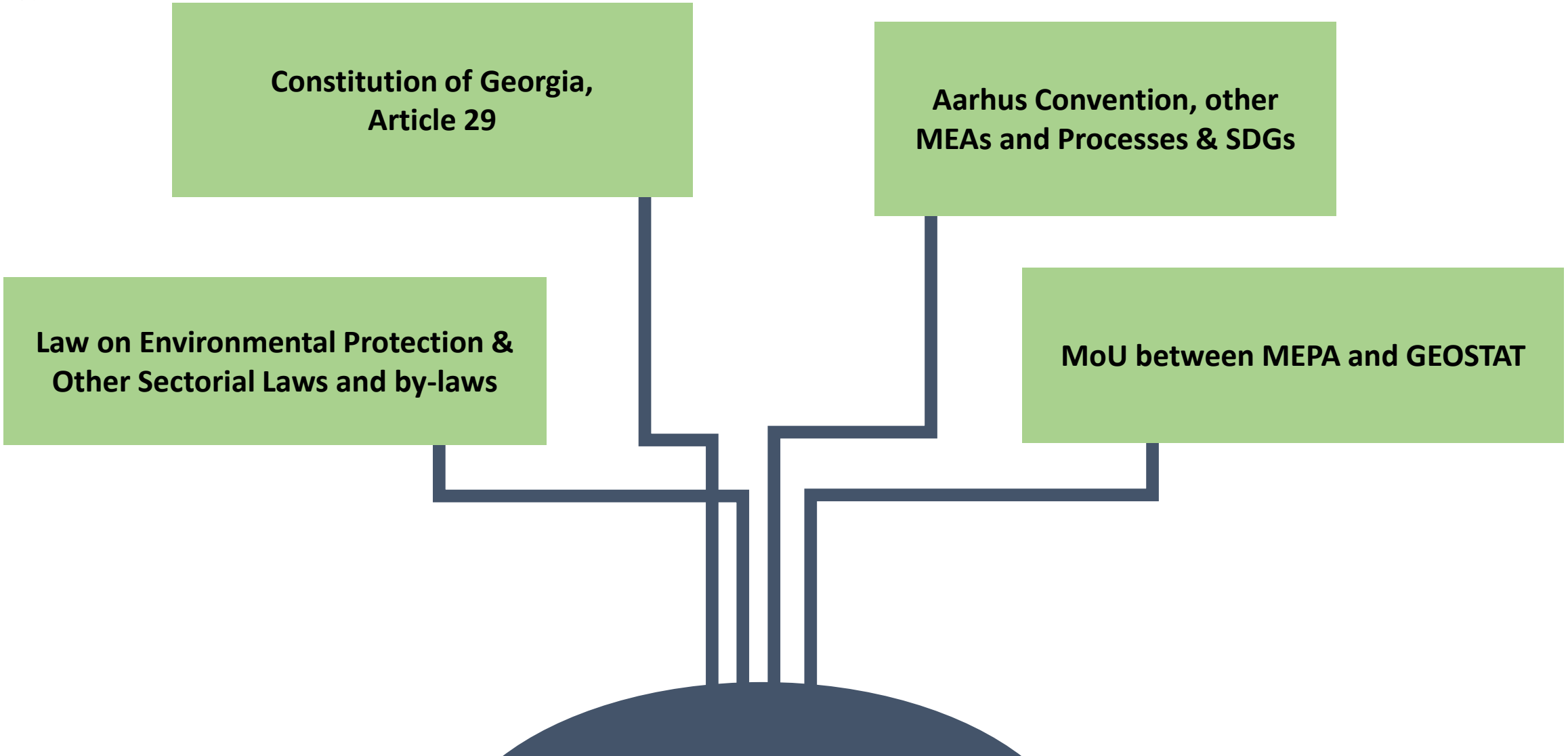
VII. Waste

VIII. Biodiversity

IX. Challenges

- Monitoring/data collection
- Data processing
- Data availability
- Data reporting

Regulatory Framework



State of Environment Reporting

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- SoER 2001
- SoER 2002
- SoER 2003
- SoER 2004
- SoER 2005
- SoER 2006
- SoER 2007-2009
- SoER 2010-2013
- SoER 2014-2017
- SoER 2018-2021

I: Socioeconomic factors affecting the environment

II: State of environmental components

2. Ambient air
3. Water resources
4. Land resources and soils
5. Mineral Resources
6. Biodiversity

III: Other environmental issues and risks

7. Climate Change
8. Natural Disasters
9. Wastes
10. Chemicals
11. Ionizing radiation

IV: Impact of economic sectors on environment

12. Fishery and Hunting
13. Agriculture and forestry
14. Transport
15. Industry and Energy

V: Environmental governance

16. Environmental Policy and Regulations
17. Environmental regulation and control
18. Environmental Education and Awareness Raising

Environmental Indicators

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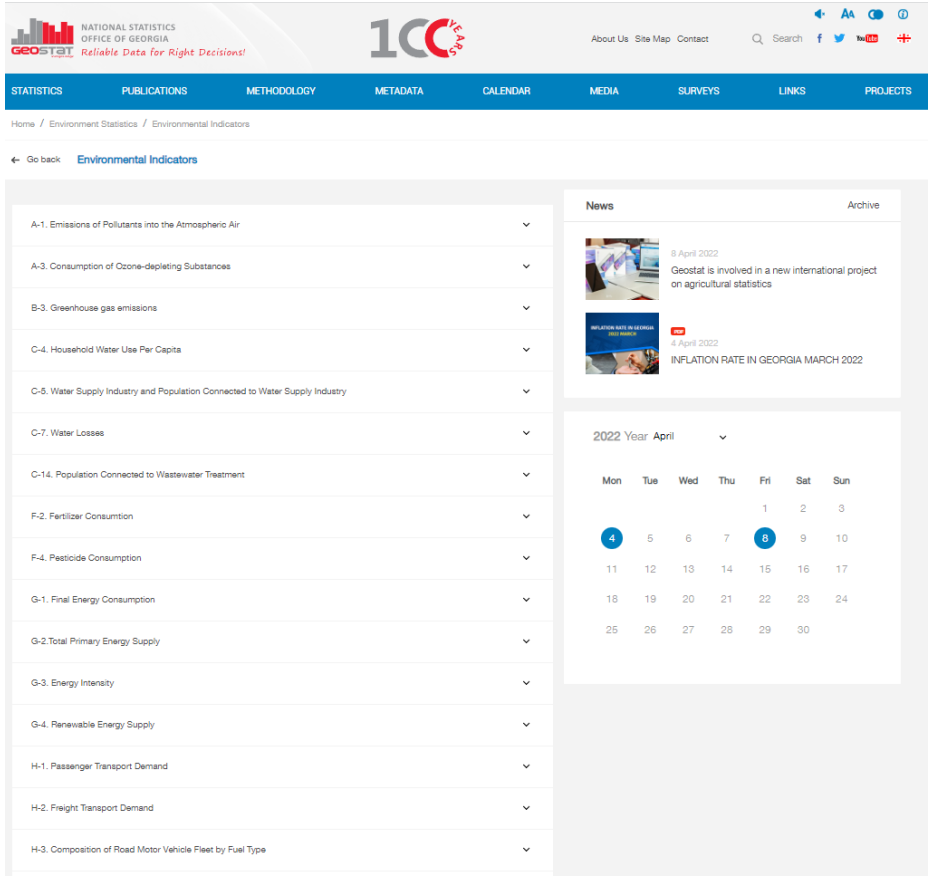
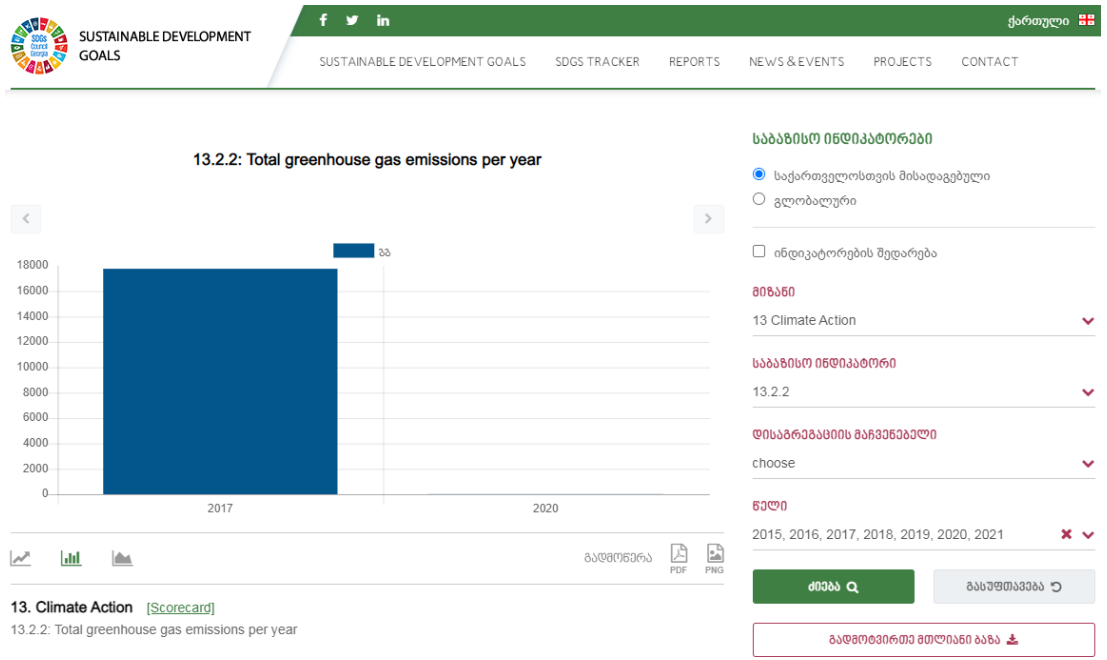
UNECE Indicators at www.geostat.ge



SDGs Indicators at sdg.gov.ge



Ambient Air Quality Monitoring Network

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2016

3 automatic stations were launched in Tbilisi

Passive samplings in 16 cities

2017

New stations in Batumi and Kutaisi

Passive samplings in 20 cities

2018

First automatic mobile station started operation

Passive samplings in 25 cities

2019

2 new stations were installed in Tbilisi and Rustavi

Passive samplings in 25 cities

2020

New Division for Ambient Air Quality Monitoring and Technical Maintenance

Air Quality Monitoring Network Development Plan

Passive samplings in 25 cities

2021

Purchasing of gravimetric equipment and 1 new mobile station

Air Quality Monitoring Standards Adopted

Passive samplings in 25 cities

2022

Purchasing of 9 new monitoring stations including 1 mobile

Passive samplings in 25 cities

Type	Quantity	Location
Mobile	1	
Automatic	7	Tbilisi, Rustavi, Kutaisi, Batumi
Non-Automatic	1	Zestaphoni
Gravimetric	1 sample per day	Tbilisi, Rustavi
Passive Sampling	More than 100 samples per quarter	25 cities

List of Monitored Substances

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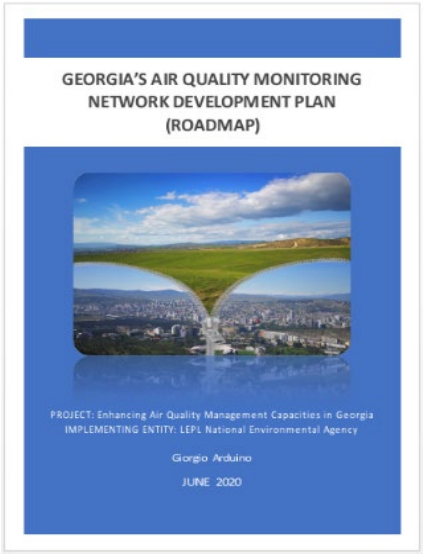
Automatic Stations	Passive Samplings	Gravimetric Equipments
PM10, PM2.5 – Particulate Matters	NO_2 – Nitrogen Dioxide	Cd - Cadmium
NOx – Nitrogen Oxides	O_3 - Ozone	Ni - Nikel
SO_2 – Sulphur Dioxide	C_6H_6 - Benzene	As - Arsenic
O_3 - Ozone		$C_{20}H_{12}$ - Benzo(a)pyrene
CO – Carbon Monoxide		Pb – Lead
MnO_2 – Manganese Dioxide (non-automatic)		
Pb – Lead (non-automatic)		



Zones & Agglomerations	NOx	SOx	CO	O3	PM10 & PM2,5	Lead, HMet, BaP	BTX	Optim n° St.
Agglomeration of Tbilisi	5	3	4	3	5	5	2	6
Black Sea Zone	5	3	3	5	5	5	1	5
West Zone	4	1	2	3	4	3	1	4
Central Zone	5	2	2	3	5	5	1	5
East Zone	2	1	1	2	2	2	1	3
High Zone	3	1	1	3	3	3	0	5
	24	11	13	19	24	23	6	28

Laboratory of the National Environmental Agency

სსიპ „აკრედიტაციის ერთიანი ეროვნული ორგანო – აკრედიტაციის ცენტრი“

აკრედიტაციის მოწმობა

EA BLA-ის ხელმომწერი

GAC-TL-0259

ადასტურებს, რომ

სსიპ გარემოს ეროვნული სააგენტოს გარემოს დაბინძურების მონიტორინგის დეპარტამენტის ატმოსფერული ჰაერის, წყლისა და ნიადაგის ანალიზის

საგამოცდო ლაბორატორია

მდებარე: ქ. თბილისი, მარშალ გელოვანის გამზ. №6

შეუსაბამა და აკმაყოფილებს საქართველოს სტანდარტის

სსტ ისო/იეკ 17025:2017/2018-ის მოთხოვნებს

აკრედიტაციის სფერო მოიცმულია აკრედიტაციის მონაცემების დანართში, რომელიც წარმოადგენს მის განუყოფელ ნაწილს.

აკრედიტაციის ცენტრის
გენერალური დირექტორი

რეგისტრაციის თარიღი
14 აპრილი 2020 წ.

ძალაშია
17 ივლისი 2023 წ.

0186 თბილისი, ალ. ყაზბეგის გამზ. №42ა

QA/QC of Ambient Air Quality Data

Project “Enhancing Air Quality Management Capacities in Georgia (I-II phases)”

- Guidance for Maintenance of the Ambient Air Quality Monitoring Network was elaborated;
- Air quality monitoring related 21 international and EU standards were adapted;
- Air Monitoring Data Verification and Validation Procedure was prepared;
- Air quality monitoring data validation software has been introduced;
- Capacity development activities/trainings for the Department of Environmental Pollution Monitoring were conducted to strengthen data processing and modeling capacities of NEA;

Public Access to Ambient Air Quality Data

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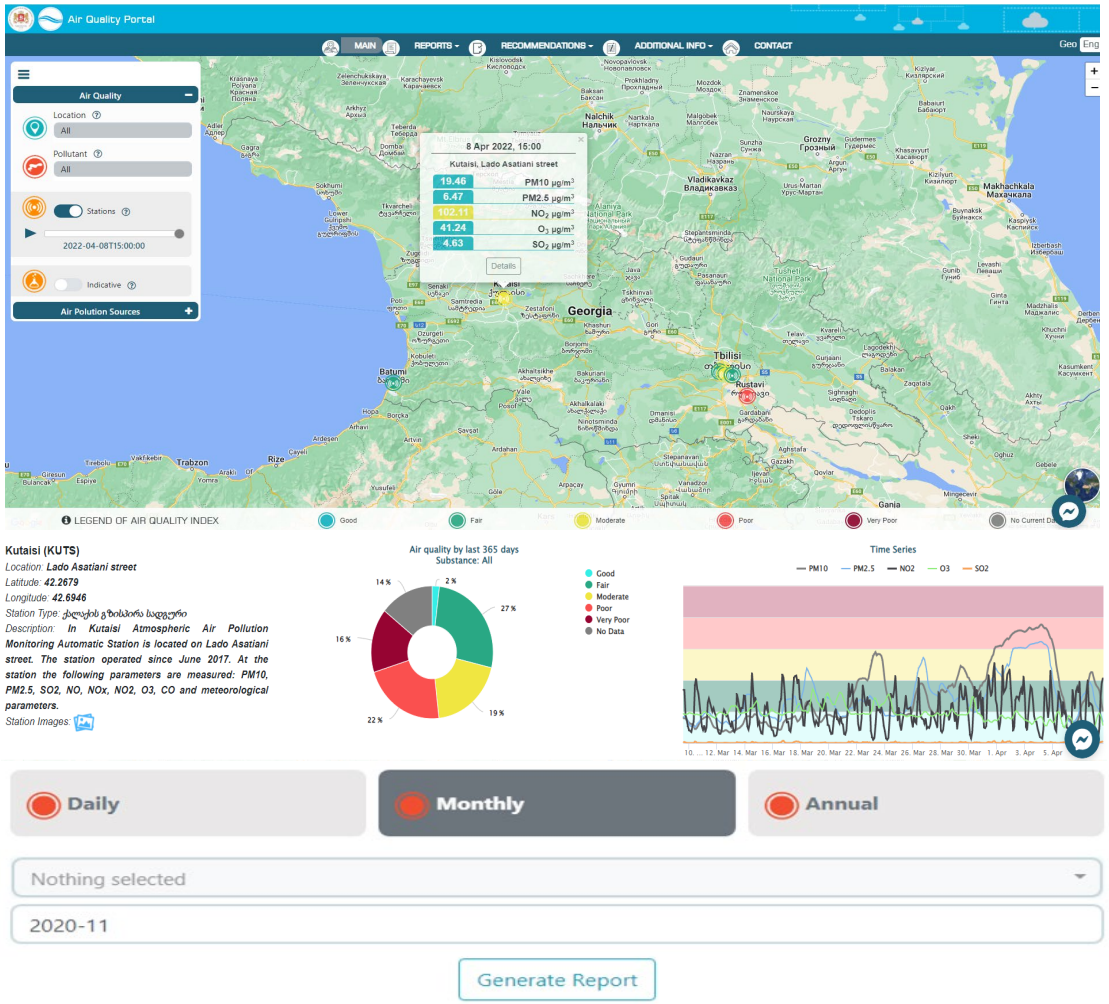
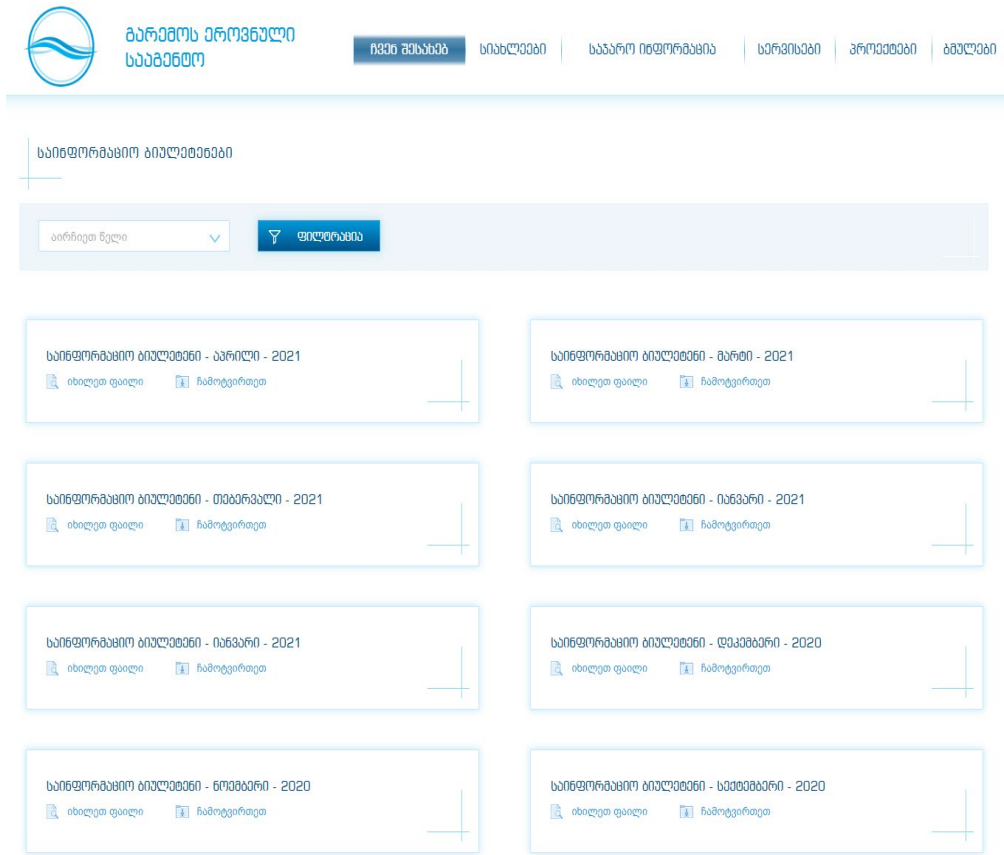
Air Quality Portal - Air.gov.ge



Monthly Bulletins - Nea.gov.ge



Collection and Availability of Ambient Air Emission Data

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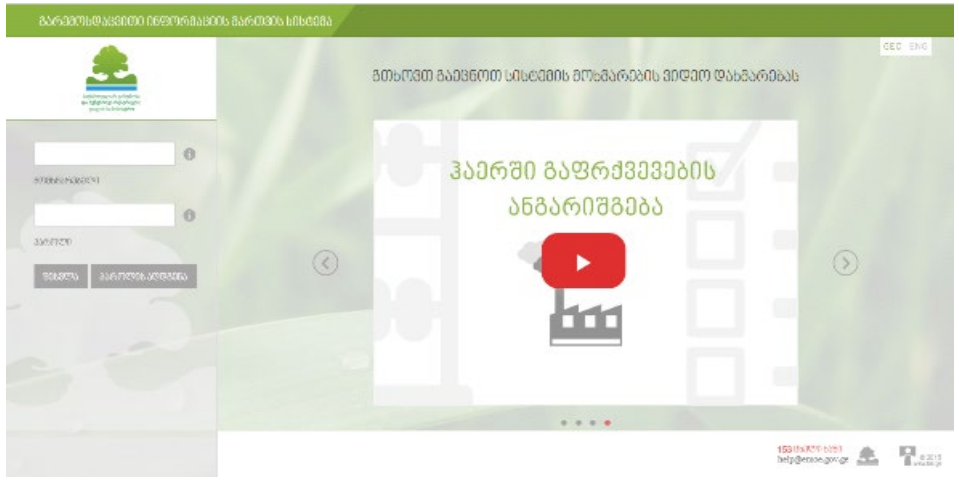
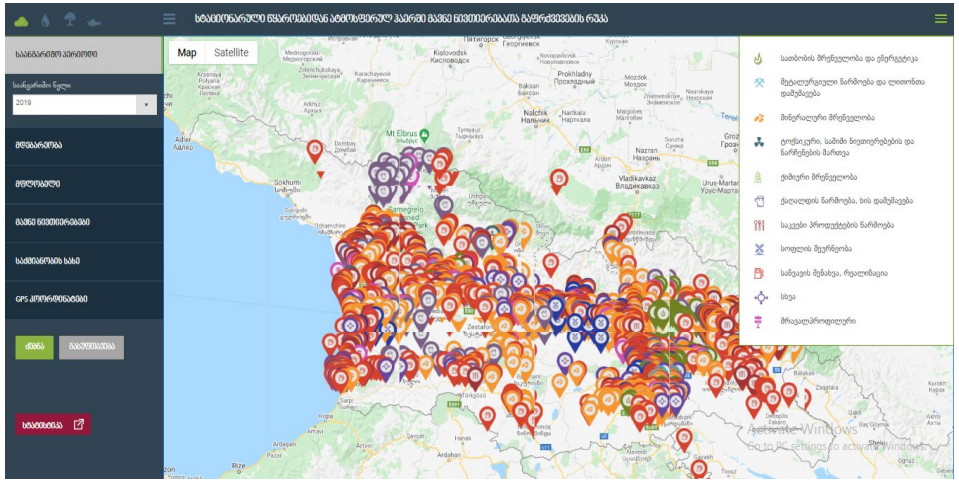
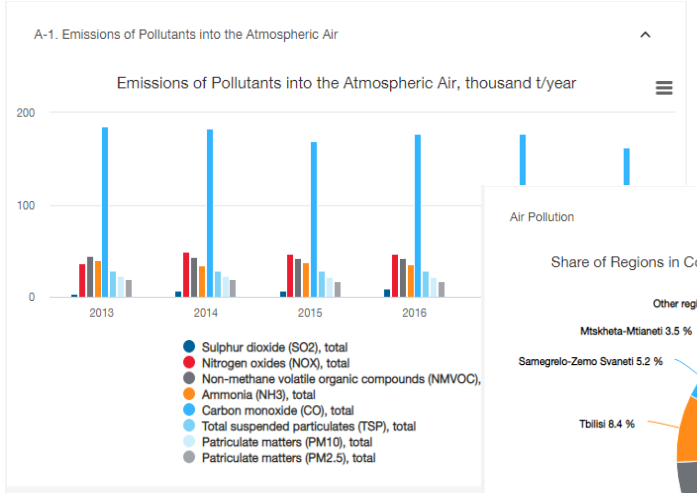
Electronic Air Pollution Reporting System from Point sources
emoe.gov.ge

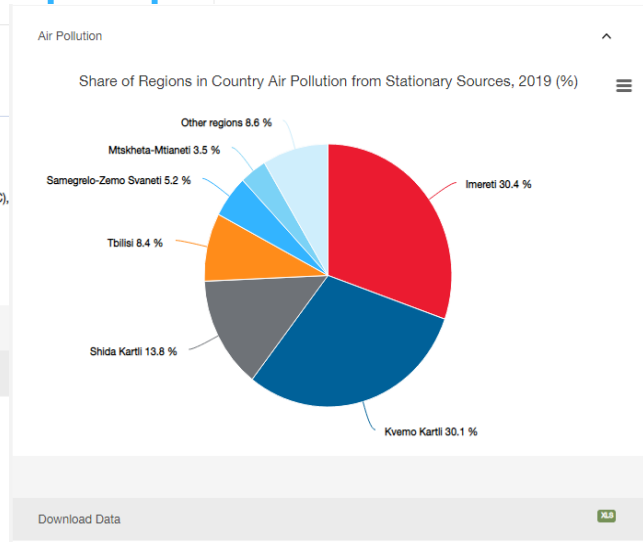


Map of emissions of pollutants into the ambient air from stationary sources -
Map.emoe.gov.ge



Aggregated data including UNECE Environmental Indicators
Geostat.ge





Air Emission Inventory and Projection Reports

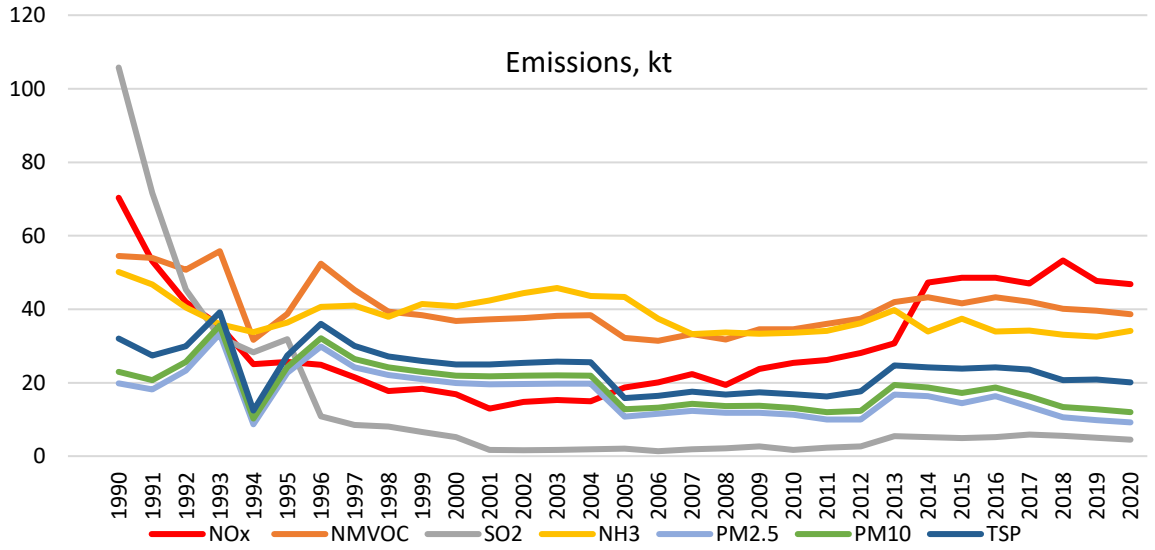
UNECE

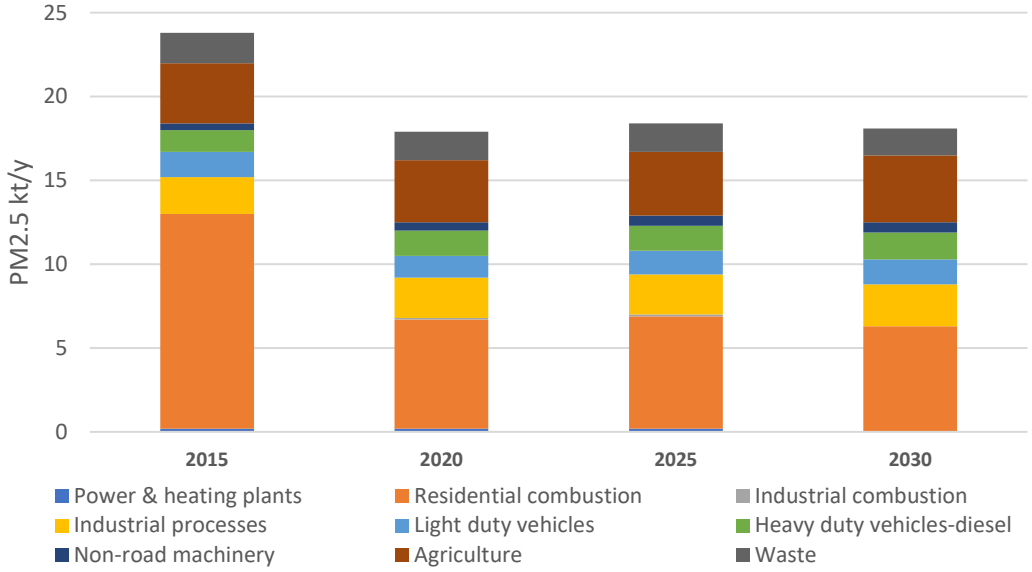
Inventory

- Time period required by international obligations fully covered
- Methodology for inventory fully in line with EMEP/EEA Guidebook 2019
- In total inventory implemented for 62 subcategory

Projection

- Emission projections for 2025 and 2030
- International obligation under CLRTAP implemented
- Efficiency of emission abatement measures and its prioritization assessed





Water Monitoring Network

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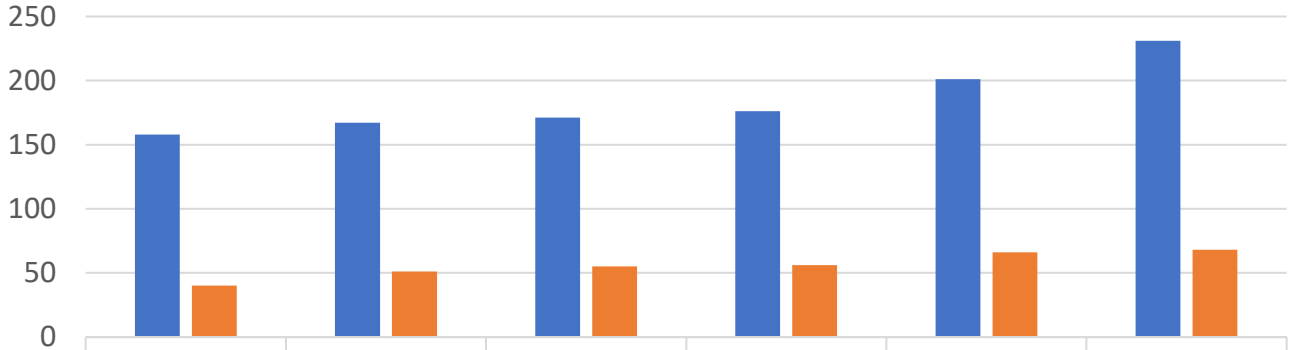
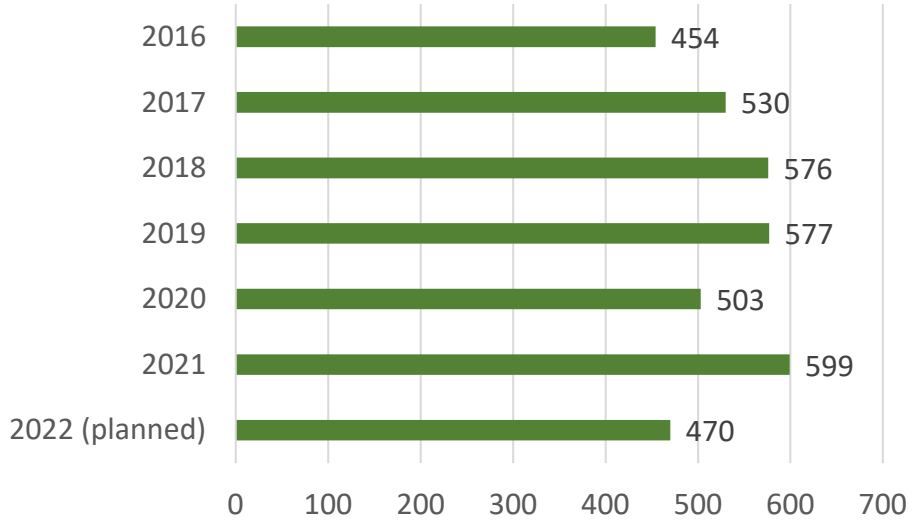
Number of Water Monitoring Points



	2017	2018	2019	2020	2021	2022 (planned)
Surface	158	167	171	176	201	231
Groundwater	40	51	55	56	66	68

Surface Groundwater

Number of Drinking Water Samples



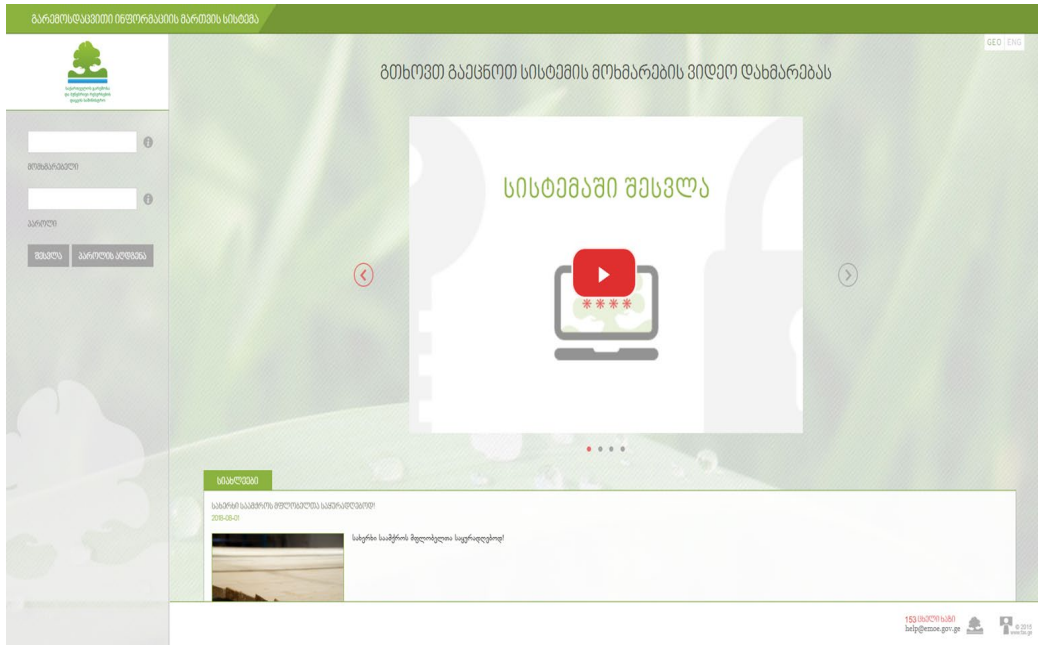
- **Surface water monitoring programme** has been developed in accordance with the EU Water Framework Directive;
- **Black Sea monitoring programme** was developed in accordance with the EU Marine Strategy Framework Directive.

Water Abstraction and Discharge Accounting

UNECE

Water Use State Accounting Online System

emoe.gov.ge



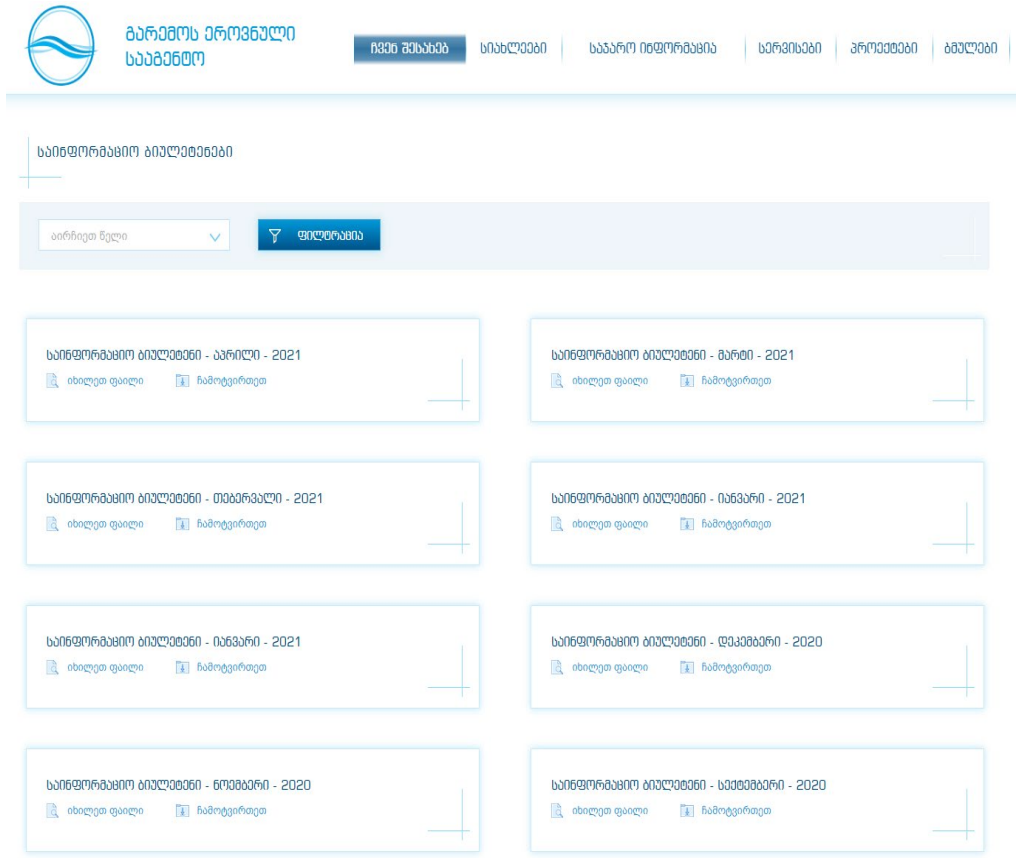
Water Use State Accounting Online System

- Launched in January, 2022;
- Obligation on **reporting** for:
  - All water user enterprises, organizations and institutions
  - All water users discharging water in sewage system and abstract water not less than 20 m^3/day
- **Annual reports** should be submitted to the MEPA before February 15

Public Access to Water Data

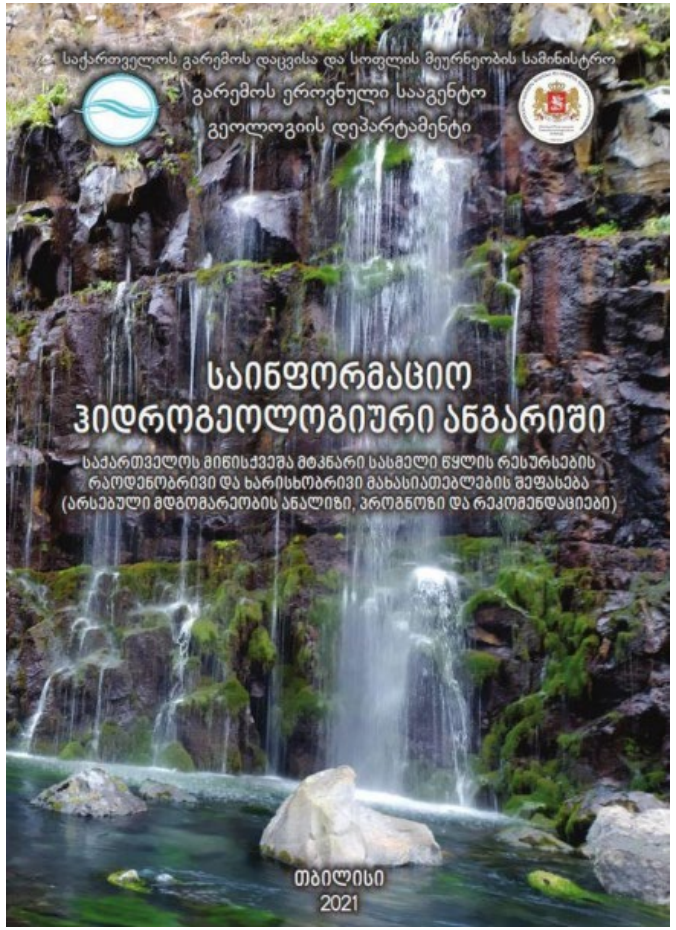
UNECE

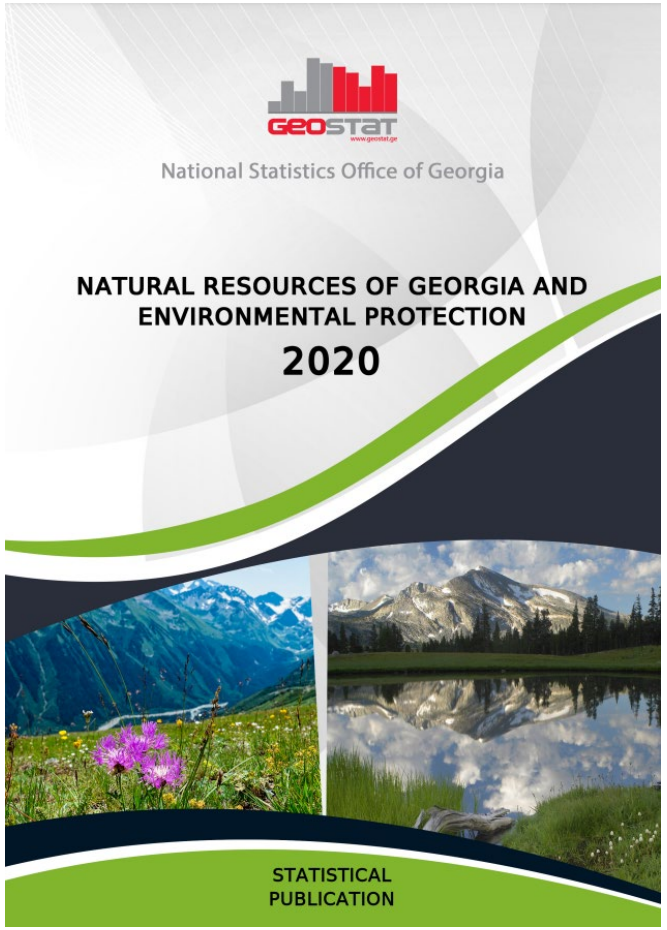
Monthly Bulletins - Nea.gov.ge



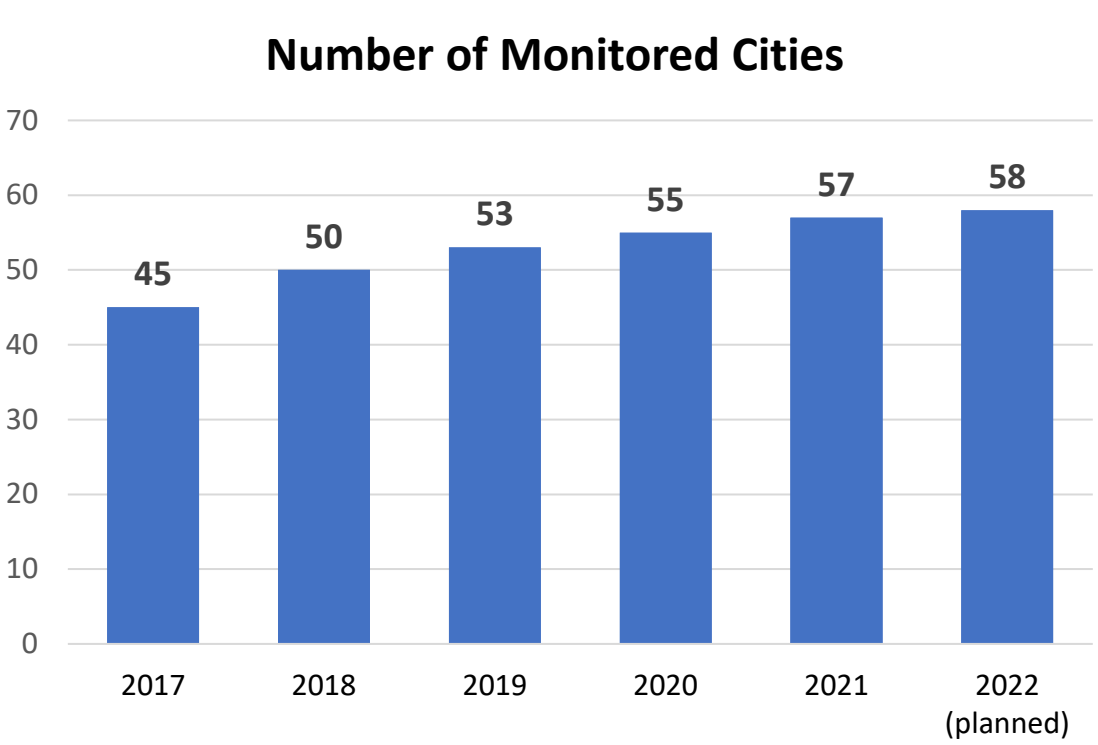
Water Information System of Georgia
Wis.mepa.gov.ge

Reporting on Water





Soil Monitoring Network



- A draft resolution of the Government of Georgia "On Approval of the Technical Regulation on Soil Pollution Quality" was prepared.
  - update the maximum permissible concentrations of heavy metal
  - determine the hygienic requirements of soil protection against adverse impacts of various activities
  - set out the rules for soil quality control;
- LEPL National Sustainable Land Management and Land Use Monitoring Agency were established in 2020 responsible for:
  - inventory of land resources
  - the creation of a land information system
  - setting up an annual land balance.

Waste Management Data Collection

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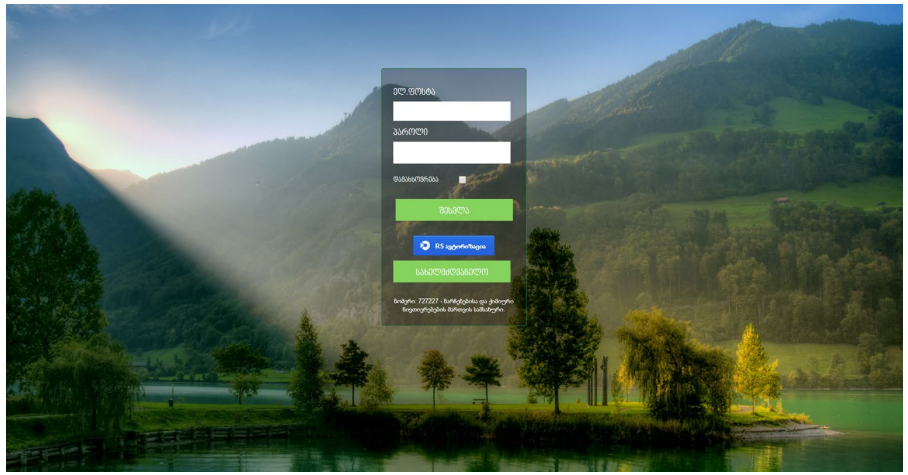
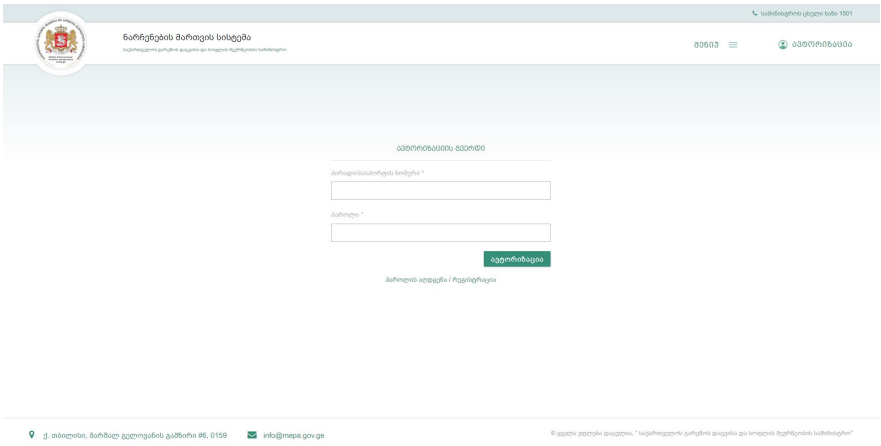
Waste Electronic Reporting System
waste.moe.gov.ge



Operators, whose waste management activities are subject to registration submit the annual waste accounting/reporting reports on:

- waste generation;
- waste disposal on landfills;
- waste collection;
- waste treatment.

Waste Management System for EPR
waste.mepa.gov.ge



- The system was launched in 2021
- **Goal** - to gather data on specific waste generation and management which fall under the Extended Producer's Responsibility (EPR) umbrella
- **Target** - Companies, responsible for the production/import of products that will become specific waste and EPR Organization
- **Reporting** – amount of the production and import of specific products plus data on the collection and management of relevant waste in the future

Access to Waste Management Data

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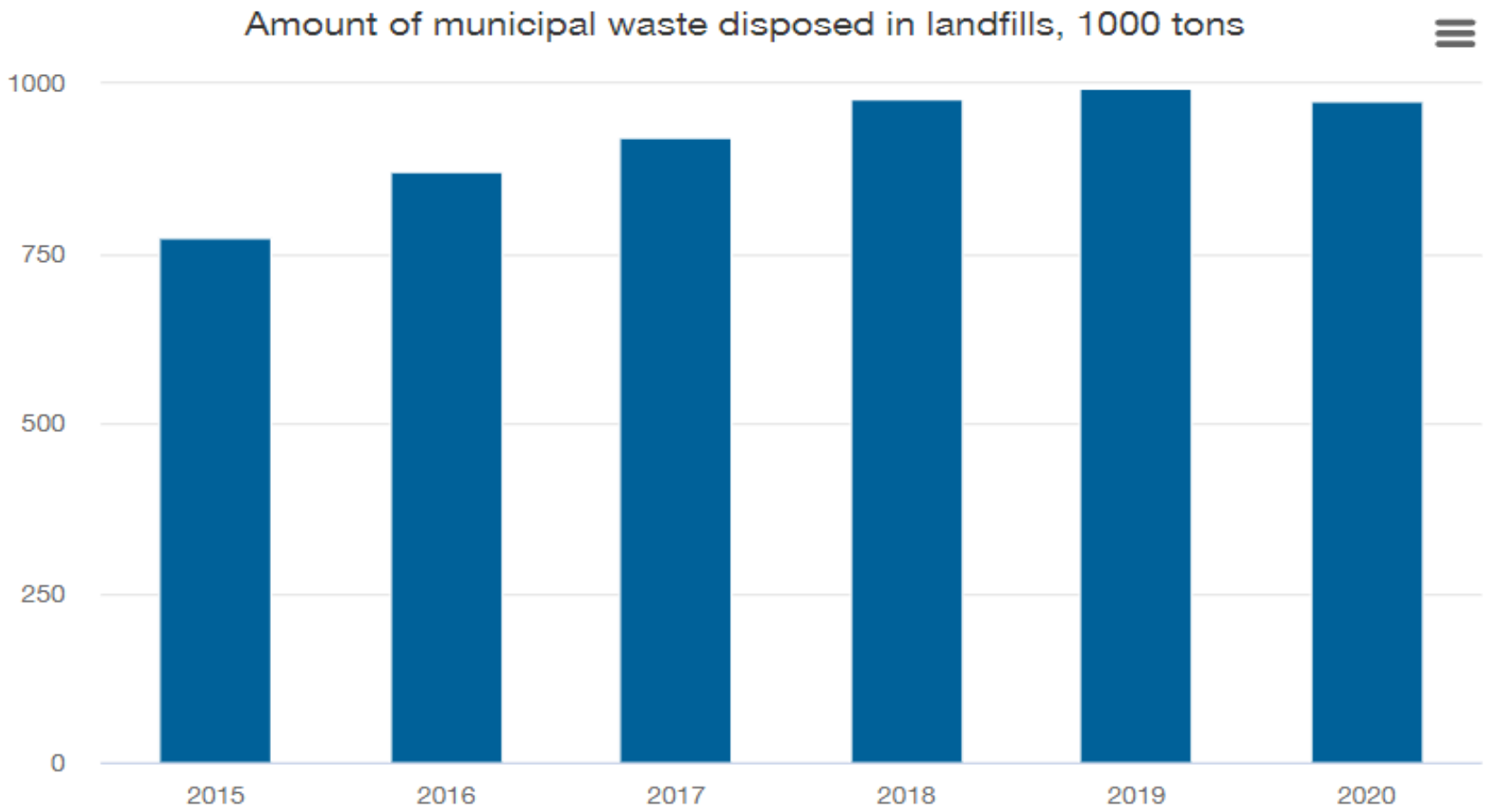
Information on waste disposed in landfills
Geostat.ge



Reporting on Waste

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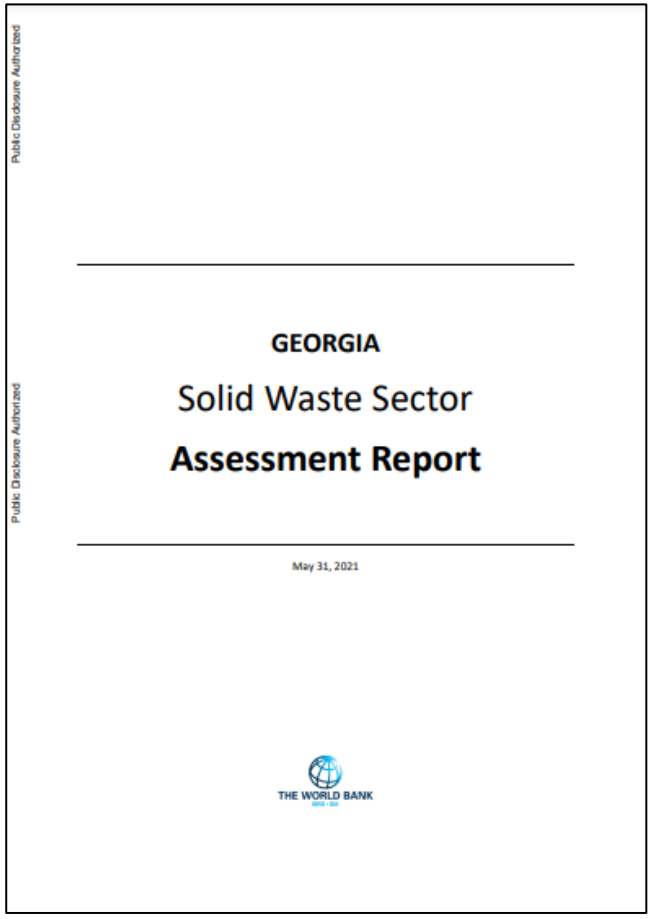

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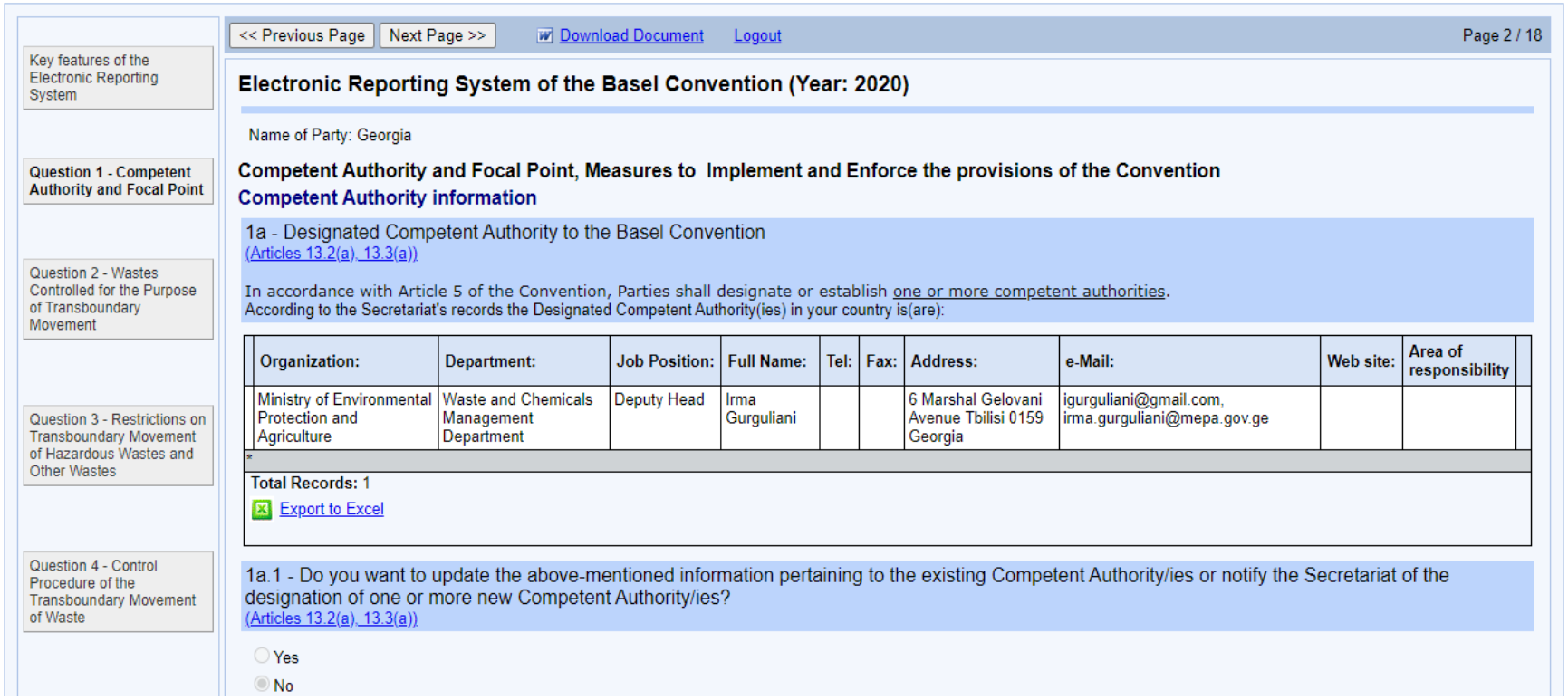
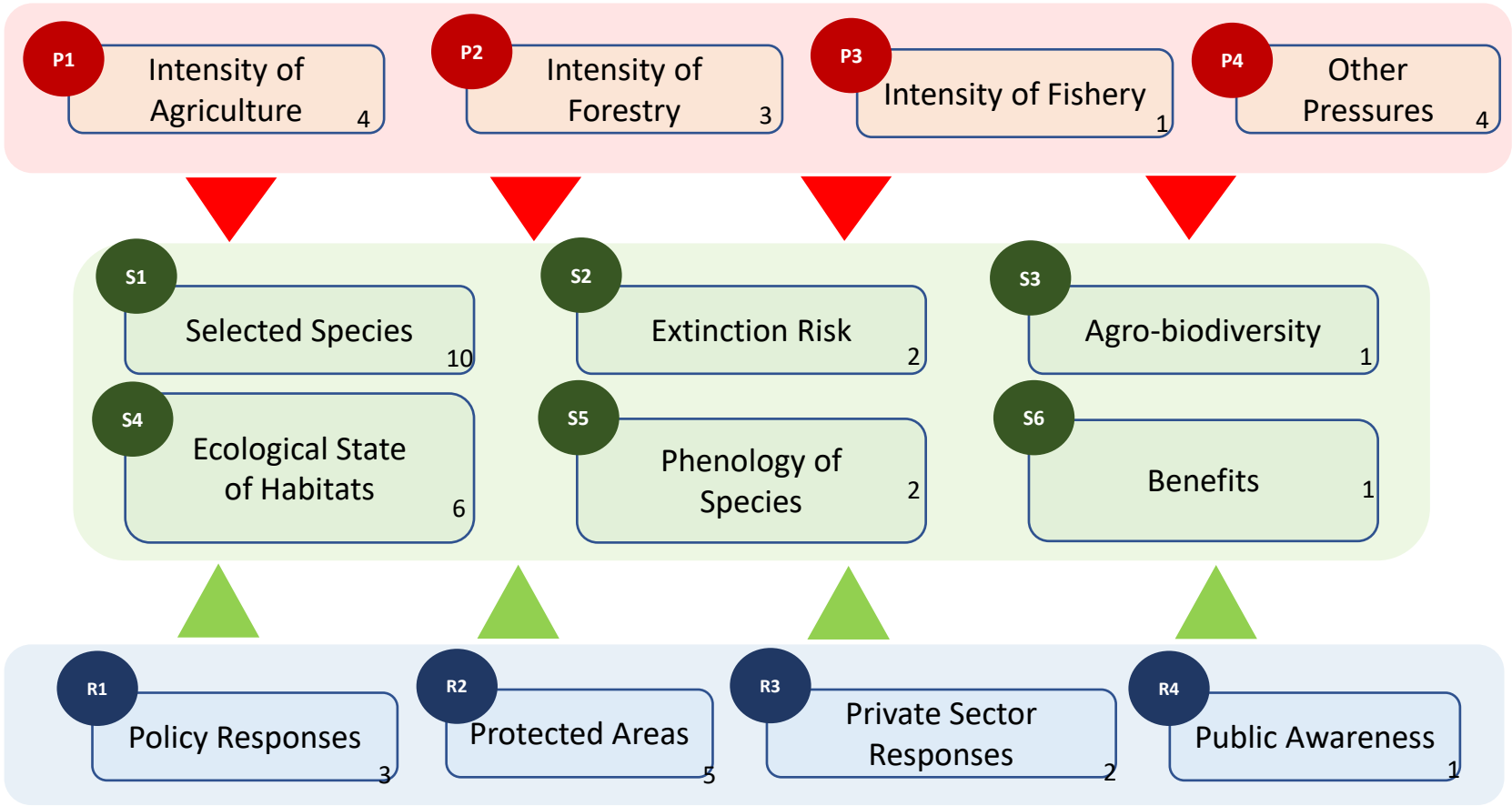
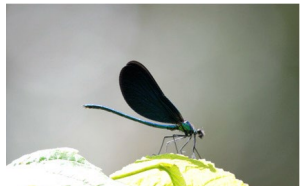


National Biodiversity Monitoring System



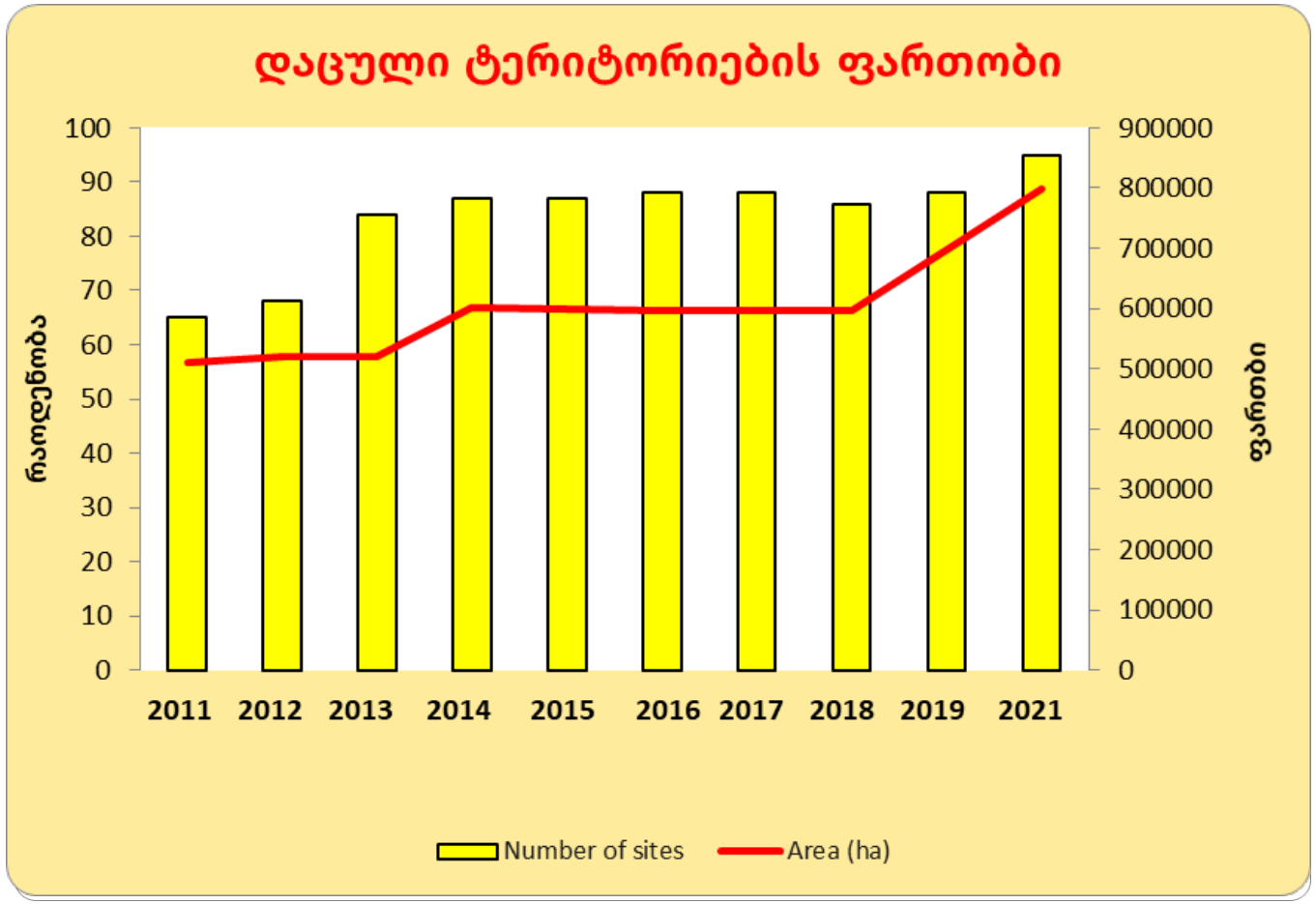


Current Steps

- Establishment of the technical facility for the raw data flow among data producers and users
- Creation of legislation and institutional basis, including clear distribution of responsibilities among the responsible agencies and other organizations
- Possible shortening of list of NBMS indicators as a result of prioritizing

Use of NBMS indicators in 2021

- World Database on Protected Areas (WDPA)
- SDG indicators: 15.1.1; 15.1.2; 15.2.1
- UNECE _ SEBI indicator reporting
- Annual progress reporting on national level
- List of international agreements:
  CBD, Bern Convention, CMS, AEWA,
  Ramsar Convention
- Everyday decision making processes
- Defining priorities of surveys and research work
- Defining Policy of Protected area Network development



National Forest Inventory in Georgia 2019-2021

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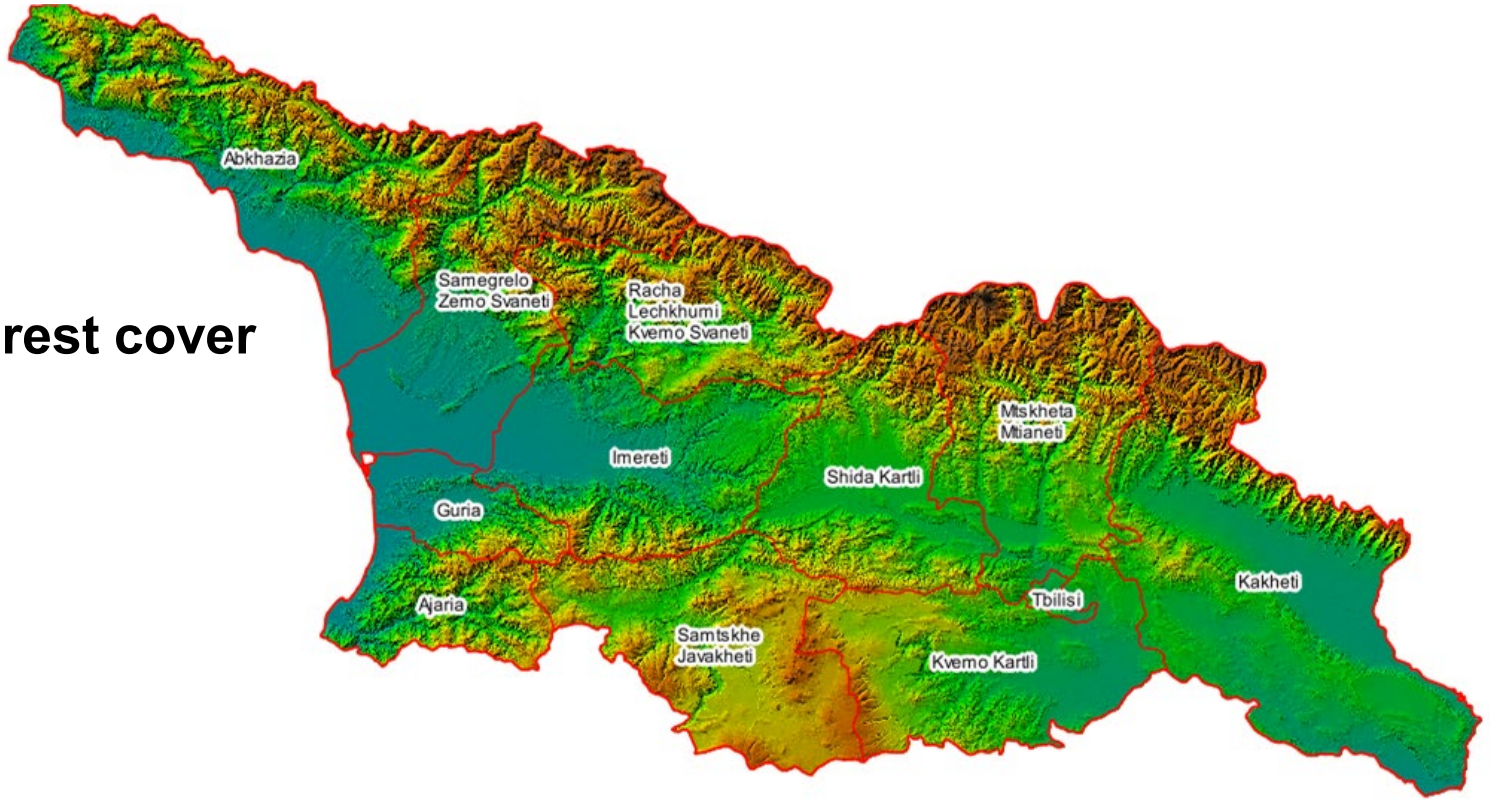
43% of forest cover



Partners giz Austrian Development Agency

IUCN

The World Bank

WWF

Forest Information and Monitoring System (FIMS)

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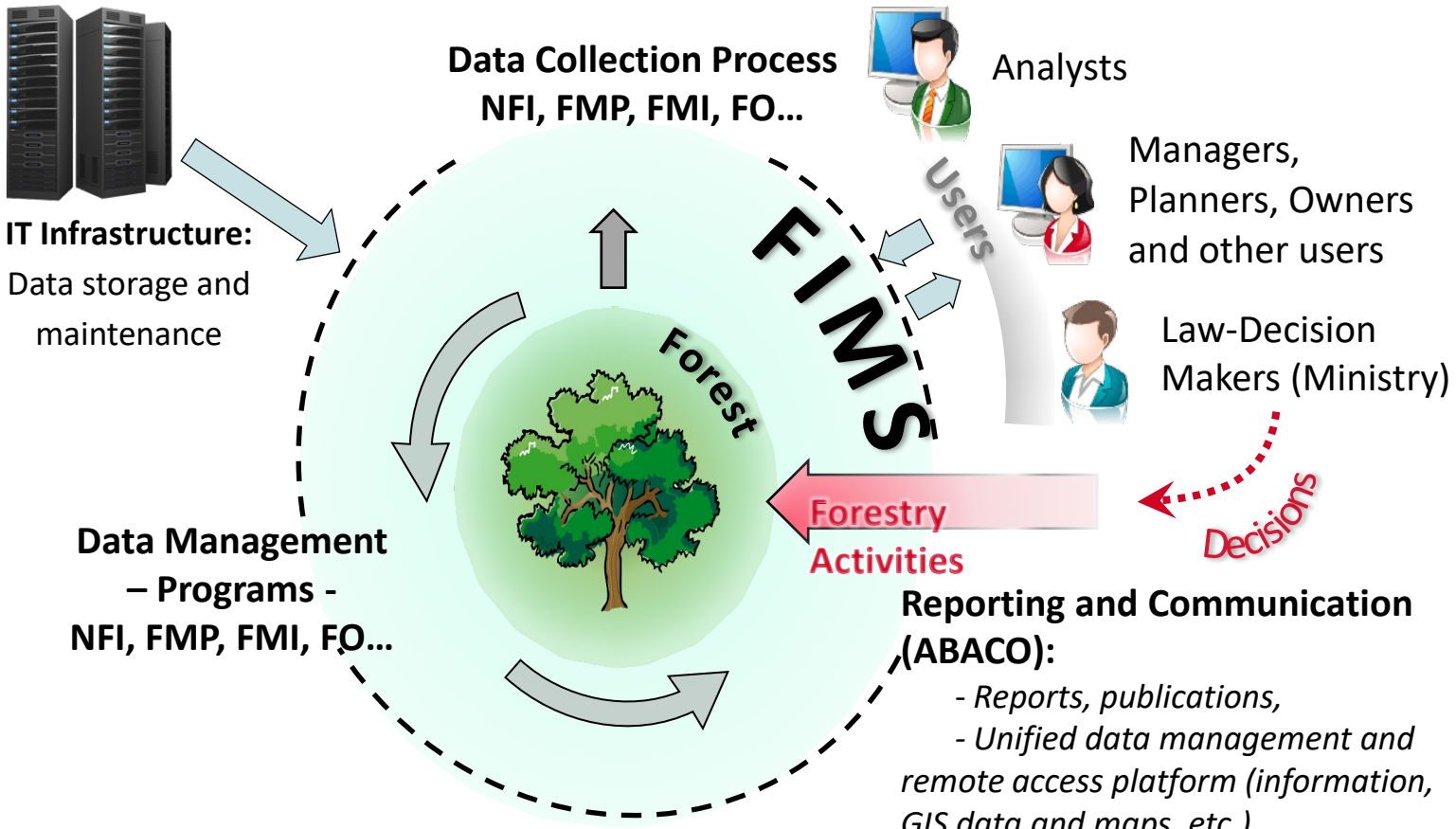

Modules of FIMS

1. Control of Sawmills
2. Control of movement of timber resources
3. National Forest Inventory
4. Management Level Forest Inventory
5. Forest Use
6. Forest Maintenance-Restoration
7. Monitoring, Reporting and Verification (MRV)
8. NBMS
9. **Public Access Platform**

გერმანიის თანამშრომლობა DEUTSCHE ZUSAMMENARBEIT

giz

Public Access to Information on Biodiversity/Forest

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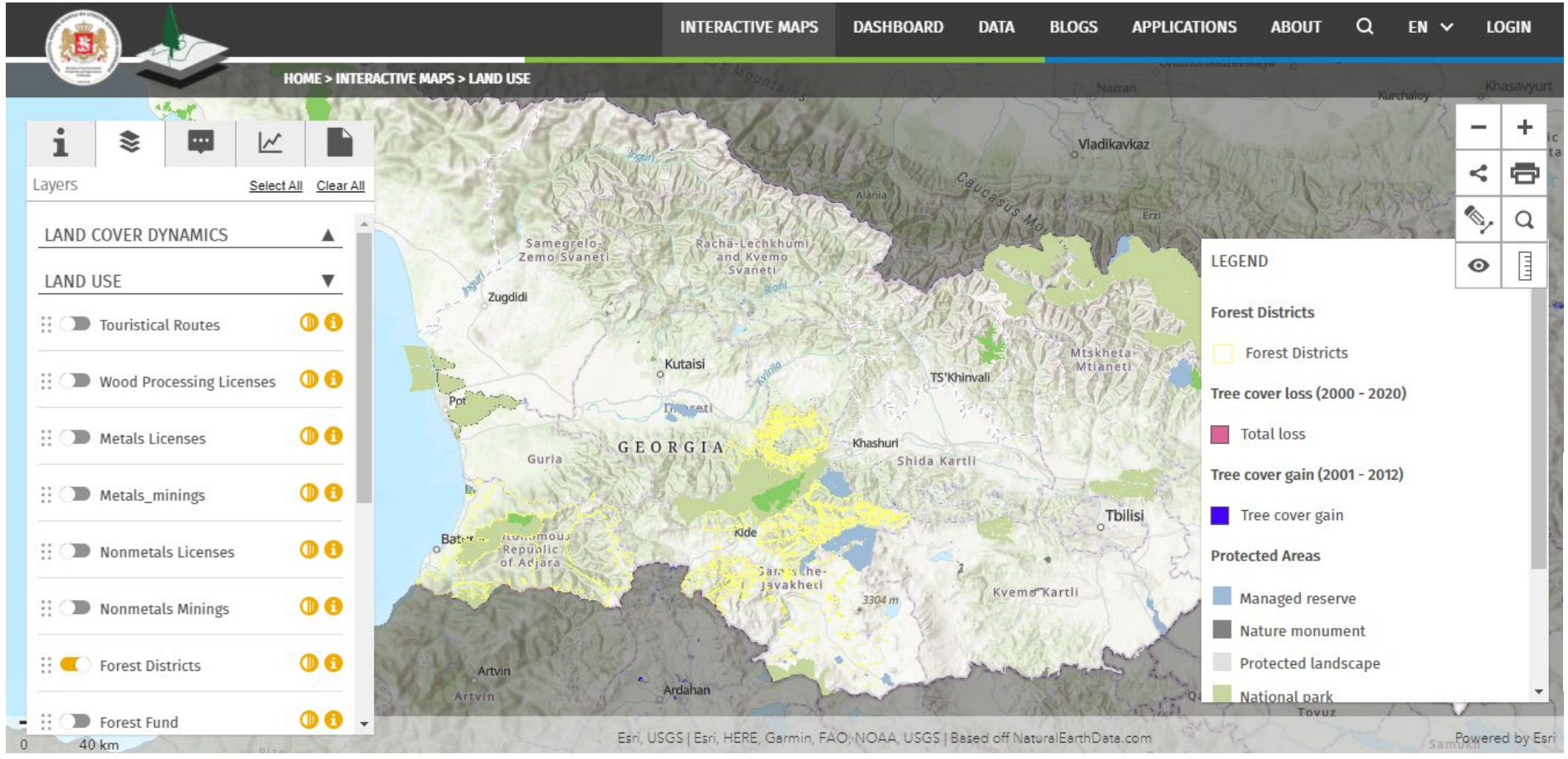
Forest and Land-Use Atlas of Georgia

atlas.mepa.gov.ge

WORLD RESOURCES INSTITUTE

GLOBAL FOREST WATCH

UN environment programme



Ministry of Environmental Protection and Agriculture of Georgia

esri

gef

Challenges

- **Air** - Insufficient air quality monitoring stations; Lack of qualified staff and financial resources to properly maintain air quality monitoring stations all over the country; Absence of air quality modeling and forecasting system; Lack of established procedures for air quality data verification and validation.
- **Water** - Lack of qualified staff and administrative resources for surface water quality monitoring. Incomplete legal framework. Absence of a water classification system in accordance with the EU Water Framework Directive.
- **Soil** - Outdated quality standards for soil; Absence of modern methodology for soil pollution monitoring and assessment; Lack of qualified staff and administrative resources.
- **Biodiversity** - Absence of legal framework for biodiversity monitoring; Lack of human and financial resources to conduct monitoring.
- **Forest** - Forest Information and Monitoring System (FIMS) is still under development; The regulatory framework is not fully in place.
- **Waste** - Incomplete waste management electronic system that complicates aggregation of reported data on waste (including hazardous) generation, transportation, recycling, and disposal.

Thank you!

Lasha.Akhalaia@mepa.gov.ge

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