



UNDP-GEF Project Experience in Piloting Forest Fire Prevention Measures in Mountainous Forest Ecosystems of Armenia

Second International Workshop

**“STREAMS-2-SUPPRESS-FIRES-Utilizing Stream
Waters in the Suppression of Forest Fires with
the help of New Technologies” Project**

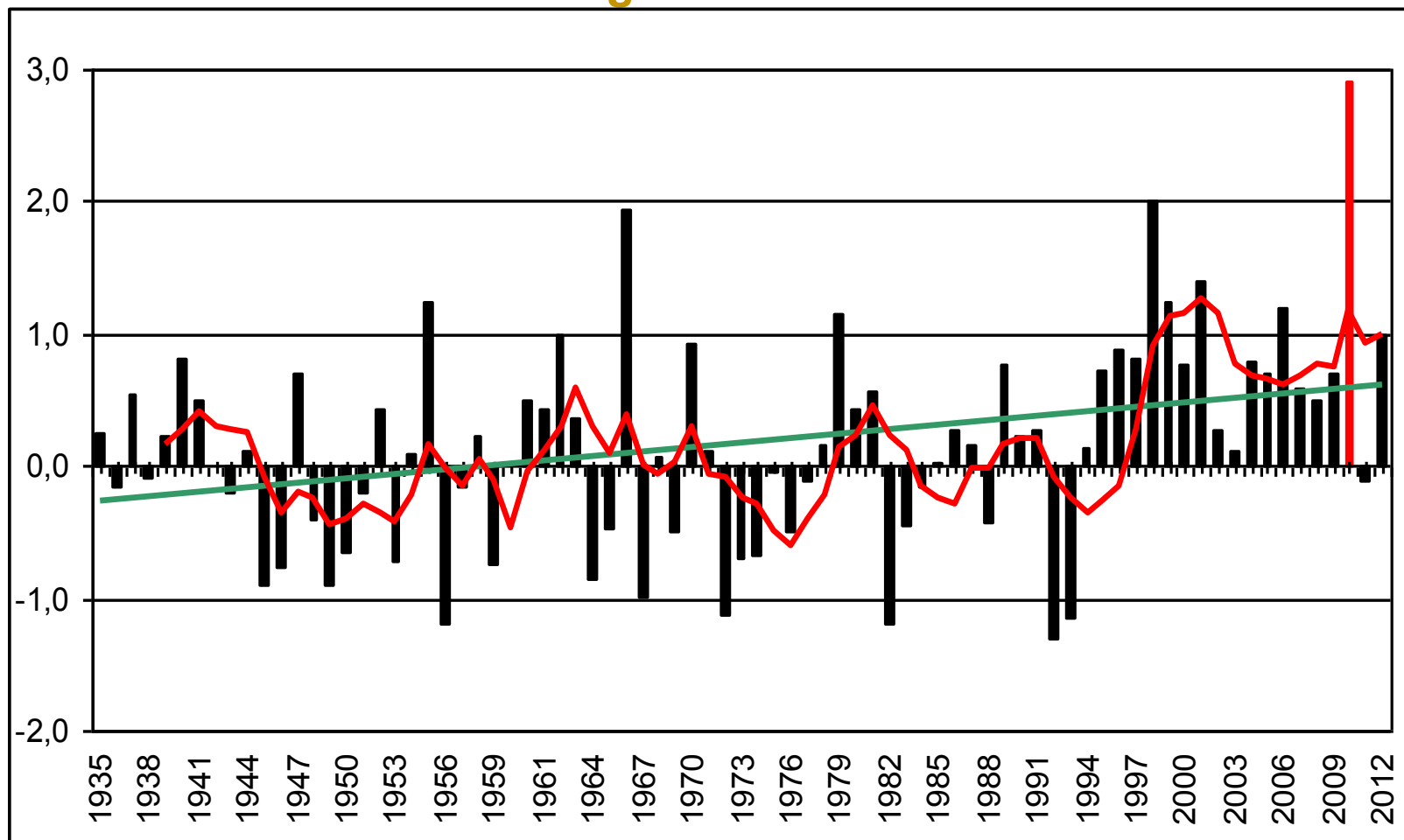
June 18, 2014, Yerevan

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Climate Change Facts

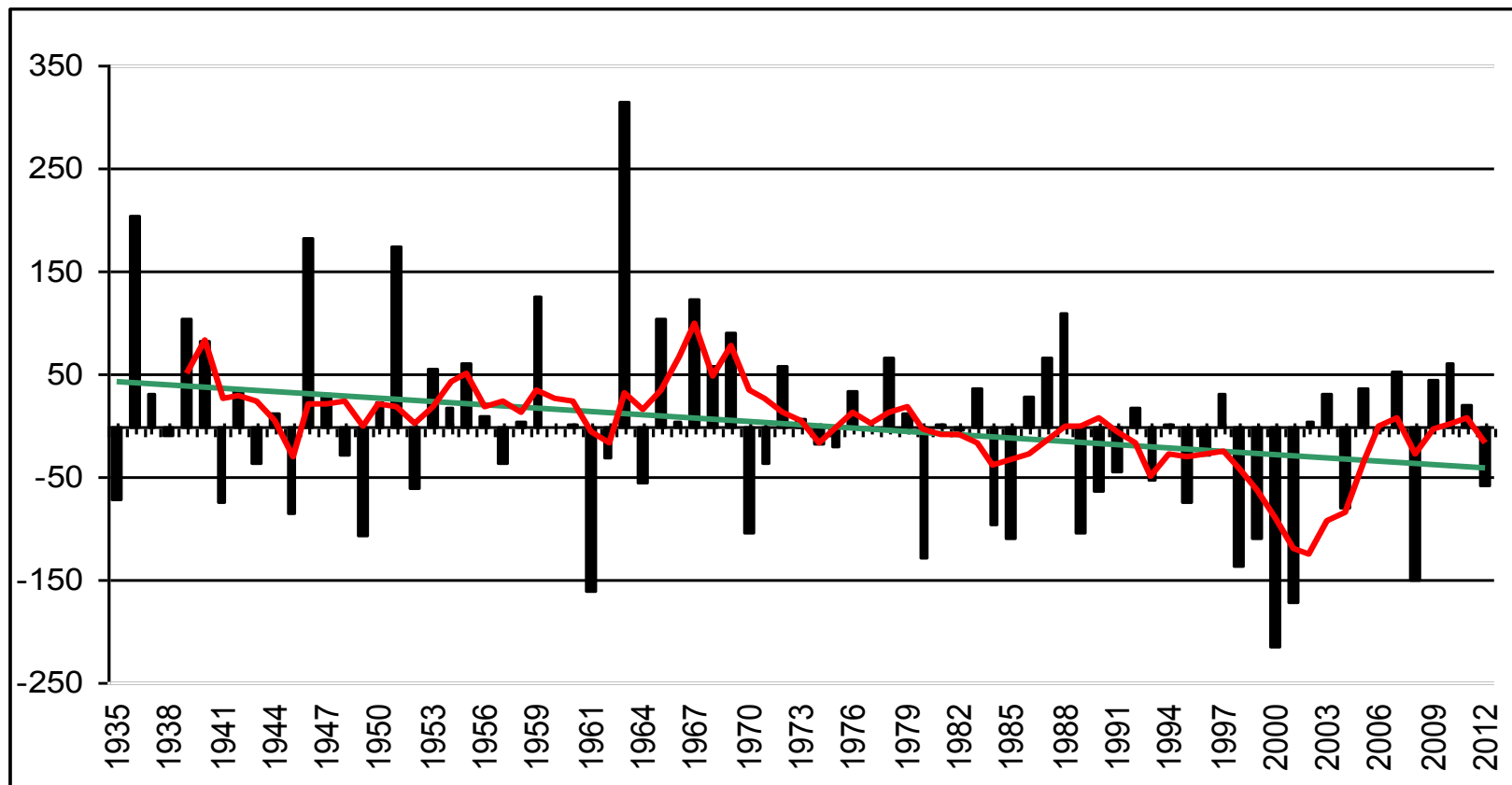
- Average global temperature is higher 0.8°C than in the preindustrial period, ocean has become warmer by 0.09°C compared to 1950 and the level has increased by 20 cm, it is increasing by 3.2 cm each decade.
- According to the IPCC 5th report, it is expected that emission reduction obligations will bring increase of 3.5 - 4°C.
- Compared to 1961-1990, the average temperature has increased by 1.03°C, precipitation has decreased by 10% (Hydromet Service)

Deviations of annual average air temperature compared to the average of 1961-1990



Increase of the average annual temperature is 1.03 °C for the period of 1935-2012

Deviations of annual average precipitation, compared to the average of 1961-1990



Annual average precipitation is reduced by 10% , 1935-2012

Wildfires Caused by Climate Change

Number of wildfires is alarmingly increasing in different parts of the world

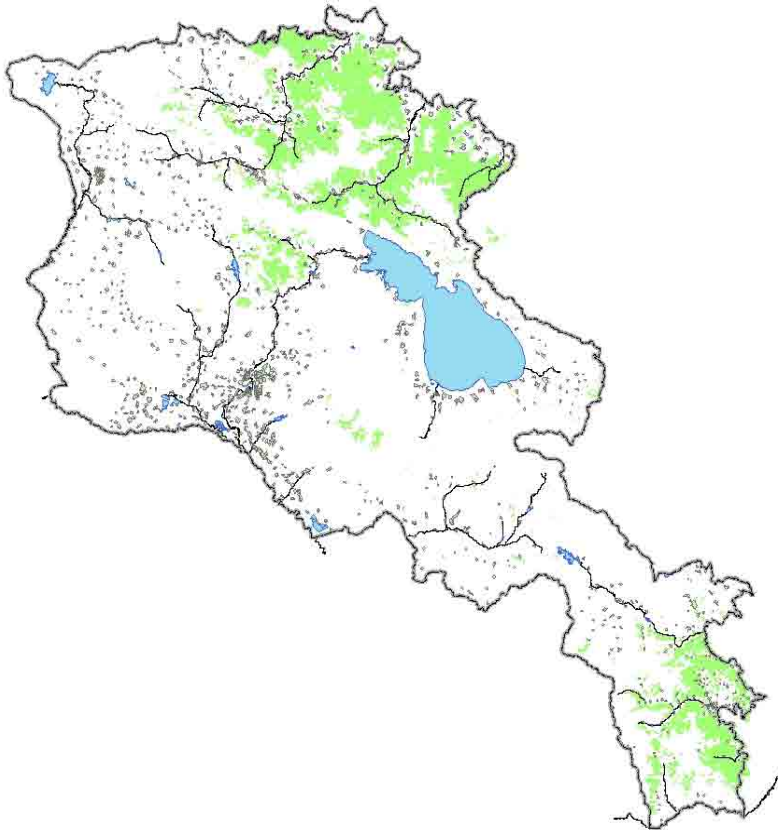
- Climate change is expected to increase the frequency and intensity of climatic extremes, such as heat waves, drought, strong winds and heavy rains
- The intensity of the “Big wildfires” can surpass the adaptation levels, when the circle of energy, water and organic substances is defiled

Results of “Adaptation to Climate Change Impacts in Mountain Forest Ecosystems of Armenia” UNDP-GEF/00051202 Project, implemented in 2009 -2013

Project goal and objective

- The long-term development goal of the project: to assist Armenia in beginning a process by which strategies to moderate, cope with the consequences of climate change are enhanced, developed, and implemented.
- The specific objective of the project: to enhance adaptive capacities of the vulnerable mountain forest ecosystems to climate change in the Syunik region.

Armenian Forests



Forests are distributed unevenly

-Southeastern parts (Lori, Tavush) -
62% (207,000 ha)

-Central and northern parts
(Aragatsotn, Kotayk, Gegharkunik,
Ararat, Vayots Dzor) - 18%

-Northeastern parts (Syunik) - 20%
(65,000 ha)

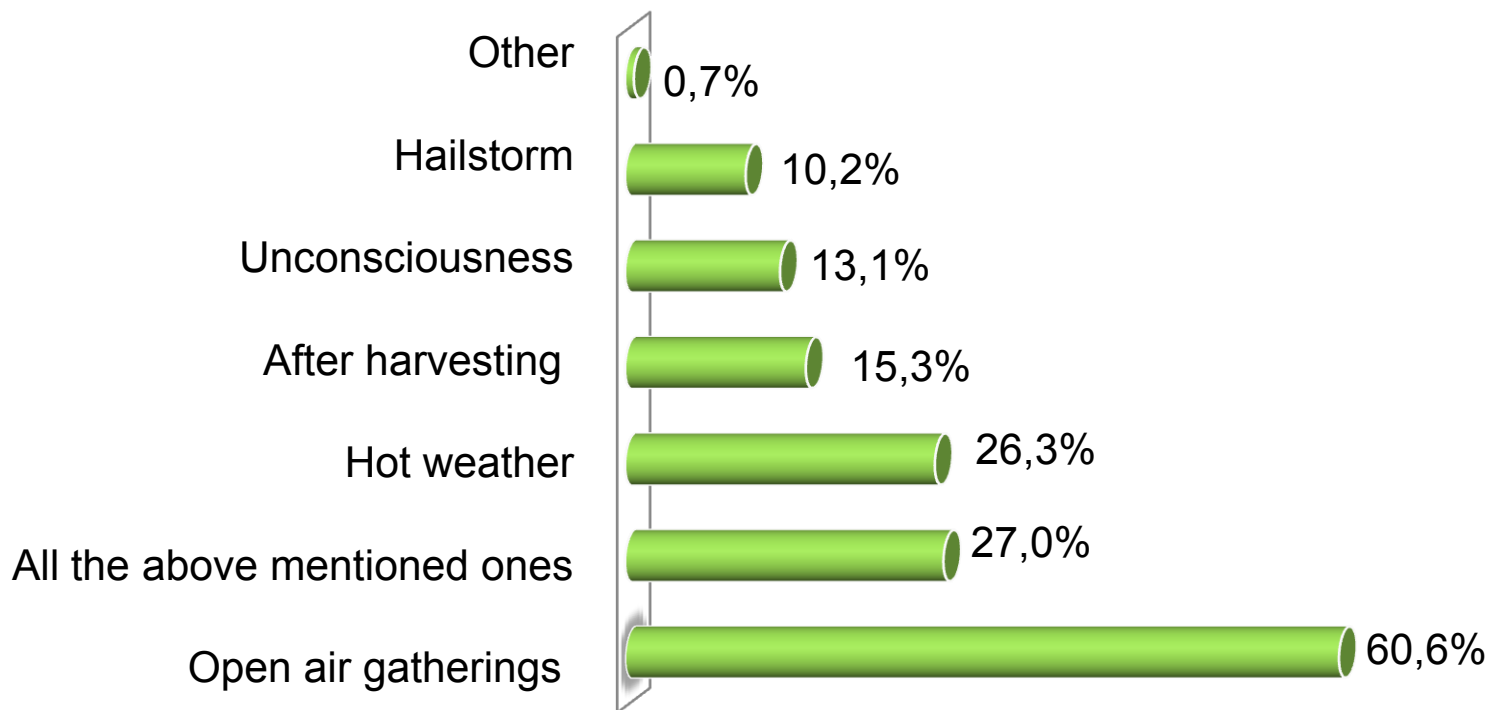
Wildfires: feasibility assessment and initial conclusions

- Feasibility assessment of efficient forecast and early response of wildfires
 - Forecast and early warning
 - Prevention and monitoring
 - Response
 - Development of skills and enhancement of knowledge
- Information collection
 - Improvement of information collection system
- Capacity building in communities
 - Awareness raising activities

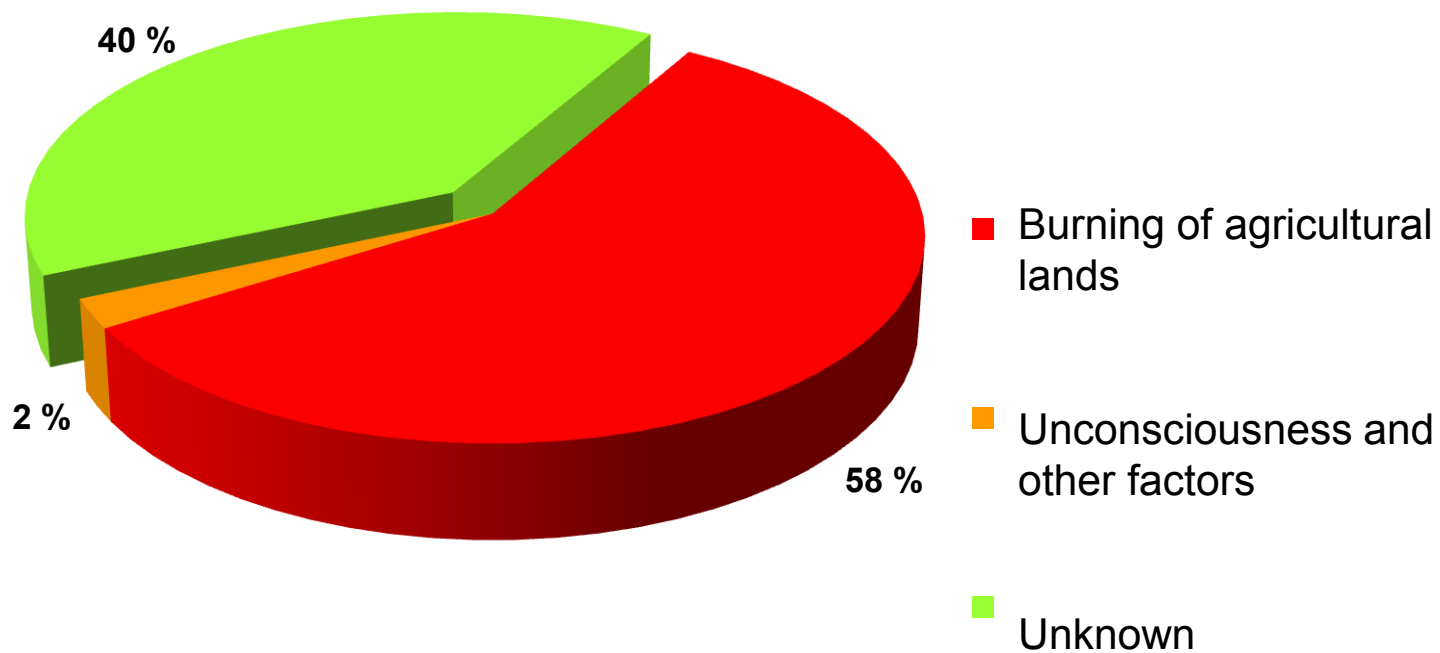
Wildfires in Armenia, 2001-2010

Area	Wildfire cases	Burnt area (ha)		
		Total	<u>Forest covered</u>	Forest deprived
Syunik Region	10	407,1	342,8	64,3
Other regions	94	917,36	829,29	88,07
Total in Armenia	104	1324,46	1172,09	152,37

Survey in communities of Syunik Region, 2010 (137 people from 9 communities)



Causes of Wildfires (ArmForest, 2007-2011)



Uncontrolled burning



Measures Reducing Wildfires

- Maintenance of forest health, in healthy ecosystems incidence of wildfires is less
- Implementation of preventive measures stated in forest management plans
- Management of risks causing wildfires
- Enhancement of forests resilience to climate change impact, including phytopathology works and monitoring
- Awareness raising activities

Technical assistance: equipment

Procurement of forest fire early response equipment, 4 wheel drive cars and tools for Syunik(Goris) and Kapan FEs, “Arevik” NP



Technical assistance: tools



Conclusion from Project independent terminal evaluation:
 “Purchased equipment is a part of the developed skills and public awareness (tangible result for the stakeholders)”

Improvement of Wildfire Monitoring

Distribution of horses to 2 forest enterprises (20 horses)



Fire extension to forests from agricultural lands was prevented.
No any forest fire case was detected during 2011-2013

Forest fire prevention and early response: capacity building

- Three on-site trainings for Syunik and Kapan FEs, “Arevik” NP on use of provided equipment and tools
- Demonstration of use of equipment and tools in Syunik region for stakeholders
- Armenian Rescue Service further procured 100 back-pack pumps for rescuers-firefighters in Syunik, Lori, Tavush & Aragatsotn regions
- Provision of 20 horses to two forest enterprises in Syunik to strengthen the forest monitoring, including forest fire and pestholes.



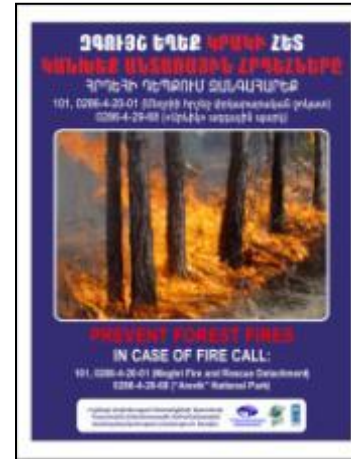
Forest Fire Prevention and Early Response: Capacity Strengthening



- Cooperation with Armenian Rescue Service of Ministry of Emergencies and OSCE (ENVSEC) – September 2011
- National training on forest fire management in Syunik (rescuers-firefighters, foresters, communities, stakeholders)
- Command-staff field exercise on forest fire early response in Syunik (rescuers-firefighters, foresters, military forces, police, Syunik Marz Administration, regional services, communities and Armenian Red Cross); use of SPA project equipment
- Conference and national round table on forest fire forecast, prevention and suppression
- **Publication of Conference Proceedings**
http://www.nature-ic.am/wp-content/uploads/2013/10/Procceedings_final.pdf

Public awareness raising

- Produced PSA on forest fires: broadcasted on a national TV channel
- Installation of signboards for promotion of forest fire prevention attitude /actions in 35 recreational areas in Syunik (Hayantar is going to replicate in other regions)
- 1500 posters for promotion of forest fire prevention attitude distributed in communities, educational institutions, environmental and agricultural organizations (Ministry of Defense also asked for posters for distribution)
- Trainings in schools and higher educational institutions
- Seminars for journalists and tourism agencies
- Press conferences



Legislation framework

- **UNDP-GEF Project Initiative – Amendment in “On Protection of Atmospheric Air” Law, which announces the ban “to burn stubble, plant residues and dry vegetation areas, vegetation of pastures and meadows in the agricultural, forest neighboring, forest and specially protected area lands”- September 14, 2011**
- **Establishment of working group to develop action plan for improvement of wildfire management – Order of RA Minister of Emergency Situations, 14.02.2012 - (with UNDP-GEF Project Support)**
- **Republican program for improvement of wildfire management –RA Government Decree 563-A, 29.05.2013**
- **Action Plan for improvement of wildfire management – Annex to the RA Government Decree 563-A, 29.05.2013**

Pest Control as Wildfires Prevention

The Project developed and following material:

- “The Main Pests of Armenian Forests and Pest Control Measures” textbook (2012)
- “How to control and monitor forest pests” manual
- Template for forest pests monitoring and reports
Submission by foresters



The pilot project on biological aerial control of forest pests on 500 ha area of Arevik NP was conducted, results were monitored and reported

Project experience dissemination and stability

- Manual on mainstreaming climate change risks in forest management plans
- Publication of lessons learnt from pilot projects
- Main findings of the Project on wildfire management improvement was published on UNDP “Adaptation Learning Mechanism” website www.undp-alm.org
- Manual on wildfire management measures

Thank you

Climate Change Information Center

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Solar Water Heating System, Yerevan

Climate Change Information Center

WELCOME TO THE UPGRADED WEBSITE OF THE CLIMATE CHANGE INFORMATION CENTER OF ARMENIA! YOU WILL FIND THIS WEBSITE MORE USER FRIENDLY, PROJECT ORIENTED AND WITH NEW ADDITIONAL FEATURES. WE LOOK FORWARD TO YOUR FREQUENT VISITS TO OUR WEBSITE.

Climate Change Information Center was established in 1997 in the frames of ARM/95/G31/A/1/G/99 UNDP/GEF Project "Armenia - Country Study on Climate Change" with a main goal to strengthen the Information Center of the Ministry of Nature Protection.

The aim of the project was to identify and create connections to both national and international sources of information which would lead to knowledge sharing and prevention of duplication in similar kind of efforts. The main goal of this activity is to find potential international partners to cooperate with either on this project or on the following possible projects dealing with Climate Change problems.

Second National Communication

The Second National Communication of the Republic of Armenia to the UNFCCC has been developed by the Ministry of Nature Protection of the Republic of Armenia in the frames of the "Enabling Activities for the Preparation of Armenia's Second National Communication to the UNFCCC" UNDP/GEF Project

[Download in English 3.3MB pdf](#)

CURRENT PROJECTS

- Municipal Heating
- Second National Communication
- Forest Adaptation to CC
- Energy Efficiency in Buildings

COMPLETED PROJECTS

Weather in YEREVAN

Radiation:	16
Humidity:	81%
Barometer:	671
Geomagnetic:	1
Day:	+20
Night:	+14

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