



ROMANIA



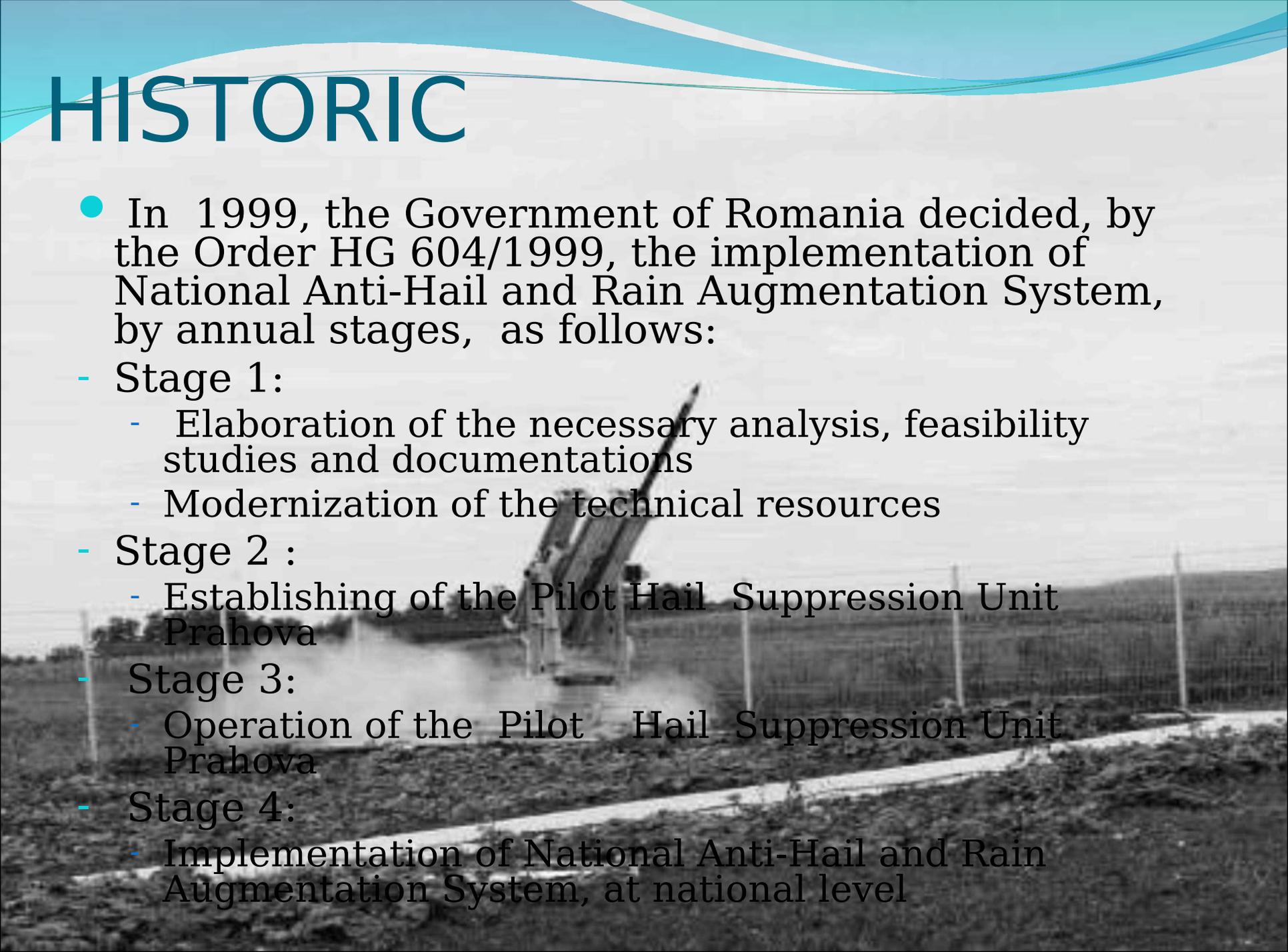
MINISTRY OF AGRICULTURE AND RURAL
DEVELOPMENT
THE DEPARTMENT OF ANTI – HAIL AND RAIN AUGMENTATION SYSTEM

NATIONAL ANTI-HAIL AND RAIN AUGMENTATION SYSTEM

Bucharest

2016

HISTORIC

- In 1999, the Government of Romania decided, by the Order HG 604/1999, the implementation of National Anti-Hail and Rain Augmentation System, by annual stages, as follows:
 - Stage 1:
 - Elaboration of the necessary analysis, feasibility studies and documentations
 - Modernization of the technical resources
 - Stage 2 :
 - Establishing of the Pilot Hail Suppression Unit Prahova
 - Stage 3:
 - Operation of the Pilot Hail Suppression Unit Prahova
 - Stage 4:
 - Implementation of National Anti-Hail and Rain Augmentation System, at national level
- 

LEGAL FRAMEWORK

- Parliament of Romania adopted the Law nr. 173/2008 regarding the active intervention into atmosphere. The law exhaustive establishes the problem of the active intervention into atmosphere (hail suppression, precipitation enhancement and other extreme phenomena).
- Romanian Government adopted, by the Order HG 256/2010, the Program on 2010 - 2024 regarding implementation of National Anti-Hail and Rain Augmentation System
- Financially, all activities regarding the implementation of National Anti-Hail and Rain Augmentation System are assured by annual state budget, which establishes funds and objectives for this program.

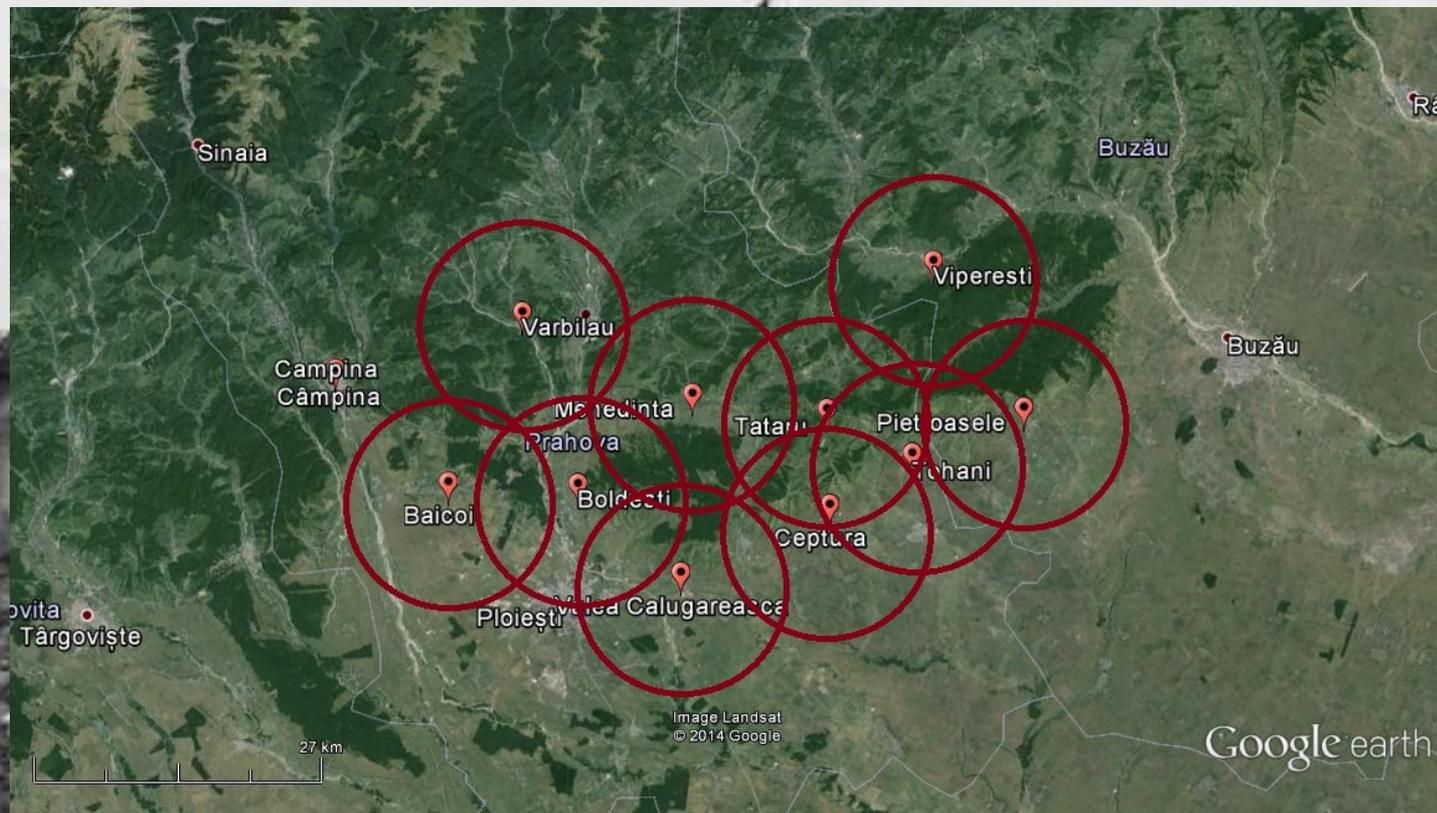
NOWADAYS SITUATION

- Feasibility studies had been elaborated regarding the opportunity of the implementation of National Anti-Hail and Rain Augmentation System for the country zones with high risks of hail fall (Muntenia, Moldova, Transylvania and Oltenia) and the country zones with high risks of sever draught (West Plain, South Oltenia, South Moldova and Baragan)
- First pilot hail suppression unit became operational in 2006. This unit is located in county Prahova and assures protection for 200 000 ha cultivated land, using the ground launched rockets. Hail suppression technology is based on meteorological information provided by national meteorological network SIMIN which has WS98D radars. Clouds seeding material is AgI.
- Pilot unit operation during 2006-2016 proves physical and economical effectiveness of this activity.
- A hail suppression unit operative in Cotnari area - Iasi county, Moldova
- A hail suppression unit operative in Panciu area - Vrancea and Galati county

NEW HADATS SITUATION

Pilot hail suppression unit - Prahova

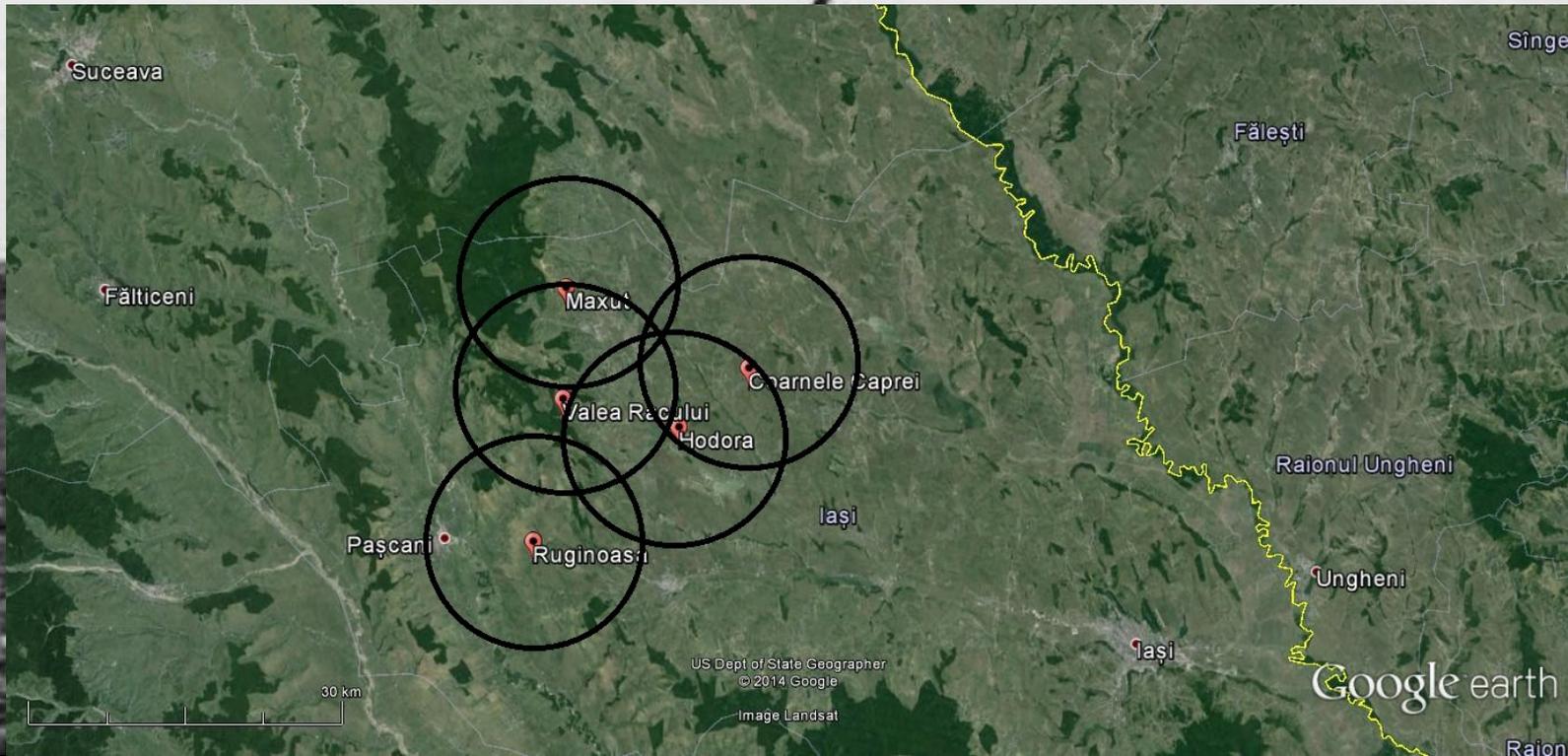
- Operating since 2006
- 11 launching units
- Protected area: 2000 km² (200.000 ha)



NOWADAYS SITUATION

Hail Suppression Unit -Iasi

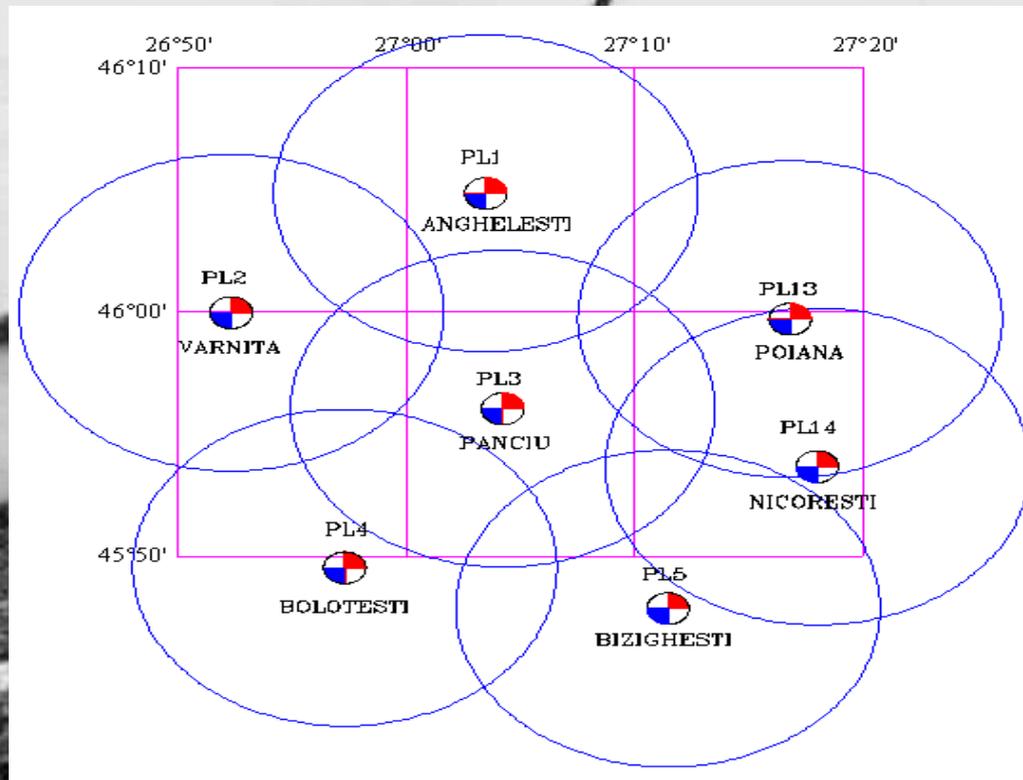
- The second Unit in Romania
- Operating since 2011
- 12 launching units
- Protected area: 250 km²



NOWADAYS SITUATION

Hail Suppression Units - Vrancea

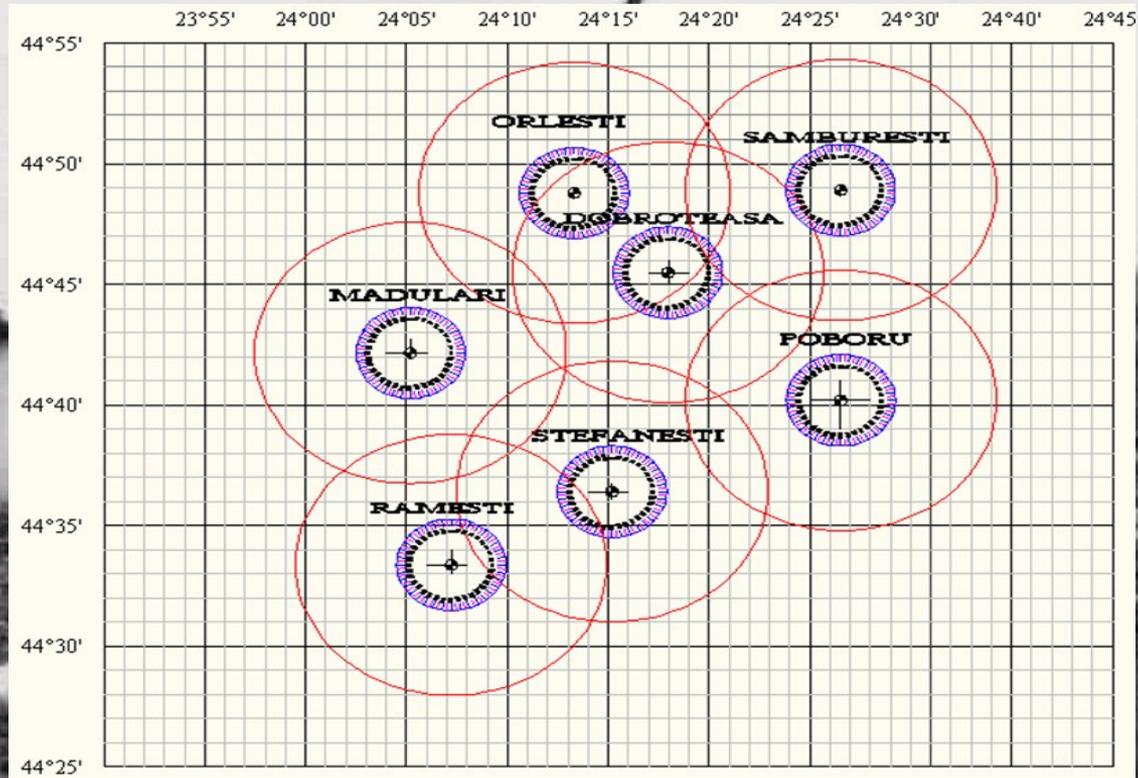
- The third operative Unit in Romania
- Operating since and 2015
- 7 launching units
- Protected area: 180 km²



NOWADAYS SITUATION

Hail Suppression Units – Oltenia

- The fourth operative Unit in Romania
- Operating since and 2017
- 7 launching units
- Protected area: 120.000 ha



Unități de combatere a căderilor de grindină



NEW ADAPTATION SITUATION

Hail Suppression Units -Iasi and Vrancea

- S.C. General Conf Grup S.R.L
 - Licensed private operator for Iasi and Vrancea Hail Suppression Units
 - Provide the human resources for active intervention in atmosphere
 - Have specialized personal for launching units and for the command center
 - Collaborate with aviation units to ensure the safety of the flights
 - Collaborate with Departament of Anti Hail - and Rain Augmentation System for improving the system

MAIN RESPONSIBILITIES OF THE DEPARTMENT OF ANTI HAIL-AND RAIN AUGMENTATION SYSTEM

- The Department Of Anti Hail And Rain Augmentation System is a subsystem of the Ministry of Agriculture and Rural Development.
- The main responsibilities are as follows:
 - Co-ordination of the activities regarding National Anti Hail And Rain Augmentation System implementation
 - Elaboration of the National Anti Hail And Rain Augmentation System development strategy
 - Human, financially, technical resources planning for National Anti Hail And Rain Augmentation System implementation
 - General management of the investments necessary to the System's unites
 - Ensuring of the framework for a good collaboration with all participants involved in active intervention into atmosphere (local and central authorities, civil society, beneficiary etc)
 - Organization of the international collaboration and co-operation.
 - Participation to the legal framework updates.

RELATIONSHIP WITH LOCAL AND CENTRAL AUTHORITIES, CIVIL SOCIETY, BENEFICIARIES

- Annual funds and objectives regarding the implementation of National Anti Hail And Rain Augmentation are approved yearly by the Government of Romania.
- Ministry of Agriculture and Rural Development initiates legal documents regarding the implementation of National Anti-Hail And Rain Augmentation
- Another ministries and central authorities involved in this activity carry out their established (in governmental orders) charges
- National Meteorological Administration provides specialized meteorological information, based on the established protocols
- Local authorities assure necessary surface for System's constructions. They assure a good co-operation with the local population, too.
- Direct beneficiaries of the anti-hail protection and assurance societies will participate with funds for the operation of the System's unites.
- Civil society participates, mainly, in monitoring activities.



Thank you!