



World Meteorological Organization
Working together in weather, climate and water

Regional Association VI, Forum Hydrology, Koblenz May 8 – 10, 2012

Statements of the national hydrological service of Bulgaria

National Institute of Meteorology and Hydrology – Bulgarian Academy of Sciences

Organization, role and main tasks of the National Institute of Meteorology and Hydrology - Bulgaria

- **The National Institute of Meteorology and Hydrology (NIMH)** (www.meteo.bg) at the Bulgarian Academy of Sciences is the official hydrometeorological service in Bulgaria. NIMH was established in February 1890. Its primary mission is to provide meteorological and hydrological information and products to different organizations and users in Bulgaria. Its duties comprise both operational, theoretical and applied research activities. Hydrological and meteorological observations, data acquisition and telecommunication,, meteorological and hydrological forecasts (www.weather.bg), maintenance of data base, scientific researches, numerical and statistical modeling are significant part of the duties of NIMH.
- It is representing Bulgaria in the **World Meteorological Organization** and as such is on of its GTS centers for East Europe. It is also leading a range of activities at the Balkans.
- The **present juridical entity** NIMH was established by a decree of the Council of Ministers. NIMH is currently operating under the Law for the Bulgarian Academy of Sciences, but has specific obligations within the Water Act and the Civil protection law.

The structure of the NIMH comprises the Central Office in Sofia and the 4 Regional Centers, which drive observatories and observation stations. The territory of the country is covered by 35 observatories and encompasses more than 2000 observation stations of different type in the field of meteorology, hydrology, and hydrogeology. The main observation networks are: the meteorological, the agrometeorological the hydrological and hydrogeological. Hydrological networks consist of 177 surface hydrometric stations and 368 groundwater stations.

The research activities are concentrated mainly in the Central Office in Sofia. Its permanent staff consists of highly qualified researchers. NIMH has been and actually is partner in many international research projects and programmes like: IHP-UNESCO, various EC PHARE research projects including the transboundary co-operation, UNDP research projects, WMO and World Bank funded projects and recently FP European Union projects, as well as research and applied research projects in the frame of bilateral technical assistance agreements of Bulgaria with many countries mainly from Europe.

DEPARTMENTS

Meteorology

*Director Vesselin Alexandrov
D.Sc., Prof.*

Meteorological Forecasts

*Director Plamen Neytchev
Dr., Assoc. Prof.*

Hydrology

*Director Plamen Ninov
Dr., Assoc. Prof.*

Atmospheric Physics and Ecology

*Director Hristomir Branzov
Dr., Prof.*

Water Management

*Director Igor Nyagolov
Dr., Assoc. Prof.*

NIMH – BAS

Director-General

Georgi Kortchev, Dr., Assoc. Prof.

Deputy Directors-General

*Valery Spiridonov, Dr., Assoc. Prof.
Dobri Dimitrov, Dr., Assoc. Prof.*

Scientific Secretary

Tania Marinova, Dr., Assoc. Prof.

Director Administrative

Margarita Petkova

Collective management bodies

General Assembly of Scientists

Scientific Council

Directorial Council

Council of Directors

NIMH – BRANCHES

NIMH – Branch Varna

Director Ivan Ivanov

NIMH – Branch Kyustendil

Director Georgi Dimitrov

NIMH – Branch Pleven

Director Ivan Matev

NIMH – Branch Plovdiv

Director Petar Konstantinov

SECTORS

Telecommunications

Head Svetoslav Christov

Hydrometeorological Instruments and Metrology

*Head Staytcho Kolev
Dr., Assoc. Prof.*

Accounting Sector

Head Milena Milenkova

Administrative Sector

Head Margarita Petkova

Sectors directly subordinate to Director- General

International Affairs

*Head Tatiana Spasova
Dr., Assoc. Prof.*

Educational Center

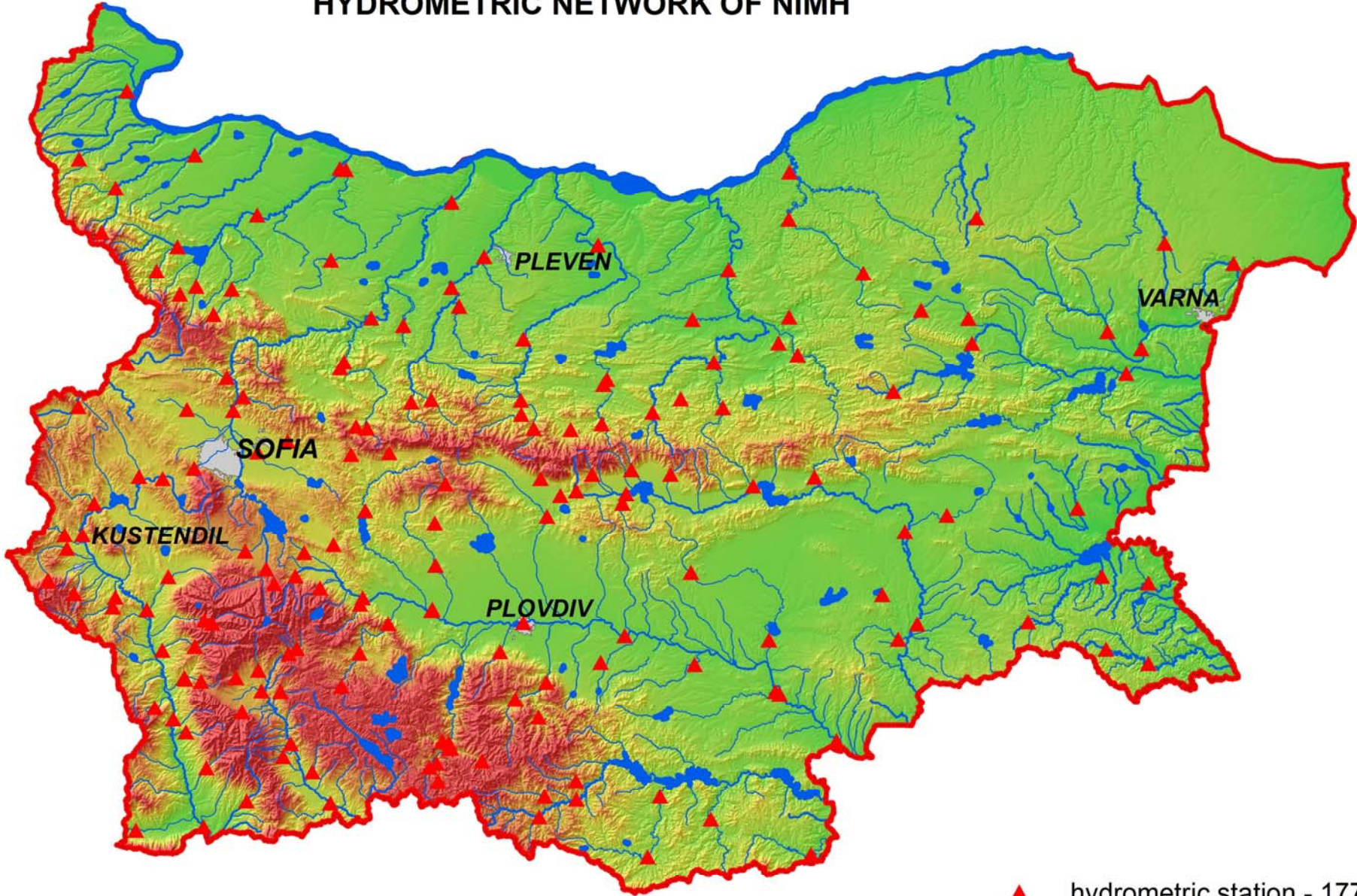
Head Lora Taseva Dr., Assoc. Prof.

Structure of Department of Hydrology

Department is divided of two scientific Sections '**Hydrology of surface and groundwater**' and '**Operative analyses and forecasting**' and two operative Sectors '**Hydrological networks and information service**' realizing control, operative and secondary information proceeding, databases support and actualization and '**Sediments and hydromorphology of rivers**' engaged with monitoring and information proceeding of sediments and hydromorphological processes.

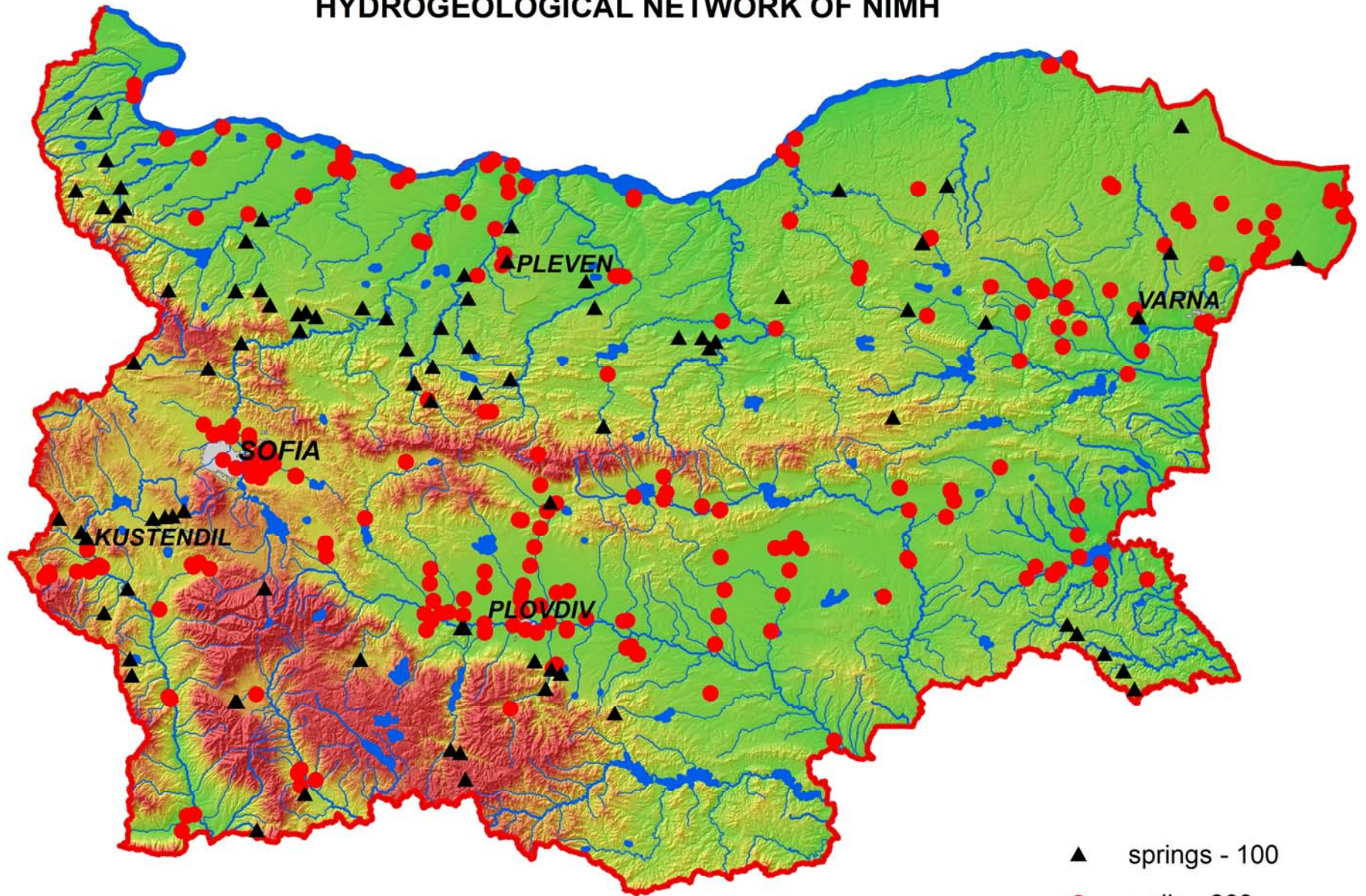
NIMH – Central Office and the four Filials realize a regular monitoring, processing, analyses and database conservation of information for water levels and discharges of rivers, debits of springs and water levels of wells on the whole country territory. A part of this information is presented in the monthly and annual Bulletins of NIMH and the NIMH internet sites.

HYDROMETRIC NETWORK OF NIMH



▲ hydrometric station - 177

HYDROGEOLOGICAL NETWORK OF NIMH



- ▲ springs - 100
- wells - 268

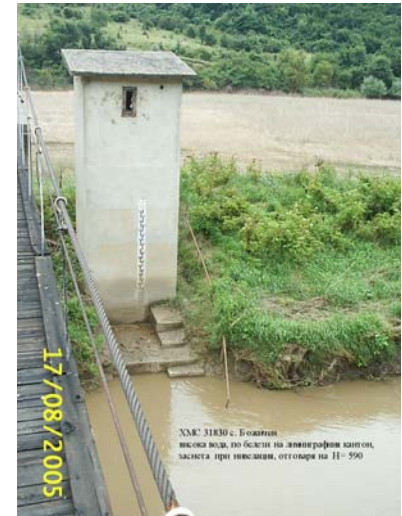
3 main tasks and their users

- **1. Monitoring of surface and groundwater**, data processing, databases support.
- **2. Surface and groundwater investigations:** spatial and temporal alterations of the river runoff, extreme hydrological events, floods and droughts, hydrological forecasting, modelling
- **3. Water resources and water balances** for surface and ground water, climate change impact on the water resources.

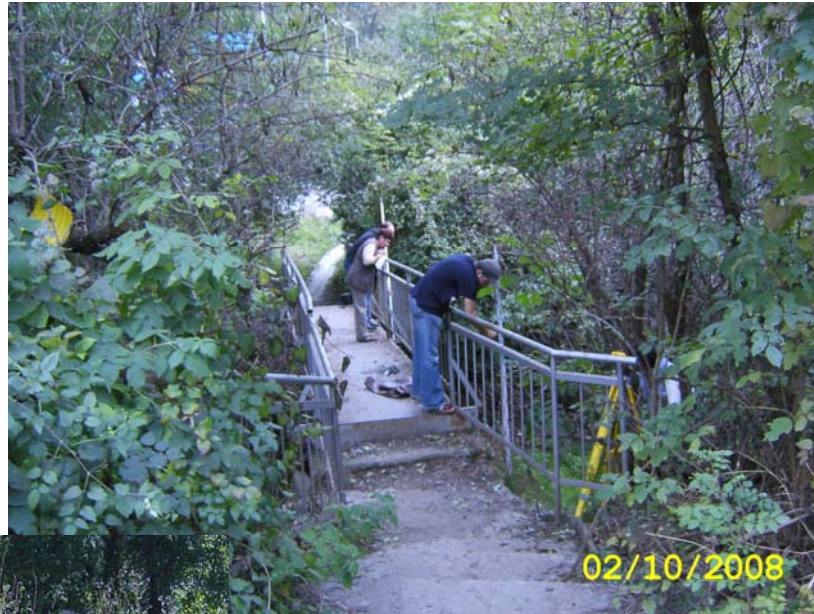
Main users of NIMH hydrological information:

1. Ministry of Environment and Water *and its subdivisions*
 - Executive Environmental Agency *and the Basin Directorates,*
2. Directorate “Civil Protection” *to the Ministry of Interior*
3. Ministry of Regional Development and Public Works,
4. Municipalities,
5. Private firms,
6. Medias,
7. Court,
8. Ecological Organizations
9. Citizens

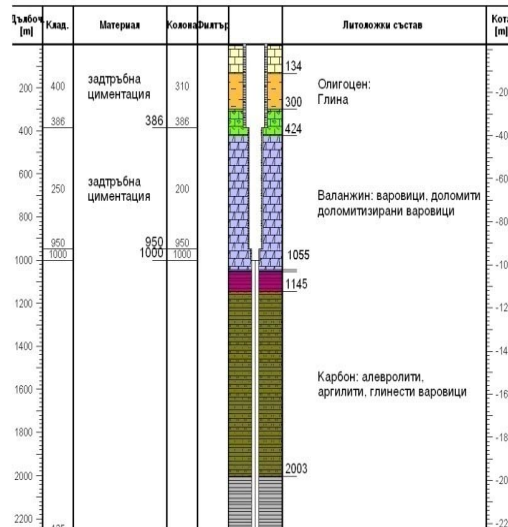
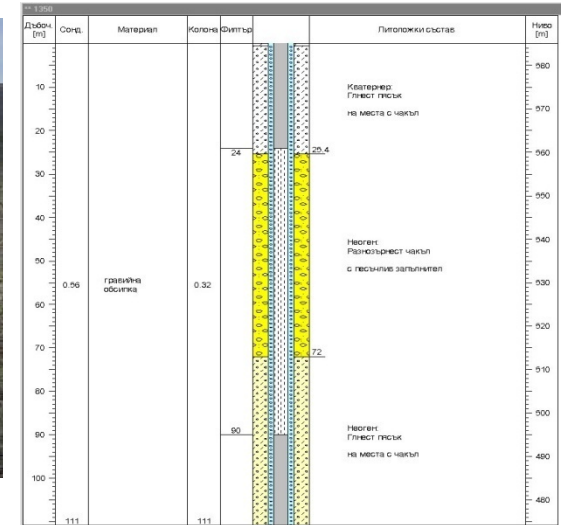
Pictures of typical hydrometric stations in the NIMH network



Field measurements of flow and river profiles



Hydrogeological Stations



The biggest success of Bulgarian service within the last 5 years

The National Institute of Meteorology and Hydrology **became state authority on the hydrological monitoring, water resources assessment and the flood forecasting according to the new Water Law (2011)**. Important follow up is the additional financing which NIMH annually receives via dedicated agreement with the Ministry of Environment and Water and voted by the Parliament of the Republic Bulgaria.

As result of this Agreement the institute **can support its regular operative monitoring, automatization and restoration of its hydrological and hydrogeological networks**. For the first time for the last years NIMH has opened new gauge stations interrupting the negative process to diminish the observation networks.

NIMH **renovates its technical equipment** buying new current meters and automatic stations from the leading world producers, supports the automatic telemetric systems installed as results of the European projects in Dobrudja and Maritza watershed areas, improves the quality of produced hydrological and hydrogeological information.

NIMH experts are as well regularly invited to represent Bulgaria according to the mentioned above capacities in different committees and international bodies.

We are happy at work in NIMH because of

- the opportunity to serve the society and the national institutions with high quality hydrological products as: information, expertises, working automatic alarm systems, adopted hydrological and hydraulic models;
- the renovated technical base and equipment, new programs and software, introduced GIS technologies in hydrology, increasing the intellectual level of the work and its efficiency;
- the scientific interest to reveal the new hydrological processes and extreme events especially linked to the global climate changes, their impact on the human life and environment.

The biggest failure of Bulgarian service within the last 5 years

The biggest failure of National Institute of Meteorology and Hydrology to Bulgarian Academy of Sciences are low salaries as result of **restricted budget of the Academy and especially of the NIMH**. We can not sometimes overcome the State institutions lack of understanding and incompetence regarding to the NIMH activities. The Budget deficit with respect to the salaries is significant and 2011 we were forced to use 15 not paid leaves. This may happed in 2012 again because the budget deficit with respect to the salaries continues. The result over the staff, especially the youngsters, is very negative.

We are unhappy at work in NIMH because of

- the low salaries put off the young hydrologists and they look for professional realization out of the institute mainly in the private firms,
- the staff becomes older and the number of well skilled hydrologists is diminishing each year,
- the increasing complexity of the new equipment not always meets the qualified hydrologists especially in the province where the low payment detains mainly older persons without enough modern technical knowledge and capacity.

Our main expectations

•At the national level

We hope to draw the State attention and the governmental institution on the existing problems at the national hydro-meteorological service, to decide them quickly in order to involve and increase the intellectual and technical capacity of NIMH in front of the society needs in the field of hydrology and meteorology. These needs are linked mainly and we expect support for:

- Water Low implementation – NIMH is the main state authority on the quantitative monitoring;
- Water resources assessments including the climate change impact;
- Creation of new alarm systems;
- Adaptation of the information systems and methodologies;
- Investigation of the extreme events.

We hope for better cooperation with non-governmental institutions as Universities and/or another scientific organizations in the frame of Bulgarian Academy of Sciences to join forces in front of the common scientific challenges and for elaboration of new educational programmes for young people regarding the quick development of the science and technology in the world.

At international level (possible assistance from WMO and member countries)

- We want an extensive help on **standard teaching materials** and **education of young hydrologist**. Unfortunately the UNESCO courses are already paid and there are not possibilities for young people to attend them.
- We need technical assistants from the technologically advanced western countries as some EU members, USA, Canada, Australia, Japan and others in **technology transfer within our competencies in hygrometry, water resources assessments and flood forecasting**.
- We have principal problems with **assessment of groundwater recharge** and we need a special help to decide our country problems on groundwater resources assessment.
- We need an assistance in **the rating curves technology** renovation (including a new software adaptation) and we have already a kind invitation from USGS (US Geological Survey) to send our specialists to USA. Because of some technical problems from our side the visit was delayed but we hope in 2012 this technological transfer and education would be realized.
- We do believe that the international meetings in the frame of WMO are very important creating institutional and personal links with a look for further assistance and cooperation among the members, for propagation of knowledge and information, for technical and technological transfer.