WMO RTC in Russia

Russian Centre of Excellence in Satellite Meteorology

Grigory Chichasov & Eduard Podgaisky

Regional Training Center (RTC)

of World Meteorological Organization (WMO) in Russian Federation

Advanced Training Institute (ATI)
of Roshydromet
Moscow Region

Russian State
Hydrometeorological University
(RSHU)
St.-Petersburg

Moscow Hydrometeorological
Technical School (MHTS)
Moscow Region

HIGHER HYDROMETEOROLOGICAL EDUCATIONAL IN RUSSIAN FEDERATION

Russian State Hydrometeorological University (RSHU)

St. Petersburg State University

Moscow State University

Perm State University

Kazan State University

Saratov State University

Irkutsk State University

Tomsk State University

Far Eastern State University

Voronezh Higher Aviation Engineering School

Transbaikal State University

RSHU is component of the WMO RTC
IN RUSSIAN FEDERATION

Russian State Hydrometeorological University (RSHU)

- founded in 1930;
- 8 Faculties (Meteorology, Hydrology, Oceanography, Ecology, Economics, Information technologies and Geo-systems, DL, Advanced Professional Training);
- 29 Departments, 407 teaching staff,
- 2 branches, 2 field training stations;
- Active position in R&D;
- There are about 4500 Russian students and 400 foreign students from 40 countries are currently studying at RSHU

THE CONTRIBUTION OF THE RUSSIAN FEDERATION - RSHU

Country	2013	2014
Azerbaijan	-	1
Benin	3	2
Belarus	-	1
Bolivia	1	1
Vietnam	2	3
Ghana	-	2
Djibouti	1	1
Zambia	1	1
Yemen	1	1
Iraq	2	5
Colombia	1	2
China	-	1
Congo	4	4
Kot-Divuar	1	-
Kyrgyzstan	2	4
Malawi	-	1
Madagascar	1	1
Mali	2	-
Mozambique	1	2
Moldova	11	7
Mongolia	2	1
Pakistan	1	1
Tajikistan	14	14
Turkmenistan	3	4
Turkey	1	-
Uzbekistan	8	13
Estonia	2	2
Jamaica	2	2
	69	79

ADVANCED TRAINING INSTITUTE OF ROSHYDROMET

http://ipk.meteorf.ru

WEBSITE OF ADVANCED TRAINING INSTITUTE

http://ipk.meteorf.ru

PLAN-PROSPECTUS

TRAINING PROGRAMS
of WMO RTC in RF 2012

Plan-Prospectus 2012
approved by the head of Roshydromet
A.V. Frolov,
15 September 2011

- ESSENTIALS OF MANAGEMENT.
  HYDROMETEOROLOGICAL MANAGEMENT
- HYDROMETEOROLOGICAL service of economical/social sphere
- THE SURFACE HYDROMETEOROLOGICAL NETWORK, METHODS, FACILITIES OF OBSERVATIONS, PROCESSING AND TRANSMITING OF THE HYDROMETEOROLOGICAL DATA. WEATHER MODIFICATION
- IMPROVEMENT OF PROFESSIONAL SKILL
  ON THE BASIS OF REMOTE TRAINING SYSTEM

Rector of ATI,
executive director of the Regional
Meteorological Training Center WMO
G.N. Chichasov

2007

2008

2009

2010

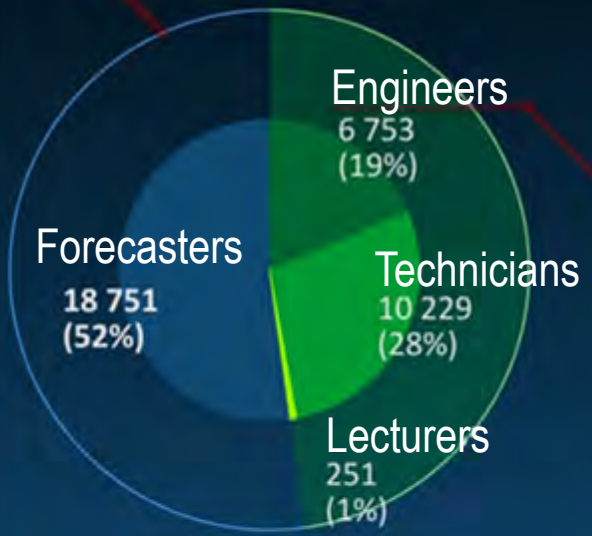
2011

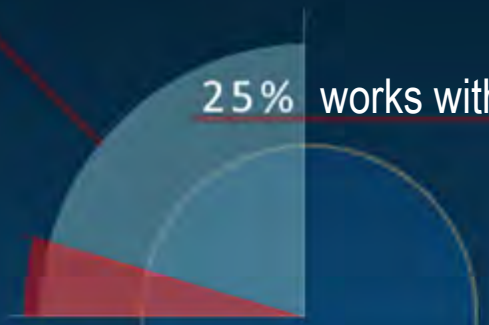
2012

TRAINING IN SATELLITE METEOROLOGY AT ATI

Total number of staff at Roshydromet

35 984



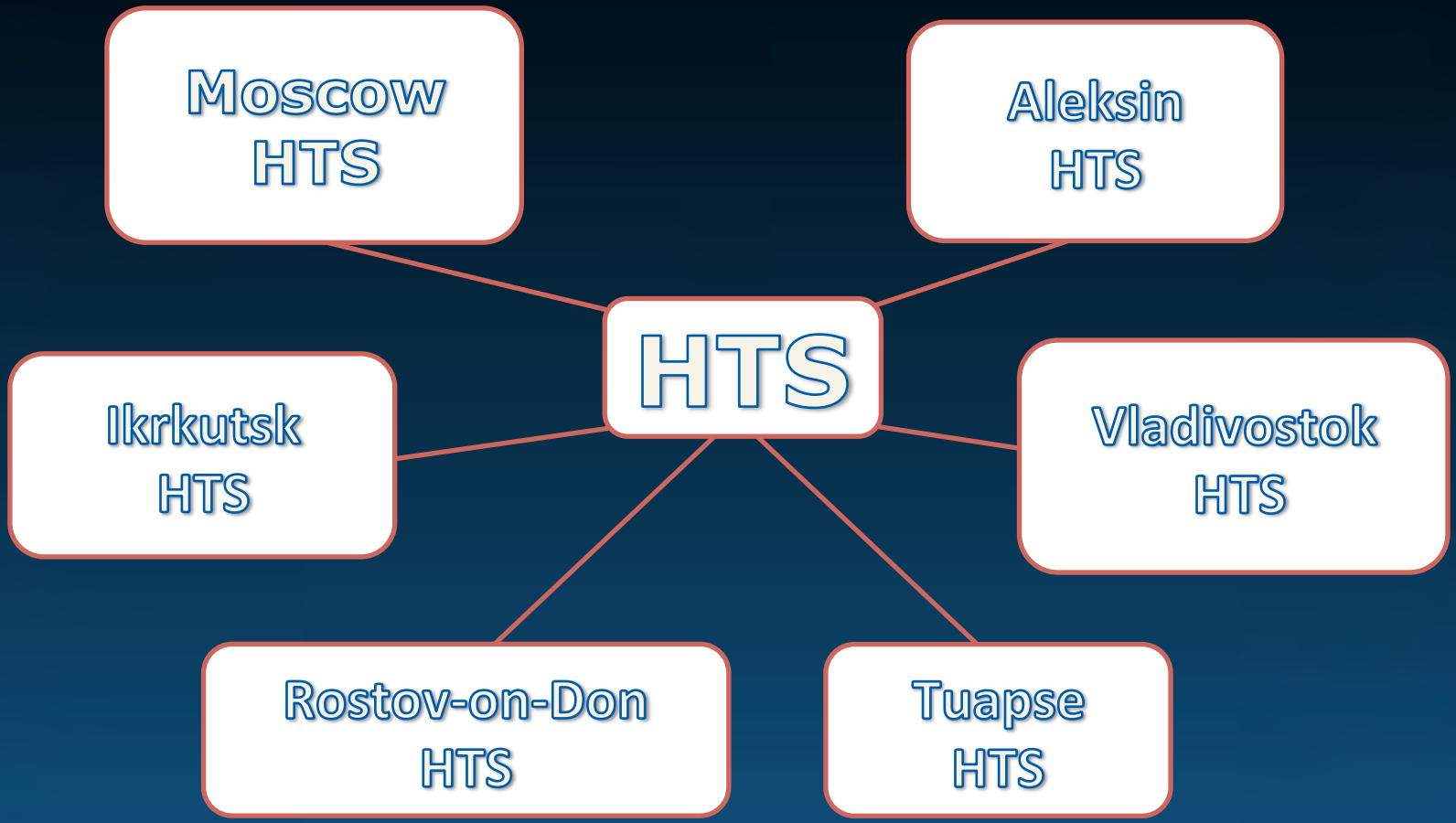


25% works with satellite data

About 340 (5%) should take professional development courses every year

REGIONAL TRAINING CENTERS OF ROSHYDROMET

Hydrometeorological technical schools



Moscow Hydrometeorological Technical School (MHTS)

020602 – Meteorology
280201 – Environmental protection and rational use of natural resources
210307 – Operation meteorological radio engineering systems
230103 – Automated systems of information processing and management
080110 – Economy, book keeping and the control

VIRTUAL LABORATORY of DISTANCE LEARNING in SATELLITE METEOROLOGY and HYDROLOGY

THE PRIMARY GOALS

- Improvement of quality of training, retraining and improvement of professional skill of experts in the field of hydrometeorology and adjacent sciences
- Maintenance of wide access of experts of Federal Hydrometereology and Environmental Monitoring Service, post-graduate students, students of educational institutions and experts of other departments to techniques and technologies of processing of the satellite information
- Increase of efficiency of use of materials of satellite remote sounding of the Earth
- Performance of the international obligations of Federal Hydrometereology and Environmental Monitoring Service

www.meteovlab.meteorf.ru

Teaching materials are prepared by leading scientists and experts in the given subjects.

On a site the lectures of foreign scientists prepared by them for English-speaking segments in system of virtual laboratories WMO on satellite meteorology translated into Russian are presented also

RF Virtual satellite laboratory website

THE WORLD METEOROLOGICAL ORGANIZATION
REGIONAL TRAINING CENTRE IN RUSSIA

Advanced Training Institute State Educational Organization

VLab VIRTUAL LABORATORY OF DISTANCE LEARNING IN SATELLITE METEOROLOGY AND HYDROLOGY

RSHMU The Russian State Hydrometeorological University

search... | To users | News | UNESCO-WMO modules | The dictionaries | The literature | Curricula and programs | Links | Site map

- Home
- Measurement tools (satellites)
- Meteorology
- Synoptic meteorology
- Aviation meteorology
- Hydrology
- Oceanology
- Climatology
- Agrometeorology
- Ecology
- Energetics
- Health

- Educational modules COMET

Home

Home

The first Russian-speaking site of distance learning in the satellite hydrology and meteorology, placed on Federal Hydrometeorology and Environmental Monitoring Service resources, pursues the aim - to inform to each interested person last achievements in the field of satellite meteorology.

The primary goals of virtual satellite laboratory: improvement of quality of training, retraining and improvement of professional skill of experts in the field of hydrometeorology and adjacent sciences, maintenance of wide access of experts of Federal Hydrometeorology and Environmental Monitoring Service, post-graduate students, students of educational institutions and experts of other departments to techniques and technologies of processing of the satellite information, increase of efficiency of use of materials of satellite remote sounding of the Earth, performance of the international obligations of Federal Hydrometeorology and Environmental Monitoring Service

Teaching materials are prepared by leading scientists and experts in the given subjects. On a site the lectures of foreign scientists prepared by them for English-speaking segments in system of virtual laboratories WMO on satellite meteorology translated into Russian are presented also. Except lecture materials on a site extensive help materials, curricula and programs on satellite meteorology for high schools and courses of improvement of qualification and another, necessary for educational process, the information are placed.

- To users
- Новые поступления на сайте
- News
- Archive of satellite data
- UNESCO-WMO modules
- Hydrometeorological dictionaries
- The literature
- Electronic publications
- Curricula and programs
- Links
- Tests (Moodle)
- Authors
- Site map

- Онлайн приемник CALMet
- Новейший японский метеоспутник
- План по воссозданию отечественной
- группировки метеоспутников под угрозой срыва

To users | News |

THE STRUCTURE AND CONTENT OF THE SITE

Right menu	Left menu
• Measurement tools (satellites) • Meteorology • Synoptic meteorology • Aviation meteorology • Hydrology • Oceanology • Climatology • Agrometeorology • Ecology • Energy • Health • Educational modules COMET	• Information for users • New materials • News • Archive of satellite data • UNESCO BILKO modules • Hydrometeorological dictionaries • Literature on topic • Electronic publications • Curricula and programs • Links • Tests (Moodle) • Authors • Site map

TRAINING MODULES

The competence centre

- Space program WMO
- From satellite pictures to information products

The theory of satellite researches

- The theory of the earth's satellite movement
- Systems of space sounding of atmosphere
- The main kinds of meteorological information from satellite
- The cloudiness pictures' interpretation
- Weather research based on space pictures

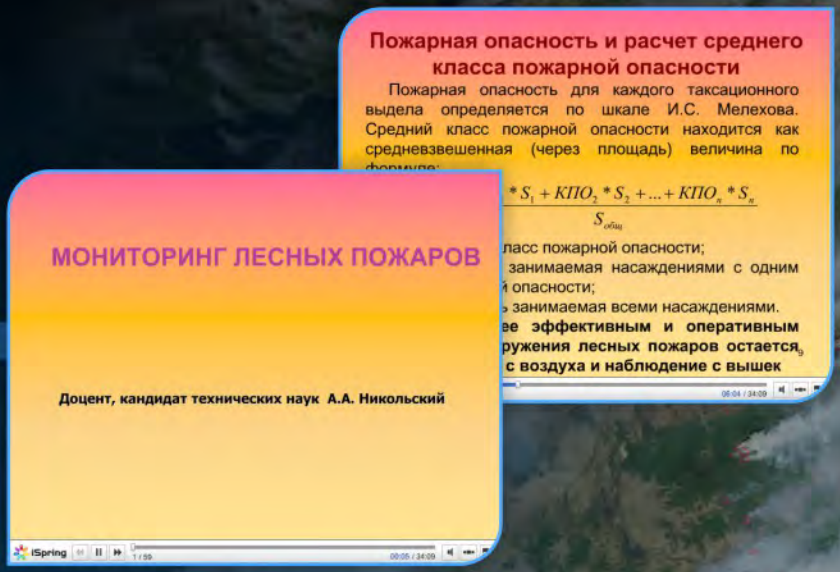
Satellite sounding of mesoscale systems of atmosphere

- Satellite methods of research of mesometeorological processe
- Recognition convective circulation in space pictures of over
- Mesoscale systems of cyclonic circulation according to meteo
- Identification and the forecast of not frontal curls on sate
- The diagnosis orographical mesoscale systems under the satel
- Influence of a spreading surface on clouds distribution unde

Use of satellite pictures for the analysis and the forecast

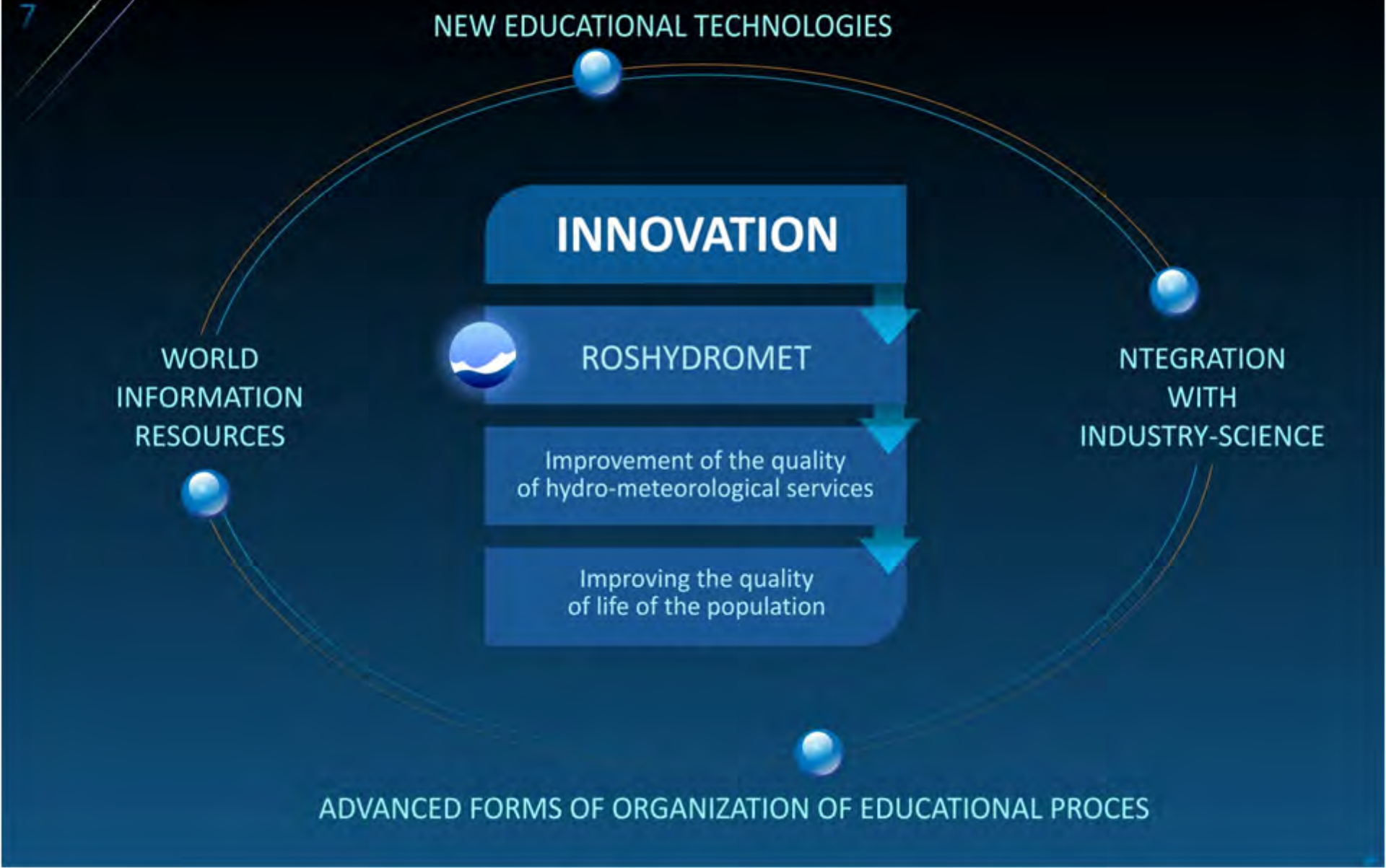
- The forecast of deposits on satellite pictures of overcast
- An estimation of a direction and speed of a wind under the
- The forecast of synoptic position on space pictures

TRAINING MODULES



- **Application of remote sounding**
- **Space systems**
- **Spectral ranges and their application**
- **Cloudy systems**
- **Atmosphere dynamic characteristics**
- **Vegetative cover**
  - Monitoring woodfire
  - Monitoring of a condition of wood ecosystems
  - Monitoring of a condition of agricultural crops
  - Desertification
- **The dangerous phenomena**
  - Definition of the dangerous phenomena
  - Detection of the dangerous phenomena on satellite data for average widths of Russia
    - Strong wind, including squall
    - Strong precipitations
    - Strong fog
  - Other dangerous phenomena by data from the satellites
    - Tropical cyclones (typhoons)
    - Tornado
    - Dusty storms
- **Monitoring of an ice cover**
- **Dynamics of an ice cover**
- **Environment pollution**

INNOVATIONS IN CONTINUOUS PROFESSIONAL DEVELOPMENT



DISTANCE LEARNING COURSES AT ATI

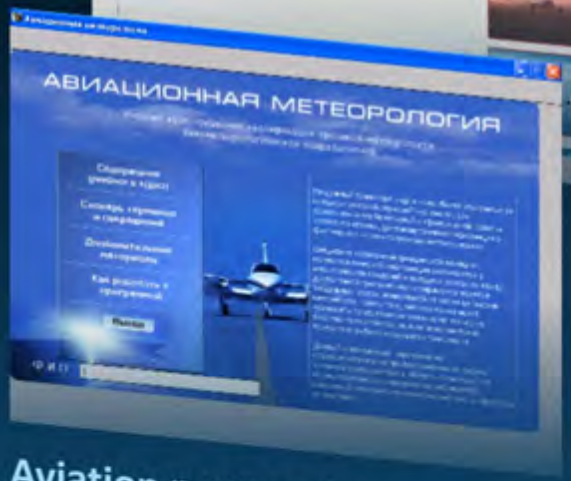
- Large-scale and mesoscale features of weather processes and their influence on activity of aviation
- Aviation meteorology. Educational course of inplant training of technicians of meteorologists of aviation subdivisions
- Modern marketings technologies
- Virtual satellite laboratory

EXAMPLES OF DISTANCE LEARNING COURSES

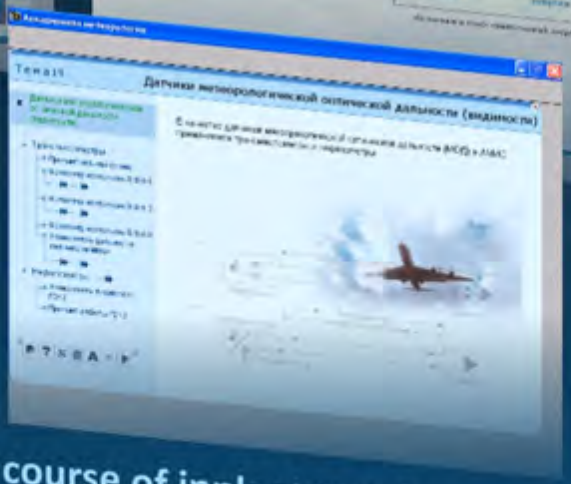
Large-scale and mesoscale features

of weather processes and their

influence on activity of aviation

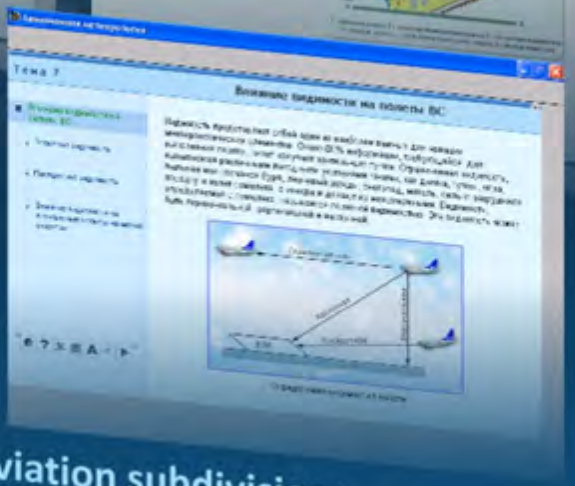


Aviation meteorology.



Educational course of inplant training

of technicians of meteorologists of aviation subdivisions



SATELLITE METEOROLOGY LESSON

USING VIRTUAL SATELLITE LABORATORY AT RTCS

Требования к компетентности

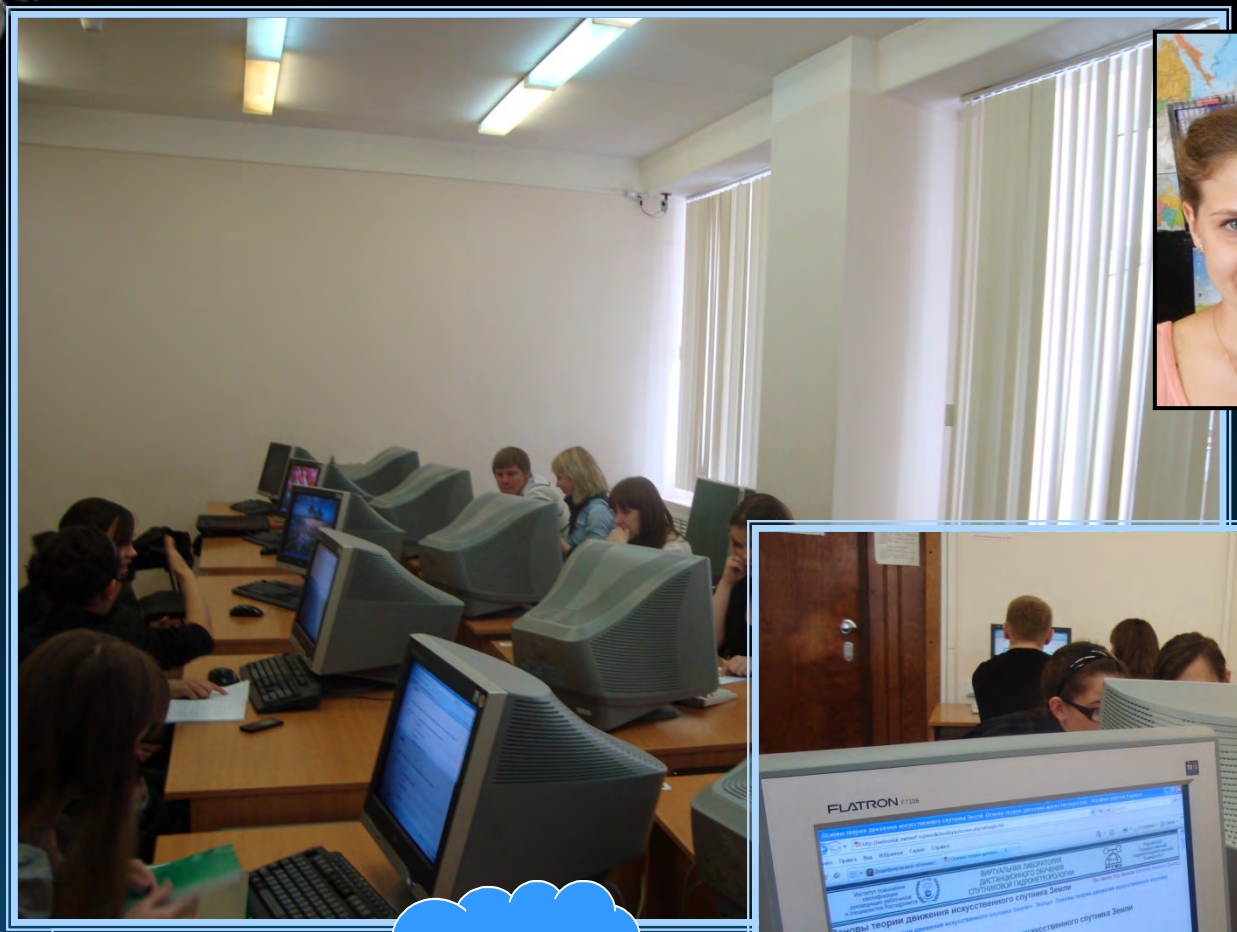
Авиационного **М**етеорологического

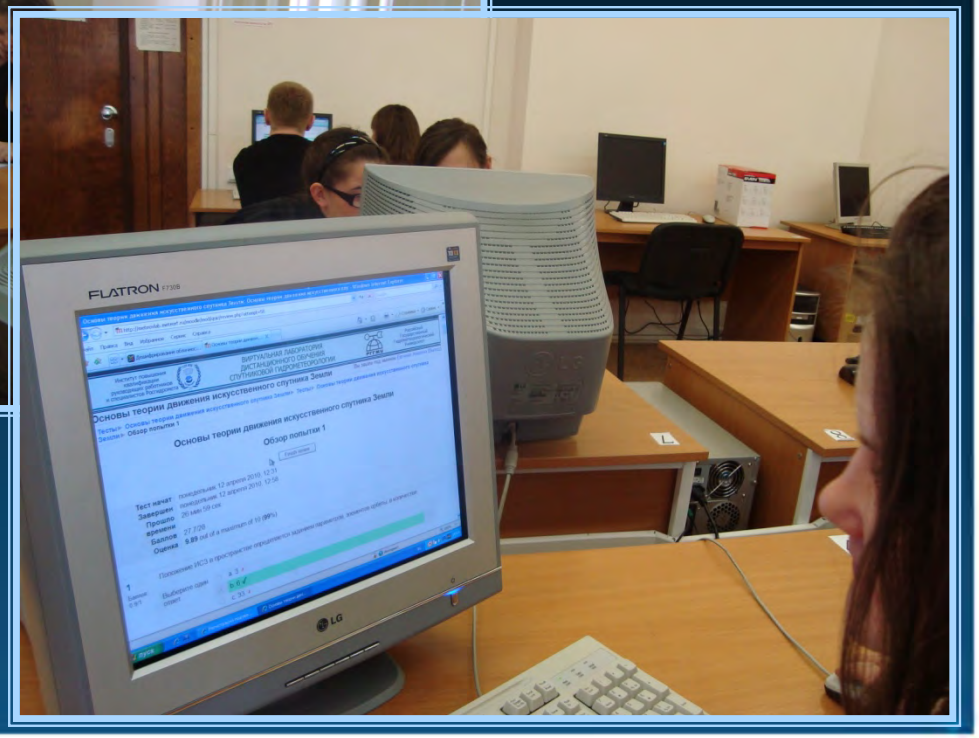
Персонала

2013 и последующие годы

SATELLITE METEOROLOGY LESSON

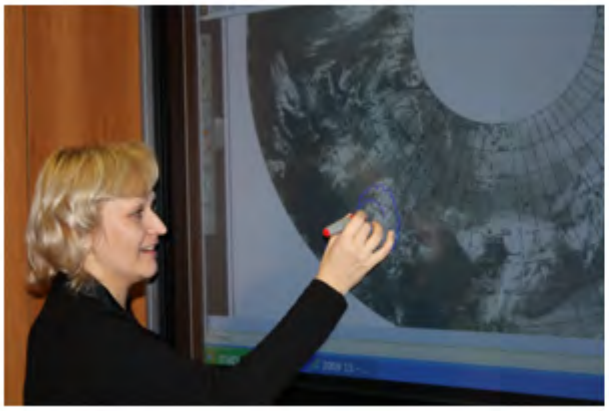
USING VIRTUAL SATELLITE LABORATORY AT UNIVERSITIES

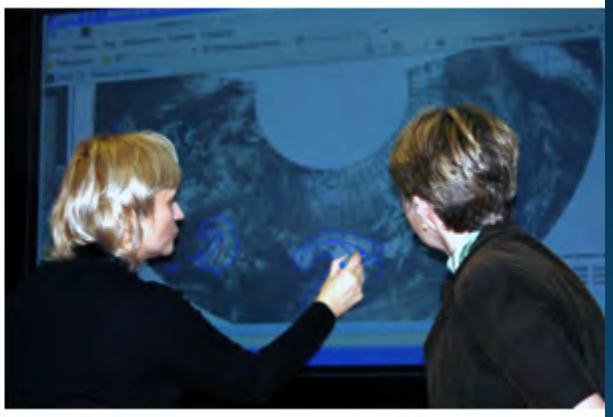




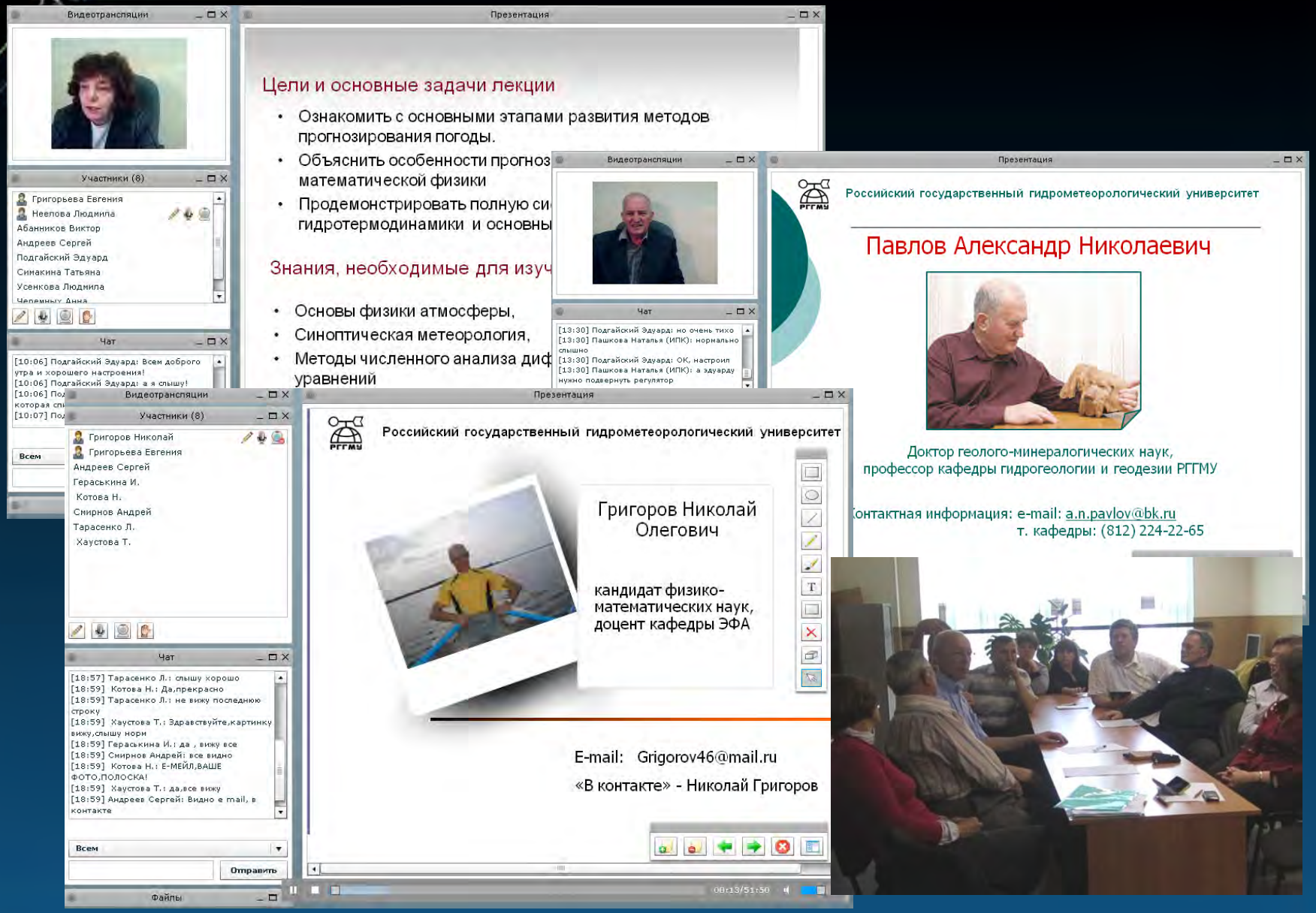
A MULTINATIONAL AUDIENCE

VLAB FOR FACE-TO-FACE COURSES





AND ONLINE MODULES



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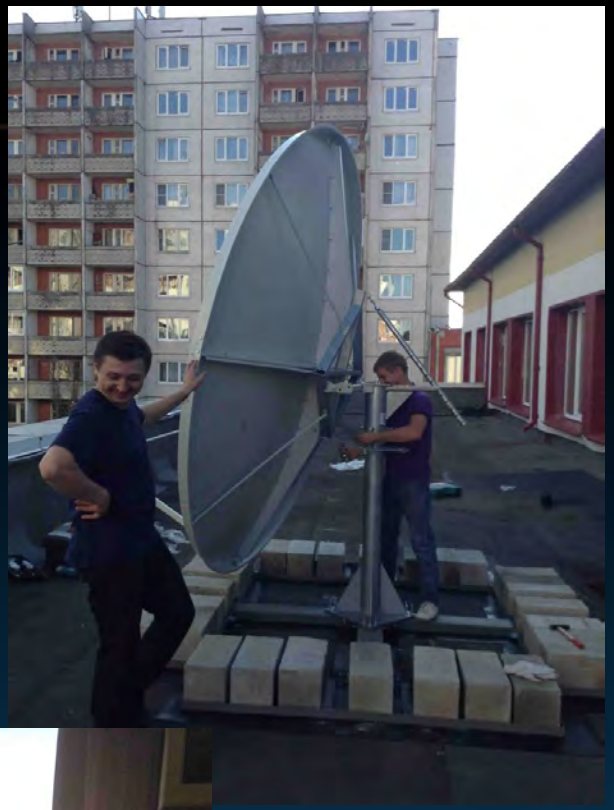

POSSIBLE WAYS OF COOPERATION

- Developing educational materials
- Joint teaching
- Tutors exchange
- Jointly organized conferences and seminars
- Developing educational programs and materials

Thank You for Your Attention!