

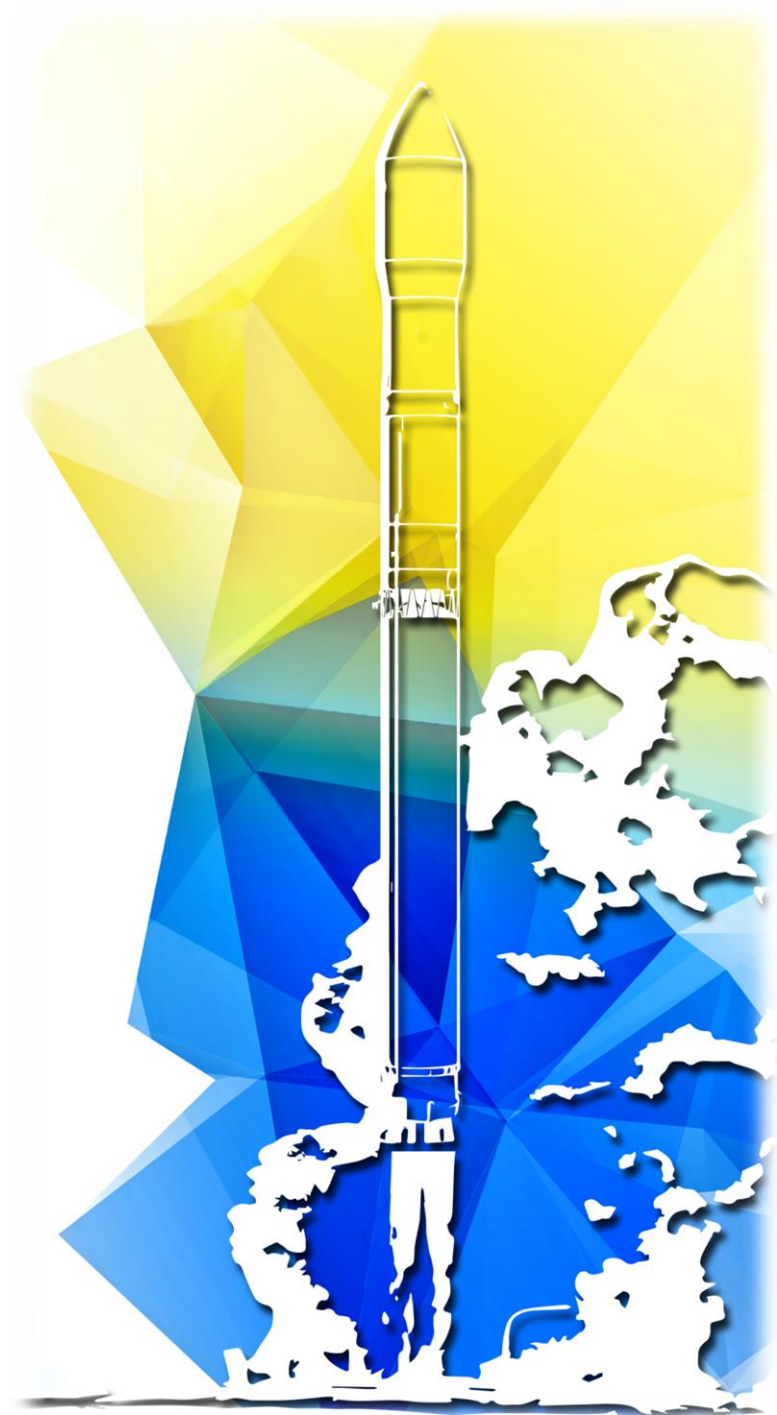


National Space Facilities Control and Test Center

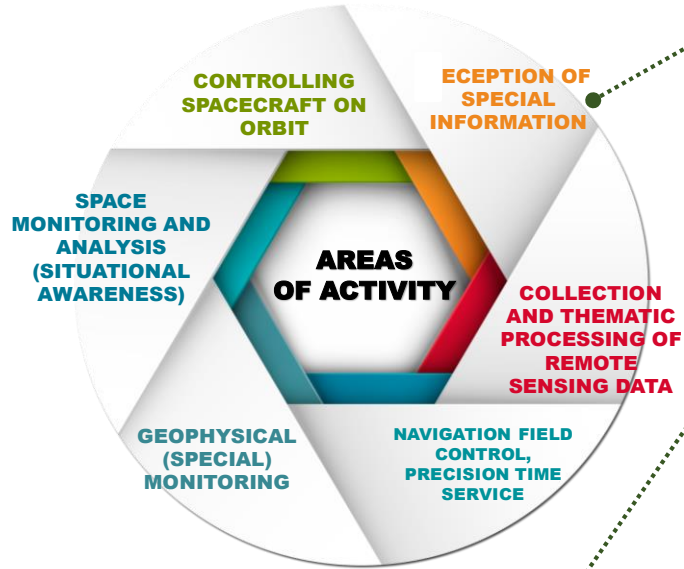
Remote Sensing as an Instrument of Economic Development of UKRAINE

The 56th session of the Scientific and Technical Subcommittee
of the UN Committee on the Peaceful Uses of Outer Space

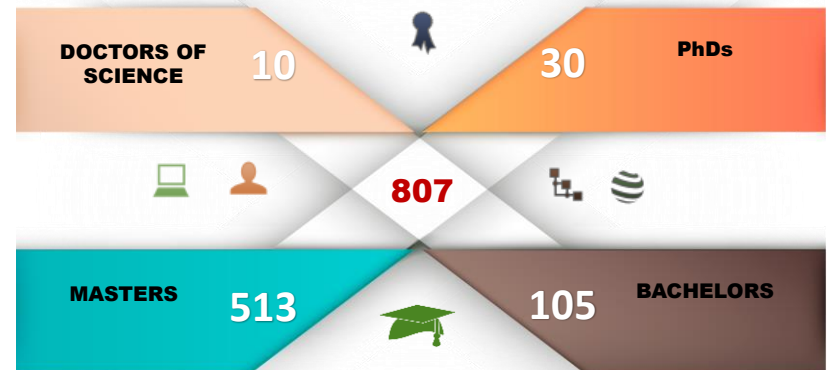
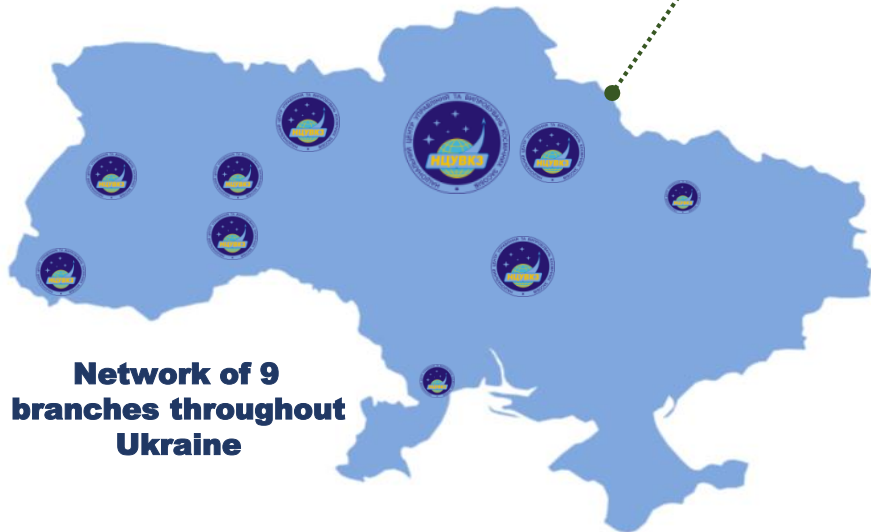
Vienna, 2019



About NSFCTC, Areas of activity



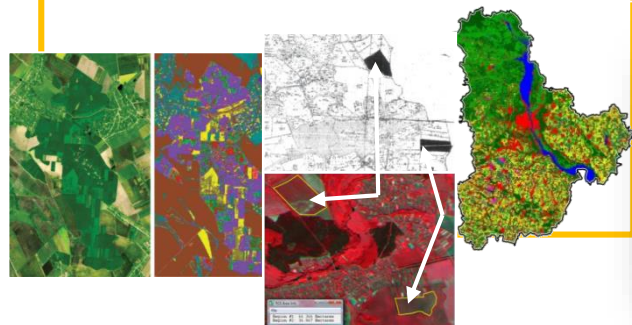
NSFCTC – is a scientific testing organization in Ukraine, which ensures the implementation of the entire range of activities for the operation of space, navigation and seismic systems, as well as remote sensing data processing.



RS as an Instrument of Development of Ukraine

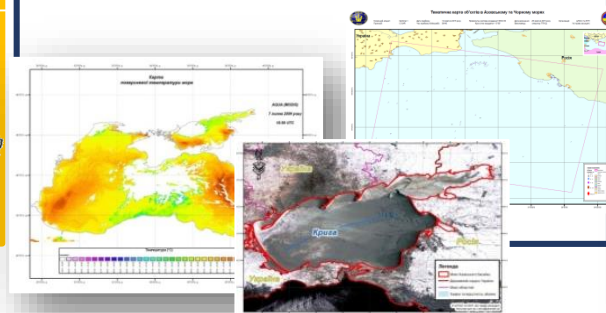
Land Monitoring

(Agriculture sphere, ecology, emergency situations, forest-, water-, land usage, etc.)



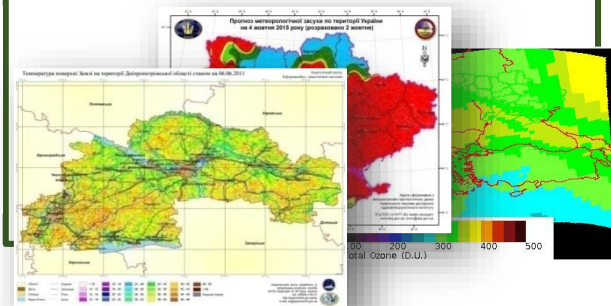
Seas / Oceans Monitoring

(shipping, outflows of oil, ice conditions, etc.)



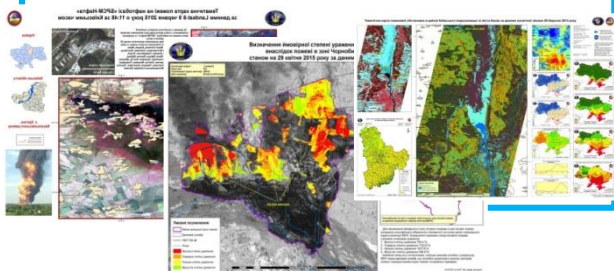
Atmosphere Monitoring

(sulfur dioxide index, ozone layer thickness, ultraviolet radiation and reflections, etc.)



Emergencies

(temperature maps of the state of territories and objects before, during and after an emergency)



Security and Defense

(defense spheres, internal security, threat monitoring, border security, maritime surveillance)



Climate Change

(climate monitoring, cover change analysis)

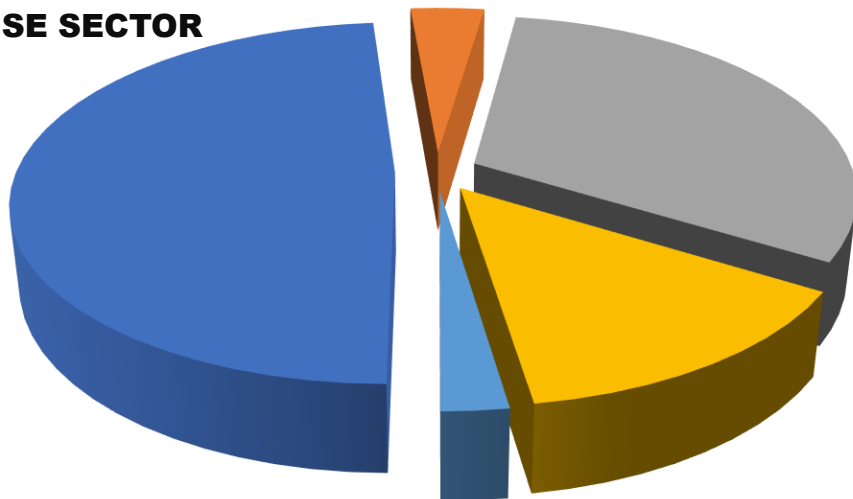


Services based on remote sensing data (thematic maps, reports, references) are used for the benefit of the economy of Ukraine (government agencies, local governments, population of Ukraine).

RS Applications for the Benefit of Ukrainian Economy

Ukraine's needs for remote sensing data by spheres

NATIONAL SECURITY AND DEFENSE SECTOR

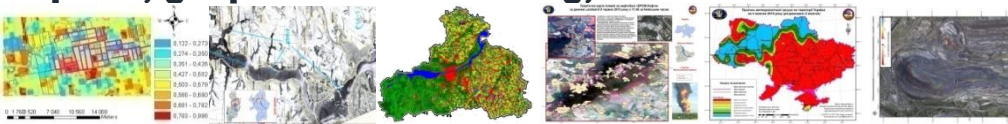


- National Security and Defense Sector 49 %
- Ecological sphere 4 %
- Food safety 31 %
- Civil protection 14 %
- Other spheres of economy 2 %

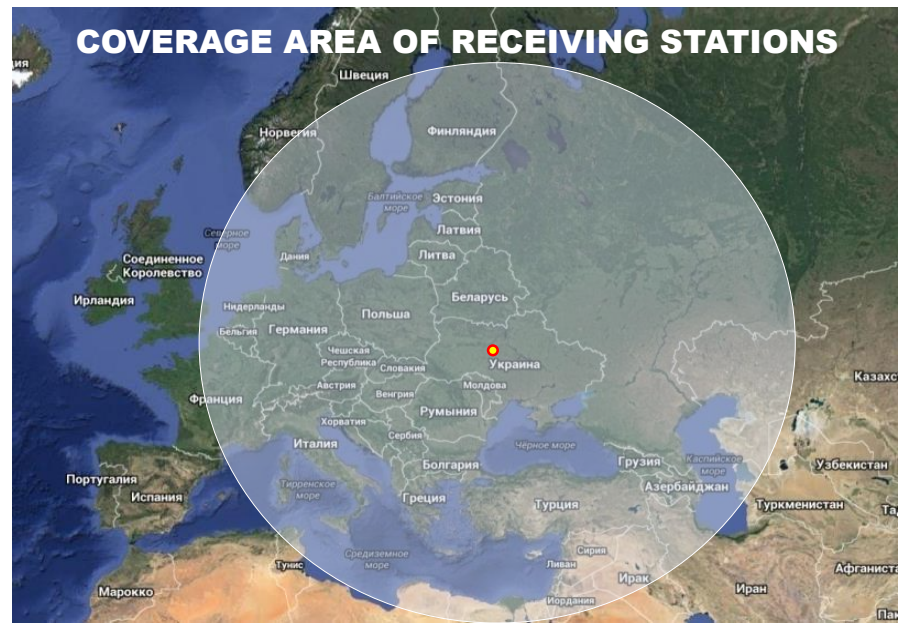
NSFCTC – Operator of the national space remote sensing systems which also ensures the reception of information from foreign remote sensing satellites.



- **Receiving of raw data streams from almost all existing remote sensing satellites.**
- **Thematic processing of remote sensing data.**
- **Preparation of photo-schemes, maps, analytical reports, geoportal administering, etc.**



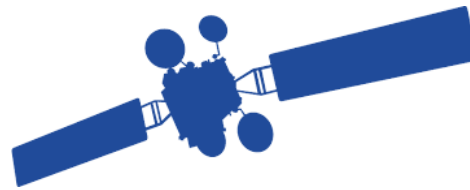
COVERAGE AREA OF RECEIVING STATIONS



Application of Remote Sensing Data for Environmental Monitoring and Emergency Situations

AIR QUALITY MONITORING

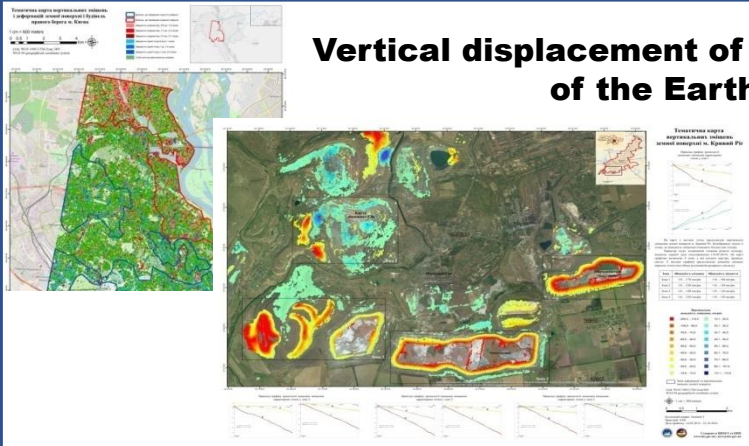
**MONITORING OF NATURAL
AND MANMADE DISASTERS**



ENVIRONMENTAL POLLUTION

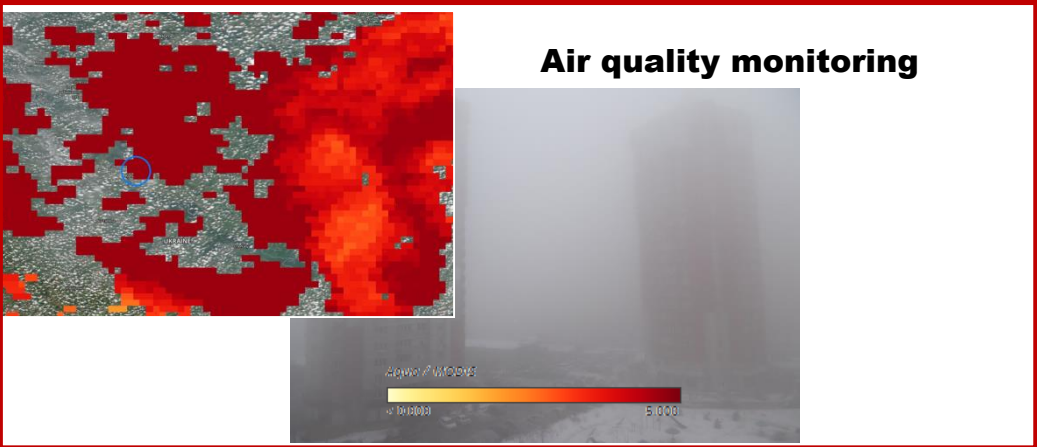
**MONITORING OF URBAN
DEVELOPMENT
(URBANIZATION)**

Vertical displacement of buildings in cities and of the Earth surface

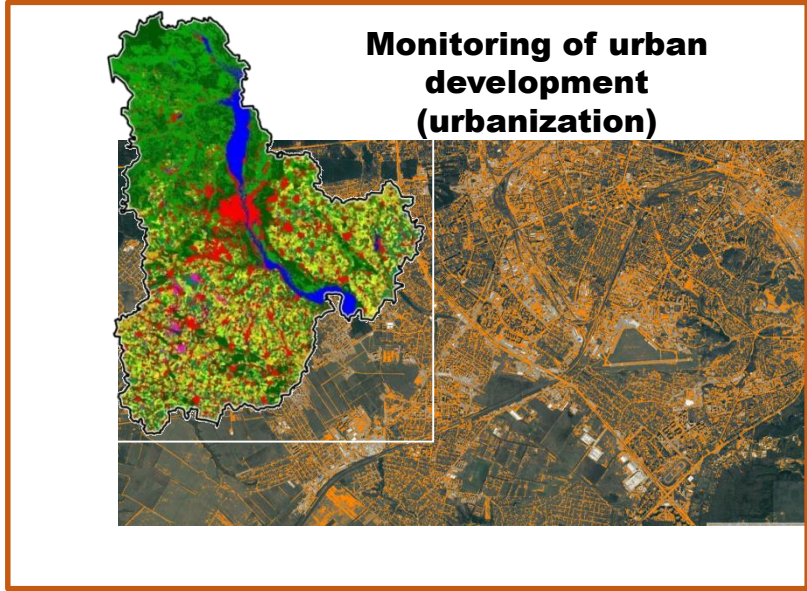


Planning and monitoring of green spaces

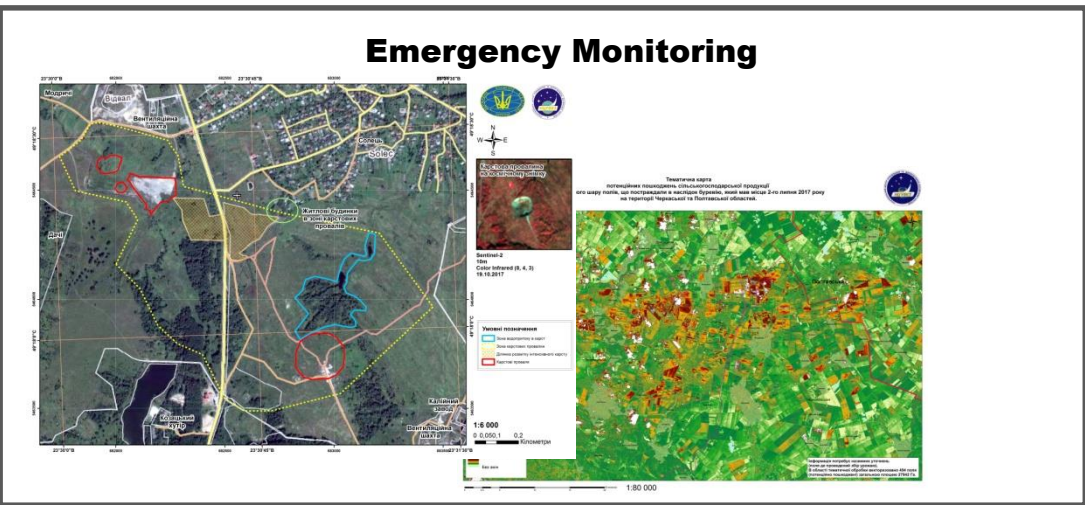
Air quality monitoring



Monitoring of urban development (urbanization)



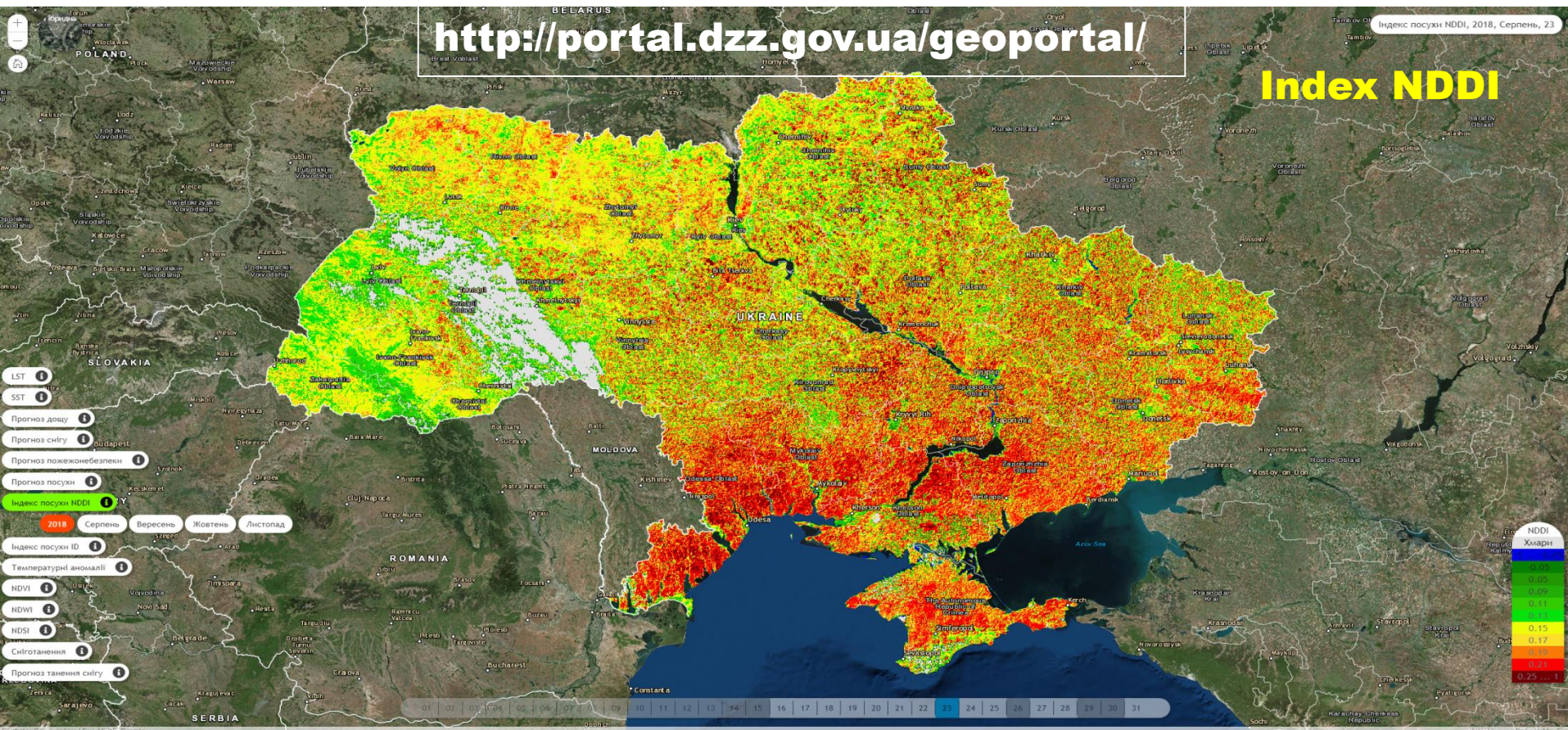
Emergency Monitoring



Services based on remote sensing data

In addition to targeted remote sensing services for state and commercial organizations, NSFCTC provides a number of services at the open Geoportal with online updates:

- Underlying terrain temperature
- Surface temperature of the Azov-Black Sea basin
- Normalized difference drought index (NDDI)
- Monitoring of drought conditions in Ukraine
- Normalized difference vegetation index (NDVI)
- Normalized difference water index (NDWI)
- Snow cover state
- Rain forecast
- Snow forecast
- Fire hazard forecast
- Drought forecast
- Temperature anomalies
- Snow melting
- Snow melt forecast



The use of Earth remote sensing in the interests of developing countries

NSFCTC has deployed a full range of ground infrastructure and created Remote Sensing Center with Information and Analytical units, which has practical experience working with national and international governmental and commercial organizations in the following areas:

The use of remote sensing data in the sector of the national economy of the state brings practical benefits and helps to diversify risks and threats in the context of limited economic resources and capital.

NSFCTC is ready to cooperate and takes part in commercial and state projects with the aim of developing economy in the European and other regions in the following areas:

National economy



Agroindustry



Mining



Forest industry



Construction and architecture



Heavy Metallurgy



Fish industry



National Security and Defense

Scientific and practical seminars

Training of personnel to work with remote sensing data in GIS

Practical courses

Training of personnel to work on control stations and receive information from remote sensing satellites

Implementation of remote sensing into the economy

Creation of remote sensing centers, including ground segment



**Thank you
for your attention!**

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