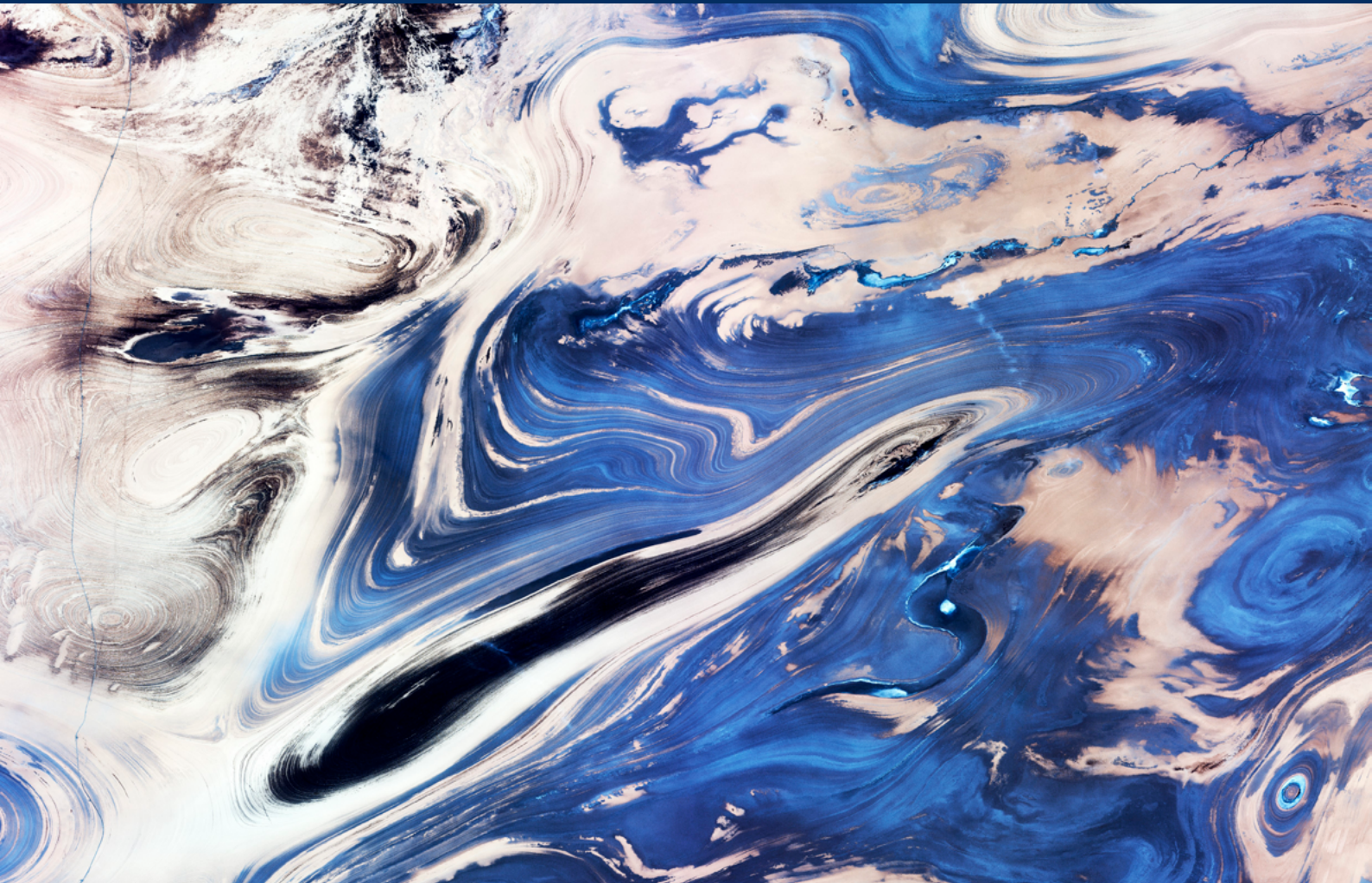




Earth Observation SERVICES AND SOLUTIONS



About Us

Azercosmos is the only satellite operator offering cutting-edge Earth observation services in Azerbaijan and Caucasus region. We are the leading force behind the development of innovative space ecosystem in Azerbaijan.

Founded in 2010 as the first and only satellite operator in the region, we have been successfully delivering high-quality and reliable services and solutions to partners across the globe for over a decade now. We are uninterruptedly observing the surface of the Earth to provide you with the imagery from any point of the planet at the shortest possible time.

Our services are not limited to simple visualization of your on-ground area of interest, but can also perform change detection, monitoring and analytics to generate comprehensive reliable data to accommodate even the most complex requests and enable your critical decisions.



Benefits



1

Prompt image delivery



2

High resolution imagery



3

Global coverage area



4

Imagery of any point of Earth surface area



5

Superior coverage speed



6

Archive of satellite images



7

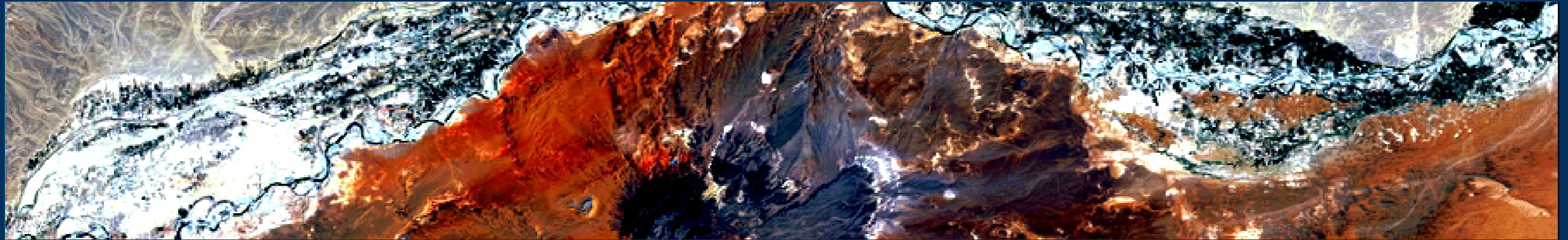
Instant customer support



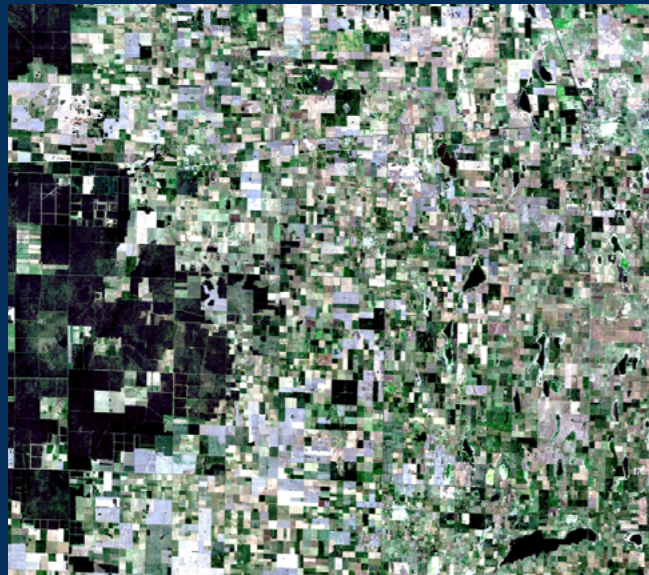
8

Individual solutions and services

Key Features



Stereo and Tri-stereo acquisitions



2D & 3D digitalization



Ideal conditions for topographic mapping at scale 1:2000–1:100000



1:2000–1:100000



Acquisition capacity of 3 million km² per day

Image resolution options

Depending on the request, the following image resolutions may be provided:
in the resolutions below



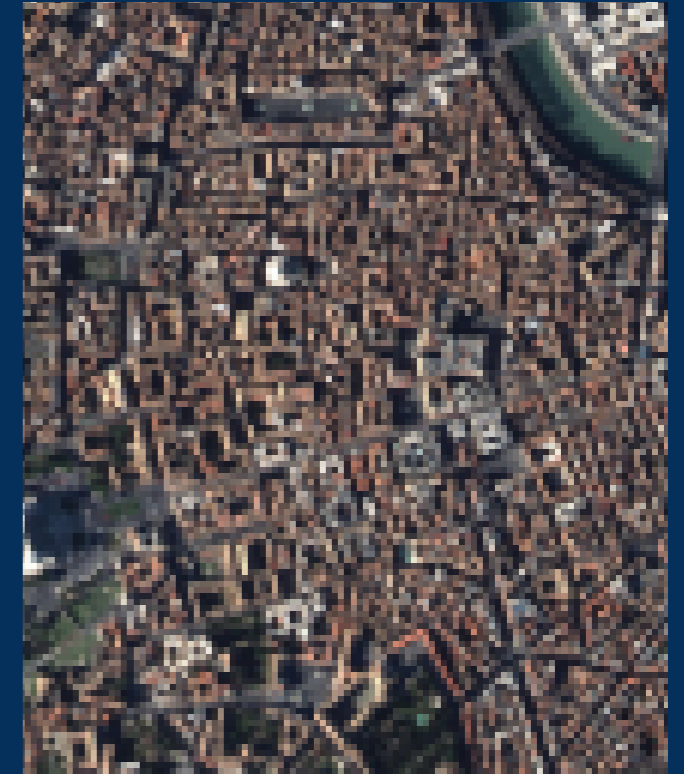
0.3 m



0.5 m



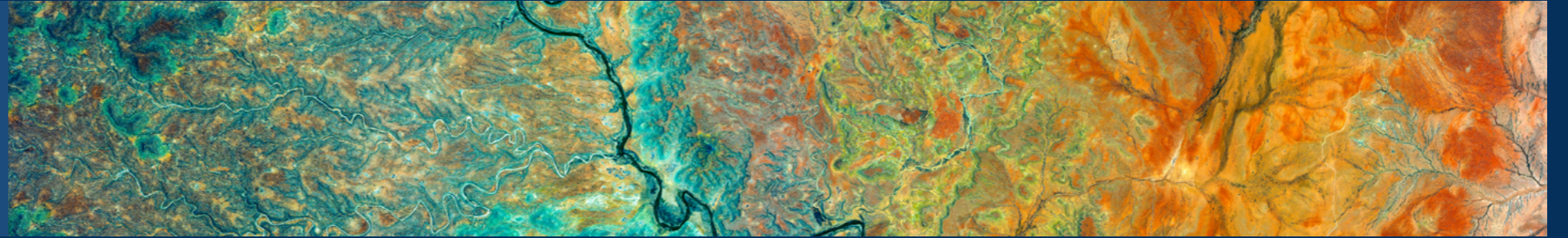
1 m



1.5 m

Satellite Imagery

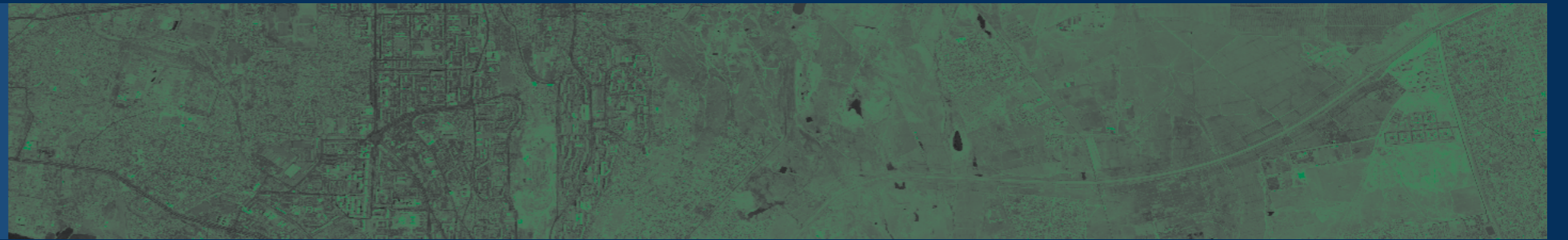
Pansharpenning



Multispectral



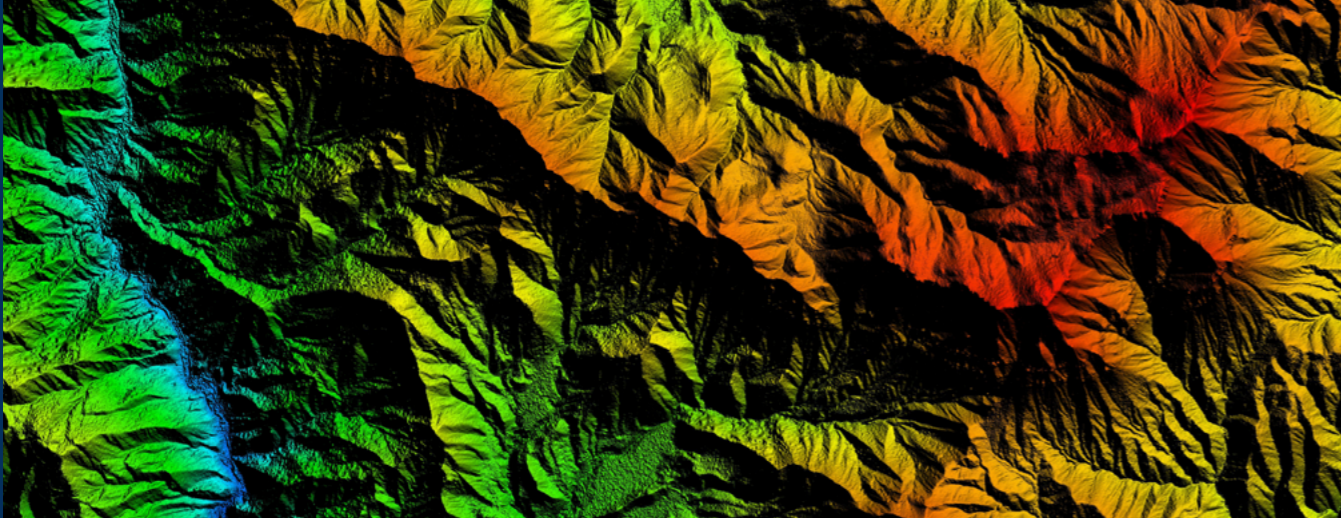
Panchromatic



Mono, Stereo & Tri-stereo



Value-Added Imagery



DSM (Digital Surface Model)

Captures both the natural and built/artificial features of the environment.

DEM (Digital Elevation Model)

Represents the bare-Earth surface, removing all natural and built features.



Mosaicking

Allows to combine multiple image scenes or tiles.



Orthorectification

A process of geometric progression of images that eliminates perspective distortions, rotations, distortions caused by lens distortion, and distortions caused by relief. The image is then brought to a plan projection

Radar Imaging

Obtaining images of the Earth's surface in the microwave range

Benefits:

- Independence from weather conditions
- Ability to work day and night
- High accuracy of measuring coordinates and geometry of objects
- Detection of objects invisible in the optical/infrared range
- Penetration through snow, vegetation and underground

Data:

- Phase component: measurement of surface displacements
- Amplitude component: decryption of objects

Application:

- Severe weather conditions
- Night time
- Detection of hidden objects
- Mapping and monitoring of the earth's surface



Solutions

Our solutions are designed to derive valuable insights from the acquired satellite imagery for further application in various spheres, **including agriculture, urban planning, environment, tourism and more.**



Urban Planning and Infrastructure

- Urban planning
- Management and monitoring of urban planning processes
- Urban growth assessment
- Resource allocation optimization
- Selection of suitable places
- Infrastructure monitoring
- Infrastructure change detection
- Construction monitoring
- Built-up detection areas
- Land use and land cover monitoring and mapping
- Road network analysis
- Transportation infrastructure mapping
- 3d modeling
- Topography mapping



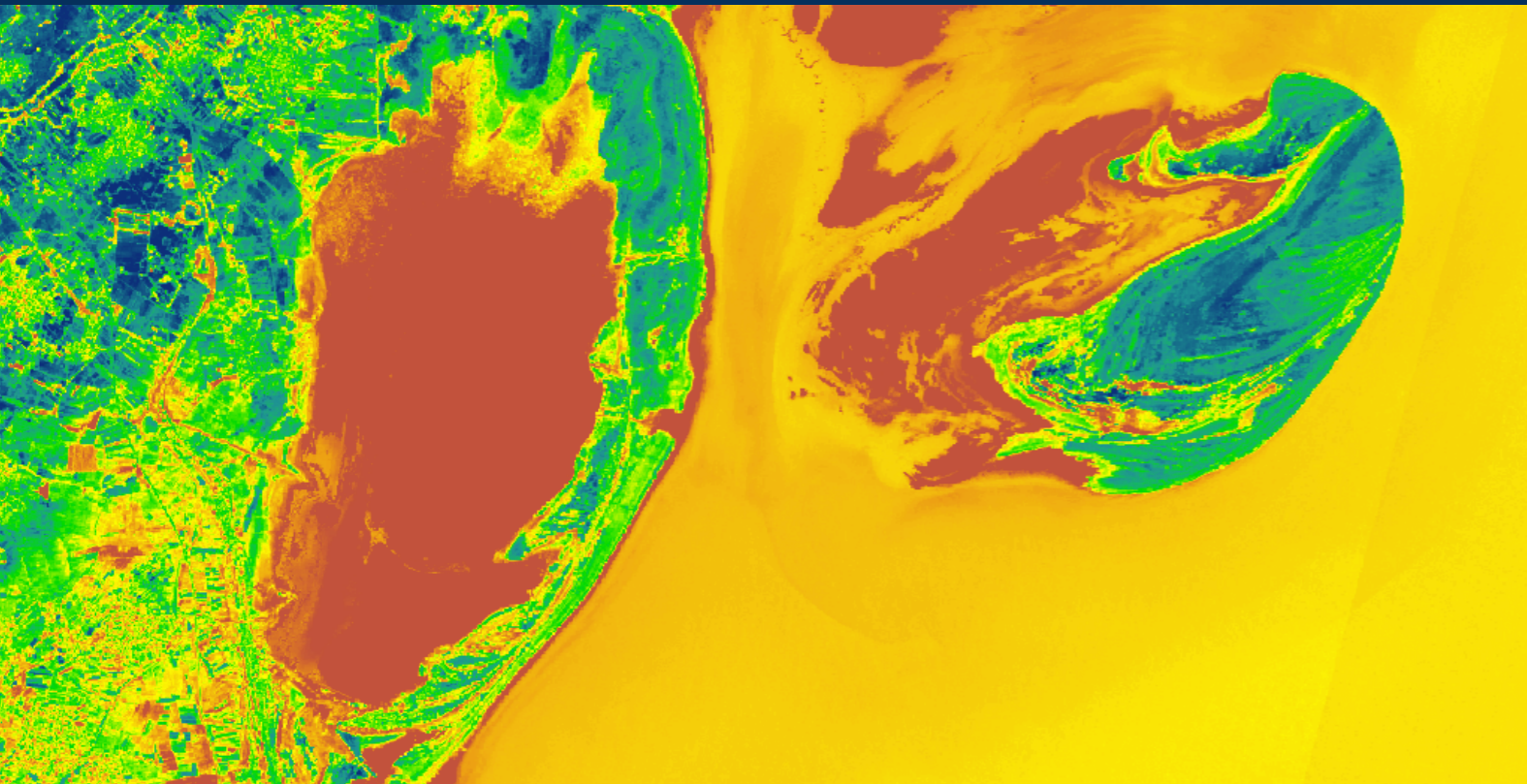
Agriculture

- Crop classification and mapping
- Identification of plowed lands
- Crop yield prediction
- Crop growth monitoring
- Monitoring the vegetation condition
- Crop health assessment
- Suitability assessment for crop areas
- Identification of potential grazing areas
- Identification of potential areas suitable for perennial garden plots
- Inventory of greenhouses and pivots
- Determining suitable areas for beekeeping
- Determining resources for livestock areas
- Field surveyor data management



Vegetation and Environmental Indices

- Ndvi (normalized difference vegetation index)
- Normalized burnt index
- Enhanced vegetation index
- Moisture stress index
- Normalized difference water index
- Soil adjusted vegetation index



Flood and Water Management

- River and watershed management
- Flood risk assessment
- Water resources quality assessment
- Water surface detection
- Reservoirs and water bodies monitoring
- Timeseries mapping and analysis



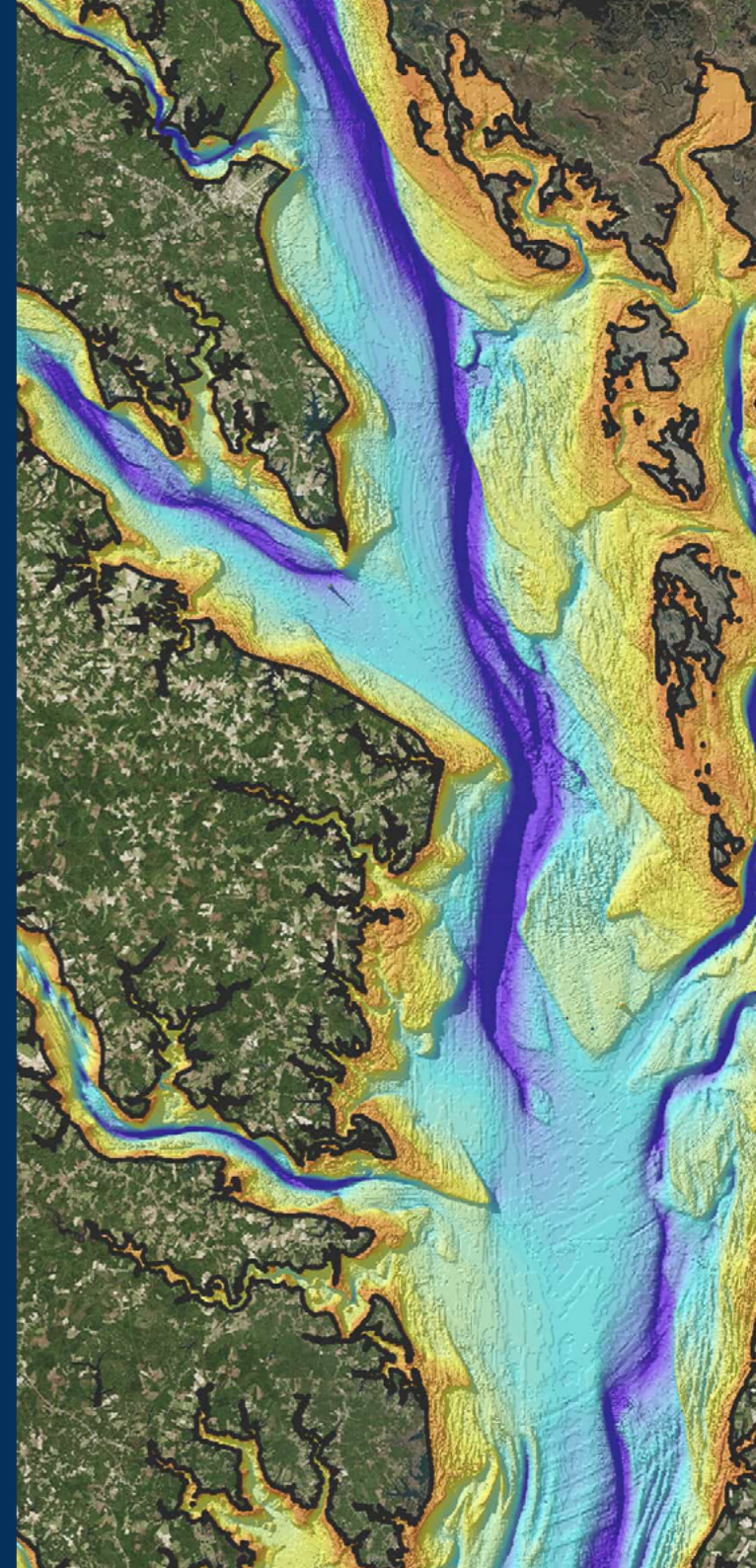
Environment and Forestry

- Environmental monitoring
- Change detection of special protected areas
- Wildlife & habitat conservation
- Identification of wildlife corridors
- Emergency and disaster management
- Monitoring of forests, deforestation
- Forest density and tree height assessment
- Environmental thematic mapping
- Monitoring of natural resources
- Desertification assessment
- Monitoring of water resources
- Detection of marine pollution
- Drought assessment
- Land degradation assessment (salinity, erosion)
- Land cover classification-lulc



Image processing

- Multi-solution segmentation
- Object export co-registration
- Multitype basemap (or imagery basemap)
- Super-resolution
- Pansharpen
- Synthetic imagery
- Multispectral
- Panchromatic
- Mono, stereo, tri-stereo
- Ortorectification
- Mosaicking
- Cloud mask
- Digital terrain model
- Digital surface model
- Photogrammetric solutions

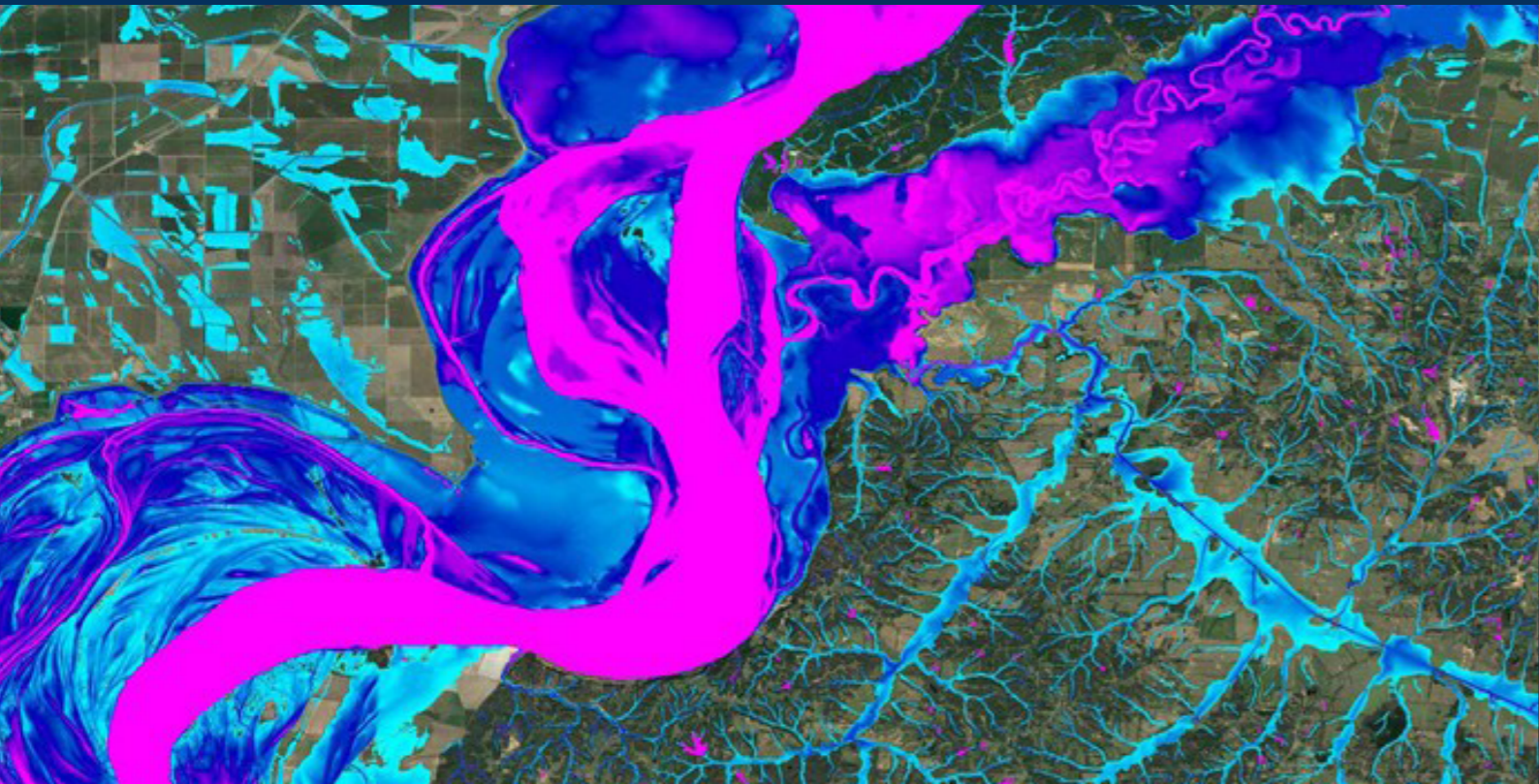


Risk Assessment and Prevention

- Hazard vulnerability analysis and assessment
- Insurance underwriting-geographic underwriting stations (gus)
- Disaster management planning
- Environmental risk assessment
- Flood risk assessment
- Seismic risk assessment
- Landslide risk assessment
- Wildfire risk assessment
- Fire identification and monitoring

Defense and Intelligence

- Security solutions
- Military objects detection
- Target identification and detection
- Military ground mobility solutions
- Vehicle detection
- Aircraft and ship detection
- Viewshed analysis and border monitoring
- Maritime domain awareness (illegal maritime activities)
- Management of preparedness for critical situations



Geospatial Asset Management

- Object detection
- Damage assessment
- Change detection in the condition of assets
- Economic spatial relationships assessment
- Utility management and mapping
- Spatial relationships assessment



Energy Sector

- Renewable energy site selection for wind turbines and solar panels
- Land surface temperature estimation
- Determination of alternative energy potential by regions
- Hydroelectric dams monitoring
- Optimal pipeline route planning and corridor monitoring
- Identification of encroachment
- Offshore survey
- Ground movement and displacement monitoring
- On-shore site monitoring
- Identification of leakages



Tourism

- Determination and planning of tourism routes
- Finding suitable sites
- Monitoring and mapping of touristic destinations
- Interactive mapping
- Navigation and accessibility

Data Processing and Analysis

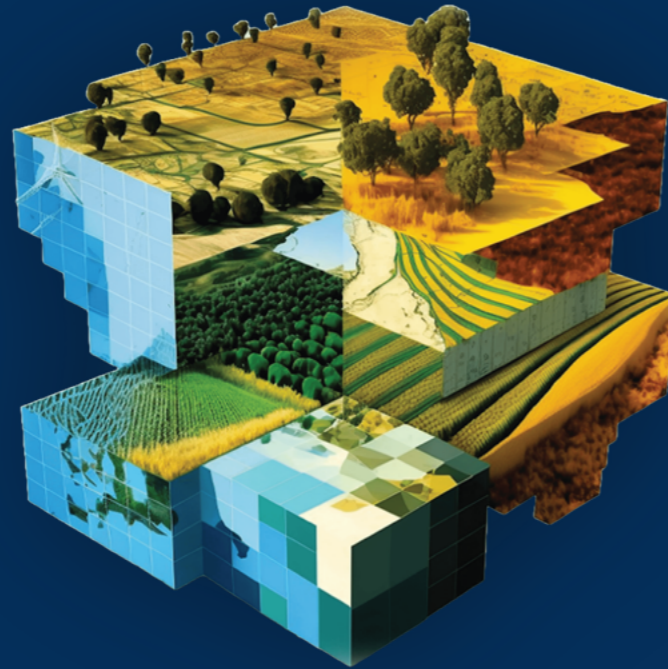
- Data management
- Image analysis
- Spatial analyses
- Statistical and geostatistical analyses
- Suitability analysis
- Network analysis
- Business valuation analysis
- Raster tiling
- Zonal statistics



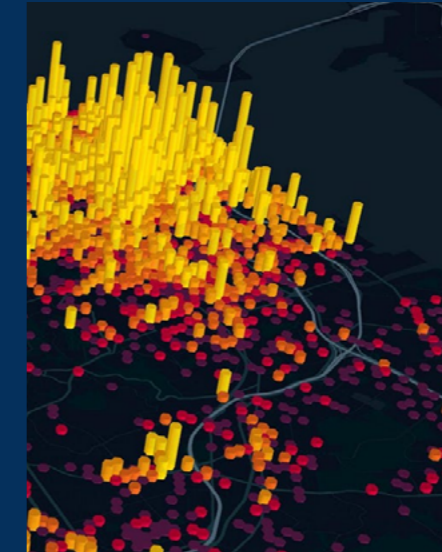
In-house built Platforms and Applications:

AI Products

- Super-resolution
- Synthetic imagery
- Ship detection
- Building detection
- Aircraft detection
- Change detection
- Vehicle detection
- Military objects detection
- Multi-solution segmentation
- Greenhouse detection
- Crop detection
- Automatic crop boundary delineation
- Water surface detection



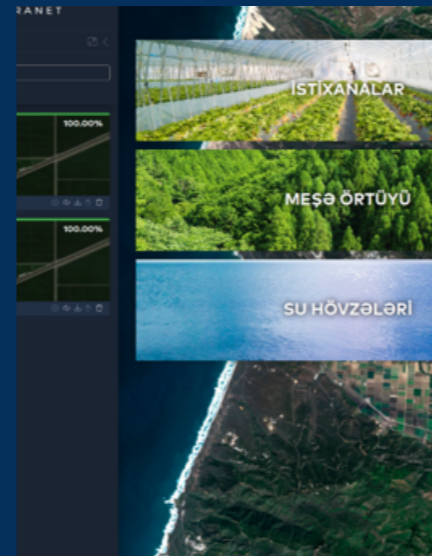
FarmerApp



Web GIS



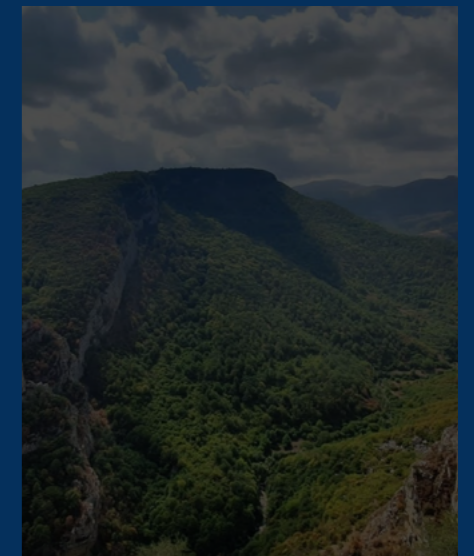
ClimateAz



TerraNet



GEO 360



TouristApp

Direct Receiving Station (DRS)

Our Direct Receiving Station (DRS) offers continuous access to Earth Observation satellites to instantly download data and process it as required. Multifunctional by nature, our DRS can boast a perfect geographic location and a 24/7 security managed operation. It has a full motion antenna capable of tracking any trajectory coming from any direction and down to a theoretical altitude of 150 km.



SPACE AGENCY OF
THE REPUBLIC OF AZERBAIJAN



Our professional team is always
ready to provide support for all
your questions and requests.

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