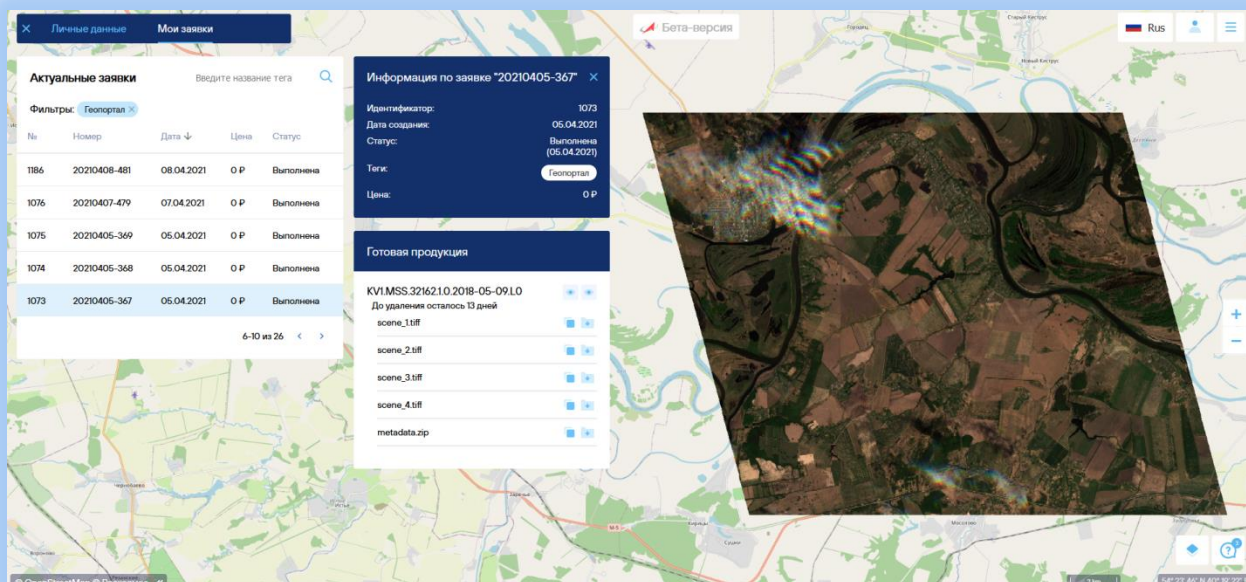


Data ordering from the Fund

Remote sensing data ordering is organized thru the geoportal of Roscosmos State Corporation.



1. Searching remote sensing data

In the “Area of Interest” panel, select one of the options:

“Screen area”. When this option is selected (selected by default), you can search the images in the area limited by the map displayed on the screen.

“Indicate on the map”. When this option is selected, an additional toolbar appears on the screen to the right of the “Area of Interest” panel (Figure 9).

Figure 9. Toolbar “Area of interest”, the option “Indicate on the map”

The following buttons can be used:

“Draw a Rectangle”. Use this tool to define a rectangular search area. To do this, click on the map and, while stretching the rectangular area in an arbitrary direction, make another click on the map. The selected rectangular area will be displayed on the screen.

“Draw a polygon”. Use this tool to define the search area in the form of an arbitrary closed contour. To do this, click several times in different parts of the map, and finally make a double click. The closed area of the selected shape will be displayed on the screen (Figure 10).

“Clear the result” (the “oblique cross” icon on the toolbar). Use this tool to reset the previously selected search area. Once clicked, it will no longer be displayed on the map.

2. Selecting the spatial resolution or a sensor equipment

By checking the boxes on the “*Resolution*” tab opposite the options of “*Low*”, “*Medium low*”, “*Medium*”, “*High*”, “*Detailed*” the desired spatial resolution of the images produced by the search can be set up. The satellite and the target equipment that performed the acquisition (one or more options) can also be selected on the “*Sensor Equipment*” panel (Figure 12). The “*Resolution*” and “*Sensor Equipment*” parameters are related as follows:

- “*Low*” – images made by “MSU-MR” target equipment;
- “*Medium low*” – images made by SHMSA-SR, KMSS (including KMSS-M and KMSS-2), TM, MSS, ETM+, OLI, and MSI target equipment;
- “*Medium*” – images made by GSA, SHMSA-BP, TM, ETM+, OLI, and MSI target equipment;
- “*High*” – images made by Geoton-L1 (multispectral bands), PSS, MSS (KA “Kanopus-V1, Kanopus-V2, Kanopus-V4, Kanopus-V-1K”), and MSI target equipment;
- “*Detailed*” – images made by Geoton-L1 target equipment (panchromatic band).

| Разрешение | Съёмочная аппаратура |
|--|----------------------|
| <input checked="" type="checkbox"/> Низкое | 1000 м |
| <input checked="" type="checkbox"/> Среднее низкое | 42 - 120 м |
| <input type="checkbox"/> Среднее | 12 - 30 м |
| <input type="checkbox"/> Высокое | 2 - 11 м |
| <input type="checkbox"/> Детальное | 0,7 - 1 м |

| Разрешение | Съёмочная аппаратура |
|--|--|
| <input checked="" type="checkbox"/> Канопус-В | <input checked="" type="checkbox"/> ПСС / МСС |
| | <input type="checkbox"/> МСУ-ИК-СРМ |
| <input checked="" type="checkbox"/> Ресурс-ДК | <input type="checkbox"/> Геотон |
| <input checked="" type="checkbox"/> Метеор-М | <input checked="" type="checkbox"/> КМСС (МСУ-100) |
| | <input checked="" type="checkbox"/> КМСС2 (МСУ-ТМ-100) |
| | <input checked="" type="checkbox"/> МСУ-МР |
| <input checked="" type="checkbox"/> Landsat-8 | |
| <input checked="" type="checkbox"/> Sentinel-2 | |

3. Working with found images

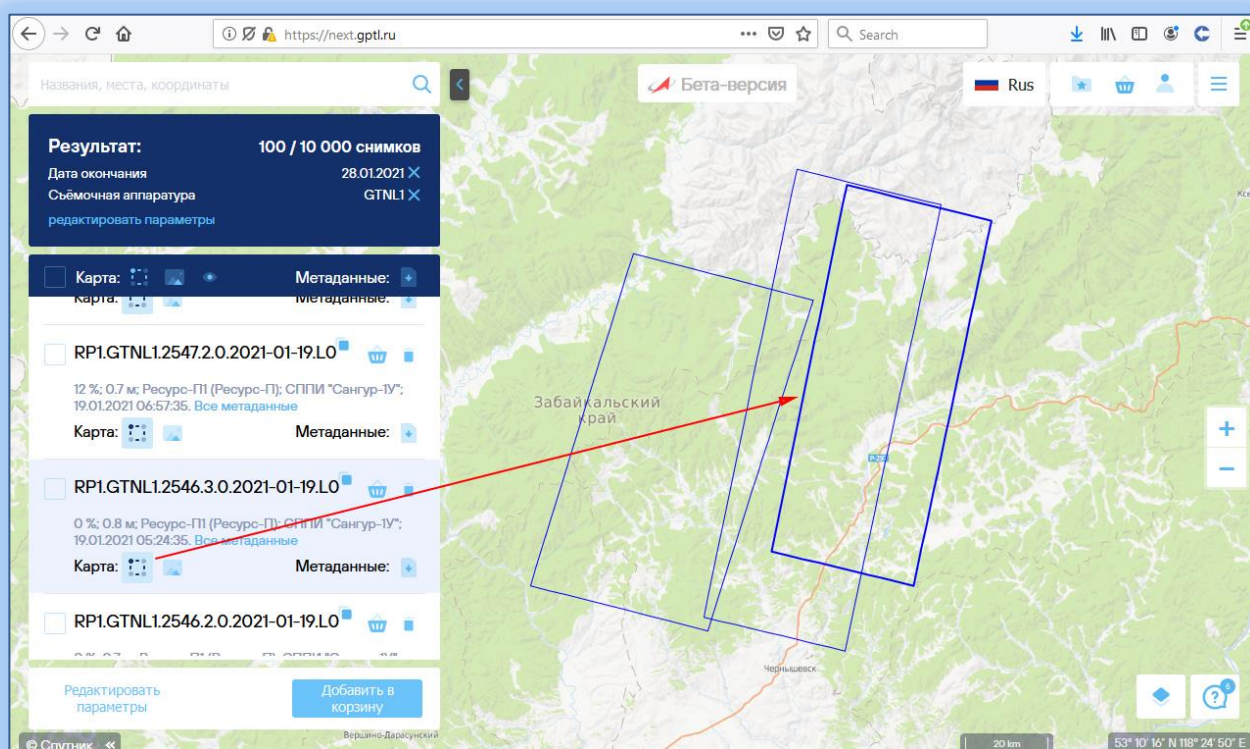
By default, the screen displays a list of 100 found images. If the total number of the found images is more than 100, then a “*Load more images*” button will appear at the bottom of the list. Once the button is clicked, the next 100 images will be loaded, etc. The number of images displayed against the total number of found images is displayed in the “*Result*” panel.

The panel below contains a list of found images.

Once clicking on the identifier (name) of the image, the map on the right will be scaled to the selected image, while its contour (border) will be displayed with a thicker line than the contours of the other adjacent images (if any).

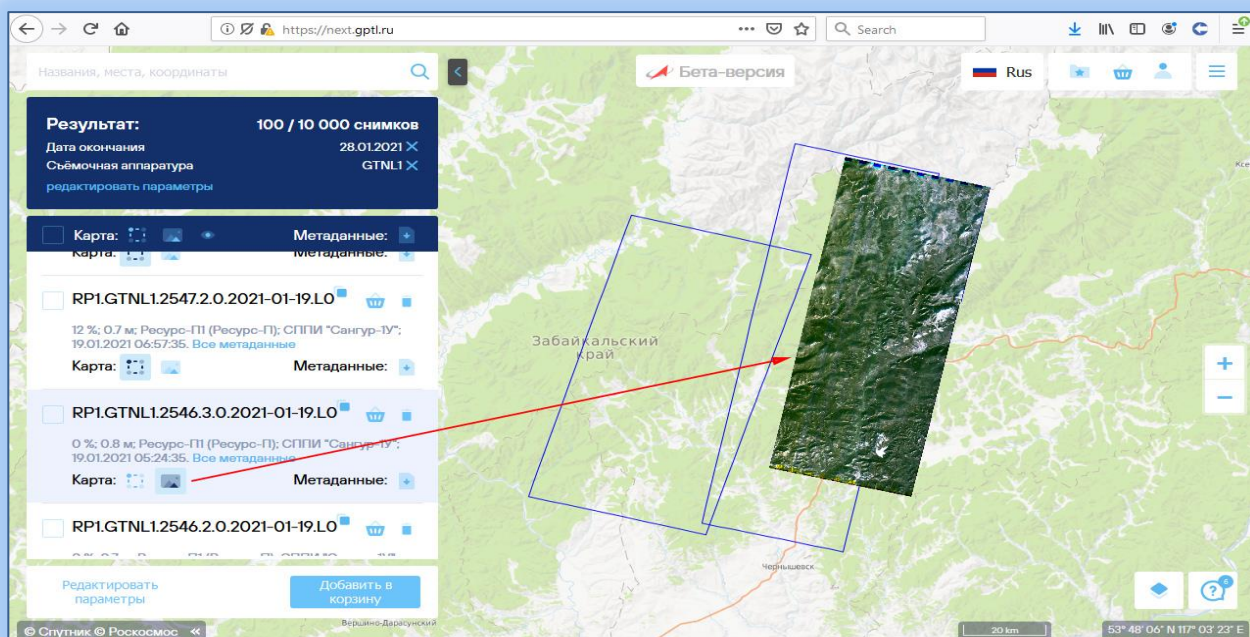
4. Showing or hiding image contours on the map

By default, the contours of all the found images are displayed on the map. Once the “*Contour*” icon of the selected image (located in the “*Map*” group of icons) is clicked, the image contour is no longer displayed on the map. Once this icon is clicked again, the contour is displayed on the map again. The contour of the image which is selected in the panel of found images differs from other images by the thickness of its line.



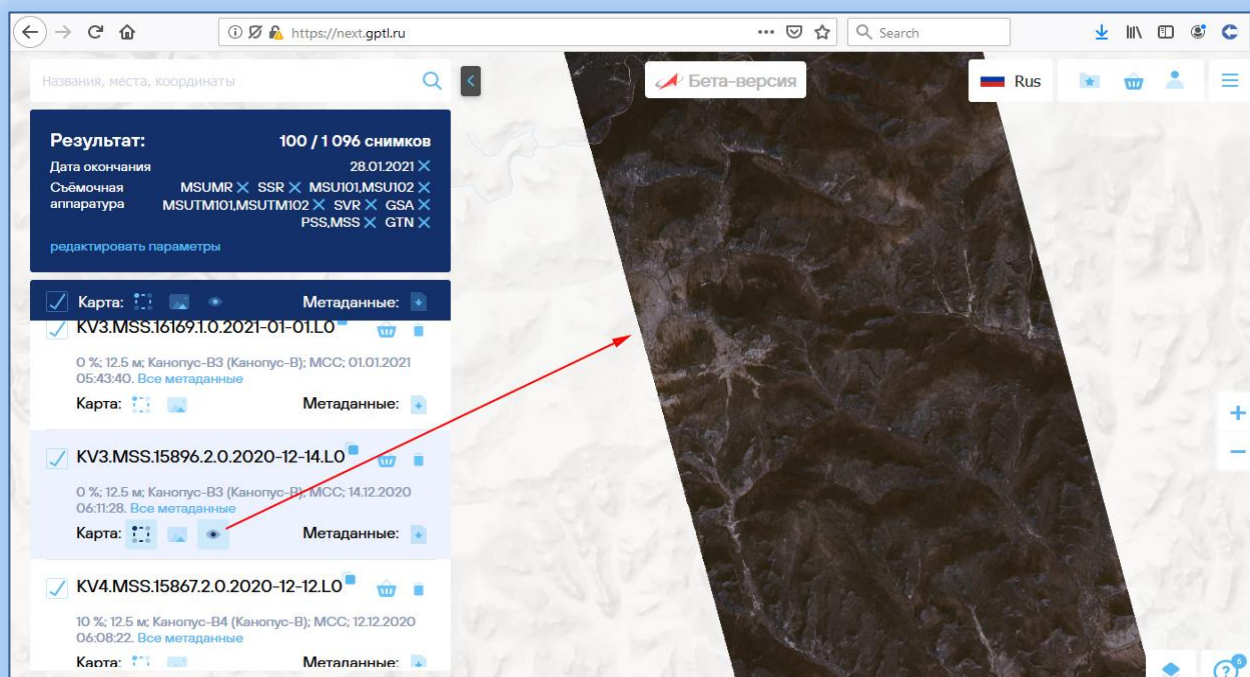
Displaying a low-resolution image on the map

Once the “*Quicklook*” icon of the selected image (located in the “*Map*” group of icons) is clicked, a low-resolution image is displayed on the map. Changing the map scale of this image makes its macro parameters (the cloud character, cloud boundaries location, etc.) suitable for visual evaluation.



Displaying full resolution image on the map

This option is only available for the certain number of the images. Once the “Image in full resolution” icon (located in the “Map” group of icons) is clicked, an image in full (maximum) spatial resolution is displayed on the map. Changing the map scale makes all available spatial parameters of the image suitable for visual evaluation.



5. Adding an image to the cart

To add an image to the cart, click on the “Add to Cart” icon of the selected image. At this step, one of the output options can be selected:

- pansharp image;
- BUNDLE-kit (PAN + MS); in this option, PAN and MS bands are spatially combined with each other, the pan-sharpening procedure is not performed;
- multispectral image (MS);
- panchromatic image (PAN).

If the multispectral image option is selected, the required spectral channels can be selected from the displayed list.

The screenshot shows a dialog box titled "Add Image to Cart" with "Step 1 of 2" in the top right corner. The dialog is divided into three main sections: "Product Parameters", "Region", and "Cost".

Product Parameters: This section contains four radio button options: "Pan-sharpened", "BUNDLE-package (PAN + MS)", "Multispectral image (MS)", and "Panchromatic image (PAN)". The "Multispectral image (MS)" option is selected. Below these options, there is a list of spectral channels with checkboxes: "0.46 - 0.52 μm (Blue)", "0.51 - 0.6 μm (Green)", "0.63 - 0.69 μm (Red)", and "0.75 - 0.84 μm (NIR)". All four checkboxes are checked.

Region: This section contains three radio button options: "Region used for search", "Whole image (unclipped)", and "Set clip area". The "Whole image (unclipped)" option is selected.

Cost: This section displays the cost as "287 245,32 ₺".

At the bottom of the dialog, there are two buttons: "Cancel" and "Add to Cart".

In the “Geometry” section the “Add entire image” option can be set by default, or the following options can be selected:

- “Crop an image according to the area of interest” is possible, when the area of interest is specified during the search using a closed area (“Indicate on the map” or “Load the shape”) and the contours of the selected image go beyond its boundaries. In this case, the part of the image belonging to the area of interest will be added to the cart;
- “Cut fragment” should be used if the user is interested in only a part of the image. When this option is selected, a panel with the “Draw a rectangle”, “Draw a polygon”, and “Clear the result” tools appears on the screen. Operating these tools is similar to that described above for the “Indicate on the map” option. Once the contour of the required fragment within the image is formed, click the “Confirm” button.

6. Ordering images (remote sensing data)

Working with the cart

When all the images to be ordered are added to the cart, click on the cart (use the icon at the top of the screen).

At this step, if necessary, the order list can be edited by removing some of the images from it (the “*Remove from cart*” icon), and the parameters of the images can be defined as follows:

- [type of information product](#): “L2 - Cartographic projection” - by default, or “L1 - Non-transformed with [RPC](#)”;
- Spatial Ref. System: *WGS84, UTM, SK-42*, etc.;
- bit depth of the image “*Byte / pix. band*” (“1” or “2”);
- use [DEM \(Digital Elevation Model\)](#) (selected by checking the box next to the “*Use DEM*” option);
- accompanying the product with a certificate (selected by checking the box next to the “*Order certification*” option);
- terms of use (selected by pointing the cursor over the value opposite the inscription “*License*” and clicking on the desired item in the displayed list);
- period of use (selected by pointing the cursor over the value opposite the inscription “*Period of use*” and clicking on the required item in the displayed list).

Then click on the “*Place an order*” button. By doing this, the “*Application successfully created*” status will appear at the bottom of the screen, and the cart will be cleared.

If necessary, the user can empty the cart by clicking the “*Clear*” button. In this case all the images will disappear from the cart and the inscription “*Cart is empty*” will appear.

The screenshot shows a web interface titled "2 Scenes in the Cart" with a price of 8 382,88 ₺. It displays two items in the cart:

| Item ID | Price (₺) | Area (km²) | Brand |
|----------------------------------|-----------|------------|----------|
| KV3.MSS.23340.1.0.2022-04-18.L0 | 3 015,9 | 80,2 | PANSHARP |
| RP1.GTNL1.3560.3.0.2015-11-24.L0 | 5 366,98 | 117,7 | PANSHARP |

Below the items, there is a "Product Parameters" section with the following options:

- Tags:** Search tags (with a plus icon)
- Product:** L2 - Cartographic Projection (dropdown menu)
- Spatial Ref. System (projection):** WGS84 (UTM) (dropdown menu)
- Bytes Per Pixel:** 1 (dropdown menu)
- ☒ **Digital elevation model** (with an information icon)
- License:** No distribution rights
- Usage time:** up to 5 years

At the bottom, there are two buttons: "Clear" and "Save Order".

Paying the order

When one or more images with the desired output parameters are added to the cart, the user can proceed to pay for the order. To do this the user should click on the “*Place an order*” button. Then he will be redirected to the page for entering bank card details (example: “Sberbank” page). On this page, please enter the bank card details and e-mail, click the “*Pay*” button and pay for your order.

Tracking the readiness status of the order and using “My orders”

To track the readiness status of the order, click on the icon with the human symbol in the upper right part of the screen and select the “Orders”. “My orders” dashboard will be displayed on the screen, where the order with the date corresponding to the verification date and the price corresponding to the executed order will appear in the “Active orders” list. The status of the

The screenshot displays the 'My Orders' dashboard. At the top, there are tabs for 'Personal Data' and 'My Orders'. Below the tabs, there is a section for 'Active Orders' with a search bar and a filter set to 'geoportal'. A table lists several orders with columns for Number, Date, Price, and Status. The order 20220519-780 is highlighted. To the right, a modal window titled 'Order Information "20220519-780"' provides details: 'Условия использования: No distribution rights, up to 5 years', 'Параметры обработки: L2, UTM', 'Суммарная площадь: 0.6 km²', 'Creation date: 19.05.2022', 'Status: Completed (19.05.2022)', 'Tags: geoportal', and 'Price: 26,28 P'. Below this, a 'Products to Download' section shows 'RP1.GTNL1.5407.2.0.2014-06-13.L0' with a red message 'Product have already been removed'. The background of the dashboard is a map of Europe.

| Number | Date | Price | Status |
|--------------|------------|------------|--|
| 20220614-878 | 14.06.2022 | 4 590,1 P | Awaiting payment Оплатить |
| 20220614-877 | 14.06.2022 | 1 881,77 P | Awaiting payment Оплатить |
| 20220519-780 | 19.05.2022 | 26,28 P | Completed |
| 20220419-660 | 19.04.2022 | 52,66 P | Completed |
| 20220418-647 | 18.04.2022 | 132,8 P | Completed |

newly submitted order will be “Submitted”.

Once clicking on the order, the “Order Information” window will appear. It contains the order ID, creation date, status and price. The “Products to Download” window will display links to download products when the status of the order is changed to “Completed”.

Application status

An application (order) can have the following status:

- “Sent” - the order has been sent;
- “Paid” – the order has been paid;
- “Processing” – images are being processed in order to obtain the ordered products;
- “Completed” – processing is complete and products are available for pickup.

Order status notifications

Notifications about changes in order status are e-mailed to the customer's address specified during registration.

Download and view ordered images and metadata

To download and view the ordered data, select the ready-made application (status “*Completed*”) in “*My applications*” dashboard, and click on the download links opposite the required items on the panel “*Products to Download*”.

“*Products to Download*” panel displays:

- time left before deleting the files;
- links to download images (*.tiff format);
- link to download metadata (*.zip archive);
- a button that allows the user to see the image in full resolution on the map;
- [link for remote work with images in GIS applications](#) (allows to work with geodata remotely without downloading images to user’s computer).

The screenshot shows the 'Мои заявки' (My applications) dashboard. On the left, a table titled 'Актуальные заявки' (Current requests) lists several requests. The first request, with ID 785, is highlighted. To the right, a modal window titled 'Информация по заявке "20210302-121"' (Information about request "20210302-121") displays details: Identifier 785, Creation date 02.03.2021, Status 'Выполнена (02.03.2021)' (Completed), and Price '0 P'. Below this, the 'Готовая продукция' (Ready product) section shows the file 'RP1.GTNL17375.5.0.2020-02-18.L0' with a note 'До удаления осталось 29 дней' (29 days left before deletion). Underneath are three download links: 'scene_0.tiff', 'scene_1.tiff', and 'metadata.zip'. Red arrows point from these links to labels on the right: 'Link to the image' (pointing to scene_0.tiff), 'Download the image' (pointing to scene_1.tiff), and 'Download the metadata' (pointing to metadata.zip). Another red arrow points from the 'scene_0.tiff' link to a map, labeled 'View on the map'. A label 'Time left before deleting' points to the 'До удаления осталось 29 дней' text.

An example of ordering data for your area of interest:

The screenshot shows the 'Region of Interest' dashboard. On the left, a sidebar contains several filters: 'Region of Interest' with options 'Screen Area', 'Draw Polygon', and 'Upload Shapefile'; 'Data Sources' with 'Archived Scenes' and 'New Survey'; 'Date Range' with a search filter set to '15.05.2022'; 'Resolution' with options 'Medium Low', 'Medium', 'High' (selected), and 'Very High'; and 'Scene Cloudiness' with a slider set to 50. The main area displays a map of the Caspian Sea region, with a red polygon indicating the area of interest. The map shows various cities and regions, including Baku, Gorgan, and Tehran.

