

# **Functionality of Pamir Map application**

**for Android devices**

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## Overview of buttons located on map window



*Create object* – creates objects on the map (points, polylines, polygons).



*Record track* – records and saves GPS tracks.



*Measure* – measures distances and areas on the map.



*Compass* – returns map northwards.



*My location* – defines current location of the user.



*Notes on map* – creates graphic notes on the map.



*Search on map, go to coordinates* – performs text and numeric search, goes to coordinates in DD and DMS formats.



*Additional tools for work with map* – saving map extent as bookmark or PDF document.

≡ *Main menu* – provides options to make settings of the app without leaving the current project, to add layers and maps to project, to manage layers visibility and to perform operations with layers (zoom in/out, delete, view legend, view layer properties, etc.).



*Change map scale* – zooms in/out the map.

## Creating new feature

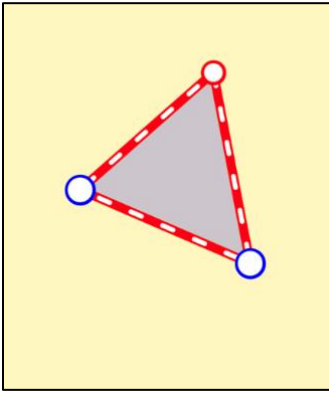
To create new *feature* on the map, tap the *Create feature* button.



In the appeared menu select the feature type: point, polyline, or polygon.



Specify the feature geometry. To do so, consequentially tap the required places on your map.



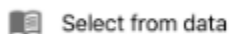
To delete the needless point on the map, tap it. To add the new point, pull the edge in the needed place and the point will be added there. To change location of the created point, tap and hold it, then drag it to the new place on the map.

Now select the layer where you want to create the new feature. To do so, in the feature card tap the arrow near the *Save to* option.



In the appeared window you can either select the layer from the currently opened project, or select the previously created layer in the application, or create the new layer.

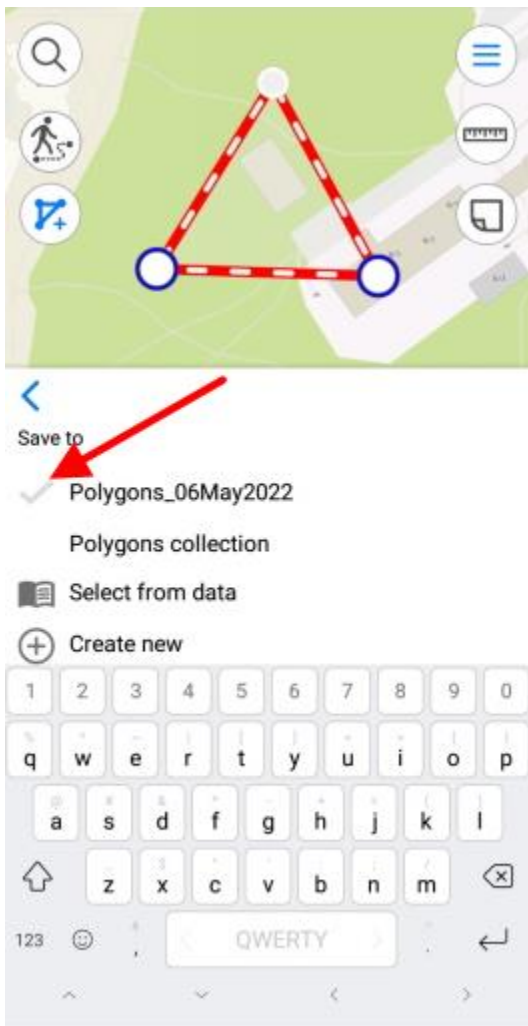
To select the layer from the existing data, press *Select from data* and select the required layer from the list of GPKG layers stored in the application.



To create the new layer, press *Create new*.

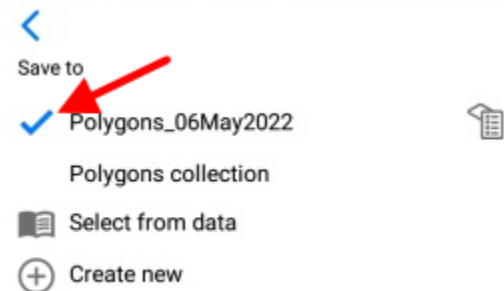


The layer will be automatically created with the default name, but you can rename it, to do so, enter the new name using the keyboard.

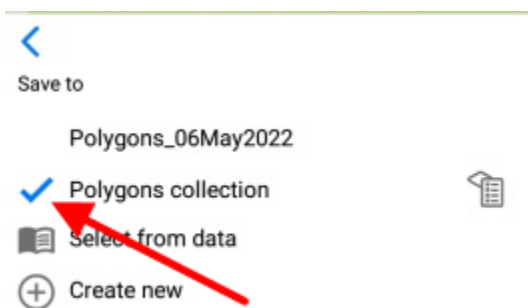



To confirm the layer name, tap the tick mark near the layer or tap Enter on the keyboard.

If there are previously added layers in the project, then to create the feature you need to select the required layer from the list. The selected layer will be marked with the check sign.

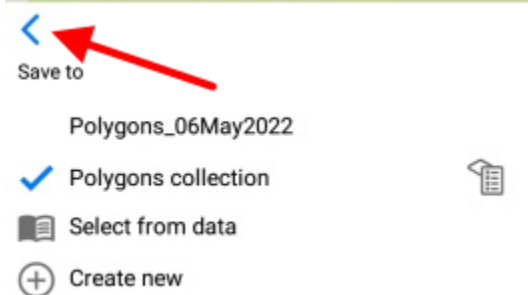


To select another layer, press its name in the list and it will be marked with the blue check sign.

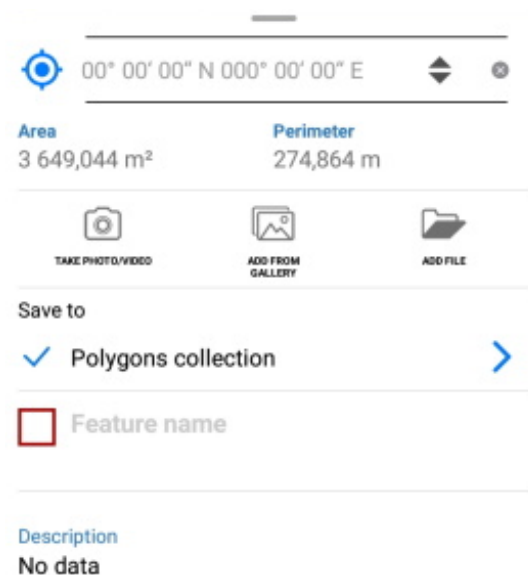


To go to changing parameters of the layer settings, press . See *Changing settings for layer parameters* section for more details about changing layer settings.

To go to saving the created feature and filling in the fields, press the back arrow.




To fill in the *Feature name* and *Description* fields, tap the required line and enter the text.



To complete creation of the feature, press *Create*. The feature will be saved. If you need to cancel this operation during the feature creation process, press *Cancel*.

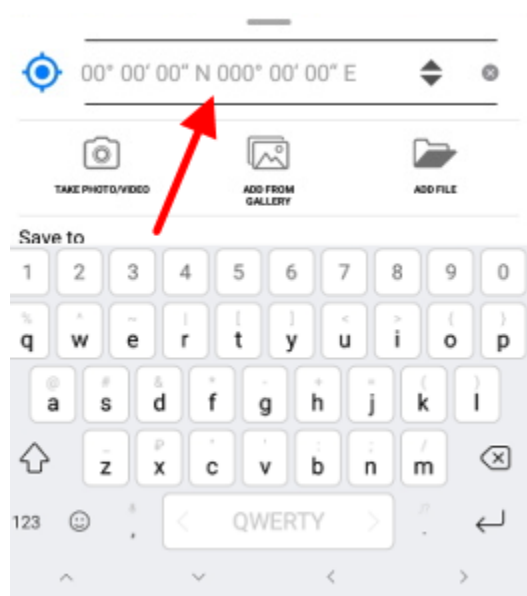
## Creating features by coordinates

To create the feature by coordinates, during the creation process go to the line for entering coordinates in the feature identification card (see *Creating new feature* section for details).

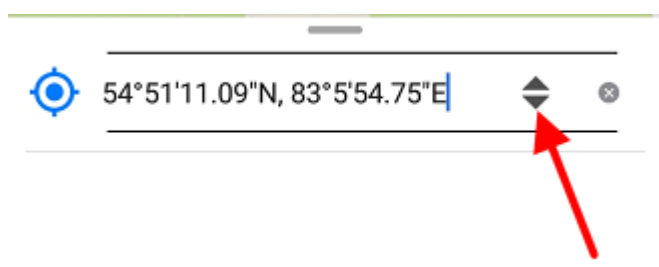
To create the feature by your current location, press *Coordinates by location*  button in the identification card of the created feature.

Coordinates of the point feature will be changed to coordinates of the current location. The new point with coordinates of your current location will be added to the created polygon or polyline feature.

To add the feature by manually entered coordinates, go to the line for entering coordinates.



You can change coordinates format, if needed. To do so, select the feature and in the appeared identification window tap the line with coordinates to change the format.

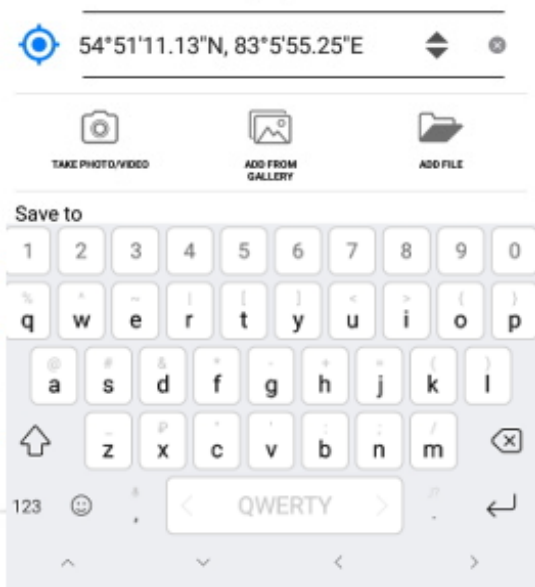


The available coordinate formats are as following:

- Degrees-minutes-seconds;
- Decimal degrees;

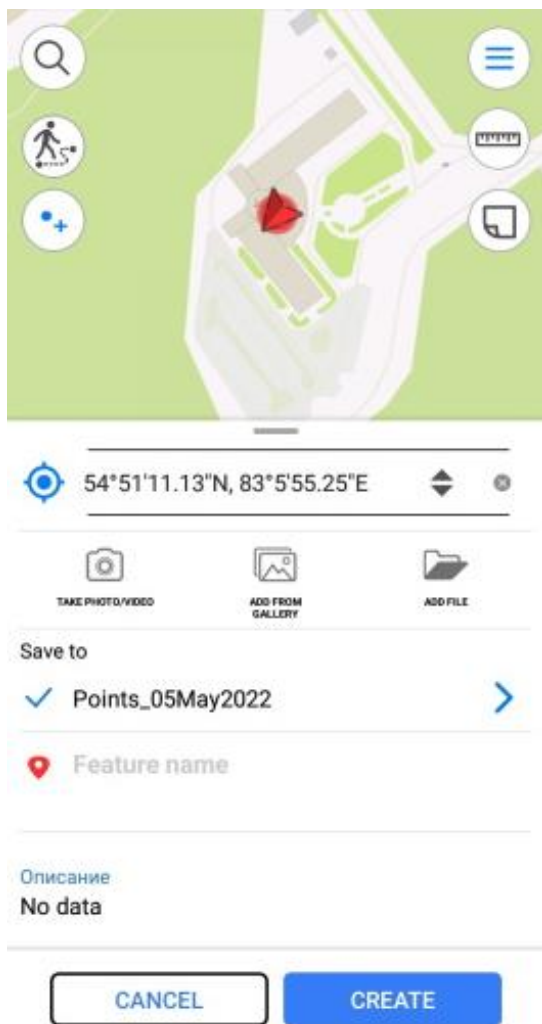
- UTM meters (if you selected Projected coordinate system in Settings, see “*Settings*” section for details).

Enter the required coordinates and press *Return* on the keyboard.



The point with the specified coordinates will be added on the map.





To save the point, press *Create*.

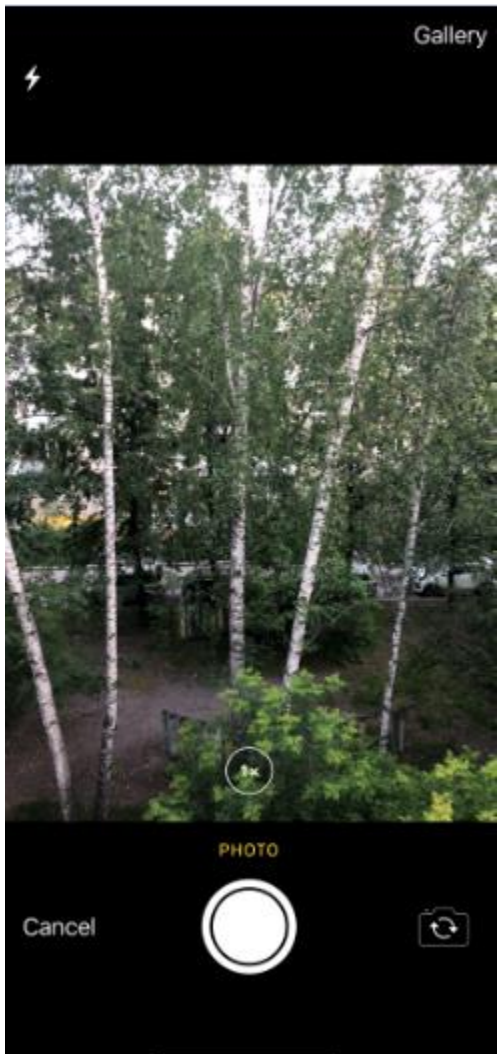
### Creating point feature by photo

To create the new point feature by photo, press *Create feature* button in the map window and in the appeared menu select *Create point by photo* button.

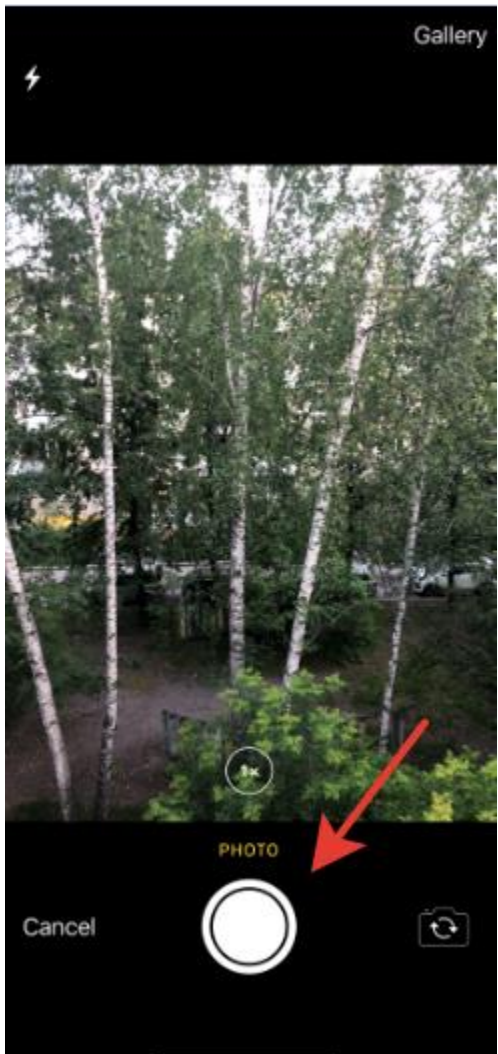


To be able to use this option, in your smartphone settings you need to allow Pamir Map app to have access to the device camera and memory. Besides, for all photos made with your device, the option of using geolocation should be enabled.

After pressing the *Create point by photo* button the camera window will open.



Press *Take photo* button.



To use this photo, press *Use photo*.

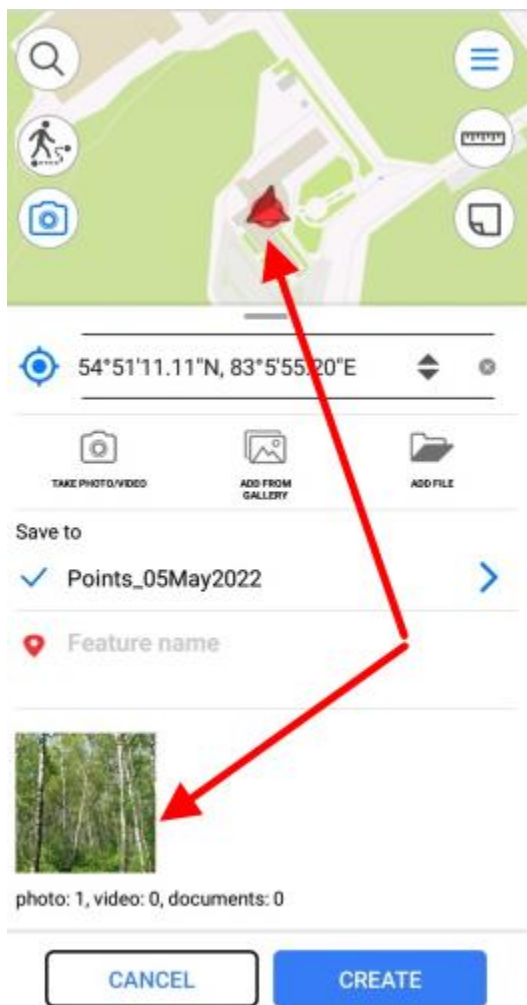


To take another photo, press *Retake*. In the appeared camera window take the new photo and press *Use photo* again.

To use the existing photo, press *Gallery*.



Select the required photo from your Gallery. Now coordinates of selected photo will be used to create the point on your map and this photo will be added as attachment to the point.



Changing the layer and its settings is done same as when creating features, see *Changing settings for layer parameters* section for details.

To complete creation of point by photo, press *Create* button.

To cancel creation of point by photo, press *Cancel* button.

## Editing features

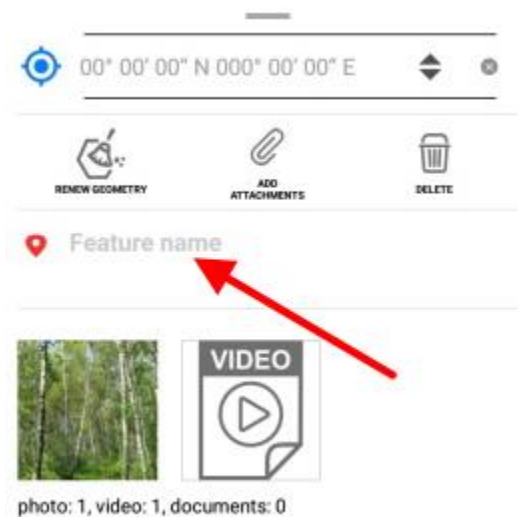
To start editing feature, select it on map or find it searching by attribute or coordinates (see *“Searching on map”* section for details) and tap *Edit* icon in the feature identification card.



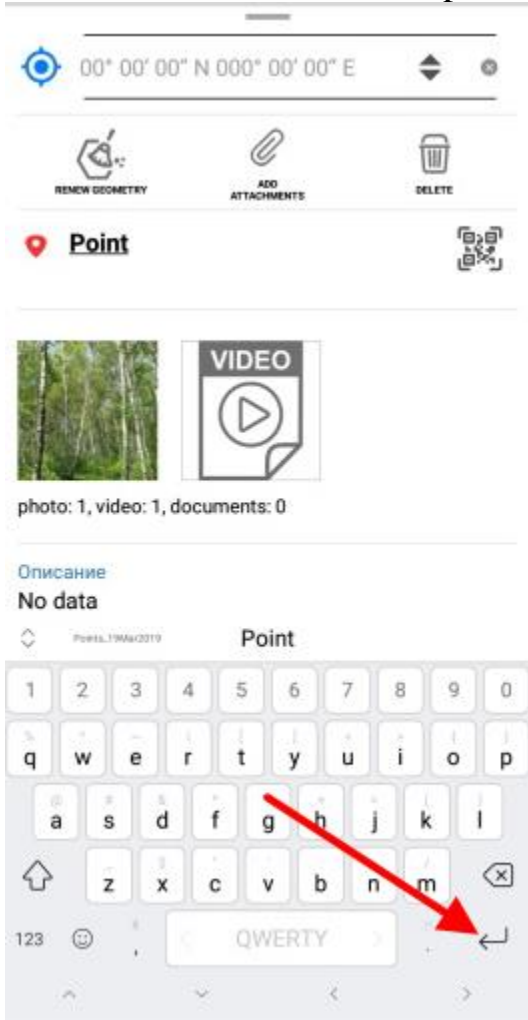
Being in the feature editing mode, you can change the feature geometry. To delete the point, tap it on the map. To add the new point, tap the empty place on the map. To move the point, select it on the map and drag it to required place on the map.

To save your changes, tap *Save* [Save](#). To cancel made changes, tap *Cancel* [Cancel](#).

To change the feature name, enable the editing mode and select *Feature name* in the feature card.



Enter the feature name and tap *Done*.



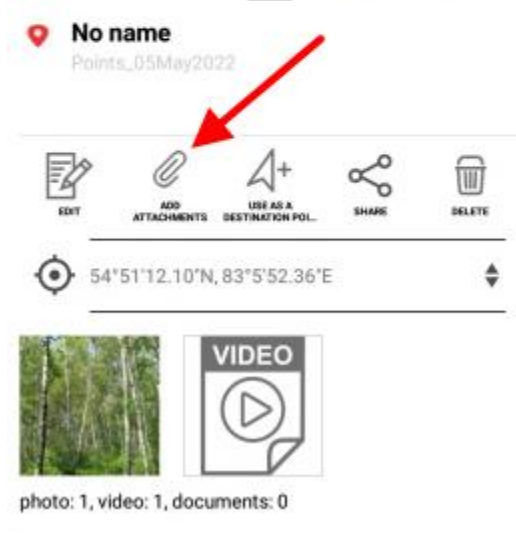
If feature name has not been specified, the feature card will have the default name *Untitled*, but the default name will be changed right after you specify the name of this feature.



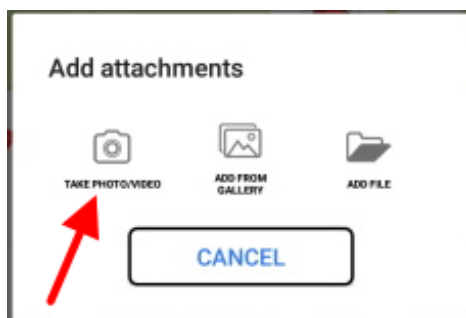


## Adding attachments to feature

You can add attachments to any feature on the map. To do so, in the feature card tap *Add attachments*.

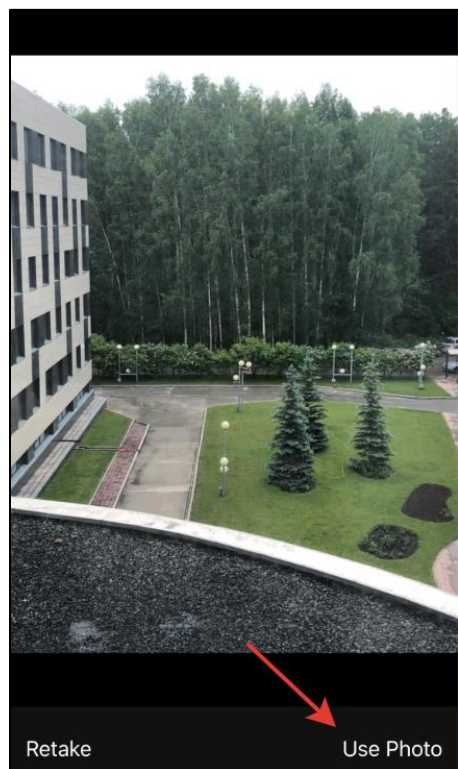


To add photo or video, tap *Take photo/video*.

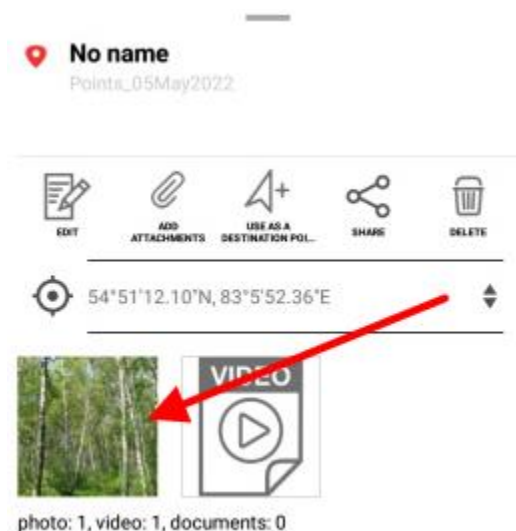


To be able to use this option, in your smartphone settings you need to allow Pamir Map app to have access to the device camera and memory.

Take a photo or video and tap *Use photo*, to add it as attachment to the feature.



Added photos can be viewed in the feature's card. To open the photo, tap the appropriate thumbnail.



To delete the added photo, tap *Delete*.



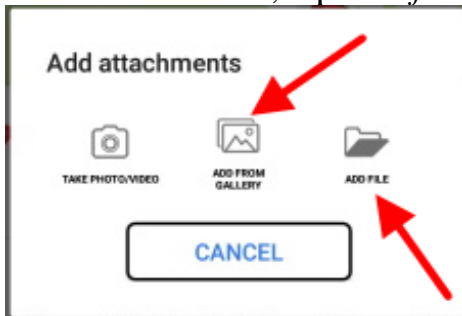
To share/send the added photo, tap *Share*.



Added videos can be viewed in the *Files* section of the feature's card. To view or delete the video, select it in the card and select the required option.



To add the media file from the gallery that is already on the device, tap *Add from gallery*, to add the document, tap *Add file*.

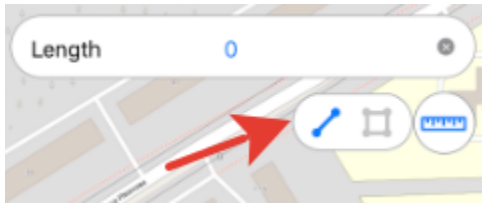


## Measuring distance and area

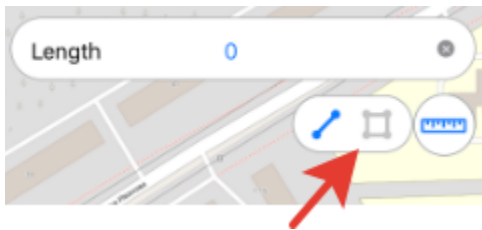
To measure distance or area, tap the *Measurements* button.



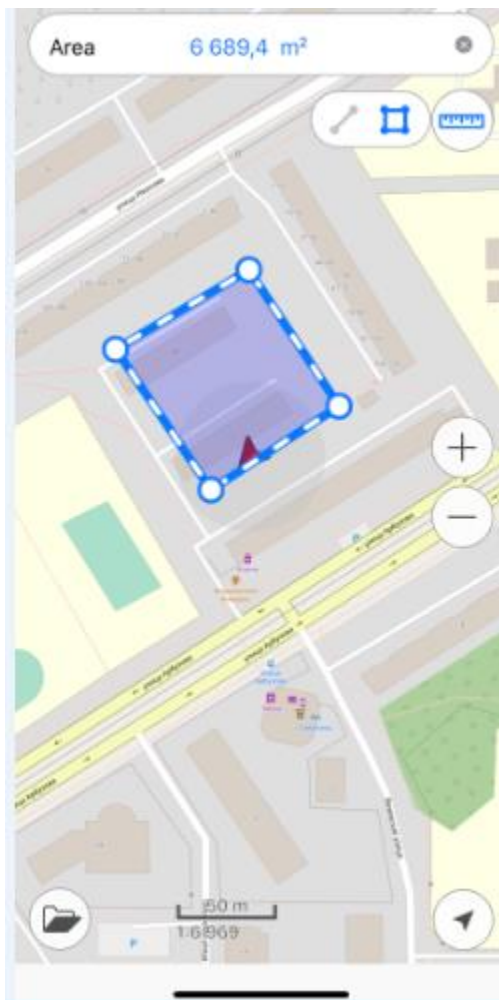
The button will change its color and the tool window will appear. If you want to measure distance, tap *Measure distance* icon.



If you want to measure area, tap *Measure area* icon, accordingly.





To start measurement, sequentially tap the map adding points.



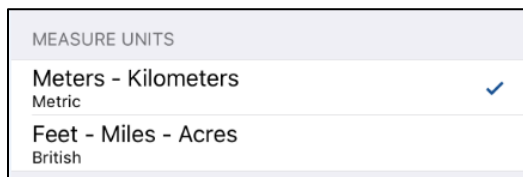
To delete the needless point, tap it again. The calculated distance or area will be shown in the upper part of the measurement window.



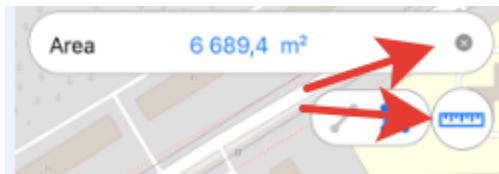
Measuring distances and areas is also possible using *My location* option. To start measurement from the point of your current location, tap  and then . Now the point of your current location will be used as the starting or one of the intermediate points of measurement.

To change measurement units, go to *Settings* of the map menu (note that changing units is possible if you are not in the measurement mode). In the *Measure units* section select the required units:

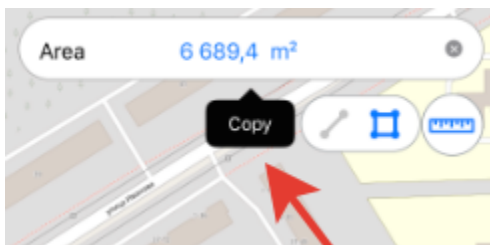
- *Metric*: meters – kilometers;
- *British*: feet – miles – acres.



To close the measurement window, tap the cross icon in the upper right corner of the window or tap *Measurements* button again.



To copy the measurement result, long tap the output value and tap *Copy* in the appeared dialog.



## Recording track. Creating polygon by track.

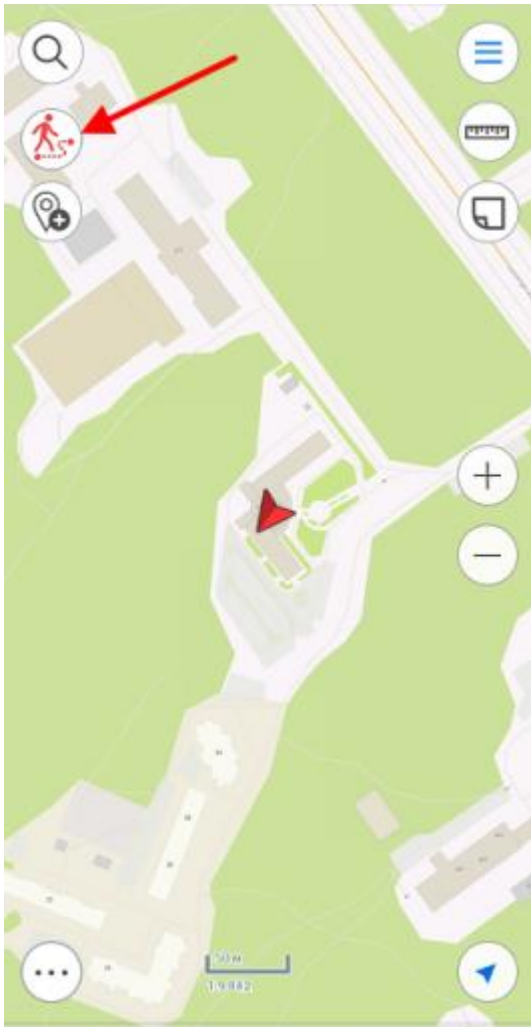
To start recording track or to start creating polygon by track, press . To record track, press *Record track* button.



To create polygon by track, press *Create polygon by track* button.



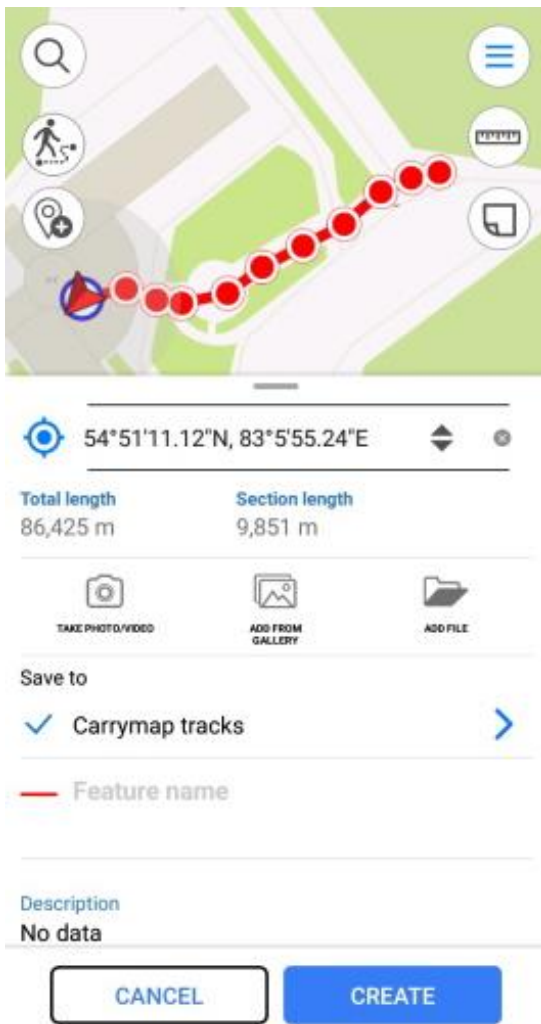
When recording track or creating polygon by track starts, the tool button becomes red.



To complete recording track or creating polygon by track, press the tool button  again.

In the appeared window select the layer where to you want to save your track or polygon. Enter the track name in the *Feature name* field, if needed.





Note that every 5 seconds your track will be saved automatically. That is, even if your device switches off by some reason, the track will be automatically saved to the selected layer and so will not be lost.

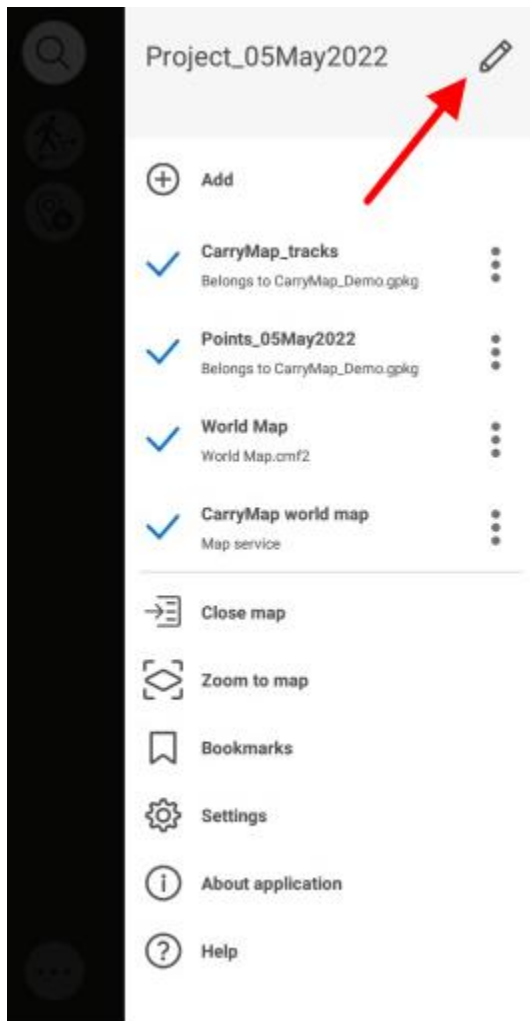
Note that recording track does not hinder any other operations provided with the app (for example, feature creation or editing, adding new layers to project, etc.).

Recording track can be stopped by tapping *Record track* or *Create polygon by track* button again.

### Creating project, editing project name

To create project, open CMF2 map and data in GeoPackage, KML, KMX, SHP or GPX format (see *Importing data* for more detail), the project will be created automatically.

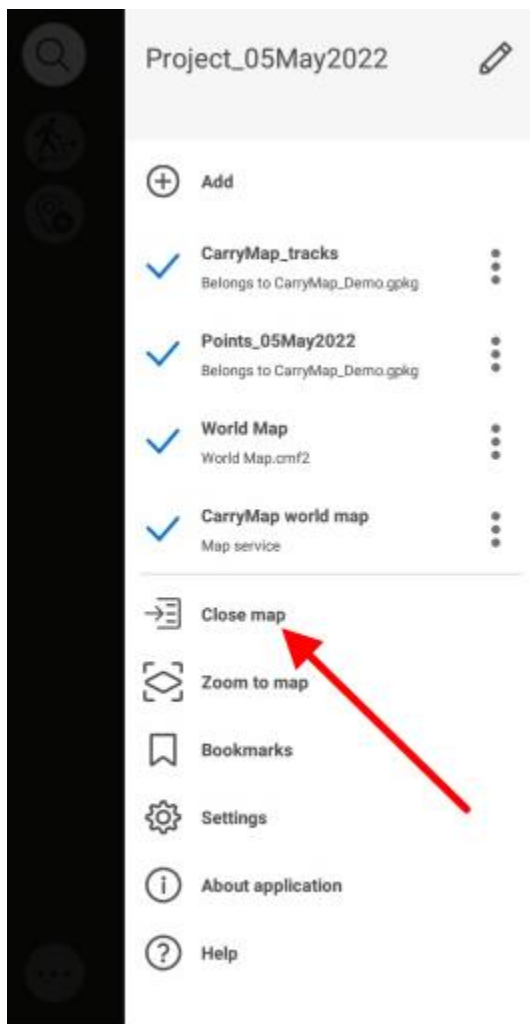
The project name can be changed in the map menu, to do so, tap the editing icon.



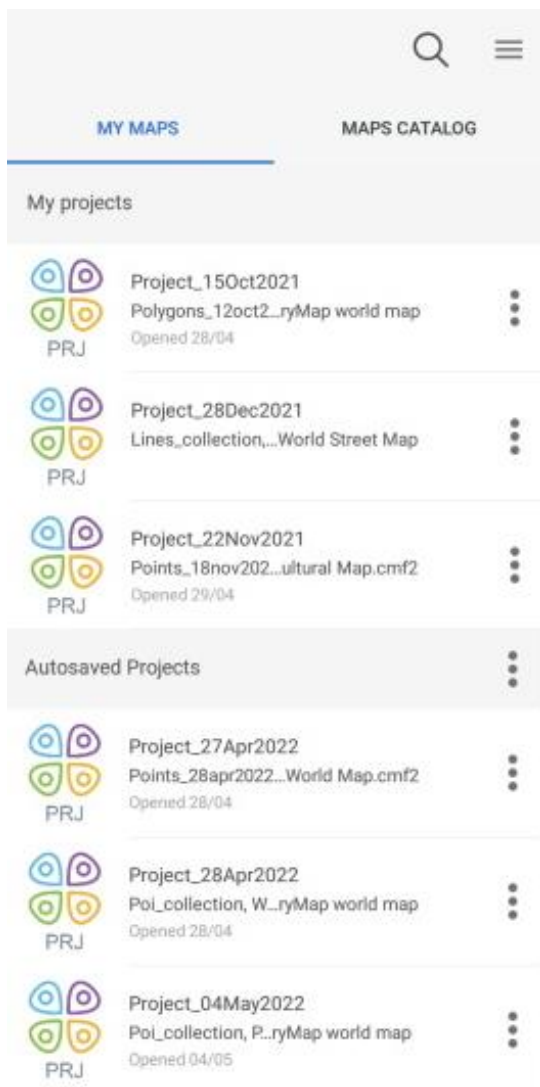
Enter the new name and tap *Enter*

## Opening project

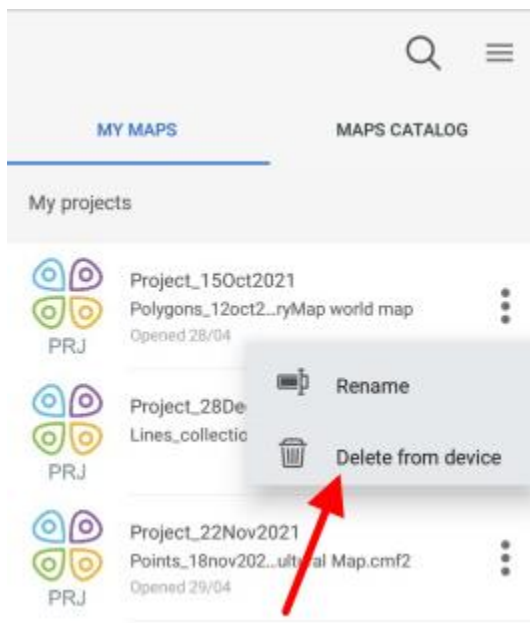
To open the project stored on your device, tap *Close map* button in the Main menu.



In the *My maps* tab all the previously saved and autosaved projects are stored.

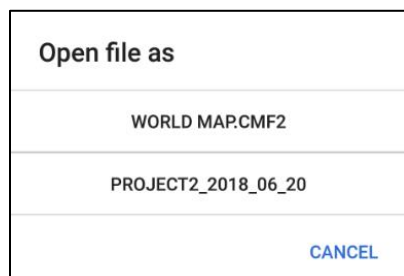


To open project, select it from the list. To delete project, select three dots menu and select *Delete from device*.

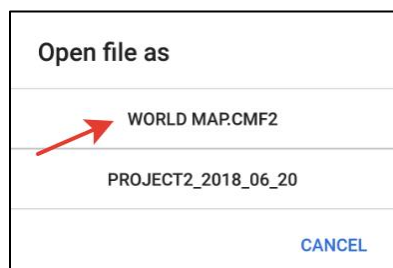


To change name for project, tap *Rename* in the menu, enter the new name, and tap *OK*. If you rename autosaved project, it will be moved to the *My projects* section.

To open another map, tap *Close map* button in the Main menu and select the required map from the list. If the selected map is used in other projects, the appropriate message will appear.



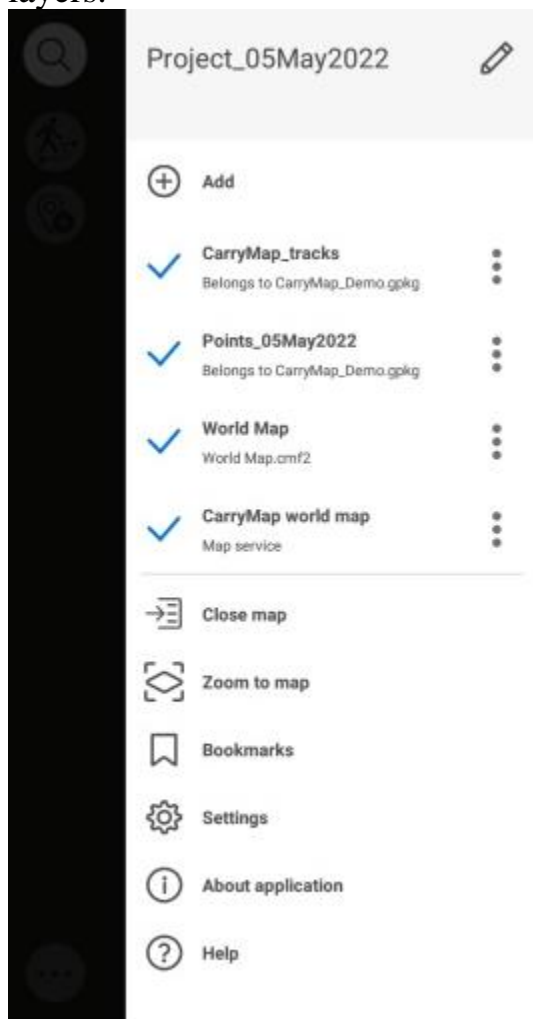
To open map as a project, select the project from the list. If you need to open the map only, select it from the list.



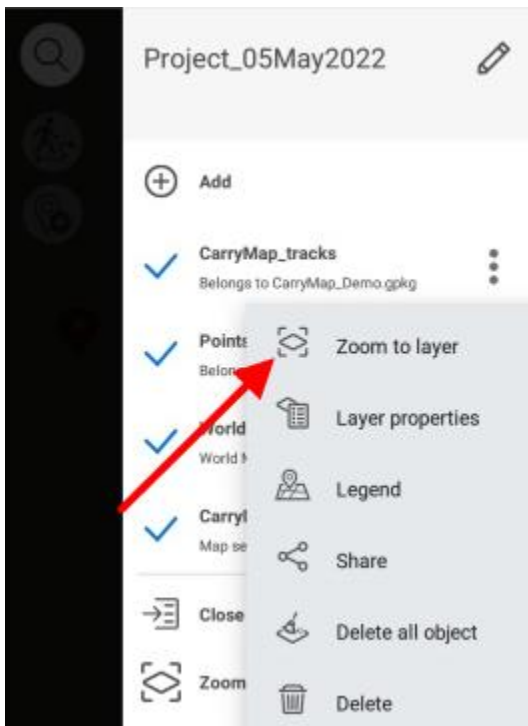
To create new project for this map, add gpkg layers to map (see “*Creating new object*” and “*Working with layers in project*” sections for more details).

## Working with layers in project

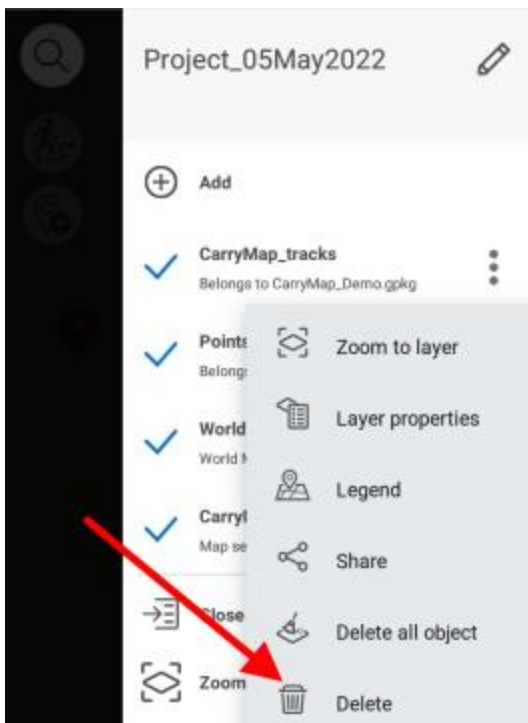
All layers added to project can be viewed in the map menu. You can change the layers order in the project. To do so, long tap the layer and drag it to the required position in the list of layers.




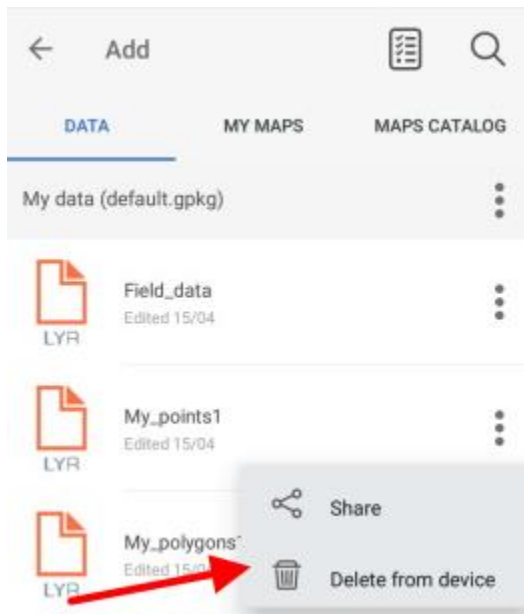
If the layer is the first one in the list, it will be displayed on top of all layers on your map, accordingly. To zoom to layer in the project, tap the three dots menu and select *Zoom to layer*.



To delete layer from the current project, tap three dots menu and select *Delete*.

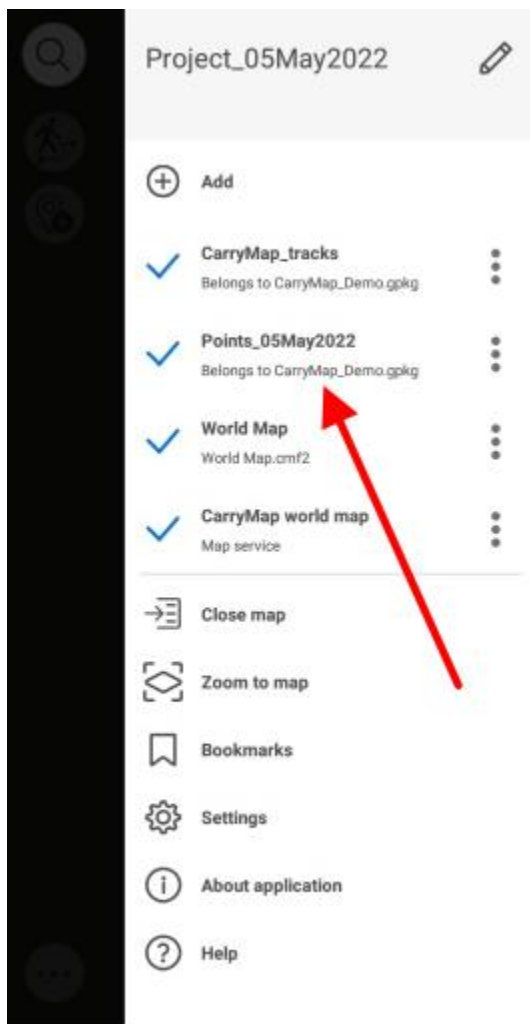


To delete layer from the device, go to library tapping  **Add** in the layer menu and select *Delete from device* tapping the three dots menu of the layer you want to delete.

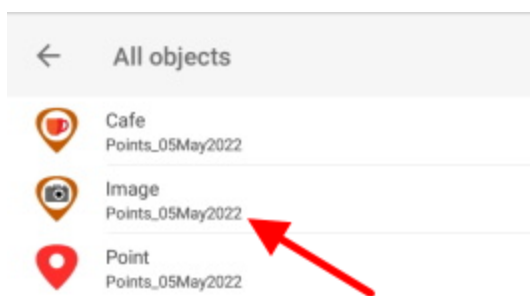


The layer will be deleted from the device. To view all features containing in the layer, press the layer in the main menu of the map.

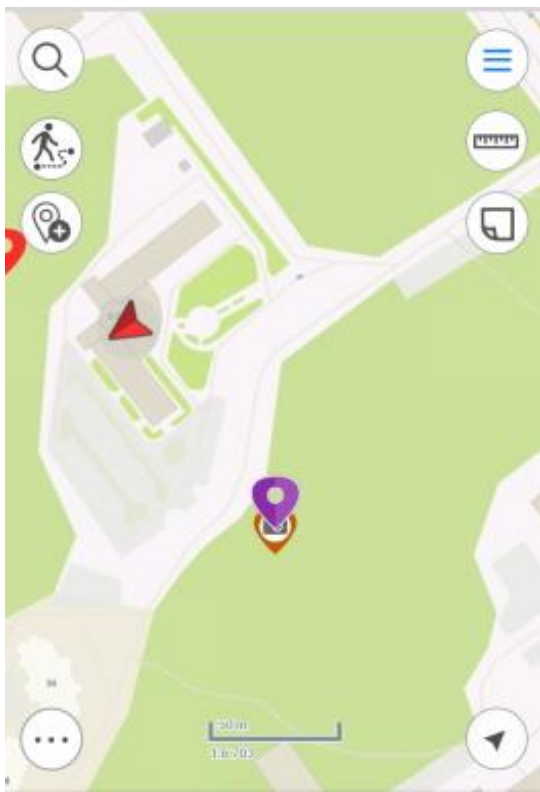




All objects containing in the layer will be shown in the list.



To view feature on the map, select it in the list and it will be highlighted on your map.



**Image**

Points\_05May2022



EDIT



ADD  
ATTACHMENTS



USE AS A  
DESTINATION POINT

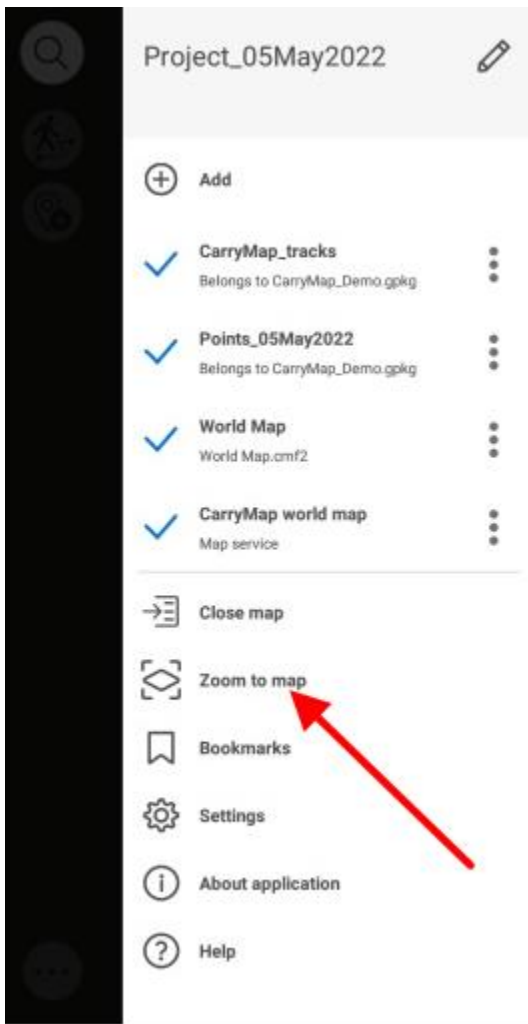


SHARE



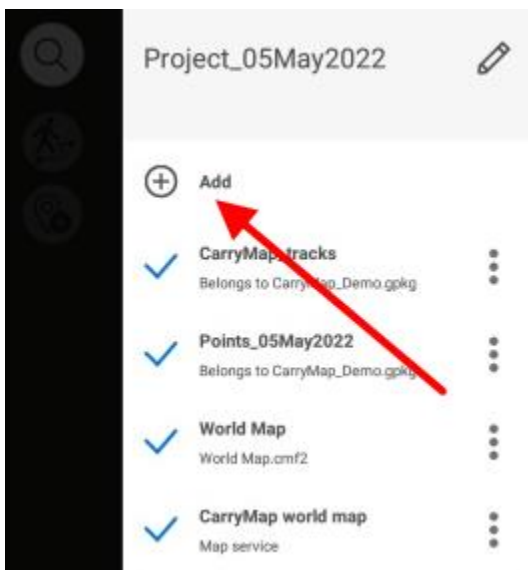
DELETE


To zoom to all layer in the project, tap *Zoom to map* button in the Main menu.

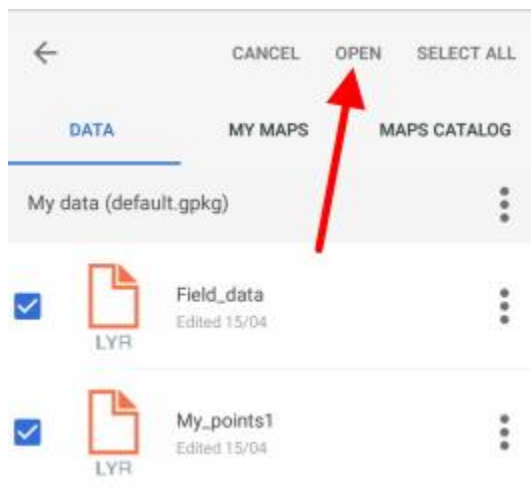


## Adding layers to project

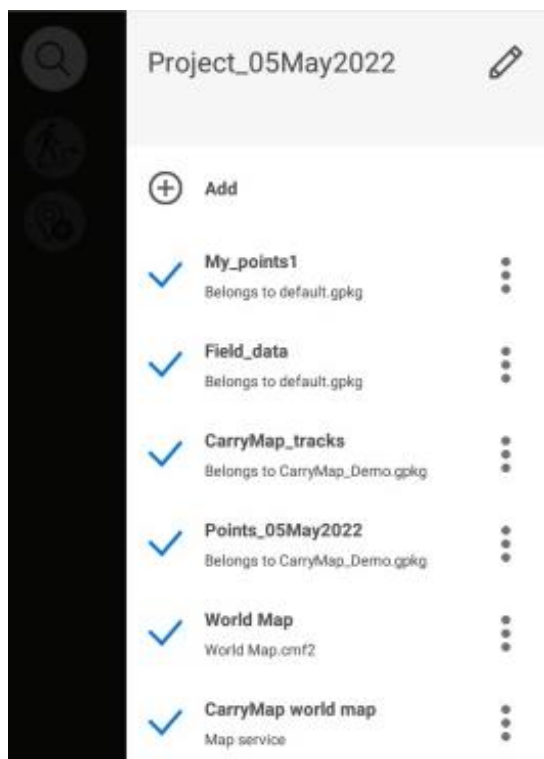
To add layer to current project, tap *Add* button in the map menu.





Select the required layer from library and it will be added to your current project. If you need to select multiple layers, tap *Select all*  or long tap the required layers and then tap *Open*.



Selected layers will be added to the project.



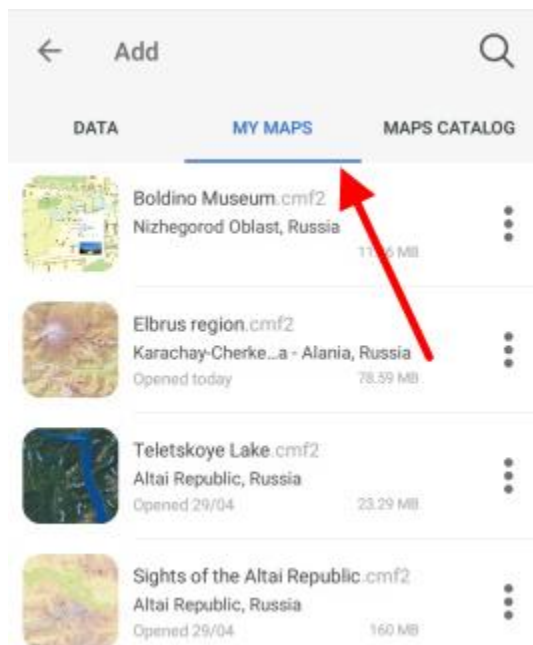
To turn off layer visibility, tap  near the required layer name and the icon will change its color to grey . Note that the layer will not be deleted from the project, it just will not be shown on the map. To turn the hidden layer on, tap the icon near its name again.

## Adding map to project

If you want to add map to project, tap

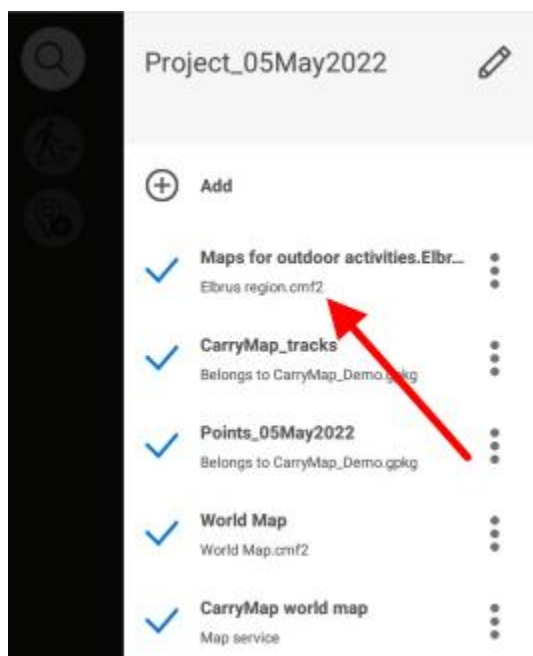


and go to *My maps* tab showing all CMF2



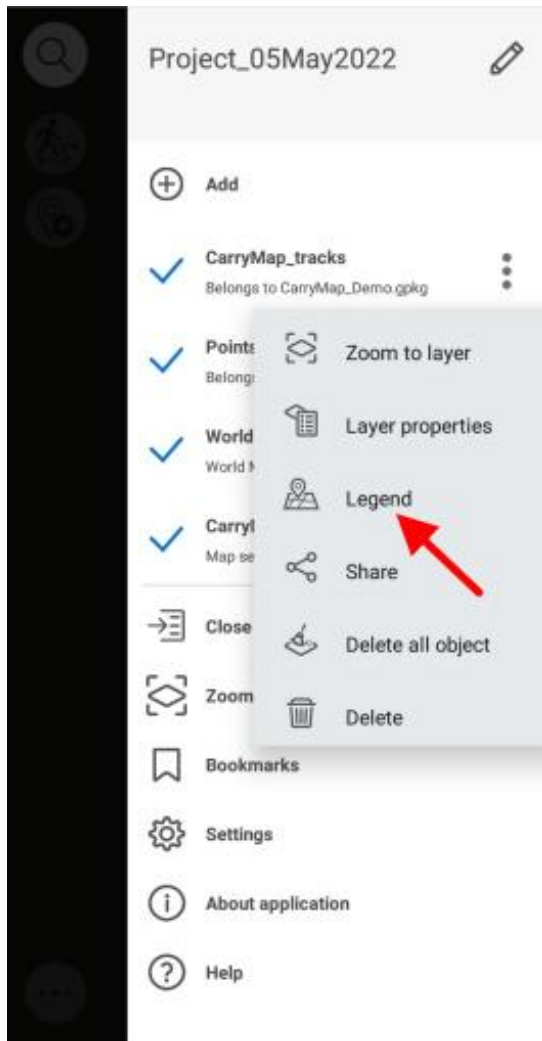
Select the map you want to add from the list.

Map will be added to the current project.

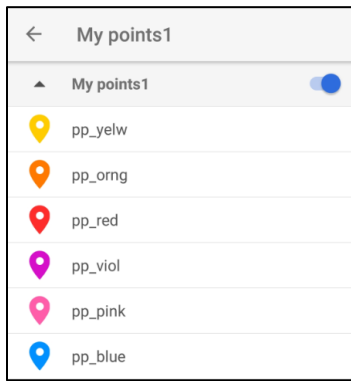


## Changing settings for layer parameters (selecting symbology, setting labeling, adding fields)

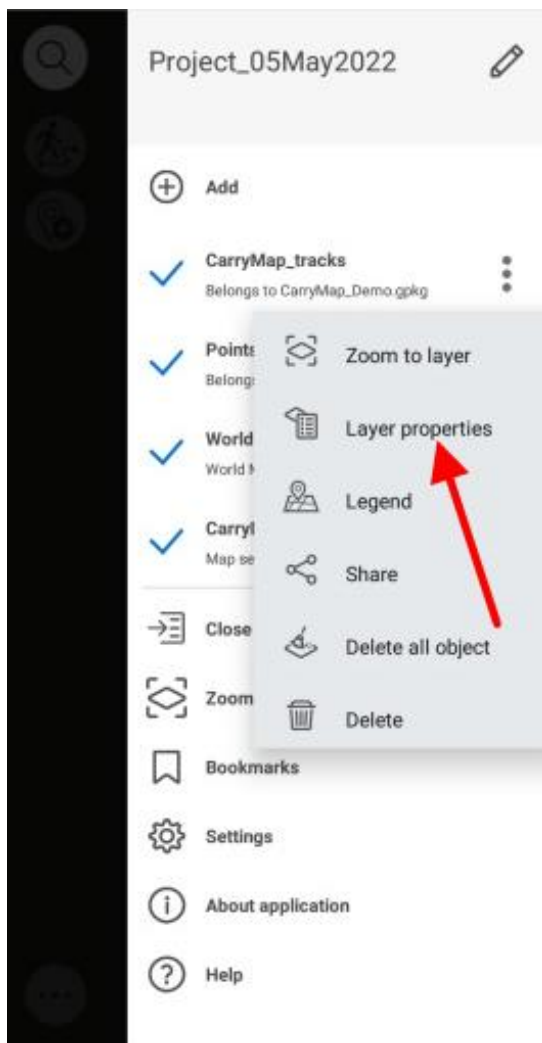
To view symbology used for layer, tap three dots, and select *Legend* in the menu.



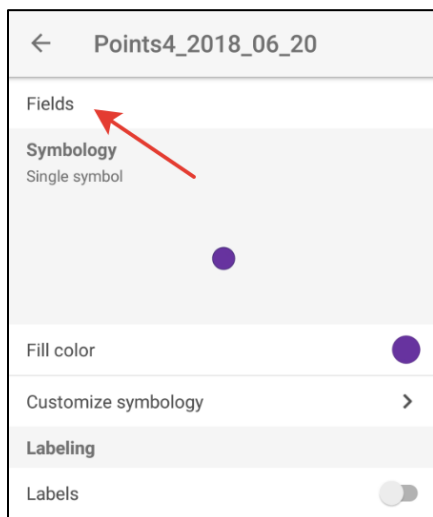
In the appeared window you can view all symbology used to display this layer. To turn the layer off, pull the layer visibility shift.



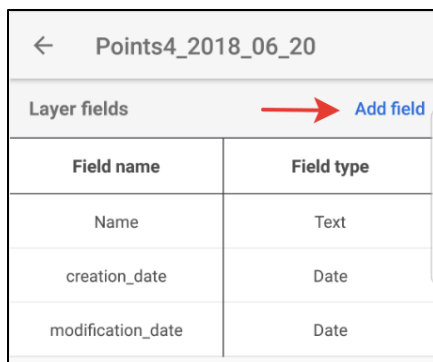
To add fields to the layer attributes, select *Layer properties* in the menu.



Now tap the *Fields* section.



In the appeared window tap *Add field* button.



In the appeared field 

Field name	Field type	
------------	------------	---

 tap the *Field name* line and enter the name of the new field, then tap *OK*.



**Input field name**


CANCEL
OK

Now tap the *Field type* line and select the required field type from the list.



Select field type
TEXT
INTEGER NUMBER
DOUBLE NUMBER
DATE
BOOLEAN(YES/NO)
CANCEL

To delete created field, tap *Delete* . To save made changes, tap *Save*  in the upper part of the window. To change the object fill color, select *Fill color* in the *Layer properties* menu.

Fill color	
Customize symbology	>
Labeling	
Labels	<input type="checkbox"/>

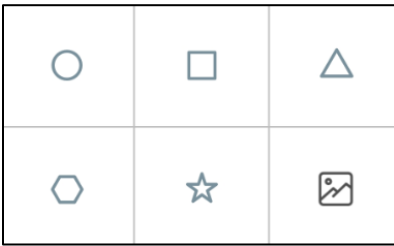
In the appeared list select the required color and all features will be changed accordingly.




To change properties of the layer symbology, select *Customize symbology*.

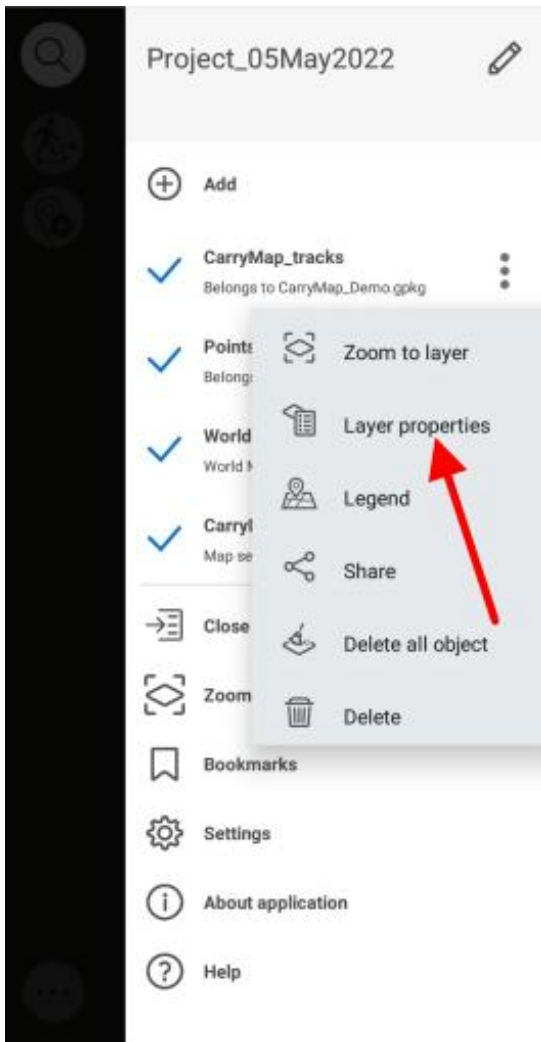
Fill color	
Customize symbology	>
Labeling	
Labels	<input type="checkbox"/>

With the *Customize symbology* option you can change the symbol shape, size, show/hide its border and select border color, set transparency. To change symbol shape, tap *Shape* and select the required shape from the appeared list.



To select image as symbol, tap  and select the required image from the Gallery.

To show labels for features, select *Layer properties*, tapping three dots menu.



Pull the switch in the *Labeling* section to display labels.

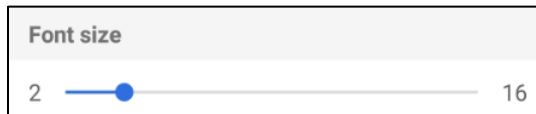


In *Label field* line select the field which attributes will be used to label all features.

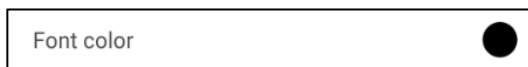
A rectangular box with a light gray background. On the left, the text "Label field" is displayed. On the right, the word "NAME" is displayed in blue, indicating it is the selected field.

To add the new field, see “*Setting layer symbology. Adding new fields.*” section above.

In the *Font size* line specify the font size pulling the shift to the required value.

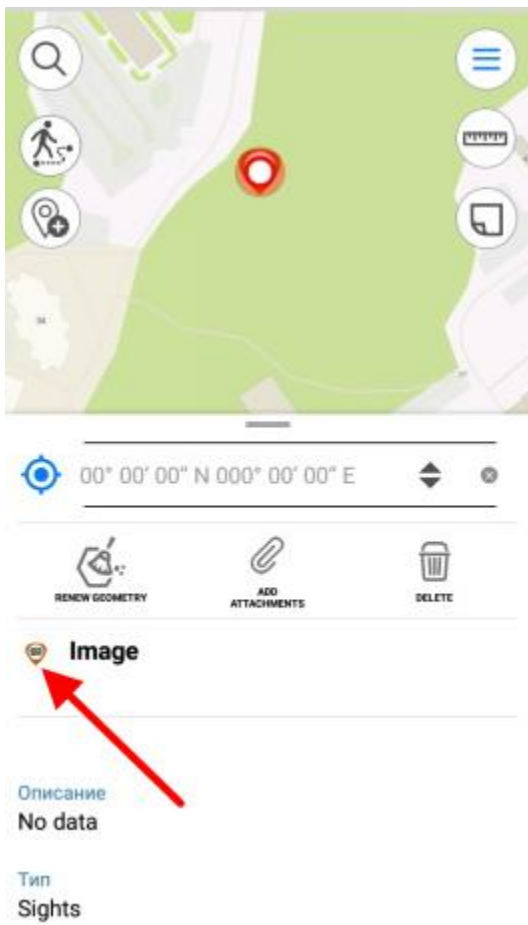
A rectangular box with a light gray background. At the top, the text "Font size" is displayed. Below it, a horizontal slider is shown. The slider has a blue handle and is flanked by the numbers "2" on the left and "16" on the right.

Select the labels color in the *Font color* line.

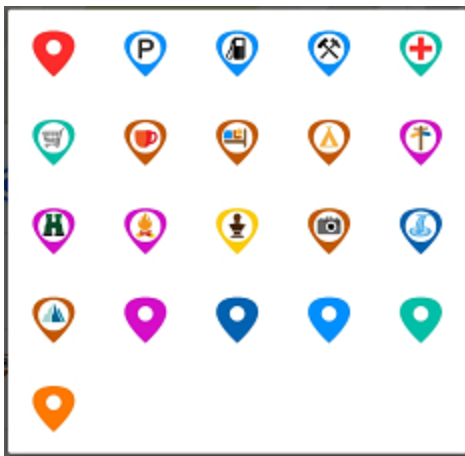
A rectangular box with a light gray background. On the left, the text "Font color" is displayed. On the right, there is a solid black circle, indicating the selected color.

### Selecting symbol when creating feature in the existent layer

When creating the feature in the existent or the newly created layer you can specify different symbols for features of one layer. To do so, create the new feature and select the required symbol in the feature card.




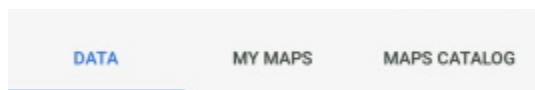
In the appeared list select the required symbol.



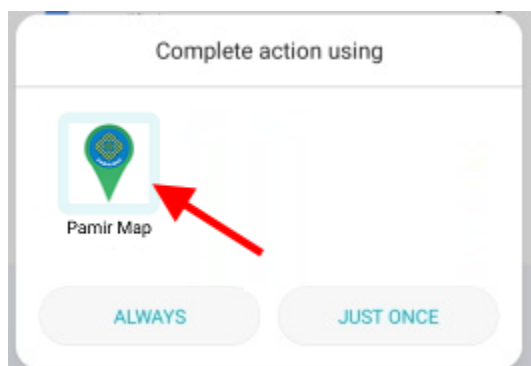
Tap *Save* ✓. Changing symbology for the feature is also possible when editing mode is on.

## Importing data

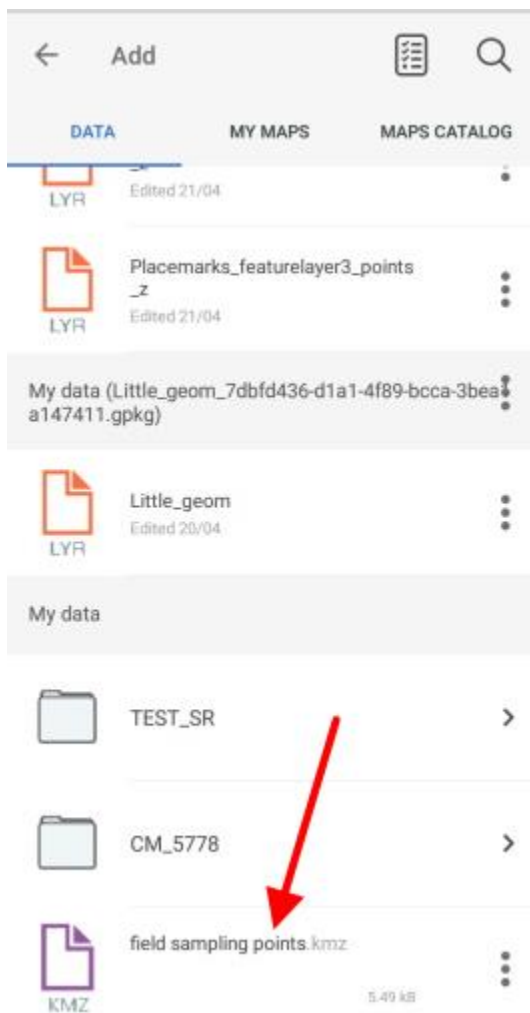
To add data to current project, tap  **Add** in the map menu. All data that can be added to project are shown in the *Library* section consisting of *Data*, *My maps* and *Maps catalog* tabs.



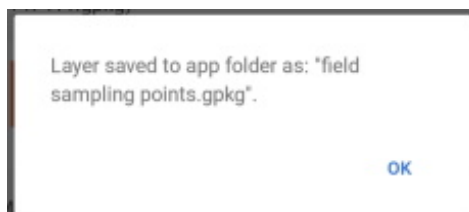
The *Data* tab contains data in GeoPackage, KML/KMZ, SHP and GPX formats. To add the existing KML/KMZ, SHP, GPX file to the project, select it and select Pamir Map from the list of apps to open this file.



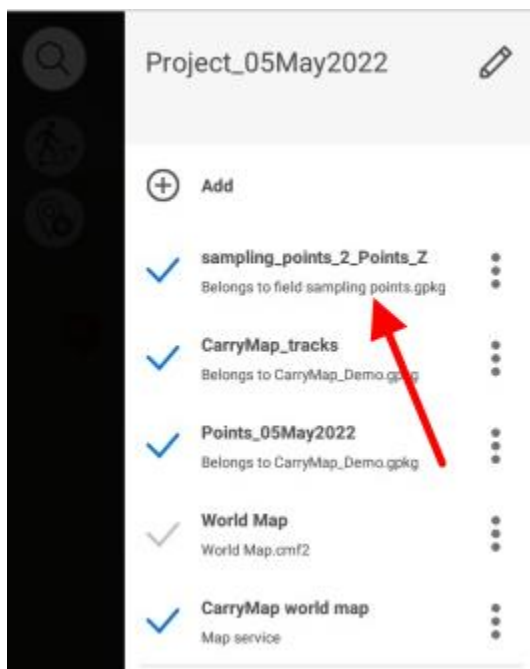
The file will be added to *Data* tab.



To add gpkg layer, tap again the added file, it will be converted to gpkg layer and added to the project, and the appropriate message will appear.



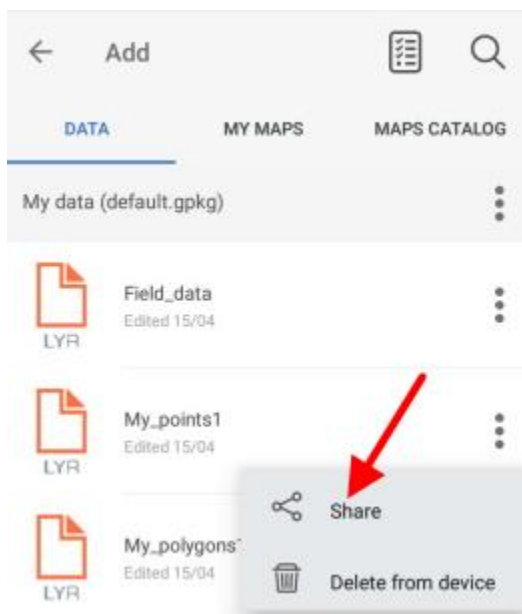
Converted gpkg layer will be added to the project.



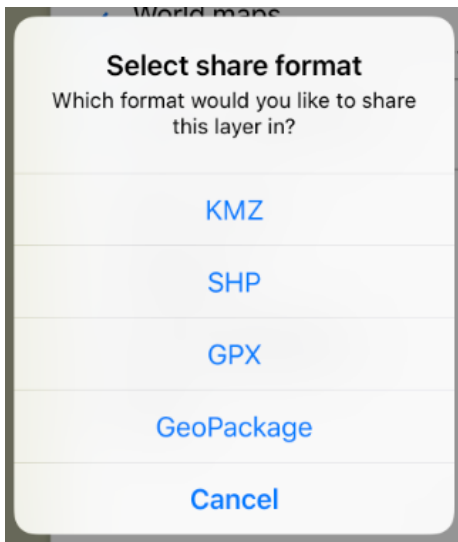
The same steps mentioned above should be done to add KML/KMZ, SHP, GPX files.

## Exporting data

You can share files in GeoPackage, SHP, KML/KMZ, GPX formats or share KML/KMZ, SHP, GPX files stored on your device. To do so, open the layer menu in the *Data* section pressing three dots, and select *Share*.



When sharing gpkg layer you can select the format: SHP, KMZ, GPKG, GPX.

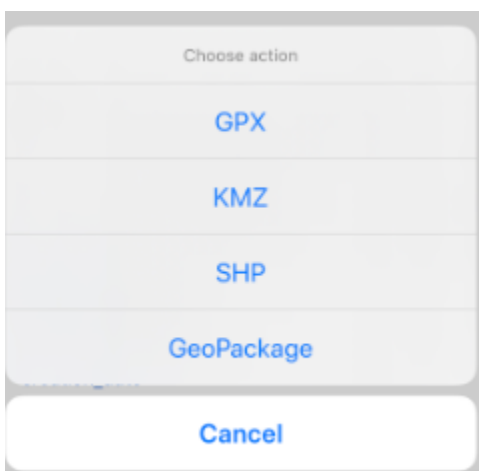


After selecting the format, select the method you want to use to share your file.

Besides, you can share the single feature, to do so, tap it on the map and in the appeared card press *Share*.




Select the data format in the appeared window.



After that, select how you would like to share the feature.

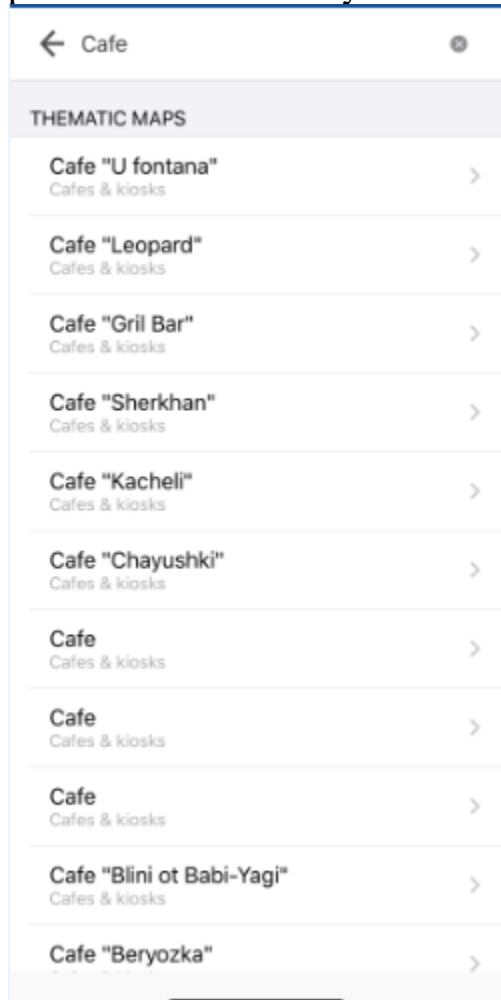


## Searching features. Going to feature by coordinates.

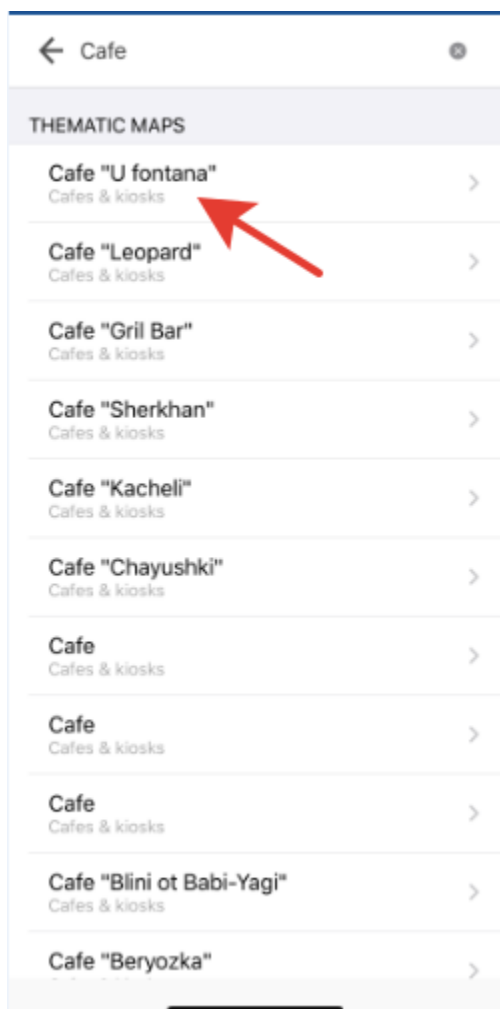
To search for GPKG feature or CMF2 by attributes, open the search field pressing the search button  .



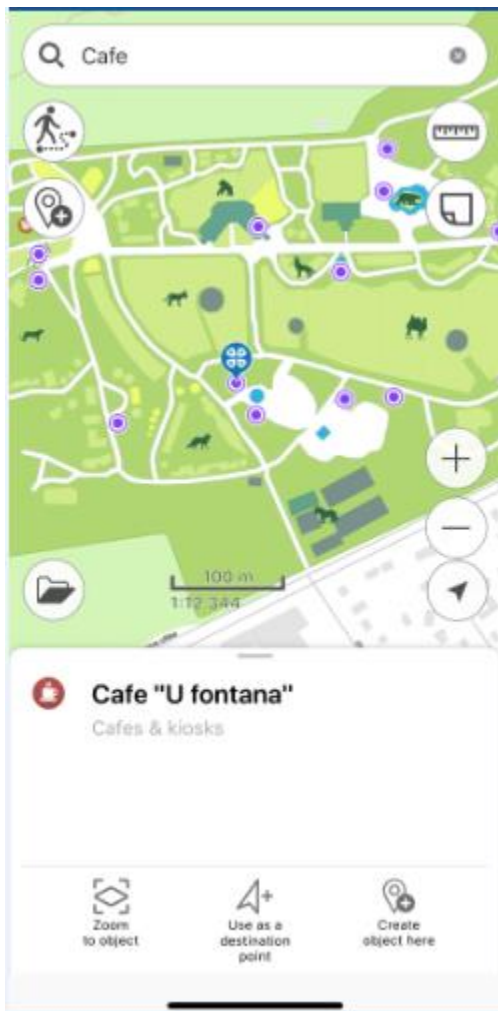
Enter the search text to the appeared field (for example, the point name, description, etc.) and press *Return* on the keyboard. The search results will be shown in the list.



To go to the found feature on the map, press its name in the search results list.



The feature will be marked on the map.



To perform an "exact search", before entering the search numeric or text value, put "!" and then enter the required number or text to search for.

To clear search request, press *Clear search*.




To view all found features, press the arrow

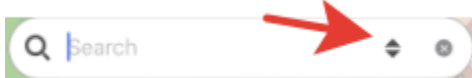


and all found features will be marked on the map.



If no features were found during search, you would see the *Features not found* message.

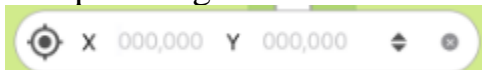
To go to feature by coordinates, open the search field pressing the search button . The text search field will appear. To switch to the go to coordinates mode, press *Switch* button.



To open the go to DMS coordinates window, press *Switch* button one time.




To open the go to DD coordinates window, press *Switch* button two times.



When entering DMS coordinates, to put ° (degree), ' (minute), or " (second) sign, press space after the number and the sign will automatically appear in the go to coordinates line. After


entering the longitude and latitude values you need to enter their name: north, south and west, east.

Then press *Return* on the keyboard. The found point will be marked with  icon on your map. The coordinates that you searched for will be shown in the card.



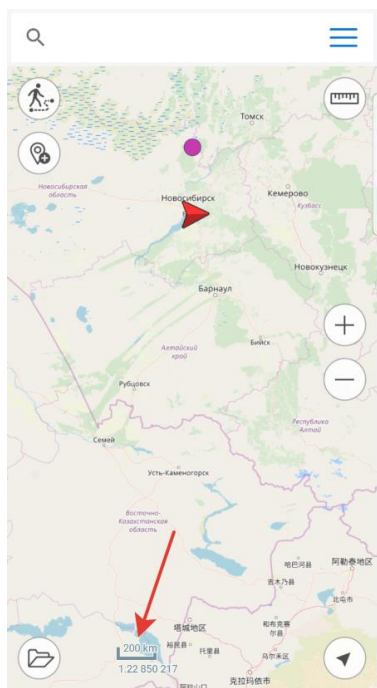
To go to DD coordinates, first enter X, then Y coordinate, and press *Return*.



The found point will be marked with  icon on your map. The coordinates that you searched for will be shown in the card.

## Selecting map scale

To set map scale open the map window and click on the scale bar.




In the window that opens, enter the scale and click OK, the map will be drawn at the specified scale.

**Enter scale value**

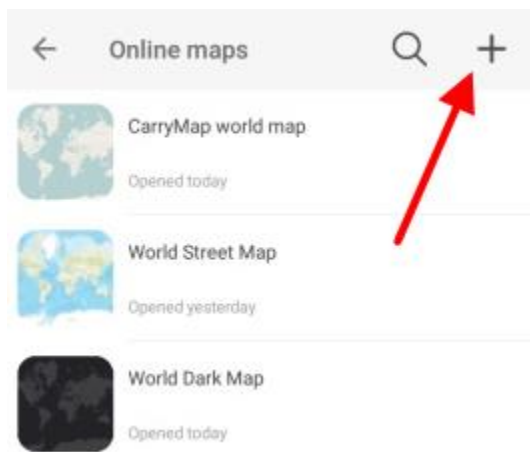
1:2 568 562 |


CANCEL OK

## Adding online services

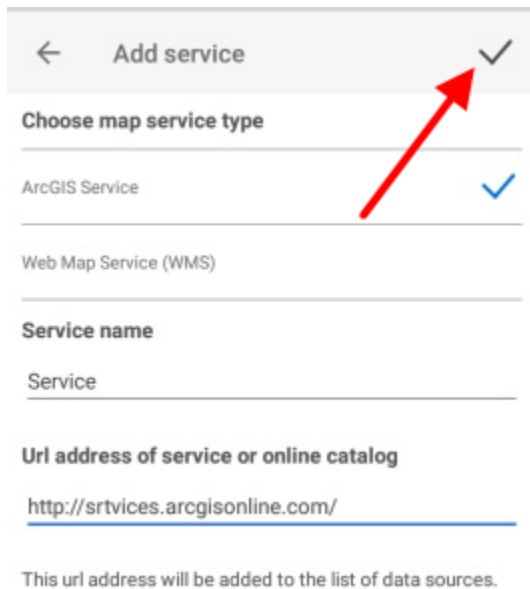
To add the online map service ArcGIS or WMS to your project, tap  **Add** button, go to *Maps catalog* and select *Online maps*. You can select the online service from the provided list or add the new one.

To add the new online service ArcGIS or WMS, tap *Add* button.

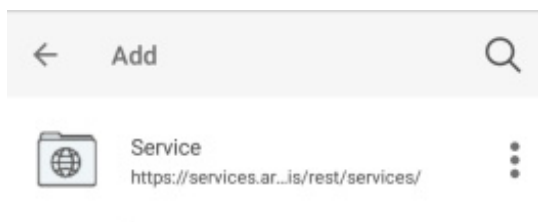


If you already have connected services, they will be shown in the list in the *Services* tab. If you need to add another service, tap *Add* , fill in all the required fields and tap *Ready*.

Select the required service type, enter its name and link to this service.



The added service will be shown in the *Services* tab.



Select the required map from the service and it will be added to your project.

## Specifying destination

The *Use as a destination point* option allows selecting the feature or place on the map as a destination you want to reach. To specify the place as your destination, tap the required place on the map and select *Use as a destination point*.



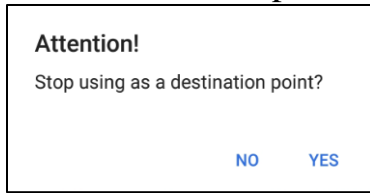
When the *Use as a destination* option is enabled, the arrow showing direction to specified target and distance to this target appear on the screen.



The target feature will be marked with the flag symbol 🚩.




To disable use of the *Use as a destination* option, tap the cross icon in the upper part of the screen and then tap *Yes* in the appeared dialog.




The *Use as a destination* option will be disabled.

When the *Use as a destination* option is enabled, the distance to specified target feature appears in the upper part of the screen.



Your current location will be marked with the cross button  and direction to the target will be marked with the red arrow.

During use of the *Use as a destination* option you can create a point feature in your current location point. To do so, tap the cross button .



In the appeared window select the layer where to the point feature will be added.

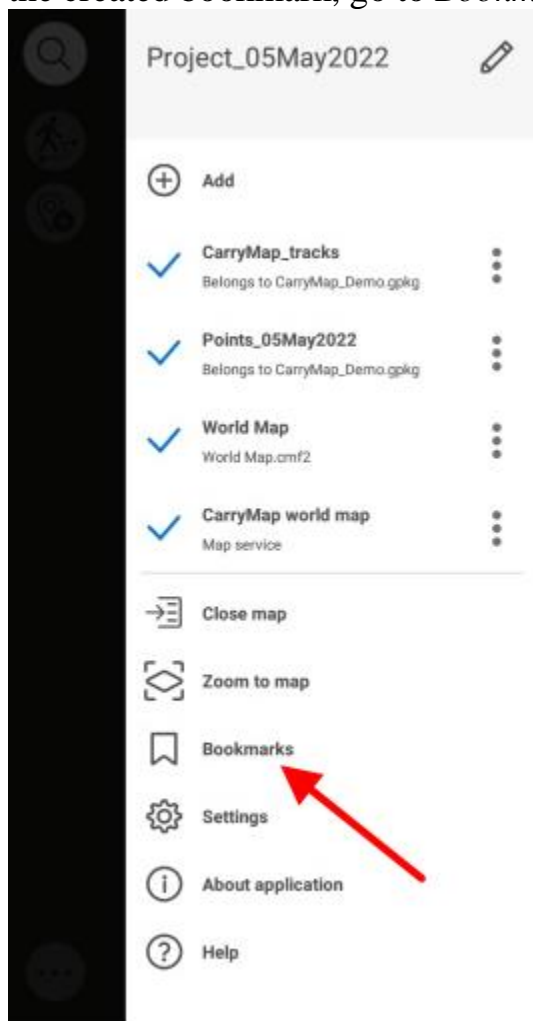
To confirm your selection, press .

## Creating bookmarks

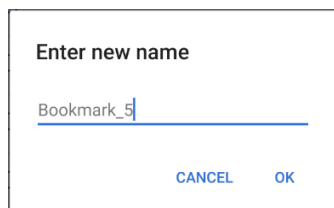
Bookmarks are provided for storing the needed map extents and data. To create the bookmark, set the required map area boundary, go to *Additional tools for work with map* and tap *Create bookmark*.



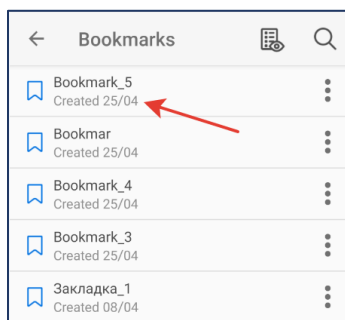
Enter the bookmark name or leave the default name. To save the bookmark, tap *OK*. To view the created bookmark, go to *Bookmarks* section in the project menu.



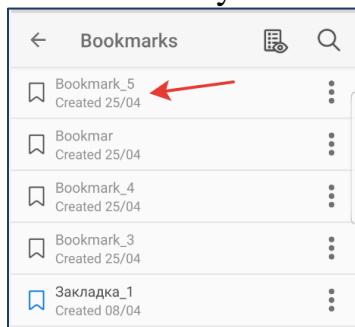
To delete the bookmark, tap three dots and select *Delete*. To rename already created bookmark, tap *Rename*, enter the new name and tap *OK*.




To go to the bookmark on map, select it from the list and it will be shown on the screen.




If previously created bookmark does not fall into the current map extent, it will be grayed out in the list and you will not be able to view it.

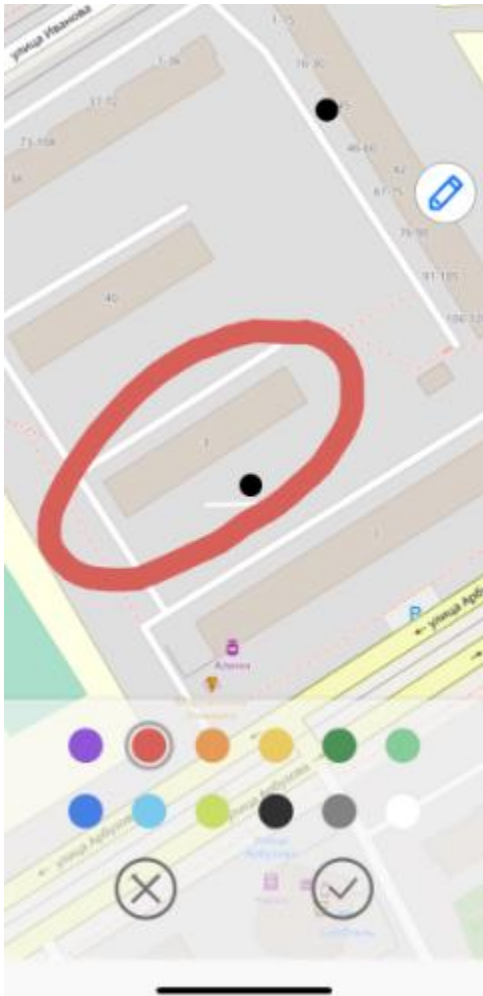


To view all active bookmarks of the current map, tap .

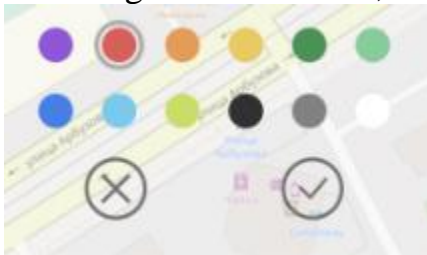
## Creating marks


To create the graphic mark on your map as a text, custom shape or arrow, press *Create mark* button  and select the note type.

To create the mark as the custom shape, press  button. Draw the required shape on the map.



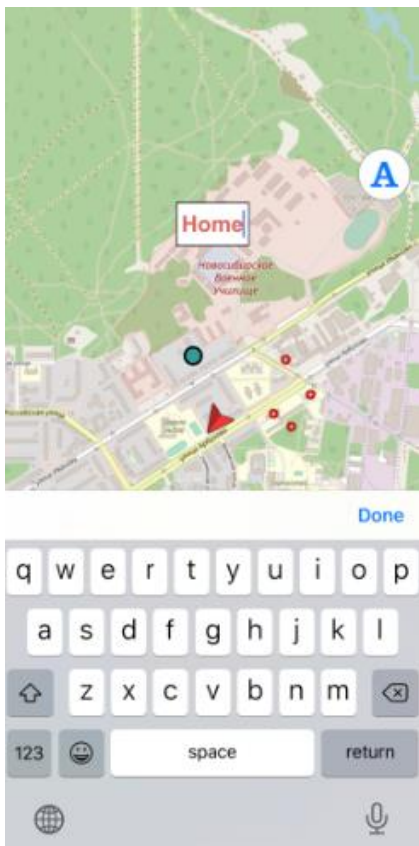
To change the note color, select the required color from the provided list.



To save the mark, press *Save* .

To cancel creating the mark, press *Cancel* .

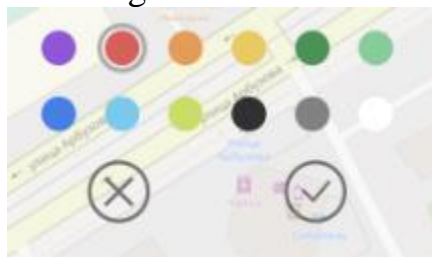
To create the text mark on the map, press **A** .  
In the appeared field enter the note text and press *Done* on the keyboard.





To change location of the text mark, long tap the note and drag it to the new place on the map.




To change the text mark color, select the required color from the provided list.



To save the text mark, press *Save* .

To cancel creating the text mark, press *Cancel* .

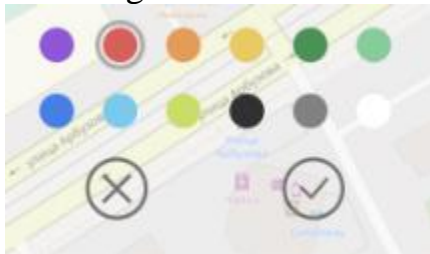
To create the mark as the arrow, press .

Now draw the arrow on the map, specifying the start and end point of the arrow.



To change location of the arrow, specify the start and the end point of the arrow again, and the previously created arrow will be deleted.

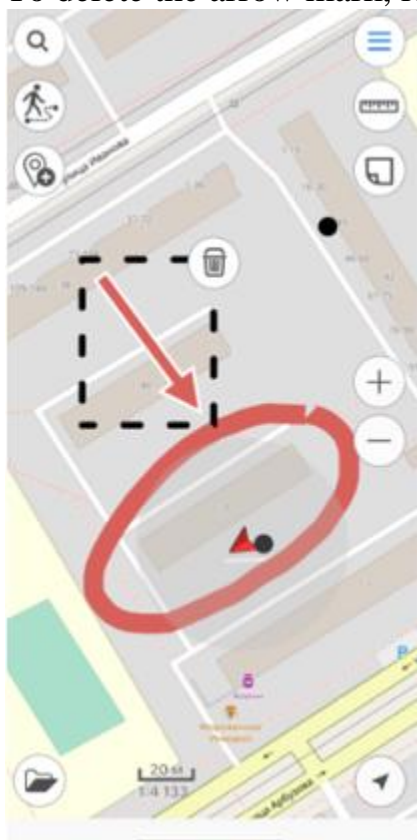
To change color of the arrow mark, select the required color from the provided list.




To save the arrow mark, press *Save* .

To cancel creating the arrow mark, press *Cancel* .

To delete the arrow mark, long tap it on the map.

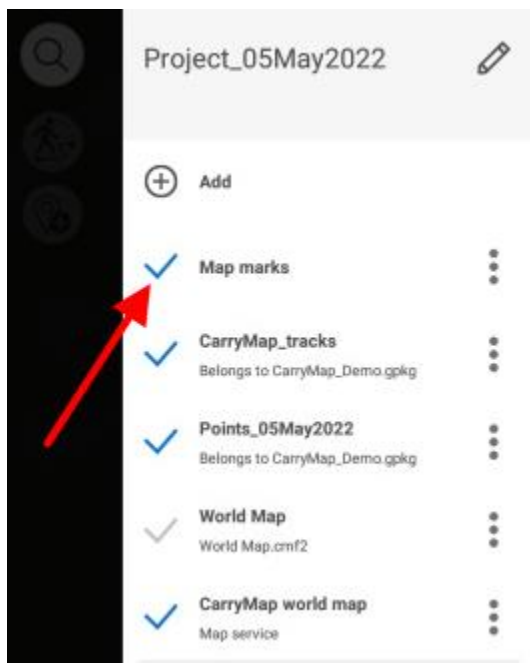


Then press  and your arrow will be deleted.

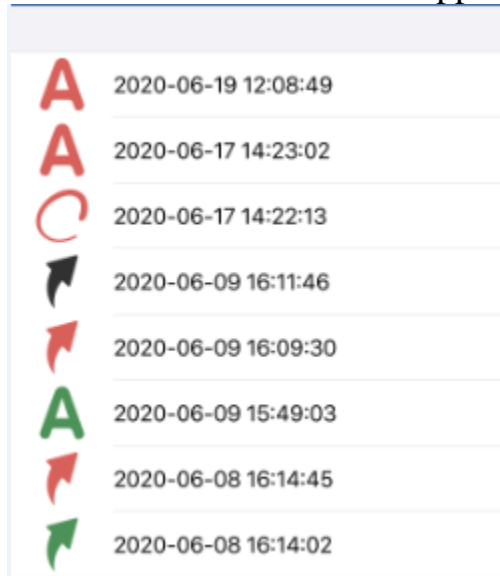
To turn off the layer with marks, go to the main menu pressing , and press the check sign



To view all created marks, select *Map notes* layer.



The list with all marks will appear.



To go to any mark on the map, select it from the list and it will be opened on the map.

## Saving map extent

To save the map extent for printing or to save it to PDF document, set the required map area boundary, go to *Additional tools for work with map* and tap *Save to PDF*.





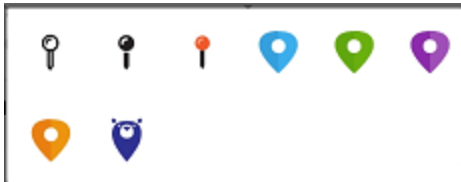


In the dialog that opens, select the required action to save or print the created map extent.

## Application settings


The *Settings* tab provides the following options to specify the app settings:

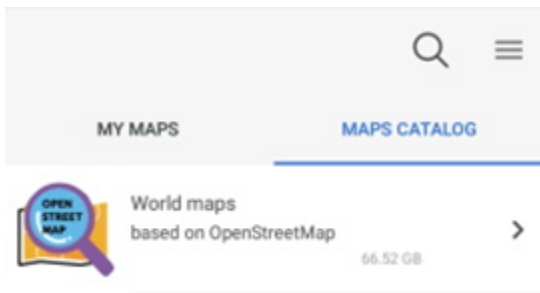
- Change measurement units;
- Hide or show buttons to change map scale  ;
- Turn on/off device screen lock during app work;
- Specify maximum cache size for the app. To set the size, tap *Set max size of cache* and select the required size value.
- Clear cache and select cache size for the app data. To clear cache, tap *Clear cache*.
- Select symbol for pushpins of my location and destination. To do so, open the appropriate section (Pushpin, My Location, Destination point) and select the required symbol from the appeared list.





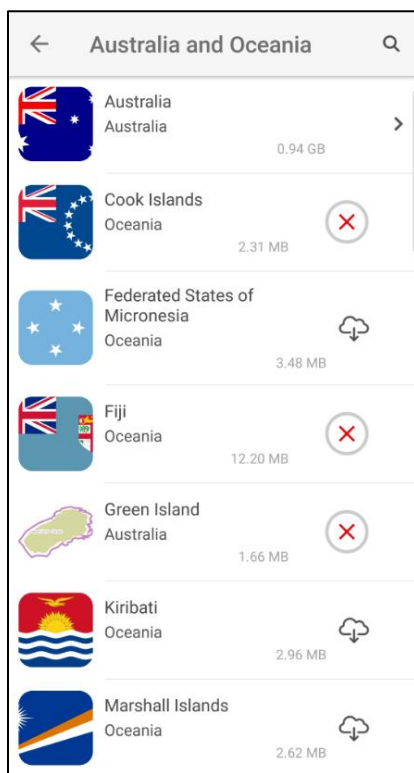
- In the *Coordinate system* section, you can select UTM zone, if WGS-84 coordinate system is used in the current project.
- Enable/disable display of buffer showing accuracy of the current location definition.



## Working with Maps catalog

The *Maps catalog* tab contains maps in CMF2 format. To go to *Maps catalog*, tap  **Add** in the map menu or tap *Close map* button in the Main menu and select *Maps catalog* tab in the appeared window.



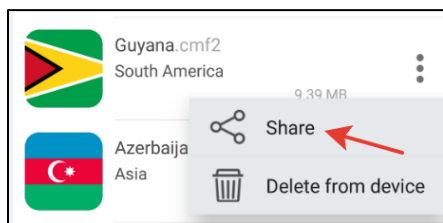
To download a map from *Maps catalog*, select it from the list and tap *Download* . The download process will start. To cancel the process, tap *Cancel* .



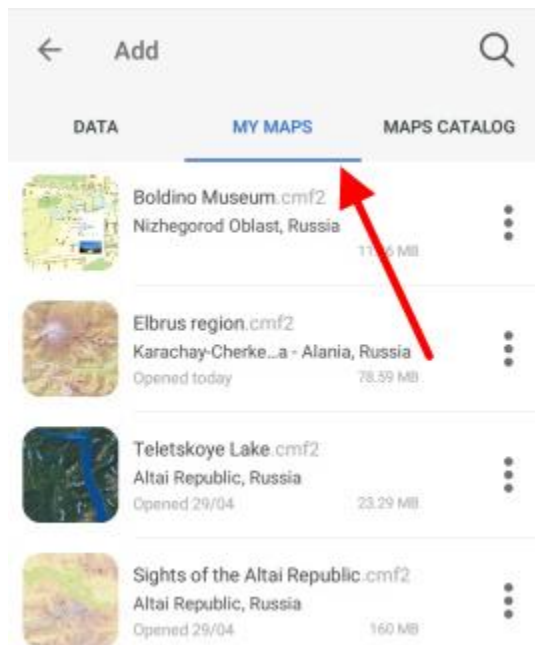
After downloading the map to your device, the download icon will change to . If the map has available updates, you will see the icon  near this map name. Tap this icon to download the updated version of the map.

To delete map from device, tap the three dots menu and select *Delete*. You can download it again from *Maps catalog*, if needed.

To share map, tap the three dots menu and select *Share*. Note that you can share maps downloaded to your device only.





All downloaded maps can be viewed in *My maps* tab.




## Finding current location

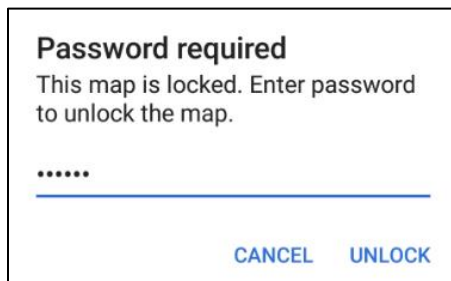
To define your current location on the map, tap *My location* .




When the *My location* option is enabled, the button changes . To disable the option, tap any place on the map. If you tap the location button again, the map will go to the tracking mode and the button will look as . Being in the tracking mode, the map will rotate according to your current location. To disable tracking mode, tap any place on the map.

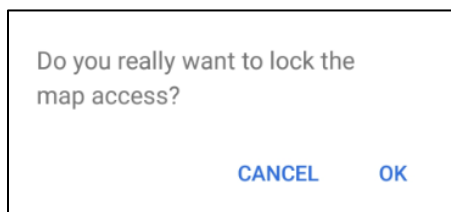
## Working with protected maps

The maps protected with password are marked with the lock  icon. To open the password protected map, tap its name, enter password in the appeared window and tap *Unlock*.




A dialog box titled "Password required". Below the title, it says "This map is locked. Enter password to unlock the map." There is a password input field with six dots and a blue underline. At the bottom, there are two buttons: "CANCEL" and "UNLOCK".

The map will be opened in the project. Now access to this map is allowed, to lock it again, go to *Maps* tab, press  in the appeared window, and then *OK*.



A dialog box with the text "Do you really want to lock the map access?". At the bottom, there are two buttons: "CANCEL" and "OK".

Access to your map is locked and you will need to enter password again to continue working.

If the validity time of the map has expired, the map icon looks as  and the appropriate message appears.

The map has expired