

1. INSPIRE ESPUS školenie

„Zber a tvorba priestorových údajov“

Turizmus - tvorba mapy cyklotrás

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"Zber a tvorba priestorových údajov"



Online formát

Termín: 05.05.2022

Miesto: Zoom



Operačný program
Efektívna
verejná správa



Európska únia
Európsky sociálny fond

Tento projekt je podporený z Európskeho sociálneho fondu



Operačný program
Efektívna
verejná správa



Európska únia
Európsky sociálny fond





MINISTERSTVO

ŽIVOTNÉHO PROSTREDIA
SLOVENSKEJ REPUBLIKY



ESPUS

Efektívna správa priestorových údajov a služieb

INSPIRE ESPUS školenie „Zber a tvorba priestorových údajov“ Turizmus - tvorba mapy cyklotrás

05.05.2022



Európska únia
Európsky sociálny fond

Prehľad

- Zadanie
- Potrebný hardvér a softvér
- Zber a processing údajov
- Publikácia
- Zobrazenie cyklotrás
- Aktualizácia



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Zadanie / use case

- Podpora zmapovania cyklotrás v Žiline, resp. kdekoľvek na Slovensku
- Stimuly
 - Konferencia „[Dátovo podložené služby samospráv](#)“



- [CITYTHON 2022 Žilina](#)



- Dotknuté subjekty
 - [Inovia](#)
 - [Mesto Žilina](#)
 - Občania
- Overenie aktuálneho stavu
- Identifikácia možností riešenia „low hanging fruits“

Hardvér a softvér

- Bike



- Smartphone



- STRAVA

STRAVA



Zber a procesing údajov

Strava – Zber dát

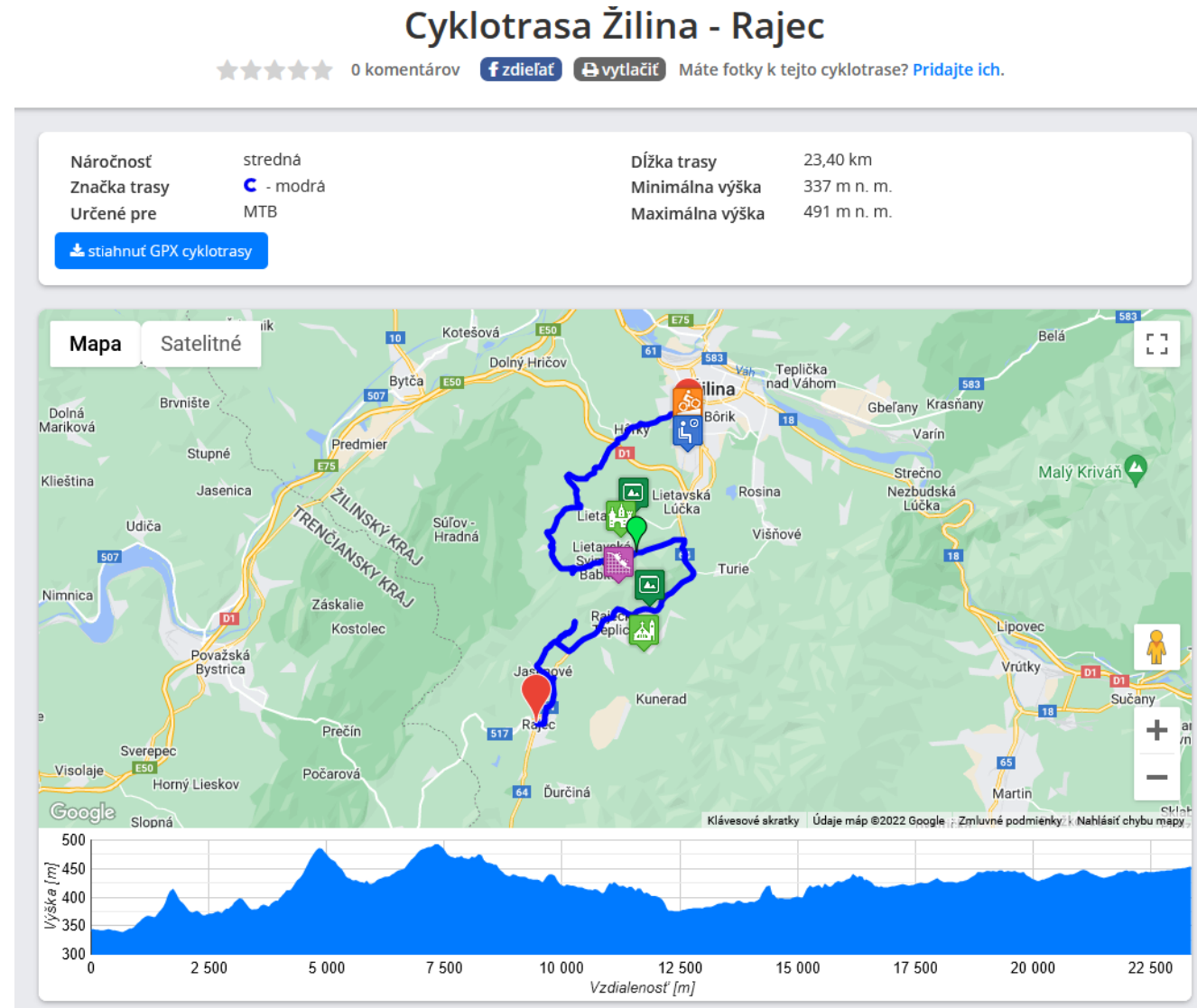
The image displays a sequence of six screenshots from the Strava mobile application, illustrating the data collection process for a ride. The screenshots are arranged horizontally from left to right.

- Screenshot 1 (Home):** Shows the user profile for Jan Tobik, a recent activity titled "Pizza - dážd'." with a distance of 53.88 km and an elevation gain of 380 m. A "Send Beacon Text" button is visible at the bottom.
- Screenshot 2 (Close):** Shows a green banner at the top that reads "GPS SIGNAL ACQUIRED". A "Send Beacon Text" button is at the bottom.
- Screenshot 3 (Choose a Sport):** A modal dialog titled "Choose a Sport" is displayed over a map. The "Ride" option is selected. A "Send Beacon Text" button is at the bottom.
- Screenshot 4 (Ride):** Shows the "Ride" screen with a large "0,00" display for "AVG SPEED" in "KM/H". A "Send Beacon Text" button is at the bottom.
- Screenshot 5 (Ride):** Shows the "Ride" screen with a large "0,00" display for "DISTANCE" in "KILOMETERS". A "Send Beacon Text" button is at the bottom.
- Screenshot 6 (Ride):** Shows the "Ride" screen with a large "00:00:09" display for "TIME". The screen is labeled "AUTO-PAUSED". A "Send Beacon Text" button is at the bottom.

At the bottom of the sequence, there are three large orange buttons: "START", "STOP", and "FINISH", indicating the progression of the ride recording process.

Zber a procesing údajov

Strava – zameranie trasy (Príklad Žilina)



Zber a procesing údajov



Strava – export údajov

Analysis

SUBSCRIPTION

- Heart Rate
- Power Curve
- 25 W Distribution

Laps


 

- Split
- Create Route
- Correct Distance
- Correct Elevation
- Create Segment
- Export GPX
- Export Original
- Refresh Activity Achievements
- Flag
- Delete

7:09 on Wednesday, 27 April 2022 · District of Zvolen, Region of
anská Bystrica

Ešte pred - full day Online

Add a description






didn't record? [Add Friends](#)

50.62 km	1:37:34	169 m
Distance	Moving Time	Elevation
226 W	1,258 kJ	
Weighted Avg Power	Total Work	
Avg		Max
Speed	31.1km/h	49.1km/h
Show More		

TOP RESULTS

[View all](#)

-  PR on [Popod R1](#) (1:35)
-  3rd fastest time on [Vikanová - Veľká Lúka](#) (7:53)
-  3rd fastest time on [letisko - cisticka](#) (6:57)

E_ete_pred_full_day_Online_ - Notepad

```

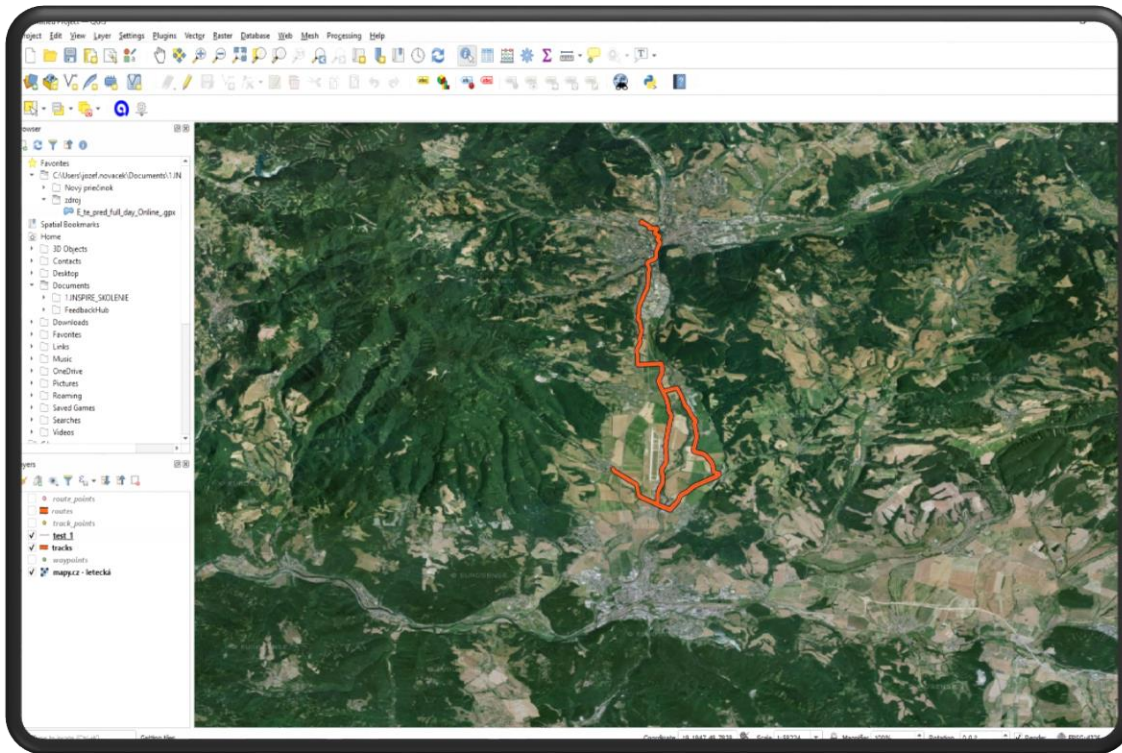
File Edit Format View Help
<?xml version="1.0" encoding="UTF-8"?>
<gpx creator="StravaGPX" xmlns:xsi="http://www.w3.org/2001/XMLSchema
<metadata>
  <time>2022-04-27T05:09:40Z</time>
</metadata>
<trk>
  <name>Ešte pred - full day Online </name>
  <type>1</type>
  <trkseg>
    <trkpt lat="48.6318520" lon="19.1148930">
      <ele>330.8</ele>
      <time>2022-04-27T05:09:40Z</time>
      <extensions>
        <power>95</power>
        <gpxtpx:TrackPointExtension>
          <gpxtpx:atemp>14</gpxtpx:atemp>
          <gpxtpx:hr>88</gpxtpx:hr>
          <gpxtpx:cad>96</gpxtpx:cad>
        </gpxtpx:TrackPointExtension>
      </extensions>
    </trkpt>
  </trkseg>
</trk>
  
```

Ln 1, Col 1 100% Unix (LF) UTF-8

Publikácia (Príklad Zvolenská kotlina)

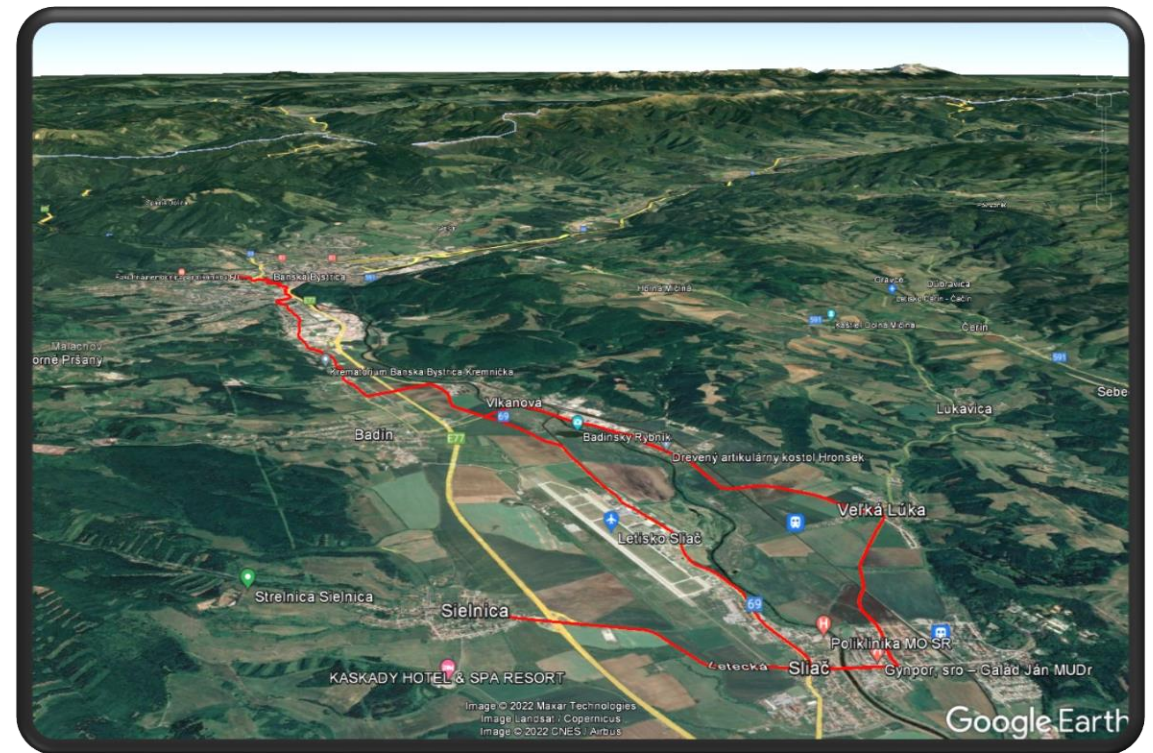
QGIS

- GeoPackage (GPKG)



Google Earth

Keyhole Markup Language (KML)



Import GPX do Google maps

The image consists of two overlapping screenshots of the Google Maps interface, illustrating the steps to import a GPX file.

Left Screenshot (Step 1): Shows the Google Maps mobile interface. The top navigation bar is blue and labeled "Uložené" (Saved). Below it, there are tabs for "ZOZNAMY" (Lists), "OZNAČENÉ" (Marked), "NAVŠTÍVENÉ" (Visited), and "MAPY" (Maps). The "MAPY" tab is circled in red and labeled with a red "1.". Below the tabs, there is a list of saved items:

- SKLÁDKY ODPADOV (10. februára 2022)
- Cyklo trasa 6.4.2014 (15. septembra 2021)

Right Screenshot (Step 2): Shows the "Moje mapy" (My Maps) page. At the top, there is a red button labeled "+ VYTVORIŤ NOVÚ MAPU" (Create new map) with a red "2." next to it. Below the button, there are tabs for "VŠETKY" (All), "VLASTNENÉ" (Owned), and "NEVLASTNENÉ" (Not owned). The "VLASTNENÉ" tab is selected. Below the tabs, there is a grid of saved maps:

- Na Bike s Viki (9.6.2013) (5. 5. 2022)
- Svadba FanTom (5. 5. 2022)
- TIMO_2021 (5. 5. 2022)
- Rozovoz-Renka (5. 5. 2022)

Import GPX do Google maps

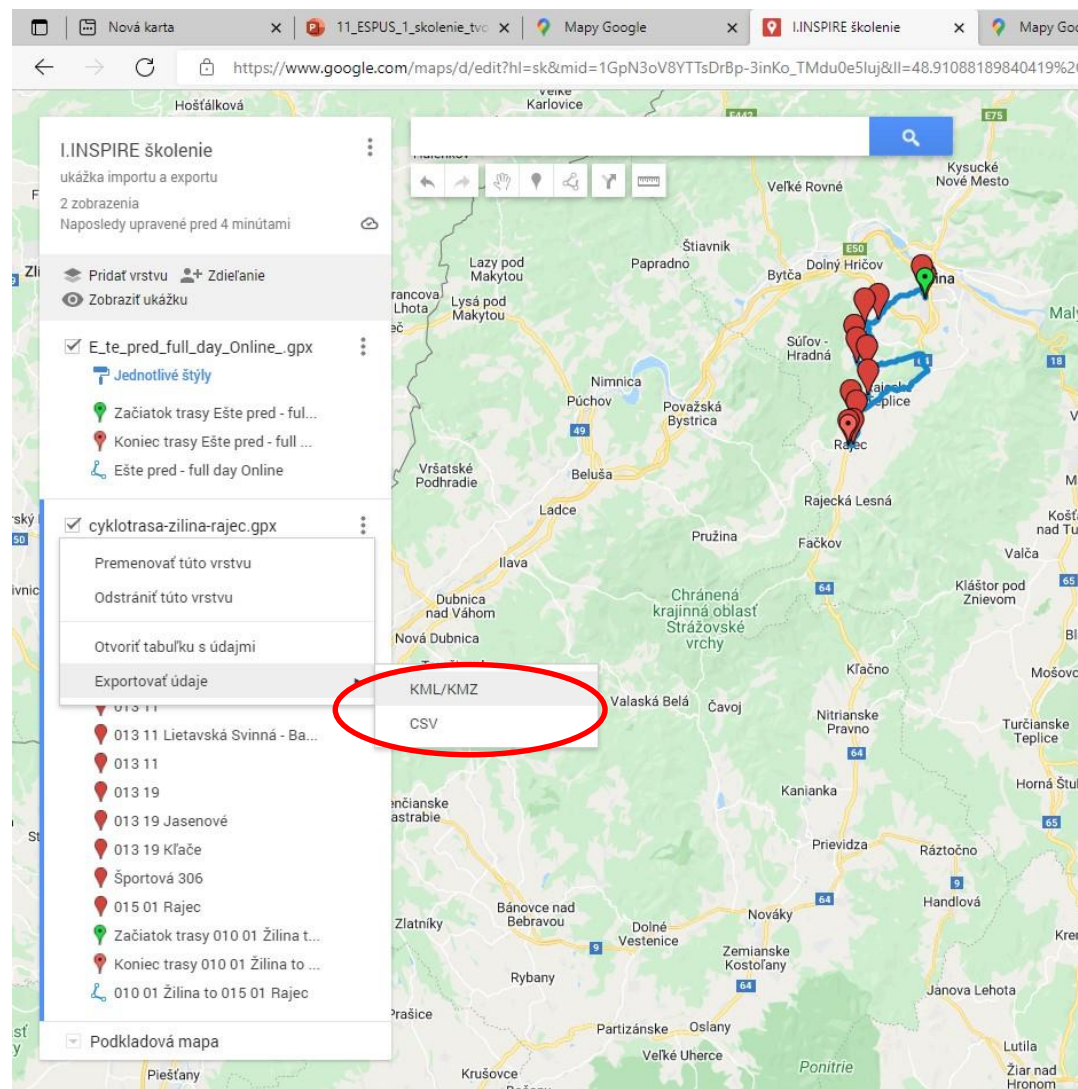
The image is a collage of screenshots from the Google Maps interface, illustrating the steps to import GPX files. The main window shows a map with a sidebar on the left containing the 'Mapa bez názvu' (Untitled map) menu. The 'Vrstva bez názvu' (Untitled layer) option is highlighted with a red circle, and the 'Importovať' (Import) button is visible below it. A yellow tooltip提示: 'Pridajte do tejto vrstvy miesta zakreslením alebo importovaním údajov. Ďalšie informácie' (Add locations to this layer by drawing or importing data. More information).

A second screenshot shows a file selection dialog titled 'Vyberte súbor na import' (Select file to import), with a central area that says 'Presuňte sem súbor CSV, XLSX, KML alebo GPX' (Drag and drop CSV, XLSX, KML or GPX file here). Below this, there is a link for 'Alternatívna možnosť...' (Alternative option...) and a 'Vyberte súbor za potlačenia...' (Select file to suppress...) button.

A third screenshot shows the 'Mapa bez názvu' sidebar with two GPX tracks imported: 'E_te_pred_full_day_Online_gpx' and 'cyklotrasa-zilina-rajec.gpx'. The 'cyklotrasa-zilina-rajec.gpx' track is expanded, showing a list of waypoints: 010 01 Žilina, 010 01 Žilina, 010 04 Brezany, Slovakia, 013 11, 013 11 Lietavská Svinná - Ba..., 013 11, 013 19, 013 19 Jasenové, 013 19 Kľače, Športová 306, 015 01 Rajec, and 010 01 Žilina to 015 01 Rajec. The track is styled as a red line with red location pins at each waypoint.


A fourth screenshot shows the same map with the 'cyklotrasa-zilina-rajec.gpx' track expanded, displaying a list of waypoints: 010 01 Žilina, 010 01 Žilina, 010 04 Brezany, Slovakia, 013 11, 013 11 Lietavská Svinná - Ba..., 013 11, 013 19, 013 19 Jasenové, 013 19 Kľače, Športová 306, 015 01 Rajec, and 010 01 Žilina to 015 01 Rajec. The track is styled as a red line with red location pins at each waypoint.

Export z Google maps



Publikácia (Banskobystrický VÚC)

Geoserver






 **GeoServer**

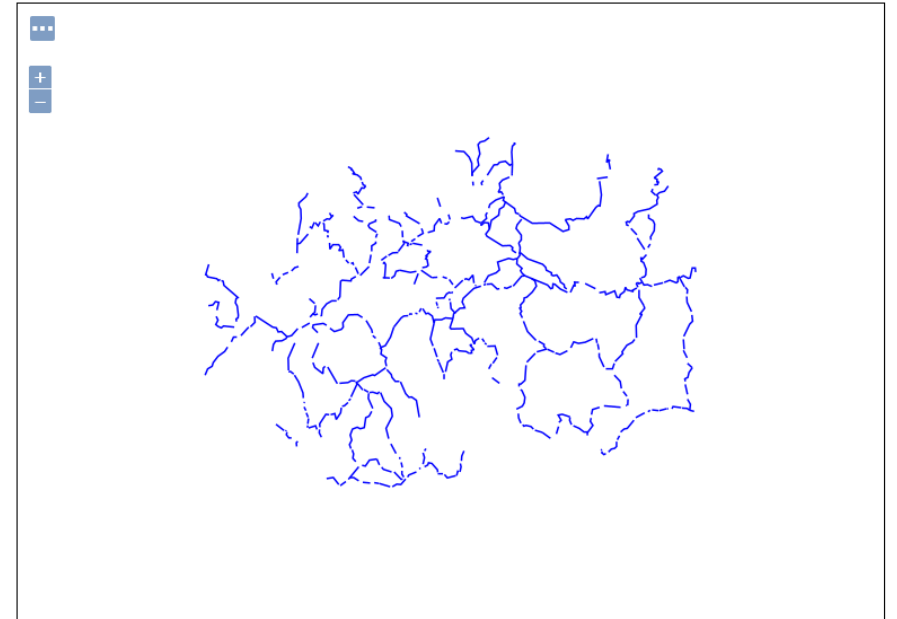
username password Remember me [Login](#)

Layer Preview

List of all layers configured in GeoServer and provides previews in various formats for each.

<< < 1 2 > >> Results 1 to 25 (out of 40 matches from 175 items) [Clear](#)

Type	Title	Name	Common Formats	All Formats
	Biokorior	bbsk:biokoridor_2	OpenLayers GML KML	Select one
	Body	bbsk:body_points	OpenLayers GML KML	Select one
	body_points_test	bbsk:body_points_test	OpenLayers GML KML	Select one
	Citlivé oblasti BBSK	bbsk:citlive_oblasti_bbsk	OpenLayers GML KML	Select one
	Nadregionálne cyklistickej trasy	bbsk:cyklotrasy	OpenLayers GML KML	Select one



Scale = 1 : 1M

cyklotrasy

fid	id	popis
cyklotrasy.227		Banská Bystrica - Horné Práany - Rakytovce

Publikácia (Banskobystrický VÚC)

Register priestorových informácií

The screenshot shows the RPI website interface. At the top, there is a search bar with 'BBSK' entered and a 'Vyhľadat' button. Below the search bar, there are navigation links for 'RPI', 'Mapový a vyhľadávací klient', and language options 'Pomocník', 'Slovensky', and 'English'. A sidebar on the left displays search results for '20 nájdených záznamov'. The results are sorted by name, type, and update date. The first result is 'Cesty II. a III. triedy (plán)' for the Banskobystrický samosprávny kraj, dated 26.11.2020. The second result is 'Nadregionálne cyklistické trasy' for the Banskobystrický samosprávny kraj, dated 25.11.2020. The third result is 'Nadregionálne cyklistické trasy BBSK' for the Ministerstvo životného prostredia Slovenskej republiky, dated 2.11.2021. The fourth result is 'Nadregionálne cyklistické trasy BBSK: Ukladacia služba' for the Ministerstvo životného prostredia Slovenskej republiky, dated 2.11.2021. The main content area shows a map of Slovakia with regional boundaries and names: Zilinský kraj, Prešovský kraj, Košický kraj, Banskobystrický kraj, Nitriansky kraj, and Trenčiansky kraj. A scale bar indicates 50 km.

The screenshot shows the metadata and distribution information for the 'BBSK' publication. The search bar at the top contains 'BBSK' and the 'Vyhľadat' button. Below the search bar, there are navigation links for 'RPI', 'Mapový a vyhľadávací klient', and language options 'Pomocník', 'Slovensky', and 'English'. The main content area is divided into several sections: 'Kontaktné miesto', 'Referenčný systém', 'Identifikácia údajov', 'Citácia', 'Kontaktné miesto', 'Kľúčové slová', 'Kľúčové slová', 'Obmedzenia', 'Obmedzenia', 'Rozsah', 'Geografické ohraničenie', 'Distribúcia', 'Distribučný formát', 'Možnosti prenosu', and 'Parametre prenosu'. The 'Distribúcia' section is highlighted in blue. The 'Distribučný formát' section shows the name 'gml+xml' and version '3.2'. The 'Možnosti prenosu' section shows the URL 'https://maps.geocloud.sk/geoserver/bbsk/wms?service=WMS&version=1.3.0&request=GetCapabilities' and the function 'informácia'. The 'Parametre prenosu' section shows the URL 'https://maps.geocloud.sk/geoserver/bbsk/wfs?service=WFS&version=2.0.0&request=GetCapabilities' and the function 'stahnutie'.

Publikácia (Banskobystrický VÚC)

Národný Geoportál

The screenshot displays the National Geoportal interface. At the top, there is a search bar with fields for 'Lokalita' and 'Metaúdaje', and a 'Hľadať' button. To the right, there are login fields for 'Užívateľské meno' and 'Heslo', along with a 'Prihlásiť' button and a 'Registrovať' link. Below the search bar, there are navigation tabs: 'VYHĽADÁVANIE', 'GALÉRIA MÁP', 'MAPA', and 'O GEOPORTÁLI'. The main map area shows a map of Slovakia with regional boundaries and labels for various regions: Bratislavský kraj, Trnavský kraj, Trenčiansky kraj, Zlínsky kraj, Prešovský kraj, Košický kraj, Banskobystrický kraj, and Nitriansky kraj. The map is overlaid with a green and white pattern. To the left of the map are navigation controls, including a compass and a zoom slider. Below the map, there is a scale bar indicating 50 km and a copyright notice. On the right side, there is a metadata panel for a GeoServer Web Map Service (WMS). The panel includes a 'Vrstvy' (Layers) section with a list of layers: 'Biokorior', 'Body', 'body_points_test', 'Citlivé oblasti BBSK', 'Nadregionálne cyklistické trasy' (highlighted in yellow), and 'Hranica krajinných priestorov'. The 'Nadregionálne cyklistické trasy' layer is checked. The panel also includes a 'Formát obrázku:' dropdown set to 'image/png', a 'Formát dotazov:' dropdown set to 'application/vnd.ogc.gml', a 'Súr. systém:' dropdown set to 'Krovak JTSK', and a 'Veľkosť dlaždice:' field set to '512'. The 'Folder name:' field is empty. The URL for the WMS is 'https://maps.geocloud.sk/geosei' and the service type is 'WMS'. The bottom of the page has a 'Do mapy' button and a 'Všetky' link.

Publikácia (Banskobystrický VÚC)

Národný Geoportál

The screenshot displays the National Geoportal interface. At the top, there is a search bar with 'Lokalita' and 'Metaúdaje' tabs, and a search button labeled 'Hľadať'. To the right, there are fields for 'Užívateľské meno' (username) and 'Heslo' (password), along with 'Prihlásiť' (login) and 'Registrovať' (register) buttons. Below the search bar, there are navigation tabs: 'VYHĽADÁVANIE', 'GALÉRIA MÁP', 'MAPA', and 'O GEOPORTÁLI'. The main map area shows a map of Slovakia with regional boundaries and labels for 'Bratislavský kraj', 'Trenčiansky kraj', 'Zlínsky kraj', 'Prešovský kraj', 'Košický kraj', 'Nitriansky kraj', 'Banskobystrický kraj', 'Tmavský kraj', and 'Banskobystrický kraj'. The map is overlaid with a green and white pattern, likely representing a specific data layer. To the left of the map are navigation controls including a hand icon, arrows, and a zoom slider. Above the map, there are coordinates 'x=-474030, y=-1165121' and a globe icon. Below the map, there are buttons for 'ZB-GIS', 'Orto', and 'OSM'. On the right side, there is a 'Vrstvy' (Layers) panel with a list of layers: 'Nadregionálne cyklistické trasy' (checked), 'Základná báza GIS (ZBGIS) - Ortofotomozaika' (unchecked), 'Základná báza GIS (ZBGIS)' (checked), and 'Open Street Map Slovensko' (unchecked). Below the layers panel, there is a 'Filter' field and a 'Poradie vykresľovania' (Drawing order) section. At the bottom left, there is a scale bar for '50 km' and a 'Copyright' notice.

Publikácia (Cyklo vs. Chránené územia)

Národný Geoportál

The screenshot displays the National Geoportal interface. At the top, there is a search bar with tabs for 'Lokalita' and 'Metaúdaje', and a search button 'Hľadať'. To the right, there are fields for 'Užívateľské meno' and 'Heslo', along with 'Registovať' and 'Prihlásiť' buttons. Below the search bar, there are navigation tabs: 'VYHĽADÁVANIE', 'GALÉRIA MÁP', 'MAPA', and 'O GEOPORTÁLI'. The main map area shows a topographic map of the Jasná region, with a scale bar indicating 5 km. The map includes various geographical features like rivers, roads, and protected areas. On the right side, there is a 'Vrstvy' (Layers) panel with the following options:

- Nadregionálne cyklistické trasy
- CHVO
- Základná báza GIS (ZBGIS) - Ortofotomozaika
- Základná báza GIS (ZBGIS)
- Open Street Map Slovensko

At the bottom of the map, there is a 'Filter' field and a 'Poradie vykresľovania' (Drawing order) section. The footer contains the text '© 2022 MŽP SR | Podpora: rpiservis@enviro.gov.sk'.

Ďakujeme!



Web: <https://inspire.gov.sk/projekty/espus>

e-mail: espus@enviro.gov.sk