



## Unos lokacija iz tablice u QGIS

Kako unijeti u GIS softver lokacije s koordinatama zabilježenim u tabličnim dokumentima

diplomski sveučilišni studij Znanosti o okolišu

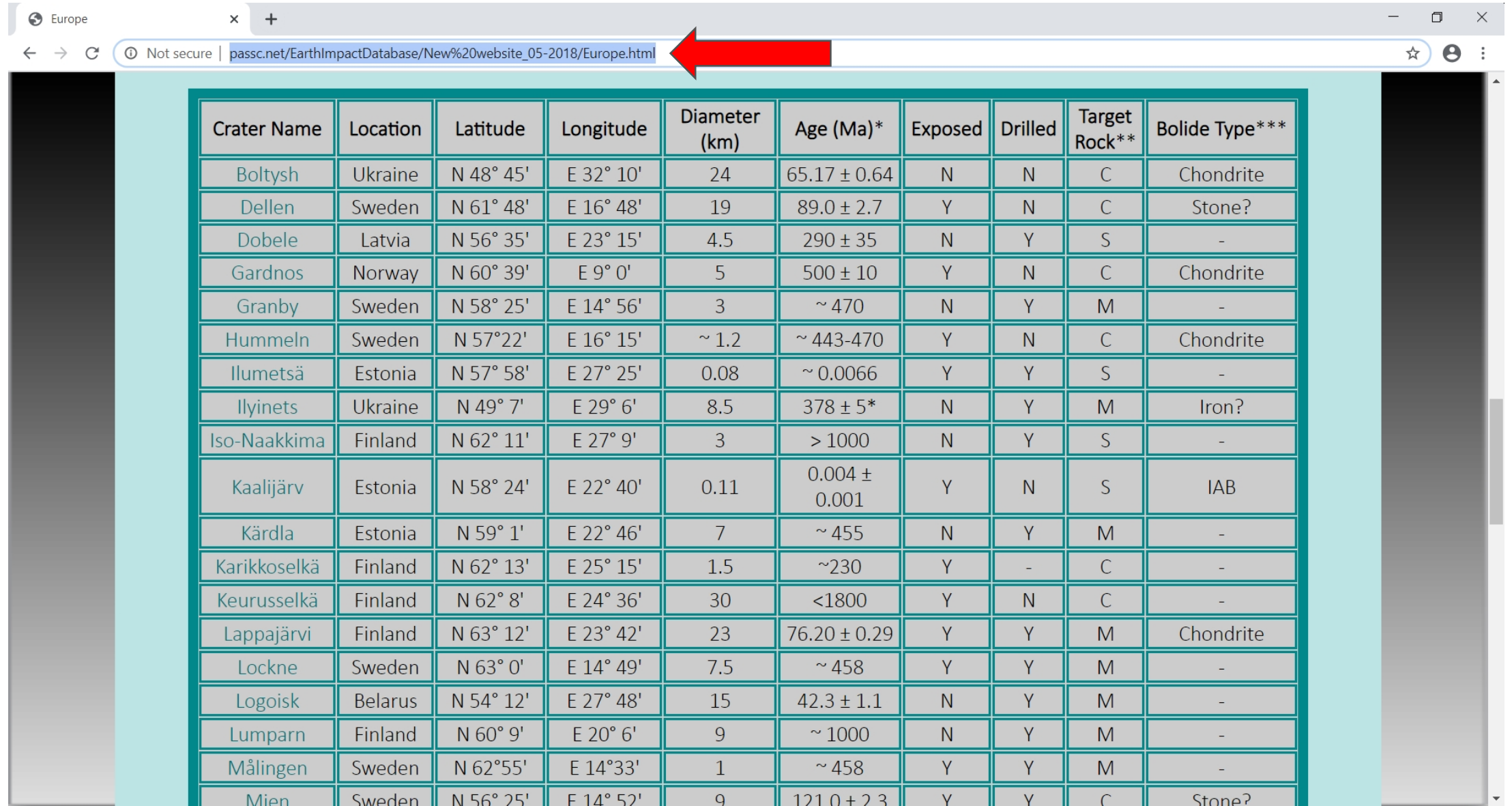
doc. dr. sc. Luka Valožić

# Cilj: kartirati tablične podatke u GIS-u.

Trebamo:

- Pronaći tablicu s koordinatama, preuzeti je i urediti u uobičajenim *office* alatima
- Unijeti podatke i vrijednosti u GIS softver vodeći računa o formatu datoteke, vrsti tablice, koordinatnim sustavima...
- Urediti i spremiti (izvesti) podatke u GIS-u za daljnju upotrebu

1. Pronađite na webu tablicu poput ovog primjera s lokacijama impaktnih kratera u Europi te spremite URL u *clipboard*.



The screenshot shows a web browser window with the address bar displaying the URL: [passc.net/EarthImpactDatabase/New%20website\\_05-2018/Europe.html](http://passc.net/EarthImpactDatabase/New%20website_05-2018/Europe.html). A red arrow points to this URL. The main content of the page is a table listing impact craters in Europe.

| Crater Name  | Location | Latitude  | Longitude | Diameter (km) | Age (Ma)*     | Exposed | Drilled | Target Rock** | Bolide Type*** |
|--------------|----------|-----------|-----------|---------------|---------------|---------|---------|---------------|----------------|
| Boltysh      | Ukraine  | N 48° 45' | E 32° 10' | 24            | 65.17 ± 0.64  | N       | N       | C             | Chondrite      |
| Dellen       | Sweden   | N 61° 48' | E 16° 48' | 19            | 89.0 ± 2.7    | Y       | N       | C             | Stone?         |
| Dobele       | Latvia   | N 56° 35' | E 23° 15' | 4.5           | 290 ± 35      | N       | Y       | S             | -              |
| Gardnos      | Norway   | N 60° 39' | E 9° 0'   | 5             | 500 ± 10      | Y       | N       | C             | Chondrite      |
| Granby       | Sweden   | N 58° 25' | E 14° 56' | 3             | ~ 470         | N       | Y       | M             | -              |
| Hummeln      | Sweden   | N 57° 22' | E 16° 15' | ~ 1.2         | ~ 443-470     | Y       | N       | C             | Chondrite      |
| Ilumetsä     | Estonia  | N 57° 58' | E 27° 25' | 0.08          | ~ 0.0066      | Y       | Y       | S             | -              |
| Ilyinets     | Ukraine  | N 49° 7'  | E 29° 6'  | 8.5           | 378 ± 5*      | N       | Y       | M             | Iron?          |
| Iso-Naakkima | Finland  | N 62° 11' | E 27° 9'  | 3             | > 1000        | N       | Y       | S             | -              |
| Kaalijärv    | Estonia  | N 58° 24' | E 22° 40' | 0.11          | 0.004 ± 0.001 | Y       | N       | S             | IAB            |
| Kärdla       | Estonia  | N 59° 1'  | E 22° 46' | 7             | ~ 455         | N       | Y       | M             | -              |
| Karikkoselkä | Finland  | N 62° 13' | E 25° 15' | 1.5           | ~230          | Y       | -       | C             | -              |
| Keuruselkä   | Finland  | N 62° 8'  | E 24° 36' | 30            | <1800         | Y       | N       | C             | -              |
| Lappajärvi   | Finland  | N 63° 12' | E 23° 42' | 23            | 76.20 ± 0.29  | Y       | Y       | M             | Chondrite      |
| Lockne       | Sweden   | N 63° 0'  | E 14° 49' | 7.5           | ~ 458         | Y       | Y       | M             | -              |
| Logoisk      | Belarus  | N 54° 12' | E 27° 48' | 15            | 42.3 ± 1.1    | N       | Y       | M             | -              |
| Lumparn      | Finland  | N 60° 9'  | E 20° 6'  | 9             | ~ 1000        | N       | Y       | M             | -              |
| Målingen     | Sweden   | N 62° 55' | E 14° 33' | 1             | ~ 458         | Y       | Y       | M             | -              |
| Mien         | Sweden   | N 56° 25' | E 14° 52' | 9             | 121.0 ± 2.3   | Y       | Y       | C             | Stone?         |

## 2. Dohvatite tablicu u Excel

The screenshot shows the Microsoft Excel interface with the 'Podaci' (Data) tab selected. The 'Dohvati podatke' (Get Data) group is visible, and a red arrow points to the 'S weba' (From Web) option. A second red arrow points to the 'S weba' dialog box, which is open and shows the URL 'www.passc.net/EarthImpactDatabase/New%20website\_05-2018/Europe.html' entered in the 'URL' field. The dialog box has 'U redu' (OK) and 'Odustani' (Cancel) buttons.

Novo Radni list programa Microsoft Excel - Excel

Datoteka Polazno Umetanje Izgled stranice Formule Podaci Pregled Prikaz Pomoć Recite što želite učiniti

Dohvati podatke S weba Nedavni izvori Postojeće veze Upiti i veze Osveži sve Svojstva Uređivanje veza Sortiranje Filtar Očisti Ponovno primijeni Dodatno Pregled predloženih unosa Ukloni duplikate Provjera valjanosti podataka Konsolidacija Odnosi Upravljanje podatkovnim modelom Što-ako analiza List predviđanja Grupiranje Razgrupiranje Podzbroj

A1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

A B C D E F G H I J K L M N O P Q R S T U V W

S weba

☒ Osnovno ☐ Dodatno

URL

www.passc.net/EarthImpactDatabase/New%20website\_05-2018/Europe.html

U redu Odustani

Sheet1

Spreman

Učitavanje platforme .Net Framework...

100%

3. Možete je uređivati i učitati u ovom prozoru iako preporučujem da je odmah učitate pa kasnije uređujete.

Navigator

Odaberite više stavki

Prikaz mogućnosti

http://www.passc.net/EarthImpactDatabase/N...

Document

Table 0

Prikaz tabliceWeb-prikaz

Table 0

| Column1      | Column2   | Column3   | Column4   | Column5       | Column6 |
|--------------|-----------|-----------|-----------|---------------|---------|
| Crater Name  | Location  | Latitude  | Longitude | Diameter (km) |         |
| Boltysh      | Ukraine   | N 48° 45' | E 32° 10' | 24            |         |
| Dellen       | Sweden    | N 61° 48' | E 16° 48' | 19            |         |
| Dobele       | Latvia    | N 56° 35' | E 23° 15' | 4.5           |         |
| Gardnos      | Norway    | N 60° 39' | E 9° 0'   | 5             |         |
| Granby       | Sweden    | N 58° 25' | E 14° 56' | 3             |         |
| Hummeln      | Sweden    | N 57°22'  | E 16° 15' | ~ 1.2         |         |
| Ilumetsä     | Estonia   | N 57° 58' | E 27° 25' | 0.08          |         |
| Ilyinets     | Ukraine   | N 49° 7'  | E 29° 6'  | 8.5           |         |
| Iso-Naakkima | Finland   | N 62° 11' | E 27° 9'  | 3             |         |
| Kaalijärv    | Estonia   | N 58° 24' | E 22° 40' | 0.11          |         |
| Kärdla       | Estonia   | N 59° 1'  | E 22° 46' | 7             |         |
| Karikkoselkä | Finland   | N 62° 13' | E 25° 15' | 1.5           |         |
| Keurusselkä  | Finland   | N 62° 8'  | E 24° 36' | 30            |         |
| Lappajärvi   | Finland   | N 63° 12' | E 23° 42' | 23            |         |
| Lockne       | Sweden    | N 63° 0'  | E 14° 49' | 7.5           |         |
| Logoisk      | Belarus   | N 54° 12' | E 27° 48' | 15            |         |
| Lumparn      | Finland   | N 60° 9'  | E 20° 6'  | 9             |         |
| Målingen     | Sweden    | N 62°55'  | E 14°33'  | 1             |         |
| Mien         | Sweden    | N 56° 25' | E 14° 52' | 9             |         |
| Mizarai      | Lithuania | N 54° 1'  | E 23° 54' | 5             |         |

Učitaj

Uređivanje

Odustani

4. Za ovu vježbu uzmite samo dio podataka koji vas zanima i koordinate.

Novo Radni list programa Microsoft Excel - Excel

Datoteka Polazno Umetanje Izgled stranice Formule Podaci Pregled Prikaz Pomoć

Naziv tablice: Table\_0

Svojstva

Alati

Alati za tablice

Alati za upite

Dizajn

Upit

Recite što želite učiniti

Redak zaglavlja Prvi stupac Gumb za filtriranje

Redak zbroja Zadnji stupac

Prugasti reci Prugasti stupci

Mogućnosti stila tablice

Stilovi ta

A1

| Column1      | Column2   | Column3   | Column4   | Column5       | Column6       | Column7 | Column8 | Column9       | Column10              |
|--------------|-----------|-----------|-----------|---------------|---------------|---------|---------|---------------|-----------------------|
| Crater Name  | Location  | Latitude  | Longitude | Diameter (km) | Age (Ma)*     | Exposed | Drilled | Target Rock** | Bolide Type***        |
| Boltysh      | Ukraine   | N 48° 45' | E 32° 10' | 24            | 5.17 ± 0.64   | N       | N       | C             | Chondrite             |
| Dellen       | Sweden    | N 61° 48' | E 16° 48' | 19            | 9.0 ± 2.7     | Y       | N       | C             | Stone?                |
| Dobele       | Latvia    | N 56° 35' | E 23° 15' | 4.5           | 90 ± 35       | N       | Y       | S             | -                     |
| Gardnos      | Norway    | N 60° 39' | E 9° 0'   | 5             | 100 ± 10      | Y       | N       | C             | Chondrite             |
| Granby       | Sweden    | N 58° 25' | E 14° 56' | 3             | 470           | N       | Y       | M             | -                     |
| Hummeln      | Sweden    | N 57° 22' | E 16° 15' | ~ 1.2         | 443-470       | Y       | N       | C             | Chondrite             |
| Ilumetsä     | Estonia   | N 57° 58' | E 27° 25' | 0.08          | 0.0066        | Y       | Y       | S             | -                     |
| Ilyinets     | Ukraine   | N 49° 7'  | E 29° 6'  | 8.5           | 78 ± 5*       | N       | Y       | M             | Iron?                 |
| Iso-Naakkima | Finland   | N 62° 11' | E 27° 9'  | 3             | 1000          | N       | Y       | S             | -                     |
| Kaalijärv    | Estonia   | N 58° 24' | E 22° 40' | 0.11          | 0.004 ± 0.001 | Y       | N       | S             | IAB                   |
| Kärdla       | Estonia   | N 59° 1'  | E 22° 46' | 7             | 455           | N       | Y       | M             | -                     |
| Karikkoselkä | Finland   | N 62° 13' | E 25° 15' | 1.5           | 230           | Y       | -       | C             | -                     |
| Keurusselkä  | Finland   | N 62° 8'  | E 24° 36' | 30            | 1800          | Y       | N       | C             | -                     |
| Lappajärvi   | Finland   | N 63° 12' | E 23° 42' | 23            | 6.20 ± 0.29   | Y       | Y       | M             | Chondrite             |
| Lockne       | Sweden    | N 63° 0'  | E 14° 49' | 7.5           | 458           | Y       | Y       | M             | -                     |
| Logoisk      | Belarus   | N 54° 12' | E 27° 48' | 15            | 2.3 ± 1.1     | N       | Y       | M             | -                     |
| Lumparn      | Finland   | N 60° 9'  | E 20° 6'  | 9             | 1000          | N       | Y       | M             | -                     |
| Målingen     | Sweden    | N 62° 55' | E 14° 33' | 1             | 458           | Y       | Y       | M             | -                     |
| Mien         | Sweden    | N 56° 25' | E 14° 52' | 9             | 21.0 ± 2.3    | Y       | Y       | C             | Stone?                |
| Mizarai      | Lithuania | N 54° 1'  | E 23° 54' | 5             | 100 ± 20      | N       | Y       | C             | -                     |
| Mjølner      | Norway    | N 73° 48' | E 29° 40' | 40            | 42.0 ± 2.6    | N       | Y       | S             | -                     |
| Morasko      | Poland    | N 52° 29' | E 16° 54' | 0.1           | 0.01          | Y       | N       | S             | Octahedrite fragments |
| Neugrund     | Estonia   | N 59° 20' | E 23° 40' | 8             | 535           | N       | -       | S             | -                     |
| Obolon'      | Ukraine   | N 49° 35' | E 32° 55' | 20            | 69 ± 7        | N       | Y       | M             | Iron?                 |
| Paasselkä    | Finland   | N 62° 2'  | E 29° 5'  | 10            | 1800          | Y       | Y       | -             | -                     |
| Ries         | Germany   | N 48° 53' | E 10° 37' | 24            | 5.1 ± 0.1     | Y       | Y       | M             | Achondrite            |
| Ritland      | Norway    | N 59° 14' | E 6° 26'  | 2.7           | 20 ± 20       | Y       | N       | C             | -                     |

List1 Sheet1

Datoteka Polazno Umetanje Izgled stranice Formule Podaci

Lijepljenje

Izreži

Kopiraj

Prenositelj oblikovanja

Meduspremnik

Font

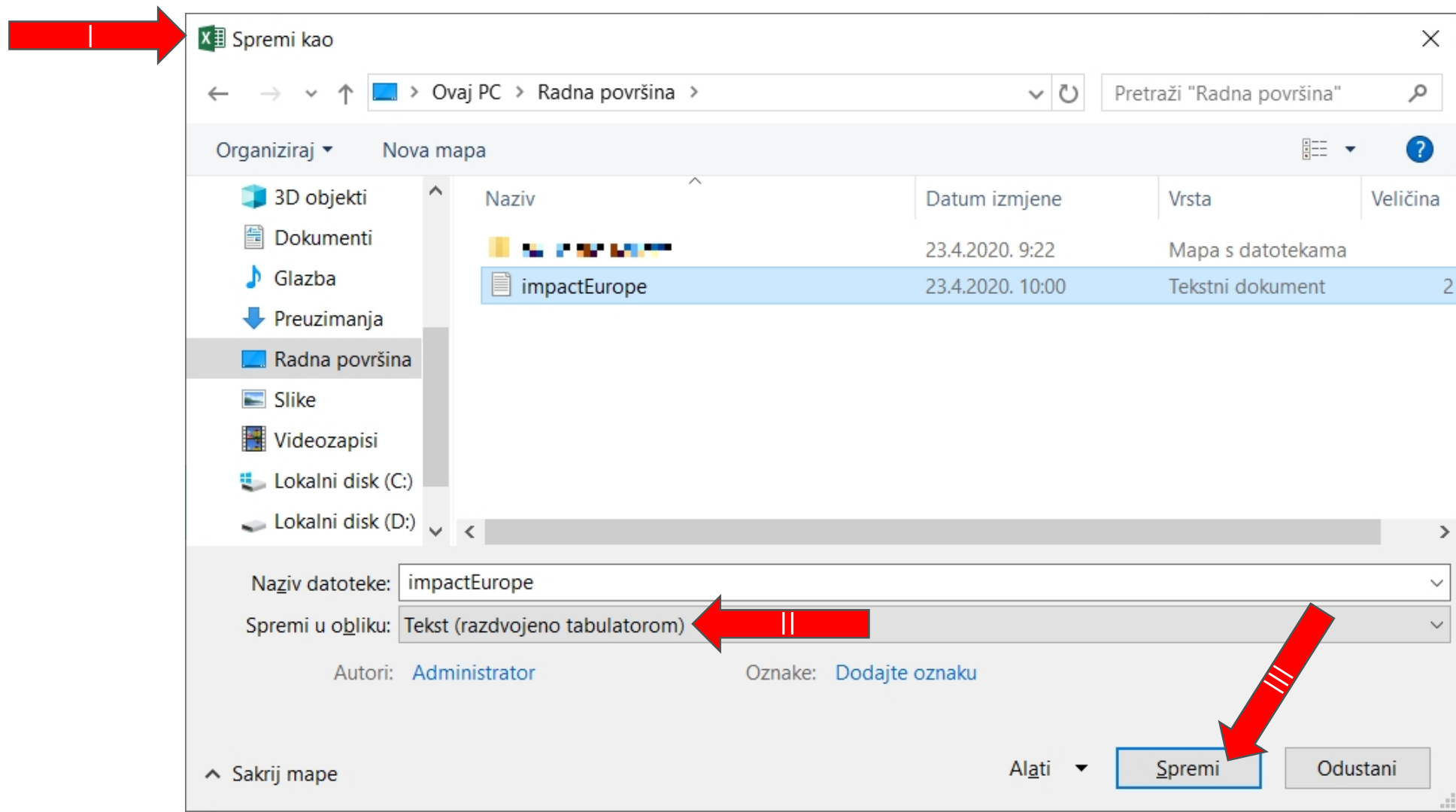
A1

Name

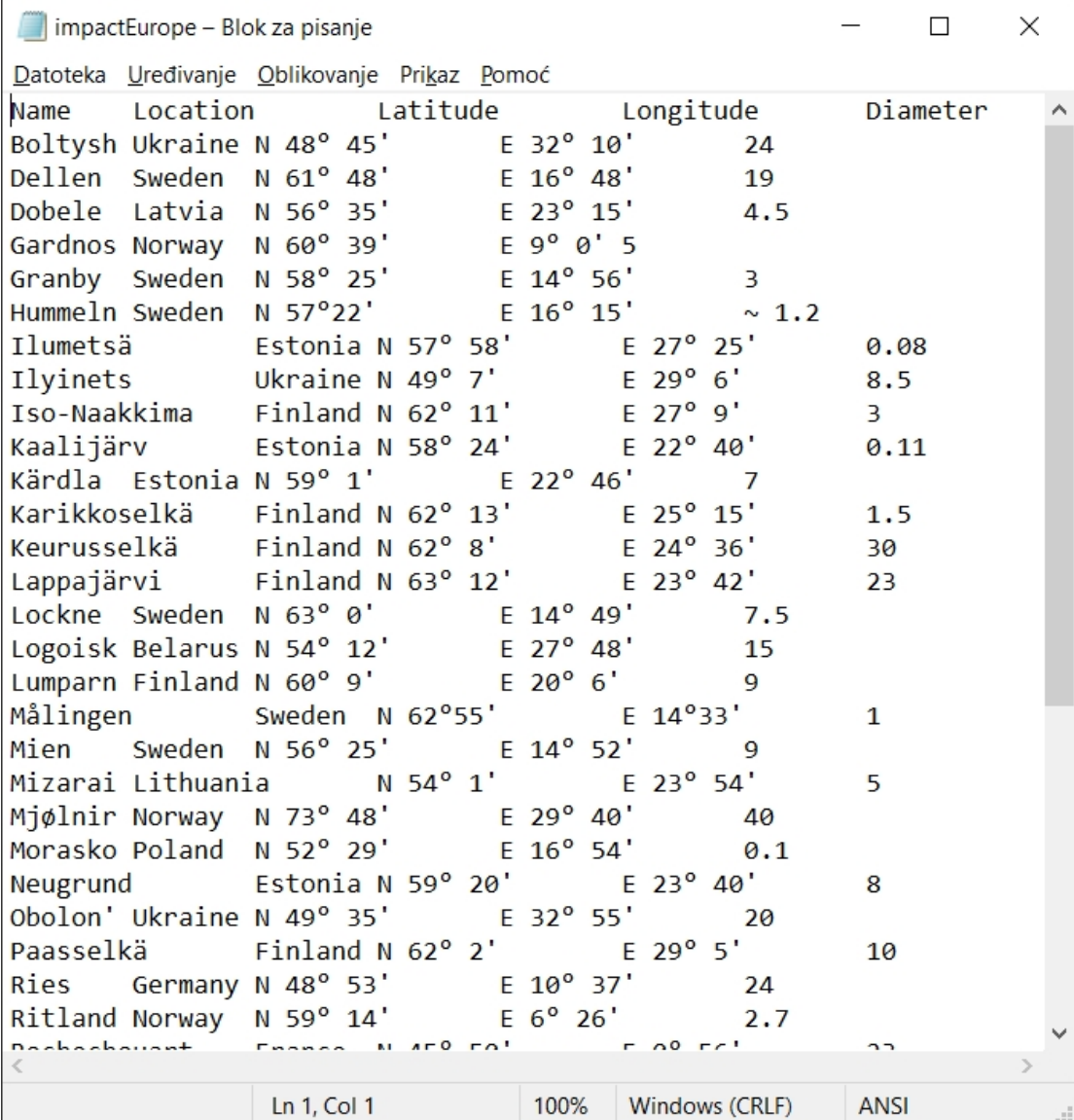
| Name         | Location  | Latitude  | Longitude | Diameter (km) |
|--------------|-----------|-----------|-----------|---------------|
| Boltysh      | Ukraine   | N 48° 45' | E 32° 10' | 24            |
| Dellen       | Sweden    | N 61° 48' | E 16° 48' | 19            |
| Dobele       | Latvia    | N 56° 35' | E 23° 15' | 4.5           |
| Gardnos      | Norway    | N 60° 39' | E 9° 0'   | 5             |
| Granby       | Sweden    | N 58° 25' | E 14° 56' | 3             |
| Hummeln      | Sweden    | N 57° 22' | E 16° 15' | ~ 1.2         |
| Ilumetsä     | Estonia   | N 57° 58' | E 27° 25' | 0.08          |
| Ilyinets     | Ukraine   | N 49° 7'  | E 29° 6'  | 8.5           |
| Iso-Naakkima | Finland   | N 62° 11' | E 27° 9'  | 3             |
| Kaalijärv    | Estonia   | N 58° 24' | E 22° 40' | 0.11          |
| Kärdla       | Estonia   | N 59° 1'  | E 22° 46' | 7             |
| Karikkoselkä | Finland   | N 62° 13' | E 25° 15' | 1.5           |
| Keurusselkä  | Finland   | N 62° 8'  | E 24° 36' | 30            |
| Lappajärvi   | Finland   | N 63° 12' | E 23° 42' | 23            |
| Lockne       | Sweden    | N 63° 0'  | E 14° 49' | 7.5           |
| Logoisk      | Belarus   | N 54° 12' | E 27° 48' | 15            |
| Lumparn      | Finland   | N 60° 9'  | E 20° 6'  | 9             |
| Målingen     | Sweden    | N 62° 55' | E 14° 33' | 1             |
| Mien         | Sweden    | N 56° 25' | E 14° 52' | 9             |
| Mizarai      | Lithuania | N 54° 1'  | E 23° 54' | 5             |
| Mjølner      | Norway    | N 73° 48' | E 29° 40' | 40            |
| Morasko      | Poland    | N 52° 29' | E 16° 54' | 0.1           |
| Neugrund     | Estonia   | N 59° 20' | E 23° 40' | 8             |
| Obolon'      | Ukraine   | N 49° 35' | E 32° 55' | 20            |
| Paasselkä    | Finland   | N 62° 2'  | E 29° 5'  | 10            |
| Ries         | Germany   | N 48° 53' | E 10° 37' | 24            |
| Ritland      | Norway    | N 59° 14' | E 6° 26'  | 2.7           |
| Rochechouart | France    | N 49° 0'  | E 0° 56'  | 23            |

List1 Sheet1

5. Spremite tablicu kao tekst delimitiran tabulatorom.



6. Ovako izgleda datoteka ako je otvorite u *Notepadu*.



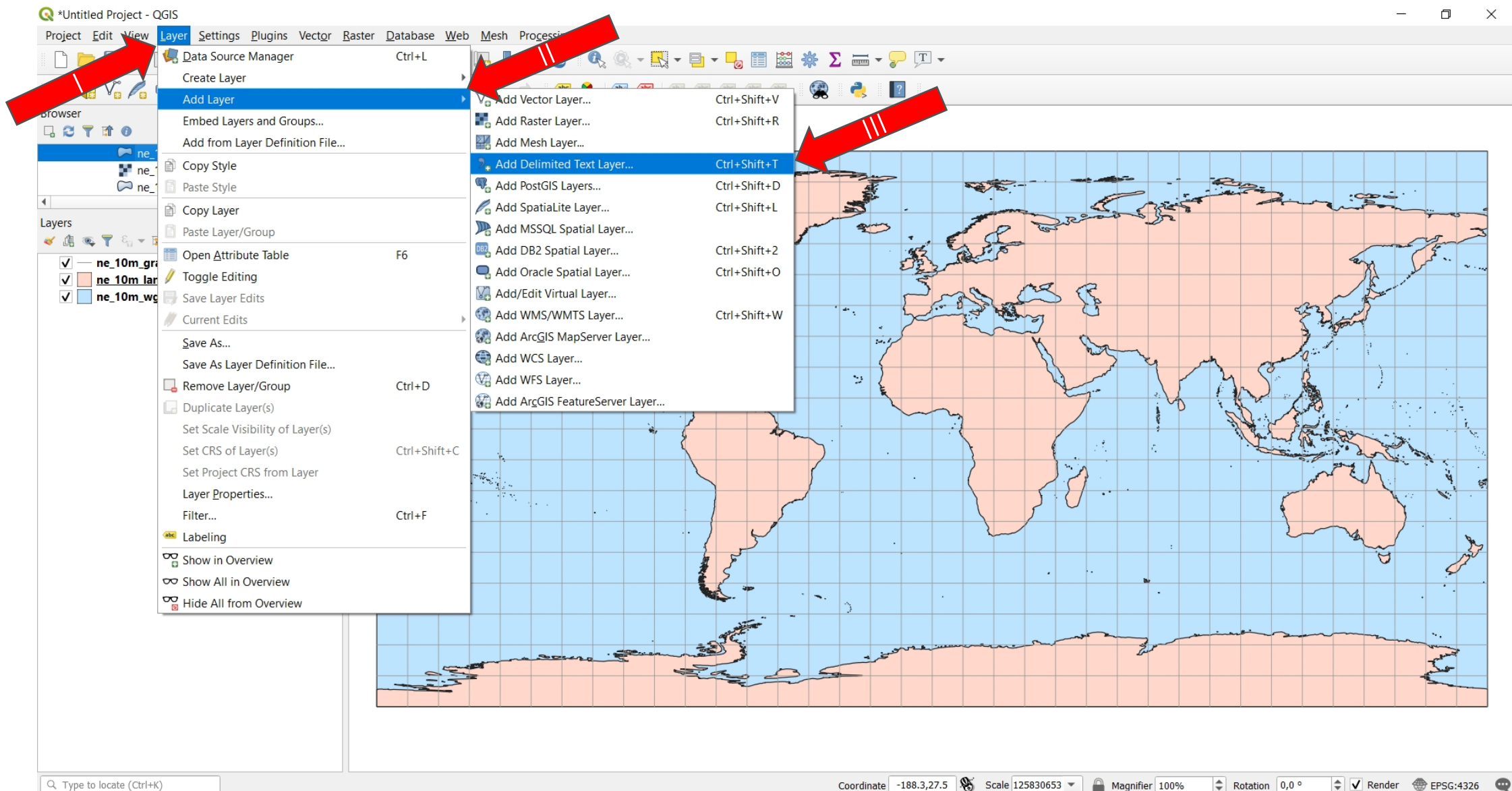
impactEurope - Blok za pisanje

Datoteka Uređivanje Oblikovanje Prikaz Pomoć

| Name         | Location  | Latitude  | Longitude       | Diameter |
|--------------|-----------|-----------|-----------------|----------|
| Boltysh      | Ukraine   | N 48° 45' | E 32° 10' 24    |          |
| Dellen       | Sweden    | N 61° 48' | E 16° 48' 19    |          |
| Dobele       | Latvia    | N 56° 35' | E 23° 15' 4.5   |          |
| Gardnos      | Norway    | N 60° 39' | E 9° 0' 5       |          |
| Granby       | Sweden    | N 58° 25' | E 14° 56' 3     |          |
| Hummeln      | Sweden    | N 57° 22' | E 16° 15' ~ 1.2 |          |
| Ilumetsä     | Estonia   | N 57° 58' | E 27° 25' 0.08  |          |
| Ilyinets     | Ukraine   | N 49° 7'  | E 29° 6' 8.5    |          |
| Iso-Naakkima | Finland   | N 62° 11' | E 27° 9' 3      |          |
| Kaalijärv    | Estonia   | N 58° 24' | E 22° 40' 0.11  |          |
| Kärdla       | Estonia   | N 59° 1'  | E 22° 46' 7     |          |
| Karikkoselkä | Finland   | N 62° 13' | E 25° 15' 1.5   |          |
| Keurusselkä  | Finland   | N 62° 8'  | E 24° 36' 30    |          |
| Lappajärvi   | Finland   | N 63° 12' | E 23° 42' 23    |          |
| Lockne       | Sweden    | N 63° 0'  | E 14° 49' 7.5   |          |
| Logoisk      | Belarus   | N 54° 12' | E 27° 48' 15    |          |
| Lumparn      | Finland   | N 60° 9'  | E 20° 6' 9      |          |
| Målingen     | Sweden    | N 62° 55' | E 14° 33' 1     |          |
| Mien         | Sweden    | N 56° 25' | E 14° 52' 9     |          |
| Mizarai      | Lithuania | N 54° 1'  | E 23° 54' 5     |          |
| Mjølnir      | Norway    | N 73° 48' | E 29° 40' 40    |          |
| Morasko      | Poland    | N 52° 29' | E 16° 54' 0.1   |          |
| Neugrund     | Estonia   | N 59° 20' | E 23° 40' 8     |          |
| Obolon'      | Ukraine   | N 49° 35' | E 32° 55' 20    |          |
| Paasselkä    | Finland   | N 62° 2'  | E 29° 5' 10     |          |
| Ries         | Germany   | N 48° 53' | E 10° 37' 24    |          |
| Ritland      | Norway    | N 59° 14' | E 6° 26' 2.7    |          |
| Recherbarent | France    | N 45° 50' | E 0° 56' 22     |          |

Ln 1, Col 1 100% Windows (CRLF) ANSI

7. U QGIS-u pronađite opciju dodavanja delimitiranog teksta.



8. Potražite datoteku i uredite tzv. format i geometriju. Pripazite na *Encoding* jer o njemu ovisi hoće li se vidjeti svi znakovi iz tablice ili ne, a to možete vidjeti niže na slici pod *Sample Data*.

Q Data Source Manager | Delimited Text

Browser

Vector

Raster

Mesh

Delimited Text

GeoPackage

SpatialLite

PostgreSQL

MSSQL

Oracle

DB2

Virtual Layer

WMS/WMTS

WCS

WFS

ArcGIS Map Server

ArcGIS Feature Server

GeoNode

File name C:\Users\Administrator\Desktop\impactEurope.txt

Layer name impactEurope

Encoding System

File Format

CSV (comma separated values)

Regular expression delimiter

Custom delimiters

☒ Tab

☐ Colon

☐ Space

☐ Semicolon

☐ Comma

Others

Quote

Escape

Record and Fields Options

Geometry Definition

☒ Point coordinates

☐ Well known text (WKT)

☐ No geometry (attribute only table)

X field Longitude

Y field Latitude

☒ DMS coordinates

Z field

Geometry CRS Project CRS: EPSG:4326 - WGS

Layer Settings

☐ Use spatial index

☐ Use subset index

☐ Watch file

Sample Data

|   | Name    | Location | Latitude  | Longitude | Diameter |
|---|---------|----------|-----------|-----------|----------|
| 1 | Boltysh | Ukraine  | N 48° 45' | E 32° 10' | 24       |
| 2 | Dellen  | Sweden   | N 61° 48' | E 16° 48' | 19       |
| 3 | Dobele  | Latvia   | N 56° 35' | E 23° 15' | 4.5      |
| 4 | Gardnos | Norway   | N 60° 39' | E 9° 0'   | 5        |
| 5 | Granby  | Sweden   | N 58° 25' | E 14° 56' | 3        |
| 6 | Hummeln | Sweden   | N 57°22'  | E 16° 15' | ~ 1.2    |

Close

Add

Help

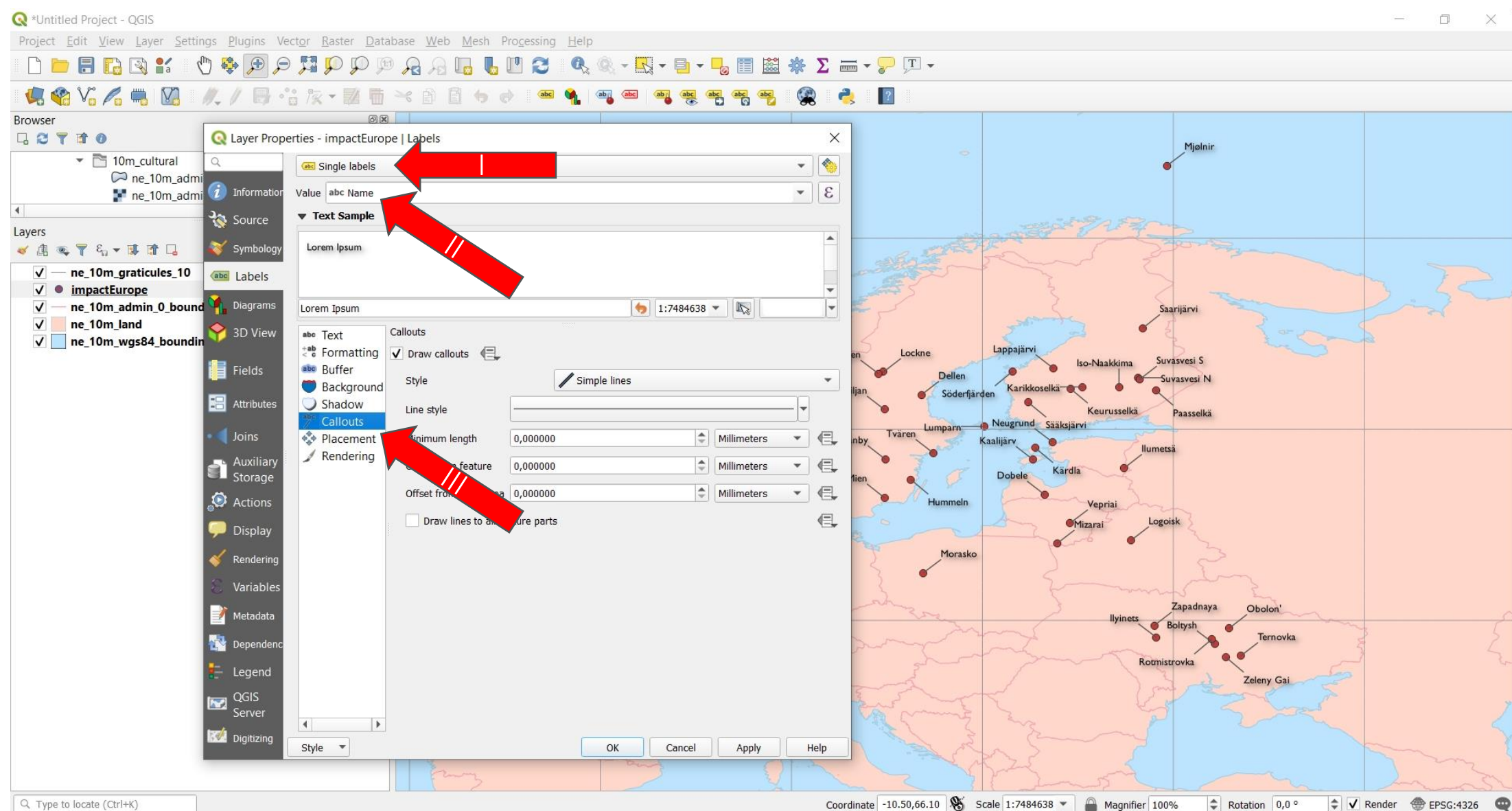
||

|||

|||

|   | Name    | Location | Latitude  | Longitude | Diameter |
|---|---------|----------|-----------|-----------|----------|
| 1 | Boltysh | Ukraine  | N 48° 45' | E 32° 10' | 24       |
| 2 | Dellen  | Sweden   | N 61° 48' | E 16° 48' | 19       |
| 3 | Dobele  | Latvia   | N 56° 35' | E 23° 15' | 4.5      |
| 4 | Gardnos | Norway   | N 60° 39' | E 9° 0'   | 5        |
| 5 | Granby  | Sweden   | N 58° 25' | E 14° 56' | 3        |
| 6 | Hummeln | Sweden   | N 57°22'  | E 16° 15' | ~ 1.2    |

9. Prikažite toponime aktiviranjem *Single labels*. Poigrajte se s postavkama *Placements* i *Callouts* kako bi smanjili gužvu na karti i omogućili svim imenima da se prikažu.



10. Po potrebi spremite (izvezite) podatke iz tog sloja u neki drugi format datoteke, poput *shapefile*.

