

Praktični primjeri iz svijeta i s projekta PRI-MJER

5. okrugli stol

12.11.2021., Rijeka

dr. sc. Sanja BERNAT GAZIBARA

primijenjena
istraživanja klizišta
za razvoj mjera
ublažavanja
i prevencije rizika



Europska unija
Zajedno do fondova EU



EUROPSKI STRUKTURNI
I INVESTICIJSKI FONDOVI



FOND ZA ZAŠTITU OKOLIŠA I
ENERGETSKU UČINKOVITOST

Projekt je sufinancirala Europska unija iz Europskog fonda za regionalni razvoj

Primjeri iz svijeta

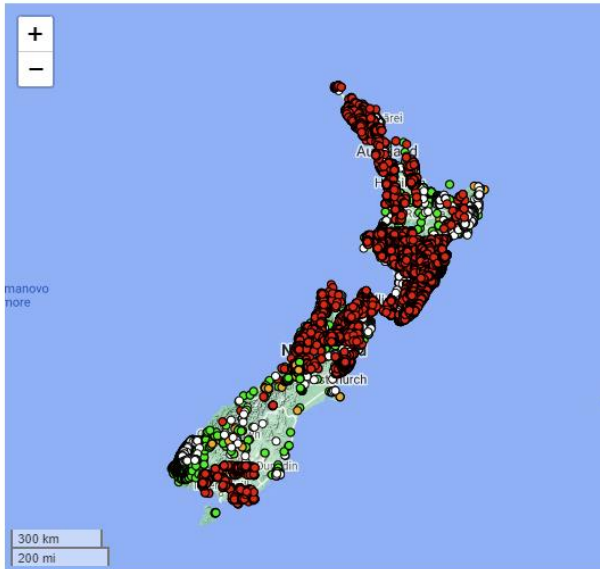


Karta inventara klizišta Novog Zelanda.



Login

Landslides Map

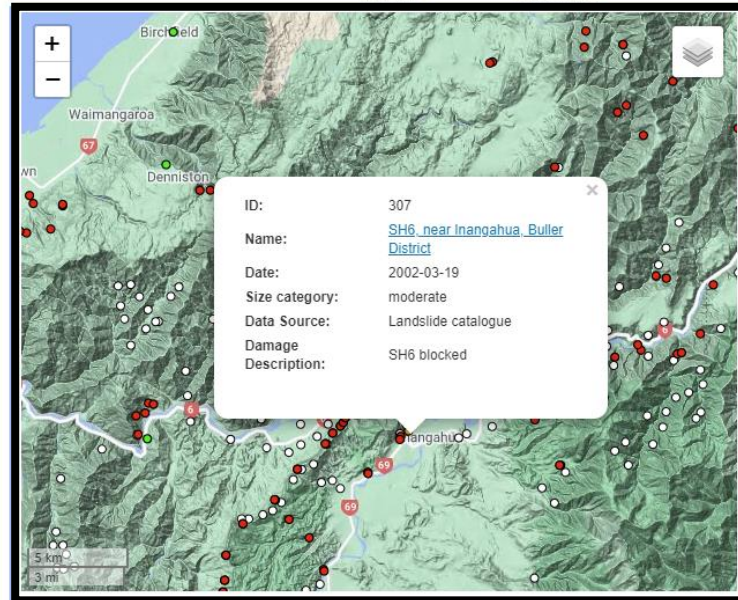


Double-click, roll mouse wheel or pinch to zoom, and drag to pan. Hold down the shift key and drag to zoom to a particular region.

Use the layer switcher in the top right hand corner to change map backgrounds.



Landslides Map



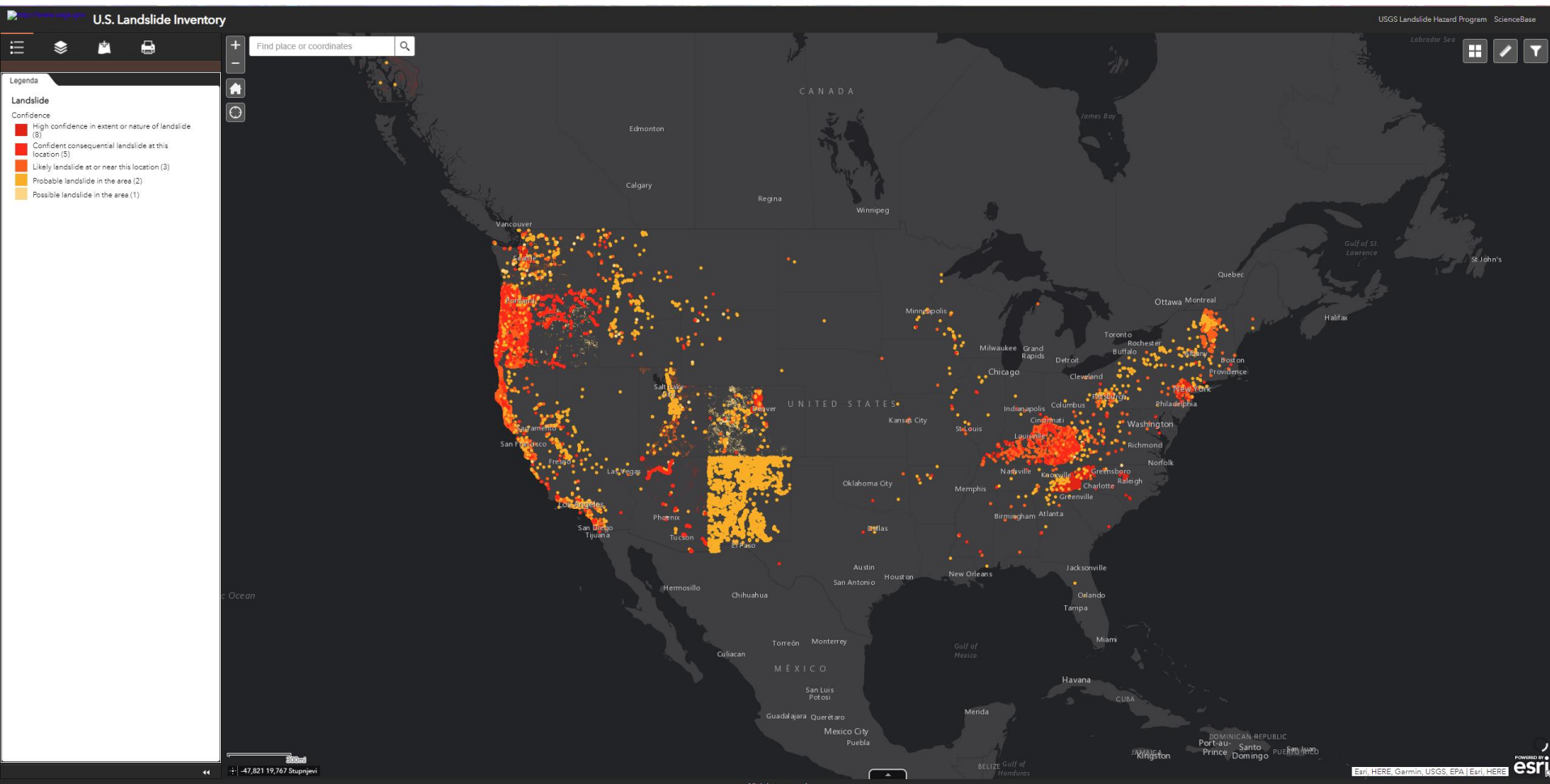
- Landslide size
- Undefined
 - Small
 - Medium
 - Large

- Landslide features
- Landslide area
 - Source area
 - Debris area
 - Pond or lake
 - Gully erosion
 - Hummocky ground
 - Landslide dammed
 - other
 - unknown

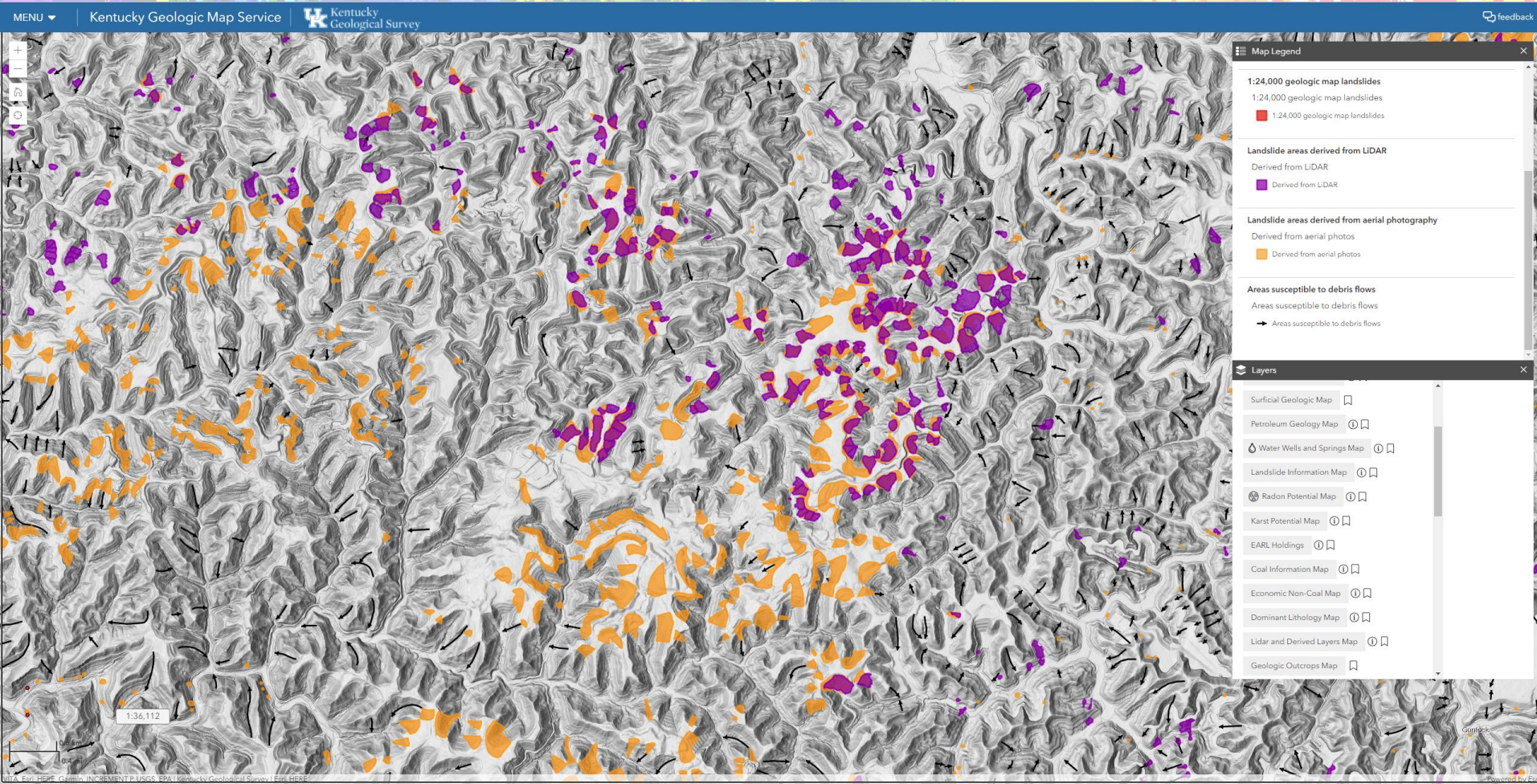
Double-click, roll mouse wheel or pinch to zoom, and drag to pan. Hold down the shift key and drag to zoom to a particular region.

Use the layer switcher in the top right hand corner to change map backgrounds.

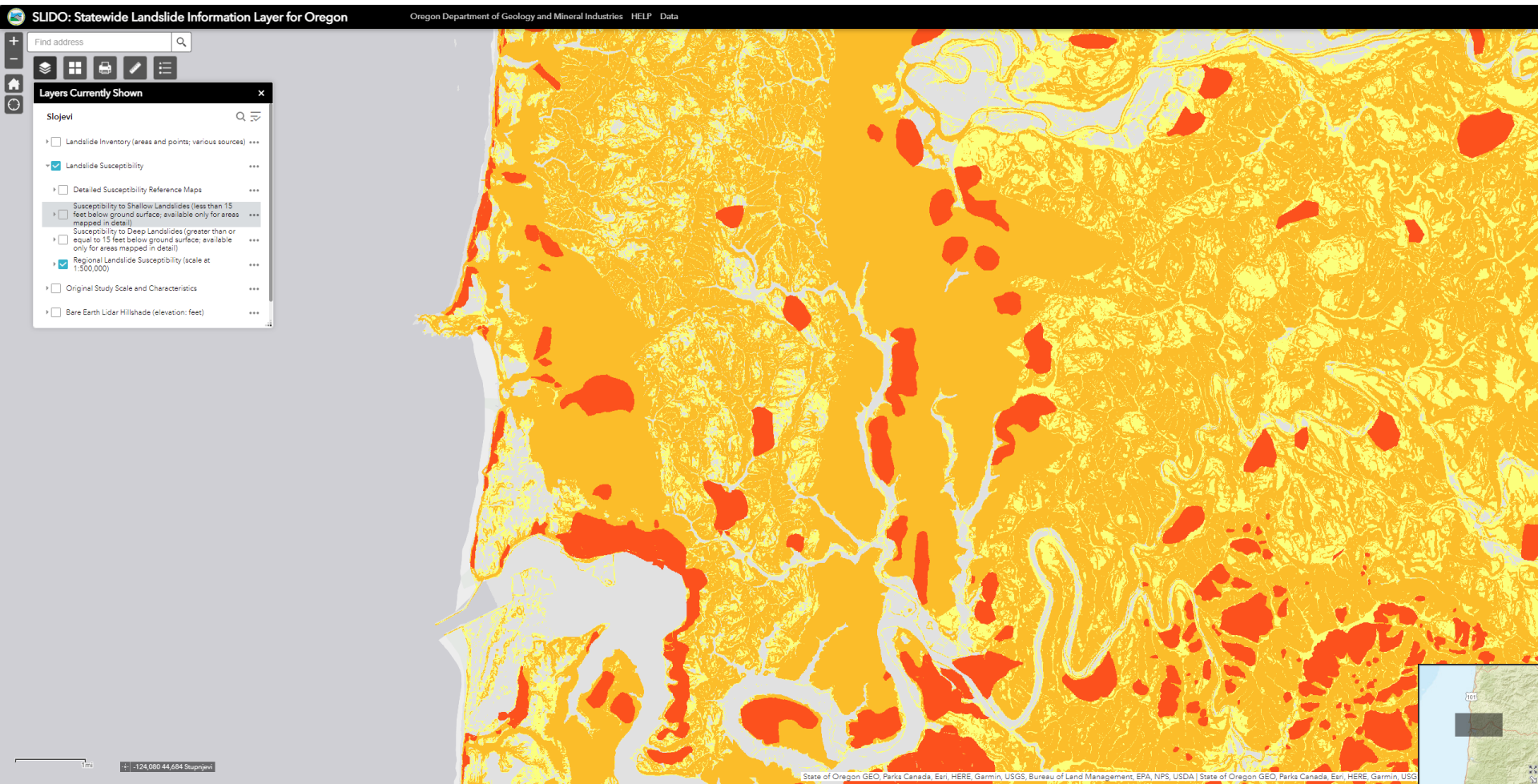
USGS (eng. United States Geological Survey) baza svih karata inventara klizišta i prognostičkih karata klizanja za SAD.



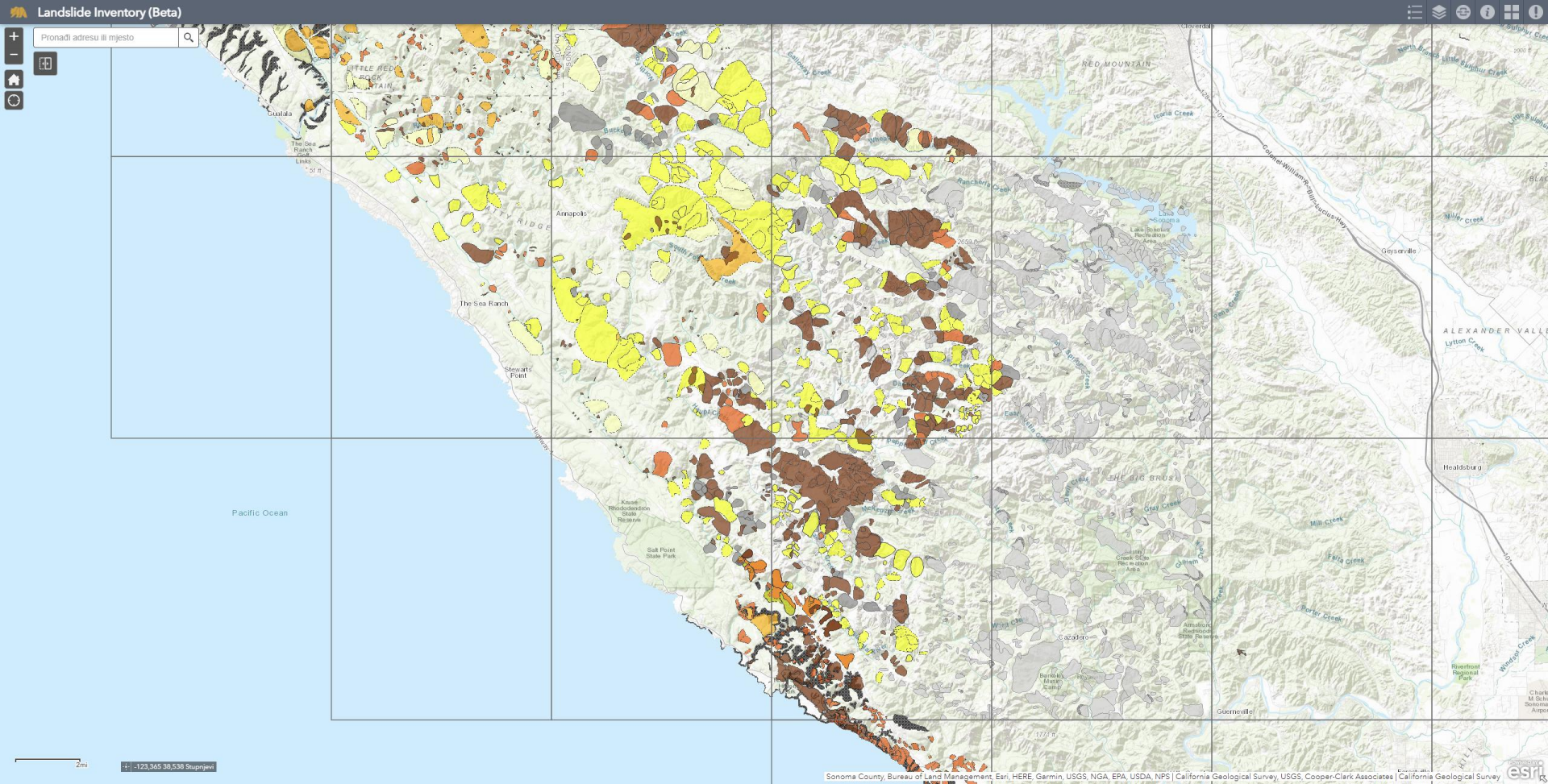
Karta inventara klizišta za državu Kentucky (SAD).



Karta podložnosti na klizanje regionalnog mjerila za državu Oregon.



Karta inventara klizišta za Kaliforniju (SAD).



Karta hazarda tečenja (debrithnih tokova) za najintenzivniju 15 min oborinu unutar 24h.

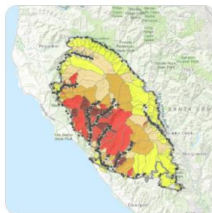
CZU Lightning Complex

Counties Affected: Santa Cruz and San Mateo.
 Burn Area Map: N.W.C.G. CZU Lightning Complex web map.
 Assessment of Post-Fire Debris Flow Hazards:

- U.S.G.S. CZU Lightning Complex Post-Fire Debris Flow Hazards web page.
- U.S.F.S. Post-Fire B.A.E.R.: Not available (not U.S.F.S. jurisdiction).

Additional Information:

- CAL FIRE CZU Lightning Complex Incident Archive.
- InciWeb CZU Lightning Complex information: Not available.



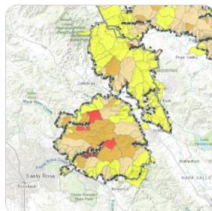
Glass Fire

Counties Affected: Sonoma and Napa.
 Burn Area Map: N.W.C.G. Glass Fire web map.
 Assessment of Post-Fire Debris Flow Hazards:

- U.S.G.S. Glass Fire Post-Fire Debris Flow Hazards web page.
- U.S.F.S. Post-Fire B.A.E.R.: Not available (not U.S.F.S. jurisdiction).

Additional Information:

- CAL FIRE Glass Fire Incident Archive.
- InciWeb Glass Fire information: Not available.



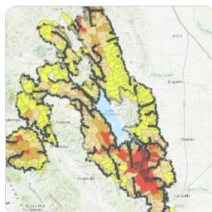
LNU Lightning Complex - Hennessy Fire

Counties Affected: Napa, Solano, Yolo, Lake, and Colusa.
 Burn Area Map: N.W.C.G. Hennessy Fire web map.
 Assessment of Post-Fire Debris Flow Hazards:

- U.S.G.S. Hennessy Fire Post-Fire Debris Flow Hazards web page.
- U.S.F.S. Post-Fire B.A.E.R.: Not available (not U.S.F.S. jurisdiction).

Additional Information:

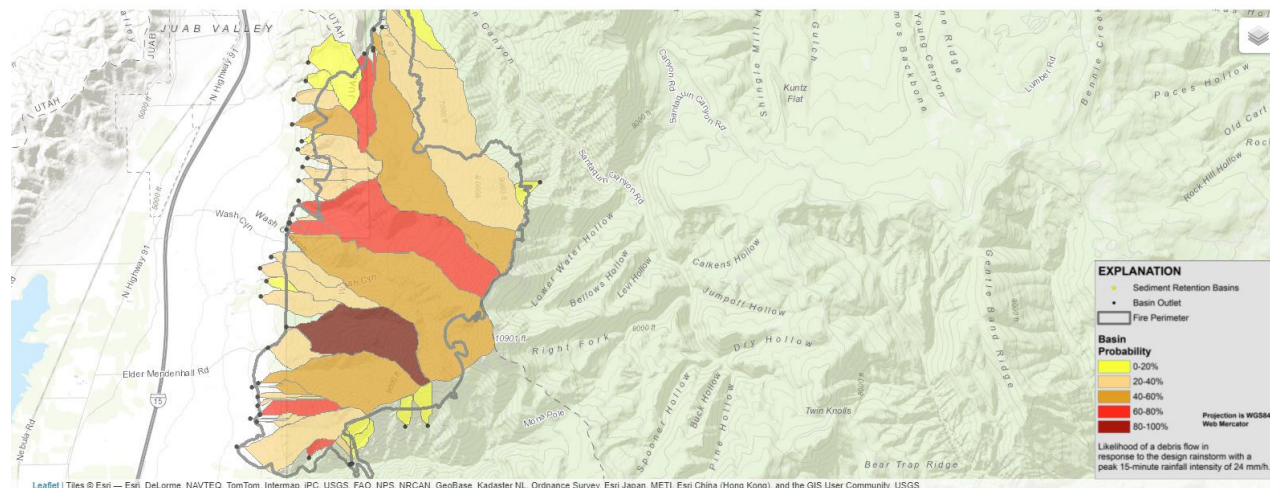
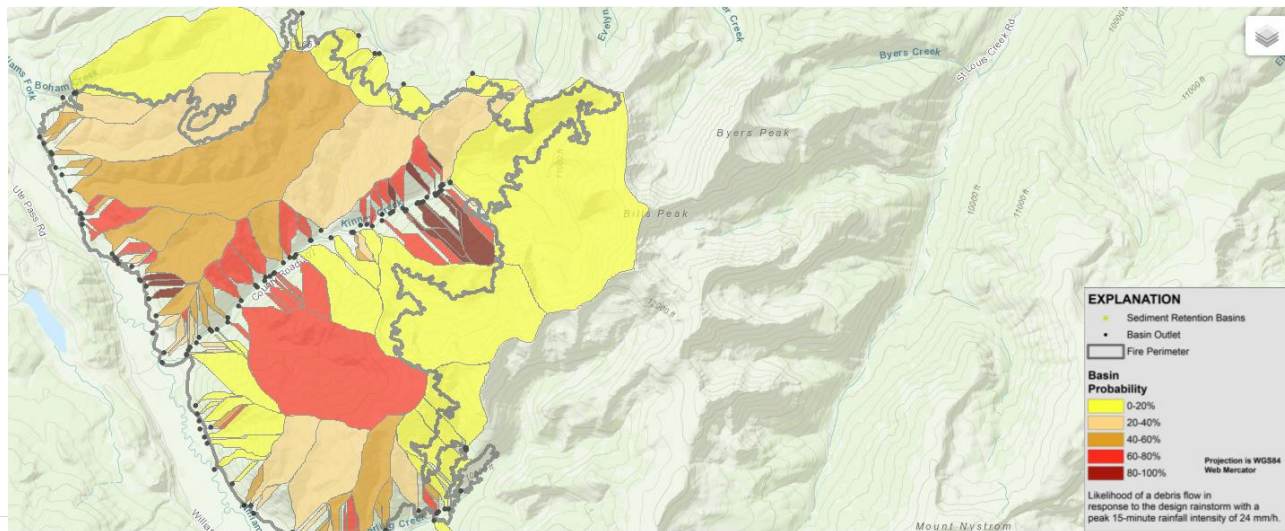
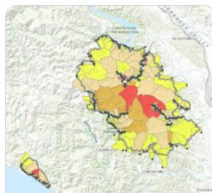
- CAL FIRE LNU Lightning Complex Incident Archive.
- InciWeb LNU Lightning Complex information: Not available.



LNU Lightning Complex - Walbridge and Meyers Fires

Counties Affected: Sonoma.
 Burn Area Map: N.W.C.G. Walbridge and Meyers Fires web map.
 Assessment of Post-Fire Debris Flow Hazards:

- U.S.G.S. Walbridge Fire Post-Fire Debris Flow Hazards web page.
- U.S.G.S. Meyers Fire Post-Fire Debris Flow Hazards web page.
- U.S.F.S. Post-Fire B.A.E.R.: Not available (not U.S.F.S. jurisdiction).





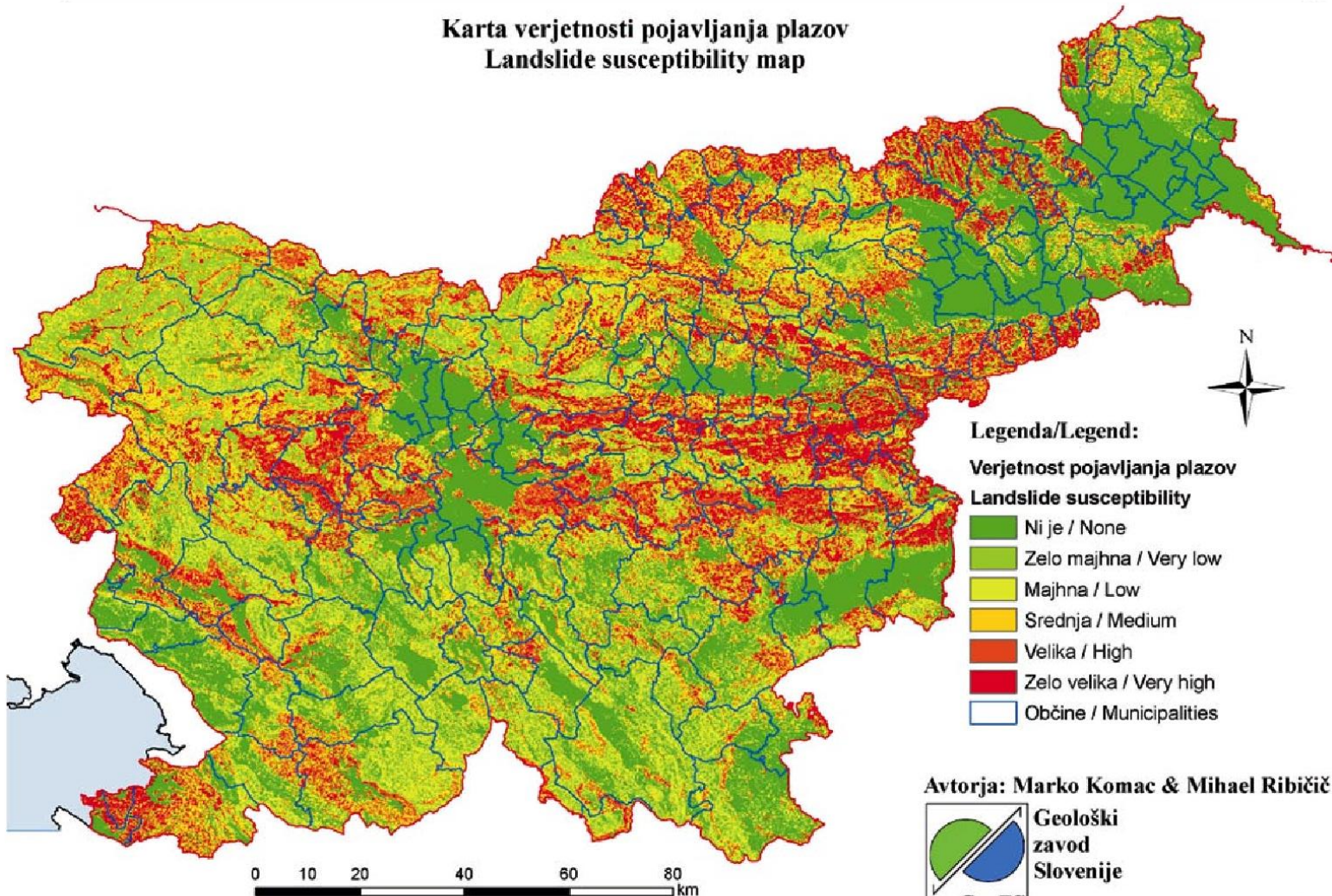
PRIMJER

Primjeri iz svijeta

Karta inventara klizišta Republike Slovenije (točkasti podatak)

Karta podložnosti na klizanje Republike Slovenije M 1:250.000 i M 1:25.000

Karta verjetnosti pojavljanja plazov
Landslide susceptibility map





PRIMJER

Primjeri iz svijeta

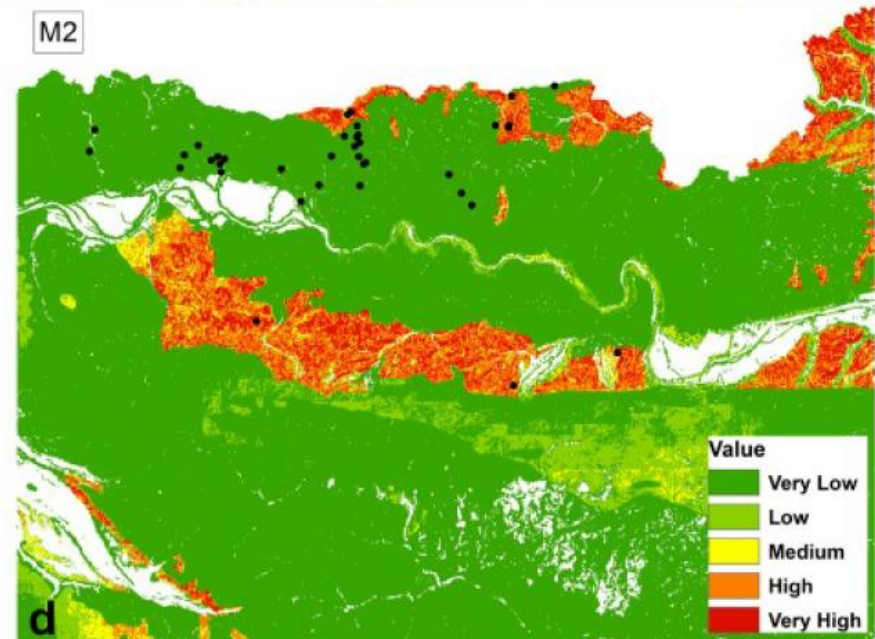
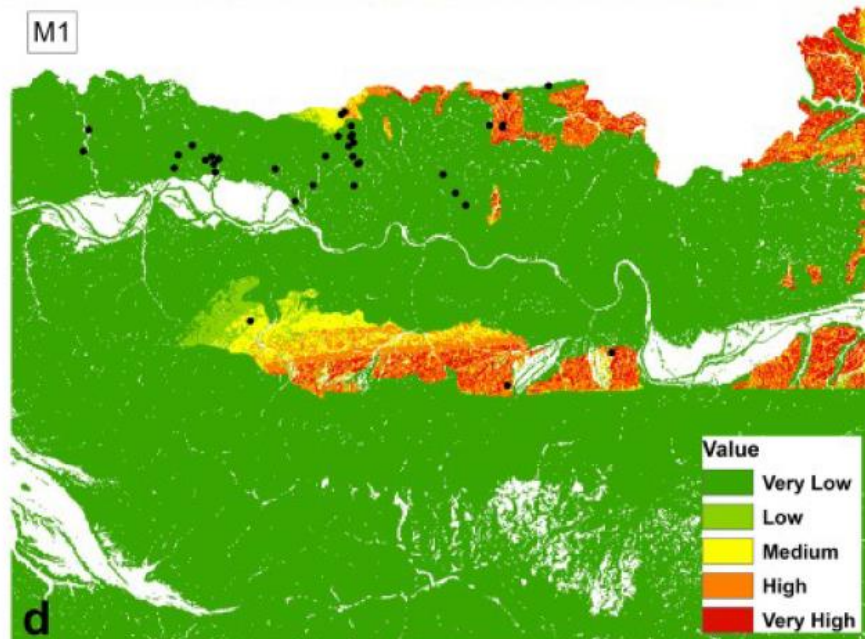
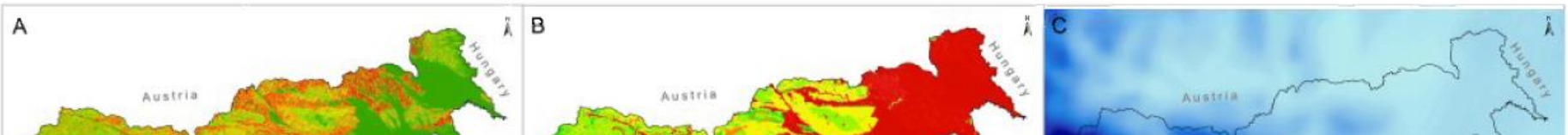
Sustav za rano upozoravanje Republike Slovenije
- projekt iz 2013. godine (MASPREM)

LANDSLIDE
SUSCEPTIBILITY
MODEL
1 : 250,000

LANDSLIDE
SUSCEPTIBILITY
MODEL
1 : 25,000

PRECIPITATION
FORECAST DATA
(ALADIN-SI
MODEL)

LANDSLIDE
TRIGGERING
TRESHOLD
VALUES

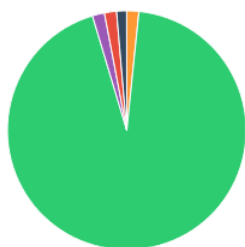


- E-plaz** - baza klizišta Republike Slovenije (nadogradnja projekta MASPREM)
 - dostupni podaci o klizištima od 1996 do danas

e-Plaz  O plazovih

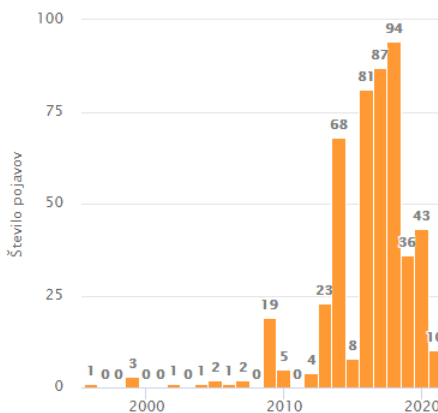
 Prijava

Delež pojavov glede na vrsto

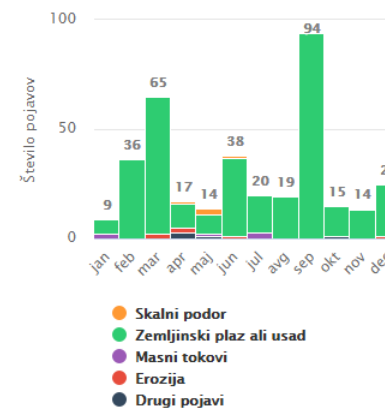


- Skalni podor
- Zemljinski plaz ali usad
- Masni tokovi
- Erozija
- Drugi pojavi

Pojavi po letih



Pojavi po mesecih pojavljanja



- Skalni podor
- Zemljinski plaz ali usad
- Masni tokovi
- Erozija
- Drugi pojavi

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REPUBLIKA SLOVENIJA
 MINISTRSTVO ZA OBRAMBO
 Uprava RS za zaščito in reševanje

Vojkova cesta 61
 1000 Ljubljana
 Telefon: (01) 471 33 22
 Faks: (01) 431 81 17
 E-pošta: urszr(at)urszr.si



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 MINISTRSTVO ZA OKOLJE IN PROSTOR

Dunajska cesta 48
 1000 Ljubljana
 Telefon: (01) 478 70 00
 Faks: (01) 478 74 25
 E-pošta: gp.mol(at)urszr.si



GEOLOŠKI ZAVOD SLOVENIJE

Dimičeva ulica 14
 1000 Ljubljana
 Telefon: (01) 280 97 00
 Faks: (01) 280 97 53
 E-pošta: info(at)geo-zs.si

thinkhazard.org

🔍 Enter location (e.g. Indonesia or Bali)

GFDRR InnovationLab Data Maps About

🔍 Search Sign In

Global Landslide Hazard Map

The screenshot displays the Global Landslide Hazard Map interface. The main map shows a region of Europe, including Austria, Hungary, Slovenia, Croatia, and Bosnia and Herzegovina. A data popup window is open over a cluster of red dots in Croatia, providing the following details:

- objectid: 5698
- id: 1554.0
- date: 2010-03-11T08:00:00.000Z
- time: 1899-12-30T08:00:00.000Z
- country: Croatia
- nearest_pt: Krilo Jesenice between Split and Omis
- hazard_type: landslide
- landslide: Landslide
- trigger: Downpour
- storm_name:
- fatalities: 0.0
- injuries: 0.0
- source_name:
- source_url: http://www.croatiantimes.com/news/General_News/2010-03-12/9554/Couple_injured_in_landslide
- location: as: known_within_1_km
- landslide1: Medium
- photos_url:
- cat_src: gis
- cat_id: 1554.0
- countryname: Croatia
- near: Jesenice
- adminname1: Splitsko-Dalmatinska
- adminname2:
- population: 2169.0
- countrycode: HR
- continent: EU
- key: HR
- version: 1.0
- user_id: 1.0
- timestamp: Tue Apr 01 2014 00:00:00 GMT+0000 (UTC)
- changeset: 1.0
- latitude: 43.4645
- longitude: 16.6009

The interface also includes a search bar, navigation controls, and social media links. The bottom right corner of the map area contains the text "Map data not yet available" repeated three times.

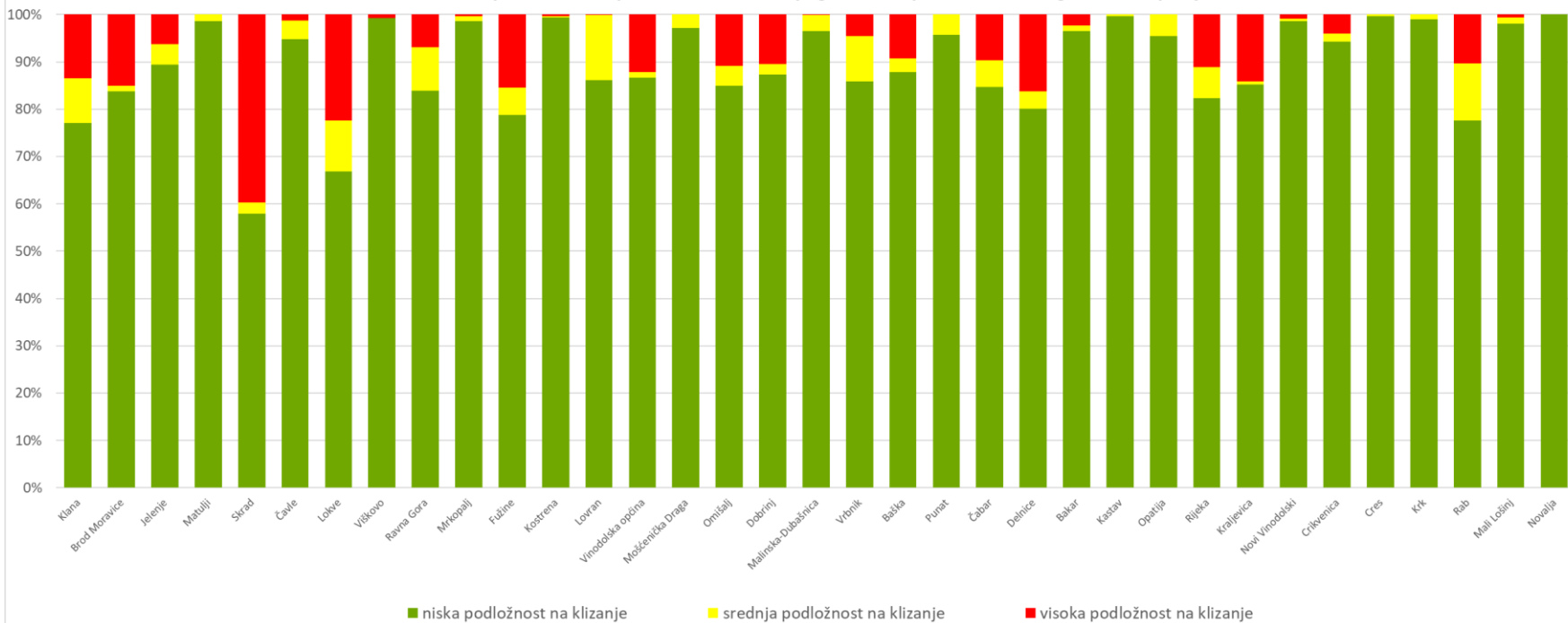
Rezultati projekta PRI-MJER



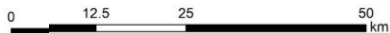


Karta podložnosti na klizanje za Primorsko-goransku županiju

Udio površine zona podložnosti na klizanje gradova i općina Primorsko-goranske županije

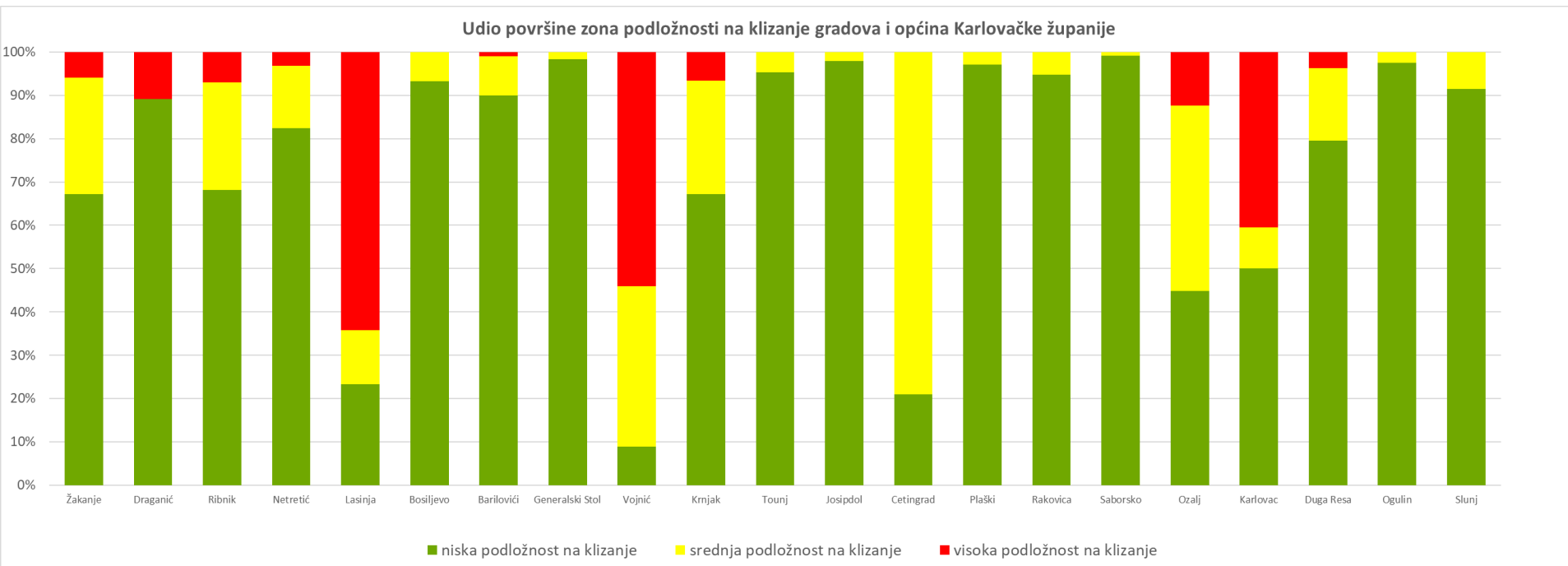


- niska podložnost na klizanje
- srednja podložnost na klizanje
- visoka podložnost na klizanje





Karta podložnosti na klizanje za Karlovačku županiju



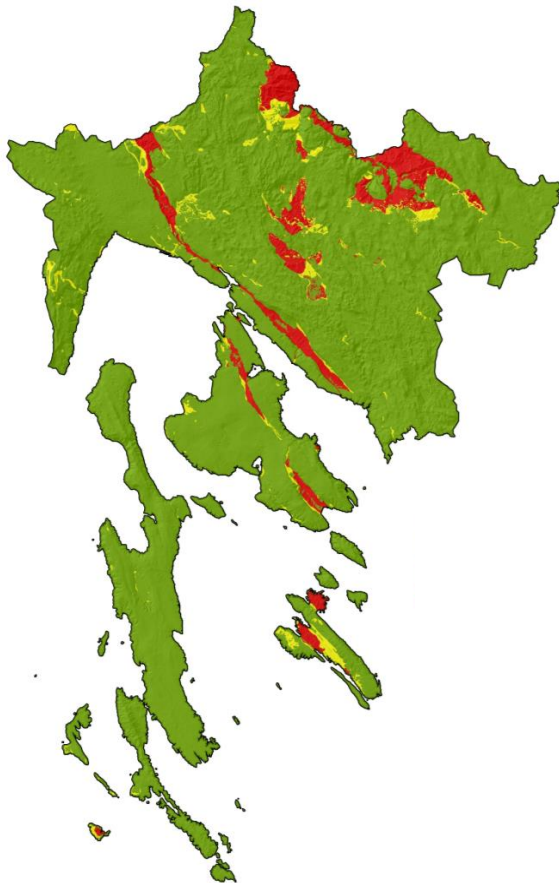
- niska podložnost na klizanje
- srednja podložnost na klizanje
- visoka podložnost na klizanje





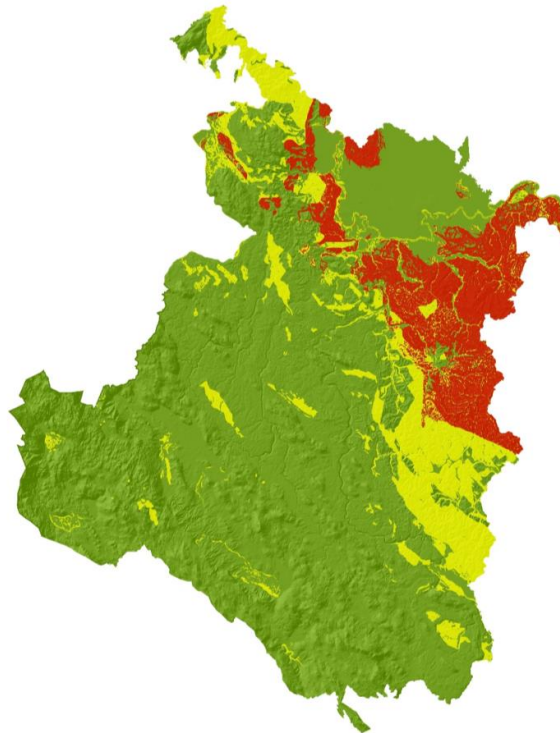
Karte podložnosti na klizanje M 1:25.000

Primorsko-goranska županija



0 12.5 25 50 km

Karlovačka županija



0 12.5 25 50 km

namjena:

**podloga za izradu
Prostornih planova županija,
odnosno izdavanje mjera
za izradu Prostornih planova
općina i gradova za područje
definirano obuhvatom klasa
srednje i visoke podložnosti
na klizanje**



Hvala Vam na pažnji!