



Some experiences in making Orienteering maps in Slovenia from airborne laser scanning data

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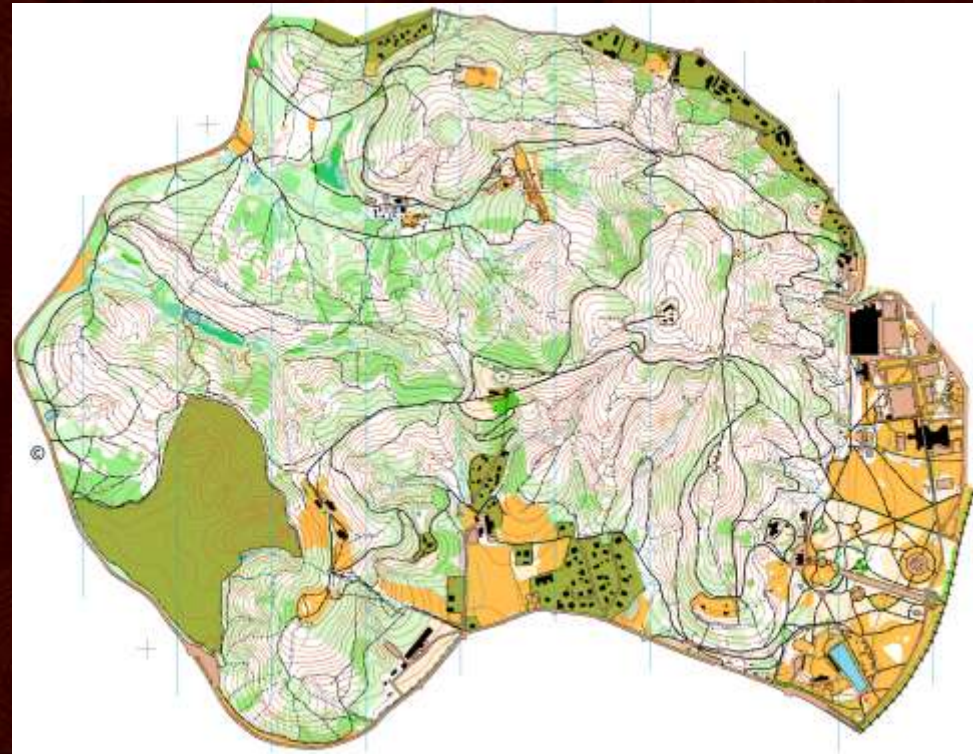
email: dusan.petrovic@fgg.uni-lj.si

Motivation:

Orienteering maps are thematic maps with very detailed content (fully standardised)

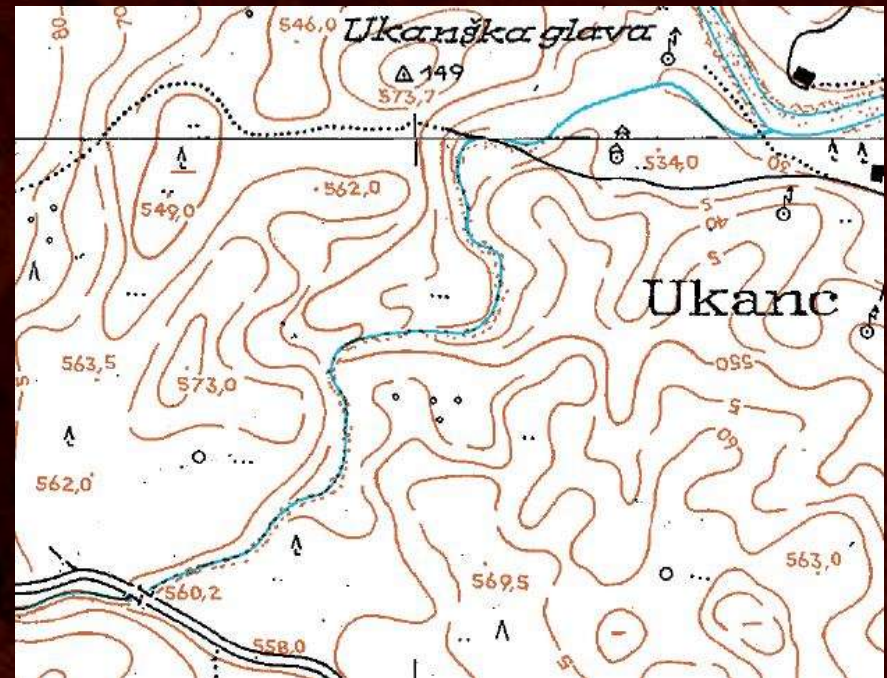
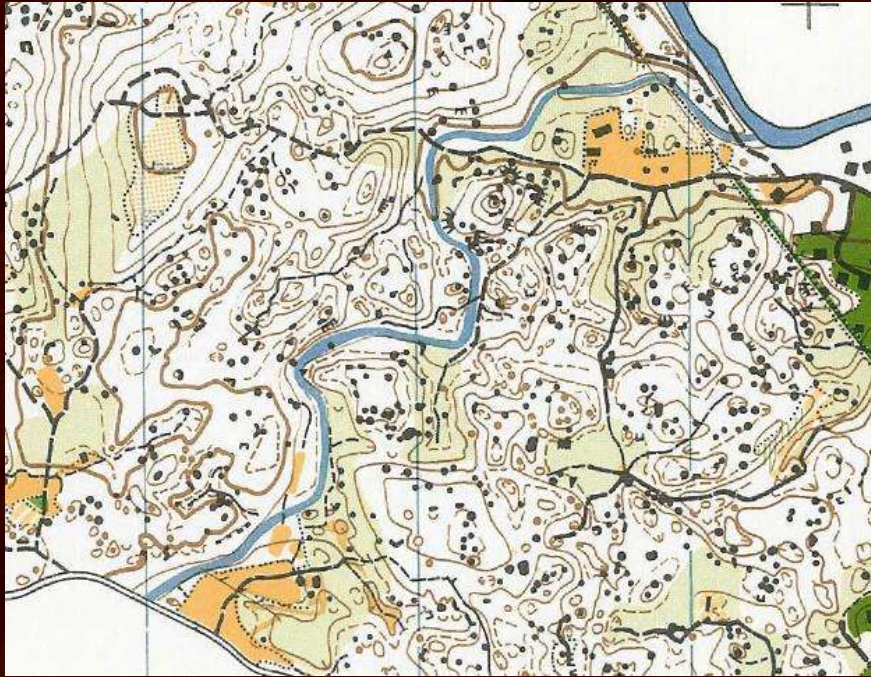
production is due to extreme details of content very expensive, time consuming and it requires a lot of terrain work made by skilled mapmaker

necessity for many new maps



Traditional source data:

- Topographic maps

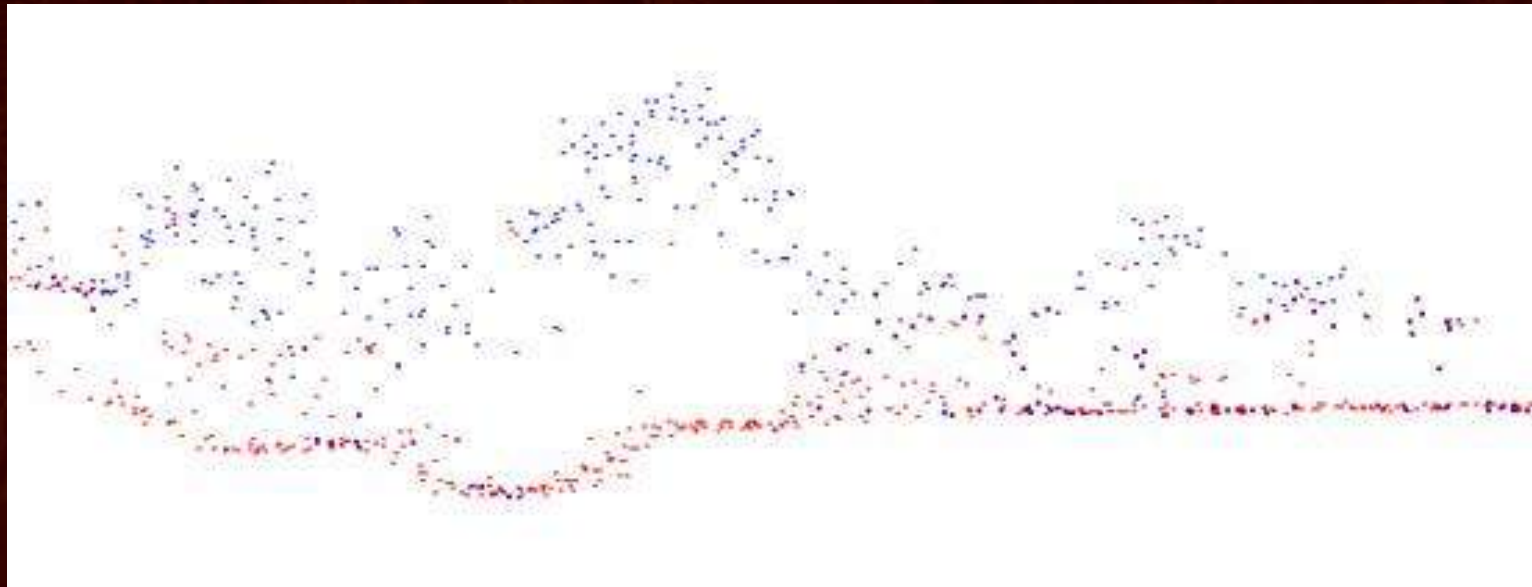
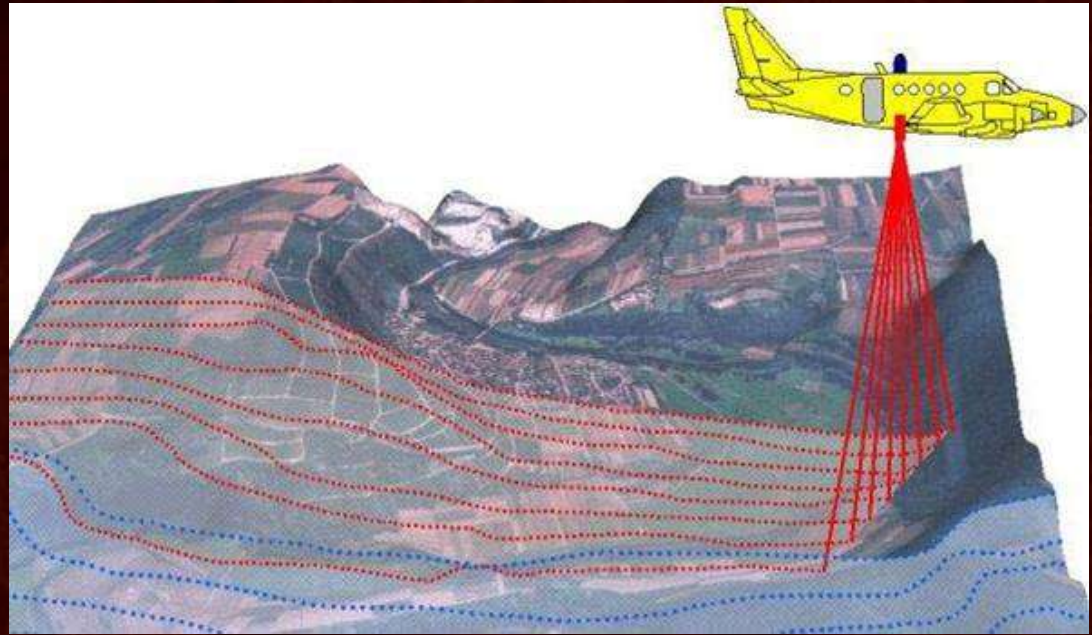


- Aerial images, orthophoto

- GPS survey

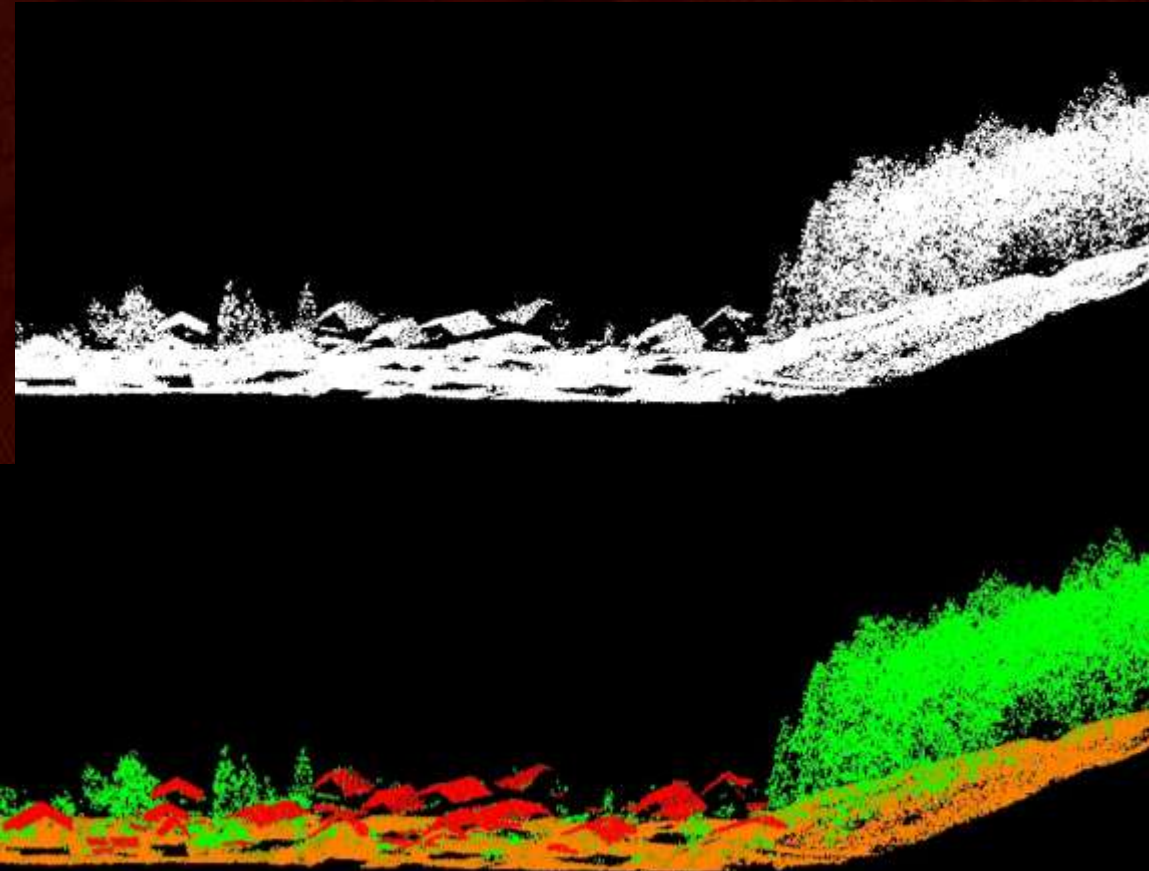


The airborne laser scanning data - promising source data for deriving different topographic data



Deriving data from ALS:

- automated (urban environment or forestry)
- manual recognition of objects in different derived presentations (eg. hillshading)

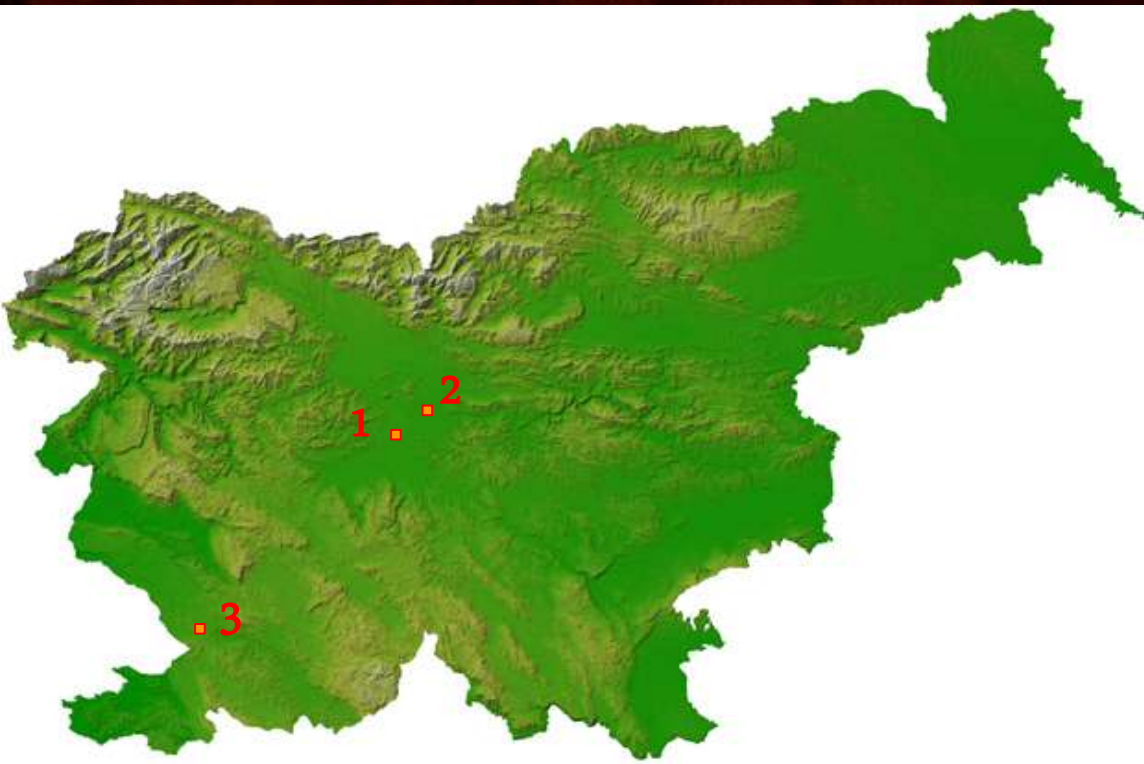


small test areas on different parts of Slovenia
representing different types of terrain:

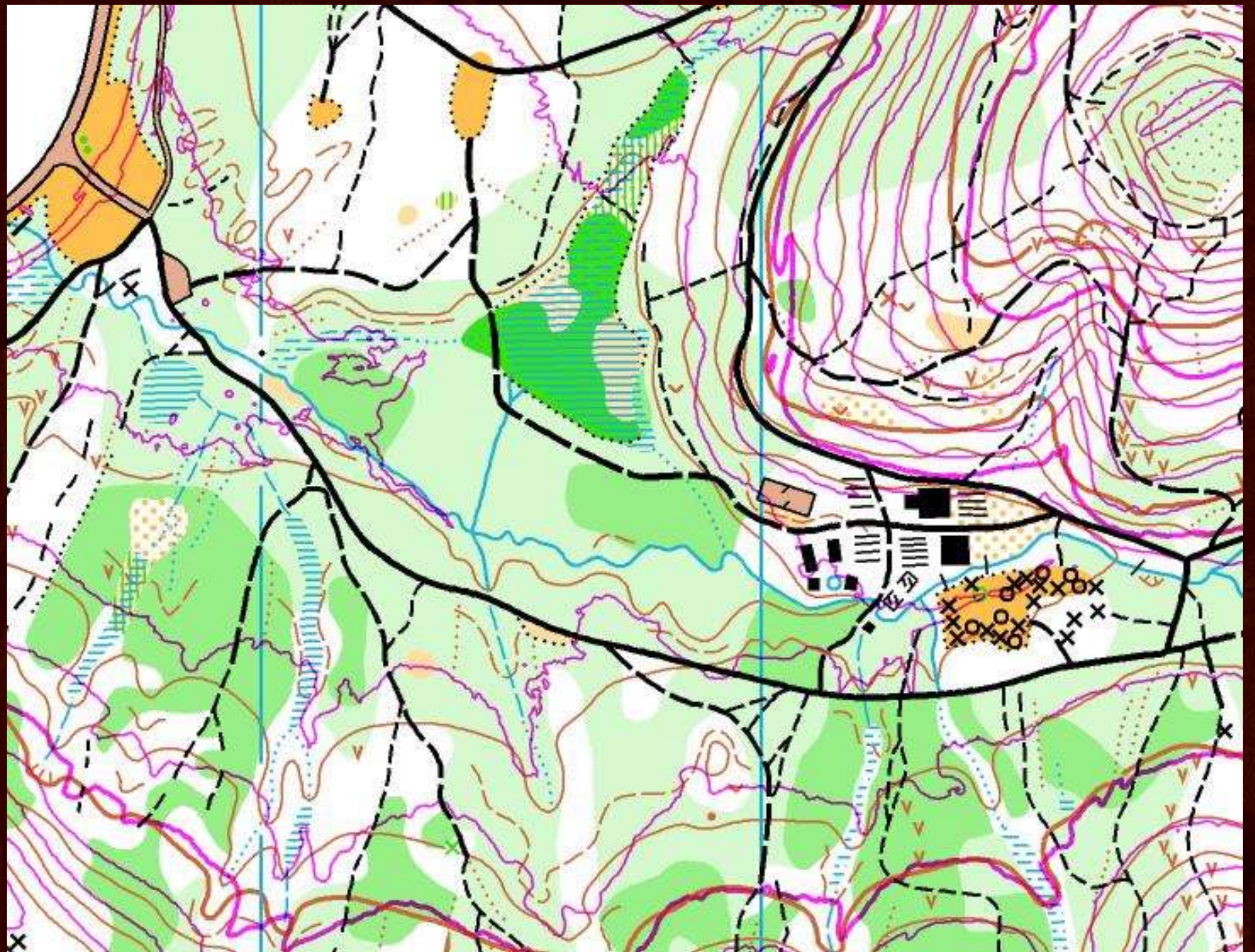
area near Ljubljana: steep continental relief

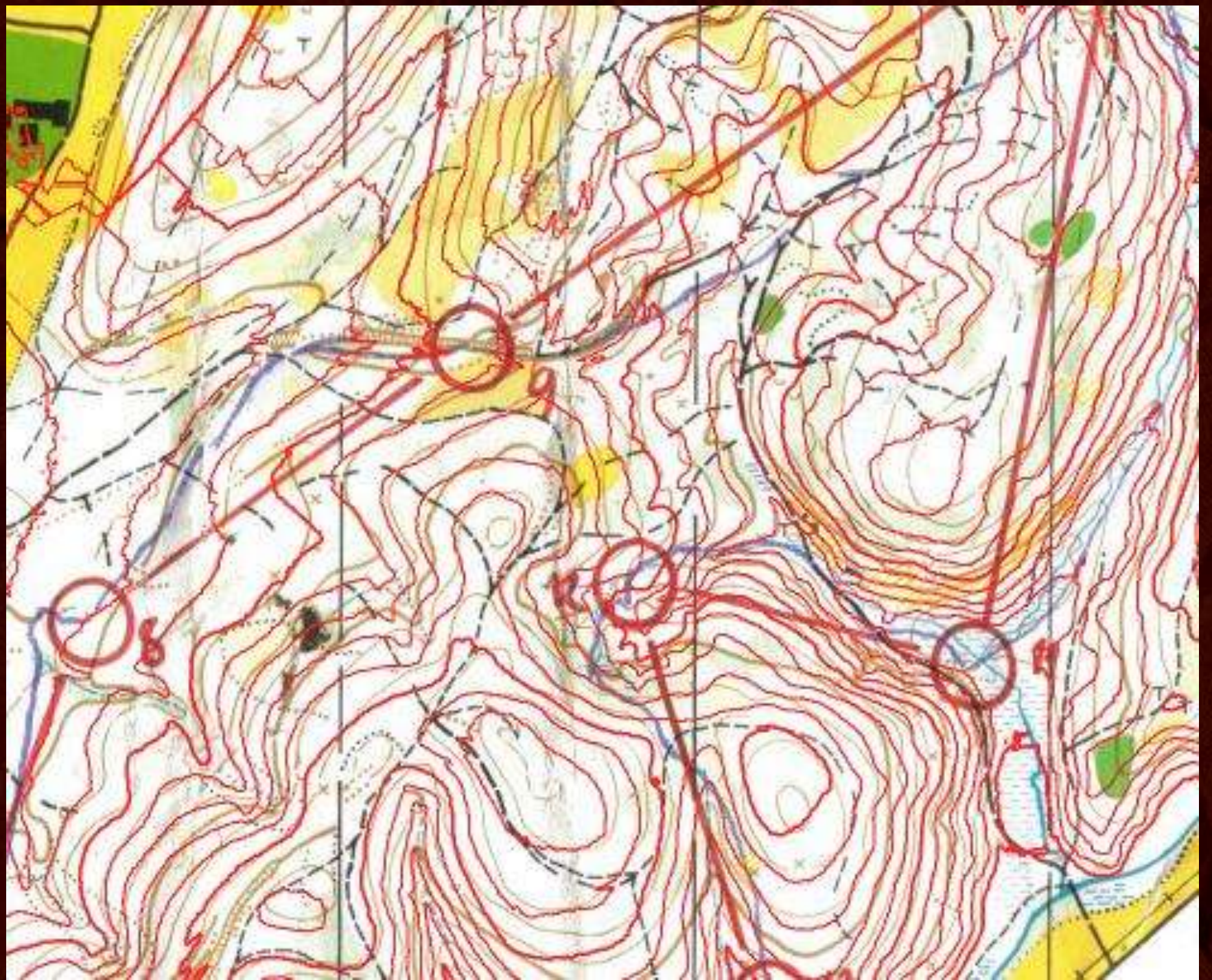
area near Domžale: steep carst terrain

area near Lipica (Karst): moderate carst terrain,
first echo

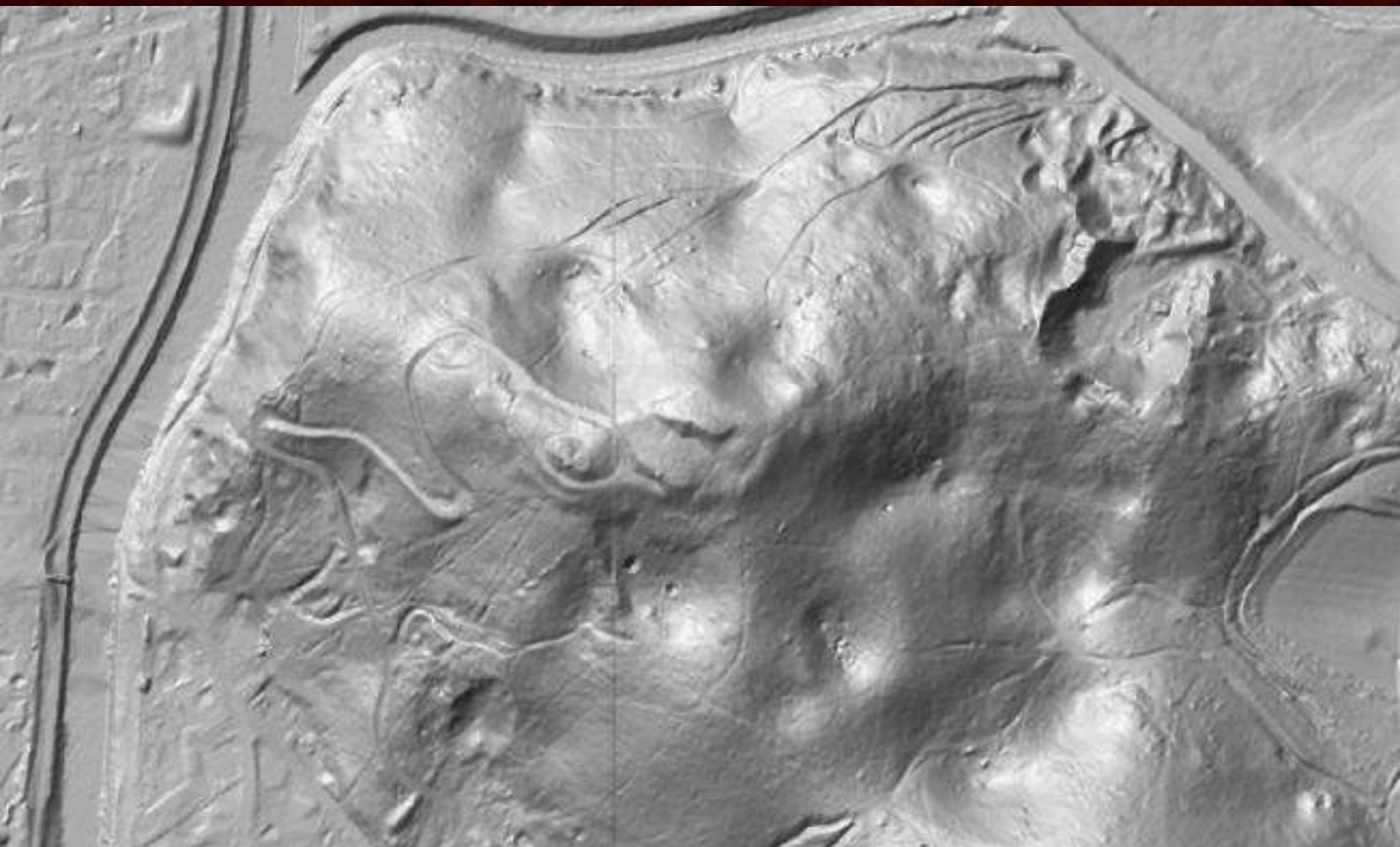


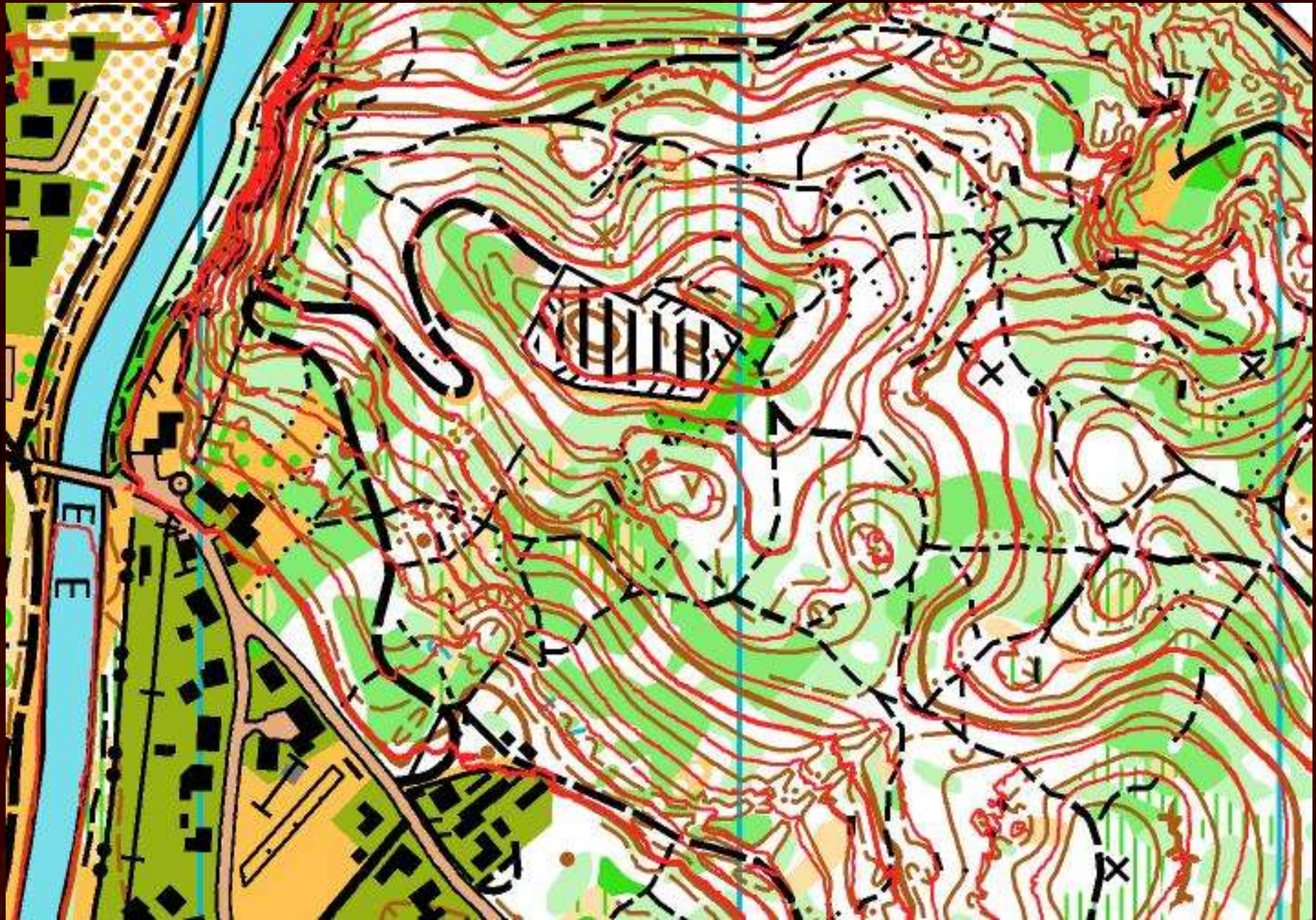
- O-map
 - ALS hillshading
 - ALS derived contours
- * 0.5 m, 5-15pt/m²

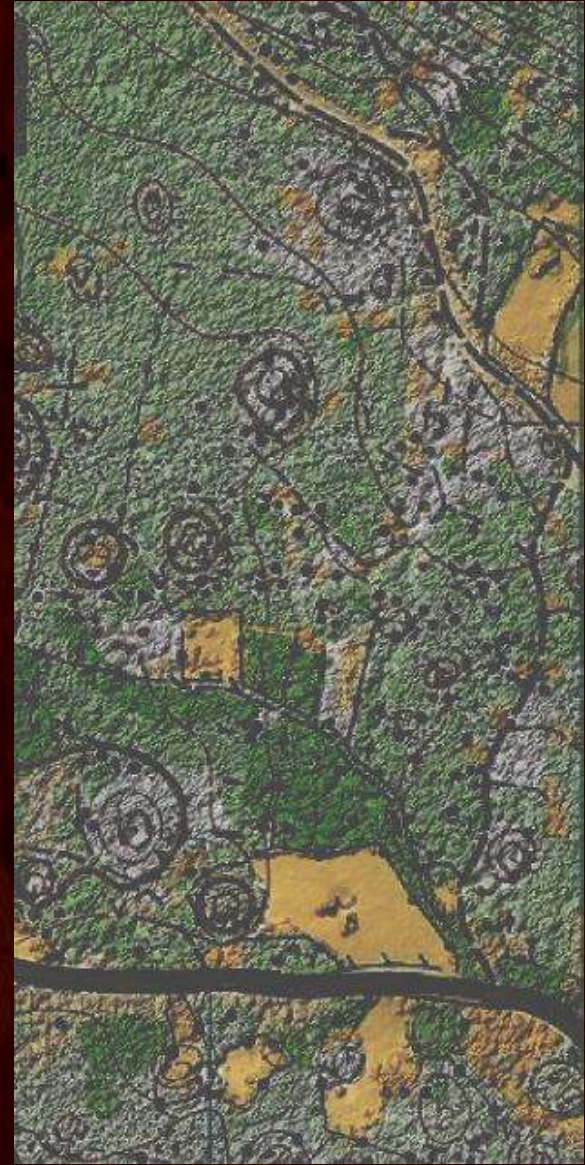
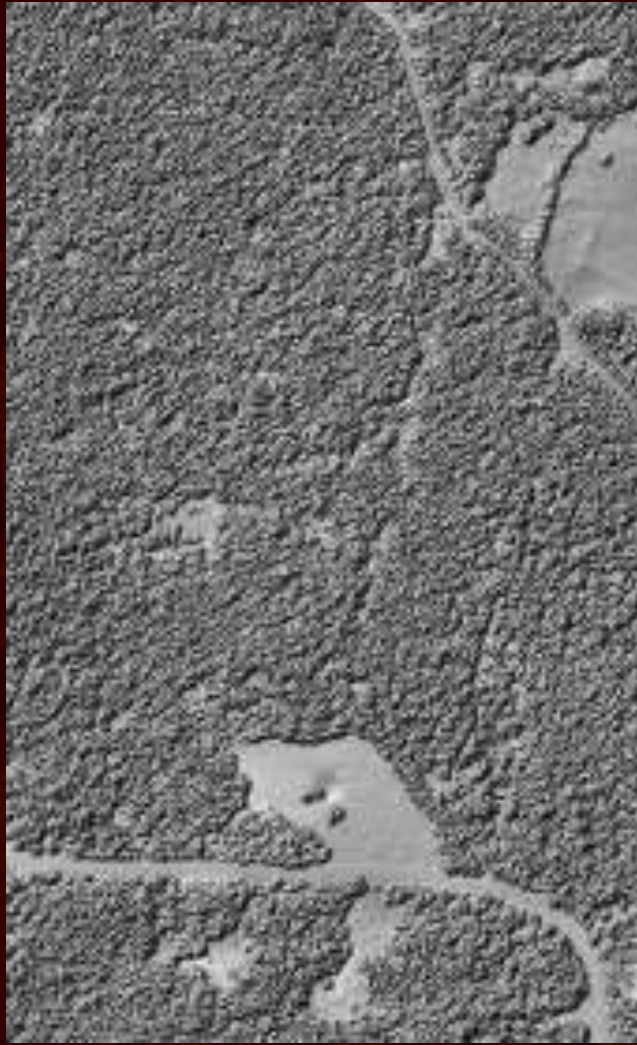


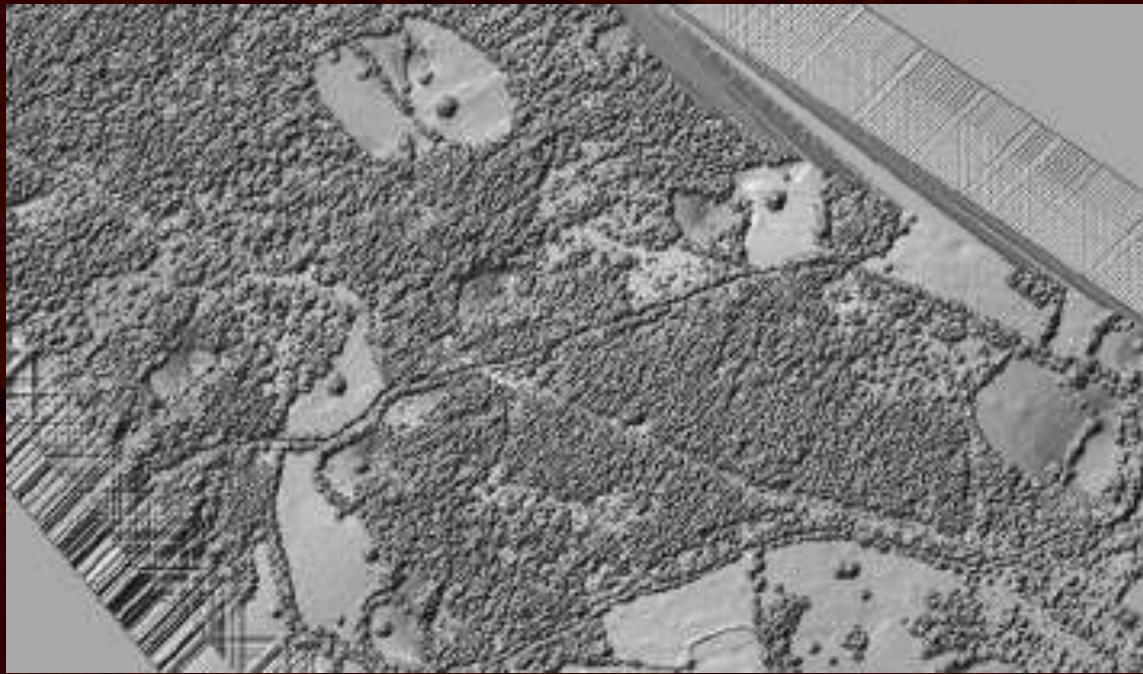




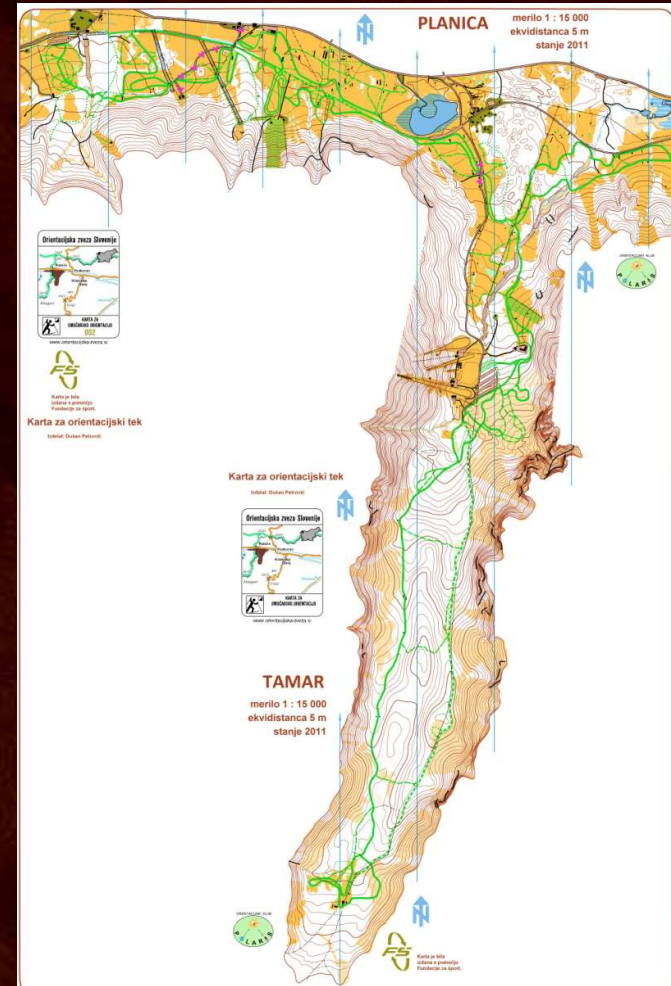






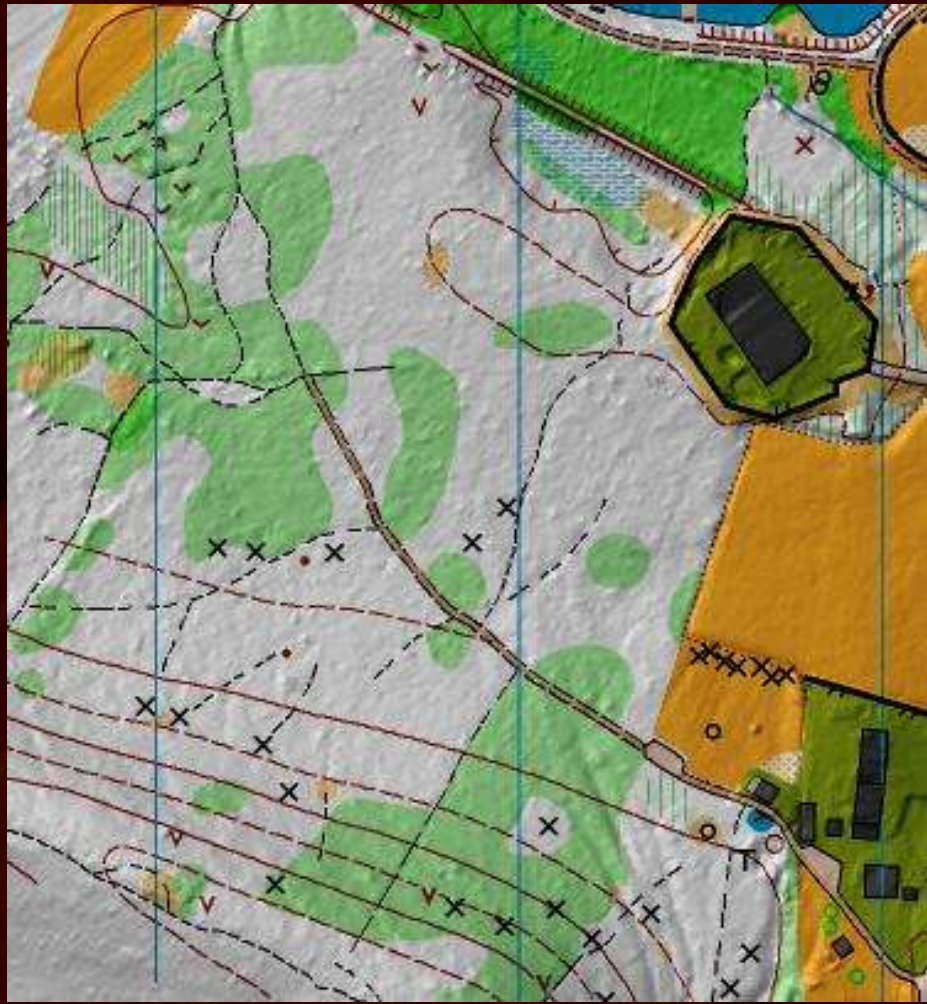


Maps made using LiDAR data











KOSEŠKI BAJER

Merilo 1 : 5000

Ekvidistanca 2,5m

Stanje: maj 2010

Izdelali:
Gregor Anderluh
Dušan Petrovič
Lavra Babič
Brigita Mandelj
Mirjana Pešl
Nina Kerpan

Vir:
DTK 5, DOF

Reambulacija in prijetno
druženje:
Gregor Anderluh
Mario Vaffo



Karta za orientacijski tek



Sprint map (ISSOM)

DEM 0.5 m

50% time



Posebni znaki:

- × Tarča
- Klopca
- Drugi objekti
- ♠ *Cyprinus caprio*

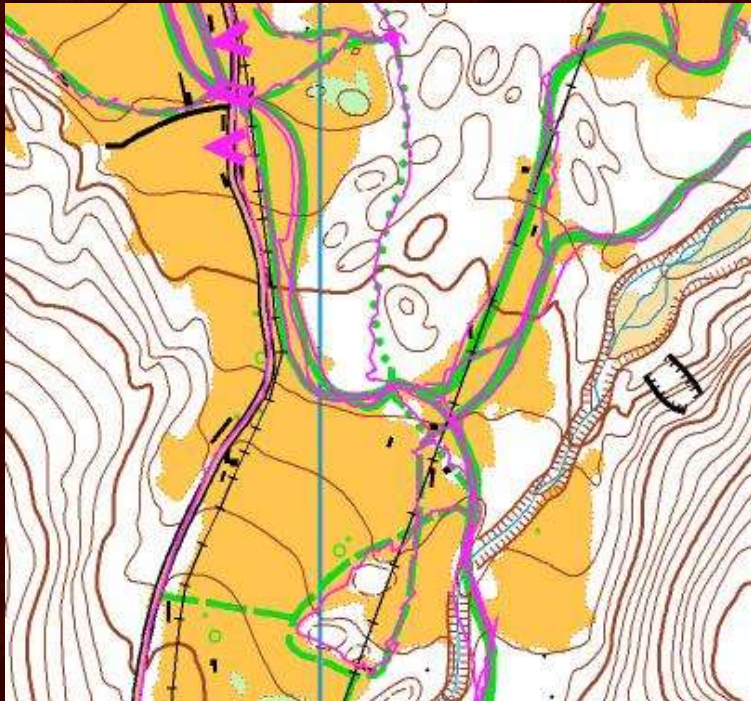
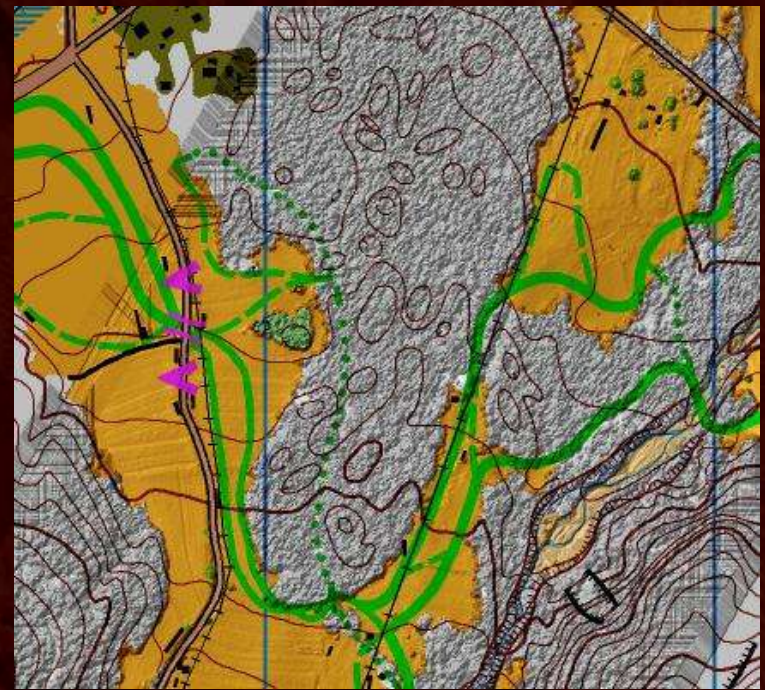
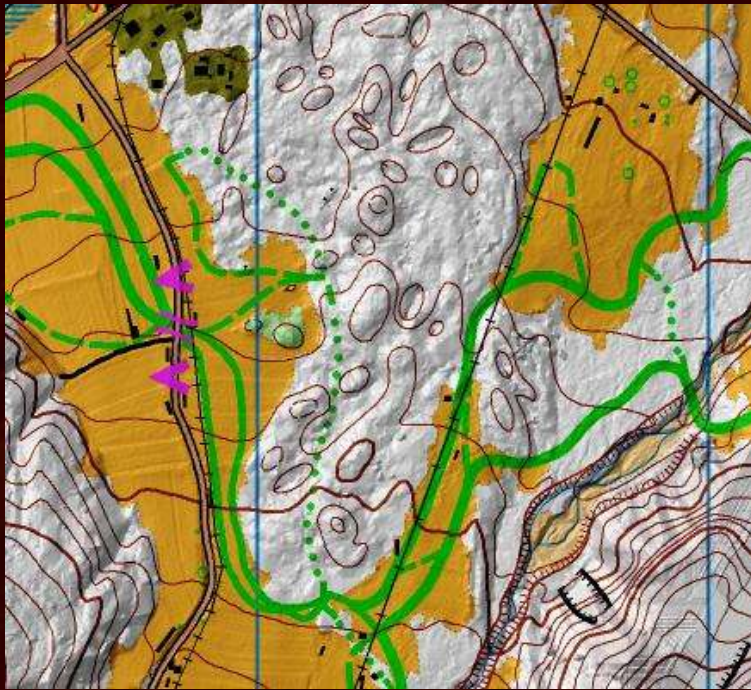


Karta je bila izdelana
ob pomoči Fundacije
za šport

Izdal: OK Polaris, Snebreska 44b, Ljubljana
Tisk: Rogač d.o.o., Maribor



www.orientacijska-zveza.si



SKI-O map
8 sq.km
DTK5
DEM 0.5 m
DSM 5 pt/m2
orthophoto 0.5 m
GPS (ratrac, scuter)
2 hours field check

PLANICA

merilo 1 : 15 000
ekvidistanca 5 m
stanje 2011



Orientacijska zveza Slovenije

**KARTA ZA
SLOVAŠKO ORIENTACIJSKO
002**

www.orientacijsko-zveza.si



Karta je bila
izdana s pomočjo
Fundacije za šport.

Karta za orientacijski tek

Izšel: Dušan Petrovič

Karta za orientacijski tek

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Orientacijska zveza Slovenije

**KARTA ZA
SLOVAŠKO ORIENTACIJSKO
002**



Karta za orientacijski tek

Urednik: Dušan Petrovič

Karta za orientacijski tek

Urednik: Dušan Petrovič



TAMAR

merilo 1 : 15 000
ekvidistanca 5 m
stanje 2011

SKI-O map
8 sq.km
DTK5
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DSM 5 pt/m²
orthophoto 0.5 m
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2 hours field check

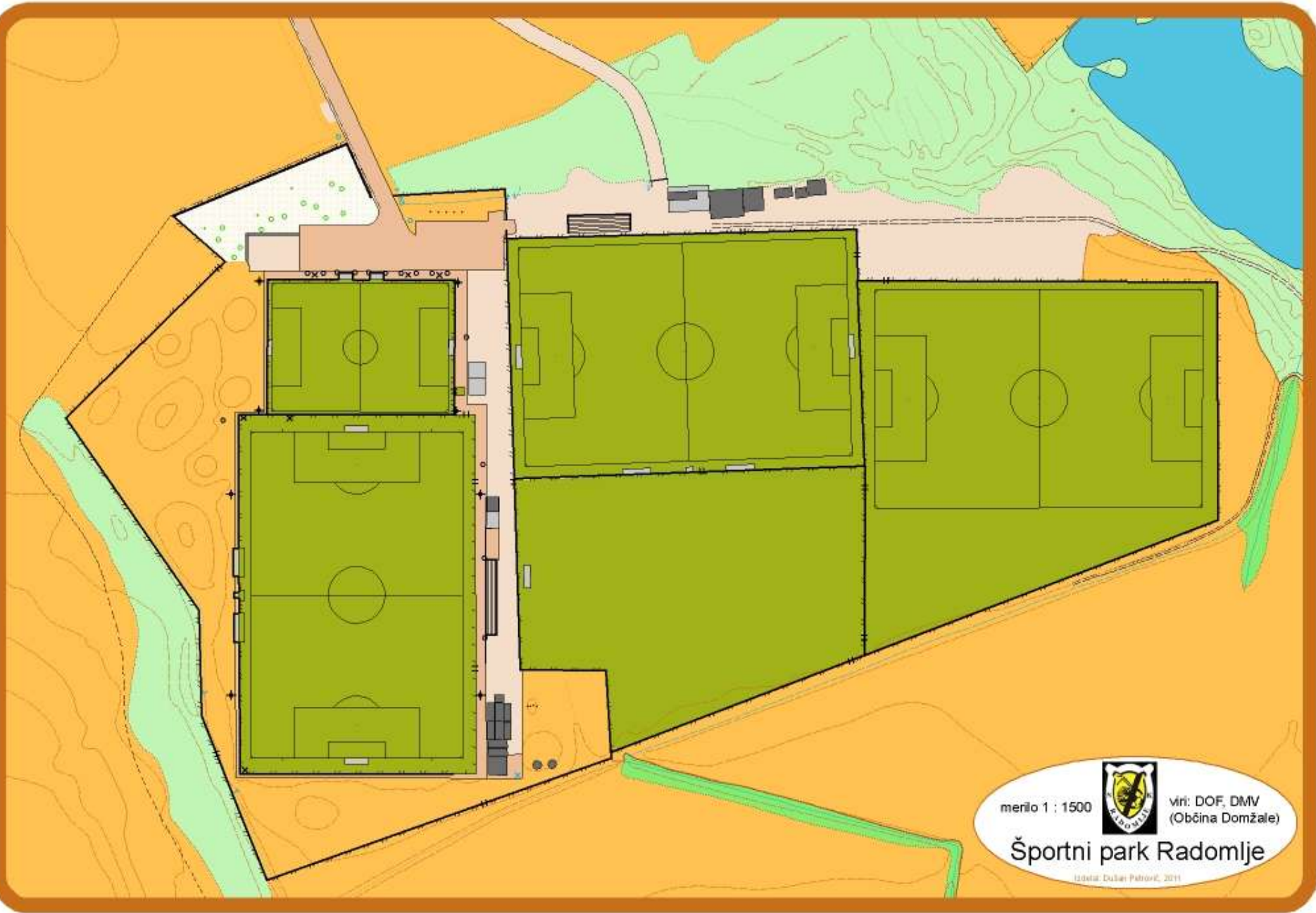


Karta je bila
izdana v preložitvi
Fundacije za šport.



DTK5
DEM 0.5 m
DSM 10 pt/m²
orthophoto 0.1 m
(april)





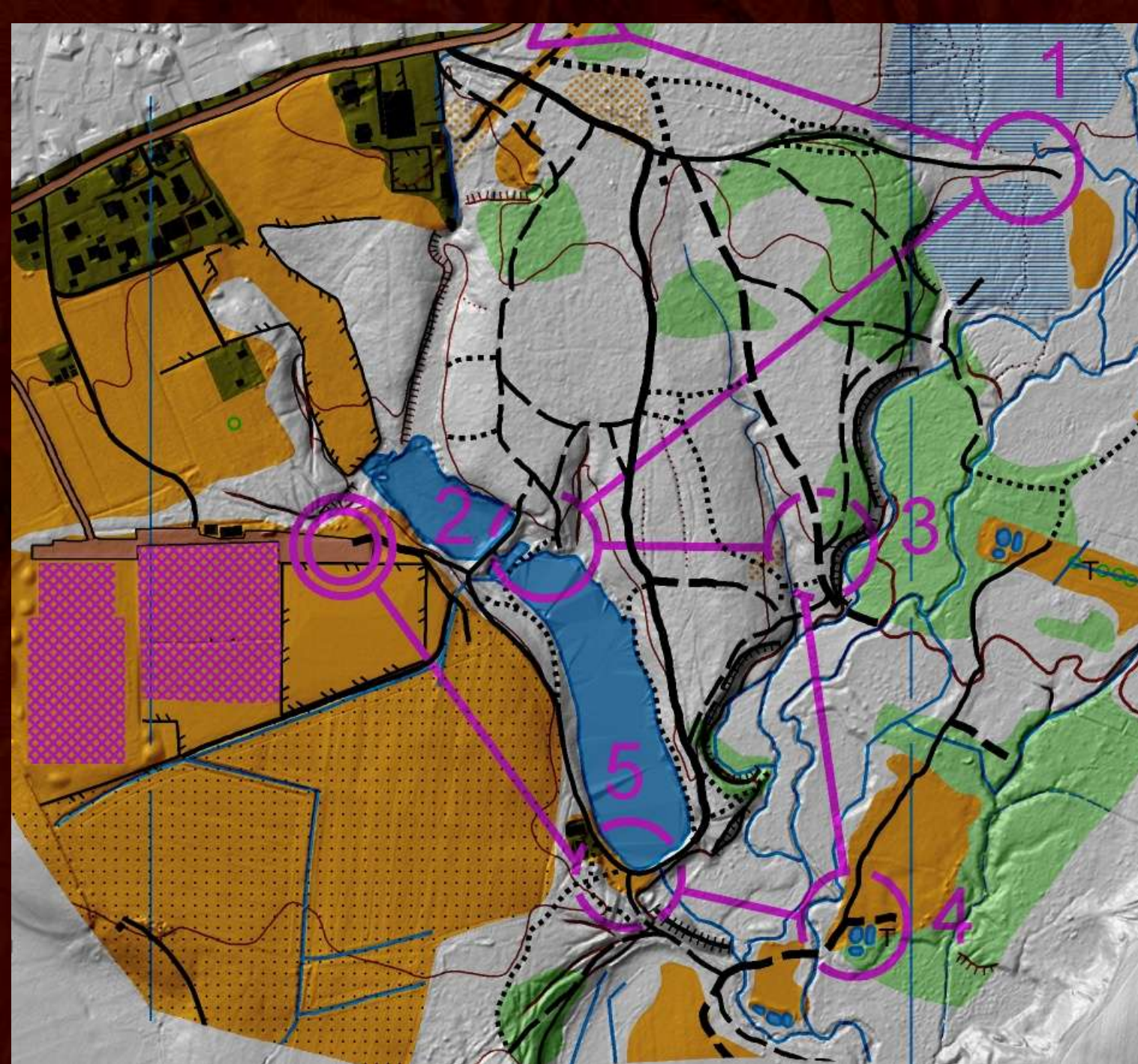
merilo 1 : 1500



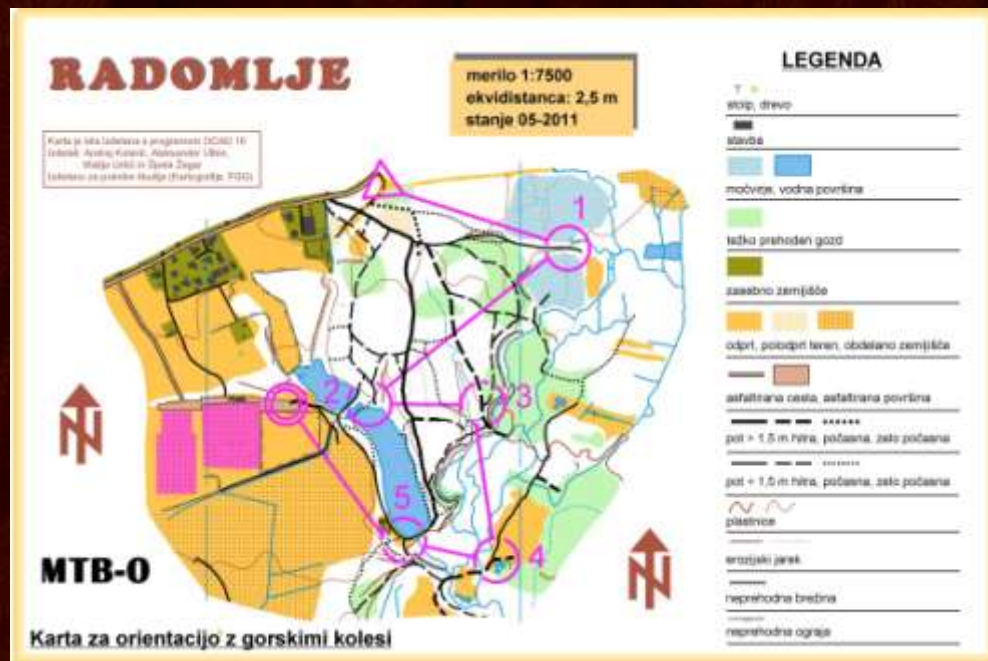
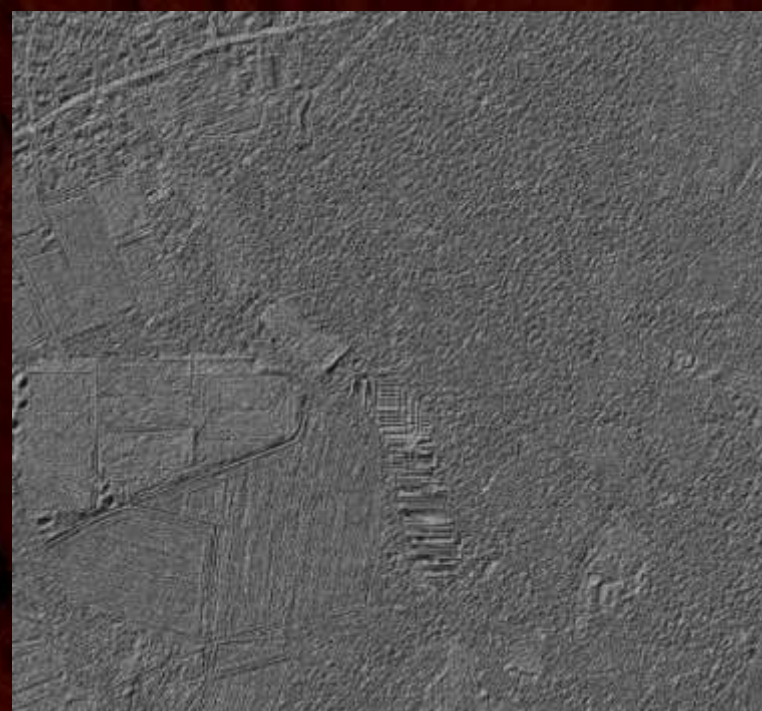
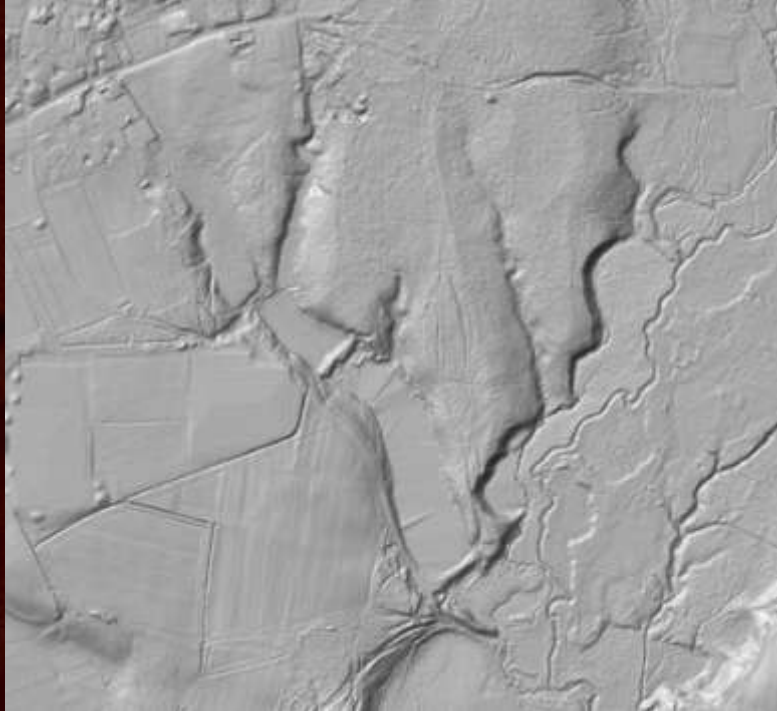
vir: DOF, DMV
(Občina Domžale)

Športni park Radomlje

izdelal: Dušan Petrovič, 2011



MTBO map
DEM 0.5
OP 0.1 m
(april)
2 hours
(tracks)



Conclusions

Daniel Lebar: „Don't you ever ask me to make an O-map on the area not covered with LiDAR data!“

