



Cartography and the Internet

Zagreb and online, 29 June 2024

The professional conference "Cartography and the Internet" was held on 29 June 2024. The organizers were the Croatian Cartographic Society and the Faculty of Geodesy of the University of Zagreb. The conference was organized in a hybrid manner, i.e. with participation in person or online, and was organized in the Faculty of Geodesy Hall in Zagreb, Savska 144a. The conference was intended for everyone who wanted to refresh and expand their knowledge in cartography, and it was included in the professional development programme for chartered geodetic engineers, where it was valued at 11 academic hours, of which 2 from Area 1 and 9 from Area 2. The golden and sole sponsor was the company Oikon d.o.o.



The conference began with welcoming remarks by the Dean of the Faculty of Geodesy, Prof. Dr. Mladen Zrinjski and the President of the Croatian Cartographic Society, Prof. Emer. Miljenka Lapaine, followed by the following lectures:

- 09:15-10:00 A. Kuveždić Divjak: Development of Web Cartography: From Scanned Paper to Interactive Web Maps
- 10:00-10:45 M. Jurić: Maps in the Croatian State Archives

- 10:45-11:00 Refreshment break
- 11:00-11:45 J. Faričić: Old Maps on the Internet – Availability, Possibility and Right of Use
- 11:45-12:30 M. Triplat Horvat: Publicly Available Maps on the Internet – How to Use and Interpret Them
- 12:30 13:15 R. Župan: Web-cartography
- 13:15-13:45 Lunch break
- 13:45-14:30 M. Gašparović: Photogrammetry and Remote Sensing in the Service of Cartography
- 14:30-15:15 K. Molnar: Digital Sky Map in Every Classroom
- 15:15-16:00 D. Medak: 3D-Croatia in the Palm of your Hand: What LiDAR Technology Can Do
- 16:00-16:15 Refreshment break
- 16:15-17:00 V. Filipović: Maritime Cartography
- 17:00-17:45 B. Preradović: Aeronautical Cartography
- 17:45-18:30 J. Jagetić: Measurement and Visualization of Speleological Objects

The purpose of the knowledge exam, which was held a few days after the conference, was to check the acquired knowledge on cartography and the Internet. The participants could assess their own knowledge of the issue, while the organizers received an assessment of the work done and guidelines for the future. It was planned that two examinees with at least 75% correct answers would be rewarded. The prize was a 50% discount on the registration fee for participation in the next conference

organized by the Croatian Cartographic Society. We considered all answers that arrived by 2 July 2024 at midnight.

These were the questions with the offered answers, and the correct answers are marked.

1. Copernicus is a programme of
 - A) the European Space Agency
 - B) the Faculty of Geodesy, University of Zagreb
 - C) the International Cartographic Association
2. The most efficient and detailed view of caves and pits can be obtained by using
 - A) laser rangefinders
 - B) LiDAR
 - C) GPS
3. The Map Archive for Croatia and Slavonia is a fund in
 - A) the State Archives in Zagreb
 - B) the Croatian State Archives
 - C) the Museum of Slavonia in Osijek
4. AJAX is
 - A) the name of a Dutch football club
 - B) the abbreviation for Asynchronous JavaScript and XML
 - C) the abbreviation for Axiomatized Information and Algorithmic eXchange
5. Gallica is
 - A) a historical region in western Europe between the Rhine, the Alps, the Mediterranean Sea, the Pyrenees and the Atlantic Ocean



Kartografija i internet

Zagreb i online, 29. 6. 2024.

Stručni skup "Kartografija i internet" održan je 29. lipnja 2024. Organizatori su bili Hrvatsko kartografsko društvo i Geodetski fakultet Sveučilišta u Zagrebu. Stručni skup bio je organiziran na hibridan način, tj. uz sudjelovanje osobno ili online, a organiziran je u Vijećnici Geodetskog fakulteta u Zagrebu, Savska 144a. Skup je bio namijenjen svima koji žele obnoviti i proširiti svoja znanja iz kartografije, bio je uvršten u program stručnog usavršavanja ovlaštenih inženjera geodezije, gdje je vrednovan s 11 akademskih sati, od toga 2 iz Područja 1 i 9 iz Područja 2. Zlatni i jedini sponzor bila je tvrtka Oikon d.o.o.



Skup je započeo pozdravnim riječima dekana Geodetskog fakulteta prof. dr. sc. Mladena Zrinjskog i predsjednika Hrvatskoga kartografskog društva, prof. emer. Miljenka Lapainea, a zatim su slijedila ova predavanja:

9:15-10:00 A. Kuveždić Divjak: Razvoj web-kartografije: Od skeniranih papirnatih do interaktivnih web-karata
10:00-10:45 M. Jurić: Karte u Hrvatskom državnom arhivu
10:45-11:00 Stanka za osvježanje
11:00-11:45 J. Faričić: Stare karte na internetu – dostupnost, mogućnost i pravo korištenja
11:45-12:30 M. Triplat Horvat: Javno dostupne karte na internetu – kako ih upotrebljavati i interpretirati

12:30-13:15 R. Župan: Web-kartografija
13:15-13:45 Stanka za ručak
13:45-14:30 M. Gašparović: Fotogrametrija i daljinska istraživanja u službi kartografije
14:30-15:15 K. Molnar: Digitalna karta neba u svakoj učionici
15:15-16:00 D. Medak: 3D-Hrvatska na dlanu: što sve može LiDAR tehnologija

16:00-16:15 Stanka za osvježanje
16:15-17:00 V. Filipović: Pomorska kartografija
17:00-17:45 B. Preradović: Zrakoplovna kartografija
17:45-18:30 J. Jagetić: Mjerenje i vizualizacija speleoloških objekata

Svrha ispita znanja koji je održan par dana nakon stručnog skupa bila je kontrola usvojenih znanja o kartografiji i internetu. Sudionici su mogli procijeniti vlastito poznavanje problematike, a organizatori su dobili procjenu obavljenoga posla i smjernice za budućnost. Bilo je predviđeno da dva ispitnika s barem 75% točnih odgovora budu nagrađena. Nagrada je bila popust od 50% na kotizaciju za sudjelovanje na sljedećoj konferenciji u organizaciji Hrvatskoga kartografskog društva. Zahvaljujemo na odgovorima koji su stigli do 2. 7. 2024. u ponoć.

Ovo su bili zadatci s ponuđenim odgovorima, a točni odgovori su označeni.

- Copernicus je program
 - Europske svemirske agencije
 - Geodetskog fakulteta Sveučilišta u Zagrebu
 - Međunarodnoga kartografskog društva



- Najefikasniji i najdetaljniji prikaz špilja i jama moguće je dobiti primjenom
 - laserskog daljinomjera
 - LiDAR-a
 - GPS-a
- Arhiv mapa za Hrvatsku i Slavoniju je fond u
 - Državnom arhivu u Zagrebu
 - Hrvatskom državnom arhivu
 - Muzeju Slavonije u Osijeku
- AJAX je
 - ime nizozemskog nogometnog kluba
 - kratica za Asynchronous JavaScript and XML
 - kratica za Axiomatized Information and Algorithmic eXchange
- Gallica je
 - povijesno područje na zapadu Europe između Rajne, Alpa,

- B) la bibliothèque numérique de la Bibliothèque nationale de France et de ses partenaires
 C) Galileo's birthplace
6. ICAO is the abbreviation for
 A) Immigration & Checkpoints Authority
 B) International Cartographic Association
 C) The International Civil Aviation Organization
7. A pit is:
 A) another name for a cave
 B) a large natural cavity in a rock, cliff or hill, extending approximately horizontally
 C) a deep cavity in karst soil extending approximately vertically
8. The definition of a digital orthophoto map is found in the 2008 Geodetic-Geoinformatic Dictionary by N. Frančula and M. Lapaine
 A) Yes
 B) No
 C) Maybe
9. A stellarium
 A) shows an image of the sky, just as we would see it with the naked eye, binoculars or a telescope
 B) is a science fiction strategy video game set 200 years in the future
 C) is a stone or wooden slab of various shapes with decorations and inscriptions of a funerary or monumental nature
10. In maritime cartography, the abbreviation ENC means:
 A) Electronic Navigational Chart
 B) Electronic Toll Collection
 C) Electricity New Connection
11. ChatGPT
 A) sometimes gives incorrect answers that appear to be correct
 B) always gives the correct answer
 C) never hallucinates
12. Please write what you were not satisfied with at the conference. Which cartographic topic would you like to learn more about?

The invitation to the knowledge test was sent to 78 e-mail addresses to all those registered for the conference. 33 participants responded to the invitation. Each correct answer carried one point. Therefore, a maximum of 12 points could be collected because the fourth task had two correct answers.

The easiest questions were 9 and 10, to which all respondents gave correct answers.

The most difficult task was 8, which asked whether the definition of a digital orthophoto map can be found in the 2008 Geodetic-Geoinformatics Dictionary by the authors N. Frančula and M. Lapaine. Most respondents answered Yes, which is not true. There is no definition of a digital orthophoto map in that dictionary, but there is a definition of an orthophoto map. Let us notice that orthophoto map is not written separately in Croatian, but together, orthophotomap.

Interestingly, some of the respondents still think that ChatGPT always gives correct answers and never hallucinates.

The worst was one respondent who collected only 5 out of 12 points, i.e., he had 7 incorrect answers.

No one managed to collect all 12 points. We congratulate the respondents who collected 11 points and whom the Croatian Cartographic Society is rewarding with a 50% discount on the registration fee for participation in the next conference organized by the Croatian Cartographic Society. They are in alphabetical order:

Jurica Jagetić, Dejan Pranjić, Karlo Šimek and Tomislav Trlaja.

The last question was not scored, but rather asked for an opinion on the conference and topic suggestion for one of the next conferences organized by the Croatian Cartographic Society. These are all the answers collected:

1. First, thank you to all the presenters. As an online follower of the seminar, it was not easy for me to hear while the presentations were in the hall because the sound system was awkwardly set up. I listened to the recordings of the presentations and

live presentations (e.g., by Prof. Farčić and Assist. Prof. Divjak) on my computer without any problems and I found it very educational, usable for regular geography classes in high school. And what was perhaps a bit too much for me was the length of the seminar. The last set, excellent topics, but concentration at a minimum.

2. The conference may have lasted too long, and I would like to know more about LIDAR
3. Thank you for your effort. The conference was well organized with detailed topics.
4. I am satisfied with everything.
5. The most interesting topic, which I would still like to know more about is LiDAR
6. The future of cartography and cartographers
7. Interruptions during the presentation.
8. All types of maps from all areas were processed. I am satisfied with this. However, it was too much information in one day. Thank you. Best regards!
9. The technical execution in terms of sound was poor, almost nothing could be heard. The resolution of the video broadcast was very poor at some points.
10. The selected topics were interesting; however, some lectures could almost not be heard at all.
11. I am interested in aeronautical maps, programs used for map making, modern and old methods of map making and distribution, preservation and reproduction of historical maps in the present day.
12. All topics related to web cartography and publicly available maps were extremely interesting, and I would like to learn more about them.

- Sredozemnoga mora, Pireneja i Atlantskog oceana
- B) la bibliothèque numérique de la Bibliothèque nationale de France et de ses partenaires
- C) Galilejevo mjesto rođenja
6. ICAO je kratica za
- A) Immigration & Checkpoints Authority
- B) International Cartographic Association
- C) The International Civil Aviation Organization
7. Jama je:
- A) drugi naziv za špilju
- B) prirodna velika šupljina u kamenu, stijeni ili brdu, koja se proteže približno horizontalno
- C) duboka šupljina u kraškom tlu koja se proteže približno vertikalno
8. Definicija digitalne ortofoto karte nalazi se u Geodetsko-geoinformatičkom rječniku autora N. Frančule i M. Lapainea iz 2008. godine
- A) Da
- B) Ne
- C) Možda
9. Stellarium
- A) pokazuje sliku neba, baš kao što bismo ga vidjeli prostim okom, dalekozorom ili teleskopom
- B) znanstvenofantastična strateška videoigra smještena 200 godina u budućnost
- C) kamena ili drvena ploča raznovrsnog oblika s ukasima i natpisima pogrebnog ili spomeničkog karaktera
10. U pomorskoj kartografiji kratica ENC znači:
- A) Electronic Navigational Chart
- B) Elektronička naplata cestarine
- C) Electricity New Connection
11. ChatGPT
- A) ponekad daje netočne odgovore koji naizgled izgledaju točnima
- B) uvijek daje točan odgovor
- C) nikad ne halucinira
12. Molim napišite s čime niste bili zadovoljni na stručnom skupu? O kojoj kartografskoj temi biste rado saznali nešto više?
- Poziv na ispit znanja upućen je na 78 e-adresa svima prijavljenima na stručni skup. Pozivu se odazvalo 33 sudionika. Svaki točan odgovor nosio je jedan bod. Prema tome moglo se maksimalno prikupiti 12 bodova jer je četvrti zadatak imao dva točna odgovora. Najlakši zadatci bili su 9. i 10. na koje su svi ispitanici dali točne odgovore. Najteži zadatak bio je 8. u kojem se pitalo nalazi li se definicija digitalne ortofoto karte u Geodetsko-geoinformatičkom rječniku autora N. Frančule i M. Lapainea iz 2008. godine. Većina ispitanika odgovorila je Da, što nije točno. U tom rječniku ne postoji definicija digitalne ortofoto karte, ali postoji definicija ortofotokarte. Uočimo da se ne piše odvojeno ortofoto karta, nego zajedno ortofotokarta. Zanimljivo je da neki od ispitanika još uvijek misle da ChatGPT uvijek daje točne odgovore i da nikad ne halucinira. Najlošiji bio je jedan ispitanik koji je od 12 bodova prikupio samo 5, tj. imao je 7 netočnih odgovora. Nitko nije uspio prikupiti svih 12 bodova. Čestitamo ispitanicima koji su prikupili 11 bodova i koje Hrvatsko kartografsko društvo nagrađuje s popustom od 50% na kotizaciju za sudjelovanje na sljedećoj konferenciji u organizaciji Hrvatskoga kartografskog društva. To su abecednim redoslijedom: Jurica Jagetić, Dejan Pranjčić, Karlo Šimek i Tomislav Trlaja. Posljednje pitanje nije bilo bodovano, nego se tražilo mišljenje o stručnom skupu i prijedlog teme za neki od idućih skupova u organizaciji Hrvatskoga kartografskog društva. Ovo su svi prikupljeni odgovori:
1. Prvo, hvala svima izlagačima. Mene, kao online pratitelju seminara, nije bilo lako slušati dok su izlaganja bila u dvorani jer je ozvučenje bilo nespretno složeno. Snimke izlaganja i izlaganja uživo (npr. prof. Faričića i docentice Divjak) sam bez problema slušala na kompjuteru i bilo mi je baš edukativno, iskoristivo za redovnu nastavu geografije u srednjoj školi. I ono što mi je možda još bilo malo previše je duljina trajanja seminara. Zadnji set, teme odlične, ali koncentracija na minimumu.
 2. Skup je možda predugo trajao, a volio bih znati više o LIDARu
 3. Hvala na trudu. Skup je bio lijepo i detaljno sadržajno organiziran.
 4. Sa svime sam zadovoljan.
 5. Najzanimljivije i o čemu bih još htio saznati je LiDAR
 6. Budućnost kartografije i kartografa
 7. Prekidi prilikom izlaganja.
 8. Obradene su sve vrste karata iz svih područja. S tim sam zadovoljna. No međutim to je bilo previše informacija u jednom danu. Hvala. Lijep pozdrav!
 9. Tehnička izvedba po pitanju zvuka je bila loša, gotovo ništa se nije čulo. Rezolucija videoprijenosa u nekim momentima jako loša.
 10. Izabrane teme su bile zanimljive, međutim pojedina predavanja se gotovo uopće nisu čula.
 11. Zanimaju me aeronautičke karte, programi koji se koriste za izradu karata, moderne i stare metode izrada i distribucija karata, očuvanje i reprodukcija povijesnih karata u današnje doba.
 12. Sve teme vezane za web kartografiju i javno dostupne karte su bile izuzetno zanimljive, te bih voljela više saznati o tome.
 13. Čujnost i razgovjetnost govornika iz zagrebačke dvorane je bila vrlo loša; čulo se isprekidano, ponekad potpuno nerazgovjetno. Snimljena predavanja su sva bila odlična - sve je bilo razgovjetno (za razliku od prošle i pretpošle godine kada je bilo užasnih, potpuno nerazgovjetnih snimljenih predavanja). Predavači iz Zadra i Beča su također bili razgovjetni (pretpostavljam da je

13. The audibility and articulation of the speakers from the Zagreb venue was very poor; they could be heard intermittently, sometimes completely inaudible. The recorded lectures were all excellent – everything was clear (unlike last year and the year before last when there were terrible, completely incomprehensible recorded lectures). The lecturers from Zadar and Vienna were also clear (I assume that the choice of the Teams platform this year is responsible for all the successful recordings and their transmission). Since I myself teach part of the classes related to online cartography, I was mostly familiar with the terms (not the software for practical work). By the way, static and dynamic maps are divided into

view only and interactive – I translated the former as display (or display only), and the latter as interactive maps. I am interested in how to easily download a satellite image from Sentinel. At one workshop we got an introduction and an attempt at something with ChatGPT (a colleague from Turkey was in Osijek through Erasmus) – we did not master the material. That was at the time when a plastic dump site was burning in Osijek, so that scientist showed images of toxic clouds, temperature, etc. – where did the clouds go, the concentrations.

14. Excellent conference.

15. I am satisfied with the conference.

Based on the above opinions and responses, we can conclude the following:

The conference as a whole can receive a satisfactory rating, taking into account the well-intentioned advice for improvements. The next conference should not last too long in one day. If there are more presentations, they could be divided into two days. Technical problems should definitely be avoided so that everyone who follows the conference online can follow the presentations without difficulty, i.e., see and hear everything well.

The programme and abstracts of all lectures are available in pdf format at www.kartografija.hr.

Miljenko Lapaine ■

odabir platforme Teams ove godine zaslužan za sve uspješne snimke i njihov prijenos). Kako i sama dio nastave držim vezano uz internetsku kartografiju, uglavnom su mi pojmovi bili poznati (ne i softveri za praktičan rad). Inače statične i dinamičke karte se dijele na view only i interaktiv - ja sam prve prevela kao prikazne (ili samo prikazne), a druge interaktivne karte. Zanima me kako lako skinuti sat. snimak sa Sentinel. Na jednoj radionici smo dobili uvod i pokušaj

nečega s ChatGPT-om (u Osijeku je bila kolegica iz Turske preko Erasmus-a) - nismo svladali gradivo. To je bilo u trenutku kada je u Osijeku gorjelo odlagalište plastike, pa je ta znanstvenica pokazala snimke otrovnih oblaka, temper. i sl. - kako su oblaci otišli, koncentracije.

14. Odličan stručni skup.

15. Zadovoljan sam stručnim skupom Na temelju navedenih mišljenja i odgovora možemo zaključiti sljedeće:

Skup u cjelini može dobiti zadovoljavajuću ocjenu uz uvažavanje

dobronamjernih savjeta za poboljšanja. Sljedeći skup ne bi smio trajati predugo u jednom danu. Ako bi bilo više prezentacija može ih se podijeliti na dva dana. Svakako treba izbjeći tehničke probleme kako bi svi koji skup prate online mogli pratiti prezentacije bez poteškoća, tj. sve dobro vidjeti i čuti.

Program i sažetci svih predavanja dostupni su u formatu pdf na www.kartografija.hr.

Miljenko Lapaine ■