EuroSDR Educational Service 2027

The 25th series of EuroSDR e-learning courses will begin on **March 1-2, 2027** with a **pre-course seminar,** hosted by the 3D Geoinformation Group at the Faculty of Architecture and the Built Environemnt, Delft University of Technology, The Netherlands. During the seminar, background material of four e-learning courses will be presented by the tutors, participants will meet the tutors and fellow participants, and the learning platform – Moodle, will be demonstrated. The **four two-week e-learning courses** are scheduled **from March to June 2027**. Each course requires about thirty hours of online study.



3D City Modelling: Creation, Standardisation and Use in Urban Applications

Ken Arroyo Ohori, Jantien Stoter (TU Delft)

3D city models have become essential tools for spatial analysis, urban planning and smart city initiatives. Advances in geodata acquisition and processing have revolutionised how these models are generated enabling the automated creation of detailed 3D models for large regions for a wide range of applications. This course offers a comprehensive introduction to 3D city modelling, covering: (i) how 3D city models can be created by combining diverse data sources, including building footprints, LiDAR, and GIS datasets (ii) how 3D city models are structured using international standards like CityJSON, (iii) how 3D city models are used in applications, such as solar potential analysis and wind/noise simulations, and (iv) how they can be integrated with building information models (BIM). Participants will also get a chance to create their own models using open-source software developed at the Delft University of Technology.

Dates: March 8-19, 2027

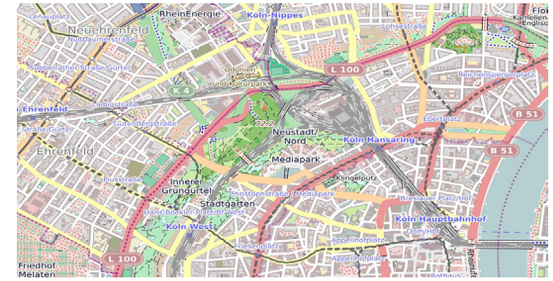


Fundamentals of Python Programming for Geospatial Applications

Gottfried Mandlburger, Katharina Riederer (TU Wien)

Basic skills in computer programming are getting ever more important. This specifically applies to geospatial data, which is handled, processed, and managed on by NMCAs. Profound knowledge of programming basics helps much in the daily routine. The programming language Python is ideal in this respect. The course is based on the fully digitised MOOC (Massive Open Online Course) "Python for Natural Sciences," which was developed at TU Wien. The course is divided into two parts: Part I (week 1), dedicated to the fundamentals: data types, operators, containers, loops, conditional expressions, functions, simple data analysis, and basic map visualisations. Based on that, specific programming tools for accessing and processing geodata will be explained and demonstrated in Part II (week 2). This includes basic operations such as intersecting vector data, working with different Web Map Services, and accessing global satellite images and regional 3D point cloud datasets.

Dates: April, 5-16, 2027

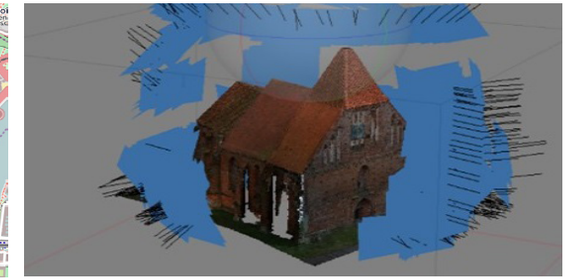


Working with VGI data: A practical and contemporary introduction

Peter Mooney, Luisa Lo Presti (Maynooth University)

The rapid emergence of Volunteered Geographic Information (VGI) and Crowdsourced Geographic Information (CGI) has brought many challenges to geospatial data acquisition, including within national geospatial information infrastructure. This course provides a practical introduction to Volunteered Geographic Information (VGI), its applications, and its role alongside authoritative geospatial data. Participants will explore key VGI platforms, including OpenStreetMap, iNaturalist, and SafeCast, and gain hands-on experience in accessing, analysing, visualising, and assessing VGI datasets using open-source tools such as Python, GeoPandas, and Google Colab. The course also addresses VGI data quality, integration with official datasets, and emerging opportunities and challenges related to artificial intelligence. Through interactive exercises and practical assignments, participants will develop skills to use VGI effectively in research, national mapping agencies, and industry.

Dates: May 4-7, 2027 and May 17-21, 2027



How to use drones for Surveying

Görres Grenzdörffer (UNI Rostock), Michael Cramer(UNI Stuttgart)

The course introduces the use of unmanned aircraft systems (UAS) for surveying and land-management applications. Its main focus is the complete drone-photogrammetric workflow, from project planning and data acquisition to three-dimensional reconstruction, quality assessment and the production of geospatial deliverables. Participants also learn the principles and applications of drone-based laser scanning, direct georeferencing and emerging technologies such as artificial intelligence, Automated point-cloud classification, Real-time mapping / Onboard and edge processing, multisensor systems, Neural Radiance Fields and Gaussian Splatting. Legal, safety, privacy and ethical requirements are integrated into mission planning and drone operation. The course is divided into four practical exercises over two weeks, which will enable the participants to understand and plan a drone operation for surveying purposes and the subsequent photogrammetric data processing.

Dates: June 7-18, 2027

Fees

Fee for pre-course seminar: **100 €**

Fee for e-courses: **400 €** for 1 or 2 e-courses | **500 €** for 3 or 4 e-courses

Discount for e-courses: for 4 participants in one organisation, one registration is free

5 grants for PhD/MSc students covering admission fee are available (*see the application form on the EduServ website*).

Registration deadline: **February 12, 2027**

Grant application deadline: **January 22, 2027**

For more information visit:

http://www.eurosdr.net/education/current