Metadata template for Training Actions (V1.0)

Collector: Martyna A. Stelmaszczuk-Górska

Revision Date: 16.12.2024

Version: v1.0

Title

Introduction to Remote Sensing and Hands-on Disaster Management Applications

Subject

Earth Observation (EO), Remote Sensing, Flood Mapping, Synthetic Aperture Radar (SAR), Disaster Management, EO Data Processing, Natural Hazard Risk Assessment

Description

This blended learning course equips participants with foundational remote sensing knowledge and practical skills for disaster management, focusing on flood mapping using radar data. It combines self-paced online learning and a live online session, blending theory with hands-on application.

Part I: Self-Paced Online Learning (1-2 weeks, 28 October to 22 November)

The self-paced course, EO College "Land in Focus - Basics of Remote Sensing," provides participants with essential EO knowledge, including passive and active imaging techniques, electromagnetic waves, and data analysis methods. It includes 6 lessons, 23 topics, and 14 quizzes, including hands-on components.

Part II: Live Online Training (27 November, 15:00 CET, 2-hour session)

The live training focuses on flood mapping using Sentinel-1 radar data. Participants apply the skills learned in the self-paced course to conduct hands-on exercises, with a focus on SAR data processing for disaster management.

Abstract

This training action combines self-paced online learning and hands-on sessions to equip participants with foundational knowledge and practical skills in Earth Observation (EO) and remote sensing. The course focuses on flood mapping using Synthetic Aperture Radar (SAR) data, teaching participants to process and analyze EO data for disaster management. Participants learn key concepts of remote sensing, apply SAR data for flood mapping, and integrate EO data into natural hazard risk assessments to enhance disaster management capabilities.

Learning Outcomes

By the end of the course, participants should be able to:

1. Understand remote sensing fundamentals and imaging techniques.
2. Perform flood mapping using radar data.
3. Integrate EO data into natural hazard risk models for disaster management.

Target audience

This course is aimed at professionals in natural hazard risk assessment and disaster management, such as data analysts and geospatial experts, looking to expand their EO expertise.

Start / End dates

The Training Action run from 28 October 2024 to 27 November 2024.

Organizer

Friedrich Schiller University Jena

Location

The Training Action was hosted on EO College's Online Massive Open Online Course (MOOC) "Land in Focus - Basics of Remote Sensing", with the live virtual session conducted through an online platform.

Language

English

Duration

14 hours

EQF level

EQF 6-8

Delivery Mode

Blended online training

Learning methodologies

The learning methodologies used in this training action include lectures, quizzes, and hands-on activities. Participants will engage with theoretical content through lectures, test their understanding with quizzes, and apply their knowledge through practical, hands-on exercises, particularly in SAR data processing.

Structure

Part I: Self-Paced Online Learning (1-2 weeks, 28 October to 22 November)

The self-paced course, EO College "Land in Focus - Basics of Remote Sensing," provides participants with essential EO knowledge, including passive and active imaging techniques, electromagnetic waves, and data analysis methods. It includes 6 lessons, 23 topics, and 14 quizzes, including hands-on components.

Part II: Live Online Training (27 November, 15:00 CET, 2-hour session)

The live training focuses on flood mapping using Sentinel-1 radar data. Participants apply the skills learned in the self-paced course to conduct hands-on exercises, with a focus on SAR data processing for disaster management.

Instructor(s)

EO College's Online Massive Open Online Course (MOOC) "Land in Focus - Basics of Remote Sensing": Instructors from Land in Focus Course (**https://eo-college.org/courses/landinfocus/**).

Live Session:

- Martyna A. Stelmaszczuk-Górska

- Carsten Pathe
- Robert Eckardt

Workload

Minimum 14 hours

Training Program

EO College's Online Massive Open Online Course (MOOC) "Land in Focus - Basics of Remote Sensing": **https://eo-college.org/courses/landinfocus/**

Price

The training was offered free of charge.

Maximum number of participants

N/A

Prerequisites

No pre-requisites

Registration process

The registration process for the training action was open to interested participants through the official event website, where they could register for the course: **https://www.spacesuite-project.eu/2024/10/24/learning-course-on-remote-sensing-and-disaster-management-applications/**

Contact information

Martyna A. Stelmaszczuk-Górska (**m.stelmas@uni-jena.de**)

Type of assessment

The type of assessment used in this training action includes quizzes to evaluate participants' understanding of the theoretical concepts and hands-on exercises to verify their ability to apply remote sensing techniques, particularly in SAR data processing and flood mapping.

Certification

Certification of Participation by EO College and SpaceSUITE

Title of the micro-credential

N/A for the time being.

Microcredential awarding body

N/A for the time being.

Relation/s (BoK)

[PP1] Basics of Optical Remote Sensing

[PP2] Basics of Microwave Remote Sensing

[IP] Image processing and analysis

[PS1] Types of remote sensing sensors

[TA13-3] Assess disasters & geohazards

[TA13-3-1] Map and assess flooding

BoK Links

https://bok.eo4geo.eu/PP1

https://bok.eo4geo.eu/PP2

https://bok.eo4geo.eu/IP

https://bok.eo4geo.eu/PS1

https://bok.eo4geo.eu/TA13-3

https://bok.eo4geo.eu/TA13-3-1