GeoSens Training EO4IntDev

Integrating Remote Sensing in International Development Work (EO4IntDev)

This training addresses beginners and is dedicated to the basics, analysis, quality assessment, and visualization of satellite remote sensing data using QGIS and Google Earth Engine. Monitoring and Evaluation (M&E) in the sense of derivation, analysis, and interpretation of time series are part of this training. The nexus of climate change - adaptation to climate change - land cover and land use - will be addressed in targeted examples and taken up in an exchange with the participants and the GeoSens team.

The training "Integrating Remote Sensing in International Development Work" (EO4IntDev) provides an overview of the potential of remote sensing with a focus on the analysis of satellite-based remote sensing data (such as Landsat, Sentinel, MODIS) and their applications, considering the basics, possibilities, and limitations in relation to the cooperation in international development projects such as those of GIZ.

During a total of five days, practical hands-on exercises for the implementation of a workbench (e.g., download of data, pre-processing, derivation of indicators and phenological indices, analysis, and interpretation) using open-source geospatial analysis tools such as Quantum GIS (QGIS, https://www.qgis.org/en/site/) and Google Earth Engine (https://earthengine.google.com/) will be provided along with theoretical knowledge.

Experiences from international projects in implementing remote sensing activities in project planning and international collaboration take a major role in this training. Lessons learned from the application of remote sensing data and methodologies in diverse projects will be presented and discussed in exchange with the participants.

The training EO4IntDev will be held by the GeoSens team, a non-profit training initiative run by a collective of researchers and experts from the Department of Remote Sensing at the Julius Maximilians University of Würzburg (Germany) and the German Remote Sensing Data Center at the German Aerospace Center (DLR). The EO4IntDev training takes place as a GeoSens Summer School and addresses interested persons with previous knowledge in spatial data (e.g., vector and raster data) who have ideally already worked with geographic information systems (GIS).

The training will take place in presence, hosted by the Department of Remote Sensing in Würzburg. Depending on the covid 19 pandemic situation and regulations, we would, if necessary, substitute the possibility of online training. In this case, the training will be provided online via the platforms MS Teams/Zoom. In case the training is held online, the GeoSens team seeks to provide the opportunity to meet virtually in smaller groups (breakout rooms) to ensure more detailed discussions and exchanges.

The participants of the five-day training will obtain a hard copy of the workbook for the GeoSens EO4IntDev training containing theoretical and practical (e.g., coding) information, and links to open-access data, and data portals. Furthermore, participants will receive a hardcopy of the book “An Introduction to Spatial Data Analysis: Remote Sensing and GIS with Open Source Software” by M. Wegmann, J. Schwalb-Willmann, and S. Dech (2020) introducing into spatial data analysis using QGIS and ‘R Project for Statistical Computing’ for gaining further hands-on for processing and analyzing spatial data, and their visualization.

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<thead>
<tr>
<th>Name of the training</th>
<th>Integrating Remote Sensing in International Development Work (EO4IntDev)</th>
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<tbody>
<tr>
<td>Type</td>
<td>Theory and practice</td>
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<td>Goal</td>
<td>Enhancing the understanding of how remote sensing can support international development work and cooperation by gathering an overview of the potentials of satellite-based remote sensing data and their applications, considering basics, possibilities, and limitations in relation to the cooperation in international development projects such as those of GIZ.</td>
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**Precondition**

Persons already working or interested in working in international development work and cooperation with previous knowledge in spatial data (e.g., vector and raster data) and, in the best case, experience in working with geographic information systems (GIS). The GeoSens team encourages the participants to bring their own data, meaning that; If the participant has spatial data and a specific use case from a project that could be assessed further, we will be available to assist during the training.

**Duration**

Five (5) days in an entire week with sessions in the morning and afternoon (a total of 5 hours and 45 minutes per day)

**Adds-on**

Training material (i.e., workbook and note pad, installation guides for QGIS and Google Earth Engine, a hardcopy of “An Introduction to Spatial Data Analysis: Remote Sensing and GIS with Open Source Software” by M. Wegmann et al. (2020), access to the Q&A Forum hosted by the Department of Remote Sensing in Würzburg, exchange with participants and trainers in an international group, certificate of participation after completion of the training

**Trainers**

GeoSens team, a group of researchers and experts from the Department of Remote Sensing (University of Würzburg) and the German Aerospace Center (DLR), and guest lecturers on an invitation

**Fee**

979.00 Euros

An invoice will be sent via email attachment. Costs for travel and accommodation are not included and must be financed by the participants themselves. The GeoSens team collects an additional lump sum of 20.00 Euros per day for catering during the training.

**Training language**

English (presentations and material)

We are currently working on a Spanish EO4IntDev training.

**Next training dates**

19th to 23rd of September 2022

**Training capacity**

15 to 25 participants

**Registering**

Registration via the GeoSens website (http://geosens.org) or directly via e-mail to eo4intdev@uni-wuerzburg.de, and through the announcement by the Network Remote Sensing and Geoinformation of the GIZ. The registration for the training is binding after confirmation of the registration by the GeoSens team. The GeoSens team reserves the right to cancel the training if the minimum number of participants is not reached.

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**Example of a GeoSens EO4IntDev training program.**

![GeoSens Training Schedule](image)

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