

<b>Module title</b>		<b>Abbreviation</b>
Earth Observation Time-Series Analysis		04-GEO-MET7-212-m01
<b>Module coordinator</b>		<b>Module offered by</b>
holder of the Professorship of Remote Sensing		Institute of Geography and Geology
<b>ECTS</b>	<b>Method of grading</b>	<b>Only after succ. compl. of module(s)</b>
5	numerical grade	--
<b>Duration</b>	<b>Module level</b>	<b>Other prerequisites</b>
1 semester	graduate	--
<b>Contents</b>		
<p>Time series of remote sensing data are valuable to reveal short and long term processes occurring on the Earth's surface. Impacts of climate change on land cover, start and end of the growing season, the dynamic behavior of snow covered or glaciated areas, or even extreme events such as forest fires, floods, and droughts are possible applications for time series data. In order to be able to analyze such time series accordingly, the data need to be preprocessed before applying techniques to extract the desired information.</p>		
<b>Intended learning outcomes</b>		
<p>In this seminar, necessary preprocessing measures as well as techniques to analyze time series of remote sensing data will be discussed. Water body, snow cover, and vegetation dynamics will be extracted from MODIS and Sentinel data using routines developed and prepared together in Python (or IDL). After learning the basic techniques the participants of the seminar will choose a topic of their own choice as their final project.</p>		
<b>Courses</b> (type, number of weekly contact hours, language – if other than German)		
S (1) + Ü (1) Module taught in: English		
<b>Method of assessment</b> (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)		
<p>a) presentation (approx. 30 minutes) or b) preparing a poster (approx. 10 hours total) or c) term paper (approx. 15 pages)            Assessment offered: Once a year, summer semester            Language of assessment: English or German (assessment will be held in English; in addition, the examiner may, where possible, decide to hold assessment in German)            creditable for bonus</p>		
<b>Allocation of places</b>		
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<b>Additional information</b>		
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<b>Workload</b>		
150 h		
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)		
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<b>Module appears in</b>		
Master's degree (1 major) Applied Earth Observation and Geoanalysis (EAGLE) (2021)		