

UAV remote sensing at GFZ Section Remote Sensing and Geo-informatics

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Technological advances have led to the wide-spread adoption of Unoccupied aerial vehicles (UAV) as versatile platforms for a range of sensors in the domain of remote sensing. In particular, observation opportunities of the Earth's surface have multiplied. The field has already seen some specialisation into small, easy-to-use, off-the-shelf solutions versus heavier, high-end platforms and sensors. UAV activities at the Section Remote Sensing and Geo-informatics of GFZ involve both ends of this spectrum. This contribution will give an overview of these activities that include:

- geohazards observations, including volcanos, with radar;
- CO₂ and CH₄ flux measurements of peatlands;
- soil (in particular SOC) and vegetation characterisation with VNIR/SWIR hyperspectral observations;
- sensing of 3D structures (especially vegetation and forests) and surfaces with lidar;
- observation of dynamic vegetation with high-resolution, multi-spectral observations.

Furthermore, the current status of UAV operational procedures at GFZ will be shortly presented. In this context, the operationalisation of operations as well as possible transfer options will be discussed.

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