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## Geodesy for science and society

*Wednesday 1 June 2022 16:00 (18 minutes)*

In short, Geodesy deals with two main topics. (1) The determination of the position of (all) objects on the Earth or in its vicinity. (2) The determination of the gravity field and its geometry. Since the beginning of mankind those tasks serve science and society. The first scientific question concerned the shape of the Earth, and the first societal application concerned the rational management of the territory with mapping. Today, the contributions of Geodesy are indispensable for the scientific understanding of the time-varying physical Earth system, and for the planning and construction of our modern infrastructures.

In this talk, an incomplete overview of the fundamental contributions of modern geodesy to science and society will be shortly presented. First, the fundamental reference coordinates systems and their application fields are shortly described. Second, the determination of the gravity field and its time-variation will be introduced. Finally, it will be shown how precise global geometry and gravity products lead to a better understanding of the system Earth.

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