The process of drilling a water well.

SUBSURFACE ENVIRONMENTAL PROCESSES

Understanding the impact of land use changes and climate change on groundwater resources for their protection and of the related ecosystems.

Research Areas

- Fate and transport of contaminants in soils and aquifers.
- Microbial ecology in the subsurface;
- Impact of land use changes and climate change on groundwater resources.

Regions

Switzerland, European countries, African countries, and USA.

Partners

EMPA; PSI; University of Rennes; and Technical University of Valencia.

Contact

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Contribution to the WFSC

We study the effects of land use changes and climate change on water resources, particularly on groundwater recharge. Groundwater is the vehicle transporting nutrients and contaminants such as agrochemicals in soils and aquifers, with a potential impact on groundwater-related ecosystems. Our aim is to improve the fundamental understanding of biogeochemical reactions and transport mechanisms affecting these chemicals in the subsurface, and provide predictive models helping as decision support tools for stakeholders and policy makers. More sustainable groundwater management, both quantity and quality protection, will be essential for future food security.

Dr. Joaquin Jimenez-Martinez