Round Table Session
e-SCIENCE AND OPEN SCIENCE TO ADDRESS CHALLENGES IN CONSERVATION OF *PROTEUS*

On May 22, when we celebrate World Biodiversity day, we propose a round table session that includes a short presentation of LifeWatch ERIC research infrastructure (Prof. Alberto Basset) with examples of new studies to proteus within LifeWatch Slovenia node, dedicated to proteus research. A debate with the participants will be in place in order to assess the current needs in proteus research that could be addressed in the future with the help of the LifeWatch ERIC.

Round table keynote
Invasive species - a key issue in biodiversity

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Building virtual laboratories to monitor *Proteus* and its karst groundwater habitat

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Here we present a research project that addresses questions about the mechanisms and processes of contaminant transport in aquatic karst systems and their influence on *Proteus* behaviour and ecology. A Slovenian and Belgian team, representing several institutions that are already partners in LifeWatch ERIC and eLTER research infrastructures, plans to establish two virtual laboratories (vLabs) dedicated to the assessment of subterranean biodiversity and its karst habitat: i) ProteusWatch vLab and ii) Karst Groundwater Habitats vLab. The two envisioned vLabs will complement each other with data on proteus behaviour (monitored by infrared video cameras and imaging sonar) and correlate it to the sensed physical and chemical changes in groundwater (e.g., pollution levels, meteo-events/ flooding). The project will exploit the latest advances in machine and deep learning technologies to provide advanced exploratory analysis capabilities of video tracking. The Agouti platform developed and deployed at the LifeWatch Belgium, will be adapted and implemented for both planned vLabs as a part of this project.