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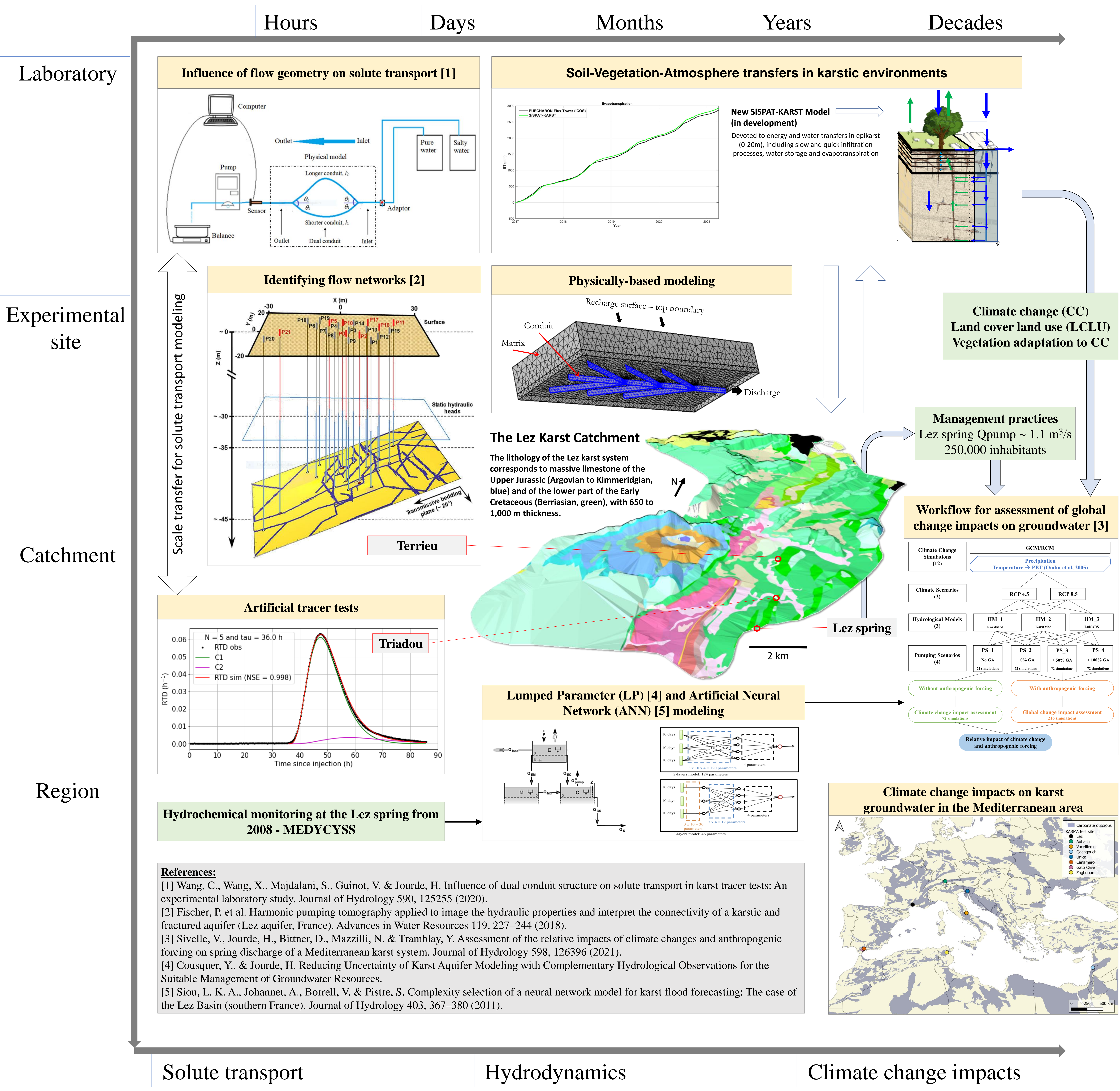
Coupling numerical approaches for a deeper assessment of karst groundwater vulnerability

Vianney Sivellev*, Hervé Jourde¹, Pierre Fischer¹, Yohann Cousquer¹, Mohammed Aliouache¹, Guillaume Artigue¹, Guillaume Cinkus¹, Jérôme Demarty¹, Alain Dezetter¹, Jordi Etchanchu¹, Vincent Guinot¹, Anne Johannet¹, Véronique Léonardi¹, Samer Majdalani¹, Laina Pérotin¹, Séverin Pistre¹, Yves Tramblay¹, Marc Vinches¹ and Chaoqi Wang¹.

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Objective

HydroSciences Montpellier (HSM) laboratory develops various tools for a deeper assessment of karst groundwater resources across a wide range of spatio-temporal scales. The objective is to assess karst groundwater vulnerability (regarding both quantitative and qualitative aspects) in a context of global change.



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Perspectives

The proposed approaches mainly consist in the development of innovative methods for the interpretation of artificial tracer tests. In addition, natural tracers as well as electrical conductivity or dissolved gas provide insight about flow processes within the karst aquifers, and constitutes relevant data for hydrological modelling. Tools for the analysis of non-reactive solute transport with potential application to reactive transport are also developed, with potential perspectives for the simulation of pollutogramme and development of Early-Warning System (EWS).