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## LTSER platform P3M : Mediterranean Plain, Piedmont and Plateau

**Héloïse Bénard**<sup>1</sup>, Pierre-Alain Ayrat<sup>2,3</sup>, Jean-Stéphane Bailly<sup>4</sup>, Brice Boudevillain<sup>7</sup>, Cédric Champollion<sup>5</sup>, Jérôme Demarty<sup>6</sup>, Christelle Batiot-Guilhe<sup>8</sup>, Didier Josselin<sup>2</sup>, Hervé Jourde<sup>8</sup>, Patrick Lachassagne<sup>6</sup>, Jérôme Molenat<sup>1</sup>, Guillaume Nord<sup>7</sup>, and Fabrice Vinatier<sup>1</sup>

<sup>1</sup>INRAE , UMR LISAH , France

<sup>2</sup>CNRS InSHS (Univ. Avignon), antenne cévenole ESPACE, France

<sup>3</sup>EMA IMT Alès, HydroSciences Montpellier, France

<sup>4</sup>AgroParisTech, UMR LISAH, France

<sup>5</sup>UM / CNRS, Géosciences Montpellier, France

<sup>6</sup>IRD / UM / CNRS, HydroSciences Montpellier, France

<sup>7</sup>Université Grenoble Alpes / CNRS / IRD, Institut des Géosciences de l'Environnement, France

<sup>8</sup>UM/ IRD/ CNRS, HydroSciences Montpellier, France

The eLTER H2020 process aims at developing an European ecosystem research infrastructure and at creating long term observations platforms. In this context, we proposed a platform called P3M (Mediterranean **P**lain, **P**iedmont and **P**lateau) located in the Mediterranean basin that is considered as a hot-spot of both biodiversity and climate change. P3M provides an observation system of several contrasted socio-ecosystems representative of the Mediterranean diversity from local to territorial scales.

P3M will study the connection between strong hydro-pedo-climatic gradients and biodiversity that are subjected to an increasing variability of hydroclimatic processes, while being strongly connected to anthropic drivers. P3M is structured around a toposequence of four different agro-ecosystems where the natural and cultivated sphere are highly connected : (i) Cevenol medium-size mountains characterized with hillside forest ecosystem and extensive agriculture on the valley bottom, (ii) High-altitude plateau with an agropastoralism-dryland system and a karstic hydrogeology reagent to precipitations that highly influences the quality and quantity of the water resource on the entire platform, (iii) Cevenol piedmont natural forest and garrigue ecosystems, (iv) Herault watershed hilly plains organized around cultivated plains and mainly viticultural activities.

This scientific collaboration will focus on i) analyzing the hydro-eco-sedimentary dynamics in between each ecosystems but also throughout the entire toposequence, ii) identifying the interactions between those dynamics and human activities within the different ecosystems iii) predicting the evolution of mediterranean landscape facing climate change and providing adapting solutions. To face these challenges, a transdisciplinary approach is necessary to better understand the connections between the increasing pressure of human activity, climatic phenomena, biophysic processus and biodiversity.

P3M will answer European environmental scientific issues by ensuring the stability, the availability and the European standardisation of abiotic, biotic and social datas on a long term scale but also the reception of foreigners scientists. This platform gathers four OZCAR labelled observation networks (OMERE, Larzac Observatory, OHM-CV, MEDYCCYS) but also includes ANAEE and ICOS sites. Non-academics partners will take part in this project, for example the national and regional park or the local watershed facilities, to integrate the existing data but also to facilitate the transfer of research to local policies.

