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## Seagrass meadows (*Posidonia oceanica*) distribution and trajectories of change

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Luca Telesca<sup>1</sup>, Andrea Belluscio<sup>2</sup>, Alessandro Criscoli<sup>2</sup>, Giandomenico Ardizzone<sup>2</sup>, Eugenia T. Apostolaki<sup>3</sup>, Simonetta Frascchetti<sup>4</sup>, Michele Gristina<sup>5</sup>, Leyla Knittweis<sup>6</sup>, Corinne S. Martin<sup>7</sup>, Gérard Pergent<sup>8</sup>, Adriana Alagna<sup>9</sup>, Fabio Badalamenti<sup>9</sup>, Germana Garofalo<sup>5</sup>, Vasilis Gerakaris<sup>10</sup>, Marie Louise Pace<sup>11</sup>, Christine Pergent-Martini<sup>8</sup> & Maria Salomidi<sup>10</sup>

*Posidonia oceanica* meadows are declining at alarming rates due to climate change and human activities. Although *P. oceanica* is considered the most important and well-studied seagrass species of the Mediterranean Sea, to date there has been a limited effort to combine all the spatial information available and provide a complete distribution of meadows across the basin. The aim of this work is to provide a fine-scale assessment of (i) the current and historical known distribution of *P. oceanica*, (ii) the total area of meadows and (iii) the magnitude of regressive phenomena in the last decades. The outcomes showed the current spatial distribution of *P. oceanica*, covering a known area of 1,224,707 ha, and highlighted the lack of relevant data in part of the basin (21,471 linear km of coastline). The estimated regression of meadows amounted to 34% in the last 50 years, showing that this generalised phenomenon had to be mainly ascribed to cumulative effects of multiple local stressors. Our results highlighted the importance of enforcing surveys to assess the status and prioritize areas where cost-effective schemes for threats reduction, capable of reversing present patterns of change and ensuring *P. oceanica* persistence at Mediterranean scale, could be implemented.

<sup>1</sup>Department of Earth Sciences, University of Cambridge, Downing Street, CB2 3EQ Cambridge, Cambridgeshire, United Kingdom. <sup>2</sup>Department of Environmental Biology, University of Rome "La Sapienza", 32 Viale dell'Università, 00185 Rome, Italy. <sup>3</sup>Institute of Oceanography, Hellenic Centre for Marine Research, PO box 2214, 71003 Heraklion, Crete, Greece. <sup>4</sup>Laboratory of Marine Biology, Department of Biological and Environmental Science and Technologies, University of Salento – CoNISMa, 73100 Lecce, Italy. <sup>5</sup>CNR-IAMC, Via L. Vaccara 61, 91026 Mazara del Vallo, Italy. <sup>6</sup>Department of Biology, Faculty of Science, University of Malta, MSD 2080 Msida, Malta. <sup>7</sup>United Nations Environment Programme World Conservation Monitoring Centre, 219 Huntingdon Road, CB3 0DL Cambridge, Cambridgeshire, United Kingdom. <sup>8</sup>Faculty of Sciences University of Corsica, Campus Grimaldi BP 52, 20250 Corte, France. <sup>9</sup>CNR-IAMC, Via G. Da Verrazzano 17, 91014 Castellammare del Golfo, Italy. <sup>10</sup>Institute of Oceanography, Hellenic Centre for Marine Research, PO box 712, 19013 Anavyssos, Greece. <sup>11</sup>Department of Fisheries and Aquaculture, Fisheries Resource Unit, Ministry for Sustainable Development, the Environment and Climate Change (MSDEC-FRU), Ghammieri, Marsa MRS 3303 (Malta). Correspondence and requests for materials should be addressed to L.T. (email: lt401@cam.ac.uk) or A.B. (email: andrea.belluscio@uniroma1.it)