SUPPLEMENTARY INFORMATION

S1: Search terms and manuscript exclusion criteria used for the literature review (adapted from Morán-Ordóñez et al. (2019))

Query	Field	Parameters	Motivation
1	Year	1990-2019	Restricts the time period of the results to the last 29 years. It will capture the increasing use of scenarios in Ecology research since the publication of the first IPCC assessment report in 1990 (Moss et al. 2010)
2	Topic	(((model* OR project* OR predict* OR simulat*) AND future) OR (scenari* OR forecast* OR foresight* OR storyline*))	Captures modelling studies addressing predictions into the future
3	Topic	(Mediterranean OR Gibraltar OR Portugal OR Spain OR France OR Monaco OR Italy OR Malta OR Slovenia OR Croatia OR Bosnia OR Montenegro OR Albania OR Greece OR Turkey OR Cyprus OR Syria OR Lebanon OR Israel OR Palestine OR Egypt OR Libya OR Tunisia OR Algeria OR Morocco OR Iberia* OR Balkan* OR Anatolia)	Sets the geographic context: the Mediterranean basin and all the countries within it
4	Topic	(forest* OR woodland*)	Identifies studies using forest or woodlands as their subject study system

The search was made in December 2019 on the complete range of references available at the Web of Science at that time. We use the Boolean operator "AND" to combine the different queries. We refined the results using "Articles" as Document type, "English" as Language, and "Forestry", "Plant Sciences, "Environmental Sciences", "Ecology" or "Biodiversity Conservation" as Web of Science Subject categories. The databases accessible to us in the Web of Science were CABI, SCIELO, Web of Science Core Collection (WOS), and Current Contents Connect (CCC).

Manuscripts meeting the following criteria were excluded from the study:
(1) Articles focusing on a Mediterranean biome outside of the Mediterranean basin

(2) Articles that did not explicitly use climate scenarios to make future predictions of ecosystem services indicators

(3) Experimental studies

(4) Studies focused on exotic species located in the Mediterranean basin (e.g. *Eucalyptus* spp.)

(5) Articles focusing on non-Mediterranean forests within any of the evaluated countries.

References S1

Morán-Ordóñez, A., Roces-Díaz, J.V., Otsu, K., Ameztegui, A., Coll, L., Lefevre, F., Retana, J. and Brotons, L., 2019. The use of scenarios and models to evaluate the future of nature values and ecosystem services in Mediterranean forests. *Regional Environmental Change, 19(2),* 415-428.

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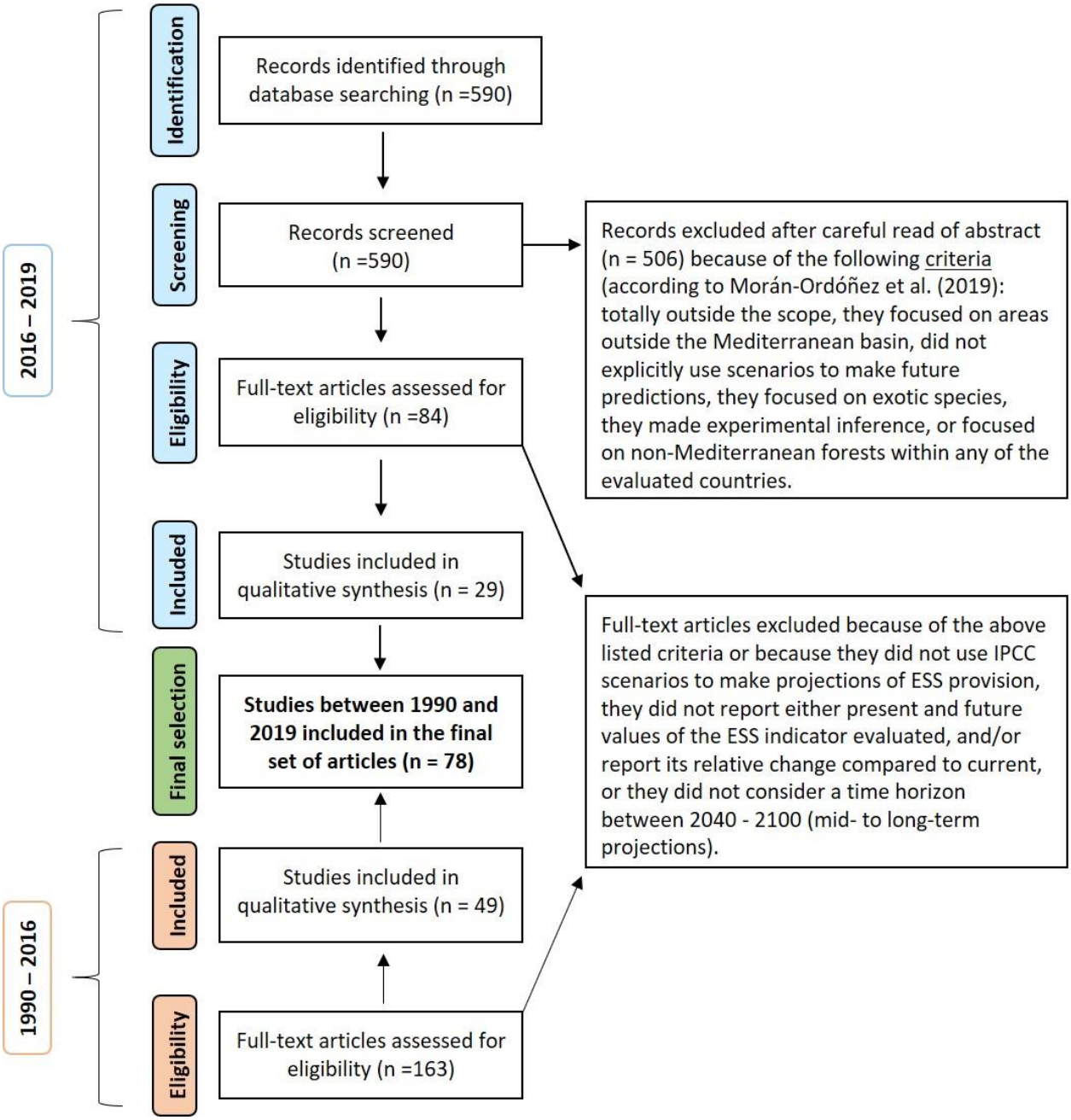
S2: PRISMA protocol on literature review

Flow chart based on PRISMA protocols (Moher et al. 2009) illustrating how papers were selected or discarded.



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S3: References of studies included in the review

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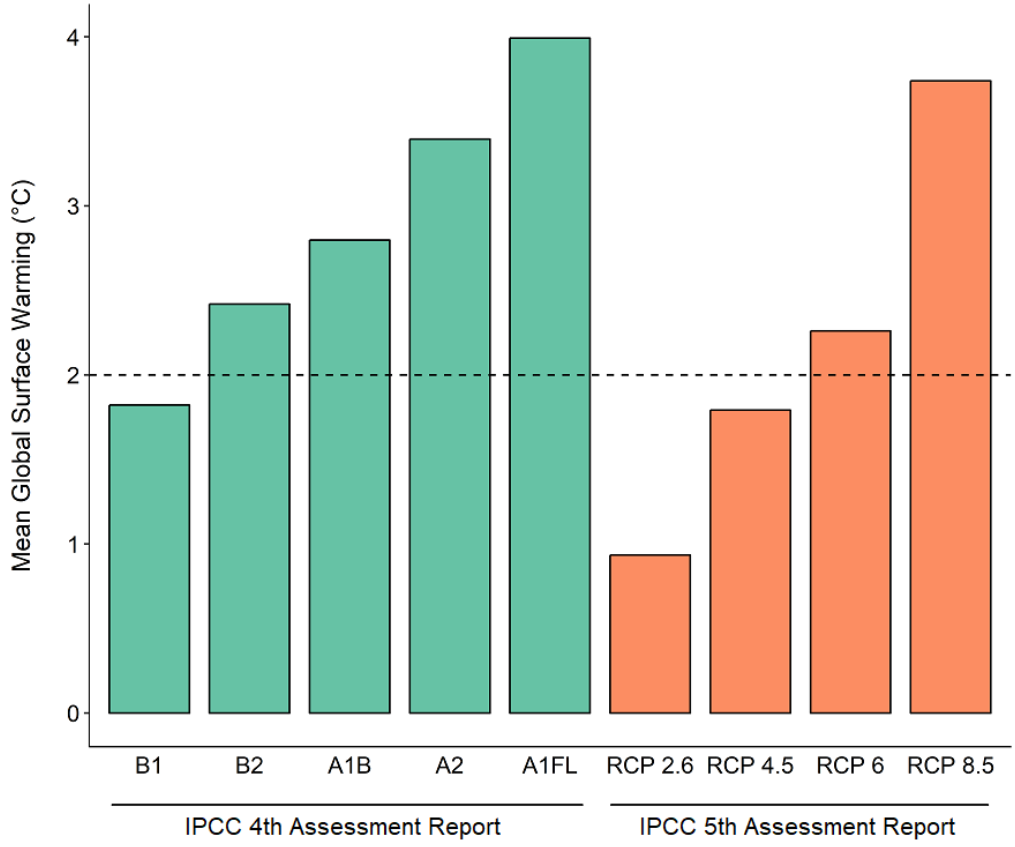
S4: Classification of climate change scenarios

The following figure represents the predicted mean global surface warming by each of the climate change scenarios used by articles in this review. We extracted the mean values from the IPCC 4th and 5th Assessment Reports (IPCC 2007, 2014), which report 'very likely' projections (90% probability of occurrence; IPCC, 2005) in mean global temperature increases by the end of the century (periods 2090 - 2099 and 2081 - 2100, respectively for each of the assessments). We classified the scenarios according to these results either below or above the 2 °C aim of the Paris Agreement. It is important to note that between the two reports the scenarios changed from SRES (Special Report on Emissions Scenarios) to RCP (Representative Concentration Pathways). The assumptions in these two sets of scenarios differ (Moss et al. 2010), making comparisons between them difficult. Here we follow the framework used by Knutti & Sedlácek (2012) and Rogelj et al. (2012) to compare these two sets of scenarios to classify their global mean temperature projections above or below the Paris Agreement target. Their results regarding the mean global surface warming correspond with the values reported by the IPCC.



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S5: Nature Contributions to People Categories and broad groups

Nature Contributions to People (NCP) Categories used on IPBES assessments, classified in broad NCP groups. A detailed description of each NCP class and some examples can be found at the source document IPBES (2017)

NCP categories		Broad NCP group
1	Habitat creation and maintenance	Regulating
2	Pollination and dispersal of seeds and other propagules	Regulating
3	Regulation of air quality	Regulating
4	Regulation of climate	Regulating
5	Regulation of ocean acidification	Regulating
6	Regulation of freshwater quantity, location and timing	Regulating
7	Regulation of freshwater and coastal water quality	Regulating
8	Formation, protection and decontamination of soils and sediments	Regulating
9	Regulation of hazards and extreme events	Regulating
10	Regulation of organisms detrimental to humans	Regulating
11	Energy	Material
12	Food and feed	Material
13	Materials and Assistance	Material
14	Medicinal, biochemical and genetic resources	Material
15	Learning and inspiration	Non-Material
16	Physical and psychological experiences	Non-Material
17	Supporting identities	Non-Material
18	Maintenance of options	Non-Material

Reference S4

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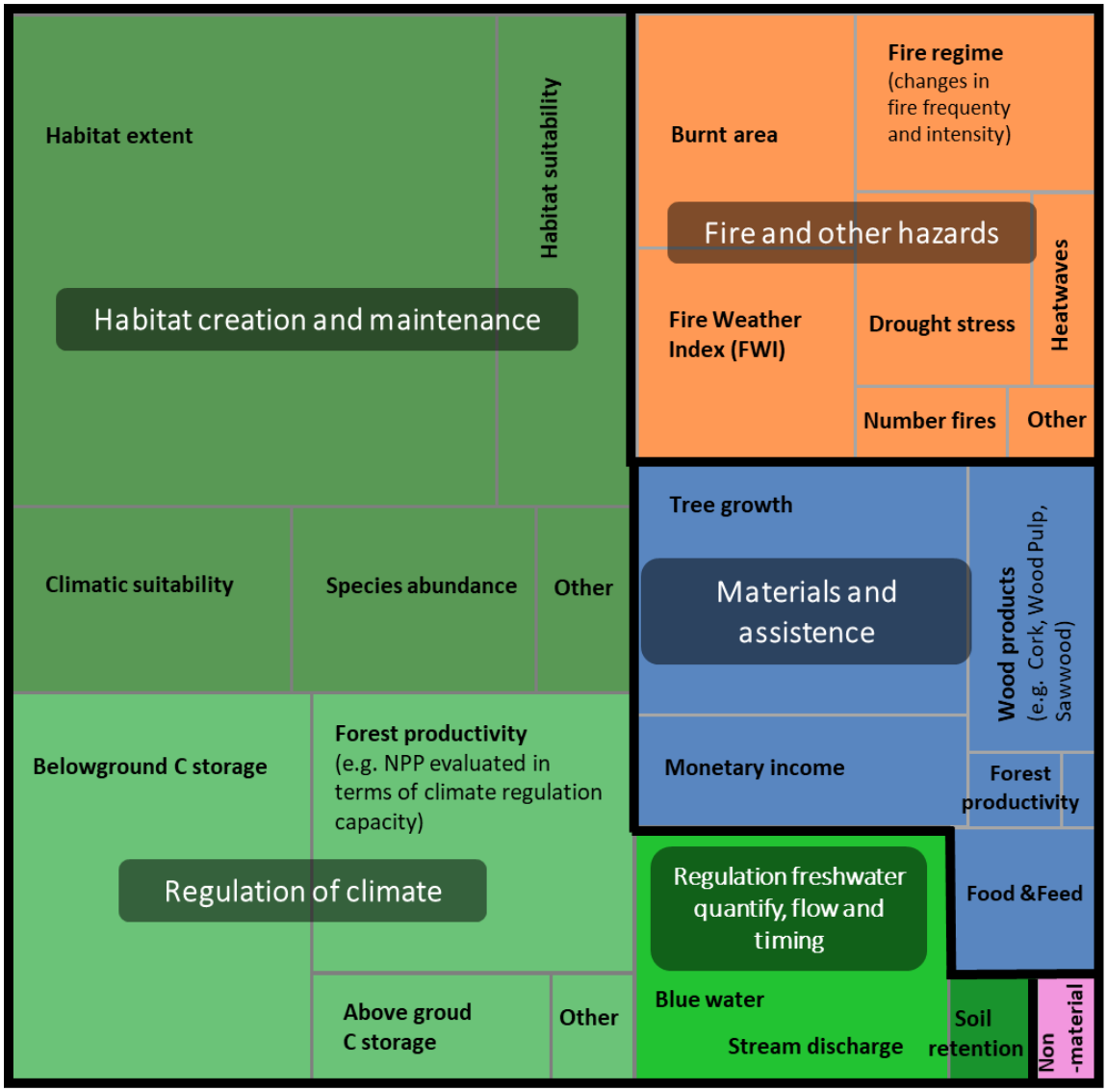
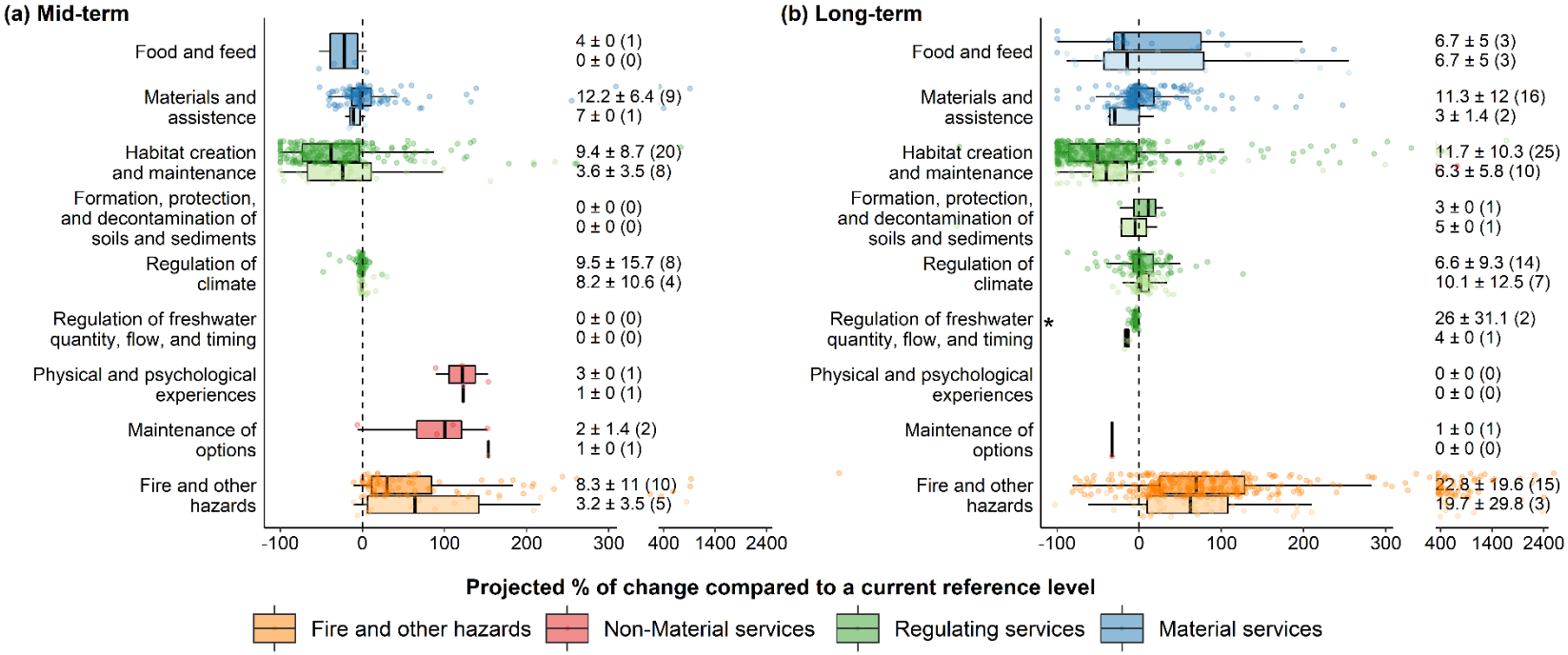
S6 Prevalence of NCP indicators across the literature reviewed.

Types of indicators found in the literature search and their prevalence in the data set, grouped by NCP category and NCP broad groups (green colors “Regulating services”, blue colors “Material services”, pink colors “Non-Material” and orange colors for indicators related to “Fire and other hazards”).



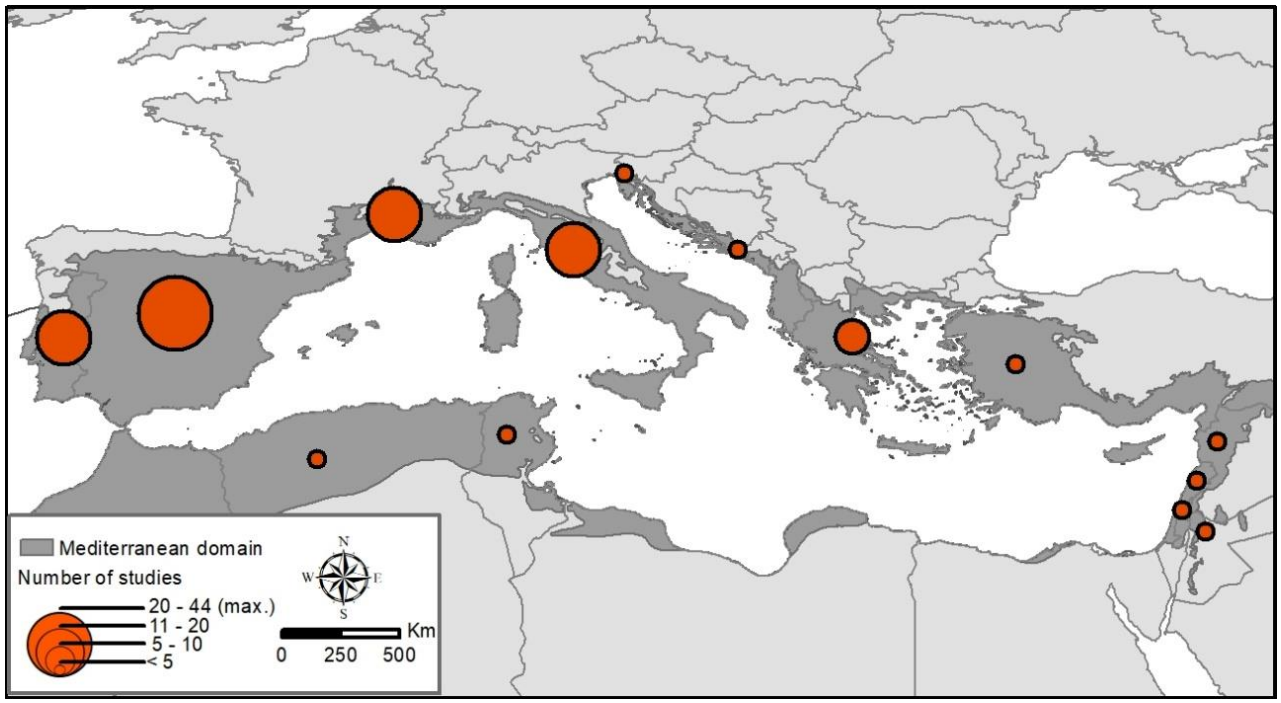
S7. Indicator NCP category trends by time horizon

Projected percentage of ecosystem service change for the NCP categories for **(a)** predictions at the mid-term time horizon (2040-2070) and **(b)** predictions at the long-term horizon (2071-2100). Boxplots in light and dark colors show projected trends under scenarios below and above the Paris Agreement, respectively. In each boxplot, boxes delimit interquartile ranges (IQR, 25th and 75th percentiles), whiskers extend to 1.5x IQR, and the solid vertical black line indicates the median value. The numbers in the upper end of the whiskers of each box indicate [mean number of observations per study ± standard deviation (number of studies in the NCP category)], as a measure of distribution of number of indicators among studies. An asterisk in one of the NCP categories indicates projected trends in service provision within that category were significantly different between scenarios above and below the Paris Agreement (Wilcoxon rank sum test; α=0.05). Note that in both panels the X axis is truncated to improve visualization of the indicators for which smaller changes were projected.



S8 Geographic distribution of the studies reviewed.

Geographical distribution of 78 studies assessed in this review. Note: the circles indicate the country of the study, not the exact location where the study was carried out. The extent of the Mediterranean domain (shaded in dark gray in the map) was sourced from the European Environmental Agency (layer of biogeographical regions: https://www.eea.europa.eu/data-and-maps/data/biogeographical-regions-europe-3) and WWF (layer of Terrestrial Ecoregions of the World: https://www.worldwildlife.org/publications/terrestrial-ecoregions-of-the-world; Olson et al. 2001). The map shows a bias in the scientific literature available towards North-Western Mediterranean countries.



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S9 Distribution of indicators across studies

Distribution of observations (indicator-scenario combinations) across the studies in the database. The histogram shows an imbalance in the number of indicators evaluated across the 78 studies, with a few studies contributing many entries to the database (due to multiple combinations of scenario-indicator within the same study).