Definitions

Intervention types

Restoration

Active or passive restoration of natural or semi-natural ecosystems including approaches characterized as follows: ecological restoration; functional restoration; habitat restoration; structural restoration; intervention ecology; reclamation; reforestation; rehabilitation; reconstruction; revegetation. Lab-based experiments (e.g., flume experiments) mimicking restoration were coded as such. Ecological, ecosystem, or nature-based engineering approaches were coded as created ecosystem interventions if there was no clear intent to restore or recover a natural or semi-natural ecosystem.

Protection

Marine, freshwater, and land site-specific protection of natural or semi-natural ecosystems, including protected areas and their management, land exclosures, private land conservation measures, reserves, conservancies, and locally managed marine areas with specific set-aside "conservation zones."

Management

Natural or semi-natural ecosystem management interventions other than restoration or protection. This includes forest management (e.g., close-to-nature approaches) and ecosystem-based fire management strategies. We excluded agricultural, fisheries, and husbandry approaches, including pastoralism, that do not aim to restore or protect a natural or semi-natural ecosystem to provide supporting, regulating, or provisioning services for climate change adaptation.

Food production

Interventions that make use of ecosystem functions and services (such as nutrient cycling, soil formation, water infiltration, pollination, natural pest control) to maintain or enhance food production (either cash-crop or subsistence-crop farming). Examples include agroforestry, conservation agriculture, permaculture activities, silvopasture, ecosystem-based fisheries and enhancing crop diversity using traditional crop varieties. Excludes industrial agriculture which relies on chemical inputs and/or depletes biodiversity

Created habitats

Interventions involving the establishment, protection, or management of artificial ecosystems, i.e. an ecosystem or habitat framed by the authors as a non-natural system or if it cannot be determined if the intervention involves a natural habitat. This includes non-natural tree stands created or managed to address climatic impacts, artificial grasslands, created wetlands (not restored). In cases where afforestation, using native or non-native species, is conducted to facilitate habitat restoration/regeneration, the intervention was coded as 'created' if the outcomes resulted at least in part from the created habitat.

Climate change impacts addressed

Climate impacts were grouped into 29 categories, including 'other'. Studies were categorized under the climate impact most closely corresponding to the outcome measure. For example, if water flows were measured, we coded for water availability, even if the impact was characterized as drought.

Effectiveness was defined as the extent to which an intervention affected a climate impact in comparison to the reported comparator.

Ecosystem

Ecosystems in which the interventions took place were grouped into 30 categories, including 'other' and 'ecosystem type not specified', drawing on the typologies of Munroe et al. (2012) and the IUCN habitat scheme (v3.1; IUCN, 2015). These categories were adapted to accommodate the range of ecosystems encompassed in our evidence database (specifically, adding explicit categories for created forests, created grasslands, and created 'other'.)