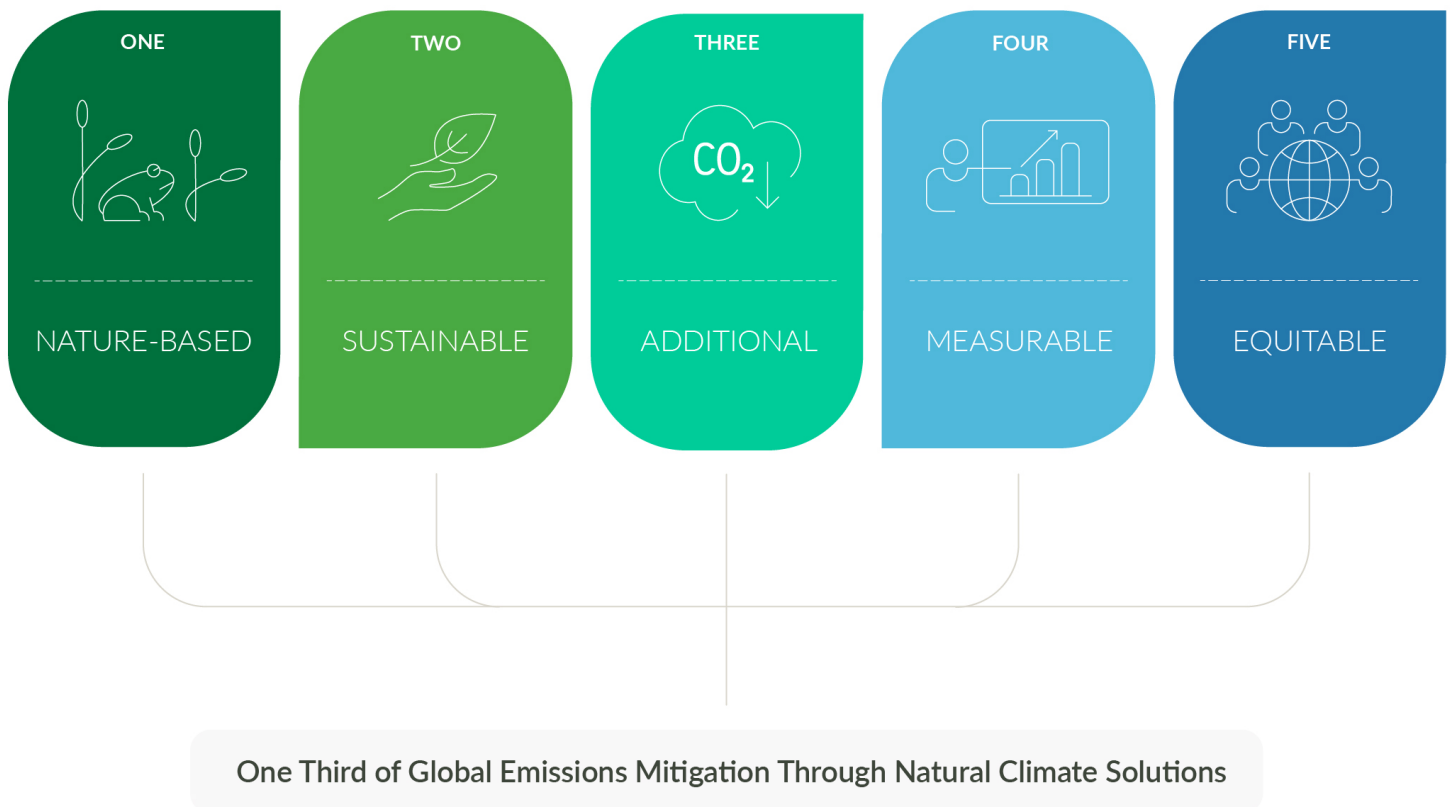




THE PRINCIPLES OF NATURAL CLIMATE SOLUTIONS

The Principles of Natural Climate Solutions cannot be cherry picked. Natural climate solutions must be nature-based, sustainable, climate-additional, measurable, and equitable.

The Five Principles of Natural Climate Solutions



PRINCIPLE 1: NATURAL CLIMATE SOLUTIONS ARE NATURE-BASED



- Nature and humans are interconnected; humans have long shaped natural environments.
- Natural climate solutions are rooted in responsible human stewardship of ecosystems to preserve their natural state.
- Being nature-based means natural climate solutions should not push ecosystems further from their natural state than where they currently exist.

PRINCIPLE 1.1



Natural climate solutions result from the human stewardship of ecosystems.

Natural climate solutions underscore the role human action plays in positively stewarding and guiding ecosystems to mitigate climate change

For example, foresters have transformed logging practices to avoid unnecessary damage to the forests where they harvest wood. These improved practices ensure that the managed forest stays a forest, stores more carbon, and continues to foster biodiversity.

PRINCIPLE 1.2



Natural climate solutions do not move ecosystems further from their natural state.

Natural climate solutions should preserve or restore the structure, composition and function of ecosystems, rather than altering or disrupting its natural state.

For example, when we plant trees, we must plant thoughtfully to ensure that plantings do not disrupt the existing structure and natural functioning of the forest processes. In many cases, this means planting native species adapted to the region and conditions.

In the next decade, nature can provide one third of the solution to climate change.

PRINCIPLE 2: NATURAL CLIMATE SOLUTIONS ARE **SUSTAINABLE**



- Natural climate solutions offer real, near-term climate mitigation that reduces the threat of climate change for people and the ecosystems where they reside.
- Natural climate solutions must be sustainable, preserving biodiversity and conserving ecosystems' ability to help adapt to future climate changes.
- These on-the-ground co-benefits make natural climate solutions valuable for supporting thriving economies and healthy communities.
- Natural climate solutions take a holistic approach, considering both the environment and the well-being of the community, increasing the likelihood of community support and positive impact in the short and long term.

PRINCIPLE 2.1



Natural climate solutions sustain biodiversity.

Natural climate solutions must do no harm to biodiversity within the ecosystems where they are implemented; in many cases they actively preserve and foster biodiversity by adding habitat for wildlife to roam and restoring plant species that are otherwise degraded and flagging.

For example, adding trees to native grasslands may help sequester carbon, but it would also damage wildlife habitat and reduce native biodiversity, which depend on the grassland ecosystem for survival.

PRINCIPLE 2.2



Natural climate solutions sustain food production.

Natural climate solutions can and do occur in food systems. They often actively contribute to healthy and sustainable food production, thereby providing food security and upholding the livelihoods of farmers, ranchers, and fishers.

For example, we can support farmers in planting trees in agricultural systems as wind breaks or integrated into cropland (alley cropping) or pasture (silvopasture). This can produce nut or fruit crops, increasing yields and profits. However, converting croplands to tree plantations is not considered an NCS, because it decreases food production.

PRINCIPLE 2.3



Natural climate solutions sustain fiber and wood production.

Forest-based natural climate solutions (like improved forest management and avoided deforestation) must consider the impacts on both people and nature.

Trees and forests play a pivotal role in storing carbon and reducing emissions. At the same time, we cannot compromise the livelihoods of communities who base their economies off timber and wood products, and a low-carbon future must include wood.

Wood products can have much smaller carbon footprints in comparison to steel and concrete and can be used to help lower emissions from building.

Natural climate solutions facilitate the necessary, ongoing production of fiber and wood resources without harming our forests.

For example, extending rotations and other improved forest management increases carbon stored on the landscape and the amount of wood products per acre.

PRINCIPLE 2.4



Natural climate solutions sustain climate adaptation services.

Natural climate solutions can help humans and communities adjust to the changing climate.

For example, restoring mangroves in coastal communities not only stores additional carbon, but also helps prevent coastal erosion and provides a buffer against storm surge.



PRINCIPLE 3: NATURAL CLIMATE SOLUTIONS ARE CLIMATE-ADDITIONAL



- Natural climate solutions must provide additional, lasting climate benefits that wouldn't occur without human action.
- Natural climate solutions shouldn't replace efforts to reduce emissions but should complement them, delivering long-term results in the effort to tackle climate change.

PRINCIPLE 3.1



Natural climate solutions provide additional climate mitigation that would not happen without intervention.

Natural climate solutions must deliver results that wouldn't have happened without extra investment in nature's potential.

For example, avoided forest conversion requires conservation action to prevent a forest from being converted for other uses such as a pasture or palm oil plantation.

PRINCIPLE 3.2



Natural climate solutions provide durable mitigation.

When we implement natural climate solutions we take steps to address durability.

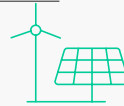
It is important to remember that nothing on earth is permanent.

Every ton of carbon stored today, helps bend the global temperature curve towards cooling—even if it is eventually lost.

Natural climate solutions durability research is continually improving. The best opportunities for durable natural climate solutions may change as the climate crisis impacts ecosystems, and that research should inform decision making.

For example, reforestation can avoid areas with high fire risk and tailor tree spacing and species selection to projected climate and fire regimes.

PRINCIPLE 3.3



Natural climate solutions are not used to compensate for emissions that need to be avoided to avoid climate crisis.

Natural climate solutions are not a substitute for the massive reductions needed from fossil fuel use.

Our number one priority must be to decarbonize society.

There is no plausible way out of the climate crisis if we don't transition to renewable energy.

On top of rapid reductions in fossil fuel emissions, we must also reduce emissions from land-use change and agriculture, and increase carbon removals from restoration and improved management in order to meet global climate targets.

For example, a company should rapidly shift energy use to clean energy before offsetting hard-to-abate emissions with natural climate solutions such as a tree planting program or wetland restoration toward its net-zero goal.



PRINCIPLE 4: NATURAL CLIMATE SOLUTIONS ARE MEASURABLE



- Natural climate solutions need to be consistent, transparent, and measurable. We cannot fund or improve upon what we cannot measure. Therefore, natural climate solutions must be quantifiable and accurate.
- We cannot understand how natural climate solutions are contributing to the climate crisis unless we measure how much carbon they are reducing and removing.

PRINCIPLE 4.1



Natural climate solutions must quantify their climate benefit as consistently and completely as possible.

Natural climate solutions must consider all the factors that could impact the climate to have the most benefit.

Natural climate solutions must accurately measure all climate-influencing agents—such as carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O).

Natural climate solutions must also accurately measure other important agents such as changes in reflectivity, such as from snow to evergreen forest.

For example, even though planting more trees is usually good for the climate, in snowy, boreal places, additional tree cover might cause more warming because they reduce the snow's reflection of sunlight.

PRINCIPLE 4.2



Natural climate solutions accounting is conservative.

When estimating the positive effect of natural climate solutions, it is important to be cautious and include interventions only after science has demonstrated their value.

For example, new research shows how liana removal in forests can be included as part of a package of climate-smart forestry. By focusing on these specific, evidence-backed practices, the approach ensures we're considering only those actions we're confident will combat climate change.

PRINCIPLE 4.3



Natural climate solutions with uncertainty ranges greater than the estimated climate mitigation should be flagged as emerging.

We must be cautious and clear about the true effectiveness of certain actions; not all interventions are natural climate solutions.

For example, if there is a new methodology or technology that has yet to be tested, we need to be transparent and highlight the risks and areas for further research and measurement.

PRINCIPLE 4.4



Natural climate solutions accounting avoids double counting.

We must ensure each natural climate solutions action is measured using accounting best practices so the mitigation potential is only counted once in emissions inventories or carbon market schemes.

This is critical to ensure transparency and accuracy of reporting and avoids inflating the impact of climate mitigation efforts.

For example, if a global organization is working with a community on designing a natural climate solutions project in pastures and is considering both the potential of reforestation and improved grazing management activities—when estimating the natural climate solutions opportunity, we can only account for one not both of the opportunities.



PRINCIPLE 5: NATURAL CLIMATE SOLUTIONS ARE **EQUITABLE**



- Populations such as Indigenous Peoples, local communities and women have been overlooked or mistreated when it comes to decisions impacting their land and waters since time immemorial.
- Climate actions need to not only include these groups but respect and value their unique culture, knowledge, rights, and self-determination.
- Natural climate solutions need to foster a just and inclusive approach to climate solutions to the benefit of whole communities, vulnerable populations, and Indigenous rights' holders.
- Natural climate solutions projects that respect human and Indigenous rights will not only be more resilient, accepted and adopted but will contribute in a more meaningful way to global climate solutions.

PRINCIPLE 5.1



Natural climate solutions respect human rights.

Implementing natural climate solutions is about the survival of our planet and our species.

Natural climate solutions respect and promote national and international human rights laws so all people and ecosystems can contribute to and benefit equitably from climate solutions.

Natural climate solutions need to work with traditionally underrepresented, marginalized, and vulnerable groups, recognizing their rights and ability to lend their knowledge to their successful implementation.

For example, we cannot in the name of climate action, use financial resources to acquire land from subsistence farmers or local communities who lack the same resources and call it natural climate solutions.

PRINCIPLE 5.2



Natural climate solutions respect Indigenous self-determination.

Natural climate solutions practices honor Indigenous self-determination and rights, recognizing and valuing their vital role in stewarding lands and waters since time immemorial.

For example, natural climate solutions must be implemented with Free Prior and Informed Consent (FPIC) from Indigenous peoples, demonstrating respect, responsibility, and action rather than controversy.

Measurement & Policy Considerations

- **Measuring, Monitoring, Reporting & Verifying Systems:** To ensure natural climate solutions are effective and robust systems in the fight against climate change, measuring, monitoring, reporting, and verifying (MMRV) net emissions from natural climate solutions is critical. Initiatives like the Greenhouse Gas Protocol and the Integrity Council for Carbon Markets (IC-VCM) are a start but face challenges like setting baselines and avoiding double counting.
- **Technology and Science:** There are more and more advanced methods like remote sensing and machine learning but scientific consensus on best practices for accurate large-scale measurement is needed.
- **Incorporating natural climate solutions Tenets in Other Platforms:** Tenets and Principles of natural climate solutions should be integrated into various carbon market initiatives such as the IC-VCM and Voluntary Carbon Markets Integrity Initiative (VCMI).
- **Regulatory Markets:** Rules for carbon markets need changes to include all aspects of natural climate solutions, from measuring climate effects to ensuring respect for human rights.
- **Use of natural climate solutions Credits:** natural climate solutions credits should only be use for the unavoidable emissions left after all reduction steps are taken, and we need clarity on what constitutes unavailable or residual across industries.
- **Adoption by Carbon Markets:** Embedding natural climate solutions principles in over 30 global Carbon Credit Markets is challenging. An alternative approach would be to include them in countries' National Determined Contributions (NDCs) under the Paris Agreement, either voluntarily or mandatorily.

For more information visit nature4climate.org