

6. Conclusion

Forests provide a wide range of goods and ecosystem services that are important for human well-being, food security, poverty alleviation and livelihoods. Climate change, combined with deforestation, forest degradation and population pressure, threatens the continued provision of such forest goods and ecosystem services. Although uncertainty exists about the magnitude and timing of the impacts of climate change on forest ecosystems, sufficient scientific information is available to begin taking action now.

- Climate change is expected to affect the distribution of forest types and tree species, forest productivity, site and soil condition, stand structure, and changes in disturbance regimes such as the incidence, severity and impact of wildfire, invasive species, insects, diseases, floods, drought, temperature extremes, landslides and storm surges.
- Climate change, therefore, provides forest managers with a major and potentially formidable challenge. By modifying management plans and practices, however, forest managers can help slow the rate of climate change, help society adapt to climate change, retain the many other values of forests, and ensure that such forests continue to deliver their many goods and ecosystem services.
- Measures to ensure forest adaptation are compatible and often identical with established SFM practices to meet the economic, social and environmental needs of stakeholders. For example, maintaining structural and compositional diversity makes sense in the face of a wide range of biotic and abiotic risks, including those associated with climate change.
- SFM practices can help reduce the economic, social and environmental vulnerability of forests and forest-dependent people to climate change by generating multiple benefits, including the provision of goods and ecosystem and cultural services.
- Climate change mitigation programmes are emerging that can help meet the costs of actions to reduce GHG emissions due to deforestation and forest degradation and to increase the stock of carbon in forests.
- Forest managers should assess the cost-effectiveness of climate change adaptation and mitigation options and identify the most feasible given the availability of technical capacity and the supportiveness of the policy environment.
- Robust forest monitoring and reporting systems are key aspects of forest-based responses to climate change. These systems will provide timely warnings of extreme events and climate change impacts and useful information on the effectiveness of management responses.
- Combining forest monitoring and existing knowledge of possible climate change impacts in vulnerability and risk assessments is an important step in developing a climate change strategy.
- Monitoring will probably require additional technical and human resources.

Specific strategies and actions on climate change will differ by location, forest productivity, local management objectives and the extent and nature of expected climate change impacts. Managers need to continue their efforts to understand climate change threats and opportunities as they emerge.