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Climate Change and Bark Beetles

Issue: The impact of climate change is evident in the changing patterns of bark beetle outbreaks in the western United States. Several outbreaks are occurring outside historic pest ranges and at intensities not previously observed.

Key Points:

- Climate change causes variation in the severity and nature of bark beetle outbreaks. Warming climate is altering and expanding the geographic area over which bark beetles can survive and reproduce.
- Warming temperatures affect reproductive cycles of bark beetles leading to rapid population growth. For example, with milder winters, the mountain pine beetle has decimated forests as far north as British Columbia and has moved on to attack high elevation species such as whitebark pine.
- Drought makes certain tree species more susceptible to insect attack.
- High elevation pine ecosystems and the boreal forest are the most threatened ecological systems.
- Effective responses to invasive species such as bark beetles require basic ecological research, paleoecological insights, modern technology, and improved methods of direct intervention.
- Understanding potential effects of climate change on species distribution, abundance, and interactions is critical to sustainable forest management.

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