

Hawai'i and US-Affiliated Pacific Islands

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Key Message 30.1

Climate Change Impairs Access to Healthy Food and Water

Access to clean, fresh water and healthy food is expected to be increasingly impaired by climate change (*very high confidence*). On low-lying atolls, sea level rise has caused saltwater contamination of fresh water (*high confidence*). Regionally, food and water availability will be further negatively impacted by increasing temperatures, altered rainfall patterns, increased flooding and pollution, and degradation of nearshore fisheries (*very high confidence*). Adaptation actions such as traditional farming, fishing, and land-management practices can help build more resilient water and food systems (*very high confidence*).

Key Message 30.2

Climate Change Undermines Human Health, but Community Strength Boosts Resilience

Climate change undermines the place-based foundations of human health and well-being in the Pacific Islands (*high confidence*). Climate shocks and stressors compromise healthcare services (*medium confidence*) and worsen long-standing social and economic inequities in both mental and physical health (*high confidence*), and these negative impacts are expected to increase in the future (*very high confidence*). Adaptation efforts that build upon existing community strengths and center local and Indigenous Knowledge systems have great potential to boost resilience (*high confidence*).

Key Message 30.3

Rising Sea Levels Threaten Infrastructure and Local Economies and Exacerbate Existing Inequities

Climate change, particularly sea level rise (SLR), will continue to negatively impact the built environment (*very likely, high confidence*) and will harm numerous sectors of the islands' economies (*very likely, high confidence*). SLR intensifies loss of territory and exclusive economic zones, particularly in low islands (*high confidence*). Climate-driven changes will exacerbate existing social challenges by disrupting livelihoods (*likely, medium confidence*). Adaptation to climate change and recovery from disasters is logistically challenging and disproportionately more expensive in the islands (*high confidence*). Government and community groups have developed innovative ways to reduce emissions and improve resilience by moving toward renewable energy and green infrastructure, nature-based urban planning, forward-looking building codes, and sustainable and equitable economic growth, guided by Western science and Traditional Knowledge.

Key Message 30.4

Responses to Rising Threats May Help Safeguard Tropical Ecosystems and Biodiversity

The structure and composition of Pacific Island coastal and marine ecological communities are directly threatened by rising ocean temperatures, ocean acidification, and sea level rise (*very likely, high confidence*). Increasingly severe droughts and warming are increasing fire risk (*high confidence*) and will have broad negative impacts on native plants and wildlife, including an increased risk of forest bird extinctions (*very likely, high confidence*). Adaptation strategies improve the resilience of ecosystems, including ecosystem protection, ecological restoration, invasive species prevention and control, and investments in fire prevention (*medium confidence*).

Key Message 30.5

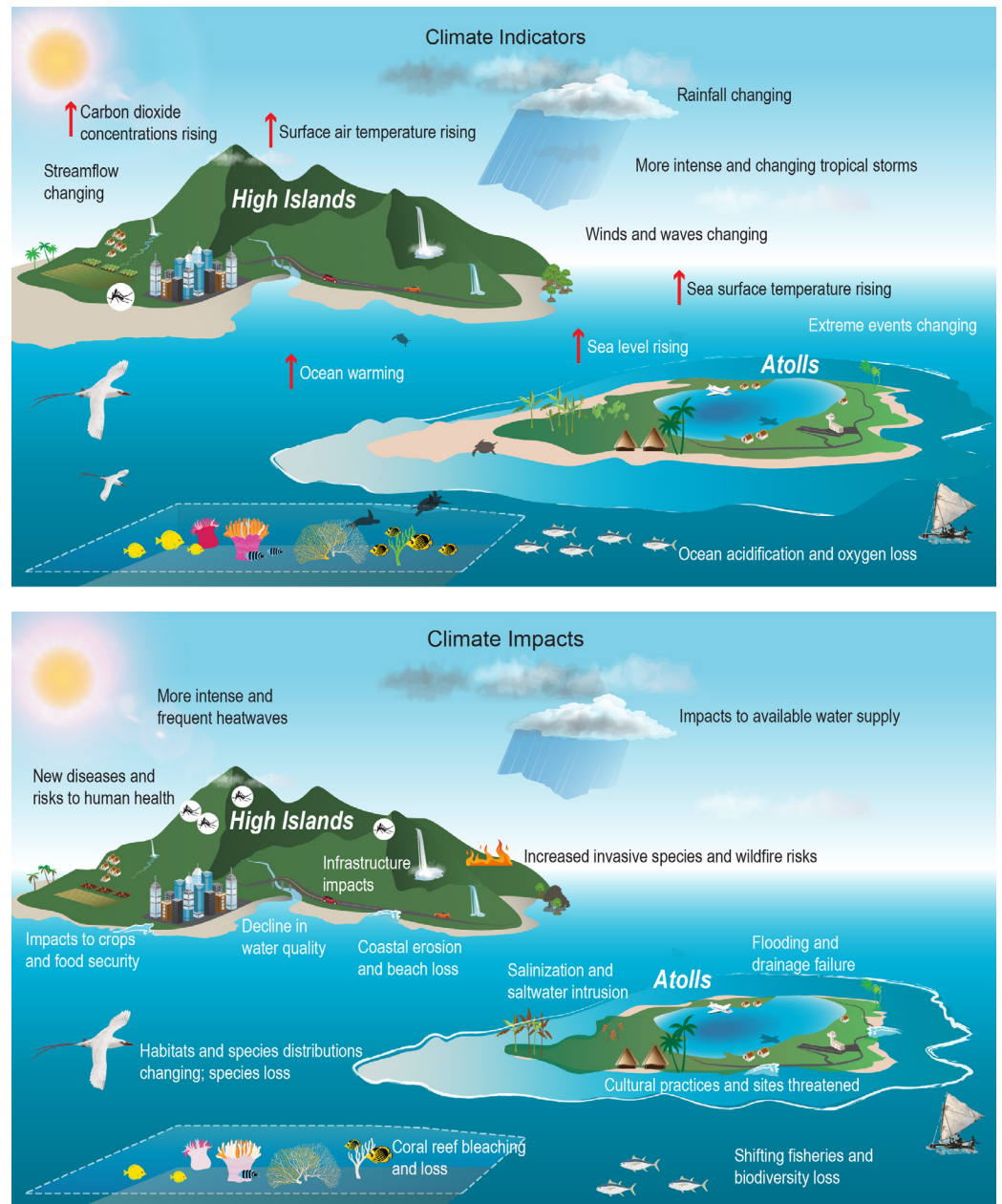
Indigenous Knowledge Systems Strengthen Island Resilience

Indigenous Peoples and their knowledge systems are central to the resilience of island communities amidst the changing climate (*high confidence*). Reciprocal and spiritual relationships among the lands, territories, waters, resources, and peoples are being strengthened and sustained as communities adapt and manage their resources collectively (*high confidence*). Indigenous Peoples are identifying and quantifying the potential loss and migration of critical resources and expanding the cultivation of traditional food crops on high islands (*high confidence*).

Climate Change Indicators and Impacts in the Pacific Islands

Monitoring key indicators of climate change is essential for understanding impacts and informing adaptation efforts.

Figure 30.5. Changes in climate, as measured through key indicators (**top panel**), including sea surface temperature, sea level, and tropical cyclone intensity, result in impacts and risks (**lower panel**) for Pacific Island environments and communities, both on high volcanic islands and atolls. Improved monitoring of indicators is essential for tracking the pace and extent of climate change. Understanding of the connections between indicators and impacts is expanding, which supports adaptation efforts. Adapted from Keener et al. 2018, which was adapted from Keener et al. 2012 (see full chapter for detailed citations).



Recommended Citation

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