Fact sheet - North America

Climate Change Impacts and Risks

Observed and projected climate change impacts

Accelerating climate change hazards pose significant risks to the well-being of North American populations and the natural, managed and human systems on which they depend *(high confidence)*. {ES-Ch14}

Human life and safety across North America, and especially along the coasts of Mexico, the Hawaiian Islands, Gulf of Mexico, Atlantic Canada and southeast USA, will be placed at risk from sea level rise and severe storms and hurricanes, even at 1.5°C global warming level (*very high confidence*). {14.6.2}

Ecosystems

Rising air, water, ocean and ground temperatures have restructured ecosystems and contributed to the redistribution *(very high confidence)* and mortality *(high confidence)* of fish, bird and mammal species. Climate-driven changes are particularly pronounced within Arctic ecosystems *(very high confidence)*. {ES-Ch14}

Escalating climate change impacts on marine, freshwater, and terrestrial ecosystems *(high confidence)* will alter ecological processes *(high confidence)* and amplify other anthropogenic threats to protected and iconic species and habitats *(high confidence)*. {ES-Ch14}

Health

Climate change has negatively impacted human health and well-being in North America *(very high confidence)*. High temperatures have increased mortality and morbidity *(very high confidence)*, with impacts that vary by age, gender, location and socioeconomic conditions *(very high confidence)*. {ES-Ch14}

Health risks are projected to increase this century under all future emissions scenarios *(very high confidence),* but the magnitude and severity of impacts depend on the implementation and effectiveness of adaptation strategies *(very high confidence)*. Warming is projected to increase heat-related mortality *(very high confidence)* and morbidity *(medium confidence)*. {ES-Ch14}

Economic activity

Extreme events and climate hazards are adversely affecting economic activities across North America and have disrupted supply chain infrastructure and trade *(high confidence)*. {ES-Ch14} Climate change impacts are projected to cause large market and non-market damages *(high confidence)*. {14.6.2}

Food

Climate-induced redistribution and declines in North American food production are a risk to future food and nutritional security *(very high confidence)*. Climate change will continue to shift North American agricultural and fishery suitability ranges *(high confidence)* and intensify production losses of key crops *(high confidence)*, livestock *(medium confidence)*, fisheries (*high confidence*) and aquaculture products *(medium confidence)*. {ES-Ch14}

Water

Heavy exploitation of limited water supplies, especially in the western USA and northern Mexico, and deteriorating freshwater management infrastructure, have heightened the risks *(high confidence)*. {ES-Ch14}

Droughts and earlier snowmelt runoff will increase water scarcity during the summer peak water demand period especially in regions with extensive irrigated agriculture, leading to economic losses and increased pressures on limited groundwater as a substitute for diminished surface water supplies *(medium to high confidence)*. {14.6.2}

Cities and Settlements

North American cities and settlements have been affected by increasing severity and frequency of climate hazards and extreme events *(high confidence),* which has contributed to infrastructure damage, livelihood losses, damage to heritage resources and safety concerns. Impacts are particularly apparent for Indigenous Peoples for whom culture, identity, commerce, health and well-being are closely connected to a resilient environment *(very high confidence)*. {ES-Ch14}

Coastal, riverine and urban flooding displacing communities and coastal ecosystems will become a dominant risk to urban centres *(high confidence)* and will cause disruptions to transportation and trade infrastructure. Large wildfires endangering lives, livelihoods, property and key infrastructure, and economic activities will contribute to compromised air quality and municipal water contamination. {14.6.2}

Rapid assessment of relative risk by sector and climate hazard for North America

based on an assessment of asset-specific vulnerability and exposure across climate hazards

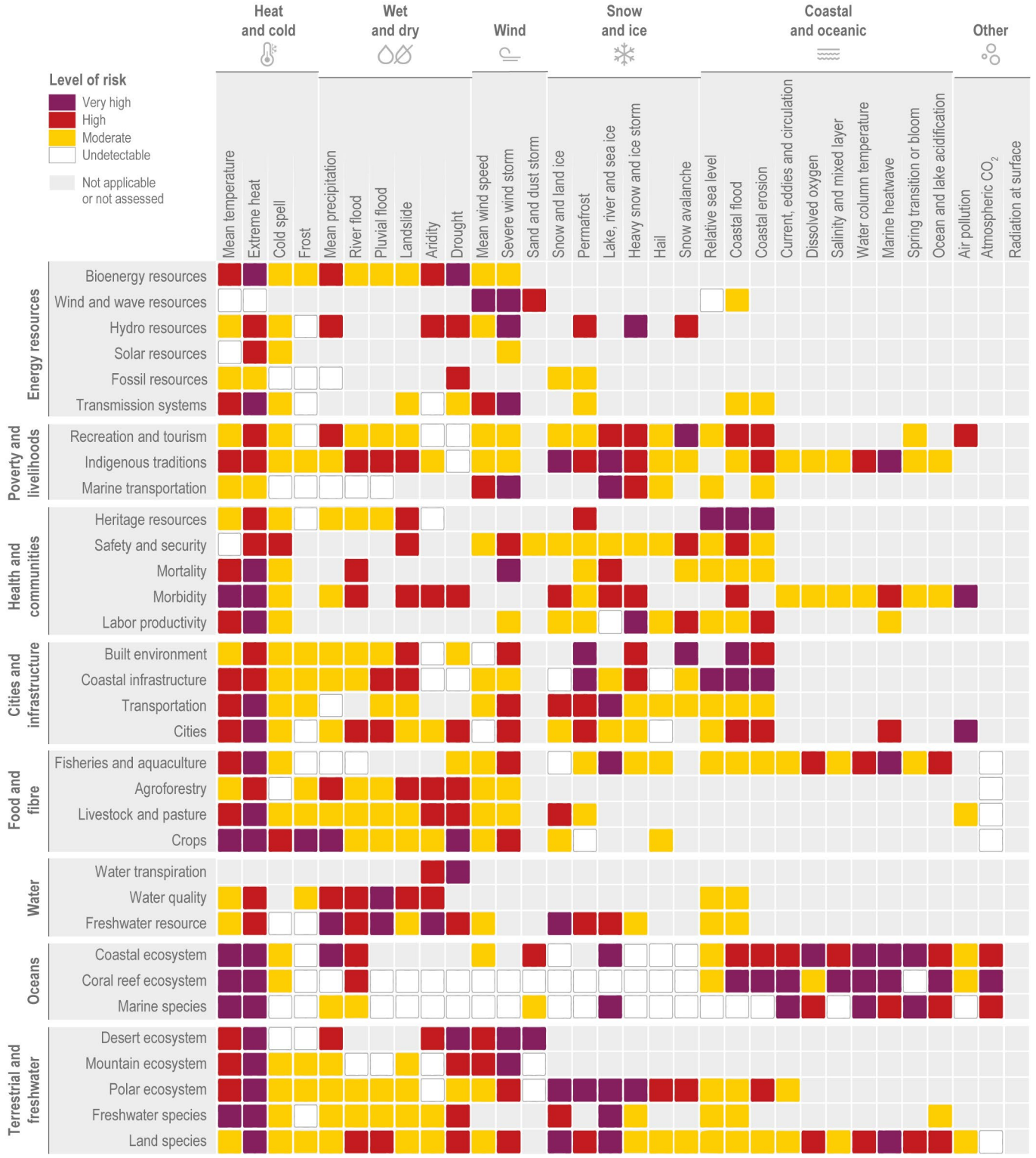

Figure 1: Rapid assessment of relative risk by sector (*y*-axis) and climate hazards (*x*-axis) for North America based on an assessment of asset-specific vulnerability and exposure across climate hazards (see SM14.3 for methodological details). For each unique combination, the hazard-by-sector risk was ranked as very high (very high risk and *high confidence*), high (significant impacts and risk, *high to medium confidence*), medium (impacts are detectable and attributable to climate change, *medium confidence*), low or not detected (risk is low or not detectable). Blank cells are those where the assessment was not applicable or not conducted. {Figure 14.11}

Adaptation Options and Barriers

Barriers

Despite scientific certainty of the anthropogenic influence on climate change (see WGI AR6 SPM), misinformation and politicisation of climate change science has created polarisation in public and policy domains in North America, limiting climate action *(high confidence)*. Vested interests have generated rhetoric and misinformation that undermines climate science and disregards risk and urgency *(medium confidence)*. Resultant public misperception of climate risks and polarised public support for climate actions is delaying urgent adaptation planning and implementation *(high confidence)*. {ES-Ch14}

Community-level planning tailors adaptation responses and disaster preparedness to the local context but misalignment of policies within and between levels of government can prevent implementation. Coordination, planning and national support are needed to provide sufficient financial resources to implement climate-resilient policies and infrastructure. {14.5.5}

Adaptation options

Equitable, inclusive and participatory approaches that integrate climate impact projections into near- and long-term decision making reduce future risks *(high confidence)*. {ES-Ch14}

Current practices will be increasingly insufficient without coordination and integration of efforts through equitable policy focused on modifying land-use impacts, consumption patterns, economic activities and emphasizing nature based solutions (*high confidence*). {ES-Ch14}

Supporting Indigenous self-determination, recognising Indigenous Peoples' rights, and supporting adaptation underpinned by Indigenous knowledge are critical to reducing climate change risks to achieve adaptation success *(very high confidence)*. {ES-Ch14}

Near- and long-term adaptation planning, implementation and coordination across sectors and jurisdictions supports equitable and effective climate solutions *(high confidence)*. {ES-Ch14}

Climate Resilient Development

Without limiting global warming to 1.5°C, key risks to North America are expected to intensify rapidly by mid-century *(high confidence)*. Immediate, widespread and coordinated implementation of adaptation measures aimed at reducing risks and focused on equity have the greatest potential to maintain and improve the quality of life for North Americans, ensure sustainable livelihoods and protect the long-term biodiversity, and ecological and economic productivity, in North America *(high confidence)*. {ES-Ch14}

Transformational, long-term adaptation action that reduces risk and increases resilience can address rapidly escalating impacts in the long-term, especially if coupled with moderate to high mitigation measures *(high confidence)*. {ES-Ch14}