

Equitably and sustainably assess and enhance resilience to human health effects of climate-related hazards, including heat and wildfires

1) Evaluate and compare health benefits of different conservation interventions to inform decision-making and progress toward global sustainable development and climate goals

- [Experimental study](#), in partnership with The Nature Conservancy (TNC), of the effect of deforestation on human heat strain in East Kalimantan, Indonesia
- Spatial analyses, in collaboration with TNC and UW Atmospheric Science, to determine how potential future climate and land use scenarios (i.e. deforestation patterns) affect heat exposure, health, and productivity in tropical agricultural communities, including [an analysis](#) showing that the most extreme warming is typically found in large patches of deforestation
- A multi-sector, multi-disciplinary working group of researchers, practitioners, and decision-makers that aim to more fully [incorporate human health implications of smoke from wild and managed forest fires into forest restoration planning and implementation](#)
- Analysis of the global potential for cooling services from agroforestry on agriculture and pastureland, in collaboration with TNC and UW Atmospheric Sciences

2) Develop methods to effectively characterize climate-related hazards, and apply these methods to the development and evaluation of approaches to enhance resilience and reduce adverse human health effects

- [Qualitative](#), cross-sectional field, and epidemiologic studies to characterize the [burden of](#) and [risk factors for heat-related illness](#), the [burden of, mechanisms for, and framework for](#) heat-related traumatic injuries, and [heat-related productivity impacts](#) for US Latinx farmworkers
- [Repeated-measures field](#) and [epidemiologic studies](#) to characterize the burden and mechanisms for heat-related traumatic injuries in roofing workers
- [Repeated-measures and experimental field studies](#) to understand differences in heat exposure measured at [personal](#), area, and regional levels
- [Stakeholder-engaged development and controlled intervention study](#) of heat illness prevention approaches at multiple levels for Latinx farmworkers
- An [analysis](#) of the magnitude and spatial patterns of the growing heat exposure and health risk faced by US crop workers, and an assessment of the effect of workplace adaptations on mitigating that risk.
- Refinement of exposure and outcome assessment methods in studies where individual and/or invasive methods may not be feasible
 - A validation analysis of [algorithms](#) for estimating core body temperature from baseline temperature and sequential heart rate in at-risk populations
 - Characterization of the relationship between indoor and outdoor temperature, and identification of housing and other factors that affect this relationship, particularly in rural settings

3) Partner with communities and other stakeholders to document and enhance equity and resilience to climate-related hazards

- [Community-driven project](#) to assess and document environmental, occupational, sociodemographic, and other factors that may affect health outcomes at individual, community, and societal levels in indigenous Mexican farmworker populations in Skagit/Whatcom, WA through a pilot-scale rural survey and housing assessments
- Project that works with community partners and agriculture stakeholders to [rapidly develop accurate occupational safety and health messages](#) for COVID-19
- Project to [assess barriers, challenges, and practical solutions to food insecurity](#) to reduce negative impacts of COVID-19 on food security for farmworker communities