



research for healthy workers, strong communities & productive agriculture

The Pacific Northwest Agricultural Safety and Health (PNASH) Center, established in 1996 through the NIOSH/CDC Agricultural Initiative, conducts research and promotes best safety and health practices for Northwest producers, workers, and communities in farming, fishing, and forestry.

CONNECT WITH PNASH

@pnashcenter on LinkedIn, Facebook, Instagram, and Twitter

Sign-up for PNASH's monthly eNews and Blog at <http://deohs.washington.edu/pnash/blog>

Visit deohs.washington.edu/pnash/research

RESEARCH

Forestry Workforce Location- and Wearable-based Activity Recognition for on-the Job Digital Health and Safety Metrics (Keefe, PI, Zimbelman Co-I, NIOSH 2022-2027)

Logging is among the most dangerous professions in the United States, with manual felling of timber with chainsaws and setting of cable log chokers accounting for 47% of injuries. Building on a recent PNASH pilot project, a library of wearable- and location-based human activity recognition (HAR) models will be developed and coded into a smartwatch app prototype. This application aims to prevent injuries by improving loggers' situational awareness by providing real-time updates of their coworkers' work activity status and location. Visit https://deohs.washington.edu/pnash/forest_safety.

Respiratory Health and Indoor Air Quality in the Cannabis Industry (Simpson & Sack, PIs, NIOSH 2022-2027)

There has been a dramatic expansion of the Cannabis industry, yet very little is known about the occupational hazards and potential health effects for workers involved in Cannabis cultivation. Recent pilot studies have demonstrated that these workers are exposed to a variety of respiratory hazards and may be at increased risk. This panel study aims to evaluate and prevent exposures that lead to occupational lung diseases, particularly work-related asthma. Visit <https://deohs.washington.edu/pnash/cannabis-worker-health-and-safety>.

PREVENTION AND INTERVENTION

Engineering Solutions to Reduce Pesticide Exposure and Waste on Northwest Fruit Farms (Kasner, PI, NIOSH 2022-2027)

This project evaluates emerging pesticide application technologies and educational programming as interventions for breaking the pesticide exposure pathway on Northwest fruit farming systems. A broad network of Northwest partnerships will inform assessments on uses for precision agriculture and corresponding impacts on pesticide safety and health. Visit <https://deohs.washington.edu/pnash/engineering-solutions-reduce-pesticide-exposure-and-waste-northwest-fruit-farms>.

A Multi-level Approach to Heat Related Illness Prevention in Agricultural Workers (Spector, PI, NIOSH 2016-2023)

Building on our previous heat-related illness (HRI) studies, we will develop and evaluate a multi-level approach to address HRI for farmworkers in the tree fruit industry. The project developed the HEAT training program, and tested research questions such as whether off-hour environmental conditions contribute to risk for HRI during work. Visit <https://deohs.washington.edu/pnash/multi-level-approach-heat-related-illness-prevention-agricultural-workers>.

DATA TRACKING

Tracking Agriculture, Forestry, and Fishing Health Indicators: RISC Agriculture (Yost, PI, NIOSH 2022-2027)

Fatal and non-fatal injuries in the agriculture, forestry, and fishing sectors remain both elevated and poorly documented, compared to other work settings. This project expands on the current Risk Information System for Commercial Fishing (RISC), to encompass farming, fishing, and forestry in the NW (Alaska, Idaho, Oregon, Washington) and engages advisors in analysis with PNASH's interactive data dashboard.

EDUCATION

Fishermen Led Injury Prevention Program (FLIPP) for Lifejackets Mobile Program

(Kincl, PI Oregon State University, NIOSH 2022-2027)

In commercial fishing, fatalities occur when those lost were not wearing a lifejacket. We expect technological advances in lifejackets to address some of the barriers fishermen have to wearing them while working (comfort, accessibility, confidence in, etc.) and to improve the flotation and survivability. This educational study will collect fishermen's views and experiences related to vessel safety including use of lifejackets, and then launch a region-specific promotion campaign. Visit <https://deohs.washington.edu/pnash/fishermen-led-injury-prevention-program-flipp-lifejackets-mobile-program>.

Bilingual Pesticide Labels for Reforestation Worker Safety (Yost, PI, OR OSHA 2024)

This service project builds on past work and provides a new tool that meets Oregon pesticide safety trainer and supervisor needs. It will also serve as a model for bilingual label accessibility, a new requirement from the Pesticide Registration Improvement Act (PRIA) of 2022, and identify future needs for the forestry services industry. The project will expand the user network for the bilingual [PestiSeguro™/PestiSafe™](#) App to a new user audience of forestry workers who handle herbicides/pesticides and read worker safety labels in Spanish.

PNASH PILOT PROJECT PROGRAM & OUTREACH MINI-GRANTS

Each year, through two separate calls for proposals, PNASH awards small grants throughout the Northwest (AK, ID, OR, WA). One supports pilot research studies. The other funds small community education projects to service organizations. Learn more at <https://deohs.washington.edu/pnash/opportunity>

2023-2024 Pilot Projects

Planning for the “new normal”: assessing service organizations' climate-related impacts and resiliency to support farmworkers. Karie Boone, Applied Social Scientist, Center for Sustaining Agriculture and Natural Resources, Washington State University.

Developing a harmonized method to refine estimates of spatiotemporal variation crop worker exposures to heat and wildfire smoke in rural agricultural regions: Case study among H-2A foreign visa worker applications. John Flunker, Postdoctoral Scholar, University of Washington.

Evaluation of the Oregon Overtime Pay Legislation (HB-4002) among Latine Agricultural Workers. Leslie Hammer, Professor, Co-Director, Oregon Healthy Workforce Center, Associate Director of Applied Research, Oregon Institute of Occupational Health Sciences, Oregon Health & Science University.

Smoke hazards in the Agricultural Workplace; a bilingual survey for agricultural employers. Julie Postma, Professor, Associate Dean for Research, College of Nursing, Washington State University.

PNASH EDUCATIONAL RESOURCES

Video YouTube Channel → <https://www.youtube.com/user/USagCenters>

Hazard Self-Assessment Tool (HSAT) → <https://sites.google.com/boisestate.edu/potential-hazards/hsat-forms>

Dairy Safety Toolkit → <https://deohs.washington.edu/pnash/dairysafetytoolkit>

Heat Education & Awareness Tools (HEAT) → <https://deohs.washington.edu/pnash/heat-toolkit>

Basta! Prevent Sexual Harassment in Ag (ENG/SP) → <https://deohs.washington.edu/pnash/sexual-harassment>

Practical Solutions for Pesticide Safety (ENG/SP) → http://depts.washington.edu/pnash/practical_solutions

Forestry Services Safety Resources (ENG/SP) → <http://deohs.washington.edu/pnash/forestry-services>

Fishermen Led Injury Prevention Program (FLIPP) → <https://health.oregonstate.edu/labs/osh/resources/flipp>

Other resource pages: Potato hazards, Orchard Injuries, Nitrates & well water, etc. → <http://depts.washington.edu/pnash>