Published June 2017 by Adaptation International

YUROK TRIBE CLIMATE CHANGE ADAPTATION PLAN FOR WATER AND AQUATIC RESOURCES

Infants and children, subsistence/commercial fishers, gatherers, and ceremonial participants have an increased risk of water-related rashes.

WATER-RELATED RASHES

TRIBAL POPULATION GROUPS



Infants and Children Pregnant

Adults

Elders

Subsistence / Commercial Fishers

Gatherers

Ceremonial Participants















ENVIRONMENTAL & INSTITUTIONAL FACTORS

Warmer water temperatures could increase proliferation of flatworms (cercaria) that cause swimmer's itch.

Dam infrastructure promotes conditions for freshwater Harmful Algal Bloom (HAB) growth which are toxic to the skin.

Existence of and access to public health warnings on freshwater HABs may not be adequate.

CLIMATE CHANGE IMPACTS

Warming stream, river, and ocean temperatures

More intense periods of drought

Heavier downpours and increasing run-off
Increasing air temperatures

EXPOSURE PATHWAY

Ceremonial and recreational use of the Klamath river is spiritually important to Tribal members but will increase the risk water-related rashes.

Subsistence harvesting is culturally and nutritionally important to Tribal members but will increase risk of water-related rashes.

Freshwater HABs and other rash causing organisms are already present in the river and could more frequently proliferate under climate change.

INDIVIDUAL & SOCIAL CONTEXT

Traditional use of the river is in summer months during greatest potential for growth of rash causing organisms.

Dependence on the land to meet food, medicinal, and spiritual needs increases contact with water and increases exposure to rash causing organisms.

The majority of Yurok ceremonies and subsistence activities involve skin contact with water.

HEALTH OUTCOME

Climate change may increase risk of skin rash from a variety of aquatic organisms.



"Rashes" is a term describing any change of the skin affecting its color, appearance, or texture. Rashes can affect a specific part of the body or spread across the entire surface of the skin. Skin with rashes may have symptoms of itchiness, warmth, bumpiness, change in color, dryness, blistering, and pain. Many Yurok Tribal members report getting rashes after spending time in the water for recreation, subsistence or ceremonies.



ADAPTATION STRATEGIES

Listed below are strategies that can be implemented to reduce the risk of water-related rashes among Tribal members.

Institutional

Monitoring to test key water bodies for rash causing organisms.

Expand existing alert system to identify when water bodies are not safe for recreation, subsistence or ceremonial activities.

Provide shower facilities near sites frequently used by families with children.

Create educational signage and events to spread the word about potential risk and treatment options for rashes.

Support and work towards dam removal through decommissioning process, to improve impaired water quality that is currently influencing occurrence of HABs and low flow eddies that may harbor parasites.

Restore upriver wetlands to decrease agricultural pollution that is currently influencing occurrence of freshwater HABs.

Work to increase communication and coordination between United Indian Health clinics, the social services department and YTEP to enhance climate change outreach and education services for Tribal members and increase resiliency.

Individual

Avoid contact with water that has an increased potential for pooling of toxins, especially shallow, slow water areas and eddies where gulls and other fowl frequent and freshwater snails often live.

After contact with high risk water, rub skin vigorously with a towel and/or shower with clean water.

Monitor available public alert systems to determine if water is safe for skin contact.

Connect to the Yurok Environmental Observer network to stay informed about water toxins and to notify scientists when and where rashes from water contact are occurring.

"I was born and raised on the River. My life is woven with the river and its fish and people.

If the River is sick, so am I. So are we all, because it is our spirit and strength.

We are merely a reflection of the river, and will never be healthy again until it is."

— Yurok Female, born 1949