



CLIMATE IMPACT STATEMENTS: Understanding the Risk to your Project

CLIMATE IMPACTS STATEMENTS (CIS):

Climate Impact Statements address the impacts of the *environment* on the *asset* and seeks to minimize failure or damage to existing or new developments, infrastructure, or community concerns, all while increasing resilience of ecosystem services due to future climates. As future climates change, the CIS is updated, consequently it is a living document, providing changes in potential risks over the next century. A CIS reduces future risks and monetary losses due to a variable climate.

CLIMATE IMPACT STEPS:

Biophysical Sensitivities: Include risks to flooding, erosion, drought, wildfire, storm surge, permafrost thaw, reduction in frozen tundra, biome shifts, habitat shifts, coastal ice quality, and food and water security.

Economic Risks: Includes damages and repairs to infrastructure, building new infrastructure, transportation costs, costs associated with adaptation/mitigation actions, travel routes, and public health.

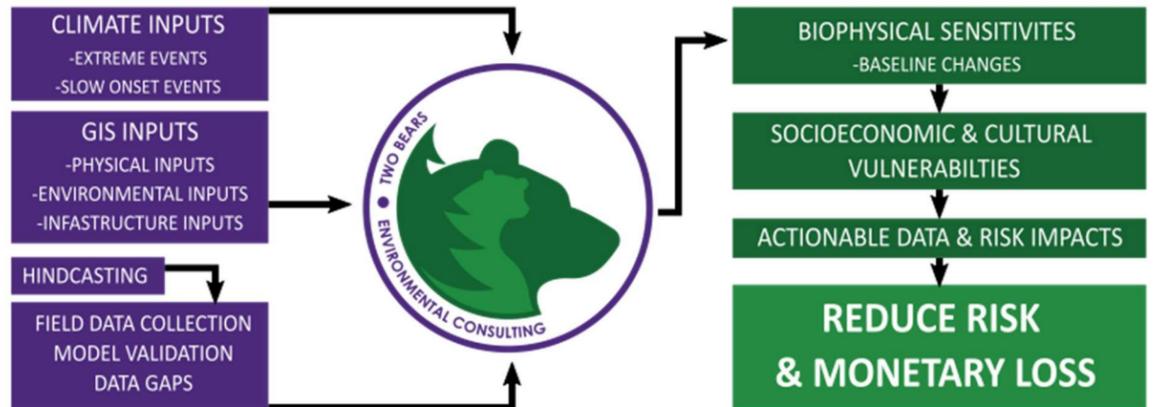
Social Ecological Risks: Includes changes in food and water security, commercial and subsistence fisheries, subsistence lifestyles, livelihoods, cultures, and city livability.

Integrated Climate Resilience Index: A combination of climate and biophysical sensitivities (western science) integrated with social vulnerabilities (traditional/local knowledge) increasing adaptive capacity.

CUTTING EDGE SCIENCE AND LOCAL KNOWLEDGE:

By recognizing a diverse knowledge system, we generate new insights into the real-time effects of risks, creating an enhanced understanding and a starting point for further knowledge generation.

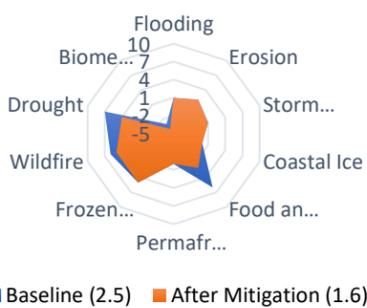
We proudly facilitate interdisciplinarity and mutual understanding between different knowledge systems by promoting interactions among indigenous peoples, local communities, policymakers, and scientists. This is accomplished by ensuring that the participation of all stakeholders remains an integral part of our process.



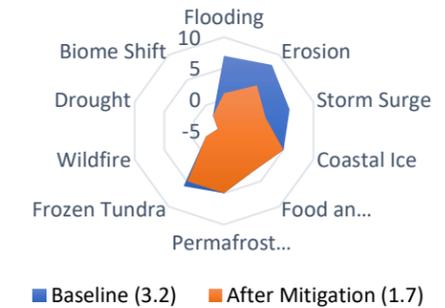
INTEGRATED CLIMATE RESILIENCE INDEX (ICRI):

ICRI can inform the selection of new building sites or modify building criteria to reduce risks. ICRI aids in developing and monitoring risk thresholds (risks move from acceptable to unacceptable). By understanding the potential timing of critical thresholds, it is possible to respond promptly, potentially avoiding system failures and monetary losses. ICRI also informs benefit-cost analysis of potential actions to increase resilience. For example, a client cannot change a potential storm event, but their actions can alter the storm's impact. The actionable data combined with scenario analysis and the needs of the client informs planning decisions as a function of future climates, biophysical sensitivities, and management actions to increase community resilience. ICRI allows clients to be proactive instead of reactive to climate impacts.

DROUGHT AND FIRE



FLOODING AND EROSION



GLOBAL PROBLEMS – LOCAL SOLUTIONS

A CIS is a 'fit for purpose living document' that can manage and reduce risks over the entire lifecycle of an asset from community functions and infrastructure to ecosystem services, such as clean water or food security. It is a versatile document that can be used for more than one project over multiple years. The creation of the CIS is a transparent, iterative process that provides user-friendly visualization while incorporating the timing and magnitude of future climates.

We use "real-time" updates to pivot as the receiving environments are altered, to accommodate updates of new climate science models or has local needs change, to better quantify Climate Impacts. This provides targeted future climate data that can protect investments and critical infrastructure, inform future design criteria and standards, and maintain ecological, social, economic, or cultural resilience.

ABOUT US:

Two Bears Environmental Consulting (TBEC) is **Economically Disadvantaged, 100% Woman-Owned Small Business.**

We inform decision-makers of the likely environmental impacts on a project or asset. We provide an opportunity to identify key issues and stakeholder concerns early in the life of a project so that potential adverse impacts can be addressed and mitigated, resulting in resilient and sustainable development and communities.

VISION STATEMENT:

To increase environmental, economic, social, and cultural climate resilience, empowering communities to move from reactive to proactive climate resilient strategies.

To improve the understanding of the potential impacts of future climates and provide the information needed to effectively "climate proof" homes, lifestyles, and businesses.



**Most science is done for Scientists.
We do science for PEOPLE.**