

Reducing Health Risks from Heat

Innovation and Actions in North America

Prepared with contributions from

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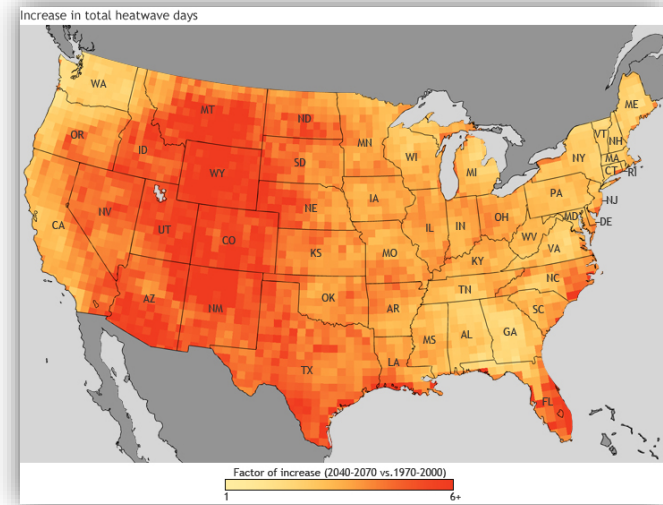
Hunter Jones, Juli Trtanj

Putting the end user first—or trying to!

- The US National Integrated Heat Health Information System (NIHHIS)
 - Facilitating shared learning
 - Building on existing network
 - Interagency Action
 - Regional Pilots
 - Private Sector
 - Decision Calendar
 - Experimental tools and seasonal information
- Canada
- Mexico/US/Canada collaboration syndromic surveillance

National Integrated Heat Health Information System (NIHHIS): Climate Services to Reduce Heat Risk

- NOAA and CDC launched the National Integrated Heat Health Information System (NIHHIS) in June of 2015 to integrate efforts, and it quickly grew to include representation from several agencies in an interagency working group. The group launched the NIHHIS portal (climate.gov/nihhis) and harmonized outreach activities.
- NIHHIS has also launched regional, trans-boundary pilots to understand local decision-making contexts and needs, and to improve the heat-health information provided.
- Ongoing activities include an expanding border health network in the south, 'decision calendar' exercises to understand needs in the Northeast, and several national projects to improve the utility of our information.
- Interagency, Pilots, Partners, Web Portal, student rotations, GHHIN



The National Integrated Heat Health Information System weaves together existing pieces, identifies information needs and helps to develop needed climate services.

NIHHIS will facilitate an integrated approach to providing a suite of decision support services to reduce heat related illness and death

NIHHIS Interagency Working Group

The NIHHIS Interagency Working Group was initially formed as an Extreme Heat and Critical Infrastructure Task Force under the National Security Council. The group includes representation from

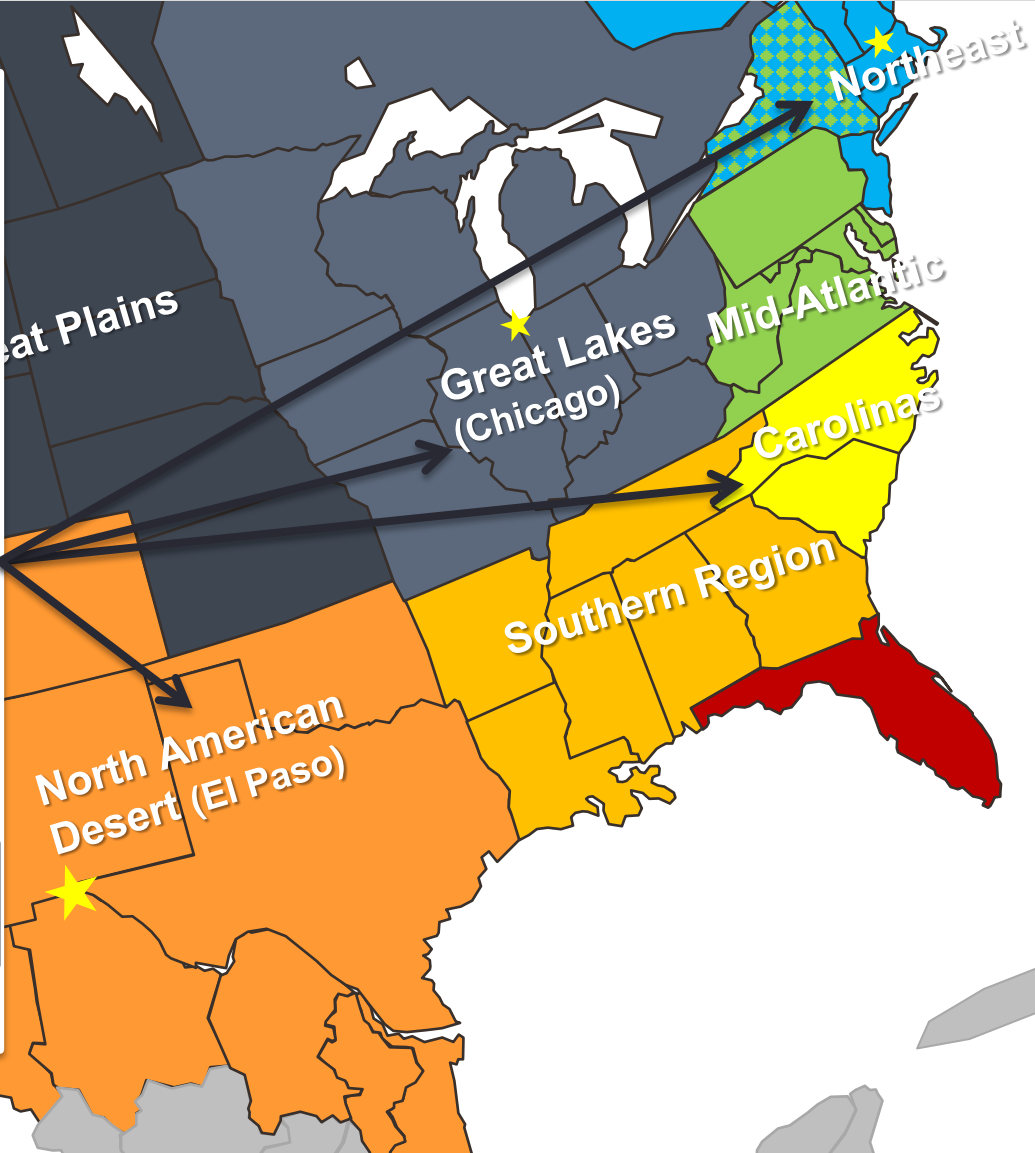
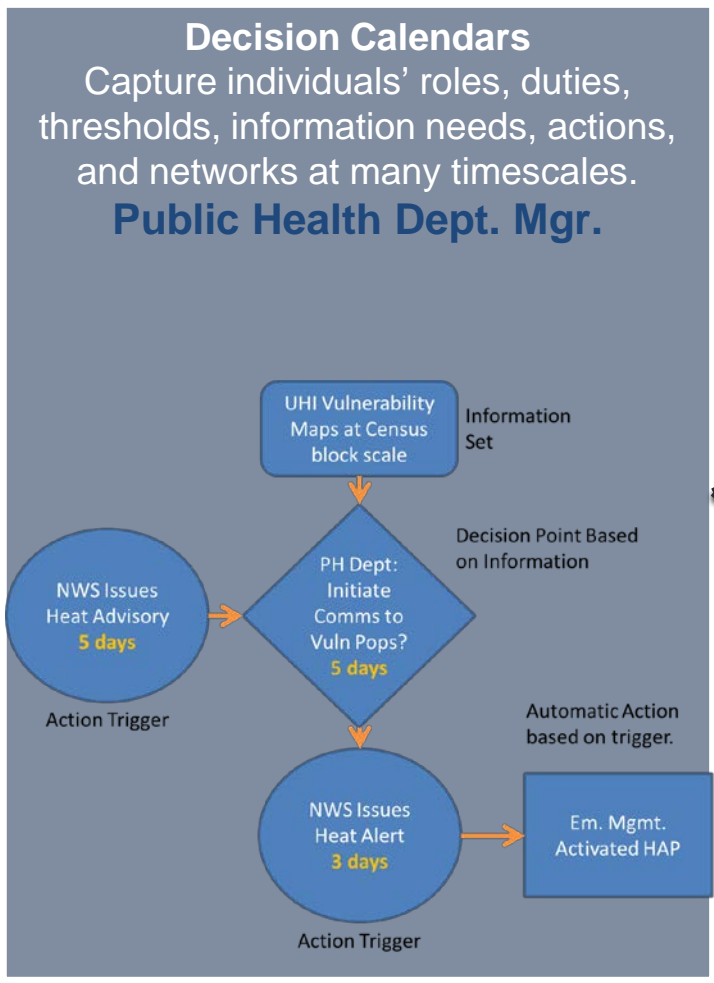


Recent accomplishments and ongoing projects:

- A major social media campaign to expand awareness of the issue in 2017 heat season.
- Activity modification thresholds and WBGT
- Development of version 2 of the NIHHIS Portal with harmonized inter-agency information and resources as well as heat predictions.
- A White House webinar on protecting vulnerable populations from Extreme Heat (2016).



National Integrated Heat Health Information Systems (NIHHIS) Pilots



Decision calendar interviews, focus groups, and workshops to be held in NIHHIS pilot cities.

Private Sector Partnership: Extreme Heat Story Map and App

- Show the growing problem of extreme heat
- Use Esri's analytical capabilities to show the vulnerability of populations and how we can use different interventions.
- Shape existing data into tool for decision makers planning for extreme heat

<https://www.esri.com/en-us/about/science>



esri



Heat Events Year 2020 Total days with temperatures over 95° 14 - Two Week

Display **Total Days**
Days Increase since 2014

2014 Estimates

Population: 152,879,561

Daytime Population: 151,227,797

Housing Units: 63,427,009

Households: 55,328,605

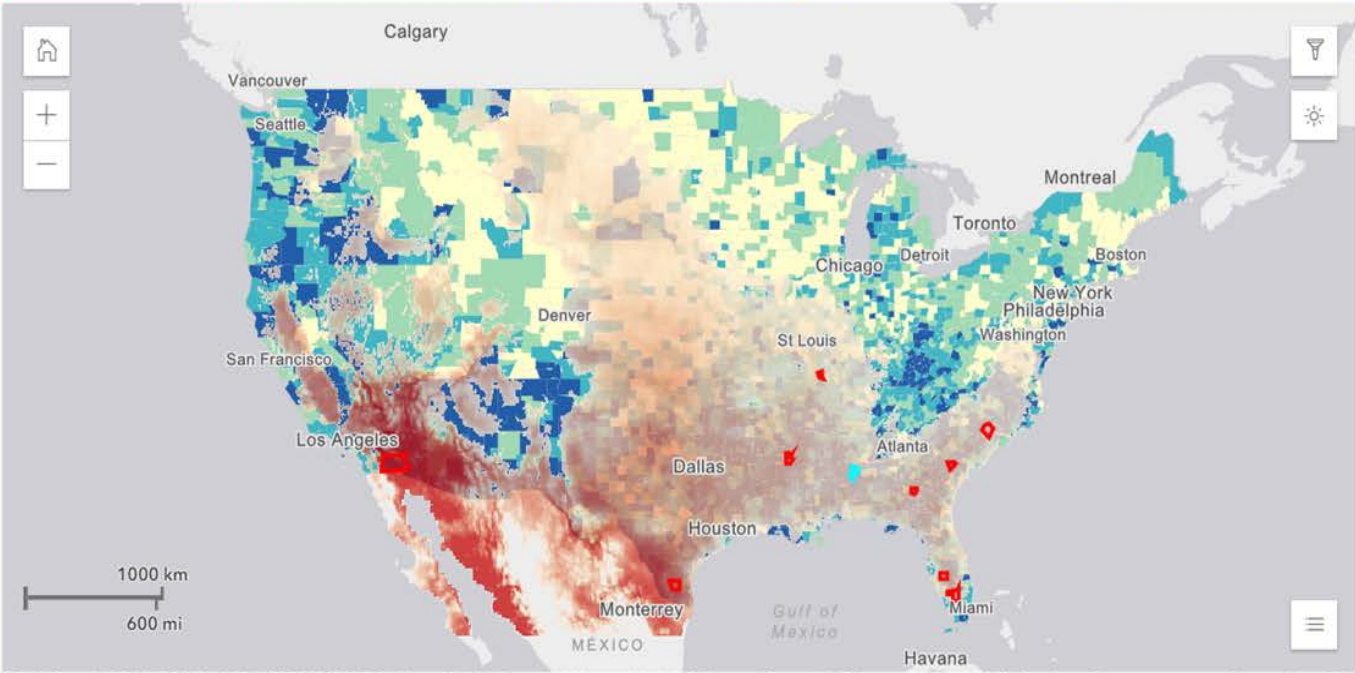
Overall Score

Socioeconomic Status

Household Composition & Disability

Minority Status & Language

Housing & Transportation

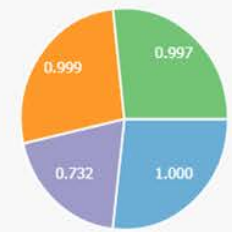


Perry County, Alabama

In 2020 a projected maximum of **38 total** days with temperatures over 95°

Population	10,203
Daytime Population	10,486
Housing Units	4,705
Households	3,263

Overall Vulnerability Score: 1.000



Urban Tree Canopy

Cooling Centers

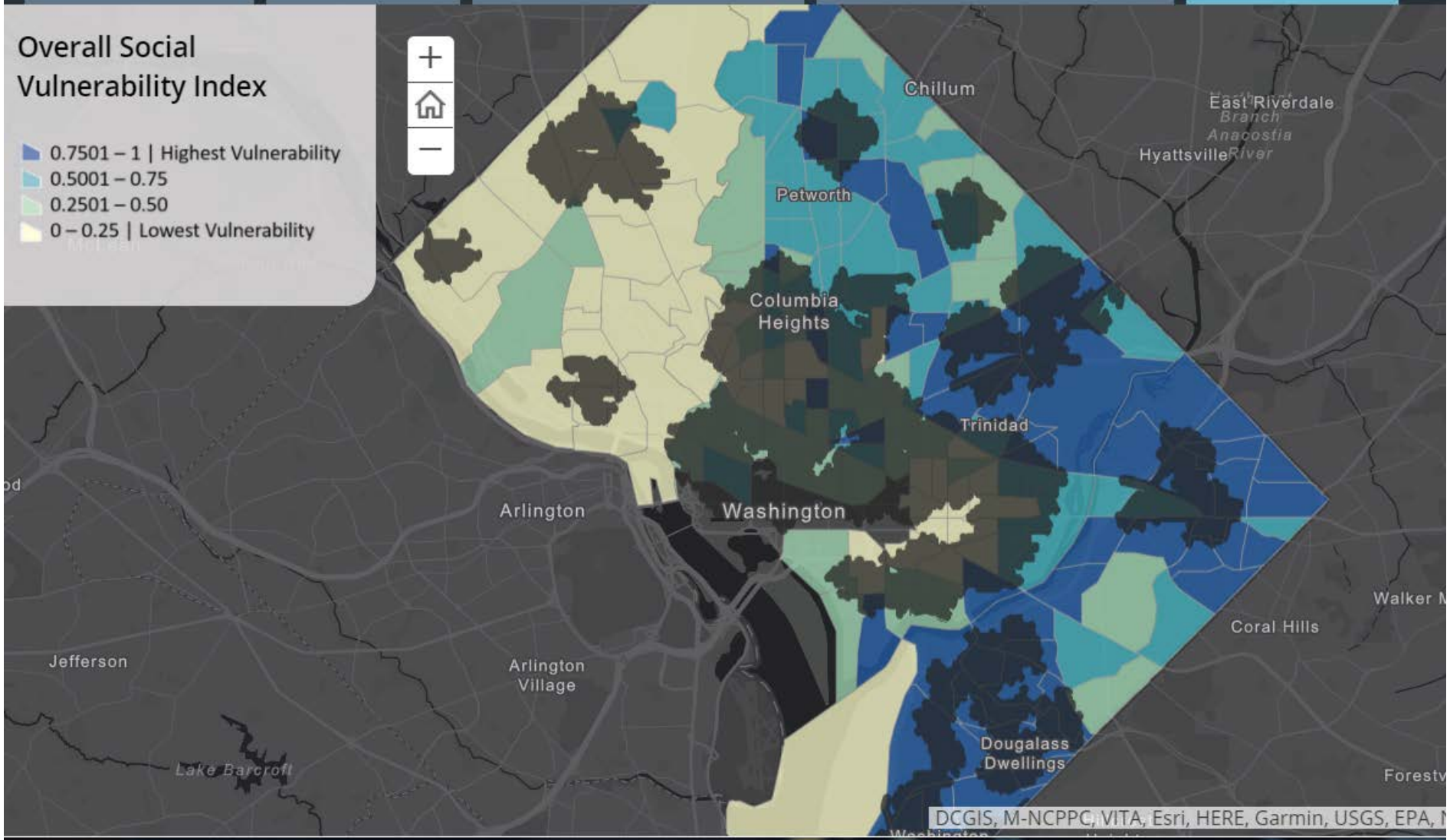
Hospitals and Health Systems

TOTAL COVERAGE OF FACILITIES

Who's Not Served

Overall Social Vulnerability Index

- 0.7501 – 1 | Highest Vulnerability
- 0.5001 – 0.75
- 0.2501 – 0.50
- 0 – 0.25 | Lowest Vulnerability



What is Health Canada's role in minimizing the human health risk associated with Extreme Heat Event exposure?

1

Supporting the expansion of Heat Alert and Response Systems (HARS) across Canadian communities

2

Increasing awareness of heat associated health impacts through health promotion and outreach

3

Building the science-evidence base to support HARS and health promotion

4

Minimizing the risk of exposure to extreme heat by supporting cool communities in Canada

How does the alert protocol work in Canada (federal role)

1. **(Environment and Climate Change Canada) ECCC & Health Canada establish an alert trigger** based on the findings from a heat-health analysis and community and region-specific weather conditions.

2. **ECCC communicates the potential for a heat warning** to health officials and other decision-makers a few days prior to a heat event, allowing enough time for partners to mobilise and prepare a response.

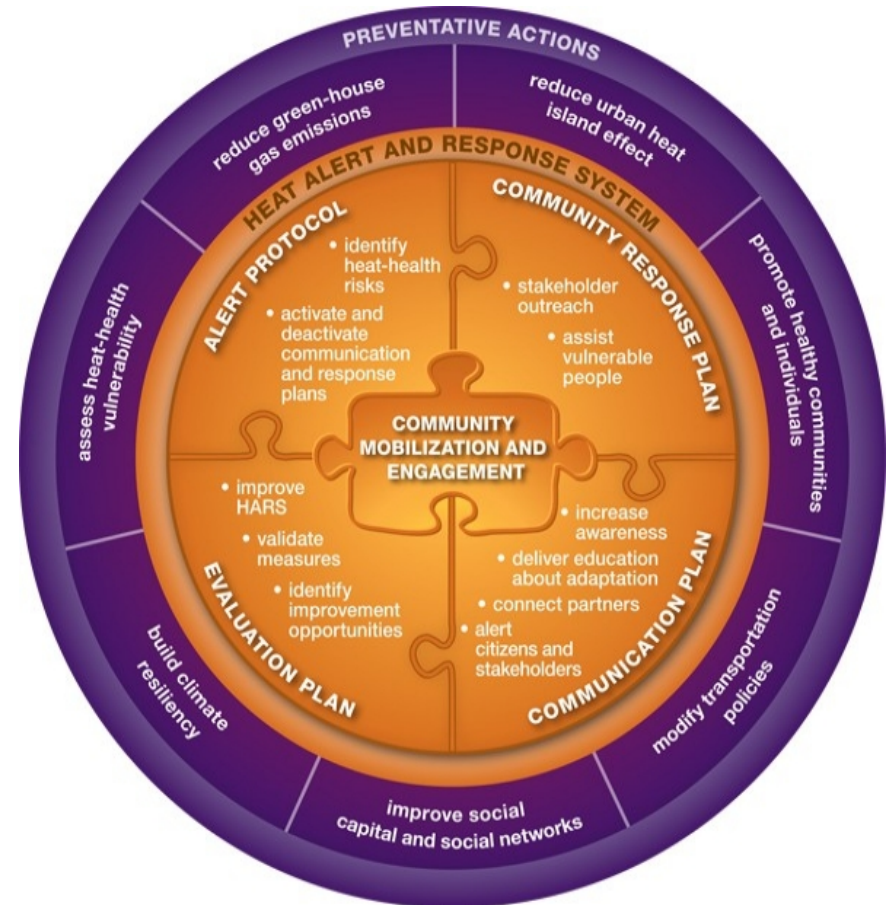
3. **Health authorities and other key community partners respond to the heat warning** by activating response plans and putting in place health protective actions.



A community's heat response plan provides information on the actions that the lead agency and community partners will take to reduce heat-related illness and death when a heat warning is called.

What are Heat Alert and Response Systems (HARS) in Canada?

- *alert the public about the risks,*
- *direct the community response to help vulnerable populations,*
- *and provide individuals with information and other resources to help them take protective actions before and during an extreme heat event.*



HARS In Communities across Canada

Examples of Response Activities:

1. Extending hours of air conditioned public spaces
2. Distribution of targeted Information
3. Opening of cooling centres
4. Increase access to drinking water
 - Water fountains, water stations
5. Home visits to Seniors



RenfrewCityParamedics Retweeted
Matt Cruchet @Paramedic_Matt · Jul 2
 Working @Renfrewcpnu shifts over the next few days. My plan is to see as many elderly COPD/CHF patients who I know don't have AC as possible. Cold treats and mobile cooling if needed... #MyParamedicDay #CommunityParamedics



Source: City of Leduc Website

Pan-Canadian Monitoring and Surveillance of Health Impacts of Climate Change

Monitoring and Surveillance of Health Impacts



- Data
- Forecasting
- Monitoring and surveillance
- Measuring challenges
- Identifying indicators

GAPS:

- Gaps in understanding both direct and indirect risks to health (e.g. heat, floods, mental health),
- Gaps in understanding of the risk to the health system (e.g. increased costs, impact on services).
- Gaps in understanding the most vulnerable populations.

AIMS:

- Track successful adaptation measures.
- Monitoring, surveillance, and early warning systems to identify and track threats we cannot currently anticipate but which could have severe impacts.

In planning for the development of a Pan-Canadian approach to monitoring and surveillance, Health Canada is engaging with partners to examine the potential role of a real-time national/coordinated system to collect climate related health outcomes (e.g. heat related illnesses and deaths).

Emerging Innovations and Collaborations

**Commission on Environmental Cooperation: Mexico/US/Canada
Syndromic Surveillance for Heat**

Experimental syndromic surveillance and heat risk

Experimental Health-relevant seasonal forecasts

Decision Calendar exercise refined and replicated

Private Sector engagement

Broadcast Meteorology connections

**Funding Opportunities Emerging-Belmont Forum Climate,
Environment and Health CRA**