

ClimateSafe Sources, Tools, Contributions & Limitations Weather Data & Alerts

- Environment and Climate Change Canada
<https://weather.gc.ca>
Contribution: Real-time weather (temperature, wind, alerts) used for risk score and notifications
Limitation: Regional data, not hyper-personalized
- Open-Meteo
<https://open-meteo.com>
Contribution: API used to fetch weather data in the app, Global data
Limitation: Depends on external API uptime

Health & Medical Guidelines

- World Health Organization
<https://www.who.int>
Contribution: Defined risks like heatstroke, hypothermia
Limitation: Broad, not personalized
- Health Canada
<https://www.canada.ca/en/health-canada.html>
Contribution: Canadian health recommendations for extreme temperatures
Limitation: General population guidance
- Centers for Disease Control and Prevention
<https://www.cdc.gov/disasters/extremeheat/index.html>
Contribution: Safety actions and symptoms
Limitation: Not tailored to individual users

Vulnerable Populations Research

- National Institute on Aging
<https://www.nia.nih.gov>
Contribution: Data on elderly sensitivity to temperature
Limitation: Does not reflect all individual differences
- Mayo Clinic
<https://www.mayoclinic.org>
Contribution: Medical explanations of heat/cold risks
Limitation: Generalized medical info

Temperature Thresholds & Safe Range

- <https://www.serverroomenvironments.co.uk/blog/calculating-heat-loads-and-server-room-cooling-requirements>
Contribution: Supported defining safe range (18–27°C)
Limitation: Does not include humidity/wind effects

Shelters & Location Services

- Google Maps
<https://maps.google.com>
Contribution: Finds nearby cooling/warming centers
Limitation: Data may not always be updated
- City of Montreal
<https://montreal.ca>
Contribution: Local shelter and emergency location data
Limitation: Availability may change in real time

Core App Features (How Sources Were Used)

Risk Score

- Based on: weather data + WHO + CDC + Health Canada
- **Contribution:** Converts complex data into 0–100 score
- **Limitation:** Simplified model, not medical diagnosis

To-Do List / Safety Actions

- Based on: WHO + Health Canada guidelines
- **Contribution:** Medically informed safety recommendations

Alerts System

- Based on: weather APIs + health thresholds
- **Contribution:** Notifies users before danger
- **Limitation:** Depends on device notifications + internet

Development Tools & Technologies

- Visual Studio Code
<https://code.visualstudio.com>

Contribution: Main development environment

Limitation: Requires extensions for full functionality

- Android Studio

<https://developer.android.com/studio>

Contribution: Testing and building Android app

Limitation: Emulator performance issues

- React

<https://react.dev>

Contribution: Frontend UI

Limitation: Version compatibility issues

- Node.js

<https://nodejs.org>

Contribution: Backend server

Limitation: Requires API management

- MongoDB

<https://www.mongodb.com>

Contribution: Stores user data

Limitation: Requires secure configuration

- GitHub

<https://github.com>

Contribution: Version control

Limitation: Requires proper management of secrets

AI Usage Decision

- We did not rely on AI-generated medical information
- **Contribution:** Ensures accuracy and user safety
- **Limitation:** Slower research process (manual verification required)

Cross-Checking Process

- Compared:
 - WHO vs CDC vs Health Canada
- Ensured:
 - Consistent thresholds
 - Reliable recommendations

Limitation:

- Time-consuming