



Consent Form for Community-scale Human Mobility Data Collection for Tsunami Evacuation Planning in Tofino, British Columbia

Project title: Tofino Human Mobility Data Collection under the Community and Infrastructure Resilience to Climate-geological Long-term Effects (CIRCLE) Project

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Introduction

We invite you to take part in community-scale human mobility data collection for tsunami evacuation planning in Tofino, British Columbia. This study is led by Dr. Katsuichiro Goda, who is an Associate Professor in the Department of Earth Sciences at Western University and will be responsible as a PI as part of the CIRCLE project. Choosing whether or not to take part in this research is entirely your choice. There will be no impact on you if you decide not to participate in the research. The information below tells you about what is involved in the research, what you will be asked to do and about any benefit, risk,

inconvenience or discomfort that you might experience.

Please take the time to read this consent form carefully. It describes the research for which you are invited. If you agree to participate, you will be asked to indicate your willingness to participate in this project during the on-line entry questionnaire. You do not waive any legal right by consenting to this study. If you would like more detail about any points in this form, or have questions that are not addressed, you should feel free to ask for such information. You can contact the researchers listed above by email or telephone.

Purpose and Outline of the Research Study

This study collects participatory, community-scale GPS tracking data to identify residents' and visitors' travel patterns in normal days as well as during hypothetical evacuation exercises. The hypothetical evacuation exercises can be started from beach areas to public assembly areas for tsunami evacuation or nearby high grounds. The goal is to significantly advance evacuation planning for Tofino.

Who We are Looking for

(1) a current resident or a visitor in Tofino, British Columbia, (2) possess GPS-enabled mobile phones, and (3) are at least 18 years of age.

What You Will Be Asked to Do

As a participant, you will take part in human mobility data collection in Tofino using the OwnTracks app (<https://owntracks.org/>) that can be downloaded from the Apple App store or Google Play store for free. If you are a resident in Tofino, we ask you to participate in the data collection for a period of consecutive 14 days (this is by default; you can choose a different period). If you are a tourist in Tofino, we ask you to participate in the data collection during your stay in Tofino (this is by default; you can choose a different period). For all willing participants, we also ask you to conduct hypothetical tsunami evacuation exercises during the data collection period, starting from beach areas (where high tsunami inundation is anticipated) to public assembly areas for tsunami evacuation or nearby high grounds (e.g., based on Tofino's tsunami evacuation map). The data collection starts with the entry questionnaire and ends with the exit questionnaire, which will take 3 to 10 minutes each.

The OwnTracks app prioritizes user privacy and security by ensuring data encryption to prevent unauthorized access to your mobile phones and by ensuring users control how their data are used. The OwnTracks app does not keep your location data on their servers. Instead, as part of this research on human mobility, we ask you to enable the data transfer option of your location data to a secure server at Western University. The GPS mobility data that are collected by OwnTracks app include: your Participant ID (which will be provided by the research team), GPS locations, and the associated date and time. These data are collected when your mobile phone is carried and moved by you. No other information that can be used for identifying you or your device is collected (e.g., IP address and app usage). The accuracy of GPS locations collected by mobile phones is about 3 to 10 m.

The collected human mobility data will be used to understand: static and dynamic travel behaviours of Tofino residents and tourists in normal days and dynamic travel behaviours of Tofino residents and tourists during hypothetical evacuation exercises. These data will be used for subsequent tsunami evacuation modeling in Tofino and will advance evacuation planning for Tofino significantly.

Possible Benefits, Risks, and Discomforts

Benefits: If you are a resident in Tofino, you may receive benefits (in future) through improved tsunami evacuation planning. If you are a visitor in Tofino, you may not receive direct benefits from this study; however, your data will improve the safety of future visitors in Tofino through improved tsunami

evacuation planning.

Risks: The physical risks associated with this study are minimal; there are no known external risks associated with participating in this study. We anticipate that participants do things as they usually do. You are asked to conduct hypothetical evacuation exercises by walking from beach areas (high tsunami risks) to local public assembly areas that are designated by the District of Tofino or local high grounds (10 to 15 m above mean sea level). We anticipate this will take about 15 to 30 minutes, depending on routes and walking speeds.

Your mobility data will be deidentified/anonymized and your location data will not be stored alongside any other personal information you have provided in the entrance or exit survey. Storing mobility data separate from all other data, minimizes the chances that someone could link these datasets, even a data breach occurs. Please also read the “Confidentiality” section below.

Incentives: No compensation is offered for this study.

Privacy: Your participation in this research will be known only to members of the research team, i.e., Drs. Goda, Long, and Roosmawati and Mrs. Ha. Once the data collection is completed, Dr. Goda and Mrs. Ha will link your entry and exit questionnaire responses with your mobility data using your participation ID. The anonymized/deidentified data will be used for subsequent analyses and modeling by the research team, including Drs. Long and Roosmawati. Dr. Goda will maintain the master list that contains your email address and participation ID for future data withdrawal purpose. The master list will be stored in Western’s secure data storage (OneDrive) for 7 years after the study is completed.

Confidentiality: The information that you provide to us will be kept confidential. Your private information will not be shared with third parties. All your identifying information (such as your email and participant ID; i.e., master list) will be securely stored separately from your research information by Dr. Goda for 7 years after the study is completed. The master list will be used for data withdrawal purposes only. Once all information is gathered, the research team will anonymize/deidentify the data and in subsequent analyses and modeling, only anonymized/deidentified data will be used. In publications from this study, all data will be presented in anonymized/deidentified and aggregated forms. After the 7-year period, your information (i.e., email and participant ID) will be destroyed by Dr. Goda.

Delegated institutional representatives of Western University and its Non-Medical Research Ethics Board may require access to your study-related records to monitor the conduct of the research in accordance with regulatory requirements.

If You Decide to Stop Participating

You are free to leave the study at any time during the mobility data collection period. If you decide to stop midway through the data collection period, you can remove the OwnTracks app from your mobile phone or disable the data transfer function within the OwnTracks app. If you wish to withdraw from this study after you complete the data collection, please contact Dr. Goda. He will remove your data using the information in the master list. Participants can request (by contacting the project PI) to withdraw their data from the study until December 31, 2026.

How to Obtain Results

If you like to obtain results from the study, please indicate your wish in the exit questionnaire.

Stipulations on the use of your information

In published materials, you will not be identified. The results will be presented in anonymized/deidentified and aggregated forms.

Questions and discussion about the research

If you have any questions or comments about this research, please contact Dr. Goda by email or telephone prior to completing the consent form, which will be a part of the entry questionnaire. The research team will answer any questions you may have.

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Human Research Ethics (519) 661-3036, 1-844-720-9816, email: ethics@uwo.ca. This office oversees the ethical conduct of research studies and is not part of the study team. Everything that you discuss will be kept confidential.

Consent to Participate in the Study

The following five questions will need to be answered at the beginning of the entry questionnaire. If your answers to these questions are “no”, you will not be participating the study.

- **Have you read the information sheet and consent form of the Tofino mobility data collection study? If you want to read the Letter of Information/Consent form, please click this link: [Link]**
 - Yes
 - No

- **Have you been given the opportunity to discuss it and your questions have been answered to your satisfaction? If this is not yet satisfied, please contact the research team to obtain answers to your questions and concerns.**
 - Yes
 - No

- **Do you understand that you have been asked to take part in the GPS mobility data collection for improving tsunami evacuation planning and modeling in Tofino?**
 - Yes
 - No

- **Do you understand that your participation is voluntary and that you are free to withdraw from the study at any time?**
 - Yes
 - No

- **Do you agree to take part in the GPS mobility data collection for improving tsunami evacuation planning and modeling in Tofino?**
 - Yes
 - No