

Research Project Information Sheet



NatiOnal BUshfire Resilience Network (NOBURN) Research Project

Ethics Approval Number: **A221729**

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Project Description

The purpose of this project is to implement a fire prediction and modelling system which will be called 'NOBURN' (NatiOnal BUshfire Resilience Network). NOBURN collaborates with citizen scientists, first responders and other key stakeholders using a participatory design process and NOBURN App; to encourage buy-in and optimisation of the prediction of bushfires. The NOBURN App is used by citizen scientists to capture sample evidence of fuel loads, dryness and structure of forests using photos and visual fuel hazard assessments. The data collected through the NOBURN App is used to train artificial intelligence (AI) to differentiate dry and wet fuels and combined with climate, topographic, and remotely sensed data to predict the probability, severity and burn area of potential bushfires. Additional moisture content samples can be collected by University researchers to validate the burn area prediction tool and image analysis.

The long-term goal of this project is to support the development and implementation of the NOBURN fire prediction and modelling system, which targets citizen scientists located in the areas most affected by bushfires in Australia, to collect data to improve bushfire risk prediction and response.

This project is funded by the Commonwealth Department of Industry, Science, Energy and Resources which will not have access to any participant personal information during the project.

Participant Eligibility

To be eligible to participate in this research project, you must reside in Australia, be at least 18 years of age or be accompanied by a parent or guardian who meets the Participant Eligibility requirement, especially to register to use the NOBURN App.

Project Duration and Participation

It is anticipated that the nationwide collection and analysis of data under the project will continue until 31 March 2024. Therefore, if you decide to provide consent to participate in this research project, you are encouraged to continue to use the NOBURN App until March 2024.

If you agree to participate in this project and submit data, you will be required to register and establish an account/user profile before accessing the NOBURN App. On registration, you will be required to provide a username and your email address.

When registering, a genuine email address must be provided.

Please refer to the NOBURN Terms of Use and End User Licence Agreement for additional important registration information.

Your participation in the project is voluntary. If you decide to take part and later change your mind, you are free to withdraw at any time. You will need to contact the research team at noburn@usc.edu.au with your username and email address provided on registration to have your personal data removed.

Consent

You are asked to consent to the University of the Sunshine Coast (UniSC) collecting using, and disclosing your information, which may include personal information if alone or together the information reasonably identifies you. The minimum information we will require is your username and email address. We will also ask for your age, postcode, occupation, and education.

Any personal information you provide us will be held and disclosed for the purposes of the Project, supporting and maintaining the NOBURN App, and for current and future research purposes. We use this information to communicate with you, manage your login details, and provide you with updates regarding the analysis of data records and the Project. We may use your personal information to verify the details of a record created when you submit data through the App, acknowledge you as the relevant collector of data that created a record or contact you to request greater access to the data, or further information that will support a record.

Your decision to provide consent (or not), will not impact your current or future relationship with the research team, our industry networks, or UniSC, however, you won't be able to register and use the NOBURN App or participate in the Project unless you agree to provide at least your username and email address. Table 1 outlines key information about providing consent, and the process for providing and withdrawing consent.

Table 1. Information about consent and the processes used for providing and withdrawing consent

Providing Consent	Research Project Information Sheet and Terms of Use and End User License Agreement (Agreement)
	<p>You will be presented with the Research Project Information Sheet and the Terms of Use and End User License Agreement when registering to use the NOBURN App and will be asked to agree to the terms and conditions outlined in the Agreement. For example, the agreement includes information about the intellectual property rights and ownership of the NOBURN App and data, as well as information about the privacy of the individuals' identifiable and use ad disclosure of aggregated data collected and stored.</p>
	<p><u>What happens if I do not agree to the Research Project Information Sheet or the Terms of Use and End User License Agreement?</u></p>
	<p>You will not be eligible to use the NOBURN App.</p>
	<p>Age Confirmation</p>
	<p>You will be asked to confirm that you are 18 years of age or over, or be accompanied by a parent or guardian that meets the Participant Eligibility requirement.</p>
	<p><u>What happens if I am not 18 years of age?</u></p>
	<p>You will not be eligible to use the NOBURN App unless you are accompanied by a parent or guardian over 18 years of age who registers to use the NOBURN App.</p>
	<p>Allow "NOBURN" to access your location while you are using the App.</p>
	<p>The NOBURN App uses Location Services to allow participants to quickly and accurately record the location of the recording. The App will request your permission to use Location Services when this feature is activated by the App.</p>
	<p><u>What happens if I do not allow Location Services?</u></p>
	<p>You will be eligible to use the NOBURN App but will be requested (prompted) to provide an approximate location for each data recording.</p>

Withdrawing Consent Participants may withdraw **their consent to participate in the research** project by deleting their NOBURN account via the NOBURN App *Profile* menu.

Consequences for withdrawing consent

Your participation in this project is voluntary, and you can choose to withdraw from the study at any time. Your decision to participate (or not), will not impact your current or future relationship with the research team or the University of the Sunshine Coast.

We will also, at your request, delete any personal information we have collected about you.

You should be aware that your NOBURN-related data contributions may remain online indefinitely. The NOBURN App is provided as a public data collection facility on the expectation and condition that data collected and stored in it will, at some point, become publicly available in accordance with these Terms.

Participants may withdraw **their consent for the NOBURN App to use Location Services** through the Privacy Settings menu in their Smart Device's Settings tab.

Consequences for withdrawing consent

Your choice to use Location Services will not impact your use of the NOBURN App or impact your current or future relationship with the research team or the University of the Sunshine Coast, however, we will request (prompt) you to provide an approximate location for each data recording.

Privacy and Confidentiality

We hold any personal information that we collect through the NOBURN App in accordance with the privacy statement as outlined in the Terms of Use and End User Licence Agreement. Data collected via the NOBURN App is provided as a public data collection facility on the expectation and condition that data collected and stored in it will, at some point, become publicly available. The research team have made every effort to ensure that your personal information and the data are stored in a secure a confidential manner. Participants and members of the research team will have password-secured access to the NOBURN App and will be allocated permission to access identifiable and de-identified data based on their role.

The Project is funded through the Commonwealth Government, and as a result, UniSC is the sole owner of the data and retains copyright and any other rights to the content that is submitted, posted, displayed, uploaded etc through the NOBURN App and on the NOBURN website. The research team at UniSC is free to make available, use or publish the content elsewhere and warrant that we own or created the content or have the necessary rights, licenses or permissions to make the content available on the NOBURN website. The research team at UniSC will make reasonable efforts to ensure the content is accurate at the time its made available on the NOBURN website.

Data you transmit through the App may be aggregated for analysis with your identifiable characteristics removed. We may publish or provide this aggregated data to other people, for instance, App usage statistics may be used for demographic research purposes by us. We may also provide usage statistics to the NOBURN funding body, the Australian Government Department of Innovation, Industry, Science and Research.

You agree to receive email communications from us in relation to the Project, for instance, records related to the data you transmit through the App will be emailed to you and we will email you with Project updates, and analysis of data and records. You can opt out of these email communications using the unsubscribe option in the emails.

Your personal information will not be released unless the law requires or permits it or your consent is given through NOBURN App registration and your acceptance of the Agreement or on a case by case basis. We provide a secure environment and a reliable system but you should be aware that there may be inherent risks associated with the transmission of information via the internet.

To the extent we are deemed to collect personal information for the purpose of the Project and providing, supporting and maintaining the App service, we are required to comply with the *Privacy Act 1988* (Cth), the Australian Privacy Principles and UniSC's Information Management Framework – Governing Policy.

We will also, at your request, delete any personal information we have collected about you. Our Privacy Policy contains information about how you may access and seek correction of your personal information and complain about a breach of the Australian Privacy Principles, and how we will deal with complaints. To contact us for any of the reasons listed, please email the NOBURN research team at noburn@usc.edu.au. Alternatively, to access our Privacy Policy, please visit <https://www.usc.edu.au/privacy>.

Benefits and Risks

Participants and citizen scientists will be contributing to the NOBURN Project which will enable a better understanding of the contributory factors involved in bushfires and fire spread. This knowledge will support the development and training of artificial intelligence to differentiate dry and wet fuels and combine them with climate, topographic, and remotely sensed data to predict the probability, severity and burn area of potential bushfires. Model predictions of the burn area, probability of fires and fire severity will help to mitigate and minimise the effects of catastrophic bushfires in the future. Outputs can be generated before a fire to assess

high-risk areas based on the latest remotely sensed data and citizen scientist inputs. This can inform forest management crews ahead of possible fires about the potential fire damage, severity, and affected areas. Once there is an ignition, the model can quickly and accurately predict the direction, extent and severity of the fire. This can inform an optimised response to minimise fire impact and protection of property and life. Both pre-and post-fire ignition predictions have the potential to dramatically reduce the loss of human and animal life and the financial cost associated with bushfires. The outcomes will assist in disaster resilience, preparedness and response to bushfires.

The research team has made every effort to ensure that there is minimal impact on the participants. The list of potential risks along with the risk mitigation strategies used in this research project are outlined in Table 2.

Table 2. Identified potential risks and risk mitigation strategies

Risks	Risk mitigation strategies
Security of data collected through the NOBURN App	Data collected through the NOBURN App is stored securely on the NOBURN database. The database and servers are approved by UniSC to ensure that they comply with UniSC's Information Technology and Ethical requirements.
The privacy and confidentiality of your identifiable information	Participants will be required to accept the Terms of Use and End User Licence Agreement prior to accessing the App. The Agreement outlines how the research team will use the information collected as well as the organisations/users' obligations regarding confidentiality of that information.
Data collection requirements until March 2024	<p>The longitudinal design of the study requires participants to participate in the research project for 21+ months. Participants may choose to withdraw from the study at any time without consequence.</p> <p>Participants will only be requested to enter data records if they have been involved in activities that took place in forested environments (work, recreation, living). Therefore, it is estimated that participation in this project will involve recording at least three (3) data entries per year.</p>
Potential unequal relationships	The research team and industry networks will promote NOBURN through professional, social and community groups, creating a potentially unequal relationship. Please note that participation in this research project is voluntary, and your choice to participate (or not) will not affect your relationship with the research team, our industry networks or UniSC. You can choose to withdraw from the research project at any time without consequence.
Safety of participants when entering data records	<p>When entering data recordings through the NOBURN App, participants will be provided with the following prompts:</p> <ul style="list-style-type: none"> • Before entering your data record, check your surroundings to ensure you are in a safe location. • Stay on marked tracks. Do not take shortcuts or form new tracks, as this damages the environment and causes erosion. • Take a first-aid kit and know how to use it. • Walk with care, know your limits and choose suitable walks. • Walk in pairs or small groups. That way, if a person is injured, others can assist. Always bring enough food and drinking water. • Wear appropriate clothing for the climate. Always wear sturdy shoes and a hat. • Be sun-smart and use the SunSmart app. • Be wildlife aware and never feed, handle or play with wildlife. • Use personal insect repellent to protect yourself from scratches and insect bites. • Additionally, before you set off, we highly recommend you visit the Triple Zero website before visiting a national park or forest. • If you are injured or in an emergency, please telephone "000" or download the Triple Zero emergency app to help identify your location. • If there is no mobile coverage on any network, consider taking a satellite phone, personal locator beacon (PLB) or another form of communication.

Results

The aggregated de-identified data will be published through peer-reviewed journal articles and conference presentations. A 6-monthly report will be produced on the data collected by the NOBURN App in accordance with Commonwealth Government funding requirements. This will describe the number of records entered and the type of records (image, video, text or sample). No individuals or organisations are identifiable from these reports or articles.

The 6-monthly report will be made available via social media, other media and email communication. The research team will use email and social media channels to provide de-identified monthly updates on the project progress, advertise citizen science, and school and community events related to the project, and publish de-identified significant project findings.

Funding

This research is funded by the Commonwealth Department of Industry, Science, Energy and Resources.

Concerns or Complaints

If you have any concerns or complaints about the way this research project is being conducted, you can raise them with the Chief Investigator (listed above). If you prefer an independent person, you may contact the Chair of the UniSC Human Research Ethics Committee via telephone: (07) 5430 2823 or via email: humanethics@usc.edu.au.

Please save the information above if you choose to participate.



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