



**UPLOADS**  
Understanding and Preventing Led  
Outdoor Accidents Data System

# An incident reporting and learning system for the outdoor activity sector

Natassia Goode<sup>1</sup>, Paul Salmon<sup>1</sup>, Michael Lenne<sup>2</sup> and Caroline Finch<sup>3</sup>

<sup>1</sup>University of the Sunshine Coast Accident Research Team

<sup>2</sup>Monash Accident Research Centre, Monash University

<sup>3</sup>Centre for Health and Safe Sport, University of Ballarat

# This project is proudly supported by:



**Australian Government**  
**Australian Research Council**



**University of the  
Sunshine Coast**  
The best of both worlds



**MONASH University**



# The problem

- Many outdoor activity providers do not have an effective system for collecting and evaluating incident data.
- Outdoor activity providers that do collect incident data all do it in different ways.
- This makes it difficult to:
  - Identify the causes of near misses, injuries and fatalities to prevent similar accidents occurring.
  - Share what we have learnt with each other so we can improve safety across the industry.

# The solution: UPLOADS

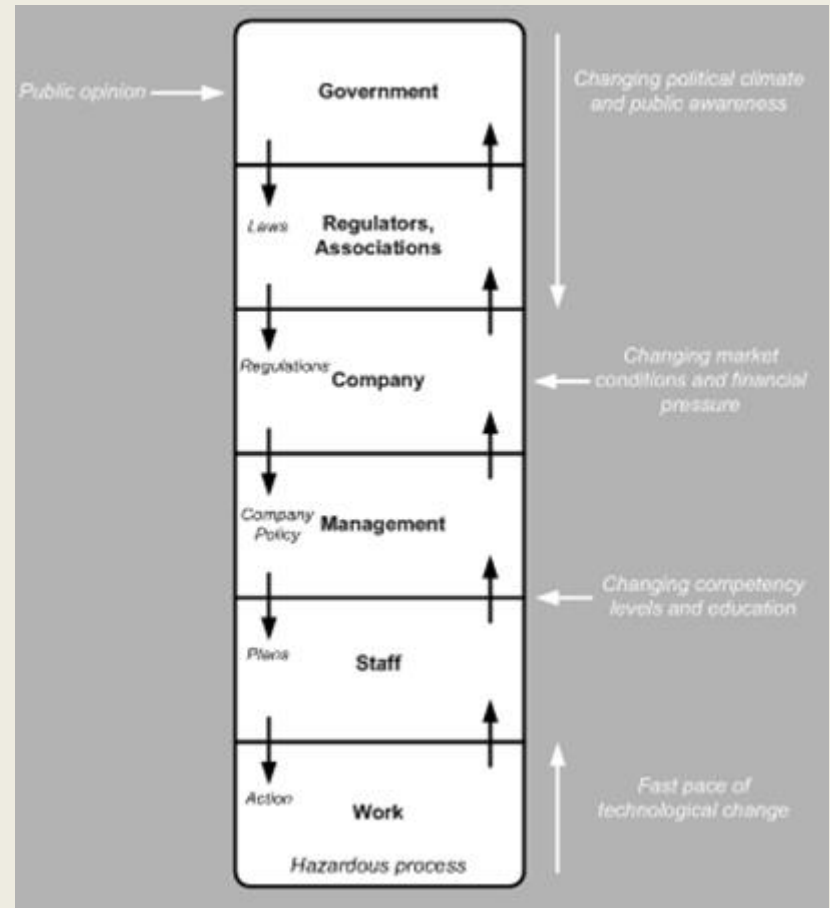
A standardised, industry-wide, approach to incident reporting and learning.

UPLOADS will allow your organisation to:

- Collect detailed information on near misses and adverse events using an electronic database. This will allow you to detect trends and formulate countermeasures.
- Contribute deidentified data to an industry-wide database. The results will be regularly analysed by the USCAR team and disseminated so that the industry can understand the risks it faces and take appropriate action.

# Based on Rasmussen's Risk Management Framework

- Considers the factors beyond human error that contribute to incidents (e.g. equipment, environment, participants, instructors, activity centre management, schools, parents, standards and government policies).
- Considered best practice in other safety-critical domains (e.g. aviation, transport, healthcare).



# Specifically designed for outdoor activity providers

- The database fields are specific to outdoor activities.
- A domain-specific taxonomy is provided to code the causal factors involved in incidents.

Incidents	Staff	People	Courses	Templates
Change view	New Record	Delete	Find	Show All

The incident information entered in this form will be sent (via Export) to the University of the Sunshine Coast for further analysis. All names selected via the provided dropdown lists will be automatically de-identified following data export.

### 1. General Incident Information

Incident ID	<input type="text" value="IAAA_1000"/>
Title	<input type="text" value="understanding waterfalls"/>
Type of Incident	<input type="text" value="Incident associated with adverse outcomes"/>
Severity	<input type="text"/>
SOP number	<input type="text"/>
Course	<input type="text" value="Kayaking 2013-04-22 10:00"/>
Activity associated with incident	<input type="text" value="Inland aquatic: Kayaking"/>
Staff supervising activity at the time of the incident	<input type="text"/>
Number of people involved in activity	<input type="checkbox"/> Participants (e.g. students) <input type="checkbox"/> Volunteer helpers (e.g. parents) <input type="checkbox"/> Qualified instructors <input type="checkbox"/> Supervisors (e.g. teachers, youth leaders)

[View](#)

# Specifically designed for outdoor activity providers

- The database fields are specific to outdoor activities.
- A domain-specific taxonomy is provided to code the causal factors involved in incidents.

Equipment and materials: Activity equipment		<input type="checkbox"/> Yes
<input type="checkbox"/> Equipment not used properly		<input type="text"/>
<input type="checkbox"/> Failure to use equipment		<input type="text"/>
<input type="checkbox"/> Inadequate equipment		<input type="text"/>
<input type="checkbox"/> Lack of equipment		<input type="text"/>
<input type="checkbox"/> New/unfamiliar equipment		<input type="text"/>
<input type="checkbox"/> Wrong equipment		<input type="text"/>
<input type="checkbox"/> Other		<input type="text"/>

Equipment and materials: Clothing and PPE		<input type="checkbox"/> Yes
<input type="checkbox"/> Activity clothing/PPE not used		<input type="text"/>
<input type="checkbox"/> Activity clothing/PPE not used properly		<input type="text"/>
<input type="checkbox"/> Inadequate activity clothing/PPE		<input type="text"/>
<input type="checkbox"/> Lack of clothing/PPE		<input type="text"/>
<input type="checkbox"/> Restrictive clothing/PPE		<input type="text"/>
<input type="checkbox"/> Wrong clothing/PPE		<input type="text"/>
<input type="checkbox"/> Other		<input type="text"/>

# Systematic record keeping

UPLOADS helps you track:

- Near miss and adverse events during activities.
- Staff contact details, qualifications, medical records and dietary requirements.
- Participant/teacher/volunteer contact details, medical records, dietary requirements and behavioural issues.
- Course times, locations, participants and supervisors.

2. Adverse outcomes

a) Outcomes involving injuries, illnesses and/or social/psychological damage

Staff ID  or Person ID

Was the incident fatal?  No  Yes

Experience in activity associated with incident

Injury type

Injury location

Illness

Social/psychological

Treatment at the scene of the incident

Evacuation method

Hospitalisation required?  No  Yes

Emergency services called?  No  Yes

If yes, which emergency services were called?



# Systematic record keeping

UPLOADS helps you track:

- Near miss and adverse events during activities.
- **Staff contact details, qualifications, medical records and dietary requirements.**
- Participant/teacher/volunteer contact details, medical records, dietary requirements and behavioural issues.
- Course times, locations, participants and supervisors.

Incidents	Staff	People	Courses	Templates
Change view	New Record	Delete	Find	Show All

Staff ID	SAAA_1003	Dietary restrictions	None
First name	Alira	Medications	Ventolin
Last name	Goode	Pre-existing medical conditions or injuries	Ankle injury 2011
DOB	20/07/1961	Notes	
Gender	<input checked="" type="radio"/> Female <input type="radio"/> Male		
Home phone	07 5453 8782		
Work phone	07 5223 5663		
Mobile	0420 199 566		
Fax			
Email	agoode@expo.com		
Emergency contact	Jim Goode		
Phone	0412 955 266		
Position	Instructor		
Address	1 Green St		
Suburb	Wyong		
State	QLD		
Postcode	4552		
Qualifications	Name of qualification	Date awarded	
	Diploma of Outdoor Recreation	01/08/2011	

# Systematic record keeping

UPLOADS helps you track:

- Near miss and adverse events during activities.
- Staff contact details, qualifications, medical records and dietary requirements.
- Participant/teacher/volunteer contact details, medical records, dietary requirements and behavioural issues.
- Course times, locations, participants and supervisors.

Incidents	Staff	People	Courses	Templates
Change view	New Record	Delete	Find	Show All

Person ID	AAAA_1002	Dietary restrictions	No shellfish
First name	Tiffany	Medications	Prednisone Oral
Last name	Peters	Pre-existing medical conditions or injuries	None.
DOB	20/08/1999	Age	13
Gender	<input checked="" type="radio"/> Female <input type="radio"/> Male	Known behavioural	Potential sleepwalker.
Home phone	07 6666 5423		
Work phone			
Mobile	0423 187 543		
Fax			
Email			
Emergency contact	Mabel Peters		
Phone	07 6666 5423		
Classification	Participant		
Experience in led outdoor activities	No prior experience		
Address	1 Yellow St		
Suburb	Claymore		
State	QLD		
Postcode	4223		
Country			

# Systematic record keeping

UPLOADS helps you track:

- Near miss and adverse events during activities.
- Staff contact details, qualifications, medical records and dietary requirements.
- Participant/teacher/volunteer contact details, medical records, dietary requirements and behavioural issues.
- **Course times, locations, participants and supervisors.**

Incidents	Staff	People	Courses	Templates
Change view	New Record	Delete	Find	Show All

Template ID	TAAA_1000	<input type="button" value="View"/>	Participant limit	20
Course name	Kayaking		Total limit	25
Location	Templestow			

Course ID	CAAA_1000	Staff
Organisation		GOODE, Alira
Start date/time	Mon, 22 Apr 2013 10:00	GOODE, Natassia
End date/time	Mon, 22 Apr 2013 15:00	SALMON, Paul
Course notes		THOMAS, Miles

People	Gen	Age	Emergency contact	Emergency phone
DICKENS, Charles	M	14	Emily Dickens	07 5333 5444
GOODE, Petre	M	14	Mark Goode	07 6666 5544
PETERS, Tiffany	F	13	Mabel Peters	07 6666 5423

# Secure and confidential reporting

- The database is stored on your own computer and is not accessible by the research team.
- The database includes a function to export deidentified data.
- You will be asked to contribute deidentified data to the industry database on a monthly basis.
- Your organisation will be completely anonymous once data files have been merged into the industry database.
- Individual cases are not identifiable from the industry dataset.
- The deidentified data will be stored on secure servers at USC and will only be accessible by the research team.

# Example: industry-wide accident causation analysis

## 1014 Incidents

Number in brackets denotes frequency of occurrence of contributing factor

Government Policy and Budgeting	Government dept failed to fulfill safety responsibilities (12)	Actions of other organisations (1)						
Regulatory Bodies and Associations, schools and parents	Parents failed to provide information (10)	Parents fail to pick up participants (1)	Parents judgement error on fitness for camp (1)	Late arrival of group (5)	School failure to provide adequate information (1)	Industry failure to identify equipment issues (1)	Inaccurate activity rating system (1)	
Local area government, activity centre management, planning and budgeting	Poor/lack of risk management system (45)	Poor staff training evaluation system (33)	Poor/inadequate activity policy (13)	Lack of activity policy (2)	Subcontracting activities to other parties (11)	Poor incident learning systems (3)		
Technical and operational management	Poor planning of activity (58)	Failure to adequately plan for participants with special needs (26)	High participant to staff ratio (26)	Failure to provide appropriate equipment (8)	Poor implementation of risk management procedures (8)	Failure to maintain activity area (8) and equipment (7)	Poor communications with instructors (6) and participants (2)	Lack of staff (4)
Physical processes and instructor/participant activities	Participant factors (1359)	Instructor factors (808)	Group factors (81)	Supervisor factors (19)	Other actors (30)	Student leader factors (4)	Other (6)	
Equipment and surroundings	Hazardous terrain (509)	Lack of equipment (197) and equipment failures (144)	Adverse weather conditions (149) and temperature (76)	Plant hazard (65)	Animal hazard (63)	Visibility (46)	Poor communications with instructors (6) and participants (2)	Poor design of equipment (37)

# UPLOADS: summary of features

- Based on a systems theory framework.
- Specifically designed for outdoor activity providers.
- Systematically track incident, staff and participant data.
- Allows you to contribute deidentified data to an industry database.
- Analysis of industry-level data will provide evidence to support systemic changes.

# Interested?

- Become involved in the 6 month prototype trial.
- Help us refine the taxonomy and develop the usability of the system.
- Receive full support from our research team.

For more details contact:

Natassia Goode

[ngoode@usc.edu.au](mailto:ngoode@usc.edu.au)

07 5456 5850