



Analyzing News Media Coverage in Extreme Environmental Events: The Key Role of Media in Human Adaptive behaviors toward water use

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Overarching Objective



Integrated Modelling
Program for Canada
Global Water Futures



Introduction



Literature

Socio-Hydrological Models

The Role of Media



Methodology

Articulate



Results

Drought and Flood in Media

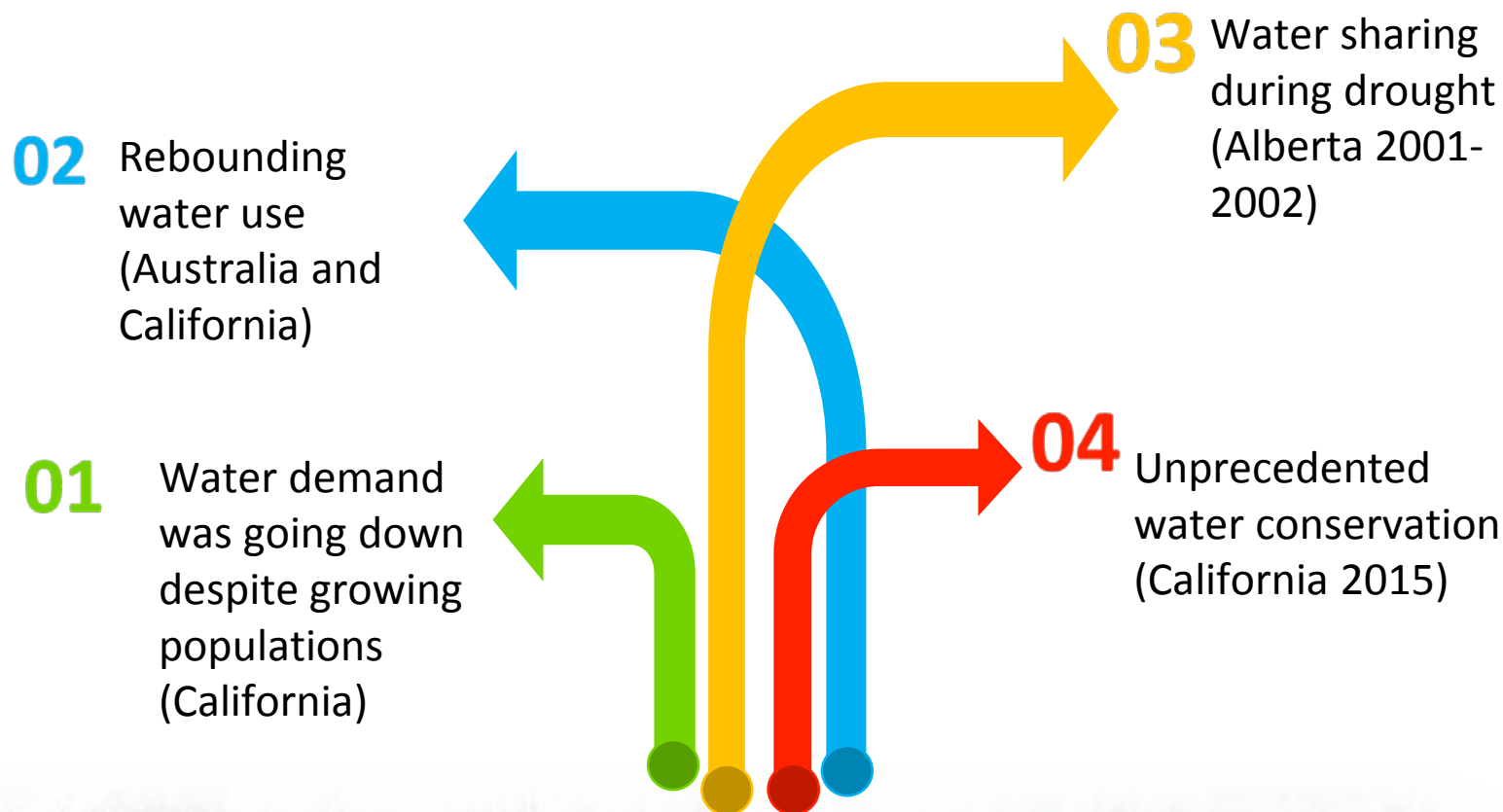
Toward water use



Future Direction



Why Socio-Hydrology?





Real-world information source



Global Broadcast



Social Media



Observations of
Other Individual's
Actions



Recent Research

 **AGU** PUBLICATIONS

Water Resources Research



SCIENCE ADVANCES | RESEARCH ARTICLE

ENVIRONMENTAL STUDIES

Changes in water consumption linked to heavy news media coverage of extreme climatic events

Kimberly J. Quesnel^{1,2} and Newsha K. Ajami^{2,3*}





History Floods in Canada

Hurricane Igor in Newfoundland
2010



DFAA

C\$82 million



Introduction



Literature



Methodology



Results



Future
Direction



History Floods in Canada

Assiniboine River flood

2011



DFAA

C\$347 million



Introduction



Literature



Methodology



Results

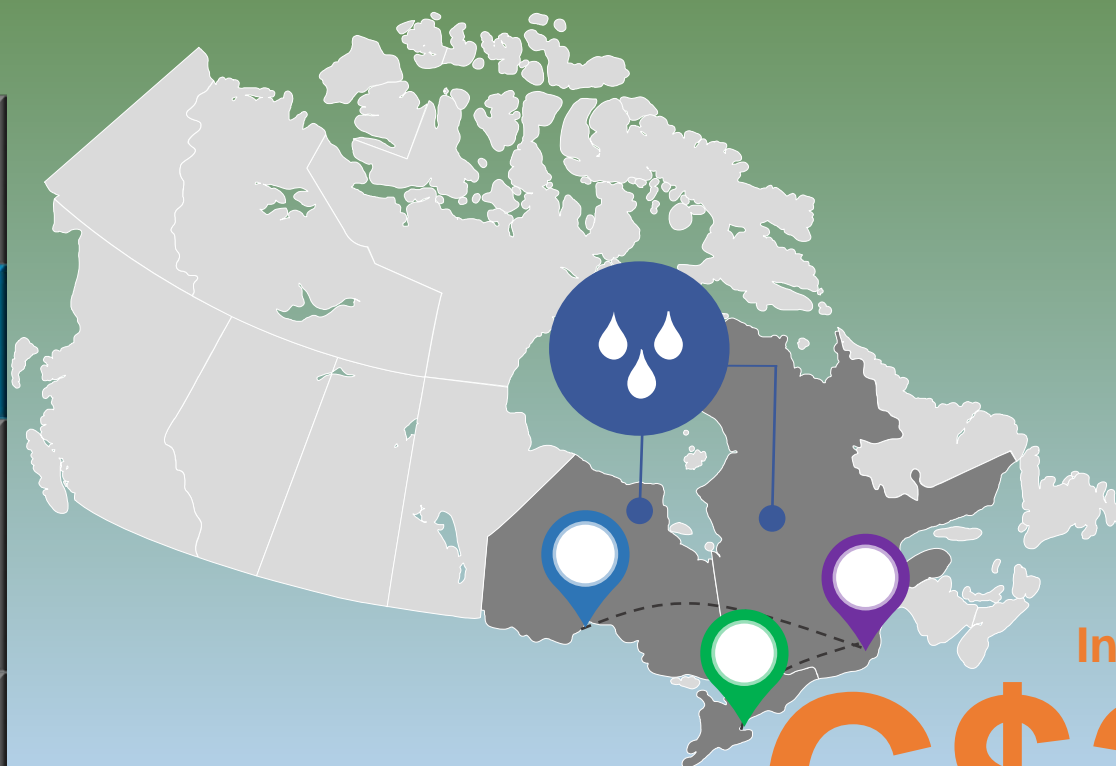



Future
Direction



History Floods in Canada

2012



-  Thunder Bay
-  Montreal
-  Hamilton

Insured damages

C\$350 million



History Floods in Canada

Calgary and Southern Alberta Flood 2013

Property Damage

\$5 billion

Evacuation

21,100,000

Government officials co-ordinated
information on social media

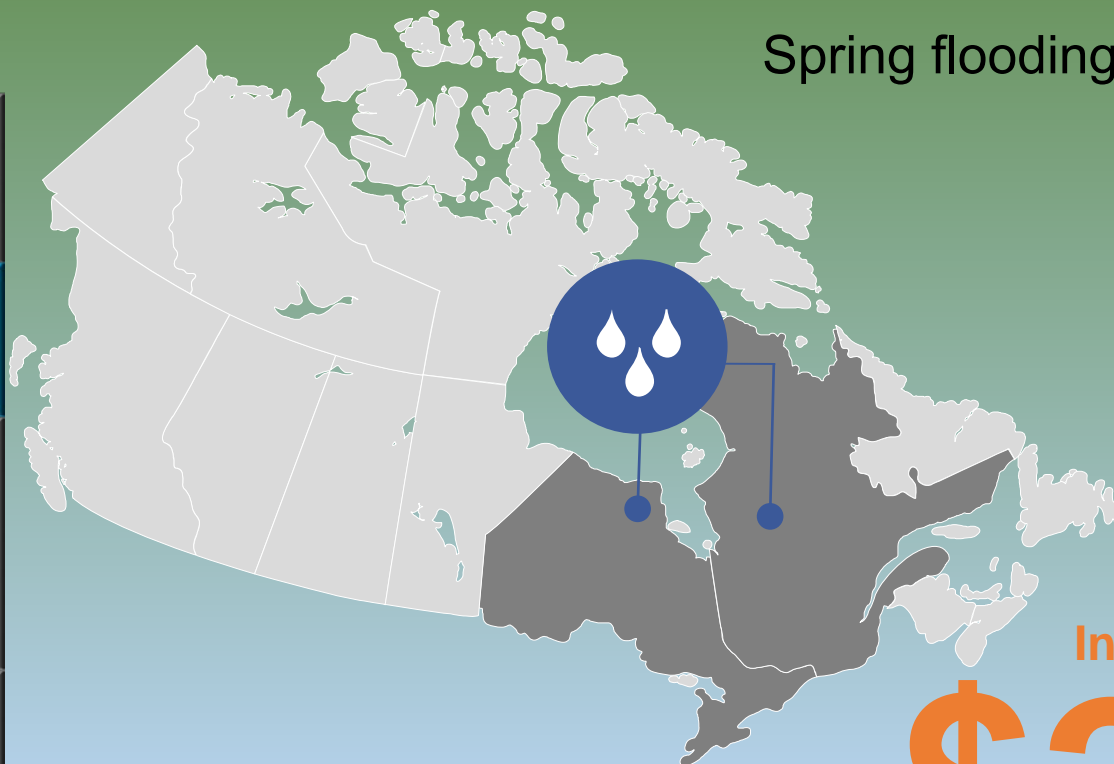


Future
Direction



History Floods in Canada

Spring flooding in Ontario and Quebec
2017



Insured damages

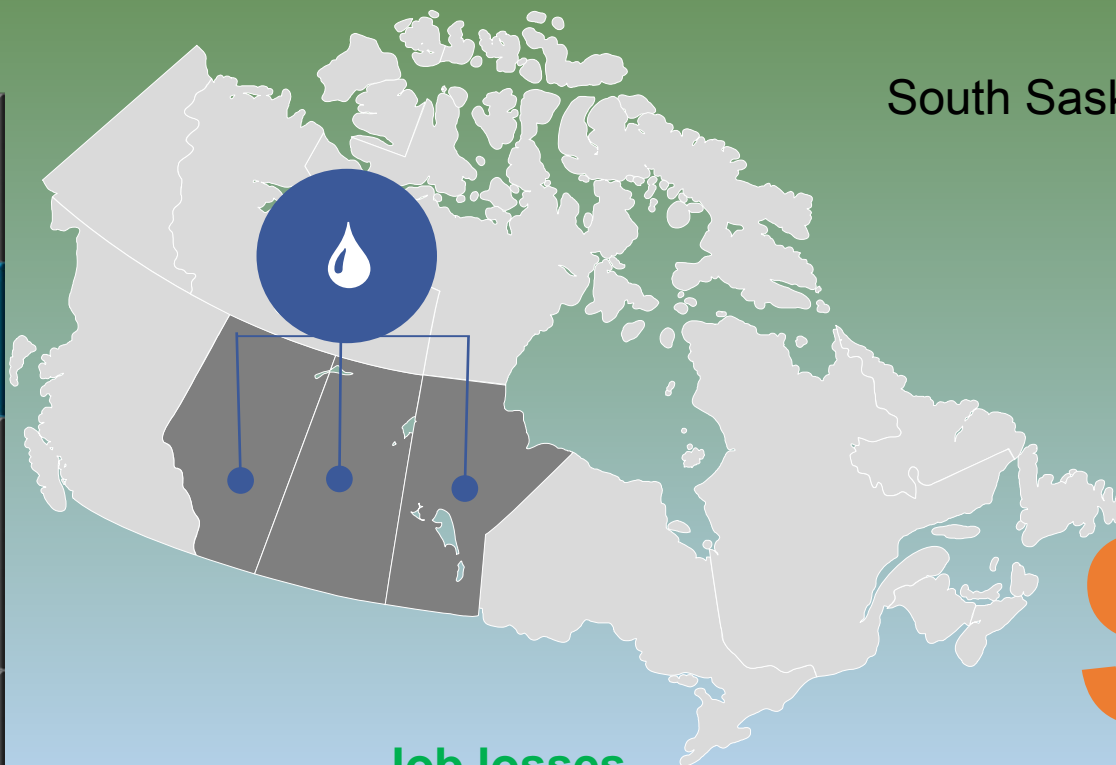
\$223 million



History of Droughts in Canada

South Saskatchewan River Basin

2001-2002

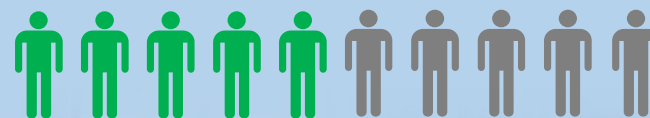


GDP fell

\$5.8 billion

Job losses

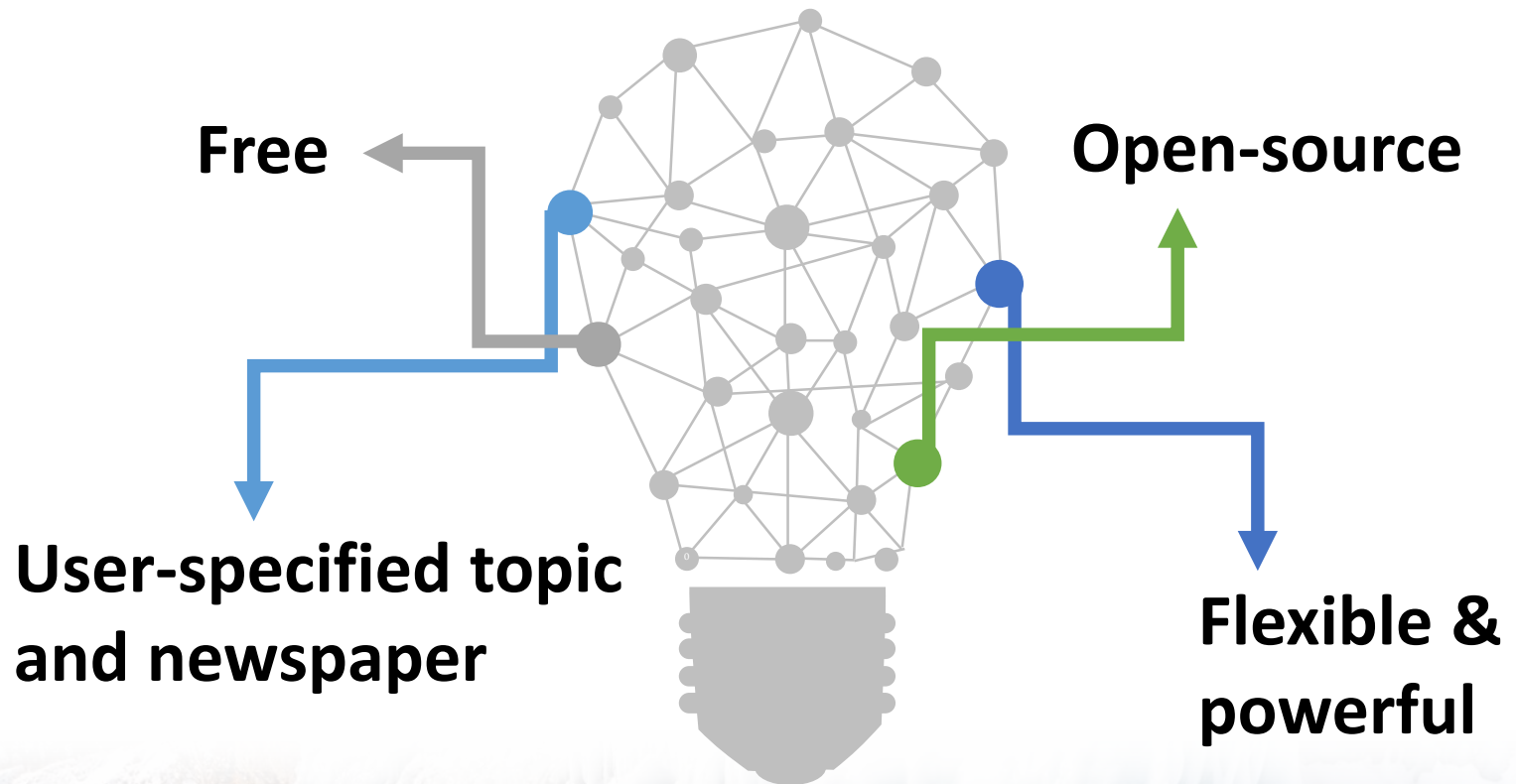
41,000





Quantifying News Media Coverage

Articulate





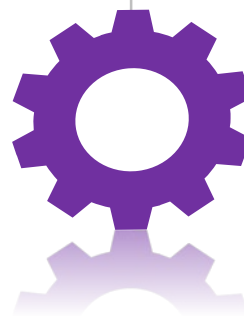
Software Inputs





Software Inputs

End Date



<https://github.com/Stanford-Urban-Water-Policy-Innovation/Articulate>



Introduction



Literature



Methodology



Results



Future
Direction



Software outputs



Introduction



Literature



Methodology



Results



Future
Direction

01

The Database File

The database file contains identifying information for each article with the following headers: site, search, title, day, year, media_type, and further_info.

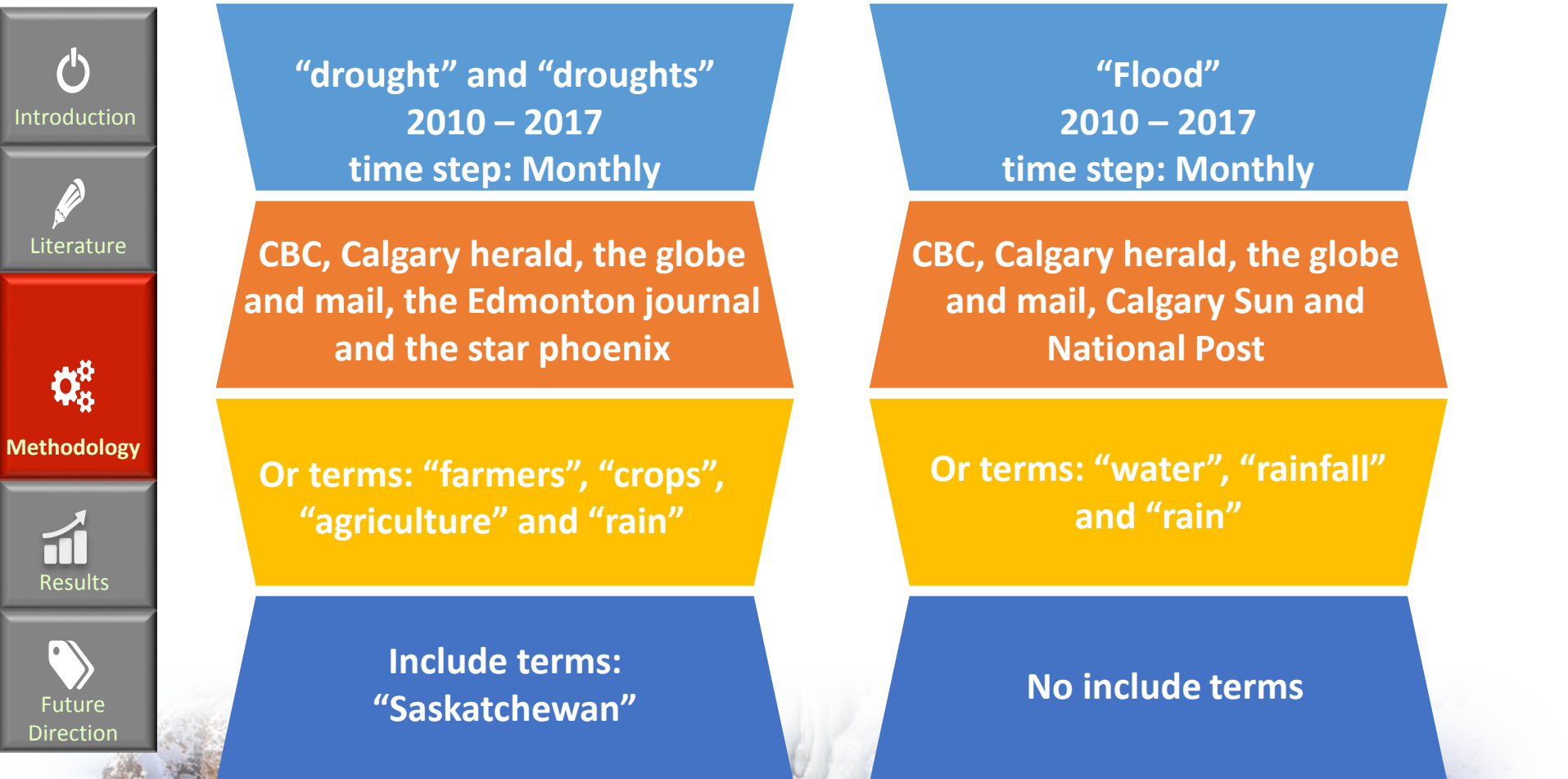
02

The Data frame File

The data frame files will return a tally count for each source in each Time Step Size period.



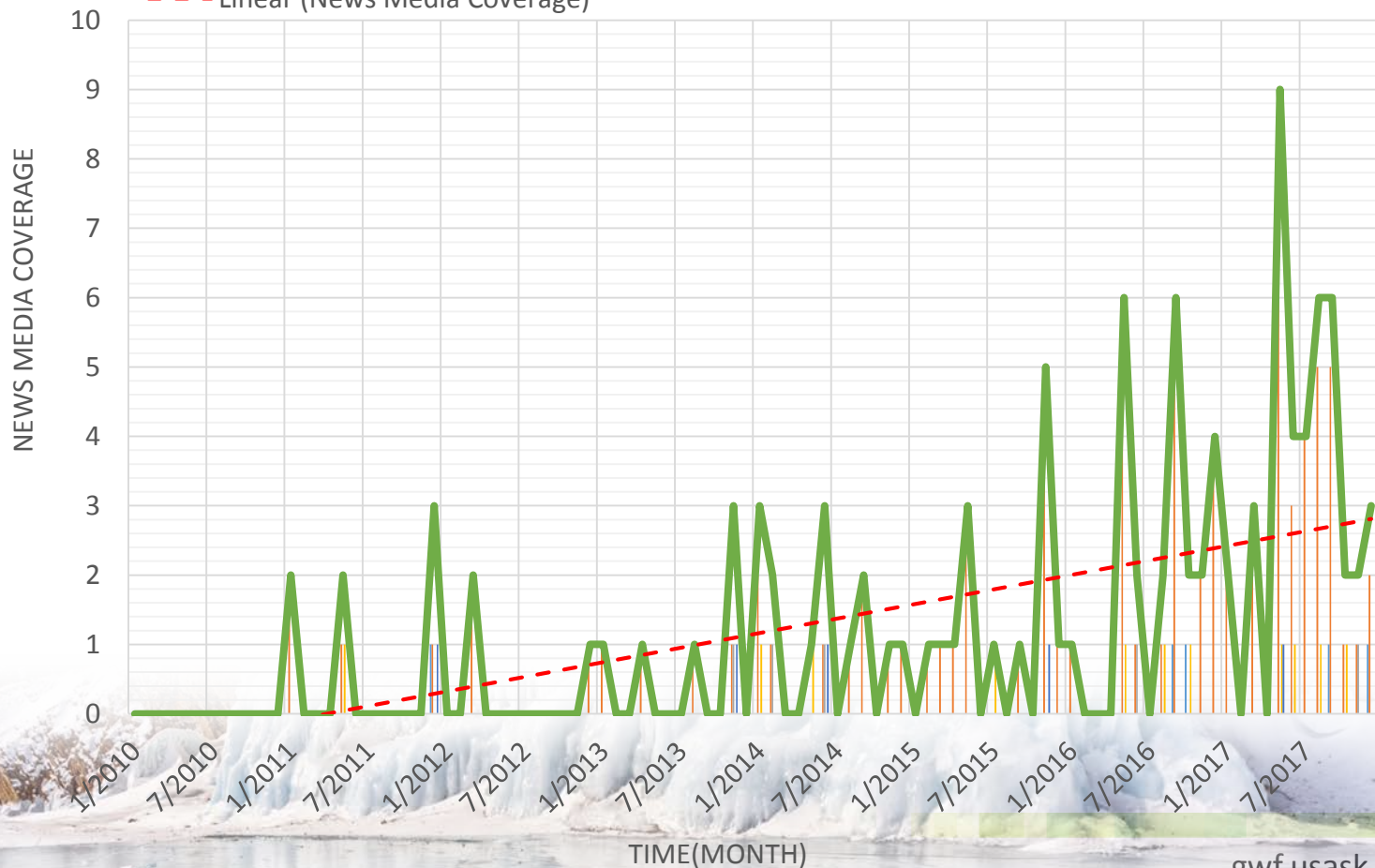
Our Analysis





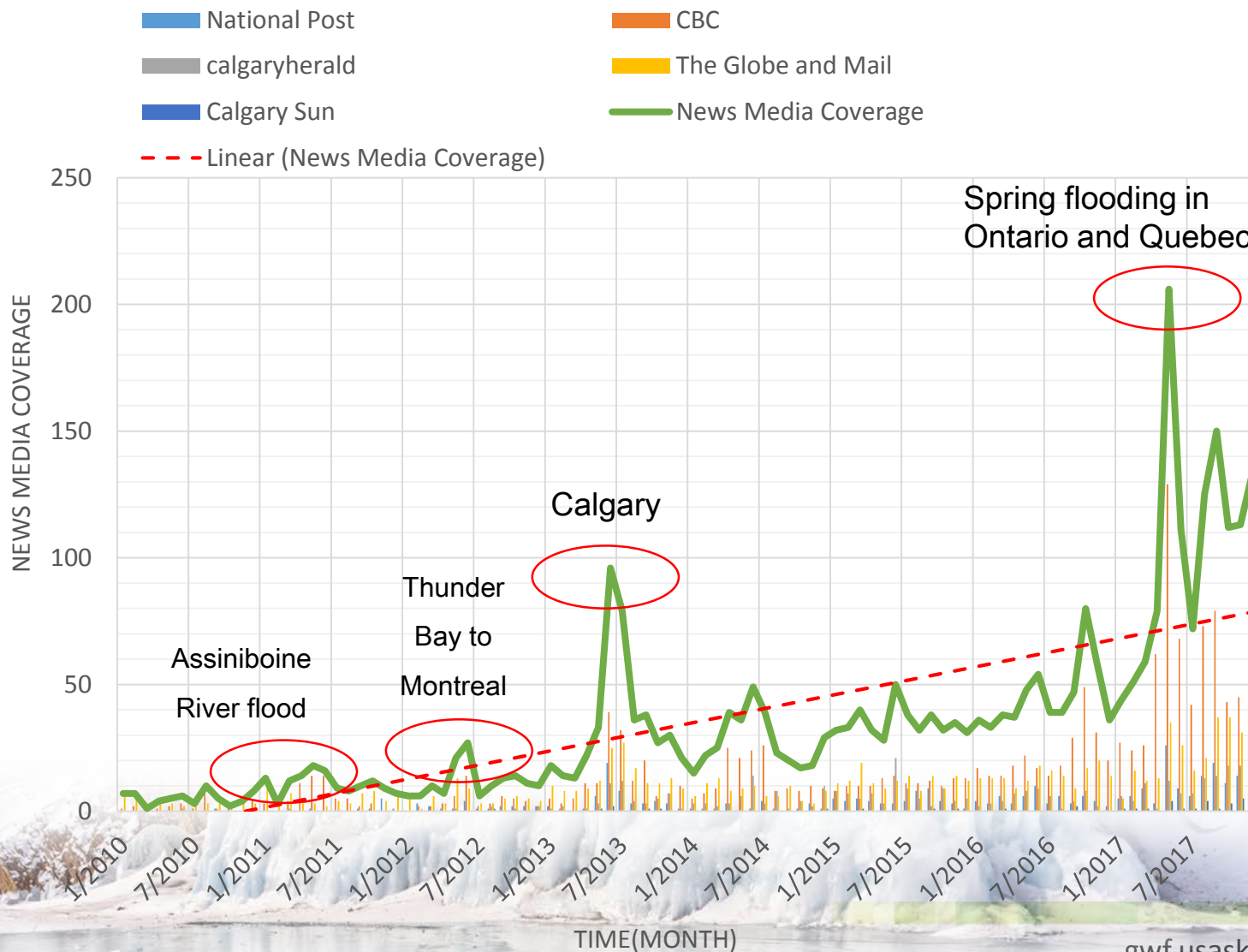
Drought in Saskatchewan river basin

■ The Star Phoenix
■ CBC
■ calgaryherald
■ The Globe and Mail
■ The Edmonton Journal
■ News Media Coverage
- - - Linear (News Media Coverage)



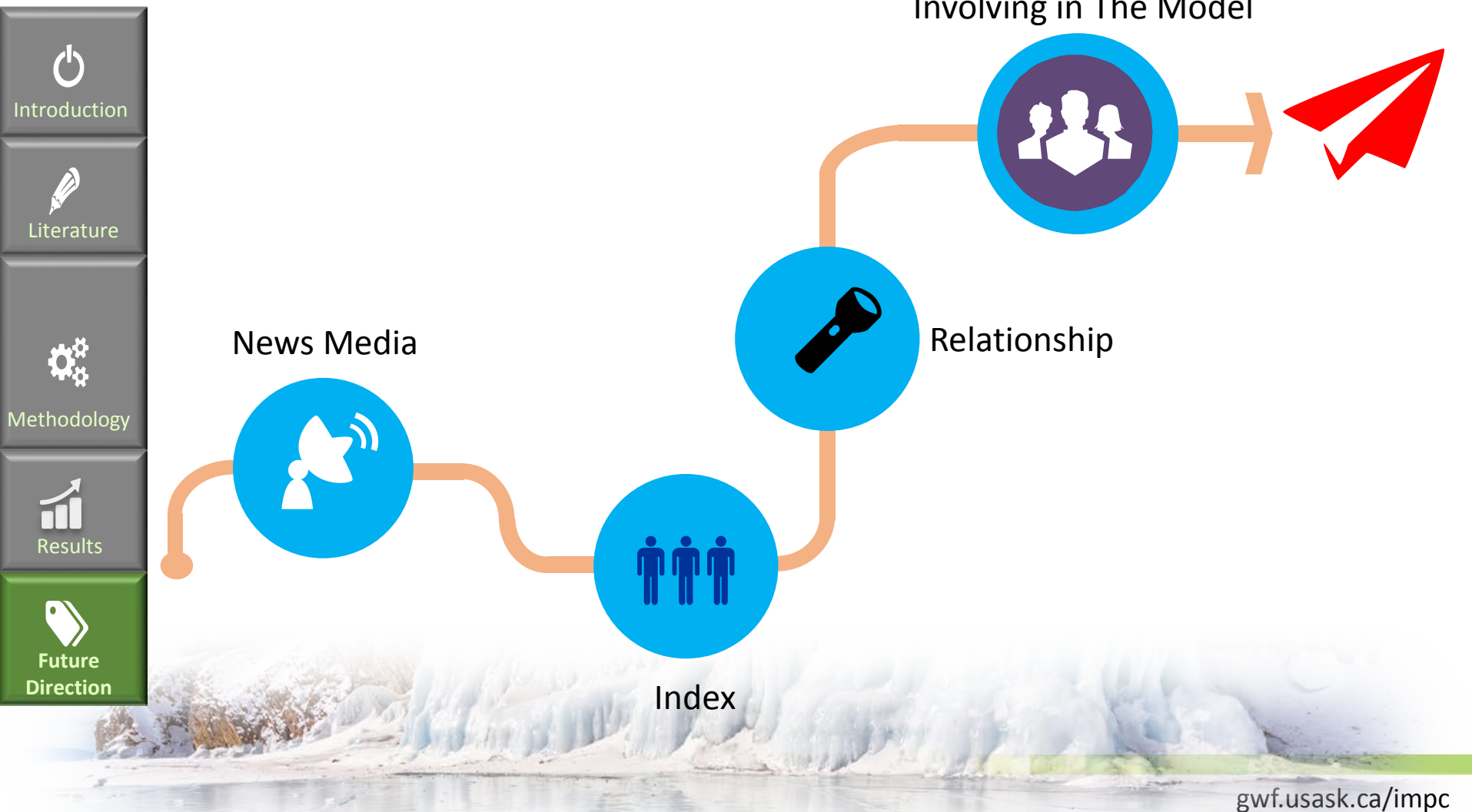


Flood in Canada





Future Direction





References

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