



Citizen-based disaster warning system

Social-media scraping team

Presenters: Tace Stewart and Lanxi Li

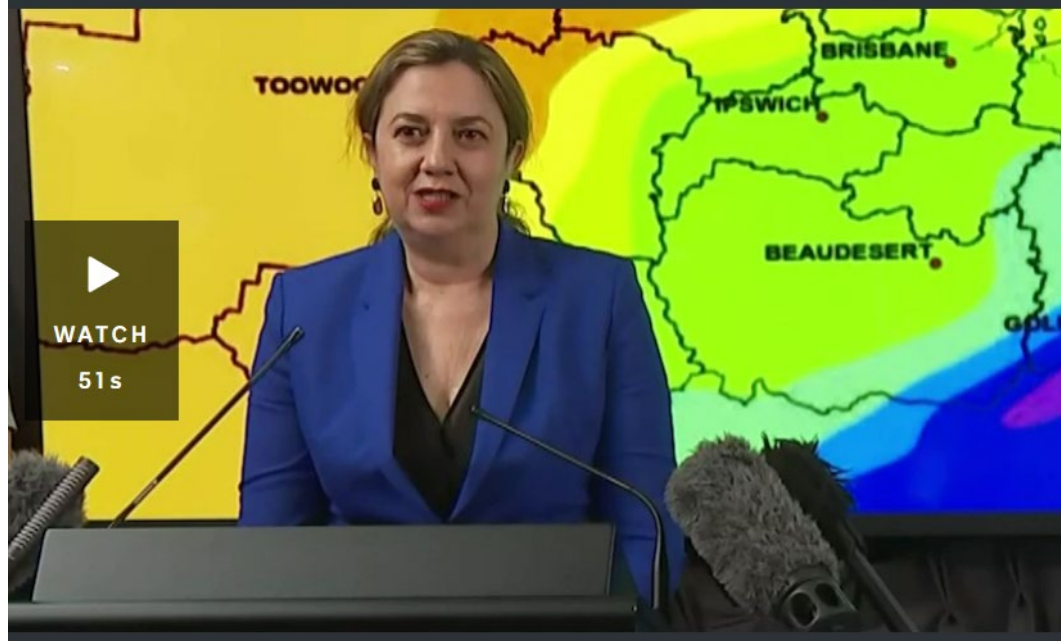
Group members not present: Zhao Xiang and Katie Buchhorn



Motivation

VIDEO: 'Not like the 2011 floods': Queensland Premier moves to reassure public despite 'significant' flood

Posted Mon 28 Feb 2022 at 10:31am



CRICOS No.00213J

Presenters: Tace Stewart and Lanxi Li

GitHub: <https://github.com/DaisyWatermelon/ExtractTwitterImages>

Motivation



People could've prepared for the floods better if the impacts of weather forecasts were clearly communicated

Published: March 4, 2022 3.33pm AEDT

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Authors



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Motivation

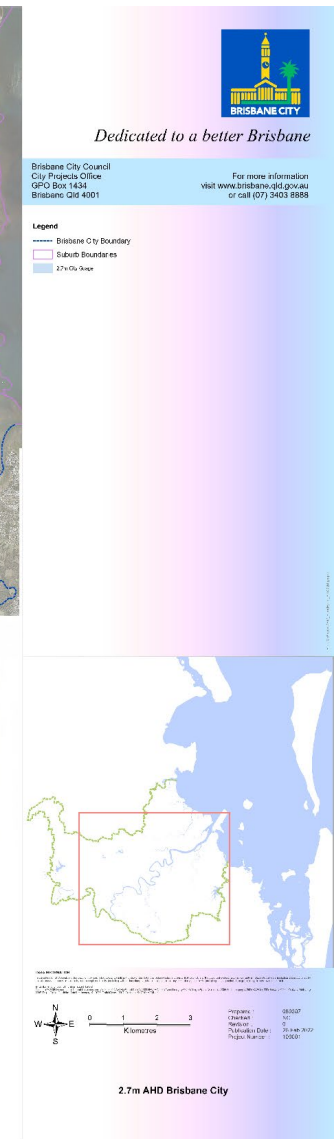
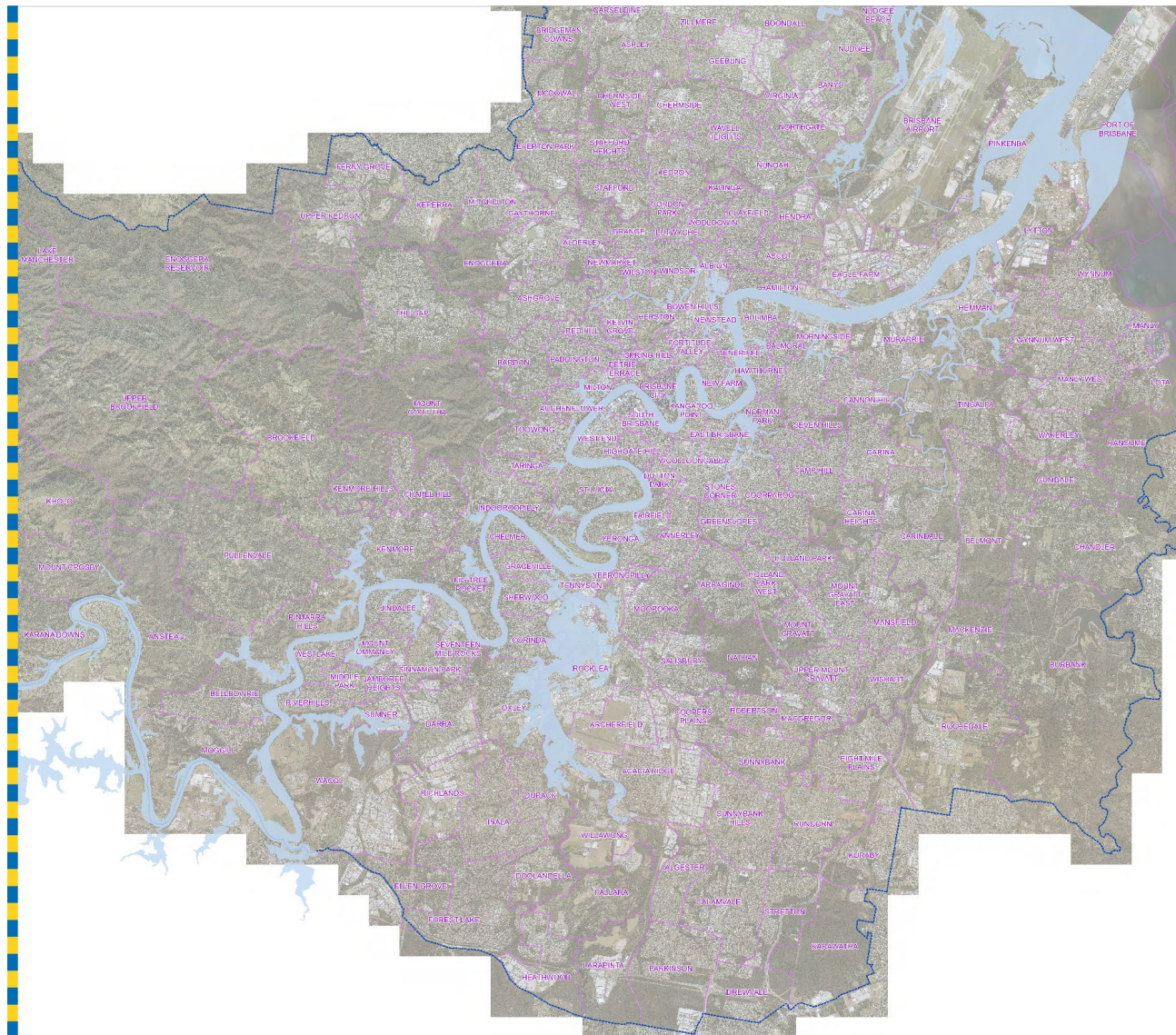
Sydney floods captured on social media
as roads turn into rivers and cars
become boats

**Residents wrote 'stay safe everyone' alongside videos of chaos
caused by flooding that hit Australia's largest city on Tuesday**

**Lisa Favazzo *and*
Caitlin Cassidy**

Wed 9 Mar 2022 03.30
AEDT

Gap

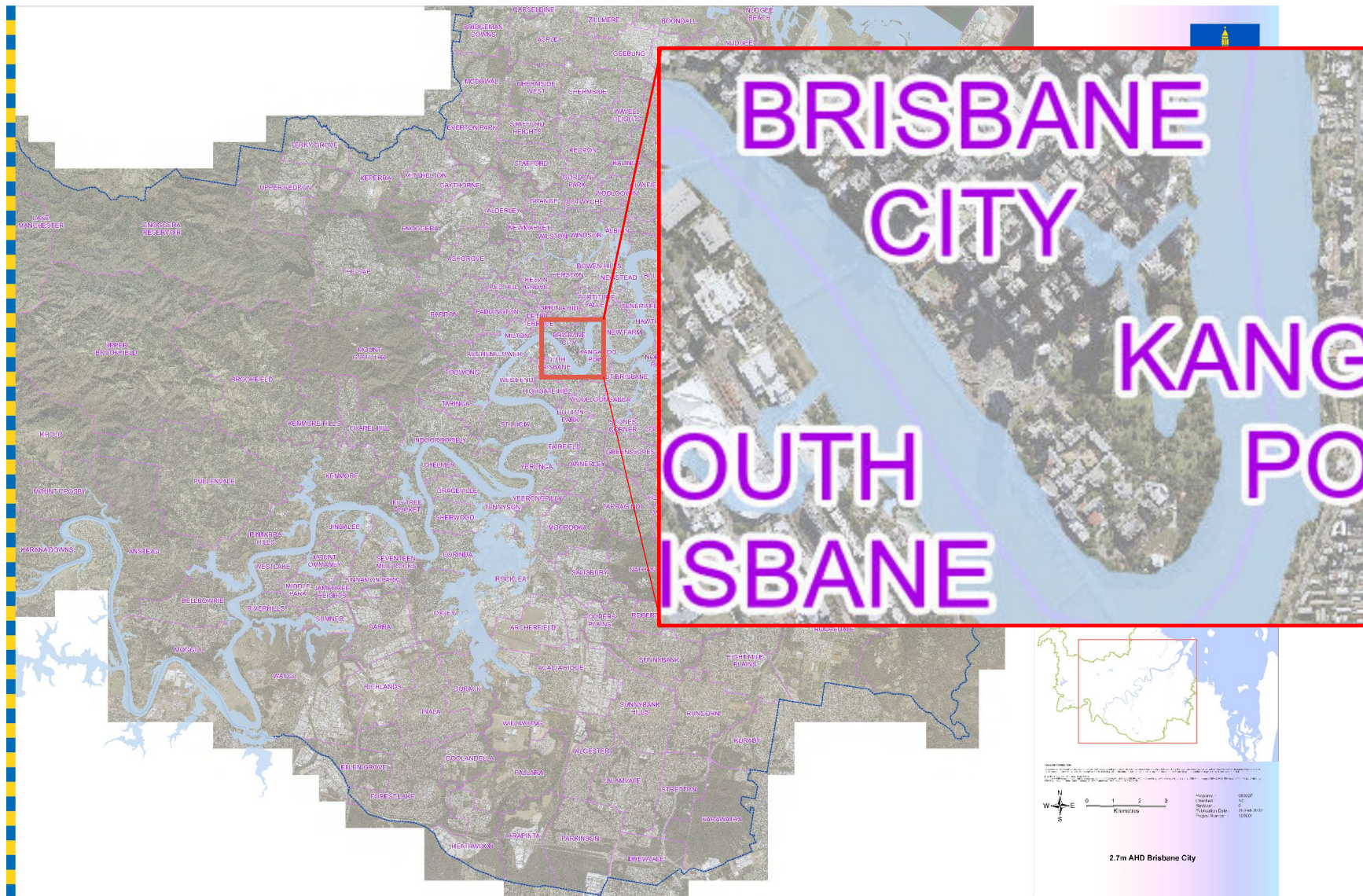


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Gap

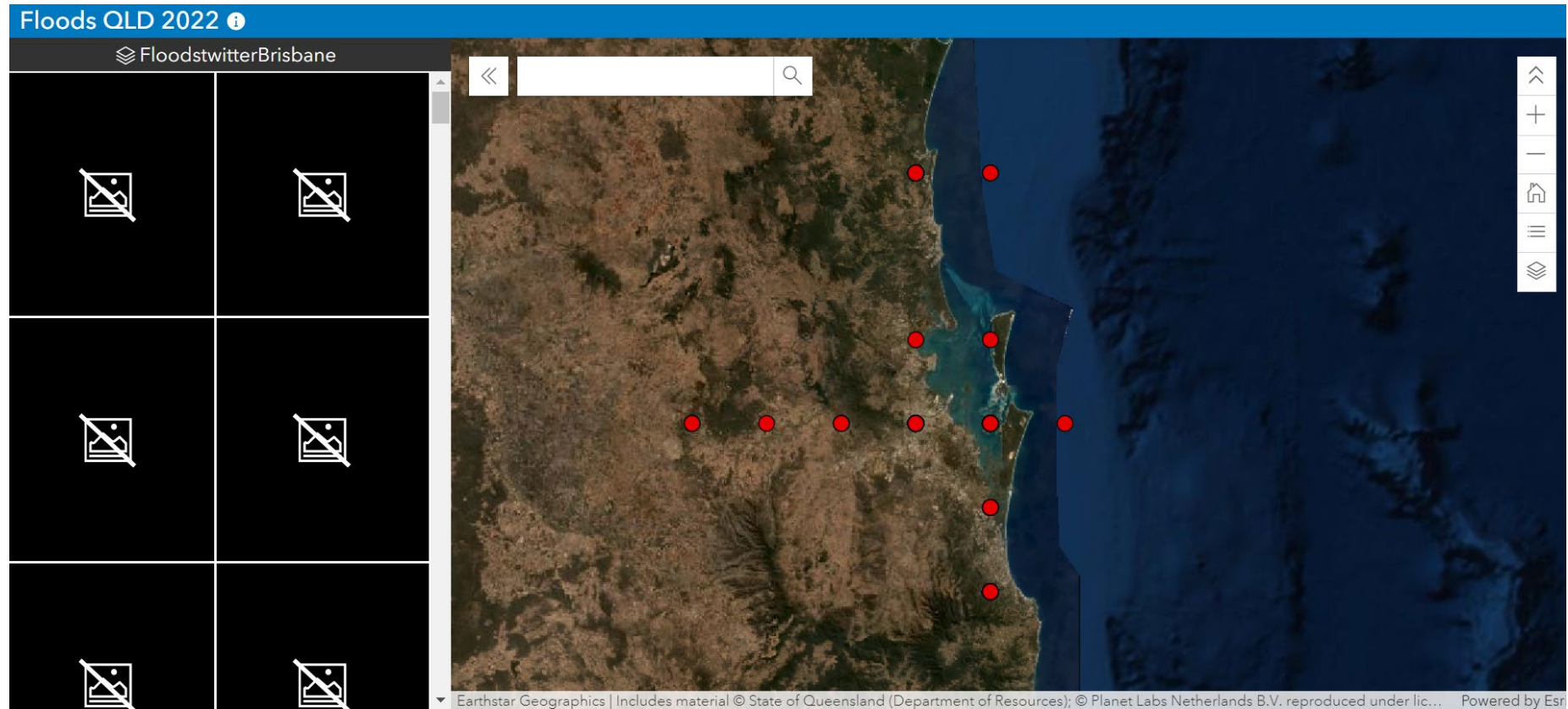


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Solution Proposed: Citizen-based warning system

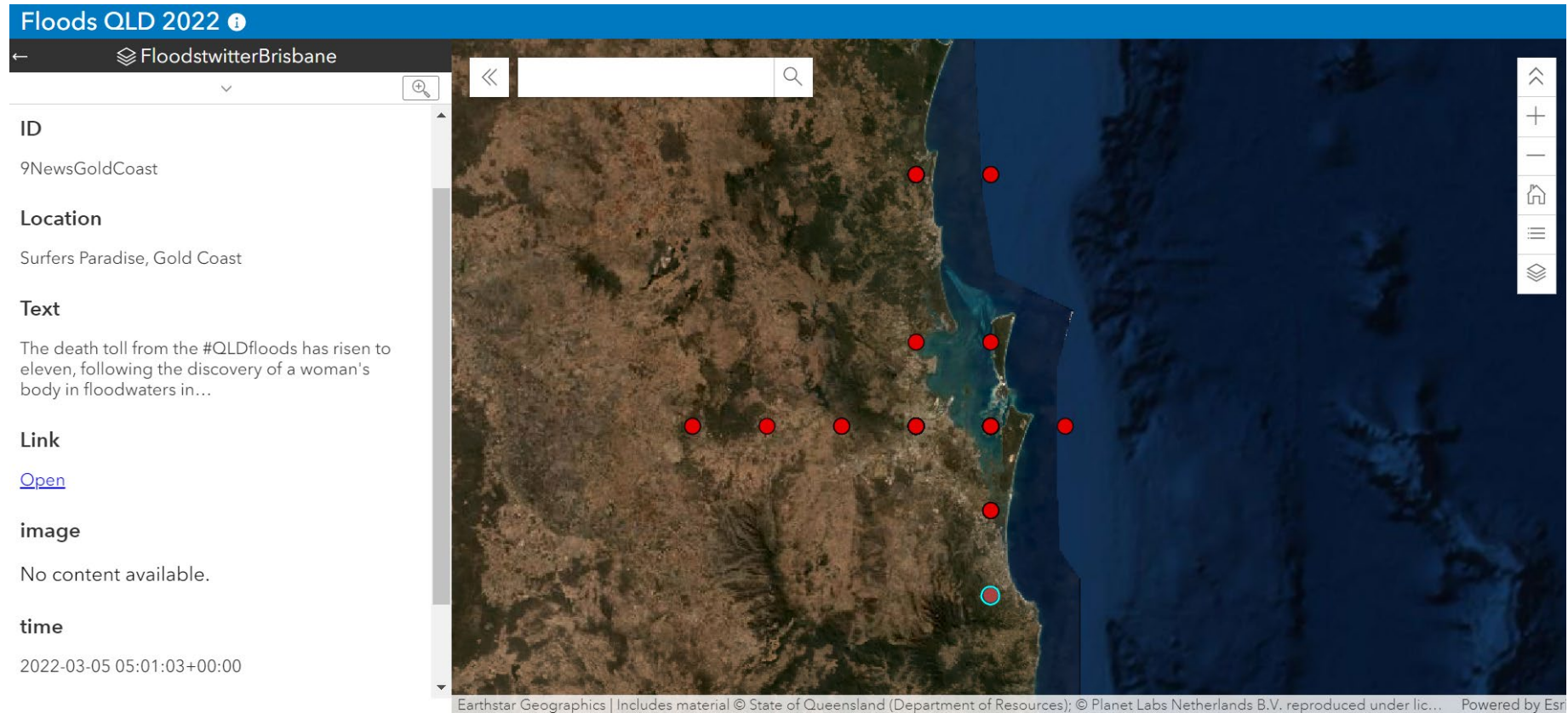
- Scans social media for posts about a disaster
- Anyone can access this system
- Users see a map of their location
- Posts are identified as clickable pins on the map

Prototype



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Prototype



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Information Available

We started with data of Twitter posts that

- included the words “Brisbane” and “flood”,
- included a photo, and
- were posted between 28th February and 1st March.

These can be easily changed.

Code

```
In [4]: # Obtain images url from Twitter
media_files = set()
tweets_list = []
for i,tweet in enumerate(sntwitter.TwitterSearchScraper('brisbane flood (filter:safe OR -filter:safe) since:2022-02-28 until:2022-03-01')):
    #if i>2000:
    #    break

    #print(tweet.media)

    # tweet.media == none if there is no images posted
    if tweet.media:
        for medium in tweet.media:
            #print(medium)
            # download images for photo's url need to convert
            if isinstance(medium, snsrape.modules.twitter.Photo):
                r = requests.get(medium.fullUrl)
                with open('%s.jpg' % i , 'wb') as fp:
                    fp.write(r.content)
                #print(medium.fullUrl)

            # download images for video' url can use directly
            elif isinstance(medium, snsrape.modules.twitter.Video):
                media_files.add(medium.thumbnailUrl)
                #print(medium.thumbnailUrl)
```

Packages used:

- tweepy
- Snsrape

Similar R packages:

- twitteR
- ROAuth
- Rcurl

Outputs

	Datetime	Tweet Id	Text	Username	Media
26	2022-02-28 23:24:25+00:00	1498438974657990661	My bff in Australia posted this \nMost dangero...	hey_butter	[Photo(previewUrl='https://pbs.twimg.com/media...]
27	2022-02-28 23:24:05+00:00	1498438887450230784	@mjrowland68 @BreakfastNews @senbmckenzie Mich...	refurmerge	None
28	2022-02-28 23:21:51+00:00	1498438328987041792	Major Flood Warning for Brisbane and Bremer Ri...	SEQUESTRADIO	[Photo(previewUrl='https://pbs.twimg.com/media...]
29	2022-02-28 23:20:35+00:00	1498438007929864195	@fmlolnews @LLidoff @sunriseon7 @AnnastaciaMP...	DianaBurgess58	None
30	2022-02-28 23:18:03+00:00	1498437371578105857	Prof Stuart Khan, an expert on water managemen...	DeaClark	None

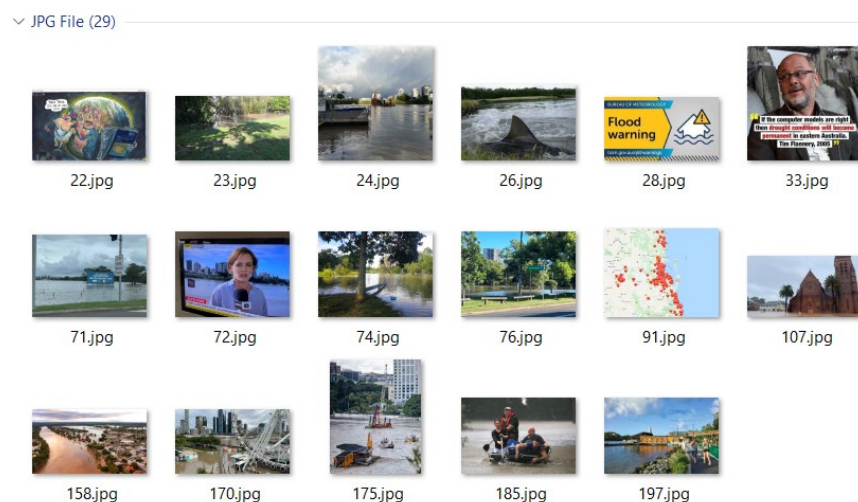
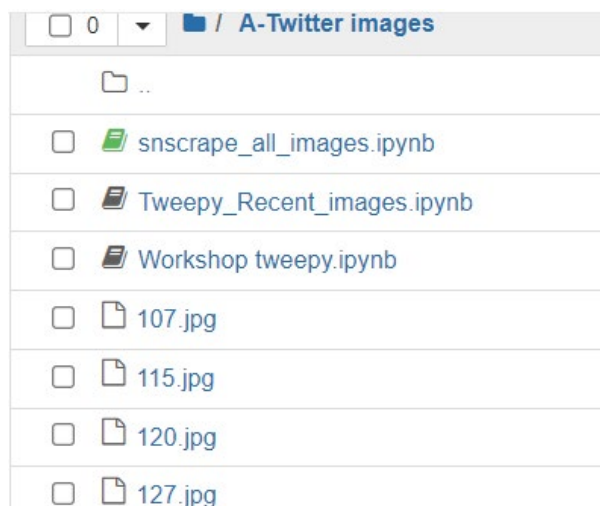


Photo Outputs – Desired



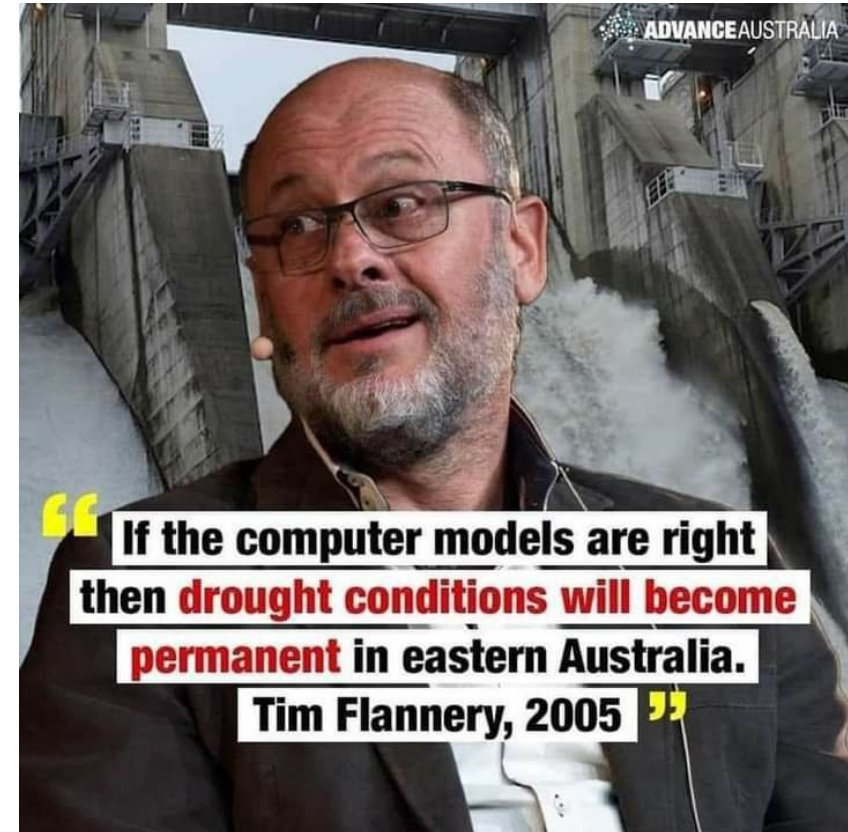
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Photo Outputs – Not Desired



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Further Work Required

- fix the front end to show photos
- expand to multiple social media platforms
- expand to all suburb names in Australia
- expand the date range
- expand to other disasters such as bushfires and cyclones
- encourage people to take photos and record local impacts



Thank you

