

A world map with a grid overlay. Several blue location pins are placed on the map, primarily in North America, Europe, and Southeast Asia. The title text is centered over the map.

# Online media analysis for water management

Towards a service for social media based flood observations

Daniel Twigt

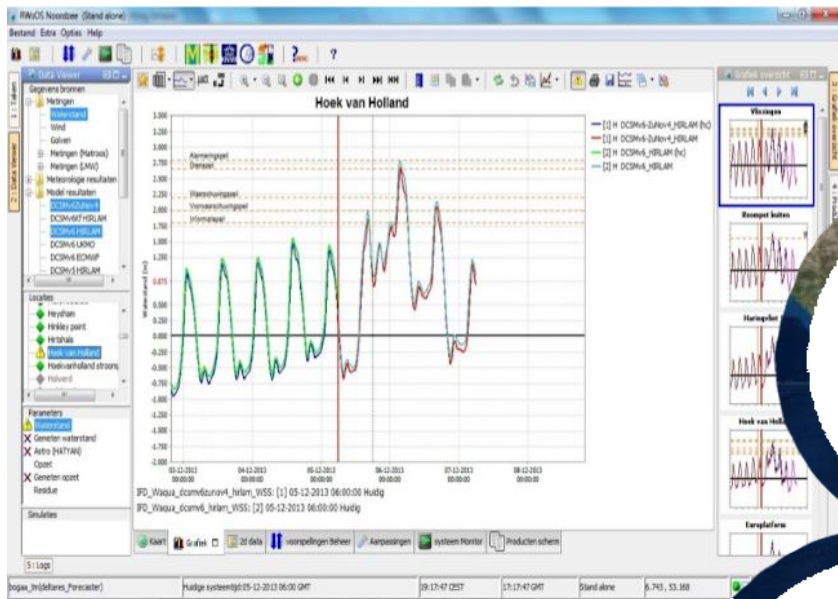
[daniel.twigt@deltares.nl](mailto:daniel.twigt@deltares.nl)

Petra Izeboud

[izeboud@floodtags.com](mailto:izeboud@floodtags.com)

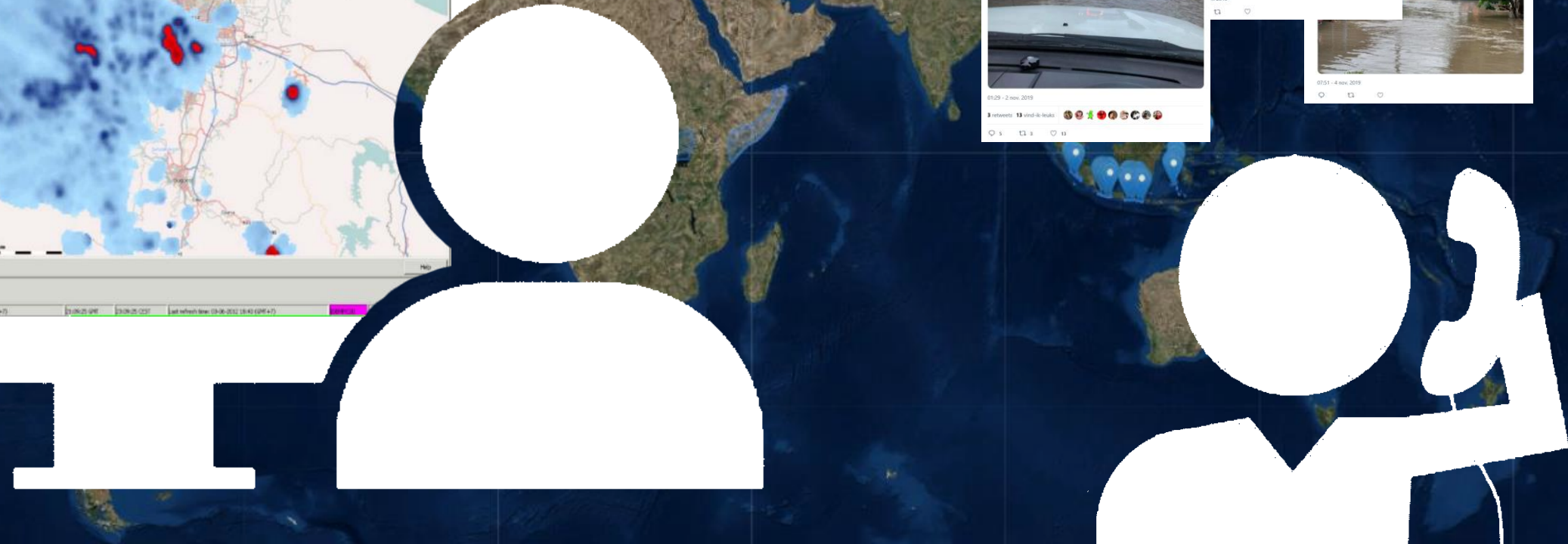


# How accurate will my forecast be?



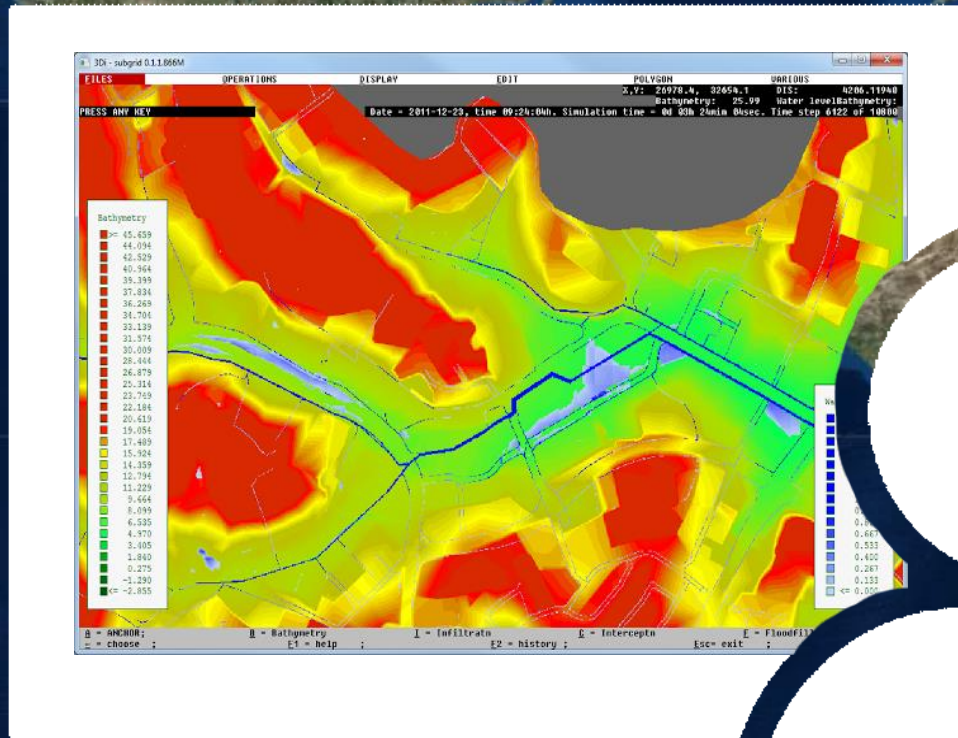


The screenshot displays the FDEM software interface. The main map area shows a geographical view of Jakarta with flood risk zones. A legend on the left side of the map indicates different levels of flood risk, ranging from 'Low' (light blue) to 'Very High' (dark red). The interface includes a top menu bar with options like 'File', 'Tools', 'Options', and 'Help'. A status bar at the bottom provides system details, including the system name 'FDEM', the system time '20-06-2012 13:04:00', and the user 'Administrator'.





# How have your models been validated?









# How does it work



## Collect data



Public online media and User Generated Content incl. Twitter, Blogs, News sites, Messengers



## Analyse Contents



Event detection and information extraction for live monitoring and forecasts



## Share Results

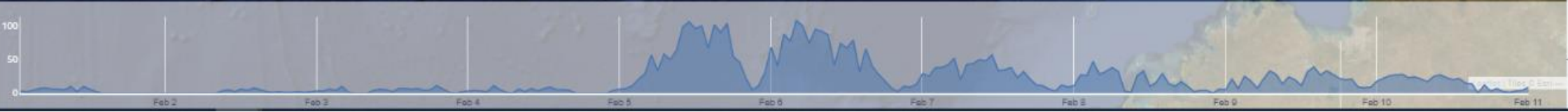
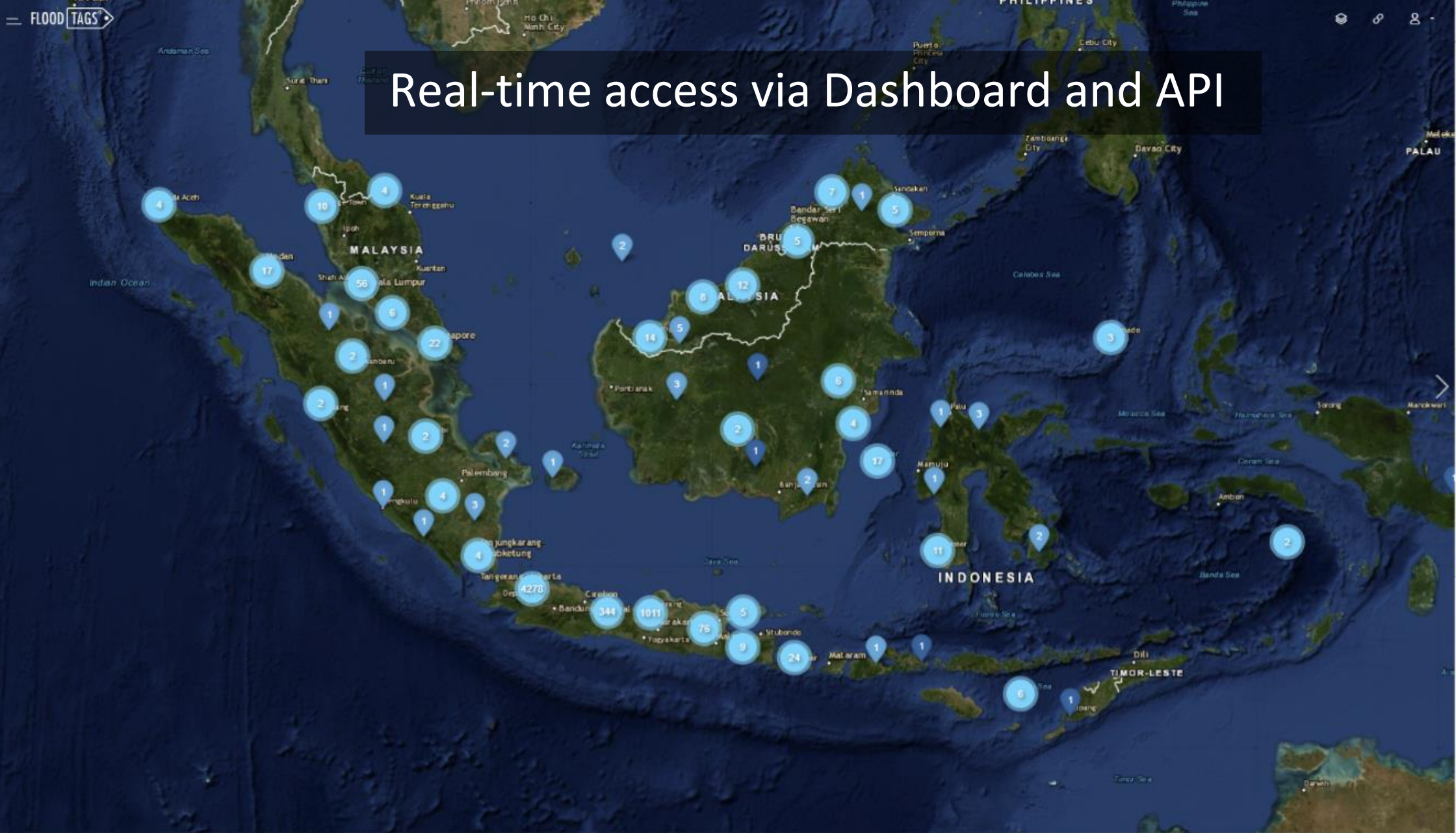


Distribute via API and Dashboard to Clients directly and via third party software





# Real-time access via Dashboard and API



Akibat Tanggul Jebol dan Banjir, Kondisi Mangkang Wetan Memprihatinkan  
<https://t.co/EdORzDvkf>  
<https://t.co/E53P7beim>

13:10, 10 Feb 2018

267 Rumah di Desa Ngagel Terendam Banjir, 25 KK Mengungsi  
<https://t.co/xQRclnKyt>  
<https://t.co/TdqH95xTmw>

12:46, 10 Feb 2018

Banjir gan Lokasi: Desa Ampelgading, kec. Ampelgading Kab Pemalang, Jawa tengah #Pemalang  
<https://t.co/80Nq7dkime>

12:46, 10 Feb 2018

BANDIR JAKARTA: Ini Keluhan Warga Kampung Pulo  
<https://t.co/SvNGsfUPK>  
<https://t.co/San4KRfu7h>

11:45, 10 Feb 2018

Showing 1-50 of 605.

<< < 1 > >>



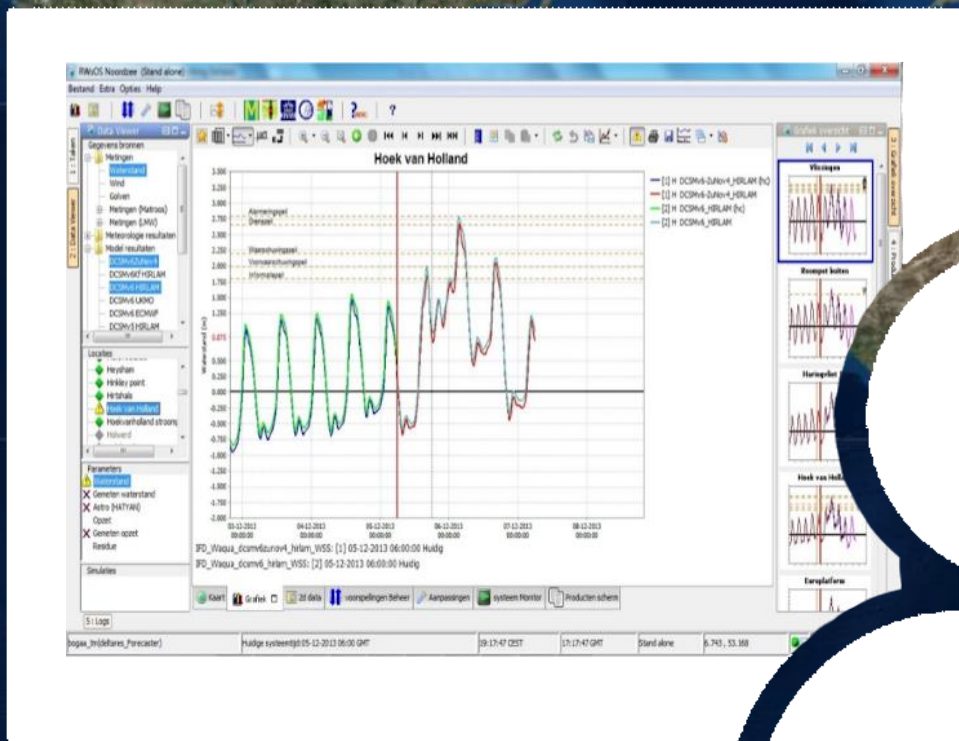
# Use cases



# Case I: Real Time Monitoring

“I have a flood  
early warning  
system?”

So, how good is  
my forecast?”






# Case I: Real Time Monitoring



For real-time situational awareness, improved decision making, application to emergency funds.  
Operational in Indonesia, Phillipines, Tanzania, Myanmar, Laos and Cambodia




Magsaysay 14



TINGNAN: Baha na bahagi ng R. Magsaysay Blvd cor. Pureza Street sa Sta. Mesa, Maynila. | via @DavidOroDZMM <https://t.co/ncxNS2oBmQ>

00:52, 2 Aug 2019



#baha agad sa ramon magsaysay. Et tu @DPWHph ? <https://t.co/asWpe2S3LA>

06:29, 2 Aug 2019

# Case I: Real Time Monitoring The Philippines

fangirling dream. 🥰🥰🥰  
#ExpiOrationInManila <https://t.co/Oy3UnVrKrE>

06:29, 4 Aug 2019



**MAHIGIT 100 PAMILYA INILIKAS SA OCCIDENTAL MINDORO**  
04 Aug 19 12:14 PM AMY NI MANNY PAGDADAWAN NG KULTURANG DINASE SA PAMPANGA

#RadyoPatrol Mahigit 100 pamilya, inilikas sa provincial capitol ng Occidental Mindoro dahil sa pagbaha na dulot ng malakas na ulan <https://t.co/bVhsygiUsw>

06:14, 4 Aug 2019



#RadyoPatrol 58 barangay sa Pampanga, lubog sa baha <https://t.co/Cb7DW19L0q>

06:12, 4 Aug 2019



Watch: Flooding, fallen trees reported along East-West corridor - Loop News Trinidad and Tobago... <https://t.co/0HWpnwJfCd>  
<https://t.co/Wo3qD5lwif>

06:10, 4 Aug 2019

Showing 51-100 of 1143.



# Case II: Alert & Feedback

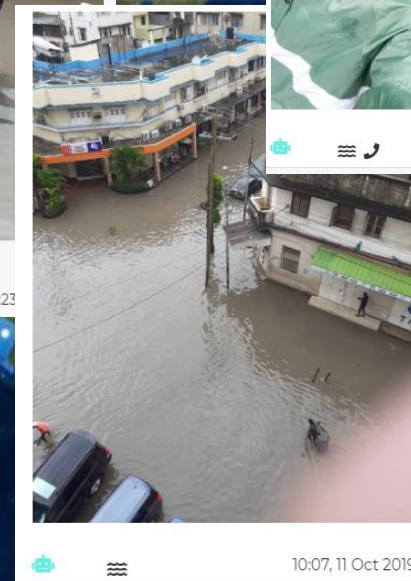
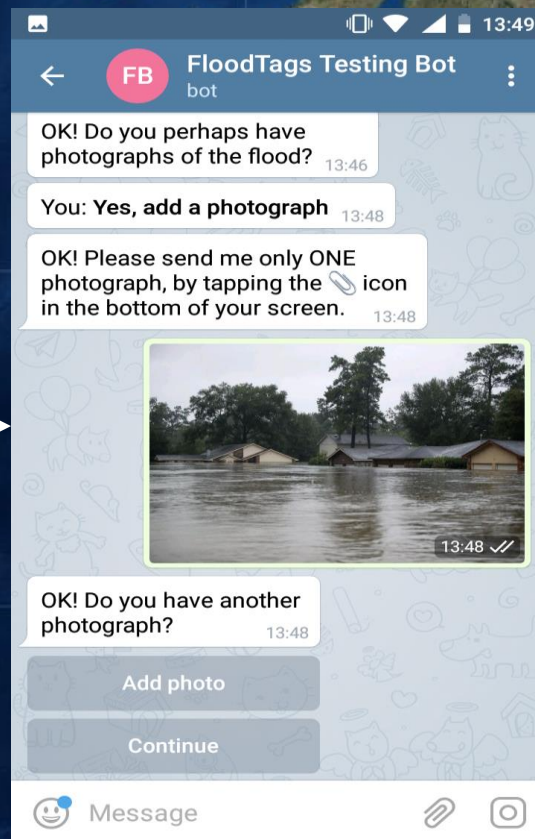


“I have many people  
with information on  
the ground..

How do I facilitate  
two way  
communication?”



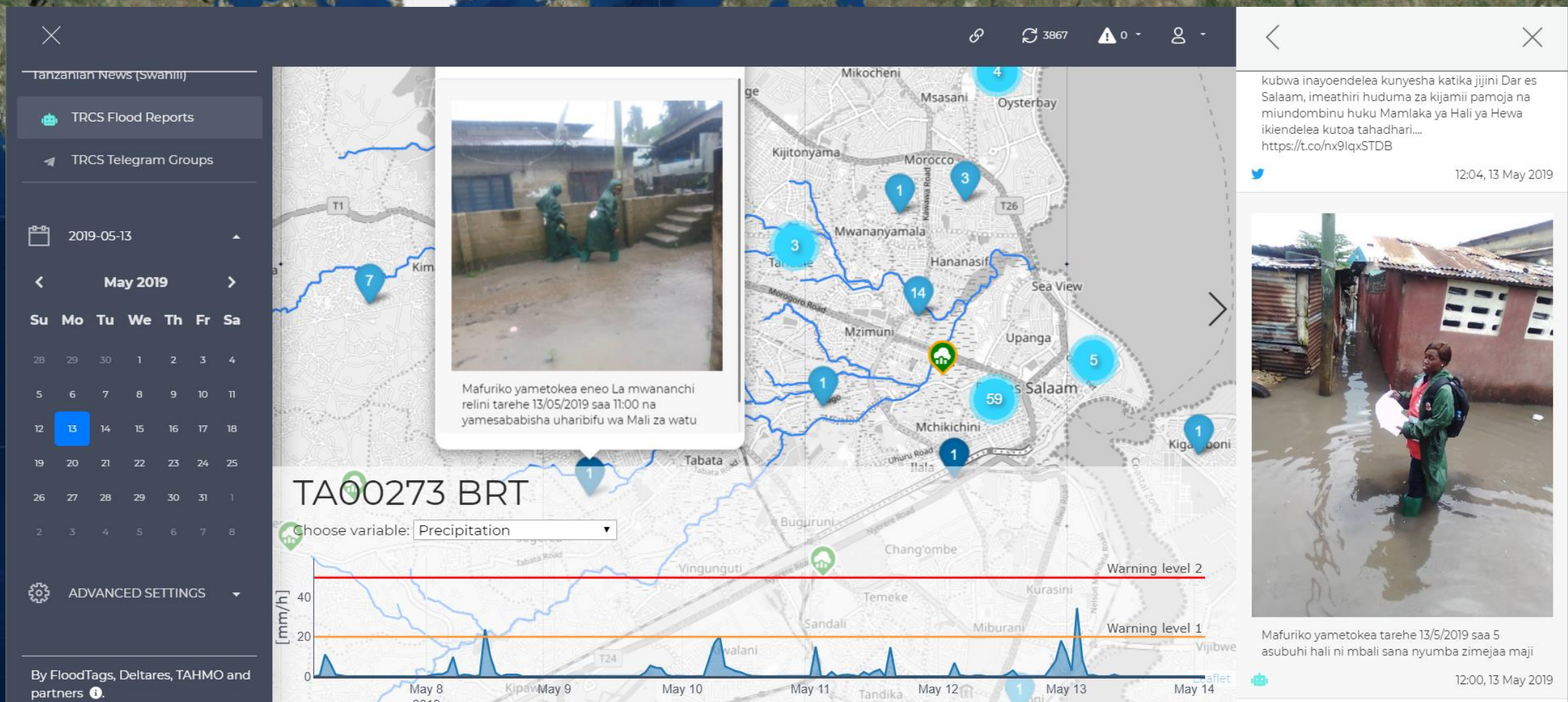
# Case II: Alert & Feedback



Operational in Tanzania, preparing for The Philippines, Kenya, Egypt



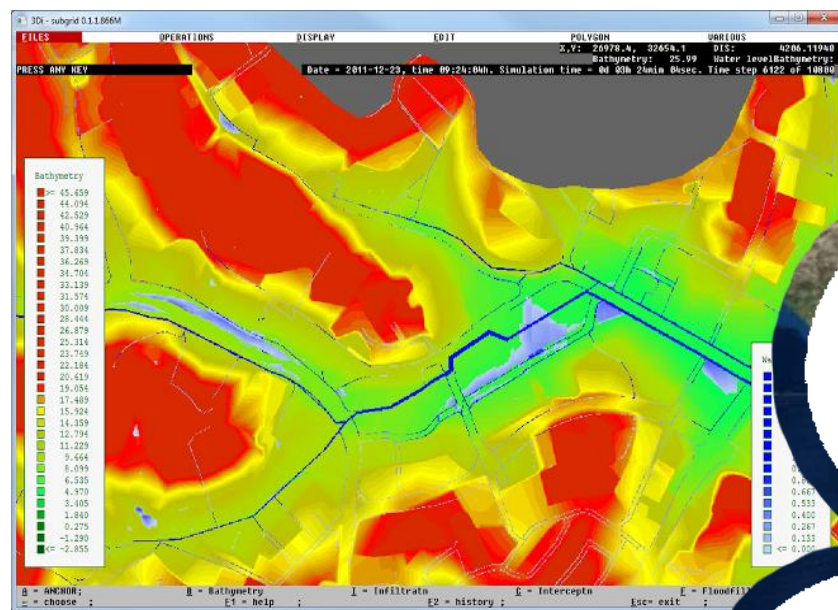
# Case II: Alert & Feedback





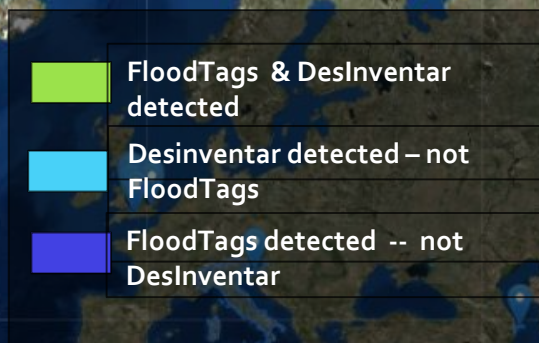
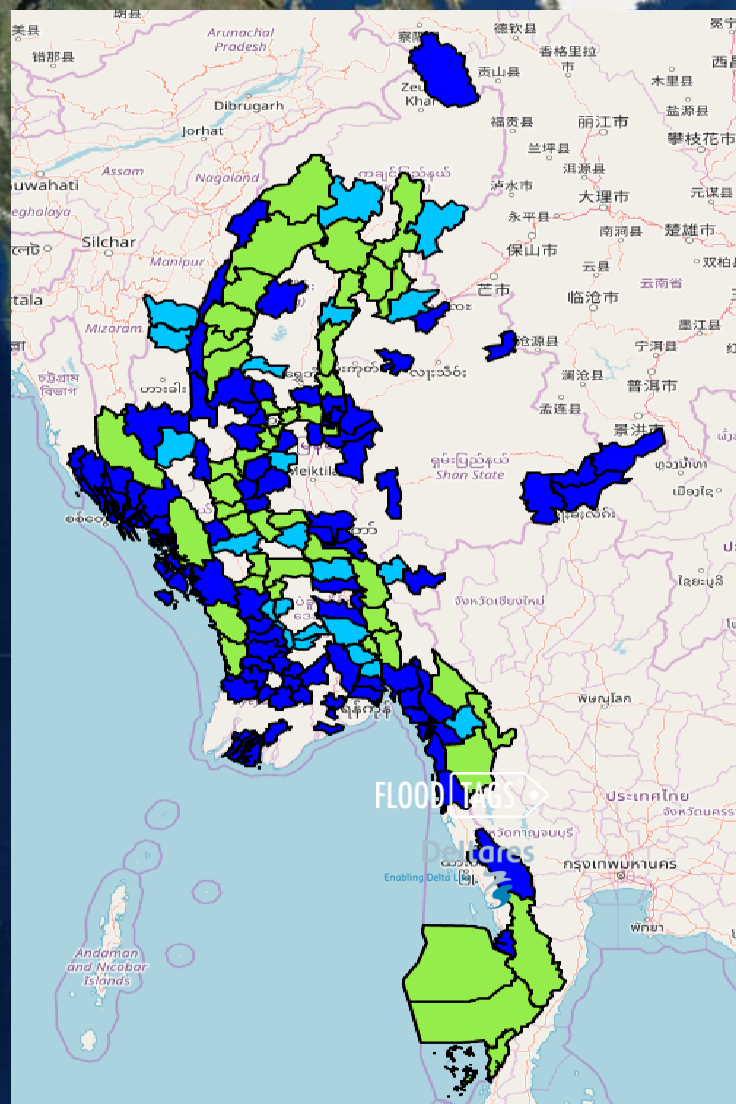
# Case III: Model Validation

“I want to validate  
my model...  
Is there a consistent  
dataset for the last  
10 years?”





# Case III: Model Validation



## Flood Maps + Flood Tags

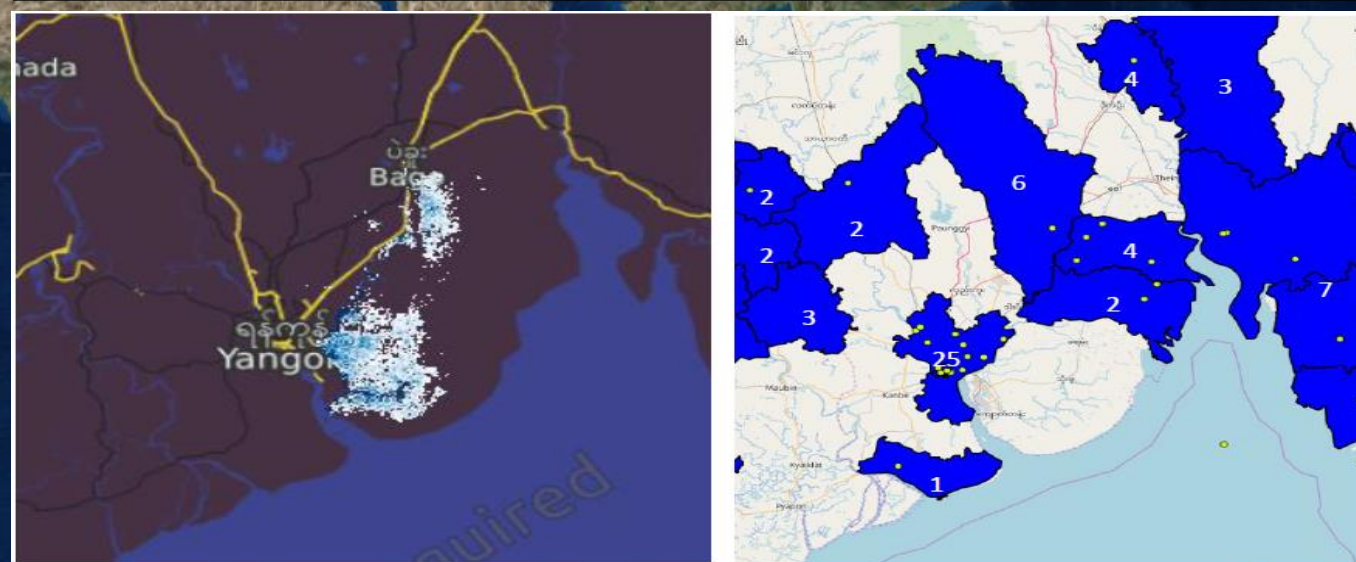
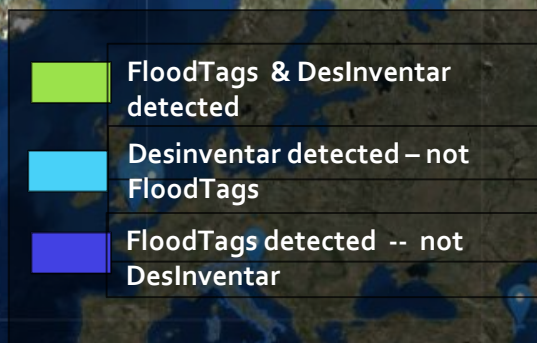
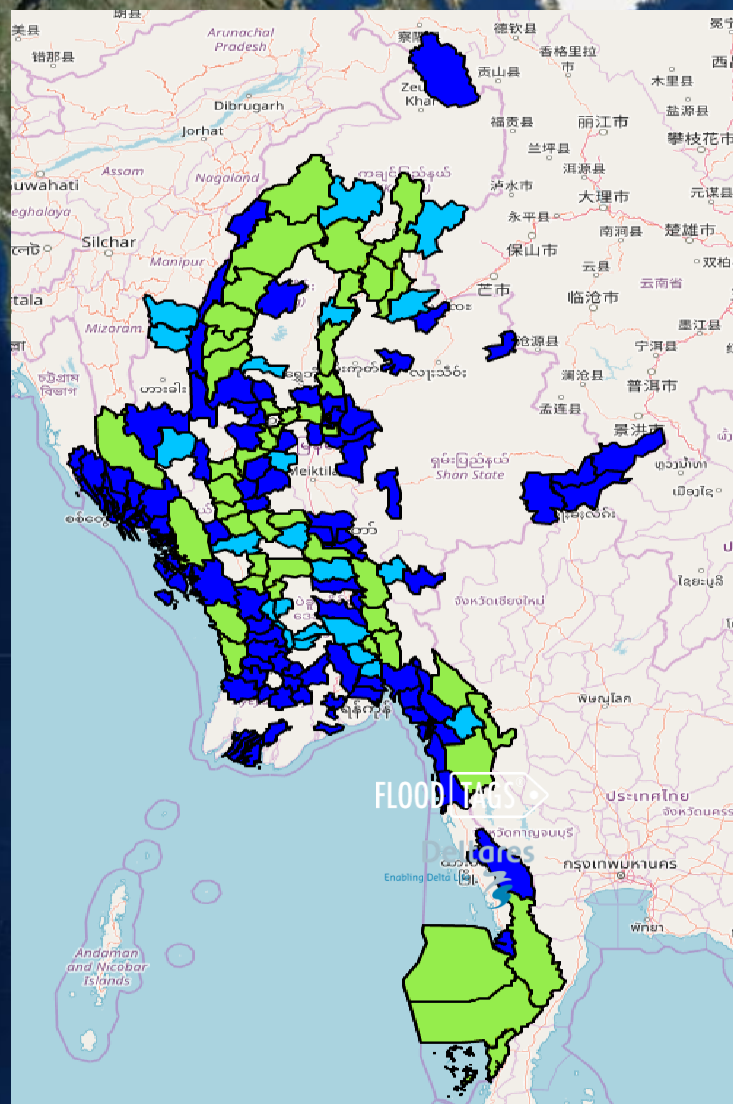


Figure 6: Comparison between the results of modelling platform (on the left) and online media (on the right) results. The white numbers reflect the number of articles that referred to the township being flooded



# Case III: Model Validation



## Table with historic flood events

	Event #88	Event #89	Event #90
Start Date	2017-08-25	2017-07-29	2017-08-23
End Date	2017-08-25	2017-07-29	2017-08-23
Dates – Average confidence	0.56	0.99	0.97
Location	Minbu Township	Kyainseikgyi Township	Magway Township
Location – Average confidence	0.99	0.62	0.99
Keywords	flooding, flood	flood, floods, flooding, water	flooding, flood, water, flood, floods
Keywords – Average confidence	0.81	0.96	0.94
Affected People	1500	more than 800	about 23148
Affected People - Estimated Range	1500	>800	~23148
Affected People – Average confidence	0.99	0.99	0.98
Overall – Average confidence	0.79	0.86	0.97
Original Publications	<a href="http://burmese.dvb.no/archives/226018">http://burmese.dvb.no/archives/226018</a>	<a href="http://www.7daydaily.com/story/103201">http://www.7daydaily.com/story/103201</a>	<a href="http://news-eleven.com/news/6425">http://news-eleven.com/news/6425</a>

Table 6: Sample output of the IE-system (a sample of the actual output for July-August 2017)

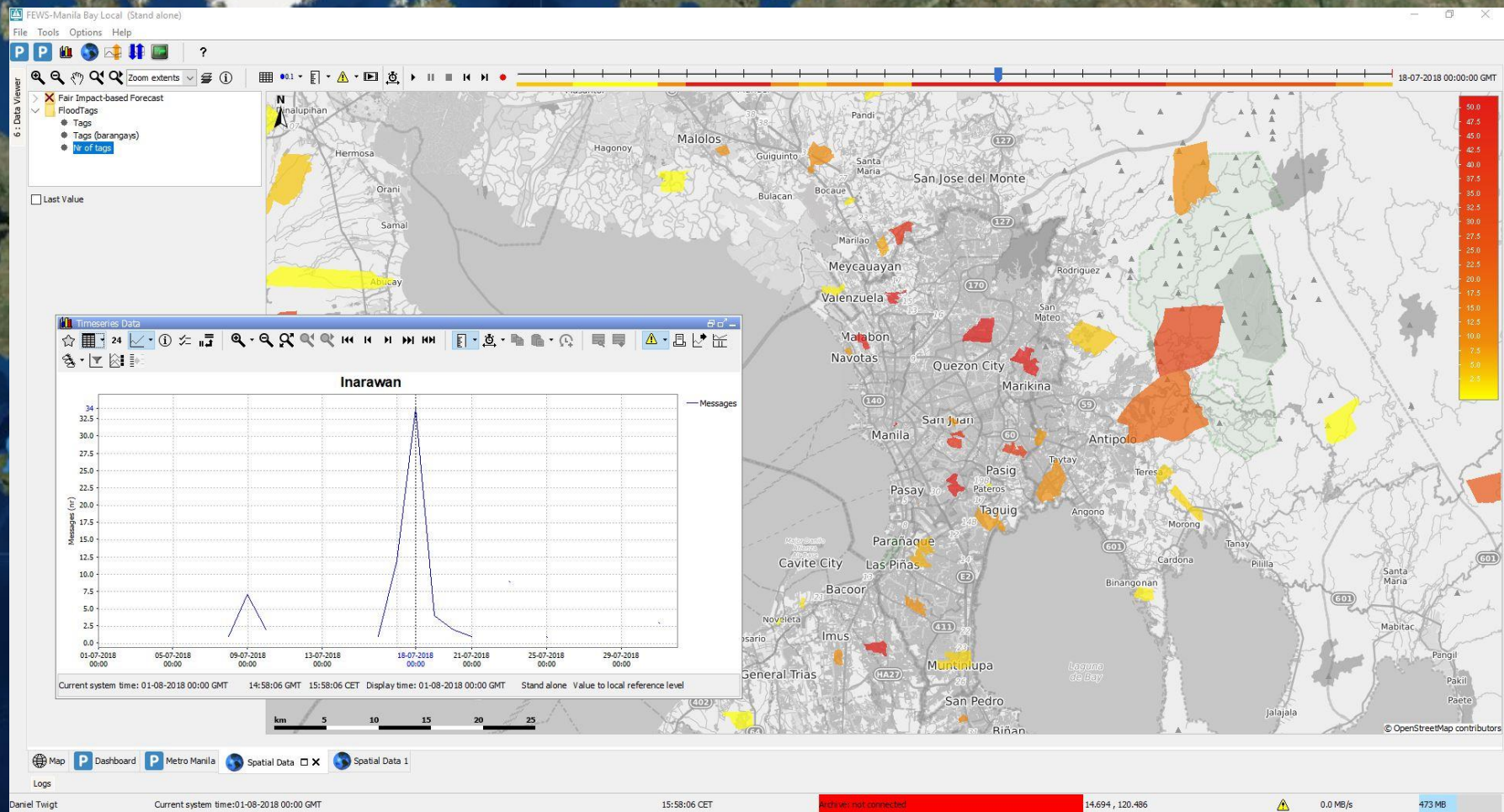


# FloodTags & FEWS

"I have FEWS!"



# Connect FloodTags to FEWS





# Demonstration FloodTags & FEWS



A world map with a grid overlay. Blue location pins are placed in several regions: North America (USA), South America (Brazil, Argentina), Europe (UK, France, Germany, Poland), Africa (Egypt, Sudan), and Southeast Asia (Indonesia, Philippines).

# Connect

Data available in FEWS

Elaboration in FloodTags Dashboard

SAAS agreement with Deltares or FloodTags

Data Policy in place

More information? Go to [floodtags.com](https://floodtags.com) or mail [info@floodtags.com](mailto:info@floodtags.com)