

PUB trials smarter system for flood detection during Northeast Monsoon

18 November - National water agency PUB is exploring smarter ways to detect floods this monsoon season. A trial project in collaboration with A*STAR's Institute for Infocomm Research (I2R), the flood detection system utilises image analytics technology to scan real-time PUB CCTV footage and detect images with flood waters. This will complement PUB's flood monitoring of about 170 CCTVs and 200 water level sensors, along with weather information, in the 24/7 PUB operations centre.

To enhance the robustness and detection accuracy of the system, real-time data from PUB's network of water level sensors installed in major drains and canals, coupled with weather information will be utilised. For instance, when a nearby water level sensor detects rising water levels, the system will start to analyse the corresponding CCTV images. Subsequently, an alert will be triggered through an analytics dashboard to notify PUB officers when the system detects flood waters from the analysis.

"We are always on the lookout for ways to enhance our flood monitoring efforts. Over the years, we have expanded our network of water level sensors which send out alerts when water levels in drains and canals hit a certain level. The automated detection of floods through the CCTV image analytics technology will aid in speedier alerts and quick response amidst increasing volume of data that comes in." said Mr Ridzuan Ismail, PUB's Director of Catchment and Waterways.

The trial system will be tested and used to supplement PUB's extensive flood monitoring efforts during the Northeast Monsoon season this year.

Preparing for the Monsoon

According to the Meteorological Service Singapore (MSS), Singapore can expect the start of the rainy season with the setting in of the Northeast Monsoon by early December 2015.

The wet phase of the Northeast Monsoon season is expected to extend to end January 2016, and is characterised by short-duration moderate to heavy thundery showers mainly in the afternoon and evening, and about two to four episodes of monsoon surges. Monsoon surges refer to the steady strengthening of north-easterly winds blowing from the South China Sea. These monsoon surges usually bring periods of prolonged, widespread and moderate to heavy rain lasting between two and five days, occasional windy conditions, and cooler temperatures. On average for Singapore, there are 18 rain days in December, and 13 rain days in January.

In addition to the regular weather forecast, MSS will issue warnings when heavy rain or prolonged monsoon rain is expected. This will help the public to better prepare for heavy rain.

PUB has stepped up its preparation work for the upcoming monsoon, working closely with the NEA's Department of Public Cleanliness (DPC) to monitor and ensure that public drains are properly maintained, function effectively and remain free-flowing.

Apart from reminding building contractors to conduct checks on public drains around their construction sites, PUB has also recently completed inspecting some 100 major construction sites around the island to ensure that any public drains within and around the worksites are free of debris and smooth-flowing. This is on top of PUB's regular checks at construction sites on their earth control measures along with checks on nearby public drains.

Keeping the Public Informed

PUB officers are also distributing flood advisories to some 500 residents and shop houses in low-lying areas. Some of these areas are subject to tidal influence and could experience localised flash floods should heavy rain coincide with high tides. The advisory provides precautionary tips that residents and shop owners could take to protect their belongings, such as by storing them on higher ground or installing flood barriers at entrances, such as by using boards shored up with sandbags.

To obtain the latest weather reports, including heavy rain warnings, the public can tune in to radio traffic watch broadcasts, call MSS' weather forecast hotline at 65427788, visit the MSS website at www.weather.gov.sg and access NEA's mobile app MyENV or subscribe to the heavy rain warning SMS alert service provided by the MSS.

During heavy rain events, the public can also be updated on rising water levels in drains or canals and flash floods via PUB's Facebook and Twitter, PUB's free mobile app MyWaters, and PUB's website at <http://www.pub.gov.sg/managingflashfloods>. The public can also subscribe to a free SMS alert service to keep tabs on the water level in a canal or drain at a designated location via PUB's website.

In addition, the public can access selected CCTV images of road conditions in low-lying areas and hotspots via PUB's website or MyWaters mobile app.

The public are advised to exercise caution during the monsoon season should flash floods occur in the event of heavy storms. Motorists should avoid driving into flooded areas, as low visibility can obscure the depth of floodwaters. Pedestrians caught in a flash flood are advised to move to higher ground and to refrain from walking through flood waters.

Members of the public can call PUB's 24-hour Call Centre at 1800-CALL PUB (1800-2255 782) to report on any flood situation or NEA's DPC hotline at 1800-6003333 to report on any choked drains.

About Meteorological Service Singapore

The Meteorological Service Singapore (MSS) is the national authority on weather and climate. It provides forecast and information services to the public, government agencies and the industry. Through the provision of reliable and timely services, MSS aims to contribute to the social and economic well-being of Singapore.

About National Environment Agency

Formed on 1 July 2002, the National Environment Agency (NEA) is the leading public organisation responsible for improving and sustaining a clean and green environment in Singapore. The NEA develops and spearheads environmental initiatives and programmes through its partnership with the People, Public and Private sectors. It is committed to motivating every individual to take up environmental ownership and to care for the environment as a way of life.

By protecting Singapore's resources from pollution, maintaining a high level of public health and providing timely meteorological information, the NEA endeavours to ensure sustainable development and a quality living environment for present and future generations.

Please visit www.nea.gov.sg for more information.

About PUB

PUB is a statutory board under the Ministry of the Environment and Water Resources. It is the water agency that manages Singapore's water supply, water catchment and used water in an integrated way.

About PUB's tagline: Water for All: Conserve, Value, Enjoy

PUB has ensured a diversified and sustainable supply of water for Singapore with the Four National Taps (local catchment water, imported water, NEWater, desalinated water).

To provide water for all, PUB calls on all to play our part to conserve water, keep our water catchments and waterways clean and build a relationship with water so we can enjoy our water resources. If we all play our part, we can have enough water for all our needs – for industry, for living, for life.

- See more at:

<http://www.pub.gov.sg/mpublications/Pages/PressReleases.aspx#sthash.UidJgjxs.dpuf>