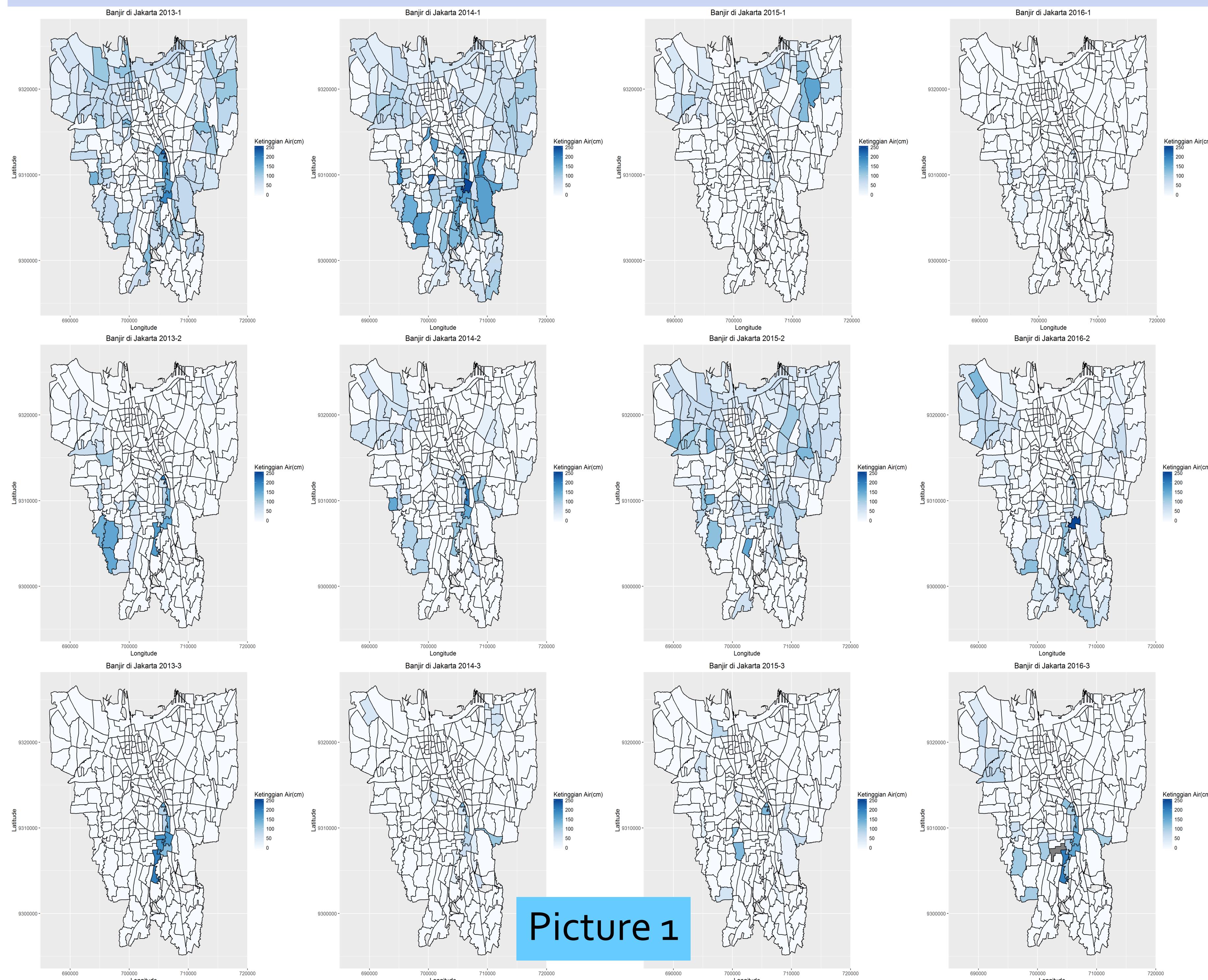


FLOOD IN JAKARTA

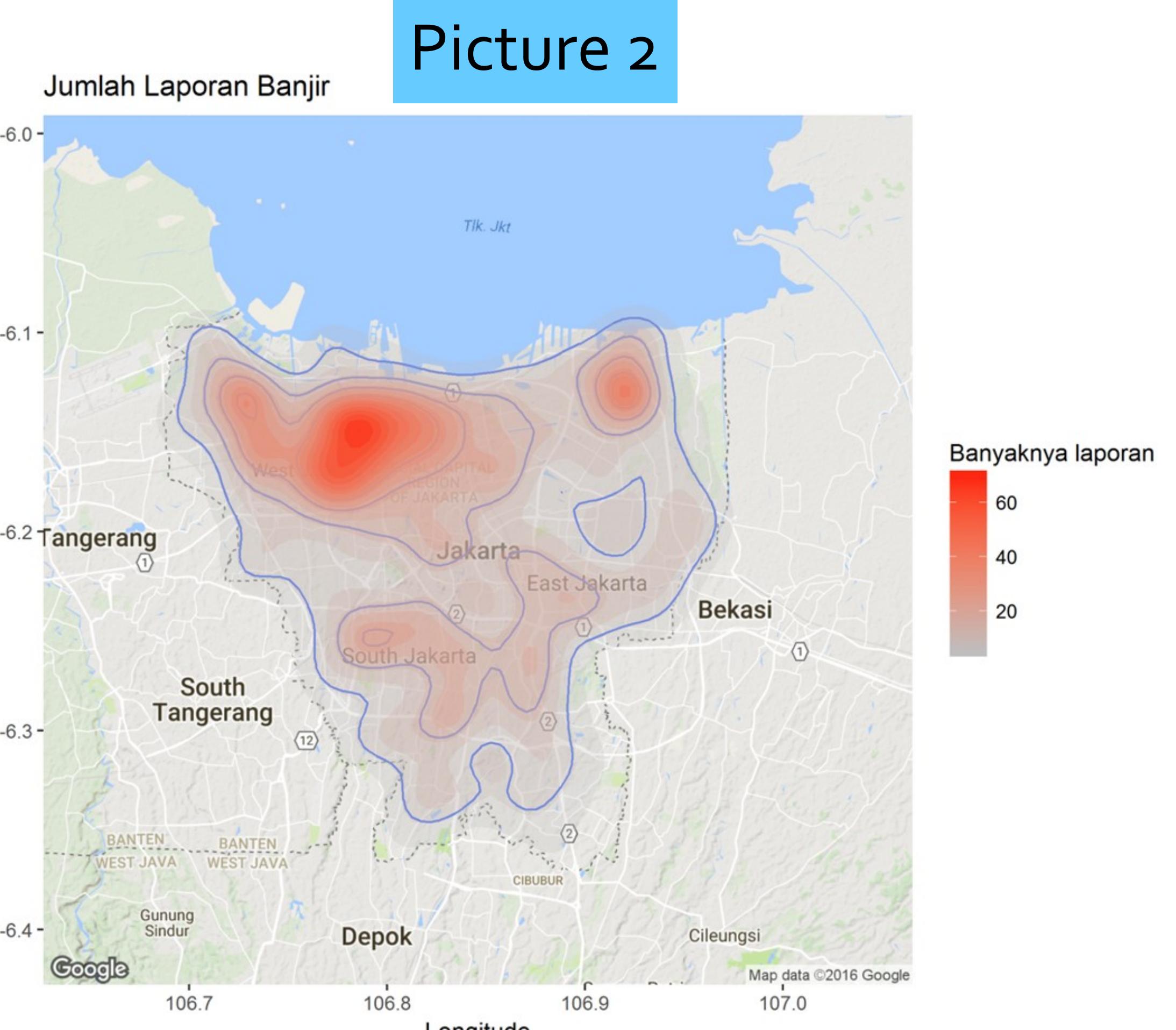
DATA
SCIENCE
INDONESIA



Picture 1

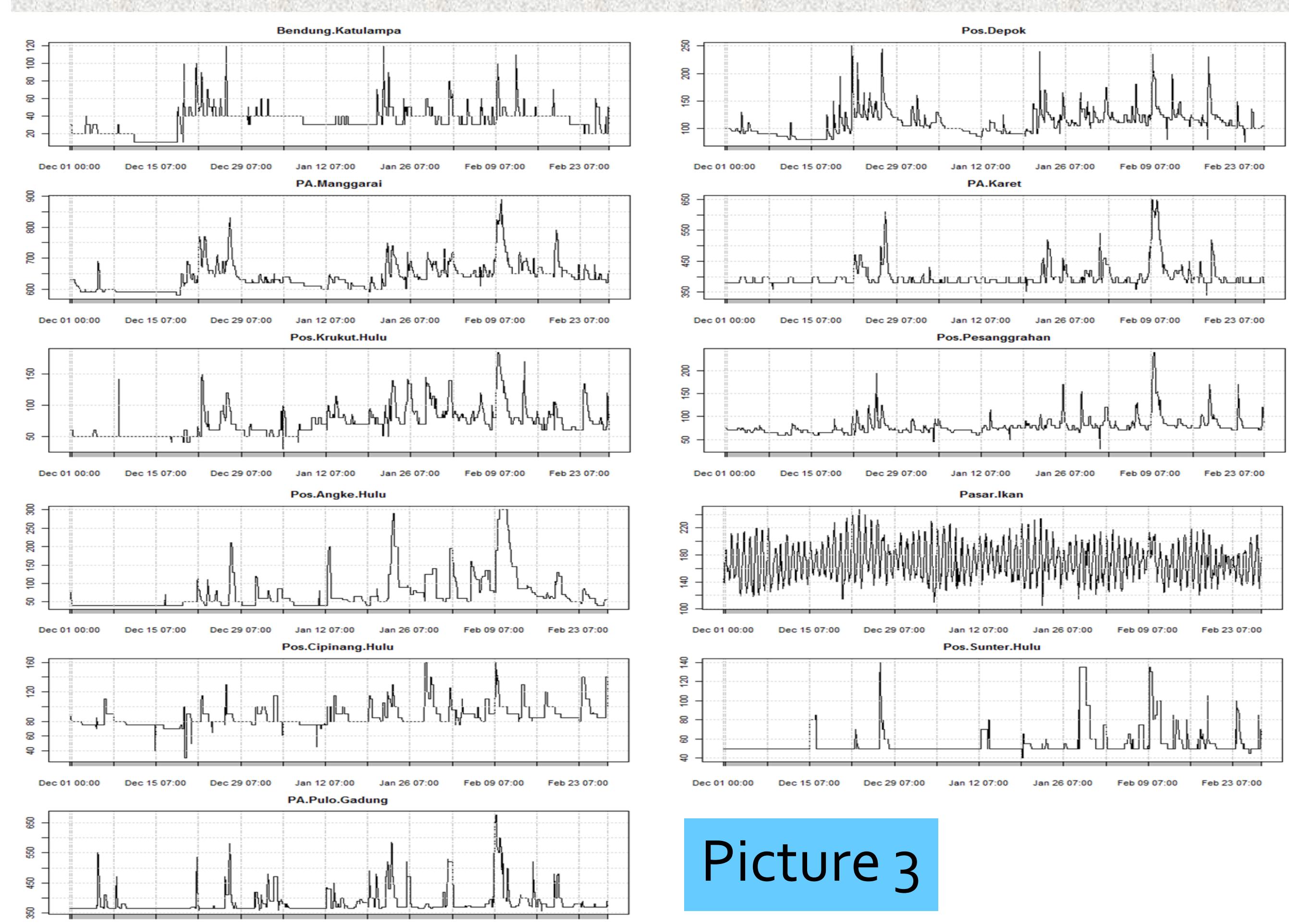
It cannot be denied that Jakarta has problems with flood due to many factors, such as drainage system, topography, climate, etc. Picture 1 shows flood history in Jakarta since 2013 (only January - March). It is noticeable that in 2013-2014, heavy flood happened on January. But in 2015-2016, the flood is slowly shifting to February.

We also collected flood report data from social media (twitter, qule, detik) as shown in Picture 2. Mostly the flood reports come from West and North Jakarta.

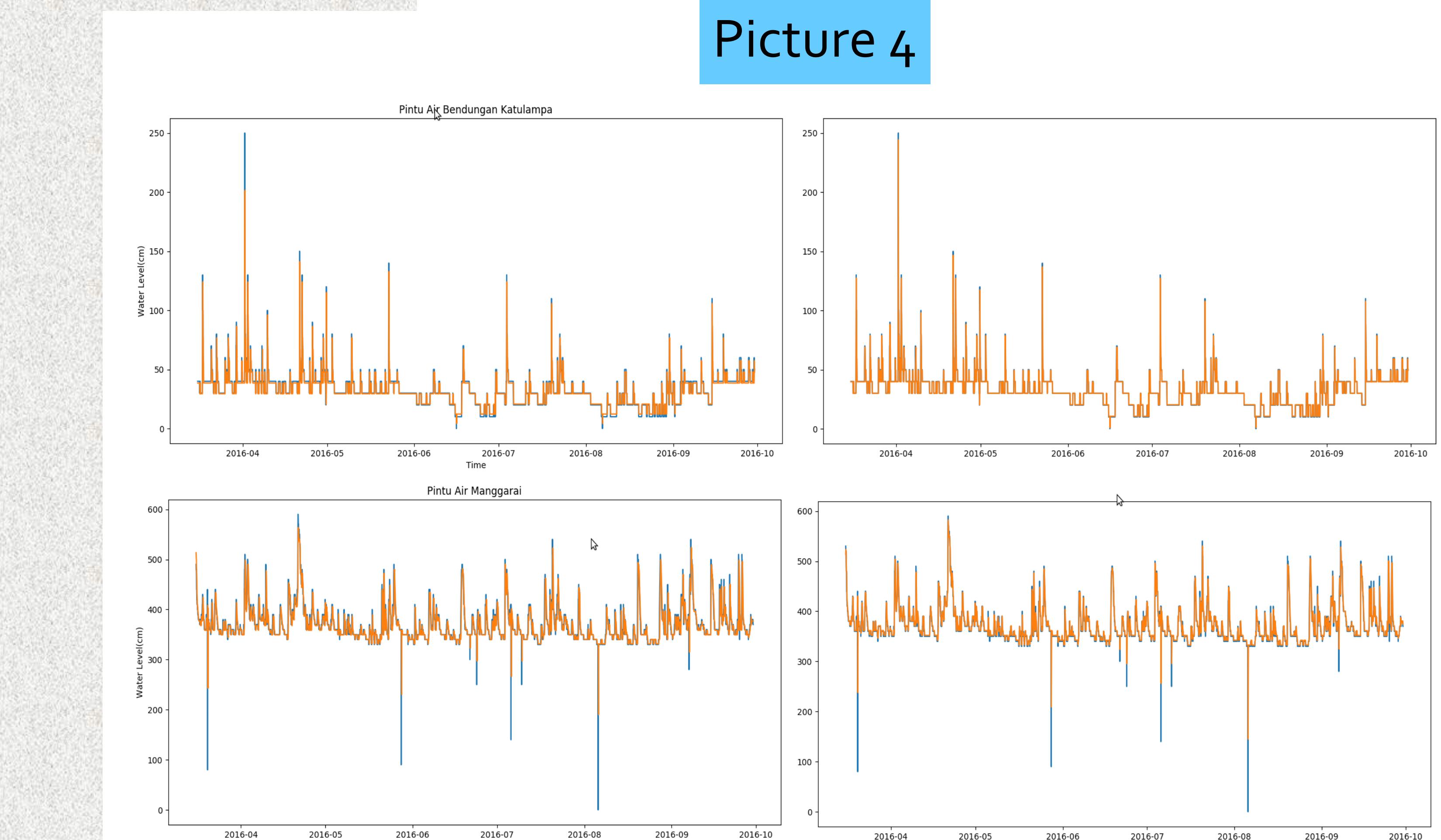


Picture 2

To predict flood in Jakarta, we used indirect approach by estimating water level on each water gate. We had hourly water level data from 11 water gate in Jakarta (Picture 3). After that, using ARIMA and LSTM recurrent neural network, we created model to predict water level in the future. Picture 4 shows the result of LSTM RNN (left) and ARIMA model (right) on 2 water gates (Pintu Air Bendungan Katulampa and Pintu Air Manggarai). The blue line represents real data and the orange line is from prediction results.



Picture 3



*This poster is a final project of DSI Bootcamp collaborated with Jakarta Smart City

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