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The Philippines, a country in the southeast asia, is vulnerable to a lot of natural hazards. It is located in the pacific ring of fire making it susceptible to earthquakes and volcanic activities. Due to its location, the country also experiences a lot of tropical storms. In a year, on average, about eighteen to nineteen typhoons enter the Philippine area of responsibility. Aside from the large volume of rainfall that these typhoon carry, it also bring strong winds. According to the Philippines' Climate Change Commission, from 1990 to 2006, the annual average damage of typhoons to the agricultural sector alone amounted to 184 million USD. Driven by these hazards, the Philippine government is continuously investing in different technologies that will help in disaster mitigation and management. One of these project is the program, *"Development of Philippine Earth Observation Microsatellite (PHL-MICROSAT)"*, funded through the Department of Science and Technology (DOST) which aims to build, launch and effectively utilize the Philippines' first microsatellite for earth-observation.
PHL-MICROSAT is a collaboration between scientists, engineers and professors from the University of the Philippines, the Advanced Science and Technology Institute (ASTI) of the DOST and two Japanese universities, Hokkaido and Tohoku University. Under the program, the Philippine will launch two microsatellites. The first one, named Diwata, will be released from the International Space Station, in the first quarter of 2016. Onboard Diwata are three scientific and one engineering payload. The High Precision Telescope (HPT) which will have a GSD of 3 m at 400 km altitude is equipped with 4 CCDs for each red, green, blue and near infrared region. The HPT, due to its high resolution of 3 m will be used in monitoring the extent of damages from natural disasters such as storms. Images from the HPT will be useful in disaster management and resource allocation. The Space-borne Multispectral Imager (SMI) with Liquid Crystal Tunable Filter (LCTF) which will have a GSD of 65 m at 400 km and has 2 CCDs for both visible (433-740 nm) and near infrared (730-1020 nm) regions with a 1 nm step interval. It will be used in monitoring changes in vegetation and estimating the phytoplankton biomass of the Philippine oceans. The Wide Field Camera (WFC) with a panchromatic CCD will have a field of view of 180x134 degrees and a GSD of 7 km will be used in observing cloud patterns as well as weather disturbances such as tropical storms. And lastly the Middle Field Camera (MFC) which is an engineering payload with a colored CCD and an expected GSD of 185 m will assist in locating the images captured by the HPT and SMI.
In order to know the feasibility of our mission objectives, we simulated the pass of the microsatellite over the Philippines for a specific period of time. Using this, we were able to obtain the frequency of image acquisition of a target location. From our findings, Diwata will be

able to provide the Philippines with robust and efficient near real-time status of the country's environment which will enhance its response to calamity and disaster management and will improve land-use and aquatic resource assessment and monitoring.

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