

## Solar Powerplants and Flood Disasters in Japan

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The number of solar photovoltaics (PV) powerplant increased rapidly in Japan since its introduction of Feed-in Tariffs (FIT) policy in 2012. Meanwhile, Japan is a disaster rich country. It faces severe flood damage through these consecutive years. Our previous work depicted the overlapping areas between solar PV locations and hazard risk areas using geographic information system (GIS).

On this context, we examine the case of flood disasters that affect solar PV facilities. In 2018, heavy rain hit western Japan and caused several floods across the region. In 2019, Typhoon No. 19 of that year, also known as Typhoon Hagibis, caused multiple riverbanks collapsed in a wide range of eastern Japan region. Those disasters also made damage to the solar PV facilities in the flooded area. We overview the effect of those flood disasters on solar powerplant facilities and analyze the damage caused by the floods after the Typhoon No. 19 in 2019. Then, this research evaluated the validity of the GIS method to predict damage of flood disasters on the solar PVs with using the data from the report by the energy authority of Japan. We found out that through this method we can partially detect and evaluate the cases of damaged solar PV facilities.

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