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Opinion

Increasing Number Global Population and Environmental and Climate Change to the Local Storms

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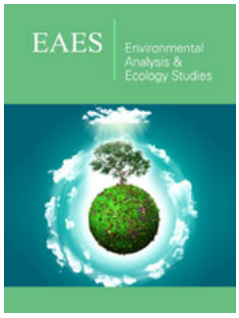

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Opinion

Weather and climate of the earth's surface has change such that it has comes from the environmental to give impact to the critical challenges especially in the increasing number of the storm ether wet and dry condition. The warming of the earth's surface beside to threaten of human-life especially in the development of the convective activities overall surface of the earth. These were situation and condition to de be declared in the most discussion of the global and change especially in relation with the environmental change. Most of the synthesis relate with the effects of climate change to cause the several environmental change in terms sea level rise, droughts, floods, and extreme weather. While the link between human action and the planet's recent warming remains an almost unanimous scientific consensus, the links between population growth and climate change deserve further exploration. Looking at the global human population, there are two billion people to be added to our human population by 2050 and then an additional 1 billion more by 2100, the demographic trends and variables play an important role in understanding and confronting the world's climate variability and change due to the environmental change. The population growth with increasing consumption tends beside to increase emissions of climate-changing greenhouse gases also to the environmental change in term developing housing, manufacturing location, expansion opening land for the human purposes of recreations places, transportation and etc.

The official record from global climate change management such IPCC (Intergovernmental Panel on Climate Change) stated that Earth's warmest years on record were from 2015 to 2019 [1], capping off a long-term warming trend. Further assessment from the IPCC suspected that human emissions of greenhouse gases, including carbon dioxide (CO_2), methane, and nitrous oxide, have raised the global average temperature by close to 1 °C (nearly 2 °F) above pre-industrial levels. The limitation of the risks posed by climate change including the environmental change, most the countries around the world under the United Nations Arrangement agreed to hold the average temperature increase well below 2 °C, aiming for a 1.5 °C threshold. If current warming trends continue, the earth's average temperature increase is likely to reach 1.5 °C between 2030 and 2052. Global warming above this level would significantly increase the risk and frequency of extreme weather events and damage to many of the planet's terrestrial and marine ecosystems [2].

Based upon the observation from expanding of the hydrometeorological hazards in terms of flash flood, flood coincide with the landslide, there were increasing number of the human-dying and enlarging areas. Looking into the deep of the storm usually of the so called single storm cloud consisting from the one cumulus type of cloud which develop into the mixtures three type of cloud namely lower, medium and higher cloud. In the early development from the experience earlier meteorologist in the Maritime Continent area of Indonesia during the

period 1970-1990, and limited data information with the impact of the single storm over certain local area of Indonesia. It could be stated that most of the convective especially from single cell of Cumulonimbus (Cb.) cloud to be rare to cause the storm in terms of rainstorm, windstorm and thunderstorm. If it refers with existing virgin forest in the area of Maritime Continent at that time the closing area due to the greening of the trees (virgin forest) to ensure the environmental to be far away from the surface heating. Where this action would be responsible for the convective process for the convective cloud development including Cb's cloud. Otherwise, it can be stated that the period before the year 1990 toward almost stable in atmospheric properties rather the period after 1990 in unstable atmospheric properties. Where unstable atmospheric properties have the relation the upward motion of the surface air such that to be humid or wet condition, to condensate at above lifting-,convective-and free condensation-levels. Those level related with starting point the water droplet growth with chaotic motion in the storm cloud development, so that rush and chaos motion in the storm cloud development to be stated as the unstable condition of the air.

The period after 1990 with environmental change with shrinkage area of virgin forest area to be converted opening area for human-purposes of the life including development housing, roads, factories areas and etc. The encouragement of the warming condition supports development convective processes more pronouncing such that to expand and adding the multi-cell or existing more cells of Storm Cloud and longer duration of the multi-cells Storm Cloud of Cb. Otherwise, they become as part of the Mesoscale Convective Complex and or System toward after 2010. Based upon the further monitoring of the rainstorm that the highest recorded to occur in Jakarta with around 350 millimeter/day at 09 February 1996. Comparing previous rainfall record seems that this record was the first highest starting 1970-2010, entering 2011 up to present the storm cloud spreading and intensifying over most of the Maritime Continent Indonesia. As well as globally they spread in the desert area of Saudi Arabia, Iran and any other places as part of the hydrometeorological hazards that they are still difficulty for developing of early warning information. Where these storm cloud has several condition e.g., shorter development to be less than 6 hours, faster development of the storm less than 3 hours and usually local phenomena (mesoscale process). The storm cloud up to present still threatens all over earth's surface with existing the hydrometeorological hazards causing impact to the environment in terms flash flood, flooding following landslide [3-5].

As the environmental and climate change are sustaining with respect with the time and the present time there are no indication to decay. The storm cloud would be a part of the extreme weather development to occur anywhere if unproper managing impact from the changing of climate and environment. Nevertheless, hydrometeorological hazards especially from cloud storm would create both wet and dry condition with certain disaster, but the cloud storm cloud consider as prioritize in the management and control of the disaster. As mostly rainwater is most dangerous than dry condition as the comparison, but both of them are most causing problem to human life.

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