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The Third International Conference on Environmental Resources Management in Global Region (ICERM 2019) (Preface)

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Rachel Carson's "Silent Spring" in 1962 [1] opens the world's eyes to the damages humans have caused to the Earth they inhabit. This book exposes the enormous loss of species and environmental degradation as the grave repercussions of pesticide use. Long after her book raised environmental concerns to the public, environmental problems have become increasingly complex and diverse.

Climate change is one of the issues currently in the spotlight. The melting of the polar ice [2], rising air and seawater temperatures [3, 4], hydrometeorological disasters [5], and sea level rise [6, 7] are estimated as the adverse effects of climate change. Although great changes in the climate have happened repeatedly in the past [8], there are at least two reasons why we need to worry about the ones today. First, the past climate change took decades to occur, while the recent one proceeds at an alarmingly fast rate [9]. Second, the present-day global warming is assumed to be the result of human activities that will almost certainly intensify following rapid population growth and, inevitably, the large amount of energy required to meet human's needs [10, 11].

Climate change impact varies globally [12]. Some of the world's wet regions become wetter, whereas the dry ones are getting drier. The intensity of the changes is also diverse even on the local scale. In Progo Watershed, 13 meteorological stations recorded wetter conditions, while the other three stations showed an atypical drier state [13]. Several stations in Magelang Regency, Central Java, Indonesia measured a higher amount of rainfall but fewer rain days [14]. This situation worsens the susceptibility of lahar occurrences in Merapi Volcano in the future particularly when extreme rainfall becomes more frequent.

ICERM 2019 is our effort to mobilize cooperation and dissemination of knowledge related to environmental management in the era global change. Also, this conference aims to develop the concept of environmental resources and their management by providing a communication platform where professionals and government from all over the world can share their experience. This conference is an annual agenda of the Department of Environmental Geography, Faculty of Geography, Universitas Gadjah Mada (UGM) and the Study Program of Population, the Graduate School of UGM. The conference theme in this year are:



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- (1) Disaster and early warning system;
- (2) Eco-health;
- (3) Environmental management;
- (4) Food security;
- (5) Human and natural resources;
- (6) Land, water and natural resources;
- (7) Livelihood
- (8) Population mobility;
- (9) Poverty alleviation.

Finally, we would like to thank all parties for their invaluable assistance during this conference. This event is the collaborative work of the Department of Environmental Geography, Faculty of Geography UGM; the Study Program of Population, the Graduate School of UGM; the Publishing Agency of UGM; Environmental Geography Student Association (EGSA); the Ministry of Environment and Forestry, Republic of Indonesia; International Institute of Social Studies, The Hague, Erasmus University, The Netherlands; University of Malaya; PT. Solusi Bangun Indonesia, Tbk. We have high hopes of continually introducing aspiring and substantial works for the sustainable environment on our beloved Earth.

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