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Editorial

A BRIEF NOTE ON CLIMATE CHANGES AND GLOBAL WARMING

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EDITORIAL NOTE

Climate change includes both global warming and its influence on Earth's weather patterns. Climate change has occurred in the past, but the current changes are far rapid and are not produced by natural processes. Instead, greenhouse gas emissions, namely carbon dioxide and methane, are to blame. The combustion of fossil fuels for energy is responsible for the majority of these emissions. Additional sources include agriculture, steelmaking, cement manufacturing, and forest loss. Because greenhouse gases are transparent to sunlight, they allow it to reach the Earth's surface and heat it. The gases absorb the heat produced by the Earth as infrared radiation and maintain it near to the surface. Factors such as the loss of sunlight-reflecting snow cover increase global warming as the earth heats.

Ground temperatures have increased twice as quickly as the global average. Heat waves and wildfires are getting more prevalent, and deserts are growing. Melting permafrost, glacier retreat, and sea ice loss have all been attributed to increased heat in the Arctic. Intense storms and other weather extremes are becoming more often as temperatures rise. Many species are being forced to move or go extinct as a result of rapid environmental change in mountains, coral reefs, and the Arctic. Food and water shortages, higher flooding, excessive heat, more disease, and economic loss are among threats posed by climate change. As a result, human migration and conflict may occur. Climate change, according to the World Health Organization (WHO), is the greatest danger to world health in the twenty-first century. Even though efforts to reduce future warming succeed, some consequences could last for generations. Sea level rise and warmer, more acidic waters are two examples, Shakir, et al. [1-3].

Many of these effects are already being noticed at the present temperature of 1.2°C (2.2°F). Increased warming will amplify these effects and might lead to tipping points, such as the melting of the Greenland ice sheet, Huang, et al. [4]. Nations pledged to limit global warming "far below 2°C" under the 2015 Paris Agreement. Despite the Agreement's promises, global warming would still be around 2.7°C (4.9°F) by the end of the century. To keep global warming to 1.5°C, emissions must be cut in half by 2030 and lesser by 2050, Lee, et al. [5].

Switching away from fossil fuels and toward power generated from low-carbon sources will be required to achieve significant reductions in emissions. This includes phase-outs of coal-fired power plants, greatly increased usage of wind, solar, and other sources of renewable energy, conversion to electric cars, conversion to heat pumps in

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buildings, and energy conservation measures. Carbon may also be taken from the atmosphere by increasing forest cover, for example. While communities may adapt to climate change by improving coastal protection, they can't avoid the potential of severe, widespread, and long-term consequences.

Temperature rises from a regional perspective

Different areas of the world warm at various rates. Because greenhouse gases survive long enough to disperse throughout the globe, the pattern is independent of where they are emitted. The average surface temperature over land regions has grown about twice as rapidly as the global-average surface temperature during the pre-industrial period. This is simply due to the fact that oceans have a larger heat capacity and lose more heat through evaporation. The thermal energy in the global climate system has increased consistently since 1970, only with minor interruptions, with the ocean absorbing over 90% of this additional energy. The remainder has warmed the oceans, melted ice, and warmed the atmosphere, Das, et al. [6]. The North Pole and the Northern Hemisphere both heated faster than the South Pole and the Southern Hemisphere. The Northern Hemisphere not only has greater land, but also has more seasonal snow cover and sea ice. These surfaces absorb more heat when they go from reflecting a lot of light to becoming dark after the ice has melted. Arctic warming is also aided by localized black carbon deposits on snow and ice. Temperatures in the Arctic are rising at a rate that is more than double that of the rest of the planet. The melting of Arctic glaciers and ice sheets alters ocean circulation, including a reduced Gulf Stream, causing more climate change, Fan, et al. [7]. The climate system moves through its own cycles that might last for years, decades, or even centuries (such as the El Nino–Southern Oscillation). Other changes are triggered by an energy imbalance that is "external" to the climate system, although not always to the Earth. Changes in greenhouse gas concentrations, solar brightness, volcanic eruptions, and fluctuations in the Earth's orbit around the Sun are all examples of external forcing.

Internal climatic variability and natural external forcing's must be ruled out before the human contribution to climate change can be determined Mai, et al. [8,9]. One important strategy is to identify unique "fingerprints" for all putative causes and then compare these fingerprints to observable climate change trends. Solar forcing, for example, can be ruled out as a key factor. Its imprint would cause the entire environment to warm. Yet, as a result of greenhouse gas forcing, only the lower atmosphere has warmed. The major driver of modern climate change has been identified as increased greenhouse gases, with aerosols acting as a dampener, Nasuha, et al. [10-12].

REFERENCES

1. Shakir K, Elkafrawy AF, Ghoneimy HF, Elrab BSG and Refaat M. 2010. Removal of rhodamine B (a basic dye) and thoron (an acidic dye) fromdilute aqueous solutions and wastewater simulants by ion flotation. *Water Res.* 44:1449–1461. [Crossref][Google Scholar][Pubmed]
2. Zodi S, Potier O, Lapicque F and Leclerc JP. 2010. Treatment of the industrial wastewaters by electrocoagulation: Optimization of coupled electrochemical and sedimentation processes. *Desalination.* 261:186–190. [Crossref][Google Scholar]
3. Jiang YR, Lin HP, Chung WH, Dai YM, Lin WY and Chen CC. 2015. Controlled hydrothermal synthesis of BiO_xCl_y/BiO_mI_n composites exhibiting visible-light photocatalytic degradation of crystal violet. *J Hazard Mater.* 283:787-805. [Crossref][Google Scholar][Pubmed]
4. Huang ST, Jiang YR, Chou SY, Dai YM and Chen CC. 2014. Synthesis, characterization, photocatalytic activity of visible-light-responsive photocatalysts BiOxCly/BiOmBrn by controlled

hydrothermal method. *J Mol Catal A Chem.* 391:105-120. [Crossref][Google Scholar]

5. Lee WW, Lu CS, Lin HP, Chen JY and Chen CC. 2014. Photocatalytic degradation of ethyl violet dye mediated by TiO_2 under an anaerobic condition. *J Taiwan Inst Chem Eng*. 45: 2469-2479. [Crossref][Google Scholar]
6. Das M and Bhattacharyya KG. 2014. Oxidation of rhodamine B in aqueous medium in ambient conditions with raw and acid-activated MnO_2, NiO, ZnO as catalysts. *J Mol Catal A Chem*. 391: 121-129. [Crossref][Google Scholar]
7. Fan HJ, Lu CS, Lee WW, Chiou MR and Chen CC. 2011. Mechanistic pathways differences between P25-TiO_2 and Pt-TiO_2 mediated crystal violet photo degradation. *Hazard Mater.* 185: 227-235. [Crossref][Google Scholar]
8. Mai FD, Lee WW, Chang JL, Liu SC, Wu CW and Chen CC. 2010. Fabrication of porous TiO_2 film on Ti foil by hydrothermal process and its photocatalytic efficiency and mechanisms with ethyl violet dye. *J Hazard Mater.* 117: 864-875. [Crossref][Google Scholar][Pubmed]
9. Shu HY, Chang MC and Fan HJ. 2004. Decolorization of azo dye acid black 1 by the UV/H_2O_2 process and optimization of operating parameters. *J Hazard Mater.* 113:201-108. [Crossref][Google Scholar][Pubmed]
10. Nasuha N, Hameed B H and Din ATM. 2010. Rejected tea as a potential low-cost adsorbent for the removal of methylene blue. *J Hazard Mater.* 175:126–132. [Crossref][Google Scholar][Pubmed]
11. Rauf MA, Meetani MA and Hisaindee S. 2011. An overview on the photocatalytic degradation of azo dyes in the presence of TiO_2 doped with selective transition metals. *Desalination.* 276:13–27. [Crossref][Google Scholar]
12. Lee WW, Chung WH, Lu CS, Lin WY and Chen CC. 2012. A study on the degradation efficiency and mechanisms of ethyl violet by HPLC–PDA–ESI–MS and GC–MS. *Sep Purif Technol.* 98:488-496. [Crossref][Google Scholar]