Climate Change Mitigation - Peer Reviewed Journal Articles

1. **Title: A New Framework for Monitoring Flood Inundation using readily available Satellite Data. *Geophysical Research Letter,* 43, 2599–2605. Doi: 10.1002/2016GL068192.** Parinussa, R. M., Lakshmi, V., Johnson, F. M., & Sharma, A. (2016).

   Description: Floods are deadly natural disasters that have large social and economic impact. Their impact can be reduced through near real-time warning systems utilizing information from satellite remote sensing for flood tracking and forecasting. In this study we formulate that differences in day and night land surface temperature (ΔLST) are a skillful predictor for inundation and can serve parallel to soil moisture in warning systems.

   Retrieved from http://onlinelibrary.wiley.com/doi/10.1002/2016GL068192/pdf

2. **Title: The Importance of Contrail ice formation for Mitigating the Climate Impact of Aviation. *Journal of Geophysical Research - Atmospheres*, 121, 3497–3505. Doi: 10.1002/2015JD024696.** Kärcher, B. (2016).

   Description: Aircraft contrails and the cirrus clouds arising from them contribute substantially to aviation-induced climate forcing. The share of aviation in anthropogenic climate change can be reduced by avoiding contrail cirrus formation. The mitigation potential of altering the contrail formation stage is explored using a microphysical model to show how reductions in soot particle number emissions from jet engines, reductions in mean soot particle size, and a decrease in the super saturation of aircraft exhaust plumes substantially lowers the optical depth of young contrails thereby decreasing the occurrence, lifetime, and radiative impact of contrail cirrus. The improved scientific understanding of initial ice formation processes allows atmospheric effects of mitigation options related to contrail cirrus to be investigated in unprecedented detail, especially those associated with the use of alternative

   Retrieved from http://onlinelibrary.wiley.com/wol1/doi/10.1002/2015JD024696/full

3. **Title: Climate Change, rainfall and social conflict in Africa. *Peace research.* 49 (1) 35-50. Doi: 10.1177/0022343311426165**.Hendrix, C. S., & Salehyan, I. (2012).

   Description: Much of the debate over the security implications of climate change revolves around whether changing weather patterns will lead to future conflict. This article addresses whether deviations from normal rainfall patterns affect the propensity for individuals and groups to engage in disruptive activities such as demonstrations, riots, strikes, communal conflict, and anti-government violence. In

contrast to much of the environmental security literature, it uses a much broader definition of conflict that includes, but is not limited to, organized rebellion.

Retrieved from https://www.wm.edu/offices/itpir/_documents/enfoco/climate_change_rainfall.pdf

4. **Title: Climate Change Mitigation and Transport in Developing Nations. *Transport Reviews*, Vol. 25, No. 6, 691-717.**Wright, L., & Fulton, L. (2005).

   Description: Emissions from the transport sector represent the fastest growing source of greenhouse gas emissions. There is little prospect that this situation will be resolved with a single technological fix. As developing nations quickly move to catch up with the motor-ization levels of developed nations, the sheer number of private vehicles may overwhelm any advances made by cleaner fuels. By 2030, there is projected to be more vehicles in the developing world than in developed nations. Despite the growth in developing-nation transport emissions, the sector has produced relatively few mitigation projects within the mechanisms of the Kyoto Protocol. However, a few developing cities, such as Bogota, Colombia, have demonstrated innovation in low-cost solutions to reducing emissions. This research employs scenario analysis to examine the size and cost of potential emission reduction options from the urban transport sector of developing nations.

   Retrieved from https://www.researchgate.net/publication/228618846_Climate_Change_Mitigation_and_Transport_in_Developing_Nations

5. **Title: Post-Disaster Assessment of the performance of Hazard mitigation projects: The California SMART Approach**. Boswell, M. R., Siembieda, W. J., & Topping, K. C. (2010).

   Description: California's SMART (State Mitigation Assessment Review Team) program for assessing natural hazard mitigation project performance after a disaster is a method of integrating multiple state agencies' expertise into a working tool for assessing the value of public investments in risk reduction. The intent of the SMART program is to provide the California Emergency Management Agency with information about the performance of publicly financed mitigation projects so that it can better allocate future funding and improve the overall safety of California.

   Retrieved from http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1125&context=crp_fac

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6. **Title: Reforestation in a high-CO_2 world - higher mitigation potential than expected, lower adaptation potential than hoped for. *Geophysical Research Letter*, 43. Doi: 10.1002/2016GL068824**. Sonntag, S., Pongratz, J., Reick, C. H., & Schmidt, H. (2016).

   Description: We assess the potential and possible consequences for the global climate of a strong reforestation scenario for this century. We perform model experiments using the Max Planck Institute Earth System Model (MPI-ESM), forced by fossil-fuel CO_2 emissions according to the high-emission scenario Representative Concentration Pathway (RCP) 8.5, but using land use transitions according to RCP4.5, which assumes strong reforestation. Thereby, we isolate the land use change effects of the RCPs from those of other anthropogenic forcings. We find that by 2100 atmospheric CO_2 is reduced by 85 ppm in the reforestation model experiment compared to the reference RCP8.5 model experiment. This reduction is higher than previous estimates and is due to increased forest cover in combination with climate and CO_2feedbacks. We find that reforestation leads to global annual mean temperatures being lower by 0.27 K in 2100. We find large annual mean warming reductions in sparsely populated areas, whereas reductions in temperature extremes are also large in densely populated areas.
   Retrieved from http://onlinelibrary.wiley.com/wol1/doi/10.1002/2016GL068824/full