



Media Release

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HUMAN ACTIVITY LINKED TO EXTREME HEAVY RAINFALL

A new study co-authored by Francis Zwiers, the director of UVic's Pacific Climate Impacts Consortium, suggests that human-induced global warming may be responsible for the increases in heavy precipitation that have been observed over much of the Northern Hemisphere including North America and Eurasia over the past several decades. The study, *Human contribution to more intense precipitation extremes*, is featured on the cover of the Feb. 17 edition of *Nature* at www.nature.com.

The lead author of the study is Environment Canada research scientist Seung-Ki Min. Zwiers, a former research scientist with Environment Canada, participated in the research while with the government agency.

The connection between human influence and more-extreme precipitation events has been previously suggested, but rigorous statistical detection techniques had not been used to make the connection before this study. Zwiers, Min and colleagues used such methods to show that observed changes in extreme precipitation from 1951 to 1999 correspond with climate model-predicted changes in extreme precipitation when those models are influenced by historical changes in greenhouse gases.

"It's more difficult to see the human influence on precipitation change than on temperature change because the effect of the greenhouse gas changes on precipitation is weaker than in temperature," says Zwiers. "We had the rainfall data and we had the climate models. We used climate simulations in which greenhouse gas levels were increased over time to replicate what was happening in the real world to see if *the models* would anticipate the kinds of extreme precipitation changes that have been observed. The models increased extreme precipitation as observed, only not as strongly."

The study shows that human-induced increases in greenhouse gases have contributed to the observed intensification of heavy participation events found in approximately two-thirds of the Northern Hemisphere land areas targeted in the analysis.

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To receive a copy of the study email a request to press.nature@gmail.com

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