



Climate change outlook could be worse than feared, study says

by Chuck Bednar

While the world's leaders continue their negotiations in Paris, attempting to iron out a deal that will limit greenhouse gas emissions and keep temperatures from rising to potentially dangerous levels, a newly-published study indicates that things may be worse than we imagined.

In fact, as Professor Roy Thompson from the **University of Edinburgh's School of GeoSciences** explained in the latest edition of the journal *Earth and Environmental Transactions of the Royal Society of Edinburgh*, his research found that unless more is done to counteract climate change, land surface temperatures could rise by an average of nearly 8 degrees Celsius by 2100.

Specifically, unless significant action is taken to limit greenhouse gas emissions, temperatures will be 7.9 degrees Celsius higher at the end of the century than they were in 1750, according to Thompson. Such a dramatic increase could expose billions of people to extreme heat, flooding, localized droughts, and food shortages, he and his colleagues reported.

Those levels would be four times the United Nations' established safe limit of 2 degrees Celsius above pre-industrial times, which is the limit negotiators are attempting to adhere to as they look to hammer out a binding long-term deal at the UN Climate Change Conference (COP 21).

Findings come as the world tries to work out a climate deal

Thompson's team created a simple algorithm which they used to determine the essential factors responsible for shaping climate change. They then predicted the potential impact that each would have on global land and water temperatures, using a computer model that was far more basic and direct than those used by the Intergovernmental Panel on Climate Change (IPCC).

Their calculations were based on historical temperatures and emissions data, and accounted for atmospheric pollution effects responsible for helping cool down the planet by reflecting sunlight back into space. The researchers believe their findings will help resolve debate centered around short-term slow-downs in temperature increases.

Meanwhile, at COP 21, the delegates are said to be closing in on an agreement, but as the *Los Angeles Times* reported Wednesday, one of the main sticking points to getting the deal done is deciding exactly which nations should cover what percentage of the costs. The two-week long event is scheduled to wrap-up on Friday—whether an agreement can be reached or not.