

INDUSTRIAL SMOG AMPLIFYING EXTREME WEATHER: STUDY

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Scientists have discovered another reason burning fossil fuels is bad for the planet.

Extreme winter weather patterns felt across the Northern Hemisphere this year were exacerbated by extreme industrial pollution in Asia, according to a team of atmospheric scientists who published a new report in the Proceedings of the National Academy of Science Tuesday.

According to the decade-long research project, mass coal burning and petrochemical processing plants in major metropolitan areas such as Beijing and Delhi are polluting the atmosphere with mass amounts of aerosols. Such a large amount of this particular pollution has changed cloud behavior, the scientists say, which in turn has affected global weather patterns.

Coal-fired power plants are already well known as sources of climate-altering greenhouse gases such as carbon-dioxide.

Carbon emissions from coal-fired power plants doubled in the 21st century—a direct result of the boom in Asian plants largely supplying power for factories making goods for the U.S. and Europe.

However, the impact of aerosols, another coal-related pollutant, on the weather is also very dramatic, according to the researchers.

Aerosol pollution "results in thicker and taller clouds and heavier precipitation," said the lead author of the study Yuan Wang, from the Jet Propulsion Laboratory at the California Institute of Technology.

"Aerosols provide seeds for cloud formation. If you provide too many seeds, then you fundamentally change cloud patterns and storm patterns," said co-author Renyi Zhang, a professor of atmospheric sciences at Texas A&M University in College Station.

This, in turn, strengthened storm patterns in the North Pacific this year, according to the data.

"Since the Pacific storm track is an important component in the global general circulation, the impacts of Asian pollution on the storm track tend to affect the weather patterns of other parts of the world during the wintertime, especially a downstream region [of the track] like North America," said Wang.

"We are becoming increasingly aware that pollution in the atmosphere can have an impact both locally - wherever it is sitting over regions - and it can a remote impact in other parts of the world," said Professor Ellie Highwood, a climate physicist at the University of Reading. "This is a good example of that."

"Mid-latitude storms develop off Asia and they track across the Pacific, coming in to the west coast of the US," added Highwood. "The particles in this model are affecting how strong those storms are, how dense the clouds are, and how much rainfall comes out of those storms."

Source: <http://www.commondreams.org/news/2014/04/15/industrial-smog-amplifying-extreme-weather-study>