

The Butterfly Effect



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The mission of the American Chemical Society (ACS) is to “advance the broader chemical enterprise and its practitioners for the benefit of Earth and all its people”. As part of that mission, *Environmental Science & Technology* (ES&T) will be sending a large delegation of our editorial team to the National Conference for Environmental Chemistry in Wuhan, China, to be held during the week of November 17, 2023. The goal of this delegation is to engage with scientists and engineers at this meeting to build connections and share perspectives about how ES&T can support the larger community, transforming the ACS mission from a vision into reality. There are those who would criticize the sending of a delegation halfway around the world as something too modest and brief to bring about any kind of meaningful change.

However, as many people are familiar, there is something known as the butterfly effect, introduced by MIT Meteorology Professor Edward Lorenz when he posed the following question in 1969: “Does the flap of a butterfly’s wings in Brazil set off a tornado in Texas?” This question, a pre-cursor to chaos theory, outlines how small and seemingly insignificant actions can actually result in much larger consequences. We are firm believers in the potential of the butterfly effect, especially as it pertains to human and societal interactions. The immeasurable value of people interacting with people to share experiences, challenges, hopes, and plans to achieve those hopes is one of the most powerful forces for change in this world. This is especially critical now, a time when change is not an option and we must rise to the enormous challenges currently confronting society. Part of realizing that change will come from engaging with other individuals and groups through intangible but essential face-to-face interactions to bring about larger cascading positive consequences.

It is clear that as we work to “benefit the Earth and all of its people”, we need to ensure that the unintended consequences of our work do not cause harm to people and the planet. All readers of this journal are well aware that air travel to China will result in greenhouse gas emissions. That is why the authors of this ES&T editorial are taking the step of addressing the carbon emissions resulting from the travel of our editors to China through the purchase of thoughtful and carefully selected carbon credits that are verified, permanent, and additional. Of course, the first and best strategy is to directly reduce emissions, and there are many caveats associated with purchasing carbon offsets. Those who know us will realize very well that we do not believe that carbon credits are more than just one small step in our much grander journey of transforming away from a climate changing society.

But - we do believe in the butterfly effect.

We are not taking this action for what it means simply for the carbon emissions of this trip; this action is meant to catalyze much more. It is meant for us all to reconsider and hopefully change the way that we do our noble work so that it does not cause harm while pursuing good. The hope is that the steps that we are taking will inspire and motivate our community and will spread to scientific and professional societies, other organizations, institutions, and societal structures such that the flapping of these butterfly wings will cause a typhoon of moving to a sustainable world.

There’s never a wrong time to do the right thing.

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