

# THE SCOOP

The December Newsletter is OUT!!!

## Scientist of the Month

**Paul Crutzen**

## Scientist Birthday:

December 3<sup>rd</sup>, 1933

## Trivia about the scientist

Paul Josef Crutzen is a Dutch chemist who received the 1995 Nobel Prize for Chemistry for demonstrating, in 1970, that chemical compounds of nitrogen oxide accelerate the destruction of stratospheric ozone, which protects the Earth from the Sun's ultraviolet radiation. His work, published in 1970, that showed that the nitrogen oxides NO and NO<sub>2</sub> react catalytically with ozone, thus accelerating the rate of ozone breakdown to O<sub>2</sub> in the stratosphere.

## Discovery in the month December, 2018:

### Reliable Tropical Weather Pattern to Change in a Warming Climate-

The Madden-Julian Oscillation's precipitation variations are likely to increase in intensity under a warmer climate, while wind variations are likely to increase at a slower rate

Every month or two, a massive pulse of clouds, rainfall and wind moves eastward around the Earth near the equator, providing the tropics their famous thunderstorms.

This band of recurring weather, first described by scientists in 1971, is called the Madden-Julian Oscillation. It has profound effects on weather in distant places, including the United States. Atmospheric scientists have long studied how the Madden-Julian Oscillation modulates extreme weather events across the globe, from hurricanes to floods to droughts.

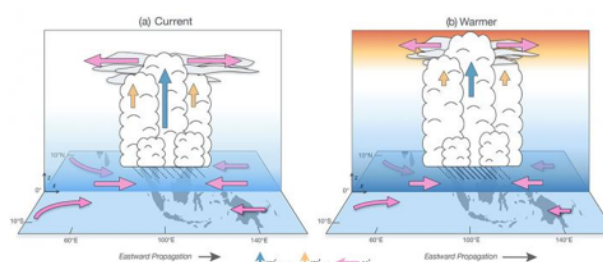


Fig: Current climate is represented in (a), and a warmer climate in (b). As the climate warms, the mean vertical gradient in water vapor (blue) increases. Tropospheric temperature (orange shading) will also increase more than the lower atmosphere.



These nitrogen oxides are formed principally by decay of nitrous oxide ( $\text{N}_2\text{O}$ ) which originates from microbiological transformations in the soil. He shared the prize with chemists Mario Molina and F. Sherwood Rowland, who discovered in 1974 that manufactured chlorofluorocarbon gases also contribute to ozone depletion.

As human activities cause the Earth's temperature to increase, reliable, well-studied weather patterns like the Madden-Julian Oscillation will change too, say researchers at Colorado State University.

### *Company of the month-*

#### **India Glycols Ltd:**

India Glycols is a leading company that manufactures green technology based bulk, specialty and performance chemicals and natural gums, spirits, industrial gases, sugar and nutraceuticals.

The company was established as a single mono-ethylene glycol plant in 1983. Since then, IGL

### *Meme of the month-*

Client: "How do you estimate how long a project will take?"

Engineer: "I add the time needed for each activity, and then multiply by pi."

Client: "Why multiply by pi?"

Engineer: "It explains why my estimates are always irrational."



