

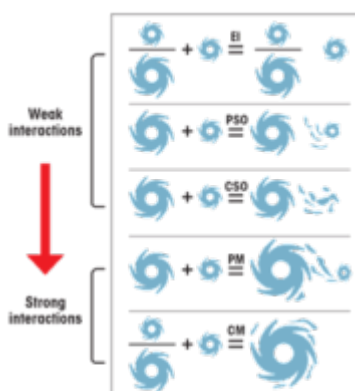
Fujiwhara Effect

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In news— As Super typhoon Hinnamnor and another tropical storm called Gardo approached each other, they started a dance around the central line between them, showcasing a textbook example of what is known as the Fujiwhara Effect.

What is the Fujiwhara Effect?

- **Fujiwhara Effect is any interaction between tropical storms formed around the same time in the same ocean region with their centres or eyes at a distance of less than 1,400 km**, with intensity that could vary between a depression (wind speed under 63 km per hour) and a super typhoon (wind speed over 209 km per hour).
- **The interaction could lead to changes in the track and intensity of either or both storms systems.**
- **In rare cases, the two systems could merge**, especially when they are of similar size and intensity, to form a bigger storm.
- **There are five different ways in which Fujiwhara Effect can take place(as mentioned in the image below).**



Elastic Interaction (EI): Interaction of vortices (storms) of some or different sizes, resulting in changes only in the direction of motion. This is the most commonly seen interaction

Partial Straining-Out (PSO): Interaction of vortices of unequal sizes. Part of the smaller vortex lost to the atmosphere.

Complete Straining-Out (CSO): Interaction of vortices of unequal sizes. The smaller vortex completely lost to the atmosphere

Partial Merger (PM): Interaction of vortices of unequal sizes. Part of the smaller vortex merged to the bigger vortex

Complete Merger (CM): Interaction of vortices of same or different sizes, resulting in complete merger of both the storms

- During a merger interaction between two tropical cyclones the wind circulations come together and form a sort of whirlpool of winds in the atmosphere.
- **Fujiwhara effect was identified by Sakuhei Fujiwhara, a Japanese meteorologist** whose first paper recognising the Fujiwhara cases was published in 1921.
- The first known instance of the effect was in 1964 in the western Pacific Ocean when typhoons Marie and Kathy merged.