

Unlocking the West's weather maker

By Matt Weiser, Water Deeply

One thing the drought has brought to wider attention is the role of so-called atmospheric rivers in the state's weather and water supply.

An atmospheric river is a narrow band of high-speed wind that sweeps across the Pacific Ocean, often dragging vast amounts of tropical moisture with it. Sometimes dubbed a "horizontal hurricane," just a handful of these storms can bring California half of its annual rainfall every year. Indeed, an absence of very wet atmospheric rivers over the past few years is one reason California has experienced such a severe drought.

Atmospheric rivers are also responsible for the state's worst flooding events.

Their influence on water supply and flood risk depends largely on where they make landfall, and for how long. But until recently, very little research has been devoted to understanding atmospheric rivers. These storms can lash around like an uncontrolled fire hose, and the mechanisms responsible for that behavior have been poorly understood.

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