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“IT WAS VERY EXCITING IN THOSE DAYS.
WE WERE EXPLORERS.”

Marie-Tharp [1920-2006], Oceanographer

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A 21st Century Look at the Global Ocean Conveyor Belt



In 1800 Count Rumford ascertained the ocean’s meridional overturning circulation from a single profile of ocean temperature constructed with the use of a rope, a wooden bucket and a rudimentary thermometer. Over two centuries later, data from floats, gliders and moorings deployed across the North Atlantic have transformed our understanding of this overturning circulation, popularly termed the ocean ‘conveyor belt’.

While Rumford appreciated the role of the ocean’s overturning in redistributing heat, today we understand the crucial role that this circulation plays in sequestering anthropogenic carbon dioxide in the deep ocean. In this talk I will discuss our current understanding of the ocean’s overturning circulation, its role in our global climate and what we currently do and don’t understand about the mechanisms controlling its temporal change.