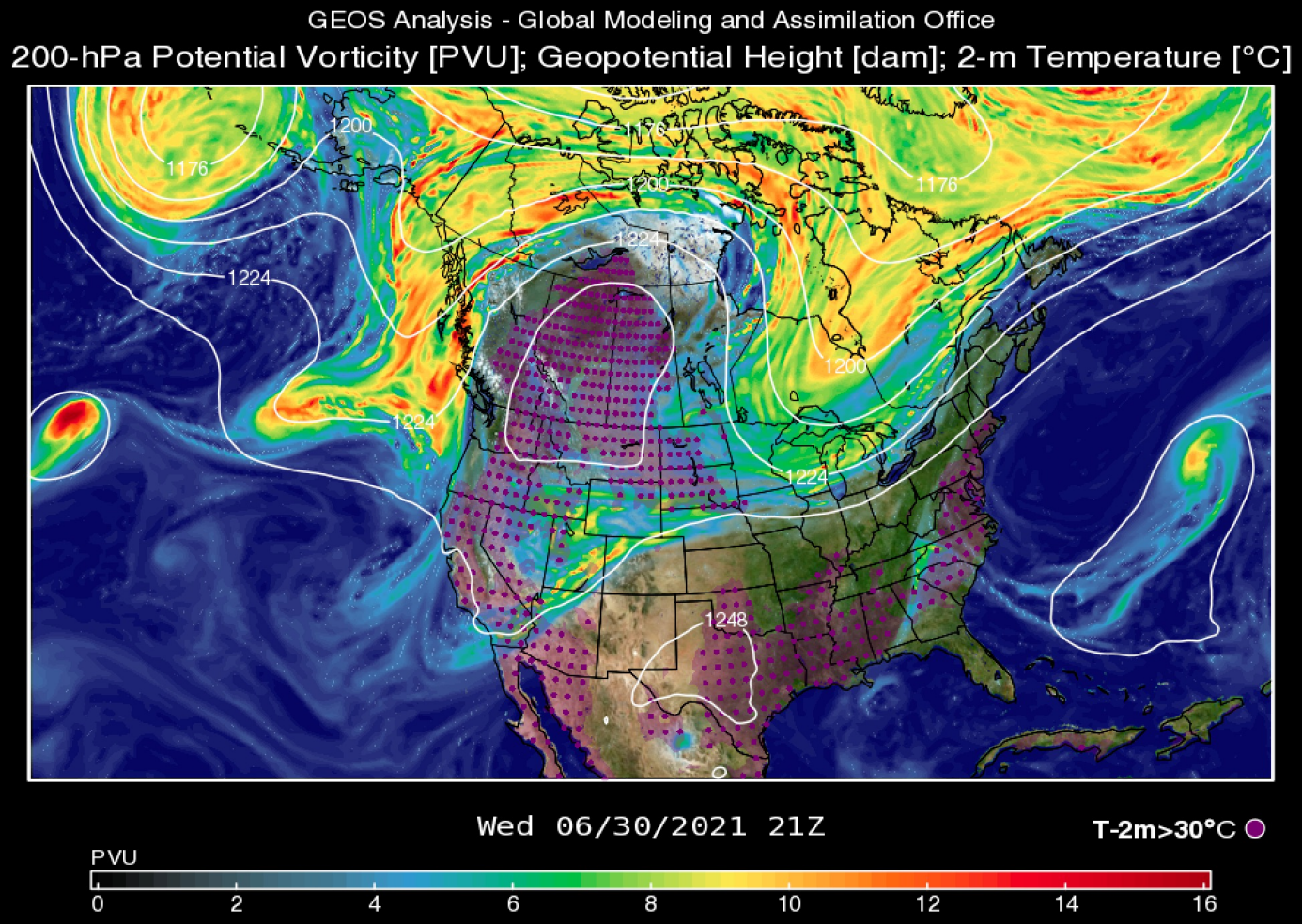
A Dynamical View of the Record Heatwave of June 2021 in Western North America



Daytime surface temperatures on June 30, 2021, exceeded 30ºC over large regions of the Northwestern US and Western Canada (purple dots). The high, often record-breaking temperatures aligned with an “omega block” circulation pattern, emphasized by the Ω structure in the (white) 200-hPa Geopotential Height contours. Potential vorticity (PV) fields (shaded) highlight the distorted nature of the flow, with low-PV air from the lower latitudes protruding far northwards in the region of anticyclonic circulation that dominates much of western North America.

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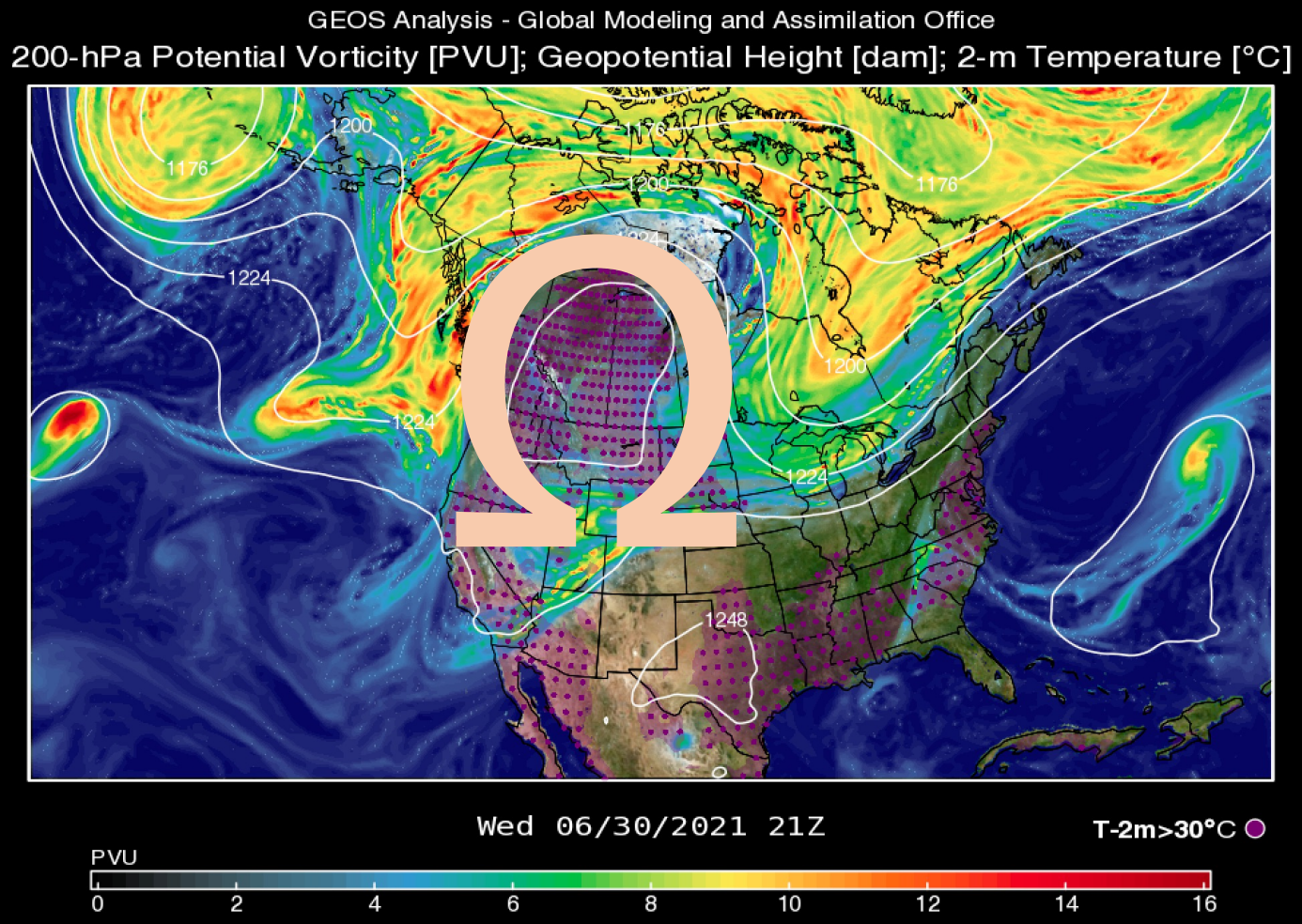

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