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Mangroves as nature-based mitigation for ENSO-driven compound flood risks in a large river delta

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S1. High water level profiles in the western branch

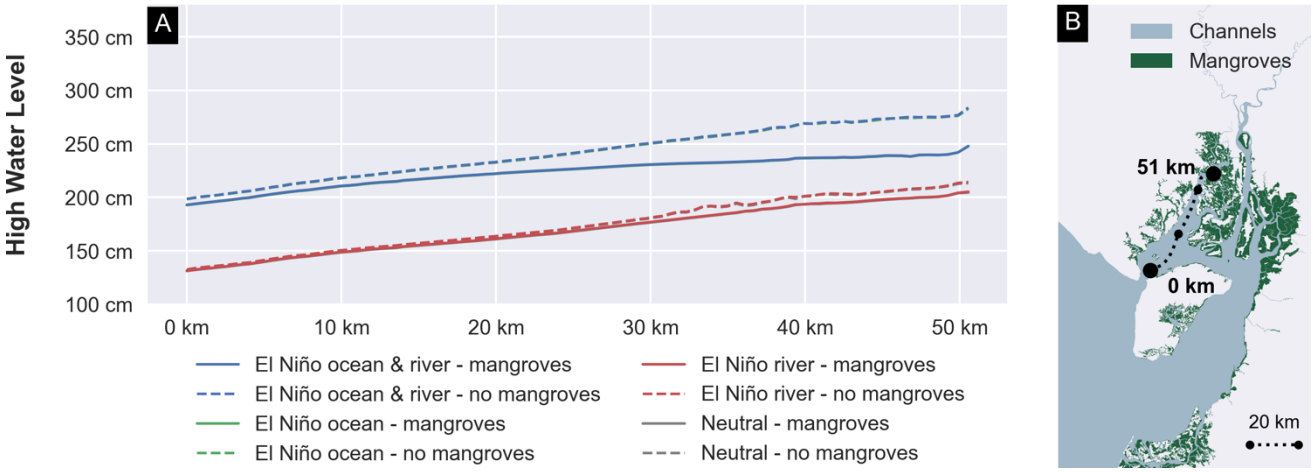

Figure S1 *| Maximum High water levels (a) during the simulated spring tides over a transect (b) running from the seaward boundary of the Gulf of Guayaquil through the western main branch of the Guayas delta, receiving no direct river discharge, for four scenarios, each one simulated with and without mangroves: a scenario with El Niño ocean and riverine forcing, with only El Niño oceanic forcing, with only El Niño riverine forcing and with neutral conditions (without El Niño forcing) at both sea- and landward boundaries.*

S2. High water level anomaly profiles in the western branch

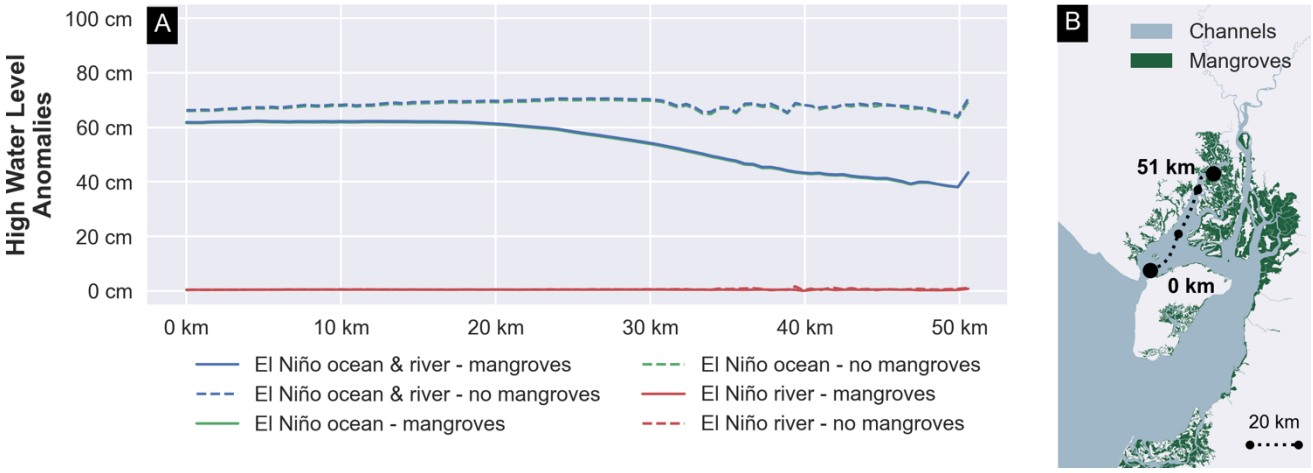

Figure S2 | *High water level anomalies (a) during the simulated spring tide over a transect (b) running from the seaward boundary of the Gulf of Guayaquil through the western main branch of the Guayas delta, receiving no direct river discharge, for three scenarios, each one simulated with and without mangroves: a scenario with El Niño ocean and riverine forcing, with only El Niño oceanic forcing and with only El Niño riverine forcing. High water level anomalies are defined as the difference between each model scenario and the corresponding Neutral model scenario (without El Niño forcing).*

S3. High water level profiles in the western branch under different El Niño strengths

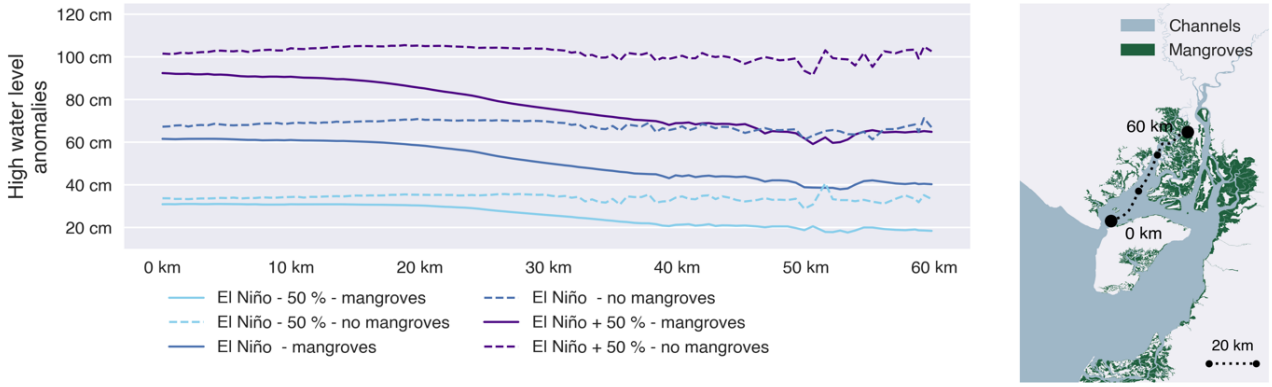

Figure S3 | *High water level anomalies (a) during the simulated spring tide over a transect (b) running from the northern entrance of the delta through the western main branch of the Guayas delta, receiving no river discharge, for three scenarios, 255 each one simulated with and without mangroves: a scenario with 50 % of the El Niño ocean and riverine forcing ("El Niño ocean & river – 50 %), 100 % of the El Niño ocean and riverine forcing ("El Niño ocean & river") and with 150 % of the El Niño ocean and riverine forcing ("El Niño ocean & river + 50 %). High water level anomalies are defined as the difference between each model scenario and the corresponding Neutral model scenario (without El Niño forcing).*