

Supplementary material

Changes in the probability of larvae crossing the North Atlantic during the 20th century

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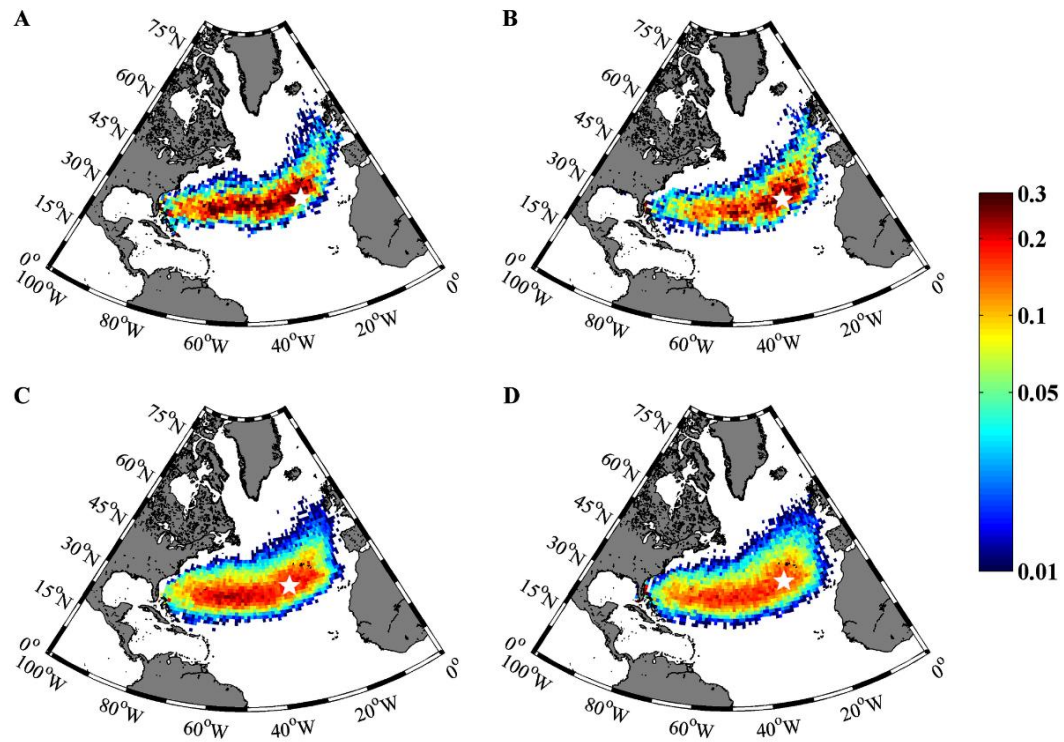


Fig. S1. Final position of dispersed particles during the period 1996–2009. Percentage of particles found at the North Atlantic Ocean after a drift of 1.5 years for particles initially released at 5-m depth during May using (a) SODA and (b) HYCOM, and during October using (c) SODA and (d) HYCOM. White stars represent the locations where the maximum number of particles was found after a drift of 1.5 years for each depth.

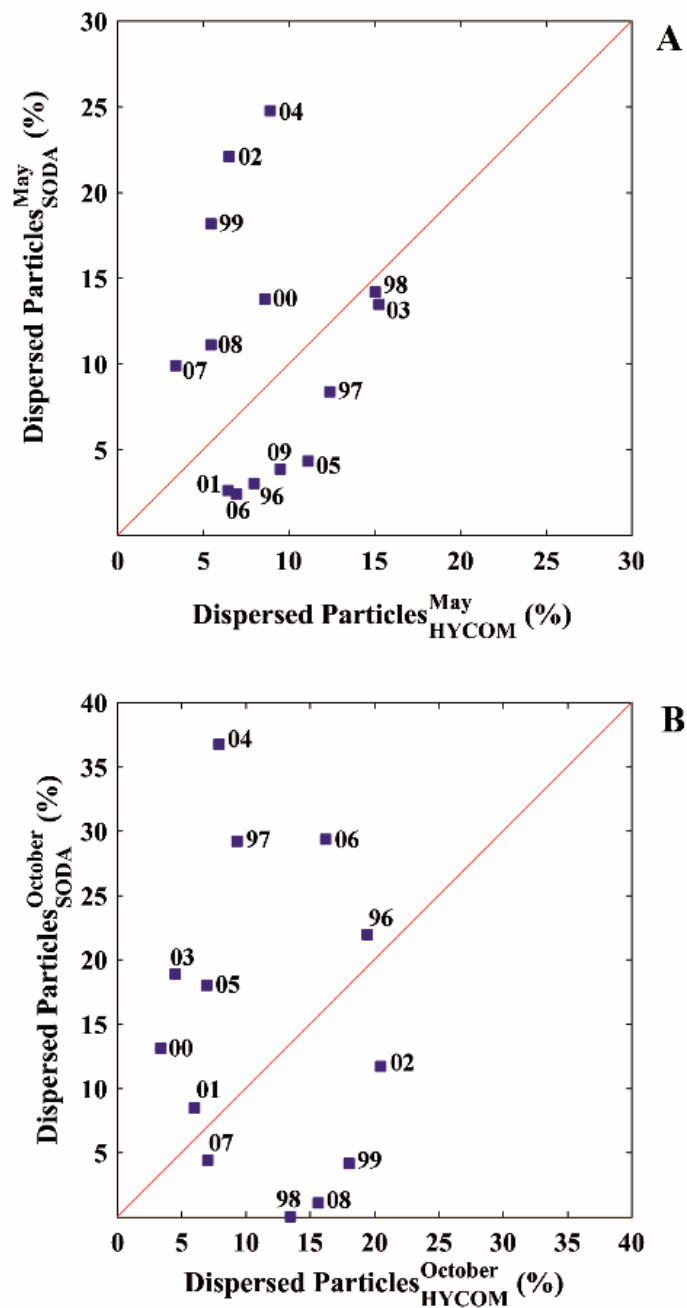


Fig. S2. Comparison between the percentage of particles released at 5 m that succeeded in crossing the 25°W meridian using SODA and HYCOM during the period 1996–2009. (a) Particles initially released in May. (b) Particles initially released in October. The numbers represent the year.

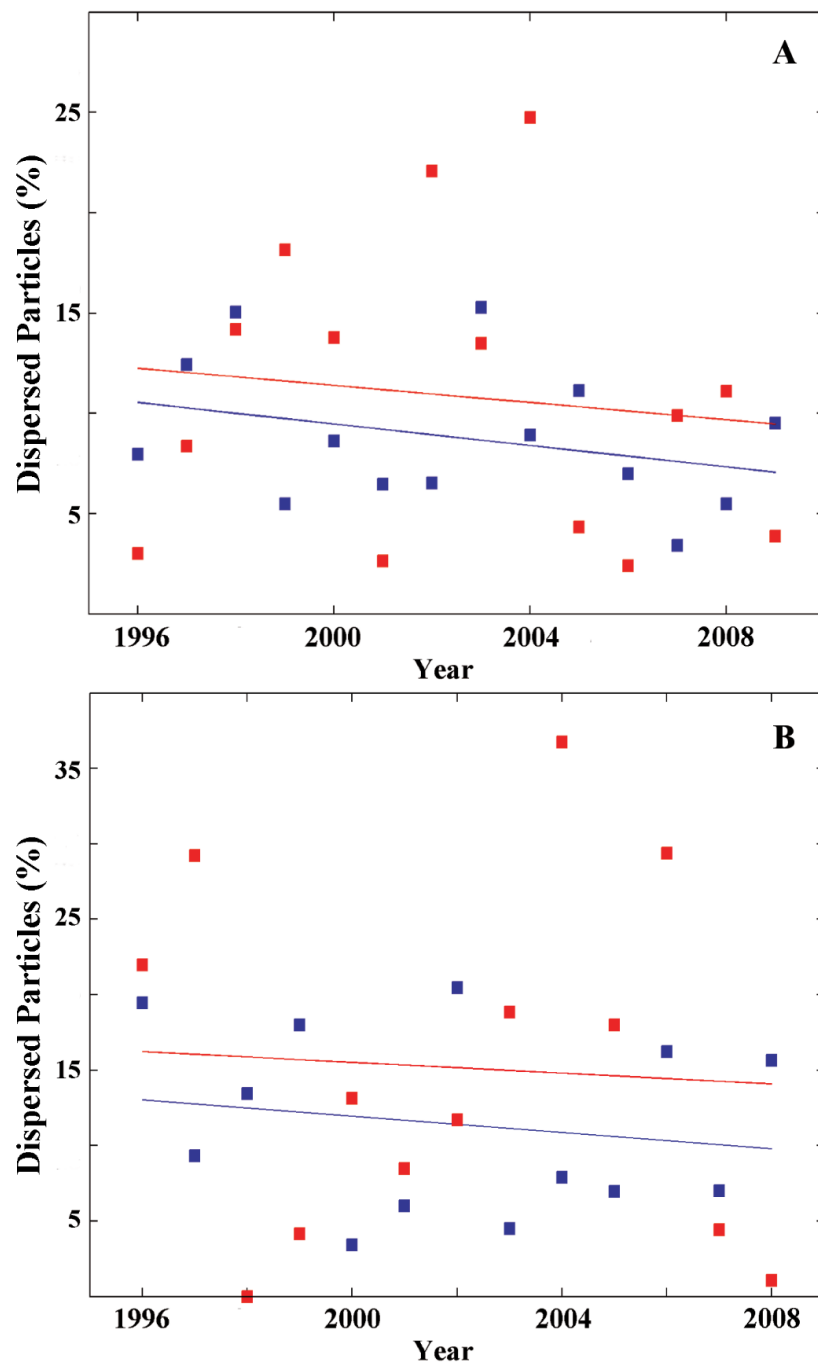


Fig. S3. Percentage of particles that crossed the North Atlantic Ocean during the period 1996–2009. Time evolution of the percentage of particles released at 5-m depth in (a) May and (b) October that succeeded in crossing the 25°W meridian. Date were obtained with SODA (red) and HYCOM (blue).

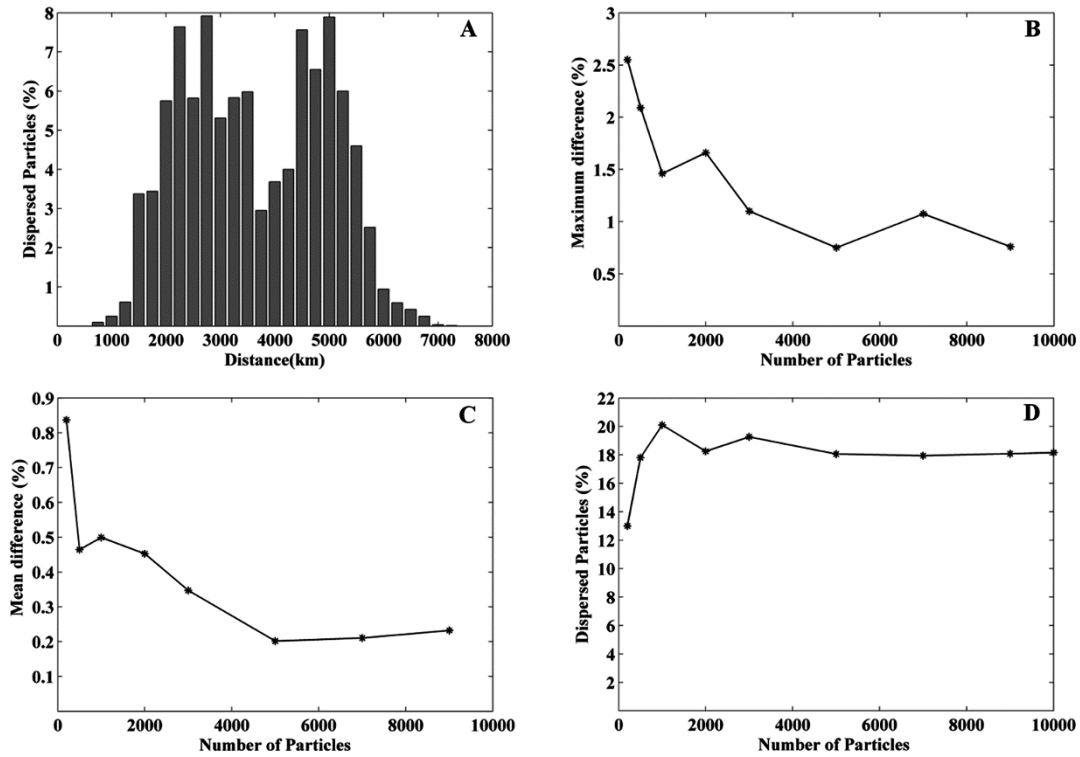


Fig. S4. Analysis to determine the number of particles needed in the simulations. (a) Histogram of the dispersion for 10 000 particles. (b) Maximum difference (%) among histograms in the percentage of particles, relative to the case with 10 000 particles. (c) Mean difference (%) among histograms for the different number of released particles (i.e. numbers) relative to the case with 10,000 particles. (d) Percentage of dispersed particles that succeeded in crossing the 25°W meridian for runs with the different number of released particles. All particles were released at 80.836°W, 24.754°N in October 2000 at a fixed depth of 100 m, and the final location corresponds to March 2002.

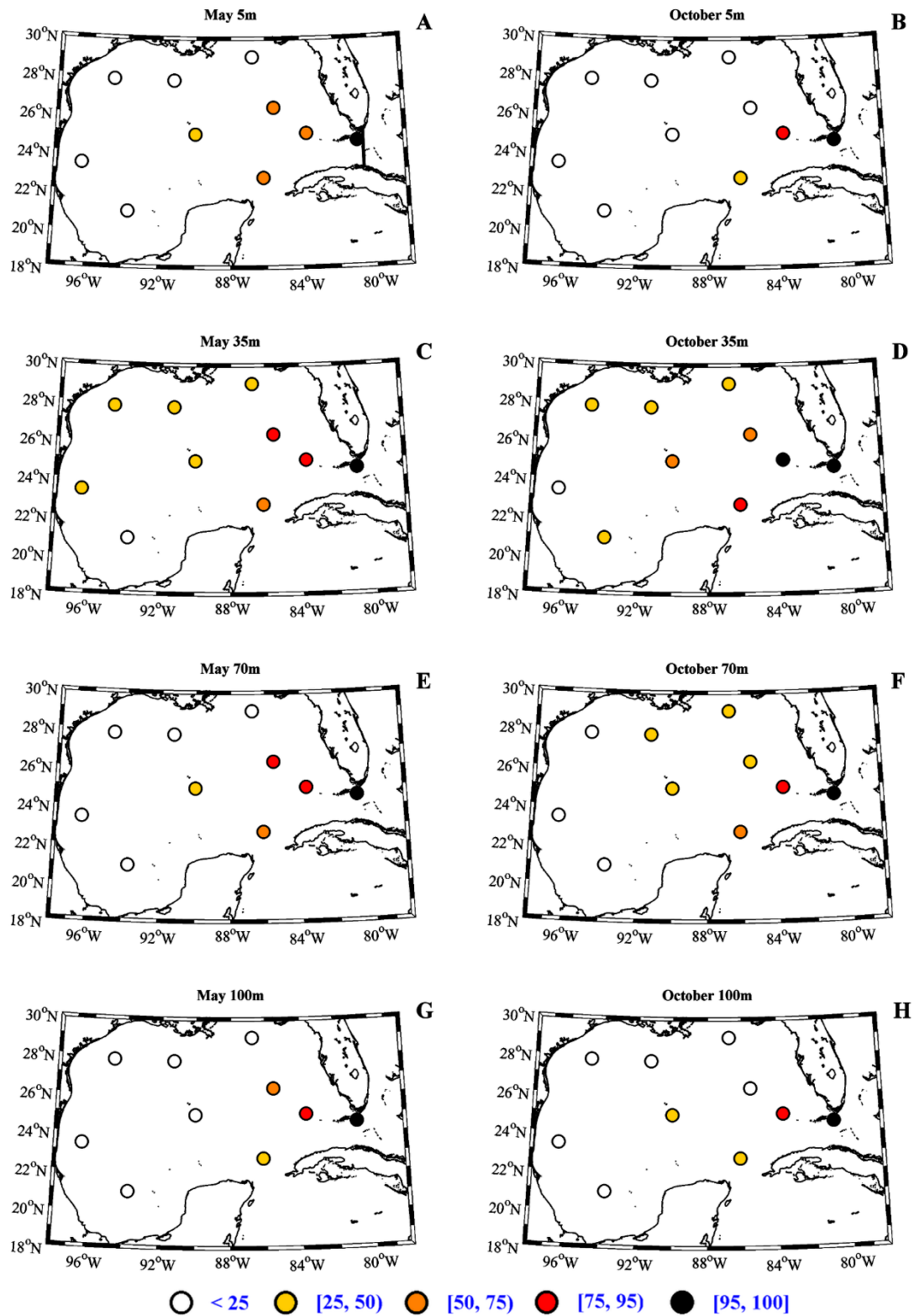


Fig. S5. Analysis to determine the ideal release point. Percentage of particles that succeeded in crossing the 80.5°W meridian for the different release points. Black line in (a) represent the 80.5°W meridian.