



L'Animation Scientifique



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Probable locations of sea turtle mortality from strandings using experimentally-calibrated, time- and space-specific carcass drift models

Sea turtle stranding events provide a unique opportunity to study drivers of mortality in marine megafauna, but causes of strandings are generally poorly understood. We developed a carcass drift model for the Chesapeake Bay, Virginia, USA, to predict likely locations of mortality from coastal sea turtle stranding records during 2009-2014. Key model advancements include realistic direct wind forcing on carcasses, temperature driven carcass decomposition and the targeting of specific stranding events to develop mortality location predictions for individual strandings. Predicted origin of vessel strike stranding records were compared to commercial vessel tracking data, and hotspots of potential hazardous turtle-vessel interactions were identified in high traffic areas of the southeastern Chesapeake Bay and James River. Commercial fishing activity of various gear types with known sea turtle interactions were compared in space to predicted mortality locations for stranded turtles classified with no apparent injuries, suggesting possible fisheries-induced mortality. Probable mortality locations for these strandings were found to vary seasonally, but two distinct areas were identified in the southwest and southeast portions of the lower Bay. Spatial overlap was noted between potential mortality locations and gillnet, seine, pot, and pound net fisheries, important information for focusing future research on identifying and mitigating conflict between sea turtles and human activities. Our ability to quantitatively assess spatial and temporal overlap between sea turtle mortality and human uses of the habitat were hindered by the low temporal and spatial resolutions of human use datasets, especially those for recreational vessel and commercial fishing gear distributions. This study both highlights the importance of addressing these data gaps and provides a meaningful conservation and management tool that can be applied to stranding data of sea turtles and other charismatic marine fauna around the globe.

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> prochainement

Jeudi 12 octobre à Montpellier :
Maëlle Connan,
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