Supplementary Information

**Table S1.** Mean (± SE) air temperature (°C), water temperature (°C), wave height (m), wind speed (km/h), and direction of prevailing winds and waves from eight days before *Physalia physalis* massive strandings in the northwestern coast of La Habana, Cuba, in December 2022.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Day | Temperature of the air (°C) | Temperature of the water (°C)  | Wave height (m) | Wave direction | Wind Speed (km/h) | Prevailing wind direction |
| 20 | 25 ± 0.5 | 28 ± 0.5 | 1.0 ± 0.1 | NE | 6.11 | ENE |
| 21 | 24 ± 0.7 | 28 ± 0.5 | 0.4 ± 0.1 | NE | 6.43 | NNE |
| 22 | 25 ± 1.1 | 28 ± 0.8 | 0.2 ± 0 | No waves | 6.43 | SO |
| 23 | 24 ± 1.2 | 27 ± 1.0 | 0.4 ± 0.1 | N | 6.92 | N |
| 24 | 19 ± 1.6 | 27 ± 0.6 | 1.5 ± 0.3 | N | 24.30 | NNE |
| 25 | 18 ± 0.5 | 28 ± 0.7 | 1.2 ± 0.2 | NNE | 22.20 | NNE |
| 26 | 19 ± 0.5 | 27 ± 0.9 | 1.1 ± 0.2 | NE | 14.32 | NE |
| 27 | 21 ± 0.5 | 27 ± 0.5 | 0.8 ± 0.1 | NE | 12.07 | NNE |
| 28 | 23 ± 0.5 | 27 ± 0.8 | 1.0 ± 0.2 | ENE | 9.65 | ENE |
| 29 | 25 ± 0.5 | 27 ± 1.1 | 1.2 ± 0.1 | ENE | 12.71 | ENE |

**Table S2.** Daily North Atlantic Oscillation Index (NAOi) and Arctic Oscillation Index (AOi) in December 2022.

|  |  |  |
| --- | --- | --- |
| Day | NAOi | AOi |
| 1 | 0.034 | -0.95 |
| 2 | -0.286 | -1.69 |
| 3 | -0.925 | -1.61 |
| 4 | -1.67 | -2.42 |
| 5 | -1.94 | -2.08 |
| 6 | -1.11 | -2.58 |
| 7 | -0.67 | -2.87 |
| 8 | -0.72 | -3.52 |
| 9 | -1.07 | -3.69 |
| 10 | -1.34 | -4.1 |
| 11 | -1.3 | -4.1 |
| 12 | -0.84 | -3.65 |
| 13 | -0.33 | -3.15 |
| 14 | -0.02 | -3.19 |
| 15 | 0.2 | -2.92 |
| 16 | 0.2 | -2.66 |
| 17 | -0.2 | -3.73 |
| 18 | -0.3 | -4.15 |
| 19 | -0.1 | -3.67 |
| 20 | 0.01 | -3.32 |
| 21 | -0.02 | -3.33 |
| 22 | -0.06 | -3.39 |
| 23 | 0.13 | -3.43 |
| 24 | 0.13 | -3.51 |
| 25 | 0.3 | -3.03 |
| 26 | 0.8 | -1.81 |
| 27 | 1.3 | -0.54 |
| 28 | 1.3 | -0.22 |
| 29 | 1.4 | -0.27 |
| 30 | 1.4 | -0.51 |
| 31 | 1.4 | -0.28 |