Table S1. Results of circular distribution analysis of headings of satellite-tracked oceanic-stage green turtles. Each turtle is identified by its tag ID, and the pooled subset of all individual tracks south of 37° N and west of 72° W, as well as the pooled subset of tracks displaying statistically significant orientation (versus a uniform distribution) is reported in the last rows. Both *U2* test and Rayleigh’s z test scores are presented.

| GreenID | mon | day | year | lat | lon | days | mean heading | U2 test Score | *p* | Rayleigh'z score | *p* |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 117332a\_2012 | 4 | 26 | 2012 | 26.76 | −79.86 | 80 | 148° | 0.4054 | <0.001 | 5.426 | 0.002–0.005a |
| 117332b\_2012 | 12 | 16 | 2012 | 26.75 | −79.73 | 52 | 190° | 0.4896 | <0.001 | 9.082 | 0.001a |
| 85511b\_2012 | 5 | 13 | 2012 | 26.76 | −79.84 | 53 | 18° | 0.2810 | 0.005–0.01 | 4.166 | 0.01–0.02a |
| 85511c\_2013 | 1 | 13 | 2013 | 26.75 | −79.70 | 85 | 283° | 0.5940 | <0.001 | 11.214 | 0.001a |
| 85512b\_2012 | 1 | 13 | 2013 | 26.75 | −79.70 | 84 | 43° | 0.1507 | 0.10–0.20 | 2.367 | 0.05–0.1 |
| 85 512\_2013 | 5 | 13 | 2012 | 26.76 | −79.84 | 64 | 191° | 0.7863 | <0.001 | 14.315 | 0.001a |
| 85513b\_2012 | 1 | 2 | 2013 | 26.75 | −79.70 | 70 | 315° | 0.1218 | 0.10–0.20 | 0.896 | >0.5 |
| 85513\_2013 | 5 | 9 | 2012 | 26.71 | −79.92 | 151 | 130° | 0.8212 | <0.001 | 15.131 | 0.001a |
| 85514b\_2012 | 1 | 2 | 2013 | 26.75 | −79.70 | 58 | 97° | 0.1440 | 0.10–0.20 | 2.258 | 0.05–0.1 |
| 85514\_2013 | 5 | 13 | 2012 | 26.76 | −79.84 | 46 | 175° | 0.0978 | 0.20–0.5 | 0.189 | >0.5 |
| 92584c\_2012 | 12 | 16 | 2012 | 26.75 | −79.73 | 10 | 81° | 0.1573 | 0.05–0.10 | 2.306 | 0.05–0.1 |
| 92584\_2012 | 5 | 9 | 2012 | 26.71 | −79.92 | 37 | 244° | 0.1216 | 0.10–0.20 | 2.027 | 0.1–0.2 |
| 92585c\_2012 | 4 | 2 | 2012 | 26.78 | −79.90 | 100 | 169° | 0.0797 | 0.20–0.50 | 0.519 | >0.5 |
| 92586c\_2012 | 12 | 16 | 2012 | 26.75 | −79.70 | 57 | 223° | 0.4865 | <0.001 | 7.373 | 0.001a |
| 92586\_2012 | 5 | 13 | 2012 | 26.76 | −79.84 | 67 | 216° | 0.1826 | 0.05–0.10 | 2.916 | 0.05–0.1 |
| 92587c\_2012 | 2 | 15 | 2013 | 26.74 | −79.79 | 43 | 46° | 0.0542 | >0.50 | 0.412 | >0.5 |
| 92587\_2013 | 5 | 13 | 2012 | 26.76 | −79.84 | 36 | 179° | 0.2114 | 0.02–0.05 | 3.747 | 0.02–0.05a |
| 92588c\_2012 | 2 | 14 | 2013 | 26.74 | −79.49 | 103 | 24° | 0.1304 | 0.01–0.20 | 1.963 | 0.1–0.2 |
| 92588\_2013 | 4 | 26 | 2012 | 26.76 | −79.86 | 37 | 152° | 0.3771 | <0.001 | 7.077 | 0.001a |
| 92590c\_2012 | 12 | 16 | 2012 | 26.75 | −79.73 | 84 | 345° | 0.0397 | >0.50 | 0.144 | >0.5 |
| 92590\_2012 | 5 | 13 | 2012 | 26.76 | −79.84 | 57 | 134° | 0.3025 | 0.002–0.005 | 5.035 | 0.005–0.01a |
| all combined south |  |  |  |  |  | 718 | 182° | 0.4738 | 0.001 | 7.170 | 0.001a |
| 10 significant 10tags |  |  |  |  |  | 371 | 187° | 0.5971 | 0.001 | 10.340 | 0.001a |

asignificant at 0.05 level.

Table S2. Results of circular distribution analysis of headings of loggerhead turtles tracked by Mansfield *et al*. [7,33]. Each turtle is identified by its tag ID, and the pooled subset of all individual tracks south of 37° N and west of 72° W, as well as the pooled subset of tracks displaying statistically significant orientation (versus a uniform distribution) is reported in the last rows. Both *U2* test and Rayleigh’s z test scores are presented.

| loggerhead ID | mon | day | year | lat | lon | days | mean heading | U2 test score | *p* | Rayleigh'z score | *p* |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 85511\_2010 | 12 | 2 | 2010 | 26.738 | −79.51 | 27 | 127° | 0.3045 | 0.002–0.005 | 4.3845 | 0.01–0.02a |
| 85512\_2010 | 10 | 18 | 2010 | 26.292 | −79.68 | 31 | 250° | 0.5258 | 0.001 | 7.5557 | 0.001a |
| 85513\_2011 | 1 | 4 | 2011 | 26.75 | −79.78 | 169 | 248° | 0.2971 | 0.002–0.005 | 5.0162 | 0.005–0.01a |
| 85514\_2011 | 1 | 4 | 2011 | 26.75 | −79.78 | 127 | 9° | 0.0488 | >0.5 | 0.1203 | >0.5 |
| 92584\_2009 | 5 | 9 | 2009 | 26.883 | −79.88 | 39 | 228° | 0.1396 | 0.1–0.2 | 1.9870 | 0.1–0.2 |
| 92584\_2011 | 1 | 4 | 2011 | 26.75 | −79.78 | 102 | 343° | 0.2889 | 0.005–0.01 | 5.0964 | 0.005–0.01a |
| 92585\_2009 | 6 | 12 | 2009 | 26.829 | −79.82 | 58 | 42° | 0.9121 | 0.001 | 16.4042 | 0.001a |
| 92585\_2010 | 10 | 18 | 2010 | 26.292 | −79.68 | 70 | 22° | 0.3722 | 0.001–0.002 | 6.8945 | 0.001a |
| 92586\_2009 | 12 | 15 | 2009 | 26.761 | −79.82 | 37 | 47° | 0.1138 | 0.10–0.20 | 0.8255 | 0.2–0.5 |
| 92586\_2010 | 11 | 2 | 2010 | 26.761 | −79.86 | 65 | 325° | 0.4292 | 0.001 | 7.6024 | 0.001a |
| 92587\_2009 | 6 | 11 | 2009 | 26.829 | −79.82 | 54 | 1° | 0.2867 | 0.005–0.01 | 5.0468 | 0.005–0.01a |
| 92587\_2010 | 11 | 2 | 2010 | 26.761 | −79.86 | 219 | 352° | 0.0968 | 0.20–0.50 | 0.2166 | >0.5 |
| 92588\_2009 | 6 | 12 | 2009 | 26.829 | −79.82 | 49 | 12° | 0.7771 | 0.001 | 14.3822 | 0.001a |
| 92588\_2011 | 1 | 4 | 2011 | 26.75 | −79.78 | 74 | 72° | 0.0761 | >0.5 | 0.5172 | >0.5 |
| 92589\_2009 | 12 | 15 | 2009 | 26.761 | −79.82 | 171 | 7° | 0.3773 | 0.001 | 6.9292 | 0.001a |
| 92590\_2009 | 5 | 9 | 2009 | 26.883 | −79.88 | 79 | 4° | 0.7810 | 0.001 | 14.2827 | 0.001a |
| 92590\_2010 | 11 | 2 | 2010 | 26.761 | −79.86 | 92 | 357° | 0.2867 | 0.005–0.01 | 5.0137 | 0.005–0.01a |
| All combined south |  |  |  |  |  | 595 | 13° | 0.3065 | 0.002–0.005 | 3.9207 | 0.01–0.02a |
| 12 significant tags |  |  |  |  |  | 327 | 359° | 0.4056 | 0.001 | 4.9402 | 0.005–0.01a |

asignificant at 0.05 level.