

December 6th 2013

Rio de Janeiro

CURRENT / TIDE MODEL VS EASYCURRENTS EMPIRIC RESULTS

EasyCurrents current speed and direction have been obtained for every sample. Each sample's end point, has been taken as a point and time reference to obtain the model's current speed and direction.

| Latitude | Longitude | MODEL | | | EASYCURRENTS | | | | |
|----------|-----------|------------------|--------------|----------------------|------------------|--------------|----------------------|-------------------|-----------|
| | | hh:mm:ss Time | m/s Speed | degrees Direction | hh:mm:ss Time | m/s Speed | degrees Direction | # Measurements | Name |
| 43.143 | 22.913 | 14:00:00 | 0.20 | 170 | 13:48:50 | 0.15 | 166 | 60 | Day 6 002 |
| 43.154 | 22.914 | 14:00:00 | 0.10 | 180 | 14:02:21 | 0.21 | 339 | 63 | Day 6 003 |
| 43.154 | 22.913 | 14:30:00 | 0.10 | 170 | 14:35:53 | 0.20 | 170 | 89 | Day 6 004 |
| 43.145 | 22.928 | 15:00:00 | 0.10 | 170 | 14:48:11 | 0.08 | 172 | 37 | Day 6 005 |
| 43.156 | 22.915 | 15:00:00 | 0.00 | 180 | 15:00:31 | 0.34 | 35 | 60 | Day 6 006 |
| 43.152 | 22.911 | 15:00:00 | 0.10 | 170 | 15:08:34 | 0.09 | 157 | 89 | Day 6 007 |
| 43.149 | 22.925 | 15:30:00 | 0.00 | 160 | 15:24:37 | 0.07 | 312 | 42 | Day 6 008 |
| 43.152 | 22.912 | 15:30:00 | 0.00 | 160 | 15:35:23 | 0.14 | 15 | 111 | Day 6 009 |
| 43.154 | 22.918 | 16:00:00 | 0.10 | 10 | 15:48:50 | 0.16 | 321 | 46 | Day 6 010 |
| 43.151 | 22.925 | 16:00:00 | 0.10 | 350 | 15:58:58 | 0.22 | 346 | 64 | Day 6 011 |
| 43.148 | 22.920 | 16:00:00 | 0.10 | 340 | 16:02:02 | 0.15 | 328 | 47 | Day 6 012 |
| 43.157 | 22.914 | 16:00:00 | 0.10 | 20 | 16:05:49 | 0.24 | 16 | 63 | Day 6 013 |
| 43.155 | 22.911 | 16:30:00 | 0.20 | 5 | 16:21:36 | 0.17 | 7 | 116 | Day 6 014 |
| 43.154 | 22.910 | 16:30:00 | 0.20 | 340 | 16:28:20 | 0.23 | 3 | 65 | Day 6 015 |
| 43.158 | 22.917 | 16:30:00 | 0.10 | 45 | 16:40:16 | 0.26 | 55 | 108 | Day 6 016 |

CONCLUSIONS

According to the model, until 16:00 the current was outbound from Guanabara Bay (From North to South ↓); EasyCurrents verifies the model (samples 002 - 007), but has sensed the current direction change a bit earlier, around 15.30h. Regarding the second set of samples (007 – 016), with current inbound direction (From South to North ↑), the differences between EasyCurrents measurements and the model were almost imperceptible, having being carried out in different spots within the bay. Model intensities ranged 0 – 0.2 m/s, whilst EasyCurrents measured some peaks above 0.25. Possible wrong measurements may have taken place regarding direction in sample 003 and intensity in sample 006. Direction discordances in samples 008 and 009, are not considered as an error, but as a model correction regarding the previously mentioned current direction change time.