

Table A1. Comparison between four tidal models and observations.

| Station | Source      | K <sub>1</sub>   |                   |                  | O <sub>1</sub>   |                   |                  | M <sub>2</sub>   |                   |                  | S <sub>2</sub>   |                   |                  |
|---------|-------------|------------------|-------------------|------------------|------------------|-------------------|------------------|------------------|-------------------|------------------|------------------|-------------------|------------------|
|         |             | <i>H</i><br>(cm) | <i>G</i><br>(deg) | $\Delta$<br>(cm) | <i>H</i><br>(cm) | <i>G</i><br>(deg) | $\Delta$<br>(cm) | <i>H</i><br>(cm) | <i>G</i><br>(deg) | $\Delta$<br>(cm) | <i>H</i><br>(cm) | <i>G</i><br>(deg) | $\Delta$<br>(cm) |
| A1      | TPXO7.2     | 66.7             | 23.0              | 10.8             | 45.2             | 323.9             | 4.9              | 5.4              | 18.0              | 3.3              | 1.7              | 123.9             | 1.7              |
|         | GOT00.2     | 61.5             | 26.5              | 4.4              | 42.0             | 325.3             | 2.8              | 6.4              | 357.5             | 2.9              | 3.0              | 93.6              | 0.7              |
|         | NAO.99b     | 56.6             | 25.5              | 5.2              | 41.5             | 325.6             | 2.7              | 4.4              | 339.1             | 0.6              | 0.9              | 168.1             | 2.7              |
|         | DTU10       | 59.0             | 26.8              | 3.3              | 41.4             | 328.6             | 1.1              | 4.8              | 346.4             | 1.1              | 0.6              | 53.4              | 2.1              |
|         | observation | 59.1             | 30.0              |                  | 42.4             | 329.1             |                  | 3.8              | 341.3             |                  | 2.6              | 82.3              |                  |
| A2      | TPXO7.2     | 51.0             | 28.1              | 1.0              | 38.3             | 325.2             | 1.4              | 7.6              | 314.3             | 3.3              | 2.3              | 8.8               | 2.3              |
|         | GOT00.2     | 53.4             | 24.3              | 3.6              | 37.8             | 323.8             | 2.0              | 5.7              | 325.6             | 1.3              | 0.5              | 135.3             | 2.6              |
|         | NAO.99b     | 50.8             | 22.8              | 3.7              | 37.4             | 322.2             | 3.0              | 7.3              | 305.3             | 3.4              | 0.2              | 216.1             | 2.9              |
|         | DTU10       | 52.6             | 24.5              | 2.9              | 38.4             | 327.2             | 1.0              | 5.4              | 318.4             | 1.1              | 1.6              | 40.2              | 1.4              |
|         | observation | 50.8             | 27.0              |                  | 37.4             | 326.8             |                  | 4.4              | 322.9             |                  | 2.7              | 62.2              |                  |
| B1      | TPXO7.2     | 64.6             | 43.8              | 12.4             | 40.3             | 348.0             | 2.4              | 1.8              | 235.7             | 2.5              | 3.6              | 159.1             | 1.7              |
|         | GOT00.2     | 61.5             | 30.5              | 3.5              | 36.6             | 337.5             | 5.6              | 1.0              | 285.1             | 3.7              | 4.8              | 156.0             | 0.6              |
|         | NAO.99b     | 61.8             | 30.8              | 3.4              | 40.3             | 337.5             | 5.1              | 4.0              | 231.6             | 0.5              | 7.9              | 190.4             | 4.3              |

|         |             |      |      |      |      |       |      |     |       |      |     |       |      |
|---------|-------------|------|------|------|------|-------|------|-----|-------|------|-----|-------|------|
|         | DTU10       | 59.8 | 33.4 | 0.2  | 37.4 | 343.1 | 2.4  | 4.2 | 254.6 | 1.3  | 6.1 | 178.8 | 2.0  |
|         | observation | 59.6 | 33.3 |      | 39.6 | 344.7 |      | 4.3 | 236.4 |      | 5.3 | 160.0 |      |
| B2      | TPXO7.2     | 55.3 | 34.2 | 10.7 | 38.1 | 338.0 | 10.9 | 2.8 | 13.2  | 3.8  | 3.5 | 97.6  | 2.9  |
|         | GOT00.2     | 54.4 | 27.8 | 16.6 | 35.3 | 335.3 | 12.2 | 2.6 | 93.1  | 1.2  | 5.4 | 146.5 | 2.2  |
|         | NAO.99b     | 52.5 | 30.3 | 14.2 | 35.9 | 337.1 | 11.1 | 4.2 | 9.7   | 5.1  | 2.7 | 19.5  | 6.8  |
|         | DTU10       | 55.0 | 31.0 | 13.7 | 37.9 | 339.5 | 9.9  | 2.2 | 76.9  | 1.4  | 4.0 | 94.1  | 2.9  |
|         | observation | 54.4 | 45.4 |      | 36.5 | 354.7 |      | 1.9 | 117.5 |      | 5.6 | 123.8 |      |
| B3      | TPXO7.2     | 51.8 | 34.6 | 5.6  | 36.6 | 337.8 | 4.1  | 2.2 | 3.3   | 2.4  | 3.2 | 85.8  | 5.6  |
|         | GOT00.2     | 54.3 | 27.4 | 9.0  | 35.3 | 335.3 | 5.3  | 2.0 | 69.3  | 0.2  | 5.2 | 146.7 | 6.7  |
|         | NAO.99b     | 53.7 | 30.1 | 6.9  | 36.8 | 335.3 | 5.6  | 6.6 | 353.1 | 6.4  | 4.5 | 8.0   | 9.7  |
|         | DTU10       | 54.6 | 30.1 | 6.5  | 37.9 | 338.4 | 4.4  | 2.3 | 63.5  | 0.2  | 4.5 | 97.1  | 4.2  |
|         | observation | 57.2 | 36.2 |      | 35.2 | 343.9 |      | 2.2 | 68.5  |      | 8.7 | 96.5  |      |
| Average | TPXO7.2     |      |      | 8.10 |      |       | 4.74 |     |       | 3.06 |     |       | 2.84 |
|         | GOT00.2     |      |      | 7.42 |      |       | 5.58 |     |       | 1.86 |     |       | 2.56 |
|         | NAO.99b     |      |      | 6.68 |      |       | 5.50 |     |       | 3.2  |     |       | 5.28 |
|         | DTU10       |      |      | 5.32 |      |       | 3.76 |     |       | 1.02 |     |       | 2.52 |

$\Delta = \left[ (H_m \cos G_m - H_o \cos G_o)^2 + (H_m \sin G_m - H_o \sin G_o)^2 \right]^{1/2}$  is the vector difference, with subscripts  $m$  and  $o$  representing model and observation respectively.