

3.5.6.3 Special Bureau for Tides

The IERS Special Bureau for Tides collects datasets related to the effects of tides on Earth rotation and geocenter motions. Like the other special bureaus of the GGFC, the Special Bureau for Tides generates most of its own product datasets by analyzing the results of numerical computer models of the relevant geophysical fluids, in this case both ocean tides and atmospheric tides. The Bureau is therefore dependent upon the work of modelers to release their solutions to the EOP community; in the case of tides, this means solutions for both tidal elevations and tidal current (or wind) velocities on a global (or nearly global) grid. The data archive that the Bureau maintains has slowly grown as individual tidal investigators contribute their modeling results. The data collected by the Special Bureau are publicly available via the internet at <<http://bowie.gsfc.nasa.gov/tides>>.

There were very few additional tidal model releases during 2003. The most important was the release by Gary Egbert and Lana Erofeeva (Oregon State University) of their TPXO.6, and two subsequent updates 6.1 and 6.2. The TPXO series of ocean tidal models are based on the assimilation of Topex/Poseidon data into a numerical hydrodynamic model. The model is now truly global, because the finite-difference grid of the numerical model has been rotated so that poles are over land. This latest solution is known to be much more accurate than earlier TPXO solutions, at least in terms of tidal elevations. The GGFC Special Bureau for Tides has used the elevations and currents of TPXO.6.2 to estimate the diurnal and semidiurnal-band Earth-rotation parameters, and these results are now publicly available.

The Special Bureau is endeavoring to obtain newer tidal EOP solutions for long-period ocean tides and for atmospheric tides. Several groups are now working on these topics, and the Bureau expects that additional data relevant to these tides can be added in the near future.

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