2004 Ocean Sciences Meeting
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Cite abstracts as *Eos Trans. AGU, 84*(52),
Ocean Sci. Meet. Suppl., Abstract xxxxx-xx, 2003

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HR: 0830h
AN: **OS51B-05**
TI: **A Basin-Wide Oscillation of the Mediterranean Sea**
AU: *** Fukumori, I**
EM: *fukumori@jpl.nasa.gov*
AF: *Jet Propulsion Laboratory California Institute of Technology , M/S 300-323 4800 Oak Grove Dr., Pasadena, CA 91109 United States*
AU: **Tang, B**
EM: *btang@pacific.jpl.nasa.gov*
AF: *Jet Propulsion Laboratory California Institute of Technology , M/S 300-323 4800 Oak Grove Dr., Pasadena, CA 91109 United States*
AU: **Lee, T**
EM: *tlee@pacific.jpl.nasa.gov*
AF: *Jet Propulsion Laboratory California Institute of Technology , M/S 300-323 4800 Oak Grove Dr., Pasadena, CA 91109 United States*
AU: **Menemenlis, D**
EM: *menemenlis@jpl.nasa.gov*
AF: *Jet Propulsion Laboratory California Institute of Technology , M/S 300-323 4800 Oak Grove Dr., Pasadena, CA 91109 United States*
AB: A new prominent mode of oscillation is described in the Mediterranean Sea. More than 50\% of the non-tidal, non-seasonal, sea level fluctuation of the Mediterranean Sea can be attributed to an oscillation that is nearly uniform in phase across the basin. The oscillation, measured by satellite altimetry, has a period ranging from 20-days to several months and has an amplitude as large as 10 cm. Standard corrections are applied to the altimeter data, including tidal and inverse barometer corrections. Ocean model estimates of the Consortium for ``Estimating the Circulation and Climate of the Ocean'' (ECCO; http://www.ecco-group.org) is analyzed to examine the nature of this fluctuation and to elucidate its forcing mechanism. The model is highly coherent with the altimetric observations and suggests that the observed oscillation is a barotropic fluctuation of the entire basin. Model sea level changes are compatible with ocean bottom pressure variability and with expected eustatic changes corresponding to net fluctuations in mass transport through the Strait of Gibraltar. Transport changes through the Strait, and consequently the observed Mediterranean Sea oscillation, is found to be mostly driven by variation of the winds in the vicinity of the Strait.
DE: 4243 Marginal and semienclosed seas
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MN: 2004 Ocean Sciences Meeting

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