



## Abstract View

[Volume 14, Issue 8 \(August 1984\)](#)

### Journal of Physical Oceanography

Article: pp. 1286–1299 | [Abstract](#) | [PDF \(1.23M\)](#)

# High-Height Long-Period Ocean Waves Generated by a Severe Storm in the Northeast Pacific Ocean during February 1983

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(Manuscript received September 16, 1983, in final form June 1, 1984)

DOI: 10.1175/1520-0485(1984)014<1286:HHLPOW>2.0.CO;2

### ABSTRACT

Unusually severe storms occurred in the northeast Pacific Ocean between January and March 1983, and waves from these storms caused extensive erosion and damage along the U.S. west coast. Wave conditions as measured by eight data buoys are described for an intense storm of northern California with significant wave heights up to 12.9 m that occurred during February 1983. A very uncommon feature of the wave spectra is considerable energy at long periods of 20 to 25 s. Long period waves were generated west of the northern buoys and propagated as high swell to the southern buoys. Swell propagation was consistent with classical wave theory. The ability to quantitatively identify high swell at northern buoys prior to its arrival at buoys off southern California may have real-time swell forecast applications. Differences between measurements and numerical wave model forecasts and hindcasts indicate the value of the wave data and areas where numerical modeling of such storm-generated waves could be improved.

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