



Spatial variations in the subseasonal spectrum of sea level variability.

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The spectrum of sea level variability is an important determinant of the length of averaging necessary to determine meaningful trends. In addition, it provides useful information about the processes responsible for the variability. We present here a map of subseasonal variability which uses colour to indicate spectral characteristics. This demonstrates the importance of wave-like dynamics in tropical regions, some striking differences in the character of eddy variability in different extratropical regions, and a clear discontinuity between deep ocean and shelf sea dynamics marked by a minimum in variability at the continental slope. The latter is explained by a scaling argument which demonstrates that eddies cannot propagate over steep slopes, and shows that tide gauge measurements in most regions are decoupled from nearby deep ocean signals, at these relatively high frequencies. The whiter spectrum on the shelf shows that low pass filtering will generally be more effective in reducing variance here than in mid-ocean regions.