



## **Microseism Source Distribution Observed from Ireland**

David Craig, Chris Bean, Sarah Donne, Florian Le Pape, and Martin Möllhoff

Dublin Institute of Advanced Studies, Geophysics Section, iCRAG, Dublin, Ireland (davcra@cp.dias.ie)

Ocean generated microseisms (OGM) are recorded globally with similar spectral features observed everywhere. The generation mechanism for OGM and their subsequent propagation to continental regions has led to their use as a proxy for sea-state characteristics. Also many modern seismological methods make use of OGM signals. For example, the Earth's crust and upper mantle can be imaged using "ambient noise tomography". For many of these methods an understanding of the source distribution is necessary to properly interpret the results.

OGM recorded on near coastal seismometers are known to be related to the local ocean wavefield. However, contributions from more distant sources may also be present. This is significant for studies attempting to use OGM as a proxy for sea-state characteristics such as significant wave height.

Ireland has a highly energetic ocean wave climate and is close to one of the major source regions for OGM. This provides an ideal location to study an OGM source region in detail. Here we present the source distribution observed from seismic arrays in Ireland. The region is shown to consist of several individual source areas. These source areas show some frequency dependence and generally occur at or near the continental shelf edge. We also show some preliminary results from an off-shore OBS network to the North-West of Ireland. The OBS network includes instruments on either side of the shelf and should help interpret the array observations.