

Number of extreme wave events exceeding 8m in oceanic regions, 2008–15

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  Contact
     Responsible Party
       Organisation Name
          Environmental Reporting, Ministry for the Environment and Statistics New Zealand
       Position Name
         Analyst
       Contact Info
         Contact
            Address
              Address
                 Delivery Point
                    23 Kate Sheppard Place, PO Box 10362
                 City
                   Wellington 6143
                 Country
                   New Zealand
                 Electronic Mail Address
                    Environmental.Reporting@mfe.govt.nz
       Role
         Role Code
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Date Stamp
Date

2016-10-23

Metadata Standard Name

ANZLIC Metadata Profile: An Australian/New Zealand Profile of AS/NZS ISO 19115:2005, Geographic information - Metadata

Metadata Standard Version

1.1

Reference System Info
Reference System
Reference System Identifier
Identifier
Code
2193

Identification Info

Data Identification

Citation

Citation

Title

Number of extreme wave events exceeding 8m in oceanic regions, 2008-15

Date

Abstract

Extreme wave indexes estimate the occurrence of extreme wave events in coastal and oceanic waters. Extreme wave indexes estimate the number of times a significant wave height exceeds one of three threshold values for at least 12 hours in 24 marine regions. The three wave-height thresholds are four metres, six metres, and eight metres. This indicator estimates the exceedances of a wave-height threshold for each year from 2008 to 2015 in oceanic regions. Significant wave height is a measure of the 'typical' wave height in a place over a time period. It is four times the standard deviation of the water surface if, for example, you were to measure water moving up and down a jetty piling for an hour. The largest individual wave will typically have a height around twice the significant wave height. We use three wave-height thresholds because of the regional variation in extreme wave events. In general, the north experiences less exposure to consistently strong winds, and the waves generated by them, than the south. Four-metre tall waves are considered extreme in the northern-most parts of New Zealand but are more common in the south. For the southern-most parts of New Zealand, eight-metre waves better represent extreme wave events. This dataset relates to the number of extreme wave events exceeding the eight metre threshold in oceanic regions.

Status

Progress Code

completed

Point Of Contact

Responsible Party

Organisation Name

Environmental Reporting, Ministry for the Environment and Statistics New Zealand

Position Name

Analyst

Contact Info

Contact

Address

Address

Delivery Point

23 Kate Sheppard Place, PO Box 10362

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City
                 Wellington 6143
              Country
                 New Zealand
              Electronic Mail Address
                 Environmental.Reporting@mfe.govt.nz
    Role
       Role Code
         distributor
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    Maintenance And Update Frequency
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Resource Constraints
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Legal Constraints

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Data Quality Info
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    Scope
       DQ Scope
         Level
            Scope Code
              dataset
         Level Description
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Lineage

LI _ Lineage Statement

Other

dataset

Source: NIWA Method: We only include wave events where the relevant height threshold was exceeded for a minimum of 12 hours. This means that there was both a high tide (when overtopping and damage to coastal infrastructure, for example, is most likely) and a low tide during an event. We estimate extreme wave indexes for 24 regions around New Zealand, comprising 18 coastal and six oceanic regions. The 18 coastal regions cover the area from the shoreline to 100km from the coast and correspond to those used by the MetService for marine weather forecasts. The six oceanic regions cover New Zealand's Exclusive Economic Zone. The indexes were generated using NIWA's operational wave forecasting model (NZWAVE-12). This model has a 12km resolution and models wave heights using: - wind from NIWA's NZLAM-12 weather forecast model - swell from NIWA's global wave forecast model For more information on methodology, including limitations, please refer to Gorman (2016).

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