

SOURCES OF MEASURED WAVE DATA

by

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ABSTRACT

A Catalogue listing 550 known sources around the world of instrumentally-measured wave data has been prepared by the Marine Information and Advisory Service under the auspices of the Intergovernmental Oceanographic Commission of UNESCO.

A source of good wave data is a prime requirement of the coastal engineer. "Perhaps I exaggerate the importance of the wave climate but from my own experience I rate it as the most frustrating gap in the kit of tools available to the coastal engineers..." so said Dean Morrough P. O'Brien, Chairman, Coastal Engineering Research Council A.S.C.E., in his opening address to the 13th Conference on Coastal Engineering, Vancouver, 1972.

Since that time there have been significant developments in a number of aspects. Existing wave climate measurement programmes have been extended and new ones have been started, so that the world-wide effort has increased considerably. The International Waves Commission of PIANC (Larras 1973) (which was already in operation in 1972) developed its proposals for a wave data inventory, and the Intergovernmental Oceanographic Commission (IOC) of UNESCO accepted an offer by the Marine Information and Advisory Service of the Institute of Oceanographic Sciences to establish what is in effect a wave data centre, a Responsible National Oceanographic Data Centre for Waves (RNODC (Waves)). A world-wide network of Area Representatives has been established; each representative provides the RNODC (Waves) with information on instrumental wave measurements in his area. Data are not transmitted at this stage. The information is in a standard format so that a potential user can assess the value of the data to his own project; negotiations for use of the data then proceed between owner and potential customer.

It is not planned to publish the complete Master Catalogue, because of its bulk, but a condensation entitled Catalogue of Wave Data has been published and is available

from MIAS at the Institute of Oceanographic Sciences. An example of one page of this catalogue, showing two stations, is given in Figure 1. A list of Area Representatives as of April 1980 is given as an Appendix to this paper, and the countries involved are shown in Figure 2, which also gives the number of entries published for each area. The most intensively covered areas are those around the British Isles, and a larger scale map showing actual locations is given in Figure 3. Maps of eastern Australia (Figure 4) and eastern Canada and north eastern USA (Figure 5) are also given to indicate the coverage in these areas.

Although Area Representatives provide reasonable coverage of the world's coastlines, seas and oceans (see Figure 2), additional offers of help would be appreciated at any time. These should be addressed to the author, who is Scientific Co-ordinator RNODC (Waves), at the Institute of Oceanographic Sciences, Wormley.

The establishment of such an organization has been needed for many years. The first two years of its life have shown great promise, both in the number of people eager to help and the enormous effort they have shown in tackling the major task of completing the questionnaire forms for data already in existence. So far, nearly 600 forms have been received and many more have been promised. It looks as though Dean O'Brien will soon need a larger toolbox.

REFERENCES

- LARRAS, M.J. (1973). Report on the International Commission for the study of waves. PIANC Bulletin No. 15, Vol. II.
- DRAPER, L. (1978). A world Wave Data Centre. 16th Conference on Coastal Engineering, Hamburg. Vol. 1, Chapter 1.

APPENDIX

RNODC(Waves) Area Representatives April 1980.

ARGENTINE: Lic. Sergio A. Schmidt, Armada Argentina, Servicio de Hydrografia Naval, Departamento Oceanografia, Av. Montes de Oca 2124, 1271 Buenos Aires.

AUSTRALIA: Mr F.L. Wilkinson, Chief Engineer Maritime Works, Dept of Housing and Construction, Box 111, Dickson 2602, A.C.T.

BRASIL: Mr Jose Antonio dos Santos, Director INPH/PORTOBRAS, Rue General Gurjao 166, Caju ZC-08, 20.000 Rio de Janeiro.

BELGIUM: Mr R. Simeon, Ingenieur de Constructions Civiles, Tarwestraat 70, Ostend 8400.

STAS. REF. NO.	414	ONE DEGREE SQUARE	0522 78
<u>LOCATION</u>	32°54'53" S 151°48'32" E Start date: 31 Jan 1975 End date: Continuing 0.67 miles from Whoby's Head on bearing 060 30. Newcastle, New South Wales, Australia. Sea area: Tasman Sea.		
<u>POSITION</u>	Mean water depth: 1.2 m Mean tidal range: 1.3 m (Spring) Maximum current: 0.8 m (Neap) Minimum current: m/sec. Local environment: Should be affected by some reflection from the shore and breakwater.		
<u>DATA CONTACT</u>	Maritime Services Board of New South Wales, Australia. See Appendix C.		
<u>ORGANIZATION</u>			
<u>ADDRESS</u>			
<u>SCIENTIFIC</u>			
<u>INSTRUMENT</u>	Wave rider Elastic mooring 2 lbs. Record duration: 20 min. Record interval: 6 hr.		
<u>REASON FOR RECORDING</u>	Port development.		
<u>FORM AND MEDIUM OF DATA</u>	Listings as printout or on punched paper tape. Tc, Ts, Tc, Hs, Hs(10m), Energy, H _{max} , Hs, Hmax (for all recordings). Spectral analysis and peak period of spectrum (only when Hs exceeds 2m).		
<u>ANALYZED DATA</u>			
<u>NOTES</u>	Hydraulic Model of Botany Bay. * Continuing as of June 1975. ** 700m from light on southern breakwater (along the line of the breakwater).		

ANGLIC(Waves)

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SPECIMEN CATALOGUE PAGE

STAS. REF. NO.	203	ONE DEGREE SQUARE	0522 96
<u>LOCATION</u>	30°18'53" S 153°09'42" E Start date: Jun 1975 End date: Dec 1975 Coff's Harbour, New South Wales, Australia. Sea area: Tasman Sea.		
<u>POSITION</u>	Mean water depth: 11 m Mean tidal range: 1.35 m (Spring) Maximum current: 0.76 m (Neap) Minimum current: m/sec. Local environment: Sandy sea bed. Inland south of buoy could give diffraction effects.		
<u>DATA CONTACT</u>	N.S.W. Department of Public Works, King Street, Manly Vale, New South Wales, Australia.		
<u>ORGANIZATION</u>			
<u>ADDRESS</u>			
<u>SCIENTIFIC</u>			
<u>INSTRUMENT</u>	Wave rider Mooring to anchor chain 30 min. Record duration: 30 min. Record interval: Irregular pattern *		
<u>REASON FOR RECORDING</u>	For use in model studies of Coff's Harbour Woodchip loader.		
<u>FORM AND MEDIUM OF DATA</u>	Chart records. Tables of Data, Time, Hs, Hmax, Tz and Wave Direction. Graphs of Hs vs Time.		
<u>ANALYZED DATA</u>			
<u>NOTES</u>	* Five records taken each day, at 0200, 0645, 1115, 1700 and 2045 hours.		

FIG. 1

Have Data Catalogue 1979

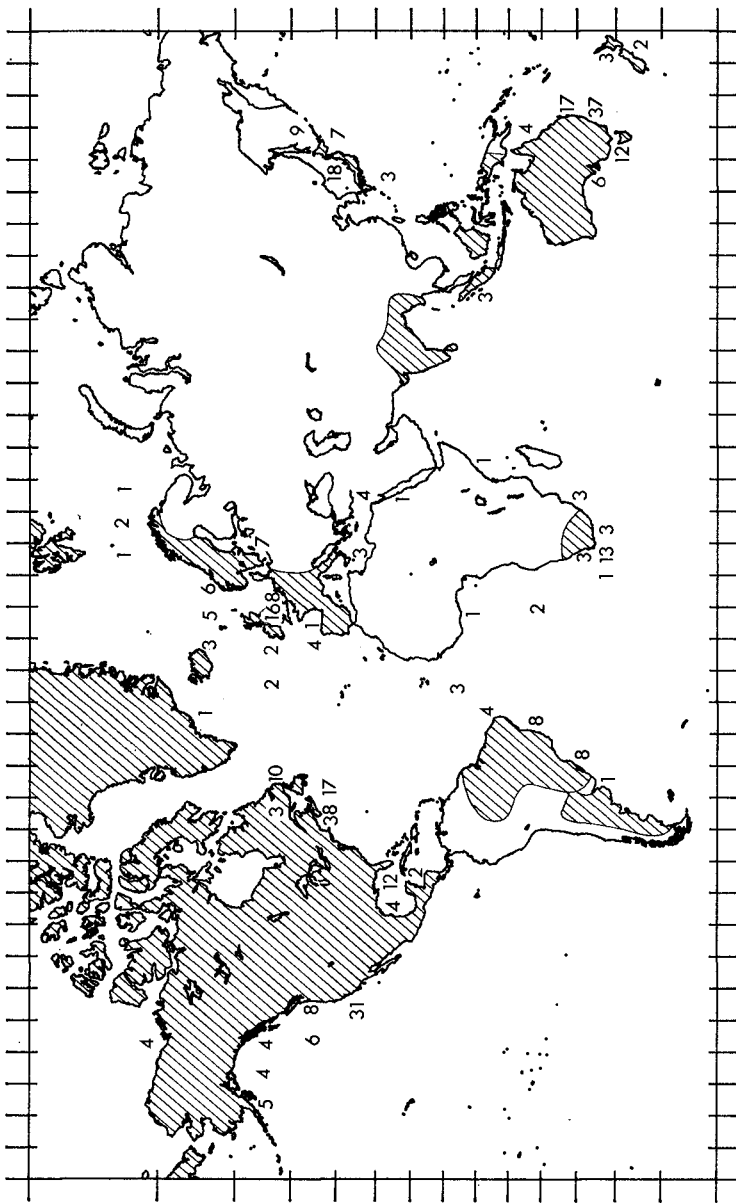
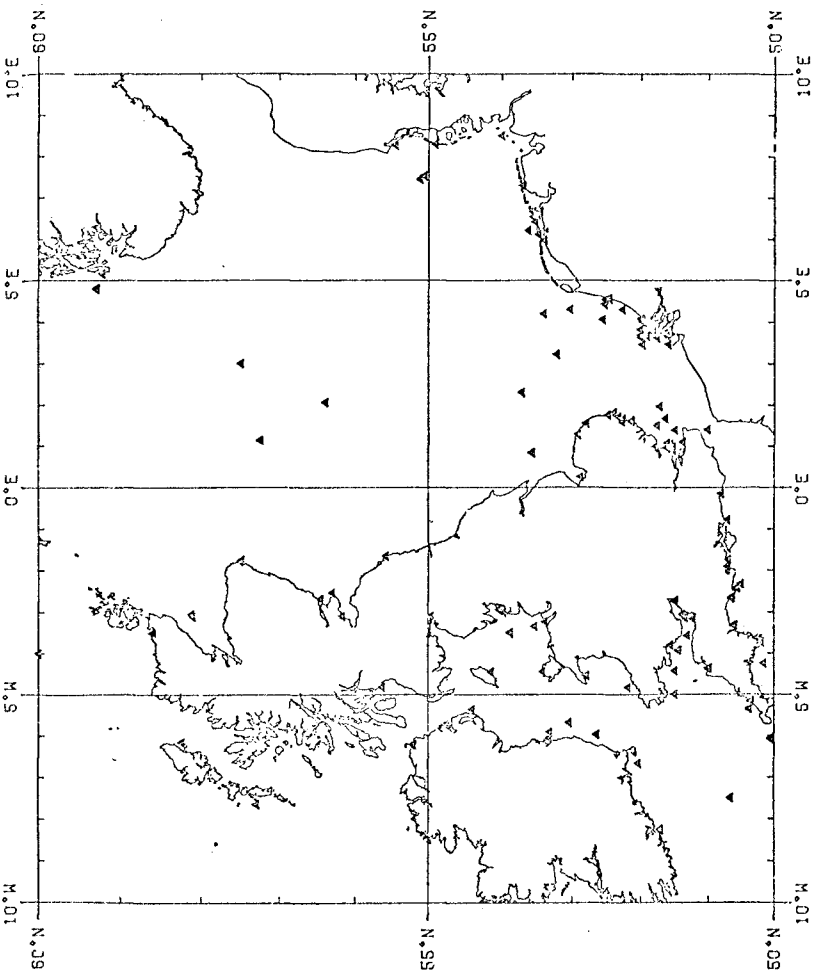


FIG. 2



BRITISH AND ADJACENT WATERS

FIG. 3

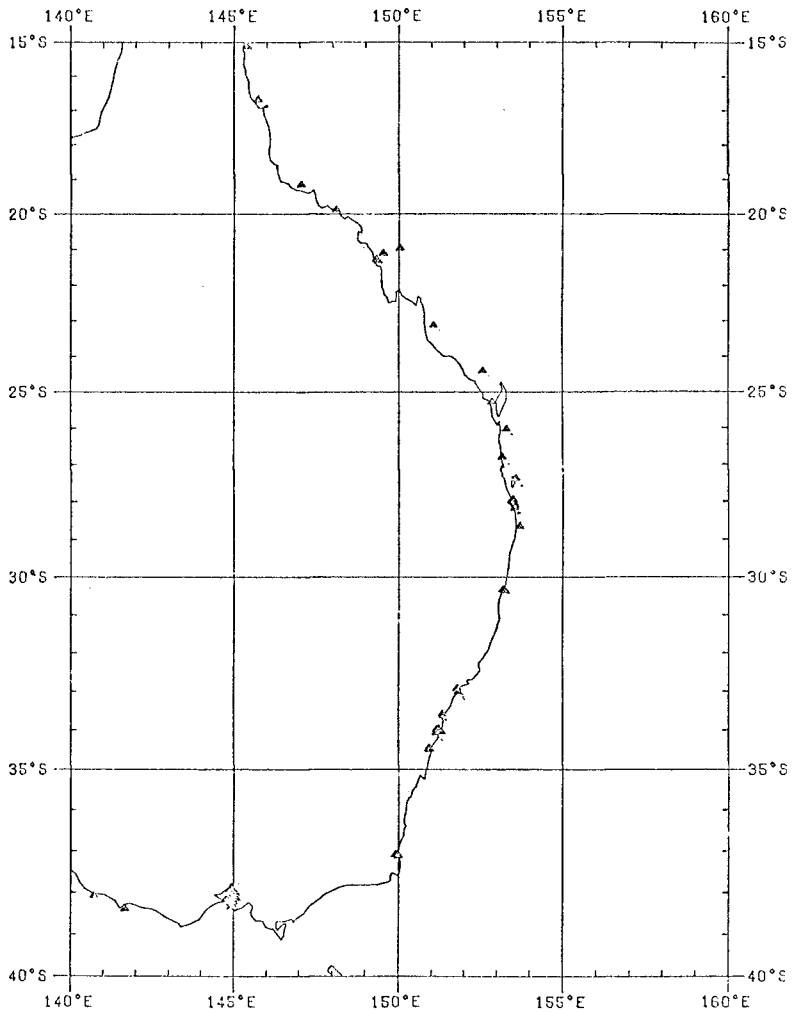


FIG. 4

EASTERN AUSTRALIA

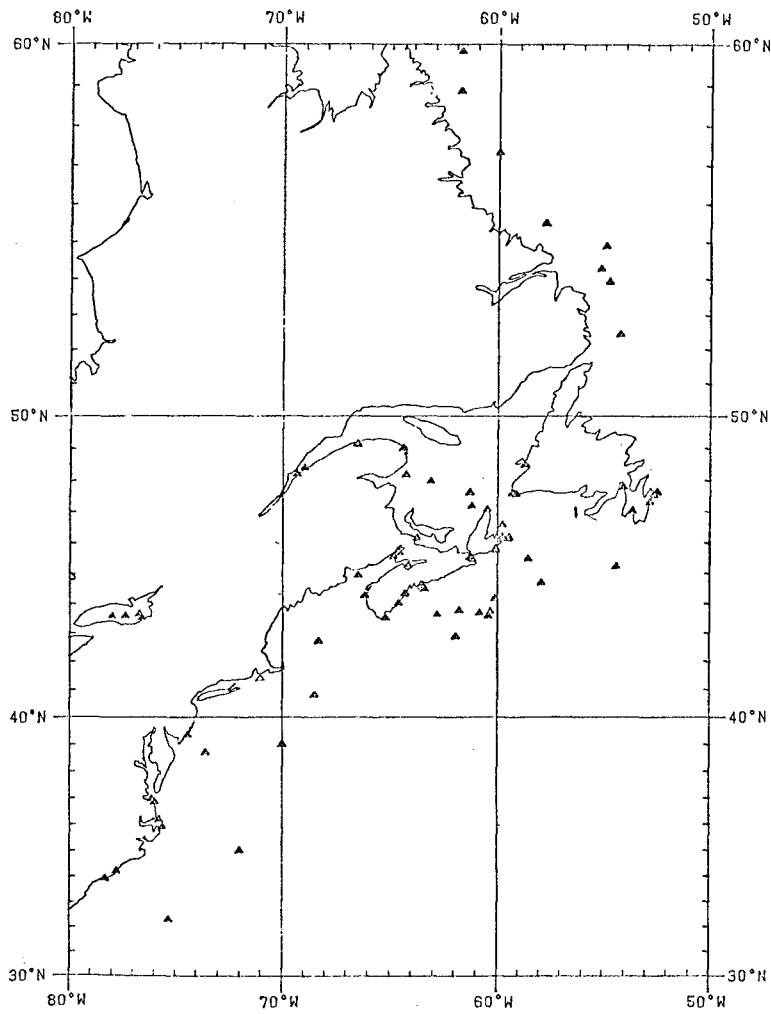


FIG. 5

EASTERN CANADA and NORTH EASTERN USA

CANADA: Dr R. Wilson, MEDS, Environment Canada, Ottawa
K1A 0H3.

DENMARK: Mr Chr. Laustrop, Kystinspektoratet, Højbovej 1,
DK 7620 Lemvig.

Mr Henning Nørgaard, Statshavnsadministrationen, Hulvejen,
Postboks 2, 6700 Esbjerg.

EIRE: Mr Neil Clotworthy, Commissioners of Irish Lights,
16 Lower Pembroke Street, (Box 73), Dublin 2.

FRANCE: Le Chef de BNDO, CNEXO, B.P. 337, 29273 Brest Cedex.

F.R. GERMANY: Dr D. Kohnke, German Oceanographic Data
Centre, Postfach 220, Bernhard-Nocht-Strasse 78, beim
Deutschen Hydrographischen Institut, 2000 Hamburg 4.

F.R. GERMANY (Baltic Coast): Akad Rat. Dr-Ing H.H. Dette,
c/o Lehrstuhl für Hydromechanik und Küstenwasserbau,
Leichtweiss Institut für Wasserbau, Technische Universität
Braunschweig, Beethovenstrasse 51a, Postfach 3329, 3300
Braunschweig.

ICELAND: Dr G. Viggosson, Hafnamalastofnun Ríkisins,
Seljavegi 32, Reykjavík.

INDIA: Dr J.S. Sastry, National Institute of Oceanography,
P.O. Don Paula, Goa Pin 403004.

INDONESIA: Mr Y. Singh, Maunsell Consultants, P.O. Box
2982, Jakarta.

ISRAEL: Hydrographic Services, Israel Ports Authority,
P.O. Box 5, Ashdod.

JAPAN: Dr Y. Goda, Head, Marine Hydrodynamics Division,
Port & Harbour Research Institute, Ministry of Transport,
3-1-1, Nagase, Yokosuka-shi, Kanagawa-ken, 239.

Mr Shiro Kadowaki, Head, Maritime Meteorology Division,
Marine Division, Japan Meteorological Agency, 1-3, 4 Ote-
Machi, Chiyoda-ku, Tokyo 100.

Mr Atsushi Tokuhiko, Director Japan ODC, Hydrographic
Dept., Maritime Safety Agency, No 3-1 Tsukiji 5-Chome,
Chuo-ku, Tokyo 104.

MEXICO: Dr R. Vazquez de la Cerda, address unknown.

NETHERLANDS: ir P. Geerders, Netherlands Centre for
Oceanographic Data, KNMI, Wilhelminalaan 10, Postbus 201,
3730 AE de Bilt.

NEW ZEALAND: Dr R.A. Heath, N.Z. Oceanographic Institute,
P.O. Box 12-346, Wellington North.

NORWAY: J. Borresen, Det Norsk Meteorologiske Institutt,
Postboks 320, Blindern, Oslo 3.

PORTUGAL: Prof. F. Vasco Costa, Rua Joaquin Ant Aguiar 27
8 E, Lisboa 1.

SOUTH AFRICA: C.C. Stavropoulos, National Research
Institute for Oceanology, P.O. Box 320, Stellenbosch, 7600

SPAIN: Dr F.M. Fernandez, Director, Centro Espanol de Datos
Oceanograficos, Instituto Espanol de Oceanografia, C/Alcala
No. 27-4^o, Madrid 14.

SRI LANKA: Mr S.R. Amarasinghe, Director, Coast Conserva-
tion Division, 69 Horton Place, Colombo 7.

SWEDEN: Mr R. Berggren, Swedish Meteorological and
Hydrological Institute HBF, Fack, S-601 01, Norrkoping.

U.S.A.: Mr Wellington Waters, NODC (D 752), Environmental
Data Service, NOAA, Washington D.C. 20235.

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