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CAPE PALLISER TO CAPE TURNAGAIN : A BIBLIOGRAPHY

by

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Frontispiece : The region covered by the bibliography, showing the locations of the main rivers and coastal features discussed in the text.

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INTRODUCTION

This bibliography includes scientific studies of the eastern Wairarapa coastal region between Cape Palliser and Cape Turnagain and of the offshore coastal waters (see Frontispiece).

It was prepared by a systematic search of the Contents Lists and/or Indices of the journals and periodicals outlined in Appendix A. The reference lists of any relevant papers were searched and, consequently, not all the papers cited have actually been seen by the author. The subject catalogue of the Alexander Turnbull Library was also searched.

The bibliography was initially prepared in response to a query from the New Zealand Electricity Department on the published material available for the coastal region around Castlepoint. Because its compilation has been sporadic, the cut-off dates for the various journals are not necessarily at the same point in time, but the actual issues of each publication searched are listed in Appendix A.

The references are divided into five sections :

1. General, which includes both articles of a descriptive nature and those covering the historical aspect of the development of the region;
2. Charts, Maps and Tables;
3. Biology;
4. Geology and Geography, and
5. Hydrology and Meteorology.

Within each section, the references are arranged in alphabetical order of the senior author and chronologically for each author. Papers of joint authorship are filed under the senior author, after those for which he is the sole author.

* * * * *

GENERAL

1. BAGNALL, A.G. 1976: "Wairarapa. An historical excursion". Hedleys Bookshop Ltd for The Masterton Trust Lands Trust, Masterton. 607 pp.
A descriptive book outlining the history of the Wairarapa. Covers in detail the settlement of the region extending from Palliser Bay to Akitio. Contains an index.
2. BAGNALL, A.G.; PETERSEN, G.C. 1948: "William Colenso Printer Missionary Botanist Explorer Politician. His life and journeys". Reed, Wellington. 494 pp.
Shows a map of the Wairarapa and coast districts 1845-1852 (p.218). Colenso first described the following plants from the coastal area between Pahaoa and Palliser : *Senecio greyi*, *Atriplex cinerea*, *Convolvulus erubescens*, *Cassinia fulvida*, *Pterostylis foliata*, *Raoulia tenuicaulis*, *Tillaea purpurata*, *Utricularia novae-zelandiae* and two *Coprosma* spp.
3. BANNISTER, C. 1940: "Early history of the Wairarapa". Masterton. 152 pp.
Contains descriptions of the coast from Wellington to Masterton, the earthquake of 1855 which caused the sea front to lift 9 ft, and a section on the "Arrival of Weeds and Pests" recording the introduction of blackberry, gorse, foxgloves, Californian thistle, ragwort, sparrows, rabbits, ferrets, weasels and stoats into the area.
4. BARROW, T. 1959: An archaic type of Maori hei-tiki from the Wairarapa east coast. *N.Z. archaeol. Ass. Newsl.* 2(4) : 6-7.
Describes a small tiki found in the sand dunes about 1 mile south of Honeycomb Rock lighthouse (Map ref. Pahaoa N166 271129).
5. BEAGLEHOLE, J.C. 1974: "The life of Captain James Cook". Adam & Charles Black, London. 760 pp.
The index contains several references to Cape Palliser, the east coast from Cape Palliser to Cape Turnagain and East Cape is discussed with reference to Cook's chart of New Zealand.
6. BEST, E. 1919: The land of Tara. *J. polynes. Soc.* 27 : 99-114.
Describes a battle between the Ngati-Awa and the Wairarapa natives on the beaches just north of Castlepoint.
7. BRADBURY, E. (ed.) 1924: "The settlement and development of the Wairarapa New Zealand. Early history, industries and resources. Scenic attractions. Illustrated with recent photographs". Bradbury's Illustrated Series 10. Bradbury, Auckland. 160 pp.
A descriptive book. Includes a map. The katipo spider is said to be "plentiful" in the dry sand just above high water mark at Castlepoint.
8. CAIRNS, K. 1959: A hangi site at Glenburn. *N.Z. archaeol. Ass. Newsl.* 2(4) : 26.
Describes a hangi found just above high tide mark on a fore-shore earth bank at Glenburn. (Map ref. Pahaoa N166 313169).

9. [CARLE, C.J. 1947]: "Wairarapa. The first one hundred years of development of a great district". Wairarapa Times-Age, Masterton. 236 pp.
Mainly descriptive. Includes many photographs e.g., loading wool from a bullock wagon to a motor boat for conveyance to a waiting lighter at Akitio Beach.
10. CARTER, C.R. 1866: "Life and recollections of a New Zealand colonist". 3 vols. Madley, London.
Volume 2 deals with New Zealand, including the earthquake of 1855, and a journey up the Wairarapa coast in 1862 when he stayed overnight in a Maori whare. Reports that the introduced plants *Acaena ovina* and *Xanthium spinosum* (Australian sheep burrs), *Cnicus lanceolatus* (common thistle) and *Rumex* spp. (docks) were common along the coastal route between Wellington and the Wairarapa.
11. CASTLEPOINT HISTORICAL COMMITTEE, 1948: "Early Castlepoint : first years in a pioneer settlement". Masterton Printing Company.
Compiled in honour of the centenary 1848-1948. Includes details of shipwrecks.
12. DAVIS, S. 1957: Evidence of Maori occupation in the Castlepoint area. *J. polynes. Soc.* 66 : 199-203.
Tentatively suggests settlement was inland and the middens discovered "represent the debris left after foraging expeditions". *Paua* and other shellfish were probably taken from the area.
13. FOX, W. 1843: Journal of an expedition to Wairarapa (sic). Manuscript held at the Hocken Library, University of Otago.
Not seen.
14. INGRAM, C.W.N. 1972: "New Zealand Shipwrecks 1795-1970. 4th ed." A.H. & A.W. Reed, Wellington. 448 pp.
Lists 11 ships that have gone down off the east coast between Cape Turnagain and Cape Palliser.
15. KELLY, G.C. 1966: Proposal for a reserve at Castlepoint, Wellington Land District. Unpublished report prepared by Botany Division, DSIR, for Department of Lands and Survey, Wellington. 21 pp, maps, illustrated.
16. MORRELL, W.P. (ed.) 1958: "Sir Joseph Banks in New Zealand, from his journal". A.H. & A.W. Reed, Wellington. 159 pp.
Describes Cape Turnagain as "the upper part of a reddish coloured stone or clay, the lower white; beyond this the country appeared pleasant with little smooth hills like downs".
17. PARK, G.N.; LAWERS, R. 1965: Notes on Maori fortifications at Mt Percy. P 11 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.

18. PEACOCK, A.B. 1945: The Wairarapa region - an essay in descriptive geography. Unpublished M.A. thesis, University of Canterbury.
Not seen.
19. SAGE, I.V. 1954: The Wairarapa; a comparison of geographical character in 1853 and 1953. Unpublished M.Sc. thesis, University of Canterbury.
Not seen.
20. SEARELL, P. 1975: Haurangi Forest Park. *N.Z. Nature Heritage* 7(93) : 2581-83.
The Aorangi Mountains now form the Haurangi State Forest Park which extends to Cape Palliser in the south.
21. SMITH, W.M. 1856: Table of distances measured near High Water Mark from the Ferry House, Wairarapa Lake, along the East Coast to Castle Point. *N.Z. Gov. Gaz. (Prov. Wellington)* 3 : 42.
The distances, given in miles and chains, are between different properties or land marks as taken along the high tide line rather than the normal track.
22. THOMAS and HARRISON, 1845: Journal of a walk along the East Coast from Wellington to Table Cape. *N.Z. Spectator and Cook's Straits Guardian* 1(30) : [3]; 1(31) : [2-3].
A detailed diary of an expedition describing vegetation, river valleys and inlets seen and commenting on their possible future value. They crossed the "Warreama" river at low water and found themselves up to their necks in very cold water. On occasions the tide forced them to abandon the beach, climb the cliffs and make their way through high fern and grass.
23. WELD, F.A. 1844: "Private Journal". Manuscript held at National Archives, Wellington.
Describes the lower Whareama valley as "swampy and ankle-deep in water, full of pig ruts and covered in toe-toe".
24. WRIGHT, O. 1950: "New Zealand 1826-1827 from the French of Dumont D'Urville. An English translation of the "Voyage de l'Astrolabe" in New Zealand waters with an introductory essay by Olive Wright". Wingfield Press for Olive Wright, Wellington. 251 pp.
Describes the Wairarapa coast as he found it in January and February 1827. Notes that at Castlepoint the hills were mainly in grass with small quantities of toe-toe, manuka and fern, although the hills beyond were in bush. Cape Palliser is termed Cape Kawa-Kawa and Cape Turnagain is Cape Topolo-Polo.

CHARTS, MAPS and TABLES

25. BRODIE, J.W.; PANTIN, H.M. 1960: Bathymetry, North Island, New Zealand. 1:2,191,400. *N.Z. oceanogr. Inst. Chart, Misc. Ser. 12.*

26. DOONE, A.; FERRY, L.M. 1974: Sheet 12, Wellington. 1:250,000. Bouguer Anomalies, Isostatic Vertical Gradient Anomalies, Isostatic Anomalies. (3 sheets). *Gravity Map, N.Z. Dep. scient. ind. Res.*
27. GIBB, H.S. 1965: Soil map of Whareama Catchment, Wairarapa, New Zealand. *N.Z. Soil Bureau Map 4/1965.*
28. HYDROGRAPHIC OFFICE, ROYAL NEW ZEALAND NAVY, 1956: Napier to Castle Point. 1:200,000. *Chart NZ 57.*
29. HYDROGRAPHIC OFFICE, ROYAL NEW ZEALAND NAVY, 1963: Castle Point to Wellington. 1:200,000. *Chart NZ 58.*
30. JOHNSTON, M.R. 1975: Geology of the Tinui District. (1 inch to 1 mile Geological map). Unpublished M.Sc. thesis, Victoria University of Wellington.
31. JOHNSON, M.R. (in press): Sheet N159 and Pt Sheet N158 - Tinui - Awatoitoti. 1:63,360. *N.Z. geol. Surv. Map.*
32. KINGMA, J.T. 1967: Sheet 12. Wellington. 1:250,000. *N.Z. geol. Surv. Map.*
33. LEWIS, K.B. 1976: Turnagain Bathymetry. 2nd edition. *N.Z. oceanogr. Inst. Chart, Coastal Ser. 1:200,000.*
34. LEWIS, K.B.; GIBB, J.G. 1970: Turnagain Sediments. *N.Z. oceanogr. Inst. Chart, Coastal Ser. 1:200,000.*
35. McLINTOCK, A.H. (ed.) 1959: "A Descriptive Atlas of New Zealand". Government Printer, Wellington. 109 pp.
36. NEW ZEALAND DEPARTMENT OF LANDS AND SURVEY : Topographical Series, NZMS 1 1:63,360.
 Sheets N154 & N155 Pongaroa and Turnagain 2nd ed. 1974
 Sheet N159 Tinui 3rd ed. 1973
 Sheet N163 Whareama 2nd ed. 1966
 Sheet N164 Wellington 4th ed. 1974
 Sheet N166 Pahaoa (Flat Point) 2nd ed. 1970
 Sheets N168 & N169 Palliser 2nd ed. 1969
 NZMS 18 1:250,000 Sheet 12
 NZMS 19 1:500,000 Sheet 4
37. PANTIN, H.M. 1963: Turnagain Bathymetry. *N.Z. oceanogr. Inst. Chart, Coastal Ser. 1:200,000.*
38. PANTIN, H.M. 1963: Palliser Bathymetry. *N.Z. oceanogr. Inst. Chart, Coastal Ser. 1:200,000.*
39. WARDS, I. (ed.) 1976: "New Zealand Atlas". Government Printer, Wellington. 292 pp.

BIOLOGY

40. ADAMS, N.M. 1972: The marine algae of the Wellington area. A list of species. *Rec. Dom. Mus. Wellington* 8(4) : 43-98.

The area covered is "the west, south and east coasts of the southern part of the North Island, New Zealand, between Lat. 40°50'S and Lat. 41°56'S". (Abstr.) The northern latitude being just north of Castlepoint.

41. BARTLE, J.A. 1965: Report on planktonic and sea-bird observations. Pp 21-26 in "Castlepoint Survey. First Report". Biological Society, Victoria University of Wellington.
42. BARTLE, J.A. 1965: November sea-bird observations from Castlepoint. Pp 30-31 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
43. BARTLE, J.A. 1974: Sea-birds of eastern Cook Strait, New Zealand, in autumn. *Notornis* 21 : 135-66.
- The area covered was from Kairakau Rocks south to Banks Peninsula, Castlepoint being one of the observation points.
44. BARTLE, J.A.; ROBERTS, P.E. 1965: Castlepoint plankton studies. P 32-34 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
45. BARTLE, J.A.; WILLIAMS, P. 1965: Species list of birds of the Castlepoint area. P 20 in "Castlepoint Survey. First Report". Biological Society, Victoria University of Wellington.
46. BIOLOGICAL SOCIETY, V.U.W. 1965: The Castlepoint sand dunes. P 5 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
47. BIOLOGICAL SOCIETY, V.U.W. 1965: Transect 4. Pp 43-44 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
48. BIOLOGICAL SOCIETY, V.U.W. 1965: Marine life at Castlepoint. P 55 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
49. BRAGGINS, J.E. 1965: Marine algae. Pp 35-38 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
50. BRAGGINS, J.E. 1965: Transect 4 (lighthouse area). P 39 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.

51. BRAGGINS, J.; DOWRICK, E.; COWERN, P. 1966: The algae. In "Cape Turnagain Survey". Biological Society, Victoria University of Wellington.
52. BRAGGINS, J.E.; NEAL, E. 1965: The algae. Pp 34-37 in "Castlepoint Survey. First Report". Biological Society, Victoria University of Wellington.
53. BROCKIE, R.E. 1975: Distribution and abundance of the hedgehog (*Erinaceus europaeus*) L. in New Zealand, 1869-1973. *N.Z. Jl Zool.* 2(4) : 445-62.
- The hedgehog was known from the south Wairarapa coast from isolated sightings from 1900. Between 1948 and 1973 it extended its range eastwards from the main ranges to the coast.
54. CASTLE, P.H.J.; ROBERTSON, D.A. 1974: Early life history of the Congrid eels *Gnathophis habenatus* and *G. incognitus* in New Zealand waters. *N.Z. Jl mar. Freshwat. Res.* 8 : 95-110.
- Larvae of both species occur off Castlepoint throughout most of the year.
55. CHAPMAN, D.J. 1962: A check list and key to the Rhodophyceae of New Zealand. Section A : Bangioideae. *Trans. R. Soc. N.Z., Bot.* 1(11) : 127-37.
- Records *Porphyra subtumens* from Cape Turnagain.
56. CHINNOCK, R.J. 1972: Natural hybrids between *Disphyma* and *Carpobrotus* (Aizoaceae) in New Zealand. *N.Z. Jl Bot.* 10 : 615-26.
- Forms intermediate between *Disphyma australe* and *Mesembryanthemum aequilaterale* growing at Castlepoint were put forward as hybrids by Cockayne & Allan (1934), but this may have been mistaken identity for hybrids between *Carpobrotus edulis* and *Disphyma australe*.
57. COCKAYNE, L.; ALLAN, H.H. 1934: An annotated list of groups of wild hybrids in the New Zealand flora. *Ann. Bot.* 48 : 1-55.
- Includes a suggested hybrid of *Disphyma australe* and *Mesembryanthemum aequilaterale* (*Carpobrotus aequilaterus*) at Castlepoint.
58. COOPER, R.; LUXTON, M. 1966: Marine mites. In "Cape Turnagain Survey". Biological Society, Victoria University of Wellington.
59. COOPER, R.D.; BRIANT, A.; ROBERTS, P.E. 1965: Some animal communities of an exposed midlittoral section, from the coast near Castlepoint. Pp 40-42 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
60. COOPER, R.; GREEN, W.; COWERN, P. 1966: Whanaehu Reef. A study of an exposed habitat. Part 1. A general account of the physical environment and animal com-

munities. Part 2. A quantitative study of *Lunella smaragda* and *Melagraphia*. In "Cape Turnagain Survey". Biological Society, Victoria University of Wellington.

61. DELL, R.K. 1955: A record of *Latreillopsis petterdi* Grant (Crustacea, Brachyura) from New Zealand, with notes on some other species of Crustacea. *Rec. Dom. Mus. Wellington* 2 : 147-49.
- Describes a specimen of *L. petterdi* from off Cape Palliser. Records *Ibacus alticrenatus* from off Castlepoint.
62. DRUCE, A.P. 1953: Plant distribution records. 1. *Bull. Wellington bot. Soc.* 26 : 18-22.
- Included in those for the Wellington Botanical District are several for "Near Cape Palliser".
63. DRUCE, A.P. 1953: Plant distribution records. 2. *Bull. Wellington bot. Soc.* 27 : 14-19.
- Includes Cape Palliser rocks and Pahaoa Taipos.
64. DRUCE, A.P. 1971: The flora of the Aorangi Range, southern Wairarapa, with notes on the vegetation. *Bull. Wellington bot. Soc.* 37 : 4-29.
- A detailed study of a region extending south to Cape Palliser and east to the Opouawe River. Includes lists of both the indigenous plants and the adventive plants.
65. FISHER, F.J.F.; HAIR, J.B. 1963: The *Ranunculi* of the Subantarctic Islands of New Zealand. Part 1. Distribution and taxonomy. *N.Z. Jl Bot.* 1 : 325-35.
- Suggests *Ranunculus petriei* be relegated to synonymy of *Ranunculus acaulis*. Includes specimens collected from Pahaoa River mouth, on a sandy shore, and from Cape Palliser.
66. GASKIN, D.E. 1964: Lepidoptera recorded at Castlepoint, Wairarapa, in December, 1963. *Rec. Dom. Mus. Wellington* 5(3) : 7-10.
- Five habitat types were defined and sampled. Gives a list of numbers of each species caught in each habitat.
67. GIVEN, D.R. 1972: The infra-specific taxonomy of *Celmisia spectabilis* Hook. F. (Compositae : Astereae). *N.Z. Jl Bot.* 10 : 180-94.
- Castlepoint is the type locality of *Celmisia spectabilis* var. *lanceolata*, which is found along the southeast Wairarapa coast from Cape Palliser to north of Castlepoint.
68. GURR, L. 1974: Gulls and skuas. *N.Z. Nature Heritage* 2(24) : 660-67.
- Several breeding colonies of red-billed gulls are shown on the southeast Wairarapa coast.

69. HILL, R.D. 1963: The vegetation of the Wairarapa in mid-nineteenth century. *Tuatara* 11(2) : 83-89.
 "This paper is an attempt to describe the vegetation pattern of the Wairarapa on the eve of settlement in 1843, the manner in which the indigenous vegetation was attracted and the way in which new plants and animals were introduced". (p.83)
70. KENSLER, C.B. 1966: Ecological notes on the marine crayfish *Jasus edwardsii* (Hutton) : Puerulus and post-puerulus stages. *N.Z. Mar. Sci. Newsl.* 8 : 32-34.
 The specimens were collected from Castlepoint where they were found in large numbers under rocks in the intertidal zone.
71. LAING, D.; WALLIS, G. 1965: The sandy shore. Pp 31-33 in "Castlepoint Survey. First Report". Biological Society, Victoria University of Wellington.
72. LLOYD, D.G. 1972: A revision of the New Zealand, Subantarctic, and South American species of *Cotula*, section *Leptinella*. *N.Z. Jl Bot.* 10 : 277-372.
Cotula dioica dioica is recorded from the eastern Wairarapa coastal area and the mouth of the Opouawe River.
73. McCANN, C. 1969: First southern hemisphere record of the Platylepadine barnacle *Stomatolepas elegans* (Costa) and notes on the host *Dermochelys coriacea* (Linne). *N.Z. Jl mar. Freshwat. Res.* 3 : 152-58.
 Describes epizoic barnacles from the "wrists" of a young female leatherback turtle found stranded at the mouth of the Whareama River.
74. McCASKILL, L.W. 1945: Preliminary report on the present position of the Australian magpies (*Gymnorhina hypoleuca* and *G. tibicen*) in New Zealand. *N.Z. Bird Notes* 1 : 86-104.
 The magpies are recorded as "present" in the Castlepoint County.
75. McDOWALL, R.M.; ROBERTSON, D.A. 1975: Occurrence of galaxiid larvae and juveniles in the sea. *N.Z. Jl mar. Freshwat. Res.* 9 : 1-9.
 Figure 3 (p.7) indicates several records off the Wairarapa coast.
76. MASON, R. 1950: Some new plant records for Wellington province. *Bull. Wellington bot. Soc.* 23 : 22.
 Records *Celmisia spectabilis* and *Sophora tetraptera*, the large-leaved kowhai, from Castlepoint.
77. MORTON, J.E.; MILLER, M. 1968: "The New Zealand Sea Shore". Collins, Auckland. 638 pp.
 References to the Castlepoint coastal region may be located through the index.
78. PARK, G.N. 1965: The vegetation of the Castlepoint area. Pp 2-10 in "Castlepoint Survey. First Report". Biological Society, Victoria University of Wellington.

79. PARK, G.N. 1965: The vegetation of Mt Percy area, eastern Wairarapa. Pp 12-21 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
80. PARK, G.N. 1965: Some aspects of the ecology of orchids in a black beech sere at Mt Percy. Pp 22-26 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
81. PARK, G.N. 1966: The vegetation and flora of Cape Turnagain. In "Cape Turnagain Survey". Biological Society, Victoria University of Wellington.
82. PARK, G.N. 1967: The vegetation and flora of Castlepoint and Cape Turnagain. *Bull. Wellington bot. Soc.* 34 : 6-18.
A detailed, illustrated discussion, with a list of vascular plants indigenous to either or both regions.
83. PARK, G.N.; WILLIAMS, P.A. 1965: *Senecio compactus* at Castlepoint. Pp 11-16 in "Castlepoint Survey. First Report". Biological Society, Victoria University of Wellington.
84. PARK, G.N.; WILLIAMS, P.A. 1965: Notes on the vegetation of the Mount Percy area, eastern Wairarapa and an unnamed species of *Senecio*. Pp 17-19 in "Castlepoint Survey. First Report". Biological Society, Victoria University of Wellington.
85. PONDER, R.W. 1965: Nukumaruan Mollusca from Castlepoint. Pp 6-10 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
86. PONDER, R.W. 1966: Seaweed inhabiting Molluscs. In "Cape Turnagain Survey". Biological Society, Victoria University of Wellington.
87. PONDER, W.F. 1967: Polymorphism and geographical variation in the gastropod genus *Buccinulum*. *N.Z. Mar. Sci. Newsl.* 10 : 53.
Buccinulum vittatum colensoi is found from East Cape to Castlepoint and south of this one finds *B.v. littorinoides*.
88. PRACY, L.T. 1974: Opossums (1). *N.Z. Nature Heritage* 3(32) : 873-82.
The southern Wairarapa seems to be one of the most favourable habitat types with very dense populations of opossums occurring.
89. RITCHIE, L.D. 1965: Castlepoint fish survey. Pp 27-30 in "Castlepoint Survey. First Report". Biological Society, Victoria University of Wellington.
90. RITCHIE, L.; BRIANT, A. 1966: The fish of Porangahau estuary. In "Cape Turnagain Survey". Biological Society, Victoria University of Wellington.

91. ROBERTS, P.E.; COOPER, R.D. 1965: The intertidal animals. Pp 38-41 in "Castlepoint Survey. First Report". Biological Society, Victoria University of Wellington.
92. STIDOLPH, R.H.D. 1973: Plumages of variable oystercatchers. *Notornis* 20 : 311-13.
Includes five sites on the eastern Wairarapa coast.
93. STIDOLPH, R.H.D. 1974: Decline of pipit in Wairarapa. *Notornis* 21 : 79-80.
The pipit, *Anthus novaeseelandiae* was once widespread in the east coast country and on the ocean beaches, but has declined severely since about 1950, probably because of the increase in roads, traffic and roadside spraying.
94. STIDOLPH, R.H.D.; CUNNINGHAM, J.M. 1947: Birds at Whareama, east coast, Wairarapa. *N.Z. Bird Notes* 2 : 82.
Brief note listing the species seen on one visit. It is "not a good estuary for waders".
95. VOOREN, C.M. 1975: Nursery grounds of tarakihi (Teleostei : Cheilodactylidae) around New Zealand. *N.Z. Jl mar. Freshwat. Res.* 9 : 121-58.
Castlepoint is one of the areas where the tarakihi is regularly recorded.
96. WARDLE, J. 1967: Vegetation of the Aorangi Range, southern Wairarapa. *N.Z. Jl Bot.* 5 : 22-48.
An extensive survey of the area immediately inland from Cape Palliser, extending east as far as the Opouawe River.
97. WARDLE, J. 1970: The ecology of *Nothofagus solandri*. 1. The distribution and relationship with other major forest and scrub species. *N.Z. Jl Bot.* 8 : 494-531.
Black beech is an important constituent of the forest in the Aorangi Range. It also extends up the east coast at least as far as the Whareama State Forest.
98. WILLIAMS, G.R. 1974: Kakapo. *N.Z. Nature Heritage* 4(49) : 1364-68.
A distribution chart shows subfossil remains of the Kakapo, *Strigops habroptilus*, are known from the southeast Wairarapa coast.
99. WILLIAMS, P.A. 1965: A note on the status of *Corynocarpus laevigatus* at Mt Percy. Pp 27-29 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
100. ZOTOV, V.D. 1971: *Zoysia* Willd (Gramineae) in New Zealand. *N.Z. Jl Bot.* 9 : 639-44.
Zoysia minima is recorded from the Wairarapa coast in the vicinity of Castlepoint (Fig.2, p.643).

GEOLOGY and GEOGRAPHY

101. BASTINGS, L. 1935: Destructive earthquakes in New Zealand, 1835-1934. *N.Z. Jl Sci. Technol.* 17 : 406-11.
Includes one of intensity 9 at Castlepoint on 9 August 1904.
102. BRODIE, J.W. 1950: Moa remains at Castlepoint. *N.Z. Sci. Rev.* 8(9-10) : 87-88.
103. BULLEN, K.F. 1938: On the epicentre of the 1934 Pahiatua earthquake. *N.Z. Jl Sci. Technol., sect. B*, 20 : 61-66.
Transfers the epicentre from offshore as suggested by Hayes [1937] to west or northwest of Ekatahuna.
104. BULLEN, K.E. 1940: The Wairarapa earthquake of 1917 August 5. *N.Z. Jl Sci. Technol., sect. B*, 21 : 296-301.
The epicentre was "most probably" inland from Castlepoint.
105. CHALLIS, G.A. 1960: Igneous rocks in the Cape Palliser area. *N.Z. Jl Geol. Geophys.* 3 : 524-42.
Describes spilites, altered dolerites and comptonites from Cape Palliser and further north.
106. CRAWFORD, J.C. 1861: Report on a geological tour in the Wairarapa and east coast country. *N.Z. Gov. Gaz. (Prov. Wellington)* 8(35) : 239-42.
Includes a "Tabular view of strata from Wellington to the east coast in a descending series". Concludes the rocks of Cape Palliser appear to be identical with those of the main range.
107. CRAWFORD, J.C. 1862: Geological and other reports. *Acts Proc. Prov. Counc. Wellington Sess.* 9 : [211-13].
Mentions metamorphic or altered rocks extending northward from Cape Palliser.
108. CRAWFORD, J.C. 1863: Report on the Wairarapa and east coast. *N.Z. Gov. Gaz. (Prov. Wellington)* 10(12) : 117-52.
A report to Featherston, then Superintendent of the Province of Wellington, on the geology of the area between the Tararua Range and the east coast. The expedition lasted from 15 January to 7 February 1863 and as well as the geological characteristics he describes the flora and mentions two earthquakes he experienced.
109. CRAWFORD, J.C. 1865: "Essay on the geology of the North Island of New Zealand". *Printed for the Commissioners of New Zealand Expedition, 1865, by Fergusson and Mitchell, Dunedin.* 27 pp.
"... a parallel range of Palaeozoic rocks rises from Cape Palliser to an elevation of about 3000 feet above the sea; but at or about the latitude of the Pahaoa River its Palaeozoic rocks pass beneath the Tertiaries, with the exception of a few insignificant ridges, which may be seen further to the northward." (p.5).

110. CRAWFORD, J.C. 1870: On the geology of the province of Wellington. *Trans. Proc. N.Z. Inst.* 2 : 343-60.
Includes a section "Wairarapa and the east coast".
111. CRAWFORD, J.C. 1876: On the igneous rocks of the province of Wellington. *Trans. Proc. N.Z. Inst.* 8 : 375-79.
Reports "reefs of diallage, or bronzite, standing up on the beach" at Waikekeno, which is near Flat Point.
112. CULLEN, D.J. 1967: Ecological implications of possible enteropneust faecal casts in Tertiary deposits near Castlepoint, New Zealand. *N.Z. Jl mar. Freshwat. Res.* 1 : 283-90.
Describes "spiral" faecal casts, which evidence suggests originated in relatively shallow depths.
113. EADE, J.V. 1963: The geology of the Mt Adams area. Unpublished M.Sc. thesis, Victoria University of Wellington.
114. EADE, J.V. 1966: Stratigraphy and structure of the Mount Adams area, eastern Wairarapa. *Trans. R. Soc. N.Z., Geol.* 4(4) : 103-17.
"Strata of the Mount Adams area comprise nine formations of Lower Cretaceous to Miocene age and Quaternary river and beach gravels". (Abstr.) A non-marine, detailed study of a small area inland from Glenburn and Pahaoa.
115. EIBY, G.A. 1971: Seismic regions of New Zealand. In "Recent Crustal Movements". *Bull. R. Soc. N.Z.* 9 : 153-60.
The Wairarapa coast falls in the "Main Seismic Region". Charts show four shallow earthquakes (magnitude 4.0-4.9) with epicentres on or near the coast between 1955 and 1960; and in the same region between 1961 and 1965, two earthquakes of magnitude 4.0-4.9 and one of 5.0-5.9.
116. FLEMING, C.A. (ed.) 1959: "Lexique Stratigraphique International. Volume VI. Océanie. Fascicule 4. New Zealand." Centre National de la recherche Scientifique, Paris. 527 pp.
Includes, Akiteo (= Akitio) Beds, Castle Point Beds, Here-taungan Stage, Mangapakeha (Valley) Beds, and Wairarapa Limestone.
117. FYFE, H.E.; REED, J.J. 1959: Note on the occurrence of manganese in south-eastern Wairarapa. *N.Z. Jl Geol. Geophys.* 2 : 262-64.
"Pockets of high-grade manganese ore, principally braunite, are associated with red bands of basaltic lava and jasper in Cretaceous rocks in southeastern Wairarapa. The pockets are too small and too sporadic to be of economic importance". (Summary p.262). The deposits are just south of the Pahaoa River mouth.
118. GHANI, M.A. 1974: Late Cenozoic vertical crustal movements in the central part of New Zealand. Unpublished Ph.D. thesis, Victoria University of Wellington.

119. HAYES, R.C. 1935: A summary of New Zealand earthquakes for the period 1903-1920. *N.Z. Jl Sci. Technol.* 16(6) : 361-63.
Includes the earthquake of 1904 where the maximum intensity (9) was reported at Castlepoint and Porangahau.
120. HAYES, R.C. 1937: The Pahiatua earthquake of 1934 March 5. *N.Z. Jl Sci. Technol.* 19 : 382-88.
The epicentre was off Castlepoint and the most severely shaken region was between Porangahau and Castlepoint.
121. HAYES, R.C. 1943: Earthquakes in New Zealand during the year 1942. *N.Z. Jl Sci. Technol., sect. B, 24* : 191-94.
The map shows a concentration of activity in the Wairarapa district.
122. HAYES, R.C. 1944: Earthquakes in New Zealand during the year 1943. *N.Z. Jl Sci. Technol., sect. B, 25* : 226-28.
Many earthquakes with a focal depth equal to or less than 40 km are shown along the southeast Wairarapa coast.
123. [HECTOR, J.] 1877: Progress report on east coast of Wellington. *N.Z. geol. Surv. Rep. geol. Explor. 1873-74, 8* : 9.
Brief description of the area inland from Castlepoint.
124. HECTOR, J. 1879: Progress report on east Wairarapa district. *N.Z. geol. Surv. Rep. geol. Explor. 1878-79, 12* : 27-29.
Examines the coastline between the mouth of the Ruamahunga River and White Rock, 10 miles north of Cape Palliser.
125. HEINE, R.W. 1960: Gravimetric survey in the Wairarapa. Unpublished M.Sc. thesis, Victoria University of Wellington.
The area surveyed is from the east coast inland to a line drawn from Carterton to Woodville.
126. HENDERSON, J. 1932: Earthquakes in New Zealand. *N.Z. Jl Sci. Technol.* 14 : 129-30.
An historical and regional account of recorded earthquakes. Includes one on 9 August 1904 which was "very severe at Castlepoint". (p.133).
127. HENDERSON, J. 1943: Earthquake risk in New Zealand. *N.Z. Jl Sci. Technol., sect. B, 24* : 195-219.
Divides New Zealand into earthquake districts and discusses previous earthquakes, including one at Castlepoint in 1904. Quotes an Australian reference to New Zealand as the "shivery isles" because of the frequent minor earthquakes. The Hawkes Bay - Wellington - Marlborough region "is the most liable to earthquakes in New Zealand".

128. HEUVAL, H.B. van den, 1959: The geology of the Te Wharau - Flat Point area, eastern Wairarapa. Unpublished M.Sc. thesis, Victoria University of Wellington.
129. HEUVEL, H.B. van den, 1960: The geology of Flat Point area, eastern Wairarapa. *N.Z. Jl Geol. Geophys.* 3 : 309-20.
Describes the stratigraphy and structure of Flat Point.
130. HILL, H. 1887: A description of a *Scaphites*, found near Cape Turnagain. *Trans. Proc. N.Z. Inst.* 19 : 387-88.
Describes a fossil lizard found in a stream just south of Cape Turnagain.
131. HILL, H. 1888: Pumice : its geological distribution on the east coast of the North Island of New Zealand, extending from Tolaga Bay (38°20'S lat.) to Cape Turnagain (40°30'S). *Trans. Proc. N.Z. Inst.* 20 : 293-306.
The distribution map does not show any pumice deposits at Cape Turnagain.
132. HILL, H. 1909: The great Wairarapa : a lost river. *Trans. Proc. N.Z. Inst.* 41 : 429-37.
Mainly concerned with the upper portion of the river but does include the present Cape Turnagain region. "The east coast of this island from East Cape to Castle Point presents features that imply important physical changes at no distant date". (p.429).
133. HILL, R.D. 1962: The land and the squatter - Wairarapa 1843-1853 : an essay in human ecology. Unpublished M.A. thesis, Victoria University of Wellington.
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134. HOCHSTETTER, F. von, 1864: Geologie von Neu-Seeland. Beitrage zur Geologie der Provinzen Auckland und Nelson. *Novara-Exped. Geol. Theil.* 1(1) : 274 pp.
(Translated and edited by C.A. Fleming, 1959, "Geology of New Zealand. Contributions to the geology of the provinces of Auckland and Nelson". Government Printer, Wellington. 320 pp.)
Castlepoint's geological structure is discussed and illustrated (pp 35-37) as a notable example of a coastal terrace.
135. HOBGEN, G. 1891: The earthquakes of New Zealand. *Australas. Ass. Advmt Sci.* 3 : 37-57.
Includes a list of earthquakes recorded between 1848 and 1890, with several listed for Castlepoint.
136. HOBGEN, G. 1905: Notes on the east coast earthquake of 9th August, 1904. *Trans. Proc. N.Z. Inst.* 37 : 421-24.
This earthquake caused rock falls from the cliffs, and formed fissures in the surface crust in the region between Porangahau and Castlepoint.

137. JOHNSTON, M.R. 1973: Geology of Castlepoint headland and reef, Wairarapa, New Zealand. *N.Z. Jl Geol. Geophys.* 16 : 909-16.
 "Castlepoint contains the youngest known pre-Holocene rocks in coastal Wairarapa". (Abstr. p.909). These rocks consist of dominantly mudstone and siltstone and are preserved as slivers in the Castlepoint Fault Zone.
138. JOHNSTON, M.R. 1974: A Lower Cretaceous unconformity in eastern Wairarapa. *N.Z. Jl Geol. Geophys.* 17 : 143-48.
 "Recent mapping in the Tinui - Awatoitoi district has revealed a major unconformity in what was previously considered to be a continuous Cretaceous sequence". (Abstr. p.143).
139. JOHNSTON, M.R.; BROWNE, P.R.L. 1973: Upper Jurassic and Cretaceous conglomerates in the Tinui - Awatoitoi district; eastern Wairarapa (Note). *N.Z. Jl Geol. Geophys.* 16 : 1055-60.
 Figure 1 (p.1056) shows the coastal area around Castlepoint as Upper Tertiary - Quaternary whereas from approximately 12 km north and 20 km south, it is Lower Tertiary - Upper Cretaceous.
140. KING, L.C. 1930: Raised beaches and other features of the south-east coast of the North Island of New Zealand. *Trans. Proc. N.Z. Inst.* 61 : 498-523.
 Describes the coastline between Castlepoint and Cape Palliser.
141. KING, L.C. 1931. Sulphur springs near Glenburn, east Wairarapa. *N.Z. Jl Sci. Technol.* 13 : 38-39.
 The springs occur between the westerly flowing tributaries of the Pahaoa River and the streams that flow seaward.
142. KING, L.C. 1932: Notes on the geology and geomorphology of the coast between Napier and Castlepoint. *Trans. N.Z. Inst.* 63 : 72-79.
 A companion paper to King (1930).
143. KIRK, C.M. 1966: The petrography of a redeposited section in the Manurewa Formation, and some greensand dykes from the Mungaroa Limestone, Te Kaukau Point, south-east Wairarapa. Unpublished B.Sc. Honours project, Victoria University of Wellington.
 Te Kaukau Point is a headland about 10 km northeast of Cape Palliser.
144. KUSTANOWICH, S. 1964: Geology of the Tinui Valley - Castlepoint region, north-eastern Wairarapa. Unpublished M.Sc. thesis, Victoria University of Wellington. 129 pp.
145. LEAMY, M.L. 1974: Soils : Classification and distribution. *N.Z. Nature Heritage* 3(38) : 1049-59.
 The eastern Wairarapa coastal areas are shown to be central yellow-brown earths.

146. LEWIS, K.B. 1971: Marine geology of the Turnagain region. Unpublished Ph.D. thesis, Victoria University of Wellington.
A detailed survey of the offshore geology.
147. LEWIS, K.B. 1971: Slumping on a continental slope inclined at 1° - 4° . *Sedimentology* 16 : 97-110.
Cape Turnagain is the southern limit of the study area. An un-named slump is described from off Cape Turnagain.
148. LEWIS, K.B. 1971: Growth rate of folds using tilted wave-planed surfaces : coast and continental shelf, Hawke's Bay, New Zealand. In Recent Crustal Movements. *Bull. R. Soc. N.Z.* 9 : 225-31.
The area studied extends south to Cape Turnagain.
149. LEWIS, K.B. 1973: Erosion and deposition on a tilting continental shelf during Quaternary oscillations of sea level. *N.Z. Jl Geol. Geophys.* 16 : 281-301.
"Continuous seismic profiles of high resolution were obtained of the continental shelf and upper slope between Napier and Castlepoint, New Zealand. They illustrate the topographic and stratigraphic effects of sea level changes on a tectonically active continental shelf". (Abstr.)
150. LEWIS, K.B. 1973: Sediments on the continental shelf and slope between Napier and Castlepoint, New Zealand. *N.Z. Jl mar. Freshwat. Res.* 7 : 183-208.
"Sediments from the seabed off the eastern side of the North Island, New Zealand, are divided into 12 facies on the basis of grain size and mineralogy of the sand fraction. The facies are grouped into three types; modern detrital sediments, relict detrital sediments, and non-detrital sediments." (Abstr.)
151. LEWIS, K.B. 1974: Upper Tertiary rocks from the continental shelf and slope off southern Hawkes Bay. *N.Z. Jl mar. Freshwat. Res.* 8 : 663-70.
Discusses rock samples taken between Napier and Cape Turnagain, five being off Cape Turnagain on the South Madden Bank.
152. LEWIS, K.B.; KOHN, B.P. 1973: Ashes, turbidites, and rates of sedimentation on the continental slope off Hawkes Bay. *N.Z. Jl Geol. Geophys.* 16 : 439-54.
Includes details from cores taken offshore from Cape Turnagain and Castlepoint.
153. MCKAY, A. 1877: Report on country between Cape Kidnappers and Cape Turnagain. *N.Z. geol. Surv. Rep. geol. Explor.* 1874-76, 9 : 43-53.
Covers the area south of Cape Turnagain to Castlepoint. Includes sections from different locations giving the structure e.g., the reef at Castlepoint consists of shell limestone overlying blue sandy clays.

154. MCKAY, A. 1877: Report on the country between Masterton and Napier. *N.Z. geol. Surv. Rep. geol. Explor. 1876-77*, 10 : 67-94.
Mentions the geology of Cape Turnagain and Castlepoint.
155. MCKAY, A. 1878: Report on east Wairarapa district. *N.Z. geol. Surv. Rep. geol. Explor. 1877-78*, 11 : 14-24.
The area under investigation was "between the Ruamahunga and the coast as far as Cape Palliser".
156. MCKAY, A. 1879: The southern part of the east Wairarapa district. *N.Z. geol. Surv. Rep. geol. Explor. 1878-79*, 12 : 75-86.
A detailed survey of the coastline between the mouth of the Ruamahunga River and White Rock, 12 miles north of Cape Palliser.
157. MCKAY, A. 1884: On the igneous rocks of the east coast of Wellington. *N.Z. geol. Surv. Rep. geol. Explor. 1883-84*, 16 : 71-75.
"... except at Castlepoint, no Tertiary rocks are found resting on the Cretaceous rocks east of the Palaeozoic axis". (p.73).
158. MCKAY, W.A. 1899: Report on the geology of the Trooper Range, Castlepoint district, Wellington. *Append. J1 N.Z. House Repres. C-9* : 33-36.
159. McLEAN, D.B.G. 1953: Geology of the Haurangi - Stony Creek area. Unpublished M.Sc. thesis, Victoria University of Wellington.
160. NEALL, V.F. 1965: Notes on some Castlepoint fossils. Pp 2-4 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
161. NEALL, V.E.; PONDER, R.W. 1965: Castlepoint geological survey. P.2 in "Castlepoint Survey. Second Report". Biological Society, Victoria University of Wellington.
162. NEALL, V.E.; PORINS, G. 1965: Geology. In "Cape Turnagain Survey". Biological Society, Victoria University of Wellington.
163. NELSON, C.S. 1968: Sedimentology of redeposited calcareous and glauconitic beds at Pahaoa, southeast Wellington. *Trans. R. Soc. N.Z., Geol.* 6(5) : 45-62.
The section studied is on the coast immediately south of the Pahaoa River mouth.
164. PARK, J. 1888: On the probable discovery of oil and coal in Wairarapa North County. *N.Z. geol. Surv. Rep. geol. Explor. 1887-88*, 19 : 20-24.
The district under investigation was along the east coast between the Akitio River and the Kaiwhata River and for an average distance inland of 15 miles.

165. ONGLEY, M. 1935: Eketahuna Subdivision. *A. Rep. N.Z. geol. Surv.* 29 : 1-6.
Describes mudstones and sandstones with conglomerate bands from the Mangapakeha Stream region near Castlepoint.
166. PICK, M. 1955: The geology of the Whareama area. Unpublished M.Sc. thesis, Victoria University of Wellington.
167. POWELL, A.W.B. 1938: A Pliocene molluscan faunule from Castle Point. *Rec. Auckland Mus.* 2 : 157-64.
Describes a small collection of fossils collected from the lighthouse reef.
168. RISHWORTH, D. 1953: The geology of the Whakapuni - Pahaoa area, East Wairarapa. Unpublished M.Sc. thesis, Victoria University of Wellington.
169. VELLA, P. 1968: Plio-Pleistocene Cyclothems, Wairarapa, New Zealand. *Trans. R. Soc., Geol.* 2(2) : 15-50.
Includes the coastal region.
170. WATERHOUSE, J.B. 1954: Geology of the White Rock - Tora area. Unpublished M.Sc. thesis, Victoria University of Wellington.
171. WATERHOUSE, J.B. 1957: Rock fans in south-east Wellington. *Trans. R. Soc. N.Z.* 85 : 101-11.
The study area is the coastal region in the vicinity of Mt Barton.
172. WATERHOUSE, J.B. 1959: The origin of the Opouawe River and nearby antecedent gorges in S.E. Wairarapa. *Trans. R. Soc. N.Z.* 87 : 9;-98.
"Several consequent streams that flow from the Aorangi Mountains towards the east coast have been defeated by the uplift of Ewe Ridge across their courses. The defeated streams have joined along a synclinal depression parallel to the ridge to form the Opouawe River". (Abstr.)
173. WATERHOUSE, J.B.; BRADLEY, J. 1957: Redeposition and slumping in the Cretaceous - Tertiary strata of S.E. Wellington. *Trans. R. Soc. N.Z.* 84 : 519-48.
The area studied was from Te Kaukau Point north to Manurewa Point.
174. WEBBY, B.D.; HEUVEL, H.B. van den, 1965: Note on glauconitic sandstones in the Wairarapa, New Zealand. *N.Z. Jl Geol. Geophys.* 8 : 81-84.
Suggests Cretaceous - Tertiary glauconitic sandstones near Flat Point are turbidity-current deposits.
175. WELLMAN, H.W. 1962: Holocene of the North Island of New Zealand : a coastal reconnaissance. *Trans. R. Soc. N.Z., Geol.* 1(5) : 29-99.
Figure 1 shows the author examined four stretches of coastline between Cape Turnagain and Cape Palliser.

176. WELLMAN, H.W. 1971: Holocene tilting and uplift on the White Rocks coast, Wairarapa, New Zealand. *In* Recent Crustal Movements. *Bull. R. Soc. N.Z.* 9 : 211-15.
 "Differences in height of Holocene marine beach ridges indicate that three growing folds cross the White Rocks coast : from west to east the Aorangi Anticline, the Opouawe Syncline, and the Adams Anticline". (Abstr.).
177. WELLMAN, H.W. 1971: Holocene tilting and uplift on the Glenburn coast, Wairarapa, New Zealand. *In* Recent Crustal Movements. *Bull. R. Soc. N.Z.* 9 : 221-23.
 Discusses the stretch of coast between Pahaoa River and Flat Point.
178. WELLMAN, H.W.; BRODIE, J.W. 1954: A note on the geology of Cape Palliser, New Zealand (Sheet N168). *N.Z. Jl Sci. Technol., sect. B*, 35 : 440-50.
 A discussion of the greywackes and faulting of the Cape Palliser region.
179. WILLIAMS, G.J. 1974: "Economic Geology of New Zealand. Monograph Series No. 4". Australasian Institute of Mining and Metallurgy, Parkville. 490 pp.
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HYDROLOGY and METEOROLOGY

180. BRODIE, J.W. 1960: Coastal surface currents around New Zealand. *N.Z. Jl Geol. Geophys.* 3(2) : 235-52.
 Results from drift cards indicate a coastal circulation dependent on the surrounding oceanic currents and the topography for its basic pattern. Discusses the Cape Palliser area.
181. BYE, J.A.T.; HEATH, R.A. 1975: The New Zealand semi-diurnal tide. *J. mar. Res.* 33 : 423-42.
 Parameters measured from Castlepoint were included in the analysis.
182. GARNER, D.M. 1961: Hydrology of New Zealand coastal waters 1955. *Mem. N.Z. oceanogr. Inst.* 8 : 85 pp.
 Discusses the situation in all four seasons and the variations on a regional basis.
183. GARNER, D.M. 1967: Hydrology of the southern Hikurangi Trench region. *Mem. N.Z. oceanogr. Inst.* 39 : 35 pp.
 Discusses the results of a survey into distribution of temperature and salinity. Describes the effect of the hydrological environment on sound propagation in the survey area.
184. GARNER, D.M. 1969: The geopotential topography of the ocean surface around New Zealand. *N.Z. Jl mar. Freshwat. Res.* 3(2) : 209-18.
 Summarises present knowledge of the geopotential topography of the ocean surface with respect to the 1,000 decibar isobaric surface and discusses relation to the geostrophic circulation of surface waters.

185. GARNER, D.M. 1969: The seasonal range of sea temperature on the New Zealand shelf. *N.Z. Jl mar. Freshwat. Res.* 3(2) : 201-8.
Compares and discusses seawater temperatures measured over the continental shelf in summer and winter 1967.
186. GARNER, D.M.; RIDGWAY, N.M. 1965: Hydrology of New Zealand offshore waters. *Mem. N.Z. oceanogr. Inst.* 12 : 62 pp.
Includes data from east of the southern part of the North Island.
187. GRANT, P.J. 1968: Variations of rainfall frequency in relation to drought on the east coast. *J. Hydrol.* 7(2) : 124-35.
The area discussed extends south to Akitio. Daily rainfall frequencies are analysed and the connection between frequency changes of the larger rains and changes of atmospheric circulation is discussed.
188. HEATH, R.A. 1968: Geostrophic currents derived from oceanic density measurements north and south of the Subtropical Convergence east of New Zealand. *N.Z. Jl mar. Freshwat. Res.* 2 : 659-77.
Presents temperature and salinity observations from off the east coast. Discusses the East Cape Current and suggests the eddies forming this current move east leaving the coast in the vicinity of the southern limit of the Hikurangi Trench.
189. HEATH, R.A. 1969: Drift card observations of currents in the central New Zealand region. *N.Z. Jl mar. Freshwat. Res.* 3 : 3-12.
Includes data from east coast, North Island, as far north as Castlepoint.
190. HEATH, R.A. 1971: Hydrology and circulation in central and southern Cook Strait, New Zealand. *N.Z. Jl mar. Freshwat. Res.* 5 : 178-99.
Includes stations off Cape Palliser. Mixed water derived from the Southland Current, D'Urville Current and East Cape Current passes up the east coast of the North Island.
191. HEATH, R.A. 1971: The oceanic circulation off the east coast of New Zealand between East Cape and Banks Peninsula. Unpublished Ph.D. thesis, Victoria University of Wellington.
192. HEATH, R.A. 1972: The Southland Current. *N.Z. Jl mar. Freshwat. Res.* 6 : 497-533.
A detailed discussion of the hydrology east of New Zealand from Banks Peninsula to Cape Turnagain.
193. HEATH, R.A. 1973: Direct measurements of coastal currents around the southern half of New Zealand. *N.Z. Jl mar. Freshwat. Res.* 7 : 331-67.
Figure 1 shows the contours (dyn.cm) of the geopotential topography of 300 dbars relative to 800 dbars for the area east of Cape Palliser. Includes the trajectory of a current drogue in the area.

194. HEATH, R.A. 1973: Present knowledge of the oceanic circulation and hydrology around New Zealand - 1971. *Tuatara* 20 : 125-40.
A detailed discussion of the information available to date.
195. HEATH, R.A. 1975: Oceanic circulation off the east coast of New Zealand. *Mem. N.Z. oceanogr. Inst.* 55 : 80 pp.
A detailed study of the area between East Cape and Banks Peninsula. The currents were examined mainly by the geostrophic method.
196. KIDSON, E. 1933: The Wairarapa floods of August, 1932. *N.Z. Jl Sci. Technol.* 14 : 220-27.
Describes the exceptional weather conditions causing the flooding and gives the total rainfalls recorded over three days for many sites in the lower half of North Island, e.g. Castlepoint recorded 323 hundredths of an inch.
197. MAUNDER, W.J. 1974: The dynamics of climate. *N.Z. Nature Heritage* 1(11) : 294-302.
Figures 2-4 show the mean annual rainfall to be 1100 mm to 1799 mm in the region of Castlepoint and 800 mm to 1099 mm around both Cape Palliser and Cape Turnagain. The mean annual maximum temperature around Castlepoint is 28.01 to 27.9°C and the mean annual minimum is -6.0 to -2.1°C.
198. RIDGWAY, N.M. 1970: Aerial radiometry of sea surface temperatures on the east coast, North Island, New Zealand. *N.Z. Jl mar. Freshwat. Res.* 4 : 474-8.
Relates sea surface isotherms to current flow, particularly offshore between Gisborne and Wellington.
199. SDUBHUNDHIT, C.E.; GILMOUR, A.E. 1964: Geostrophic currents derived from oceanic density over the Hikurangi Trench. *N.Z. Jl Geol. Geophys.* 7 : 271-73.
Presents temperature and salinity measurements. The relative currents indicate the presence of localised easterly or south-easterly surface water movements with speeds up to about 50 cm sec⁻¹.
200. SOIL CONSERVATION AND RIVERS CONTROL COUNCIL, 1955-1964: Hydrology Annual, 2-12. Ministry of Works and Development, Wellington.
Includes data on river gauging, floods, minimum flows, and temperatures of rivers and lakes. The Akitio River flooded in January 1953. Also gives details of flooding at Castlepoint, Tinui and Cape Palliser in July 1955.

INDEX

This is a general index including place names, specific and common names, geological terms and artifacts mentioned in the title or annotation. The charts are not included in the index. Castlepoint and Castle Point are the names of the township and the headland respectively but this differentiation is not upheld consistently, and in the index all references are listed under Castlepoint. Authors names are not included in the index.

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