

The Northland Coastal Storm Catalogue



Addendum to Extreme Weather on the Northland Coast The Implications for Mangawhai

The Sustainable Mangawhai Project
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Introduction

The following 20 storms comprise the Northland direct-impact event database analysed in the main report. It outlines all systems since 1960 that had significant documented meteorological effects within Northland. It draws mainly from the Hauraki Gulf Weather upper North Island cyclone history database and supplemented by NIWA-HWE, MetService, NRC, and other primary sources. Storms are presented in chronological order of their Northland impact. Intensity ratings use the Australian Bureau of Meteorology scale (Category 1–5) with 10-minute mean sustained wind speeds.

1. Cyclone Giselle (1968)

Dates	5 April – 12 April 1968
Northland influence	9–10 April 1968
Peak intensity	Category 1 (tropical) — 990 hPa, ~70 km/h mean wind. Deepened explosively on extratropical transition.
Intensity at Northland	ExTC ~965 hPa at NZ; gusts 130+ km/h across upper North Island. Land pressure ~975 hPa.
ENSO phase	Neutral
Track	East / North — passed over or near North Cape, tracked south-southeast toward Wellington
Severity (Northland)	MAJOR

Origin and track

Tropical Cyclone Giselle formed in the Coral Sea near the Solomon Islands on 5 April 1968. It tracked southeast, missing New Caledonia to the west, then underwent extratropical transition on 8 April. The extratropical low deepened explosively as it interacted with an upper-level trough and warm, moist subtropical air over the upper North Island. It passed over or near the northern tip of the North Island around 9 April before intensifying further as it moved south toward Wellington, where it collided with a rapidly deepening frontal system.

Northland passage

The storm moved across or just east of Northland on a south-southeast track. Wind gusts of 130+ km/h were recorded across the upper North Island. The most destructive conditions shifted south toward Wellington, where a gust of 267 km/h was recorded and the Interislander ferry Wahine foundered with the loss of 53 lives. Northland received heavy rainfall causing flooding and slips, but the most severe outcomes nationally were in Cook Strait and Wellington Harbour.

Northland impact

Heavy rain and flooding across Northland. Roads closed by slips. Significant wind damage to trees and structures. Wind gusts exceeded 130 km/h in exposed areas. Northland impact was severe in its own right but was overshadowed nationally by the Wellington disaster. This storm is the baseline reference event for New Zealand's worst 20th-century cyclone — the combination of Giselle's extratropical remnant deepening

onto the pre-existing Wahine storm produced conditions not seen before or since on the New Zealand east coast. No confirmed Northland fatalities directly attributable to the storm.

Notes

Giselle provides the best analogue for extreme east coast track extratropical cyclones. The storm is referenced in the coastal hazard literature as a precedent for extreme wave set-up and surge on the Northland/Auckland east coast. The combination of its track directly over Northland with explosive deepening placed the region squarely in the dangerous sector.

Sources: *Hauraki Gulf Weather (cyclone-giselle-1968)*; *NIWA HWE (April 1968)*; *Te Ara Encyclopedia*; *NZ Herald archives*; *NZ History website*.

2. Cyclone Alison (1975)

Dates	4 March – 13 March 1975
Northland influence	~11 March 1975
Peak intensity	Category 4 — 933 hPa, 155 km/h mean wind (G-200 km/h). Struck New Caledonia at peak.
Intensity at Northland	ExTC 970 hPa; 989 hPa lowest land pressure; 95 km/h mean wind (G-130 km/h).
ENSO phase	La Niña (1974–75 moderate-strong La Niña)
Track	West (Tasman) — extratropical centre moved along western Northland coast
Severity (Northland)	SIGNIFICANT

Origin and track

Tropical Cyclone Alison developed from a tropical disturbance between Fiji and Vanuatu on 4 March 1975. It moved west over Vanuatu as a Category 1 before rapidly intensifying to Category 4 northwest of New Caledonia. Alison struck New Caledonia on 8 March with pressure in the high 940s hPa, then was steered southward into the northern Tasman on 9 March, beginning extratropical transition. The extratropical centre passed to the west of the upper North Island on 11 March.

Northland passage

The extratropical centre moved along the west coast of Northland (Tasman Sea side). Described at the time as the largest storm to hit Auckland in 15 years. The dangerous sector (the eastern half of the southern-hemisphere clockwise circulation) was west of Northland, with the most intense winds out in the Tasman rather than over the peninsula.

Northland impact

Wind gusts up to 130 km/h in the Hauraki Gulf. Rainfall of 100–170 mm on parts of the region. Flooding, wind damage and slips were the main impacts across Northland, Great Barrier Island, Coromandel Peninsula and Auckland. Primarily a wind and rain event characteristic of west coast track systems; coastal surge and wave set-up on the east coast were not the dominant hazard.

Sources: *Hauraki Gulf Weather (cyclone-alison-1975)*; *NIWA HWE (March 1975)*.

3. Cyclone Hal (1978)

Dates	5 April – 22 April 1978
Northland influence	18–19 April 1978

Peak intensity	Category 1 — 985 hPa, 130 km/h mean wind (G-170 km/h). Far North Queensland landfall.
Intensity at Northland	ExTC 965 hPa; 976 hPa lowest land pressure; 75 km/h mean wind (G-130 km/h).
ENSO phase	Neutral (transitioning; 1977–78 El Niño had ended)
Track	West (Tasman) — centre crossed central North Island over the Waikato
Severity (Northland)	MODERATE

Origin and track

Tropical Cyclone Hal developed from a tropical disturbance in the Gulf of Carpentaria on 5 April 1978. It crossed the Far North Queensland coast as a Category 1, then moved into the Coral Sea, weakening below cyclone intensity for about a week before re-intensifying as it was steered poleward by a mid-latitude trough from 13 April. The extratropical low strengthened as it moved toward New Zealand, crossing the central North Island over the Waikato on 19 April at 976 hPa.

Northland passage

Gales affected Northland on 18 April. The centre crossed the central North Island over the Waikato on 19 April. The most intense side of the storm remained out in the Tasman Sea, west of the peninsula, consistent with a west coast track event.

Northland impact

Winds gusted between 100 and 130 km/h across a wide area of the upper North Island. Little damage was reported from either wind or rain compared to other events in the catalogue. Moderate impact overall. Hal is notable in the context of this record because it occurred in the same year as the 1978 breach storm at Mangawhai (18–23 July 1978) — a separate, unnamed winter storm that was not a tropical cyclone remnant.

Sources: *Hauraki Gulf Weather (cyclone-hal-1978)*.

4. Cyclone Sina (1980)

Dates	11 March – 16 March 1980
Northland influence	15–16 March 1980
Peak intensity	Category 3 — 970 hPa (tropical), 120 km/h mean wind (G-150 km/h). Struck New Caledonia.
Intensity at Northland	ExTC 975 hPa; 975 hPa lowest land pressure; 70 km/h mean wind (G-120 km/h).
ENSO phase	Neutral (1980 neutral year)
Track	East — extratropical centre near or over Great Barrier Island / eastern approach
Severity (Northland)	MODERATE

Origin and track

Cyclone Sina developed into a Category 1 on 11 March 1980 and moved southeast into the South Pacific, intensifying to Category 3. It passed about 200 km southwest of New Caledonia on 13 March at peak intensity, then accelerated south-southeast, weakening and transitioning to extratropical. The extratropical

centre crossed over or near Great Barrier Island on 15 March (central pressure 982 hPa) and deepened further to 975 hPa over the Gisborne ranges on 16 March.

Northland passage

The extratropical centre passed near or over Great Barrier Island on an eastern approach, and may have tracked slightly east of the main Northland peninsula. The eastern coast and Hauraki Gulf area were most affected. Sina is the first storm in the catalogue to fall fully within the reliable satellite-era IBTrACS record.

Northland impact

Brief periods of gales and heavy rain. Moderate impacts across Northland, Auckland, Great Barrier Island, Gulf Islands, Coromandel Peninsula and the Waikato. A less severe event than many in the catalogue but representative of the category of east coast track systems with limited dwell time near Northland.

Sources: *Hauraki Gulf Weather (cyclone-sina-1980)*; *IBTrACS*.

5. Cyclone Bernie (1982)

Dates	1 April – 14 April 1982
Northland influence	~9 April 1982
Peak intensity	Category 4 — 960 hPa (tropical), 165 km/h mean wind (G-210 km/h). Affected Solomon Islands.
Intensity at Northland	ExTC 967 hPa (ship report 300 km east of North Cape); 986 hPa lowest land; 95 km/h mean (G-140 km/h).
ENSO phase	El Niño (1982–83 Super El Niño — one of the strongest 20th-century events)
Track	East — centre passed offshore east of Northland; ship record 300 km east of North Cape
Severity (Northland)	SIGNIFICANT

Origin and track

Cyclone Bernie developed into a Category 1 tropical cyclone around the Solomon Islands on 3 April 1982. It moved southwest through the Coral Sea, intensifying to Category 4 as it passed about 400 km west of New Caledonia on 6 April. It then accelerated southeast around the subtropical ridge, weakening and transitioning to extratropical. The extratropical centre approached the upper North Island on 8–9 April. The ship *Forum Samoa*, about 300 km east of North Cape, reported a minimum pressure of 967 hPa on 9 April — the primary intensity reference for this event at Northland latitudes.

Northland passage

Track data suggests the centre passed east of the Northland Peninsula (Pacific/offshore side), with the *Forum Samoa* ship report placing the system roughly 300 km east of North Cape on 9 April. The eastern Northland coast was on the onshore side of the circulation for a southward-tracking system.

Northland impact

Extensive rain and gales lashed all areas of the upper North Island on 9 April. Flooding, tree damage and land slips were extensive across the region. Described in NIWA-HWE as a significant event for Northland. Bernie is an important catalogue reference because it occurred during the developing phase of the 1982–83 El Niño — one of the strongest on record — demonstrating that intense systems can still affect Northland in El Niño conditions, contrary to the statistical tendency.

Sources: *Hauraki Gulf Weather (cyclone-bernie-1982)*; *NIWA HWE (April 1982 North Island Ex-tropical Cyclone Bernie)*.

6. Cyclone Bola (1988)

Dates	23 February – 12 March 1988
Northland influence	~6–10 March 1988
Peak intensity	Category 3–4 (tropical peak) — ~945 hPa estimated, ~165 km/h mean wind. Name retired.
Intensity at Northland	Passed ~110 km north of North Island. Pressure offshore Northland not precisely recorded. Prolonged easterly gales.
ENSO phase	La Niña (1988–89 La Niña — one of the strongest modern La Niñas; ONI peak −1.8)
Track	Passed North — circulation affected both east and west coasts simultaneously
Severity (Northland)	MAJOR

Origin and track

Severe Tropical Cyclone Bola was first noted as a shallow depression on 23 February near Tuvalu. It executed a cyclonic loop near Vanuatu, reaching peak intensity while looping, then transitioned to extratropical by 4 March. It turned south and affected the North Island from 6 March, passing approximately 110 km north of the North Island on 7–8 March before being absorbed by a trough near the South Island on 12 March. The storm's slow progression and stall north of the North Island were the key factors determining its exceptional rainfall impact.

Northland passage

The centre passed NORTH of Northland — not making a west-coast or east-coast landfall on Northland itself. The sustained easterly flow generated by Bola's large anticlockwise circulation brought prolonged onshore winds to the Northland east coast over four or more days, generating extreme accumulated wave energy from the unlimited Pacific fetch and producing the heaviest rainfall on the east-facing ranges and catchments. This multi-day duration of onshore exposure is the defining characteristic of Bola's impact.

Northland impact

Rainfall totals of 300+ mm across much of Northland. Telephone and power lines disrupted. Roads closed by flooding and slips. One fatality in Northland (Whangaruru Harbour — a heart attack during the storm). Described by NIWA as creating the largest rainfall totals in 93 years of New Zealand records at the time. Nationally: NZ\$82 million (1988 values) in damage; 7 deaths total. The name "Bola" was subsequently retired by the Fiji Meteorological Service, reflecting the storm's exceptional destruction across the Pacific region.

Notes

Bola is the primary historical precedent for extreme east coast rainfall and prolonged coastal swell exposure at Northland. Its extended dwell north of the North Island — driven by a blocking ridge — is increasingly cited as a risk scenario for slow-moving hybrid subtropical systems such as Tam (2025) and Vaianu (2026). Bola generated the highest confirmed Northland rainfall in the catalogue record.

Sources: *Wikipedia (Cyclone Bola); Te Ara Encyclopedia; NIWA; NZ Herald; IBTrACS.*

7. Cyclone Eseta (1988)

Dates	23 December – ~30 December 1988
Northland influence	28–30 December 1988

Peak intensity	Category 2 — 980 hPa, 100 km/h mean wind (G-140 km/h).
Intensity at Northland	ExTC 978 hPa; 994 hPa lowest land; 65 km/h mean wind (G-90 km/h).
ENSO phase	La Niña (same 1988–89 La Niña event as Bola; onset phase)
Track	West / North — broadly similar approach to Alison; western and northern Northland most exposed
Severity (Northland)	MODERATE

Origin and track

Cyclone Eseta developed into a Category 1 tropical cyclone on 23 December 1988 southeast of Vanuatu, intensifying to Category 2 on 24 December. A mid-latitude trough over the Tasman steered it toward the subtropics; extratropical transition commenced around Christmas Day. By 27 December it was a strong extratropical cyclone, weakening as it approached the upper North Island. On 28 December, gales and heavy rain affected the upper North Island over 24 hours.

Northland passage

Track broadly from the northwest. Western and northern Northland most affected by the centre's proximity. Less intense than Bola and approaching from a different vector.

Northland impact

Flooding and land-slip damage recorded 29–30 December. Gales and heavy rain. A less severe event than Bola, which had struck the same year in March. Eseta is historically notable as the second named cyclone to affect Northland in the 1988 calendar year — an unusual double-event season that also foreshadowed the three-cyclone 1996–97 season (Fergus, Drena, Gavin).

Sources: *Hauraki Gulf Weather (cyclone-eseta-1988)*; *NIWA HWE (December 1988 Upper North Island Flooding)*.

8. Cyclone Daman (1992)

Dates	15 February – 22 February 1992
Northland influence	~21 February 1992
Peak intensity	Category 3 — 965 hPa, 140 km/h mean wind (G-180 km/h). Affected Vanuatu.
Intensity at Northland	ExTC 987 hPa; 993 hPa lowest land; 100 km/h mean wind (G-205 km/h at Manukau Heads).
ENSO phase	Neutral (1991–92 El Niño declining; 1992 classified Neutral)
Track	East — passed broadly east or over northeastern Northland
Severity (Northland)	MODERATE

Origin and track

Cyclone Daman developed into a Category 1 tropical cyclone on 15 February 1992 north of Vanuatu. It brushed the northern tip of Vanua Lava, passed northwest of Espiritu Santo (Vanuatu), entered the Coral Sea, and reached Category 3 on 17 February before curving south-southwest and commencing extratropical

transition on 19 February. The extratropical remnants brought gale-force winds to the upper North Island on 21 February.

Northland passage

The system passed broadly east of or over northeastern Northland. Auckland's Manukau Heads recorded the extreme gust of 205 km/h, suggesting the centre tracked near the eastern side of the region — placing Auckland and Manukau Heads in the most exposed quadrant of the southward-tracking system.

Northland impact

Gale-force winds brought fallen power lines and tree damage across Northland and Auckland. Moderate overall impact. The gust of 205 km/h at Manukau Heads is one of the highest single wind observations in the catalogue record for the upper North Island, indicating the system retained significant residual energy at Northland latitudes despite weakening from its tropical peak.

Sources: *Hauraki Gulf Weather (cyclone-daman-1992)*; *Bureau of Meteorology historical record*.

9. Cyclone Fergus (1997)

Dates	~19–28 December 1996
Northland influence	30 December 1996
Peak intensity	Category 3 — ~165 km/h mean wind at tropical peak (pressure not precisely documented at tropical stage).
Intensity at Northland	ExTC — specific pressure not compiled by HGW. Gusts to damaging levels; 400+ mm rainfall recorded. Civil Defence emergency declared.
ENSO phase	Neutral (December 1996; the 1997–98 El Niño had not yet developed)
Track	East / Both — approached from northeast; both coasts of Northland received significant rain
Severity (Northland)	MAJOR

Origin and track

Severe Tropical Cyclone Fergus formed from a disturbance in the Solomon Islands region around 19–28 December 1996, looped around the Pacific, and made extratropical landfall on the upper North Island on 30 December 1996. It achieved Category 3 with winds up to 165 km/h during its tropical phase. Fergus arrived at the height of the New Zealand summer holiday period, significantly compounding its societal impact.

Northland passage

Track came from the northeast — a direct northeast approach that placed Northland squarely in the dangerous sector of the southward-tracking extratropical system. Both coasts of Northland received significant rain, and Coromandel Peninsula was the other worst-affected area in New Zealand. The northeast track and associated unlimited Pacific fetch explain the storm's extreme rainfall more than its raw intensity, which had moderated substantially from its tropical peak.

Northland impact

Rainfall over 400 mm in parts of Northland. Extensive flooding and landslips. State Highway 1 through the Brynderwyn Hills closed by a major slip — the first documented Brynderwyn closure in the catalogue record (to recur with Gabrielle in 2023). One fatality in Northland. Civil Defence emergency declared in some districts. Major disruption to summer holiday traffic and camping areas. Insurance claims nationally: NZ\$2.4 million (2017 values). Fergus initiated the exceptional 1996–97 season that would produce three named cyclones affecting Northland within ten weeks.

Notes

Fergus, Drena and Gavin in quick succession during the 1996–97 season constituted the most concentrated multi-event sequence in the catalogue record until the 2022–23 season (Dovi, Hale, Gabrielle). The 1996–97

season is notable because it occurred during a developing El Niño — normally associated with reduced cyclone risk for New Zealand — demonstrating that track geometry can override ENSO phase in individual seasons.

Sources: *Wikipedia (Cyclone Fergus); NIWA; NZ Herald; NZ Geographic (Ghost of Cyclones Past); Hauraki Gulf Weather (cyclone-fergus-1996); MetService archives.*

10. Cyclone Drena (1997)

Dates	2 January – 12 January 1997
Northland influence	10–11 January 1997
Peak intensity	Category 3–4 — at least 150 km/h mean wind at tropical peak (precise pressure not confirmed).
Intensity at Northland	ExTC — Hauraki Gulf gusts to 160 km/h; Auckland land winds averaging 100 km/h.
ENSO phase	El Niño (developing — January 1997; the 1997–98 El Niño was establishing)
Track	West (Tasman) — extratropical centre passed to the west of Northland
Severity (Northland)	MAJOR

Origin and track

Severe Tropical Cyclone Drena formed from a monsoon trough north of Fiji on 2 January 1997. It intensified to Category 3–4 equivalent by 6 January, crossed Vanuatu, brushed New Caledonia, and underwent extratropical transition on 9 January. The extratropical centre moved steadily south-southeast, passing to the west of the northern districts of the North Island on 10–11 January — arriving just eleven days after Fergus had struck the same region.

Northland passage

WEST COAST track. The extratropical centre passed to the west of Northland (Tasman Sea side), producing severe gales across the peninsula with strong easterly then southwesterly flow. This placed the most intense sector of the circulation (the eastern dangerous quadrant of the southward-tracking system) over the Tasman, away from the coast, but the broad gale field still affected all of Northland.

Northland impact

Gale-force winds dominated — primarily a wind event for Northland, with less rain than Fergus. Roofs ripped from at least one home in Reotahi (Whangarei Harbour area). Severe damage to at least one Northland campground. One road closed for 30 hours. Boats broke free from moorings. Trees and power lines downed. Auckland experienced winds averaging 100 km/h with gusts to 160 km/h in the Hauraki Gulf. Total NZ damage: \$6.7 million (1997 values); 3 deaths nationally, none in Northland.

Notes

Drena is the archetypal west coast track MAJOR event — rated Major despite primarily affecting the Tasman side of the peninsula, because gale-force wind impacts were severe and widespread. It demonstrates that west coast track events can be structurally highly intense without producing the coastal flooding and wave set-up characteristic of east coast track events. The contrast between Drena (west, wind-dominant) and Fergus (east, flood-dominant) eleven days apart is the clearest paired illustration of the track geometry principle in the catalogue.

Sources: *Wikipedia (Cyclone Drena); NIWA HWE (January 1997); NZ Herald; The Northern Advocate (Whangarei); WeatherWatch.co.nz; NZ Geographic.*

11. Cyclone Gavin (1997)

Dates	2 March – ~13 March 1997
Northland influence	11–13 March 1997
Peak intensity	Category 4+ — ~920 hPa peak pressure; most intense cyclone to affect Fiji since 1983.
Intensity at Northland	ExTC — gusts up to 130 km/h; heavy rain reported. Specific NZ ExTC pressure not compiled.
ENSO phase	El Niño (clearly established by March 1997)
Track	East — northeast approach; heavier rain south of Northland toward Bay of Plenty
Severity (Northland)	MODERATE

Origin and track

Severe Tropical Cyclone Gavin formed on 2 March 1997, became the most intense cyclone to affect Fiji since 1983, and passed through Tuvalu before moving south and undergoing extratropical transition. It affected New Zealand 11–13 March 1997 as an extratropical system with gale-force winds and heavy rain.

Northland passage

Track from the northeast. By the time Gavin reached New Zealand latitudes it had weakened substantially from its tropical peak of ~920 hPa. Heavier rain fell further south toward Bay of Plenty and Gisborne than over Northland — consistent with the centre tracking south of the main Northland Peninsula.

Northland impact

Heavy rain reported in parts of Northland, Waikato, Bay of Plenty and Gisborne. Road closures. Wind gusts up to 130 km/h. A less severe Northland impact than Fergus or Drena, arriving on partially recovered (but still damp) ground three months into a season that had already produced two major cyclones. Gavin is notable as the third named cyclone to affect the upper North Island within approximately ten weeks — an exceptional concentration of events in a single season.

Sources: *Wikipedia (Cyclone Gavin); NIWA.*

12. Cyclone Ivy (2004)

Dates	21 February – 3 March 2004
Northland influence	28 February – 1 March 2004
Peak intensity	Category 4 — 935 hPa (tropical peak), 195 km/h mean wind (G-240 km/h). Struck Vanuatu.
Intensity at Northland	ExTC 967 hPa; 992 hPa lowest land; 65 km/h mean wind (G-100 km/h).
ENSO phase	Neutral (2003–04 classified Neutral)
Track	East (offshore) — centre passed just east of New Zealand; Northland on western, less-intense side
Severity (Northland)	MODERATE

Origin and track

Cyclone Ivy developed into a Category 1 tropical cyclone on 23 February 2004 northeast of Vanuatu, intensified to Category 4 (peak winds 195 km/h) while passing over Vanuatu, then turned southeast, gradually weakened, and began extratropical transition on 28 February. The extratropical centre passed just east of New Zealand, with the strongest winds further south around Bay of Plenty.

Northland passage

The centre passed just east of New Zealand — a predominantly east coast offshore track. This geometry placed Northland on the western, less-intense side of the circulation rather than in the dangerous sector. Northland's eastern coastal areas received the heaviest rain, but the system's full intensity was directed offshore and south.

Northland impact

Heavy rain was the main feature, with stronger winds further south. Northland received significant rainfall but the storm's primary impact was on the Coromandel (nearly 300 mm in the ranges). Moderate overall impact for Northland. Ivy illustrates a key catalogue finding: the most intense tropical system at its tropical peak (935 hPa) produced only a Moderate Northland outcome because its track placed the region in the navigable semicircle rather than the dangerous sector.

Notes

Ivy is the most instructive catalogue counterexample to the simple premise that higher tropical intensity equates to greater Northland impact. Its 935 hPa tropical peak is the deepest in the entire 20-storm catalogue, yet it produced only a Moderate Northland result because track geometry was unfavourable.

Sources: *Hauraki Gulf Weather (cyclone-ivy-2004)*; *Wikipedia (Cyclone Ivy)*; *NIWA HWE (February–March 2004)*.

13. Cyclone Wilma (2011)

Dates	19 January – 30 January 2011
Northland influence	28–29 January 2011
Peak intensity	Category 4 — 930 hPa, 185 km/h mean wind. Peaked over Tonga.
Intensity at Northland	Category 2 tropical cyclone at NZ — ~970–980 hPa; gusts 130 km/h. First TC to retain tropical structure at NZ latitudes on record.
ENSO phase	La Niña (2010–11 La Niña — moderate to strong)
Track	East — tracked along or just east of Northland's eastern coastline
Severity (Northland)	MAJOR

Origin and track

Severe Tropical Cyclone Wilma formed northeast of Fiji on 19 January 2011, peaked as a Category 4 (185 km/h, 930 hPa) over Tonga, and weakened while tracking southeast. It retained Category 2 tropical cyclone status as it brushed the North Island — the first time on record that a named tropical cyclone maintained tropical structure upon reaching New Zealand latitudes.

Northland passage

The storm tracked along or just east of Northland's eastern coastline before rapidly becoming extratropical. Eastern Northland — from Mangonui Forest north of Kaeo to Mangawhai — took the full impact. The east coast track placed the region squarely in the dangerous sector of the southward-tracking system, with onshore northeasterly winds over unlimited Pacific fetch.

Northland impact

The most thoroughly documented cyclone impact in Northland's modern record, due to the NRC's dedicated hydrological report. Key documented outcomes: rainfall over 250 mm in eastern Northland (18-hour duration, 9 am 28 Jan to 3 am 29 Jan); rainfall intensity 25–40 mm/hr for eight-hour peak period; some sub-catchments exceeded 50-year return period rainfall; record river levels at Oruru (Taipa), Kaeo, Waitangi (Kerikeri), Kawakawa, Wairua, Mangakahia, Whangarei CBD, and Ruakaka; approximately 70 people evacuated to welfare shelters; multiple rescues including firefighters using boats to rescue people from trees in Pipiwai and a family in Kaeo; a family of four rescued from a flooded home. Major road closures. No fatalities in Northland. Nationwide total damage: NZ\$25 million; insurance claims NZ\$21.3 million (2017 values).

Notes

Wilma is the key reference event for Northland east coast flooding and the most thoroughly data-rich cyclone in the record. MetService's subsequent analysis of the Auckland storm tide during Wilma decomposed the surge components (wind set-up 449 mm, inverse barometer ~180 mm) and provided the clearest available evidence for the physical mechanisms described in Section 9 of the main report. The Kaeo rescue operations during Wilma established the community response model — including use of marae as emergency shelters — subsequently deployed during Gabrielle (2023) and Vaianu (2026).

Sources: *NRC flood report (Wilma hydrology case study, 2011)*; *Wikipedia (Cyclone Wilma)*; *NZ Herald; WeatherWatch.co.nz; JTWC; IBTrACS.*

14. Ex-Tropical Cyclone Debbie (2017)

Dates	~26 March – 6 April 2017
Northland influence	3–6 April 2017
Peak intensity	Category 4 (Australian landfall, Whitsundays, 28 March) — one of Australia's most destructive modern cyclones.
Intensity at Northland	ExTC remnants at NZ — rainfall dominant; specific NZ wind data not compiled. Not a cyclone at NZ passage.
ENSO phase	Neutral (2017 neutral season; La Niña 2016–17 had ended)
Track	Both / Wide — remnants crossed New Zealand as an extratropical system; extensive rain across upper North Island
Severity (Northland)	MODERATE

Origin and track

Category 4 Tropical Cyclone Debbie struck the Whitsunday Islands, Queensland on 28 March 2017 — one of Australia's most destructive modern cyclones — then tracked southeast. Remnants crossed New Zealand 3–6 April as an extratropical system, bringing widespread heavy rain.

Northland passage

Debbie's remnants brought rainfall that rapidly broke the drought gripping Northland in February–March 2017. The upper North Island received widespread heavy rain. As an extratropical remnant, Debbie had lost its tropical cyclone structure before reaching New Zealand, but retained a broad moisture field.

Northland impact

Drought-breaking rainfall across Northland. The primary significance of Debbie in the Northland context is not its own direct impact but its role in saturating the ground ahead of Cook, which struck ten days later. The sequential Debbie–Cook compound event significantly amplified Cook's flooding impact relative to what a standalone Cook event would have produced.

Notes

Debbie and Cook together represent the most clearly documented compound event in the catalogue — where antecedent soil saturation from one storm directly amplified the subsequent flooding from another. This compound risk is noted in the Section 10 assessment as an important non-statistical risk pathway.

Sources: NIWA 2017 Annual Climate Summary; NIWA HWE; NZ Herald; Waikato Regional Council TR2017/20.

15. Ex-Tropical Cyclone Cook (2017)

Dates	~5 April – 14 April 2017
Northland influence	12–14 April 2017
Peak intensity	Severe tropical cyclone — ~940 hPa peak, ~150 km/h mean wind at tropical stage. Struck New Caledonia.
Intensity at Northland	ExTC at NZ landfall — Coromandel / Bay of Plenty landfall; Northland on northwestern (less severe) side.
ENSO phase	Neutral (same 2017 neutral season as Debbie)
Track	East — landfall at Coromandel / western Bay of Plenty; Northland on wrong side of track
Severity (Northland)	MODERATE

Origin and track

Tropical Cyclone Cook formed near Vanuatu around 9 April 2017, became severe while passing over New Caledonia, transitioned to extratropical, and made landfall on the Coromandel Peninsula / western Bay of Plenty on 13 April 2017. It tracked south through the North Island.

Northland passage

Cook made landfall south of Northland. The region was on the northwest (less severe) side of Cook's track. MetService issued a SEVERE WEATHER WARNING for Northland, though the primary concentration of rainfall fell on Bay of Plenty and Taupo rather than Northland. The pre-conditioning from Debbie ten days earlier, however, meant that even Northland's lesser rainfall amounts produced significant flooding on already-saturated ground.

Northland impact

Heavy rain in Northland, particularly around Kaeo. Road closures in the Wellsford/Warkworth area (southern Northland/Auckland boundary). State Highway 1 flooding and closures. Cook combined with Debbie's prior saturation contributed to extensive upper North Island flooding. Nationally: NZ\$17.2 million insurance claims. A Moderate standalone impact for Northland but significantly amplified by the compound Debbie–Cook sequence.

Sources: NIWA HWE (April 2017 NZ Storm and Ex-tropical Cyclone Cook); NIWA 2017 Annual Climate Summary; MetService; NZ Herald; BBC News; Waikato Regional Council.

16. Cyclone Dovi (2022)

Dates	4 February – 13 February 2022
Northland influence	12–13 February 2022
Peak intensity	Category 4 — ~955 hPa peak, ~175 km/h mean wind. Crossed Vanuatu and New Caledonia (1 death).

Intensity at Northland	ExTC at NZ — gusts 144 km/h at Okahu Island (Northland east coast); 133 km/h at Kaeo; ~100–110 km/h widely.
ENSO phase	La Niña (2021–22 La Niña — moderate; first year of three-year La Niña sequence)
Track	East (leading edge) — centre made landfall around Waitomo; Northland on leading northeast edge
Severity (Northland)	SIGNIFICANT

Origin and track

Severe Tropical Cyclone Dovi formed in the Coral Sea on 4 February 2022, became a Category 4 system, crossed Vanuatu and New Caledonia (causing one death), underwent extratropical transition, and crossed the North Island on 12–13 February, making landfall around the Waitomo/North Taranaki area. Its closest approach to Northland specifically was approximately 296 km southwest of Ahipara at 1 am on 13 February.

Northland passage

The centre passed south of Northland, making landfall south of the region. However, Northland was on the leading (northeast) edge of the circulation, receiving the initial gales before the centre moved to the southwest. Eastern Northland experienced the most intense wind exposure as the first part of New Zealand to be struck by the approaching system.

Northland impact

Wind gust of 144 km/h at Okahu Island (Northland east coast) and 133 km/h at Kaeo, recorded late 12 February. Wind gusts of approximately 100–110 km/h across much of Northland (ERA5 analysis by ClimSystems). Boats broken free from moorings in Russell and Opua (Bay of Islands). Northland Police received 35 incident calls. Trees downed, damaging homes in Kauri and Whangarei. Over 5,000 customers lost electricity in Northland — power outages covered most of the region. Air New Zealand cancelled 100+ flights, disrupting Kerikeri/Bay of Islands Airport. Total NZ insurance claims: NZ\$44 million; total regional damage (all areas): USD\$84 million.

Sources: *Wikipedia (Cyclone Dovi 2022); ClimSystems wind analysis (2022/2026); Hauraki Gulf Weather (cyclone-dovi-2022); NZ Herald; NIWA Weather; WorldData.info (NOAA data).*

17. Cyclone Hale (2023)

Dates	7 January – 12 January 2023
Northland influence	10–11 January 2023
Peak intensity	Category 1 — 992 hPa (tropical peak), 85 km/h mean wind (G-120 km/h).
Intensity at Northland	ExTC 984 hPa; 985 hPa lowest land; 100 km/h mean wind (G-128 km/h at Channel Island).
ENSO phase	La Niña (2022–23 La Niña — third consecutive La Niña year)
Track	East — northeastern approach; southern and eastern Northland most affected
Severity (Northland)	SIGNIFICANT

Origin and track

Tropical Cyclone Hale began as a tropical depression off the Gulf of Carpentaria on 4 January 2023, moved into the Coral Sea, reached Category 1 on 7 January, passed 300 km south of New Caledonia toward the Kermadec Islands, then transitioned extratropical and was steered southwest toward the North Island. The extratropical centre approached from the northeast.

Northland passage

The system delivered heavy rain into eastern Coromandel, northern Auckland and southern/eastern Northland. The northeastern approach placed Northland in the dangerous sector of the southward-tracking system, though the system's modest tropical intensity limited its impact relative to Wilma or Gabrielle.

Northland impact

Heavy rain of 100–300 mm recorded in 24 hours in affected areas. Flooding and slips were the main damage modes in Northland. The southern and eastern parts of Northland (Te Hana, Wellsford, Mangawhai area) were most affected. Hale struck just two weeks before the catastrophic Auckland Anniversary floods of 27 January, and five weeks before Gabrielle — contributing to a three-storm sequence that tested Northland and Auckland infrastructure across the early months of 2023.

Sources: *Hauraki Gulf Weather (cyclone-hale-2023)*; *Wikipedia (Cyclone Hale 2023)*; *NIWA*; *RNZ*.

18. Cyclone Gabrielle (2023)

Dates	6 February – 17 February 2023
Northland influence	12–15 February 2023
Peak intensity	Category 3 — ~960 hPa peak, ~150 km/h mean wind. Passed over Norfolk Island.
Intensity at Northland	Subtropical at NZ — RED heavy rain and wind warnings for Northland; pressure ~964 hPa offshore Northland.
ENSO phase	La Niña transitioning to Neutral (La Niña ending February–March 2023)
Track	Both / Wide circulation — broad subtropical circulation; state of emergency declared Northland 12 Feb
Severity (Northland)	MAJOR

Origin and track

Severe Tropical Cyclone Gabrielle developed from a tropical low near the Solomon Islands on 6 February 2023, peaked at Category 3 (maximum sustained winds ~150 km/h), passed over Norfolk Island on 11 February, transitioned to a subtropical cyclone, and impacted New Zealand 11–17 February. It became New Zealand's costliest natural disaster on record at NZ\$14.5 billion total damage.

Northland passage

Gabrielle tracked from the northeast with its large subtropical circulation sweeping west-coast and east-coast Northland simultaneously via its broad rain bands. A state of emergency was declared in Northland on 12 February — among the first declarations made. Red (most severe) heavy rain and wind warnings were issued by MetService for Northland, placing the region alongside Hawke's Bay in the highest warning tier. The Bay of Islands wave buoy recorded significant wave heights over 6 m and maximum waves close to 10 m off Whangarei. Storm surge of 0.81 m above predicted tide was measured at Marsden Point, with estimated total harbour inundation at Mangawhai of 1.70 m NZVD16.

Northland impact

State of emergency declared 12 February 2023. Red wind and heavy rain warnings across the region. Power outages and road closures. The North Auckland Line railway was destroyed by a 60,000 m³ slip near Tahekeroa tunnel, along with approximately 50 additional slips between Swanson and Whangarei. State Highway 1 at Brynderwyn closed again on 24 February (follow-up flooding event). Extended power and communications outages. Community marae across Northland — including Te Renga Paraoa Marae in

Whangarei — served as emergency shelters. Two people went missing at sea near Northland (both later found). Nationally: NZ\$14.5 billion total damage; 11 deaths nationally, none directly in Northland. Gabrielle is the costliest Southern Hemisphere cyclone on record.

Notes

Gabrielle is the primary modern reference event for Northland coastal inundation analysis. The T+T and MMI reports used in Section 10 of the main report draw extensively on Gabrielle's measured water levels (storm surge 0.81 m; total harbour inundation 1.70 m at Mangawhai on 13 February 2023). The community response pattern established during Wilma (2011) — marae as emergency shelters, coordinated evacuations by Civil Defence — was deployed at scale during Gabrielle and subsequently during Vaianu (2026).

Sources: *Wikipedia (Cyclone Gabrielle); MetService; NIWA; NRC; NZ Herald; RNZ; NZ History; Envirolink ecological impacts report (2023); Tonkin & Taylor (2025) Mangawhai Matters Coastal Inundation Guidance.*

19. Cyclone Tam (2025)

Dates	13 April – 20 April 2025
Northland influence	16–20 April 2025
Peak intensity	Category 1 — 988 hPa, 50 knots mean wind (G-65 knots) at tropical peak.
Intensity at Northland	Subtropical/ExTC — 975 hPa; 110 km/h mean wind (G-151 km/h).
ENSO phase	Neutral (2024–25 El Niño had ended; transitioning to Neutral by April 2025)
Track	West (Tasman) — centre arrived northwest of Northland; prolonged NE flow via blocking high
Severity (Northland)	SIGNIFICANT

Origin and track

Cyclone Tam started as a tropical depression about 500 km northeast of Vanuatu on 13 April 2025. Named as Tropical Cyclone 30P by JTWC, then as Tam by the Fiji Meteorological Service. It was Category 1 for less than 24 hours, exited the tropics on 16 April, transitioned to subtropical, and arrived northwest of Northland late on 16 April. A blocking high pressure system to the east slowed Tam's progress, prolonging a vigorous northeast flow with heavy rain across the Far North during 16–17 April. Tam became a mature deep extratropical cyclone over the central Tasman on 17 April.

Northland passage

The centre arrived northwest of Northland (west coast / Tasman approach) on 16–17 April. The prolonged northeasterly flow ahead of the system — generated by the interaction of Tam's circulation with the blocking high — meant Northland's eastern hill country caught heavy orographic rain for an extended period before the main wind shift associated with the centre's passage. This east-coast exposure from a west-coast-track system illustrates the importance of the pre-storm wind field in addition to the storm's final track.

Northland impact

Power outages, tree and building damage, flooding and slips across the upper North Island. Gusts to 151 km/h. The prolonged northeast flow caused flash flooding in Auckland's southern suburbs from thunderstorm clusters in the outer spiral rainbands (17–20 April). The Far North — particularly north of Kaitiāia — was most affected by sustained heavy rain on 16–17 April.

Notes

Tam is classified as a hybrid subtropical system — it transitioned from tropical to subtropical to extratropical while approaching New Zealand, rather than following the conventional ExTC trajectory. This hybrid character, and the blocking-high interaction that stalled it near Northland, is consistent with the emerging

pattern of slow-moving subtropical systems identified in the cyclone frequency analysis (Section 6 of the main report).

Sources: *Hauraki Gulf Weather (cyclone-tam-2025)*; *WeatherWatch.co.nz*.

20. Cyclone Vaianu (2026)

Dates	3 April – 13 April 2026
Northland influence	10–13 April 2026
Peak intensity	Category 2–3 severe tropical cyclone — JTWC 1-min sustained ~100 km/h at final advisory (9 April). First severe TC of 2025–26 South Pacific season.
Intensity at Northland	Subtropical at NZ landfall — state of emergency Northland 10 April; gusts ~140 km/h in exposed areas; forecast 200–300 mm/24hr.
ENSO phase	Neutral (April 2026; transitioning toward El Niño — IRI 70% chance El Niño by April–June 2026)
Track	Both (first felt Northland) — made landfall near Rotorua; Northland described as "first region to feel the cyclone's force"
Severity (Northland)	SIGNIFICANT

Origin and track

Severe Tropical Cyclone Vaianu formed from a tropical disturbance west-southwest of Tuvalu on 3 April 2026, was named on 5 April, and became the first severe tropical cyclone of the 2025–26 South Pacific season. JTWC issued its final advisory on 9 April as the system entered high wind shear. MetService noted Vaianu made landfall near Rotorua on 11 April (03:00 UTC) as a subtropical storm. It tracked southeast and moved offshore on 12 April.

Northland passage

Vaianu tracked toward the top of the North Island first. Northland was the first region to feel the cyclone's force. The centre made landfall near Rotorua (south of Northland) but the system's initial northward approach meant Northland experienced both west coast and east coast impacts from the broad subtropical circulation. One buoy recorded maximum wave heights of 11 m in northern New Zealand waters.

Northland impact

State of emergency declared in Northland 10 April 2026 (precautionary; lifted by night of 13 April). Widespread flooding — Pīpīwai village (Hikurangi River) isolated with roads cut. Emergency mobile alerts sent to Northland residents on 10 April. Te Renga Paraoa Marae (Whangarei) again opened as an emergency shelter (19 rough sleepers). Northland emergency lines overwhelmed by calls. Road closures and slips across the region. Power outages widely reported. No confirmed Northland fatalities. Nationally: 10 local states of emergency; Prime Minister described Vaianu as a "significant event."

Notes

Vaianu is the most recent event in the catalogue and the fifth in five years (2022–2026) — a concentration of events consistent with the post-1988 acceleration in major storm frequency documented in the McDermott and Hume (2025) analysis. It is also the second consecutive April system (after Tam, April 2025) to affect Northland, consistent with the finding in Section 5 that April is the most active month in the Northland east coast cyclone record.

Sources: *Wikipedia (Cyclone Vaianu 2026)*; *RNZ News*; *Waikato Civil Defence*; *The Watchers*; *US Embassy Wellington*; *NZ Herald live updates*.

Part Two: Additional Storms Within 200 km of the Northland Coast

The following storms are not included in the main 20-event catalogue because they were not captured in the Hauraki Gulf Weather upper North Island history database as primary Northland impact events. Each is assessed against the 200 km criterion — whether the storm centre came within 200 km of any point on the Northland coast at any point during its life, including the extratropical phase. The 200 km boundary is measured to the closest point of the Northland coast (North Cape at 34.4°S for storms from the north or northeast; the western Northland coast for storms from the Tasman).

Data limitation: The IBTrACS South Pacific CSV database (the authoritative source for 6-hourly track positions) cannot be queried programmatically in this environment due to network restrictions. Distance estimates are derived from Lorrey et al. (2014), WorldData.info/NOAA-derived closest-approach data, and published MetService and journalistic track descriptions. A definitive 200 km criterion storm list requires direct haversine distance computation from the IBTrACS SP CSV against the Northland coast polygon (bounding box ~34.4–36°S, 172.7–174.7°E).

A1. Cyclone Norman (1977)

200 km criterion assessment: Passed within ~100–200 km of the southern Northland coast during southward approach. Lorrey et al. (2014) confirm Norman as the closest Auckland landfall in the 1970–2010 climatology period.

Dates	February 1977
Northland influence	Approximate: southern Northland approach, February 1977
Peak intensity	Category 3–4 (tropical phase); extratropical by NZ passage.
Intensity at Northland	ExTC — specific Northland pressure and wind not recorded in public sources. West coast landfall ~53 km south of Auckland.
ENSO phase	Neutral (1976–77 neutral year)
Track	West — made extratropical landfall on west coast ~53 km south of Auckland (Waikato Heads / Port Waikato area)
Status / rating	Not formally rated — insufficient Northland-specific impact data

Origin and track

Formed Coral Sea; tracked southeast; made landfall as an extratropical system on the west coast of the North Island approximately 53 km south of Auckland, around the Waikato Heads / Port Waikato area. This places the landfall point approximately 100–130 km south of the southern Northland boundary.

Northland passage

Norman made landfall south of Northland but would have passed within approximately 100–200 km of the southern Northland coast (Mangawhai to Wellsford area) during its southward approach. Its track through or near western Auckland placed Northland on the right-hand (eastern, dangerous) semicircle of the southward-tracking system, suggesting potential gale-force wind exposure and rainfall across the southern Northland region.

Northland impact

Not documented specifically in available public sources for Northland. The storm is notable primarily as the closest recorded Auckland landfall in the 1970–2010 Lorrey climatology. Its Northland significance is likely analogous to Cook (2017) — a system making landfall south of the region that still produced significant effects across southern Northland via the dangerous sector wind pattern.

Notes

Norman does not appear in the HGW upper North Island cyclone history database and may have been underrecorded in Northland-specific sources. The Lorrey et al. (2014) climatology is the primary reference confirming its significance. Additional research against NRC archives and NIWA-HWE records for February 1977 would be required to quantify Northland impacts.

Sources: *Lorrey et al. (2014) Int. J. Climatol., 34: 1157–1168; Boutle et al. (2021) ScienceDirect (TC Norman 1977 distance data).*

A2. Cyclone Lusi (2014)

200 km criterion assessment: Centre approximately 30–80 km northwest of North Cape at closest approach — comfortably within the 200 km criterion. Best-confirmed additional storm for the 200 km threshold.

Dates	9 March – 17 March 2014
Northland influence	15 March 2014
Peak intensity	Category 3 (tropical peak) — ~975 hPa, 150 km/h wind; ExTC at NZ passage with ~975 hPa estimated.
Intensity at Northland	Gusts of 130 km/h at Cape Reinga; gusts approaching 90 km/h elsewhere in Northland. Heavy rain 80–100 mm forecast.
ENSO phase	Neutral (2013–14 season; transitioning toward developing El Niño)
Track	West — passed just northwest of North Cape, then southwest down Tasman side. Suggested Northland rating: MODERATE.
Status / rating	MODERATE (suggested — not in main HGW Northland catalogue)

Origin and track

Lusi originated in Vanuatu on 9 March 2014 and tracked south-southeast toward New Zealand. MetService reported on 14 March that it was "currently a Category 2 tropical cyclone lying about 800 kilometres north of Cape Reinga, expected to pass just to the northwest of North Cape around midday Saturday."

Northland passage

MetService's final update on 15 March confirmed: "At 7 am this morning Cyclone Lusi was situated to the northwest of North Cape. Wind gusts of around 130 km/h at Cape Reinga, closest to the centre of Lusi." The centre was probably 30–80 km northwest of North Cape at closest approach. Lusi then tracked southwest, moving down the Tasman side of the North Island. The northeastern circulation from a system northwest of North Cape produced easterly gales along the northern Northland east coast — characteristic of the reverse-dangerous-sector pattern for west coast track events.

Northland impact

Wind gusts of 130 km/h at Cape Reinga. Gusts approaching 90 km/h elsewhere in Northland and Auckland. Heavy rain: 80–100 mm forecast for Northland. Downed power lines in Kaeo, tree across road in Parahaki (north of Whangarei). Easterly gales on the eastern coast of Northland and North Auckland. No Northland fatalities. Lusi is not in the HGW Northland catalogue; NIWA-HWE records it primarily for its West Coast South Island and Tasman/Nelson impacts.

Notes

Lusi was one of four TC remnants to affect New Zealand during the exceptional 2013–14 season (June, Edna, Lusi, Ita). At approximately 30–80 km northwest of North Cape at closest approach, it is the most clearly documented 200 km criterion storm not in the main catalogue. Its Northland severity is broadly comparable to Hal (1978) or Gavin (1997), both rated Moderate.

Sources: *MetService blog (March 2014 Lusi updates); Scoop News; WeatherWatch; NZ Herald; Wikipedia (Cyclone Lusi); NZ Geographic (One Storm Three Countries, 2014); NIWA-HWE.*

A3. Cyclone Ita (2014)

200 km criterion assessment: Probable 200 km criterion for the west coast of Northland (Hokianga, Kaipara area). East coast of Northland likely beyond 200 km given west-of-North-Island track. Included for completeness; borderline case.

Dates	1 April – 19 April 2014
Northland influence	17–18 April 2014
Peak intensity	Category 5 (tropical peak, 922 hPa) — one of the most intense South Pacific systems on record. ExTC remnants at NZ.
Intensity at Northland	ExTC — west coast track; Northland east coast on offshore (navigable) side. Auckland power outages; wind and rain across upper NI.
ENSO phase	Neutral (2013–14 season; same season as Lusi)
Track	West — tracked down the west coast of the North Island and South Island
Status / rating	Borderline for 200 km criterion (west coast of Northland only); not rated for east coast

Origin and track

Severe Tropical Cyclone Ita formed in the Solomon Islands on 1 April 2014, devastated Vanuatu and the Solomon Islands, made Category 4 landfall at Cape Flattery, Queensland on 12 April, rapidly weakened over Australia to ExTC, and crossed the Tasman. It was the most intense tropical system to form in Australian waters since Cyclone Monica (2006).

Northland passage

NIWA-HWE and FloodList record that "Ex-tropical cyclone Ita lay to the west of the North Island bringing heavy rain and strong winds. It moved southwards during the period 17–19 April." The centre tracked down the Tasman side, west of Northland, analogous to Drena (1997). The Northland east coast was in the navigable (low-intensity) semicircle.

Northland impact

Primary NZ impact fell further south and on the West Coast South Island (NZ\$55.3 million insurance claims; worst impacts in Buller/Grey Districts). Auckland experienced 22,000+ power outages. Limited Northland-specific reporting found; the region received wind and rain consistent with a west coast track event. Northland's east coast would have experienced offshore or cross-shore winds, not onshore surge.

Notes

Ita was the most intensely tropical system to come within the extended 500 km Northland zone during the 2013–14 season, but its west coast track meant Northland east coast coastal exposure was low. It is included here because it met the 200 km criterion for the Northland west coast, not for the east coast that is the primary focus of the coastal hazard analysis.

Sources: NIWA-HWE (*April 2014 NZ Storm*); Wikipedia (*Cyclone Ita*); NZ Geographic; FloodList; Insurance Council NZ (via NIWA-HWE).

A4. Vania / Zelia (combined event) (2011)

200 km criterion assessment: Zelia: probable 100–300 km off Northland east coast. Unnamed January 22–23 low: possibly passed directly over or very near Northland. Included here rather than main catalogue because HGW treats this as a West Coast / South Island event; Northland was secondary impact zone.

Dates	January 2011 (preceding Wilma)
Northland influence	~18 January 2011; unnamed follow-on low 22–23 January 2011
Peak intensity	Vania: weakened before NZ. Zelia: Cat 4 (tropical peak); Cat 3 at Norfolk Island passage.
Intensity at Northland	Combined impact — "incredibly humid weather over upper North Island" (WeatherWatch). Unnamed follow-on low produced the heaviest upper NI flooding of the three-event sequence.
ENSO phase	La Niña (same 2010–11 La Niña as Wilma)
Track	Vania: west coast / Tasman (dissipated). Zelia: east (likely 100–300 km off Northland east coast). Follow-on unnamed low: possibly over or very near Northland.
Status / rating	Moderate (Vania/Zelia combined); significant (unnamed 22–23 Jan low)

Origin and track

Two separate named systems that merged and contributed jointly to NZ impacts. Vania formed in the Coral Sea mid-January 2011 and weakened before NZ. Zelia (Cat 4) formed in the northern Coral Sea, passed just east of Norfolk Island as it transitioned to a mid-latitude low (BOM). The merged system brought broad moisture to New Zealand on ~18 January. A separate unnamed tropical low, which formed near New Caledonia, then moved toward New Zealand on 22–23 January.

Northland passage

Zelia's closest approach to Northland was probably east-coast offshore, at 100–300 km from the eastern Northland coast — consistent with a system that had tracked east of New Zealand after passing Norfolk Island to the east. The unnamed 22–23 January low of tropical origin is described by NIWA as producing "extremely heavy rainfall, flooding, slips and road closures over much of the North Island, north of about Whanganui" — suggesting this unnamed system likely passed directly over or very close to Northland.

Northland impact

NIWA January 2011 Climate Summary: "former tropical cyclones Vania and Zelia produced heavy rain on the 18th on the West Coast... a low of tropical origin moved towards New Zealand on January 22/23, producing extremely heavy rainfall, flooding, slips and road closures over much of the North Island." Rainfall totals of 400% of January normal over parts of eastern Northland were partly attributable to this sequence. The full January 2011 sequence comprised three separate events (Vania/Zelia 18 Jan, unnamed low 22–23 Jan, Wilma 28–29 Jan).

Notes

The unnamed 22–23 January 2011 low does not appear in IBTrACS or the HGW catalogue because it was never formally named as a tropical cyclone. It is included here because NIWA's January 2011 Climate Summary identifies it as producing more significant Northland flooding than the Vania/Zelia combined event that preceded it, and it likely came within the 200 km criterion for the Northland coast.

Sources: BOM (*Zelia track*); NIWA *January 2011 Climate Summary*; *WeatherWatch*; *Wikipedia*.

Source and Methodology Notes

Storm profiles are compiled from multiple primary sources. The Hauraki Gulf Weather (HGW) cyclone history database (haurakigulfweather.com/cyclonehistory) is the primary source for individual storm intensity data (pressure and wind speed at Northland) for the main 20-storm catalogue. The NIWA Historic Weather Events Catalogue (hwe.niwa.co.nz) provides rainfall, river level and damage data. The NRC Wilma flood report (2011) is the most detailed Northland-specific single-cyclone impact document in the public record. IBTrACS/NOAA provides the best-track archive for tropical phase intensity. ENSO phase classifications use the NOAA Oceanic Niño Index (ONI) at seasonal level.

Additional storms (Part Two) are identified from: Lorrey et al. (2014) *Int. J. Climatol.* 34: 1157–1168 (definitive ex-TC climatology for Auckland, 1970–2010; confirms Norman 1977 as closest Auckland landfall); [WorldData.info/NOAA-derived closest-approach data for post-2018 storms](http://WorldData.info/NOAA-derived-closest-approach-data-for-post-2018-storms); MetService event summaries and press releases; NIWA climate summaries; journalistic track descriptions from NZ Herald, RNZ, Scoop, WeatherWatch.

All storm severity ratings for the main catalogue are Northland-specific subjective assessments derived from the compiled impact data. They are not official MetService or NIWA classifications. For full methodology see Section 3 of the companion Northland Cyclone Report (v3, May 2026).

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