

From Paper to Electronic and Back Again – The Future of NZ Charts

NZ Hydrographic Society
22 June 2009

**Charts will continue to
meet the needs of
safe navigation
but continue to change**

- Why create a database of charts?
- What is the database like?
- What does this mean to charts?



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History

First change:
Metrication

N.Z. 6723



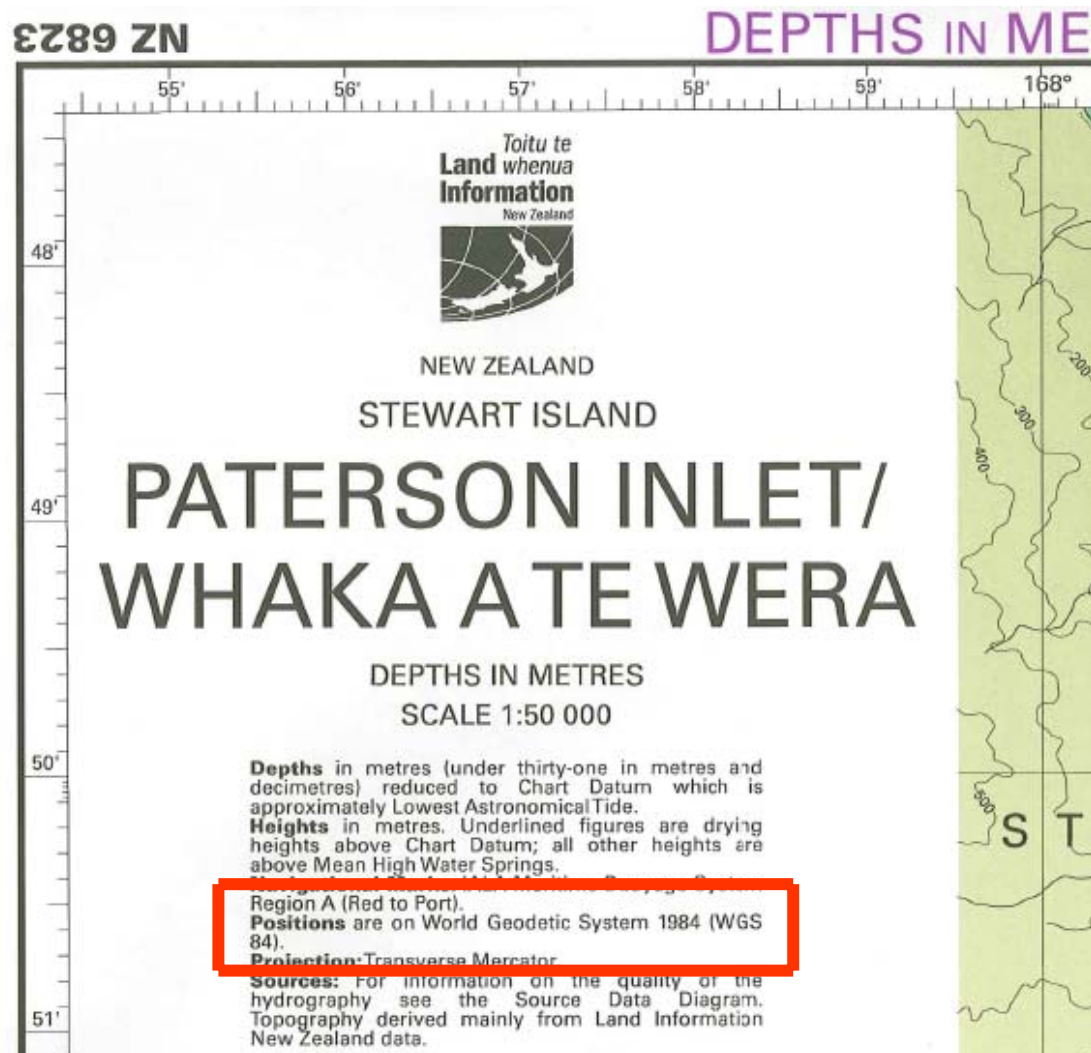
History

Second change:
Conversion to
WGS 84 Datum



History

Third change:
Database of
paper charts
and ENCs



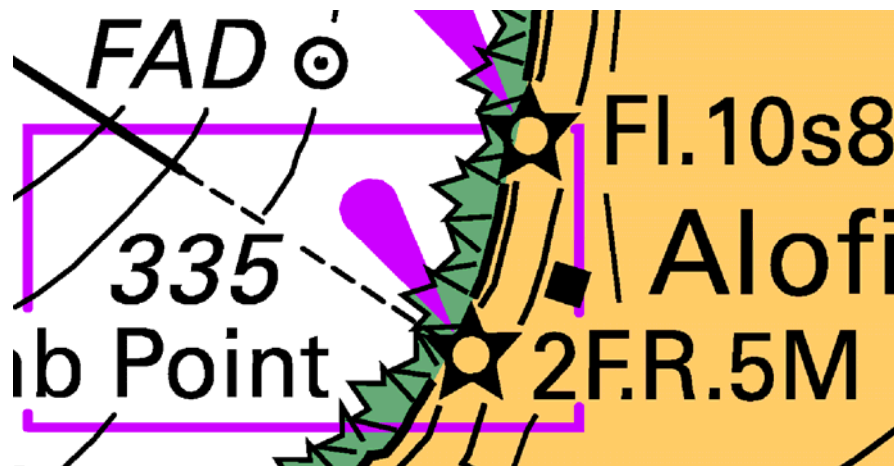
Why create a database of charts?

**IMO requirement:
ENC coverage for
commercial shipping
by 2012**

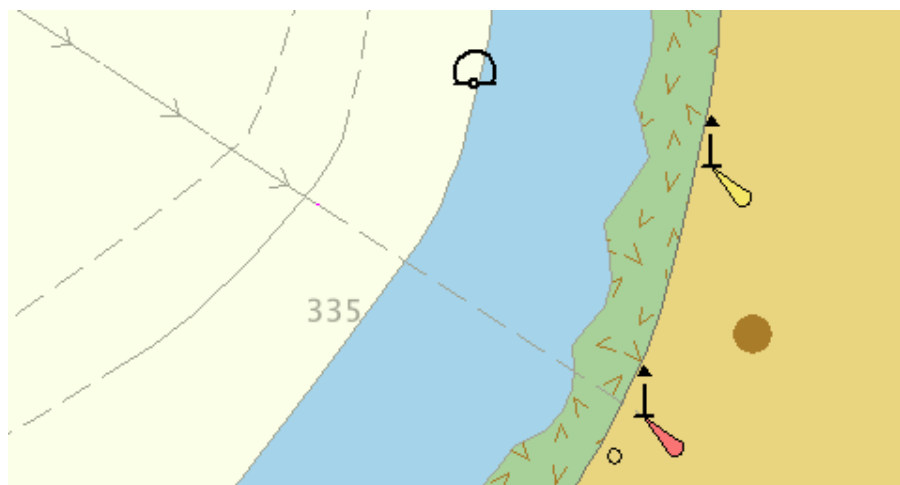


Why create a database of charts?

Most efficient way to
create paper charts
and ENCs



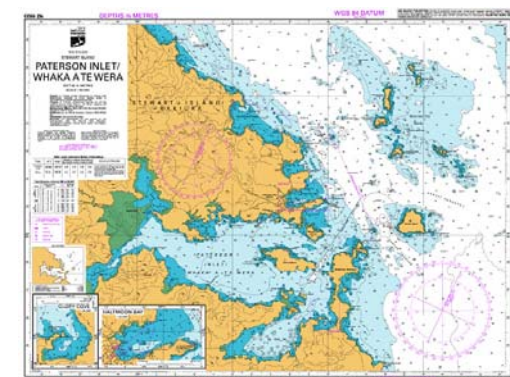
Raster



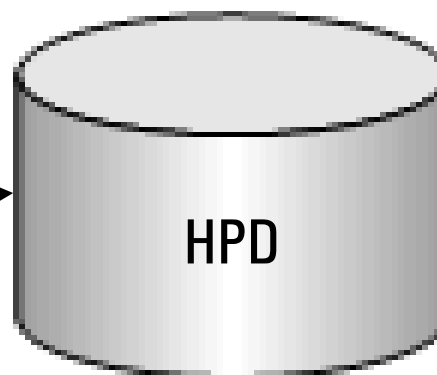
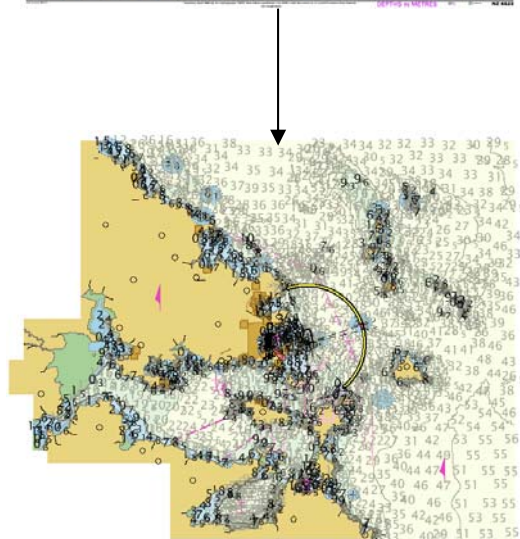
Vector

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What is the database like?



CARIS Hydrographic Production Database

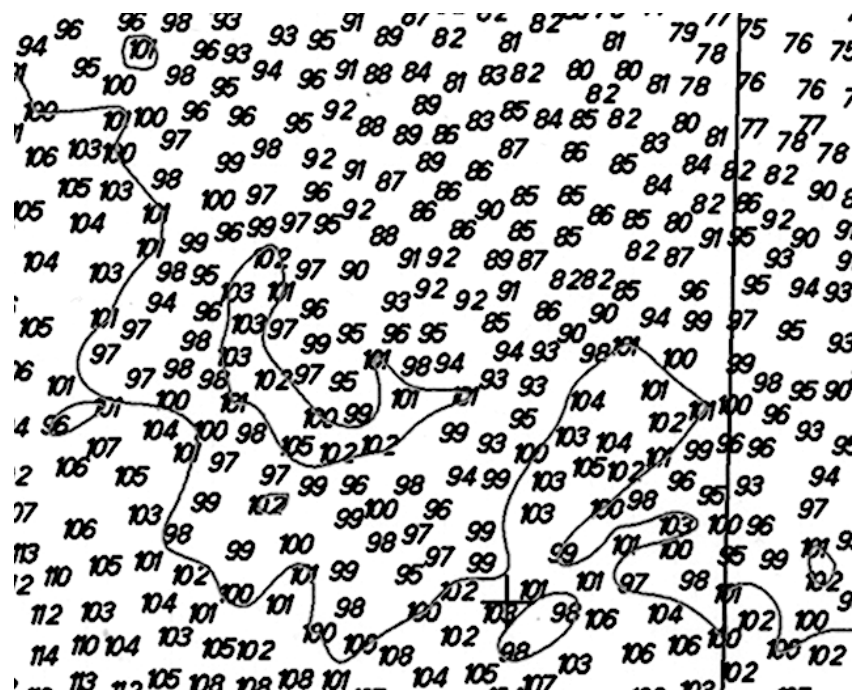


Paper charts

ENCs

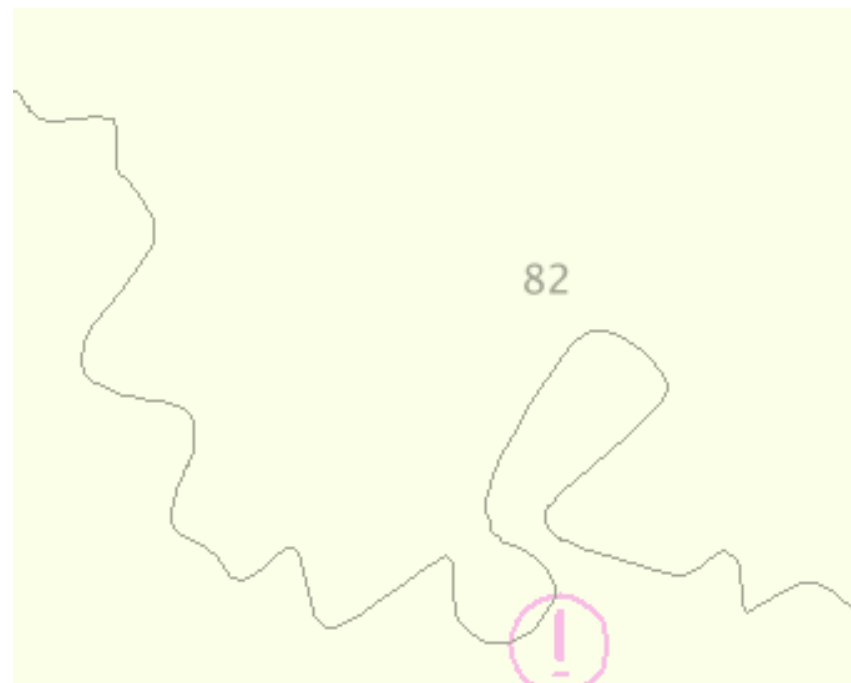
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What is the database like?



Not survey data

Holds chart data



What is the database like?

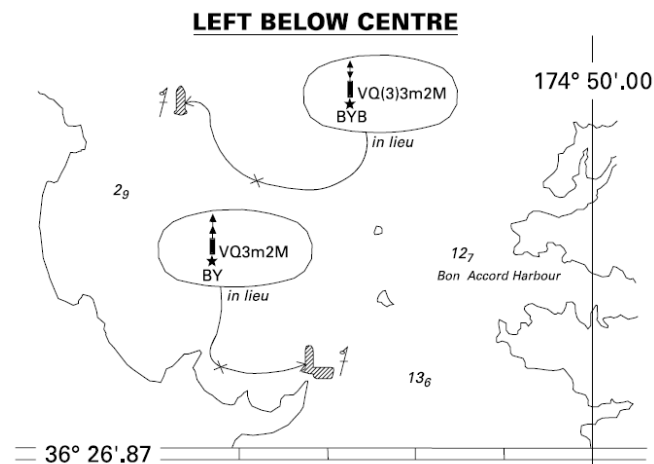
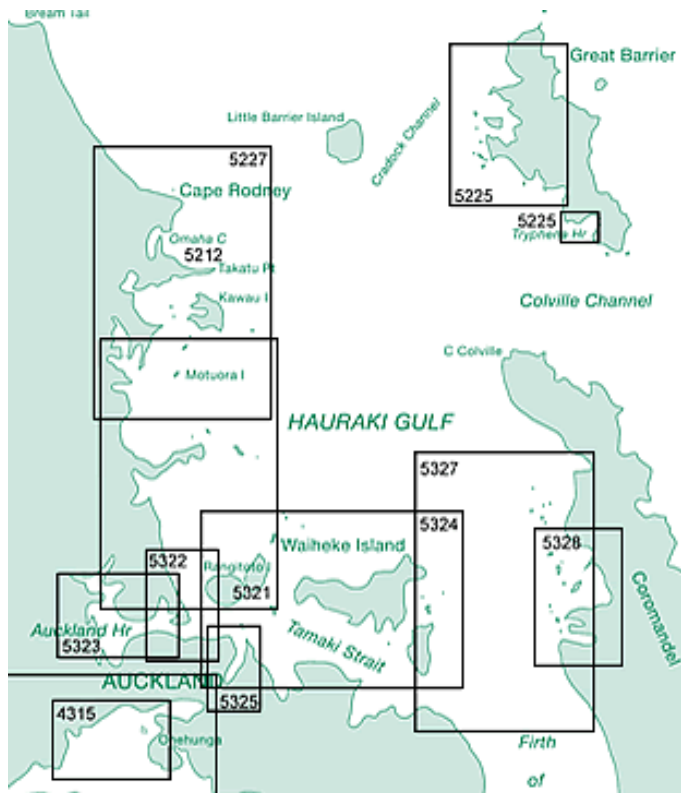
Corrected to NZ Notices to Mariners Fortnightly Edition No 11, dated 29 May 2009

NORTH ISLAND								
Int. No (1)	Location - Name (2)	Lat Long (3)	S E (4)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3686	Cape Maria van Diemen (M)	34 28.7 172 38.7		FI(3)W 20s	91	9	White fibreglass tower 3	<i>fl 1, ec 1) x 2, fl 1, ec 15.</i> Vis 314°-130° (176°) and 146°-206° (60°)
3688	Cape Reinga (Te Rerengawairua) (M)	34 25.7 172 40.6		FI W 12s	165	19	White concrete tower 10	<i>fl 0.1.</i> Vis 000°-011° (11°), 013°- 263° (250°). Reserve light range 10 M
3690	North Cape (Otou) Murimotu Island, Summit (M)	34 24.9 173 03.0		FI W 8s	99	18	White concrete tower 4	<i>fl 0.1.</i> Obscured shore - 135°
PARENGARENGA HARBOUR								
3690.4	Parengarenga Harbour Lt	34 31.4 172 58.1		FI(2)W 5s	47	6	Orange square tower 5	<i>fl 0.3, ec 1, fl 0.3, ec 3.4</i>
HOUHORA HARBOUR								
3690.6	Perpendicular Point (Ruakoura)	34 49.6 173 10.1		FI W 4s	97	6	Square beacon	<i>fl 0.3</i>
3690.7	- Entrance, S side, P1	34 49.7 173 09.3		Q R	3	1	Red □ on beacon	
3690.72	- Ripiripi. P2	34 49.4 173 08.7		Q R	3	1	Red □ on beacon	
3690.74	- S1	34 49.4 173 08.6		Q G	3	1	Green △ on beacon	
3690.76	- S2	34 49.4 173 08.5		Q G	3	1	Green △ on beacon	
3690.77	- S3	34 49.5 173 08.4		Q G	3	1	Green △ on wooden pile	

Produce
lights list

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What is the database like?



Issued as a guide to chart correction. Use in conjunction with the appropriate NZ Notice to Mariners.

LAST CORRECTION	NZ NTM No.	CHART No.
NZ 248/08	NZ 121/09	NZ 522

Produce chart catalogue and NTM tracings

What is the database like?

1:36,000

1:16,000

1:35,000

1:15,000

1:30,000

1:18,000

Paper charts have many different scales

What is the database like?

Subfield	Navigation Purpose	LINZ intermediate scale ranges	LINZ future scale ranges
1	Overview	$\geq 3,000,001$	$\geq 3,000,001$
2	General	800,001 – 3M	800,001 – 3M
3	Coastal	80,001 – 800K	80,001 – 800K
4	Approach	25,001 – 80K	25,001 – 80K
5	Harbour	8,001 – 25K	5,001 – 25K
6	Berthing	$\geq 8K$	$\geq 5K$

ENCs have 6 navigational purposes

What is the database like?

Navigational Purpose = Harbour

4423

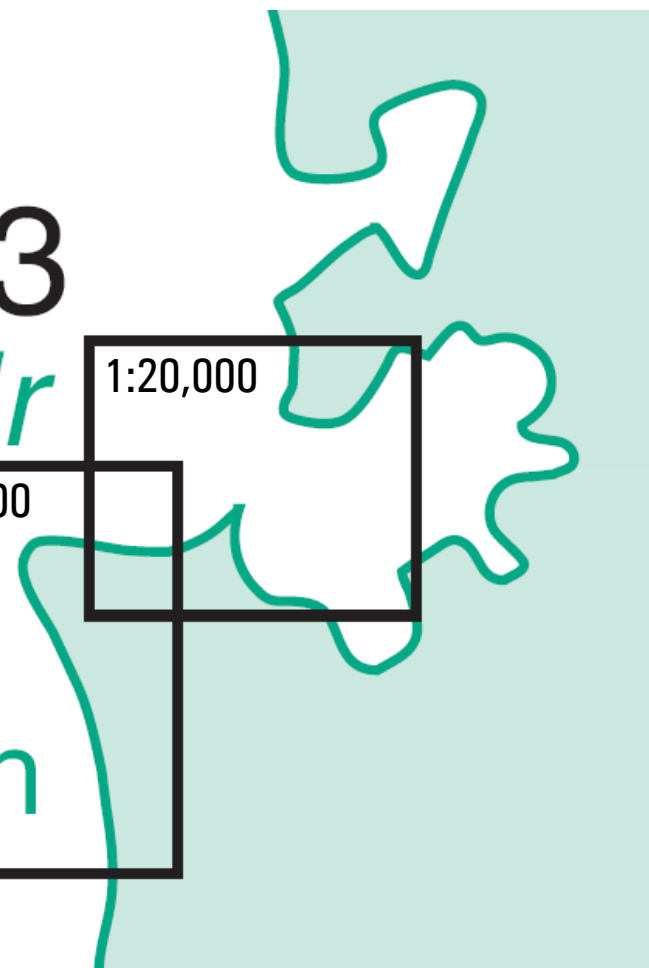
Kawhia Hr

1:20,000

1:25,000

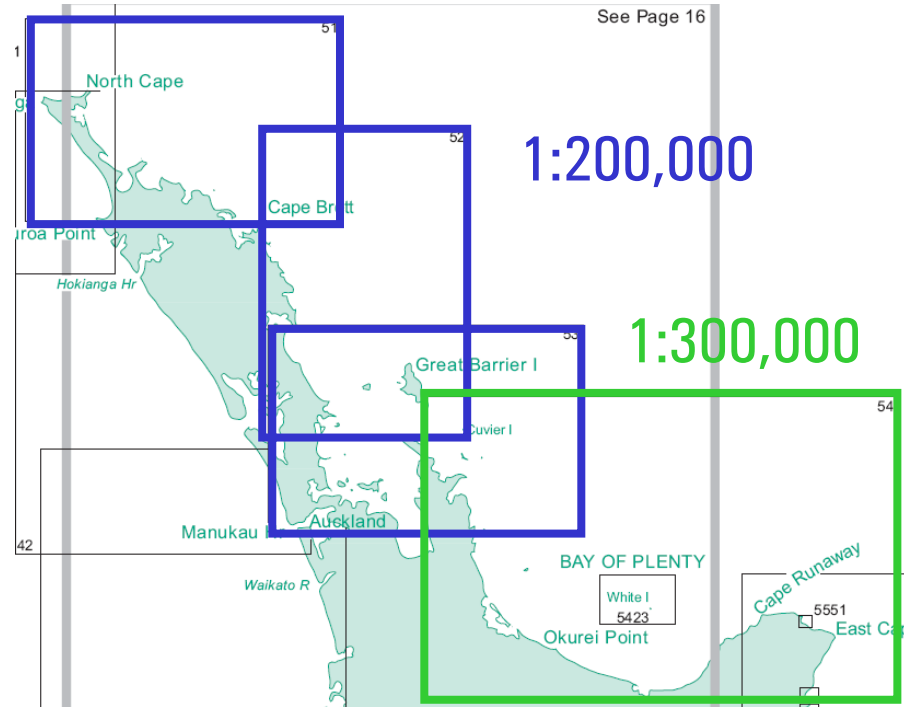
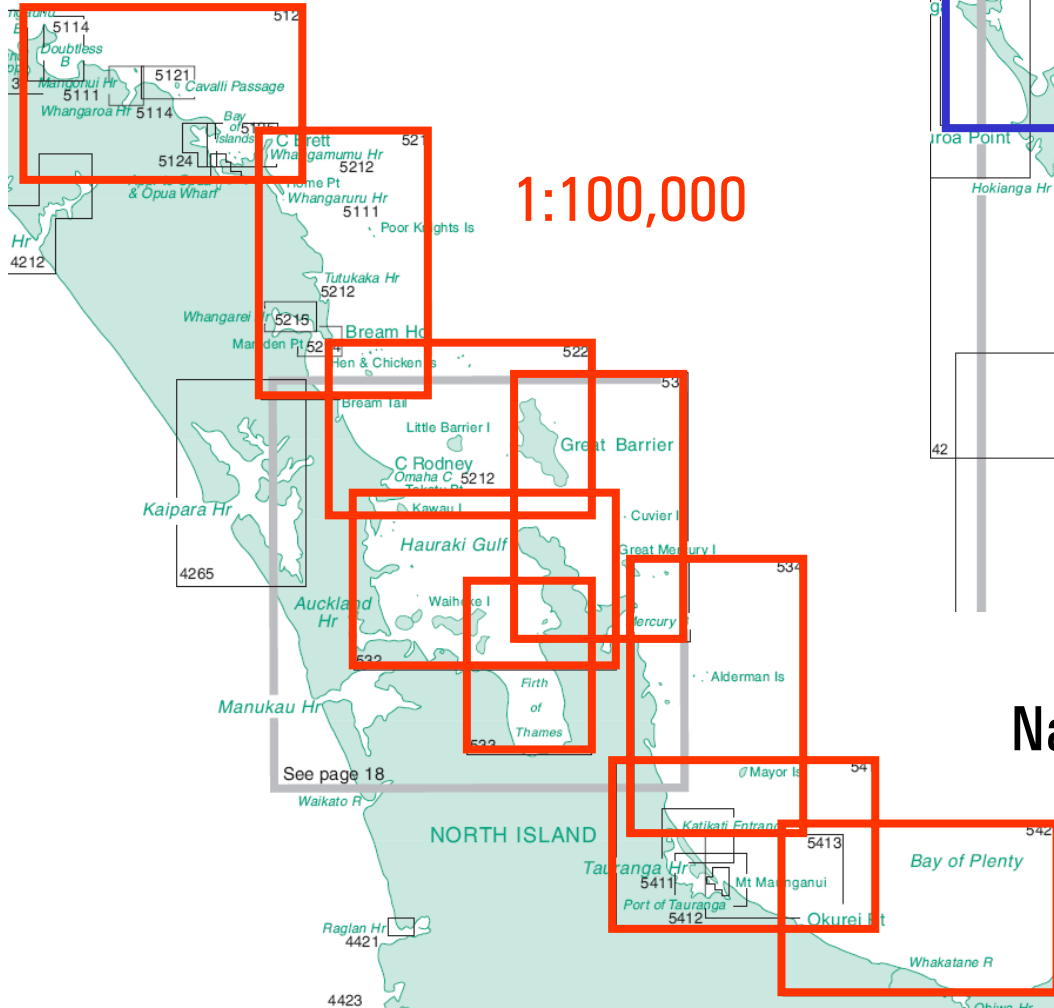
4424

Taharoa Beach



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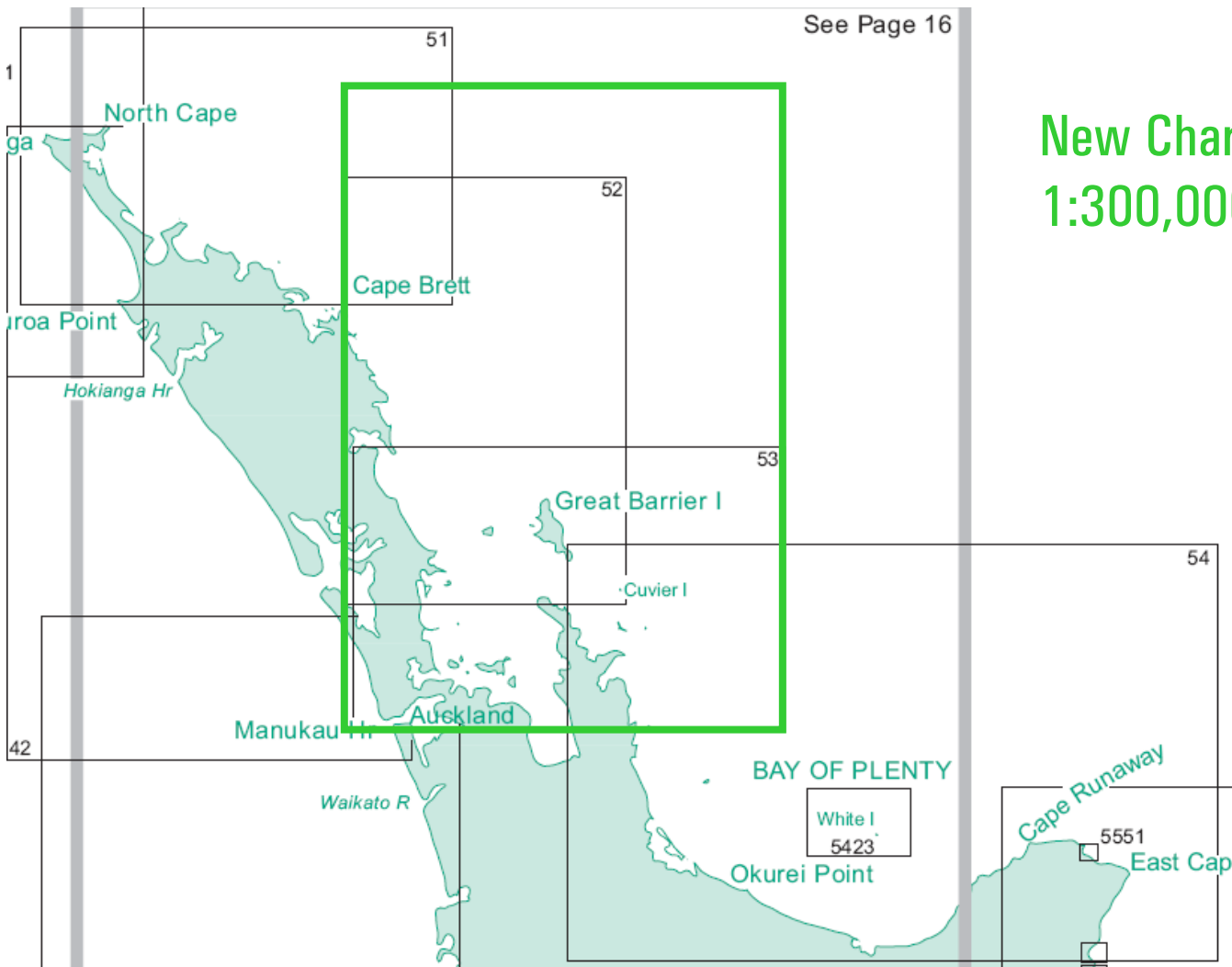
What is the database like?



Navigational Purpose = Coastal

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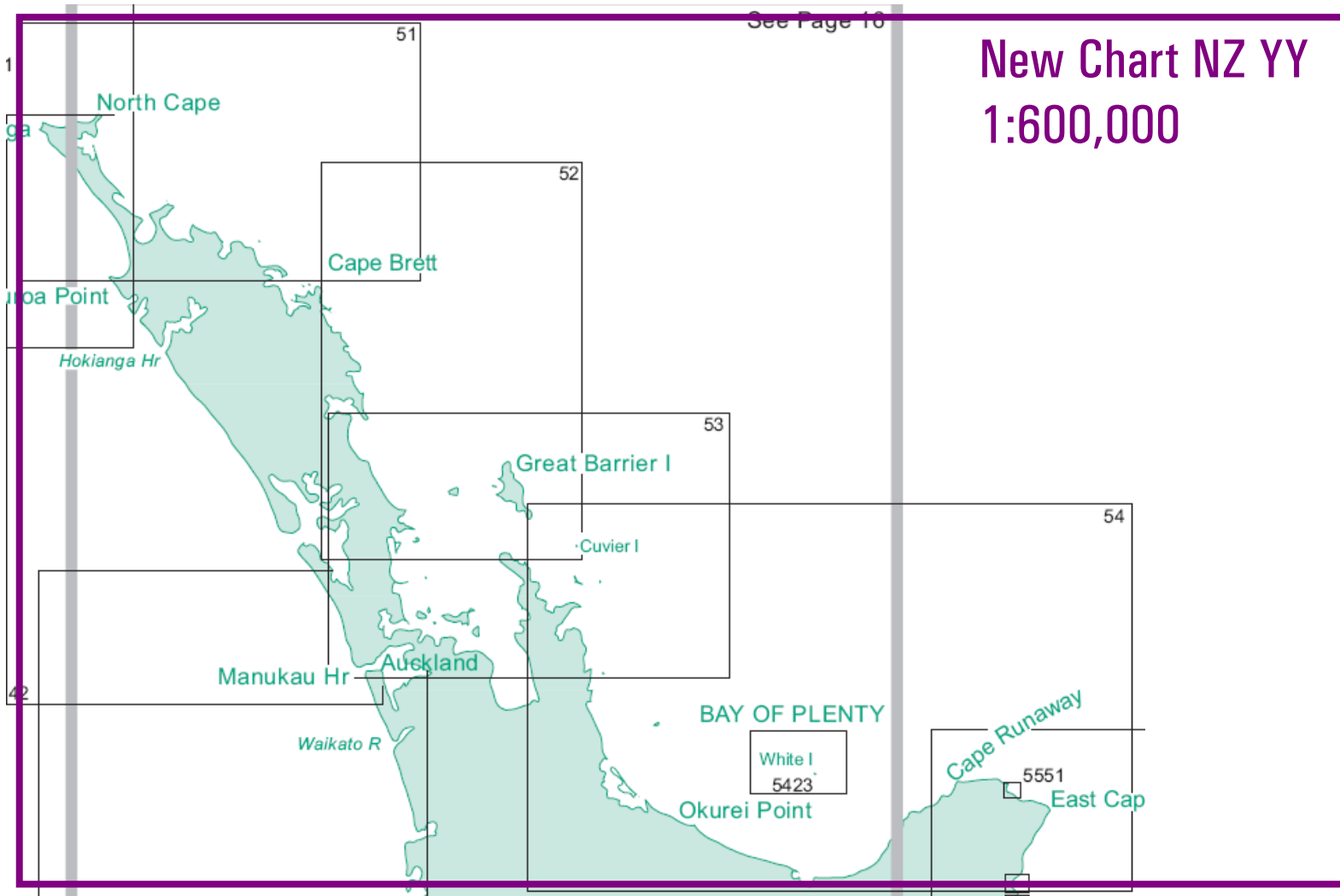
What is the database like?



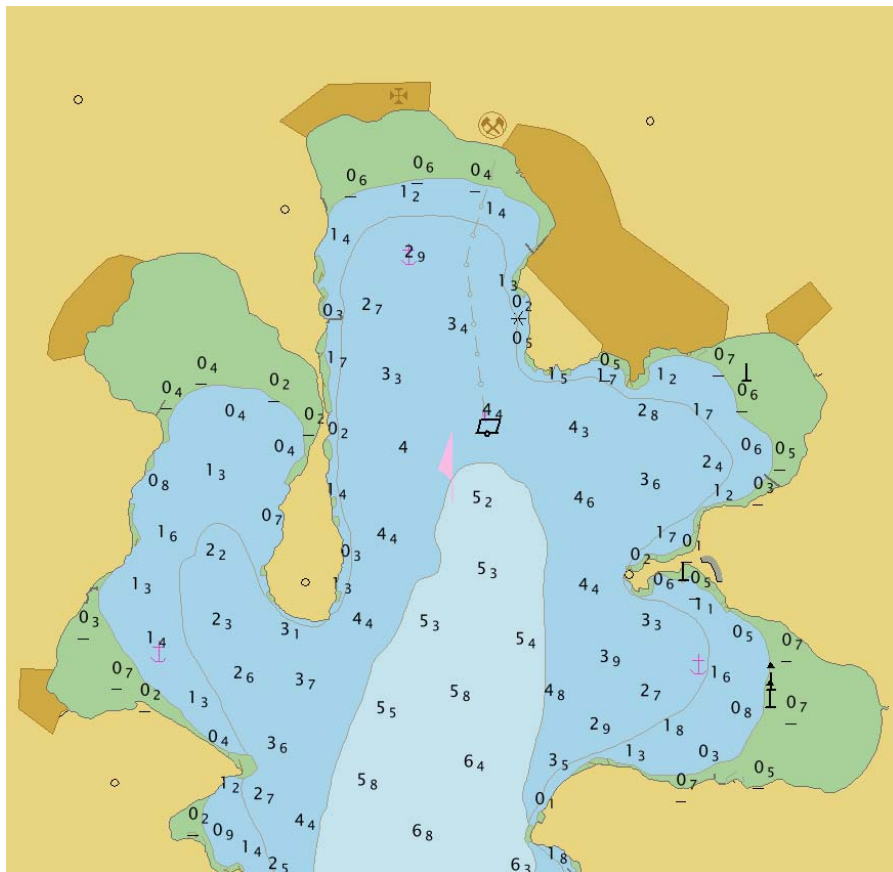
New Chart NZ XX
1:300,000

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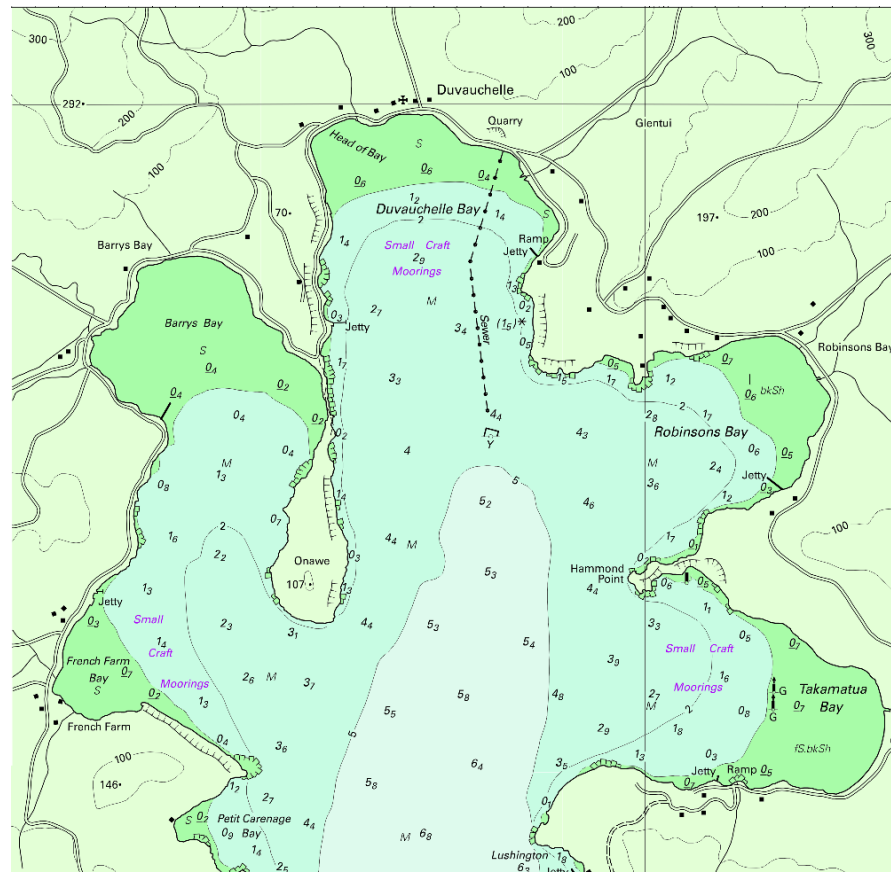
What is the database like?



What is the database like?



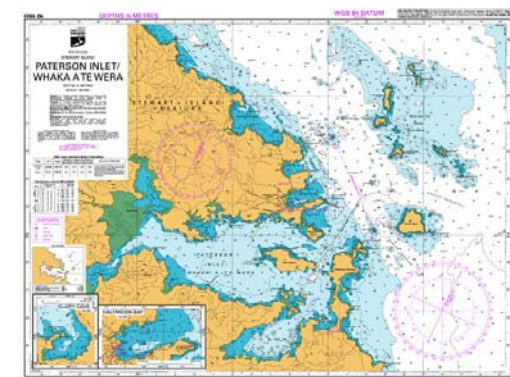
ENCs have minimal land detail



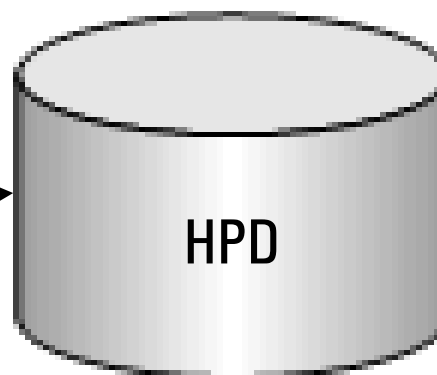
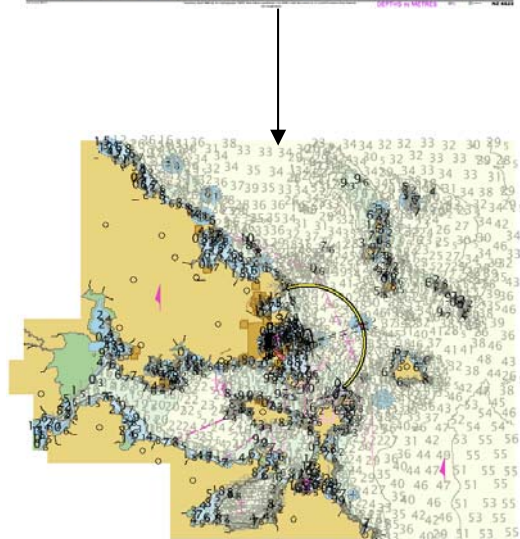
Paper charts have lots of land detail

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What is the database like?



CARIS Hydrographic Production Database



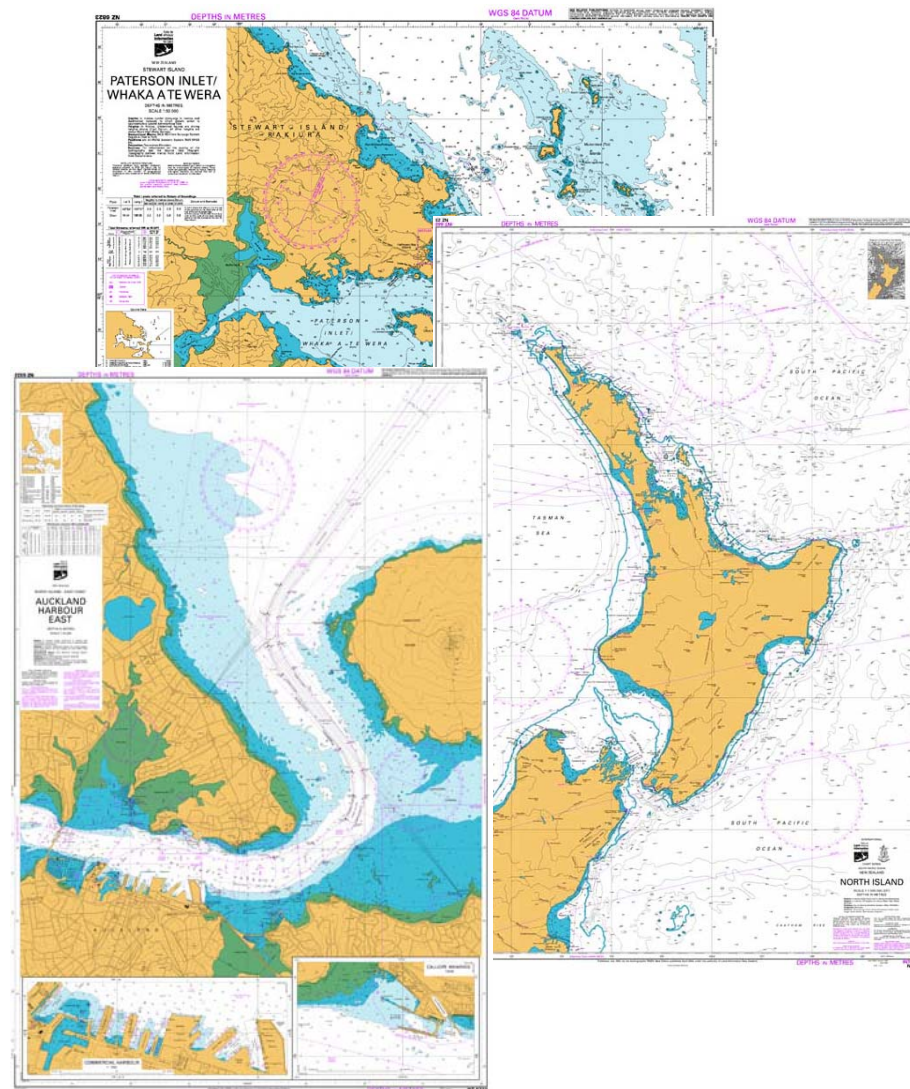
Paper charts

ENCs

What does this mean to charts?

Reviewed all paper charts:

- Rescheme some charts
- Produce and release ENC's
- Produce Berthing ENC's
- Less land detail on paper charts



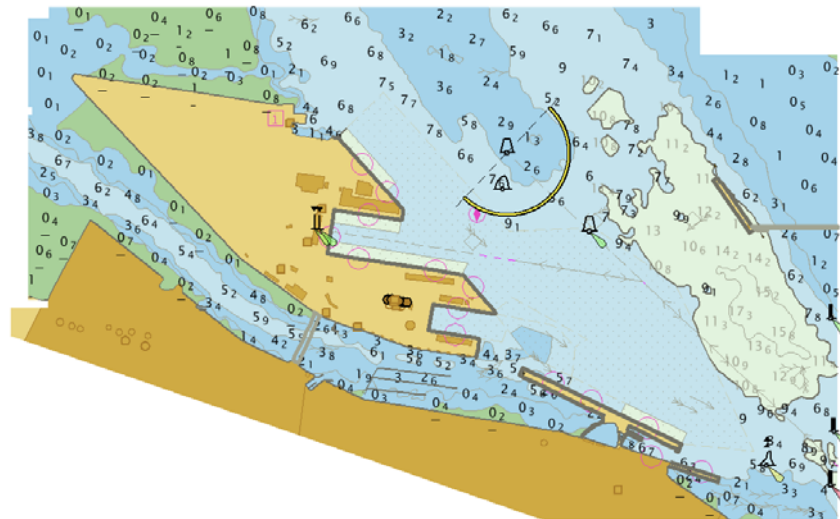
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Toitu te
Land whenua
Information
New Zealand

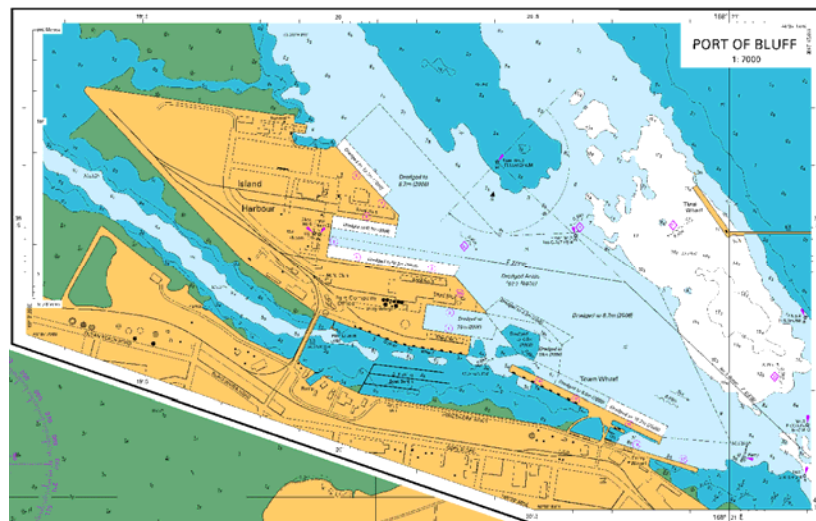


What does this mean to charts?

LINZ focus moves to ENC's



Paper charts will follow

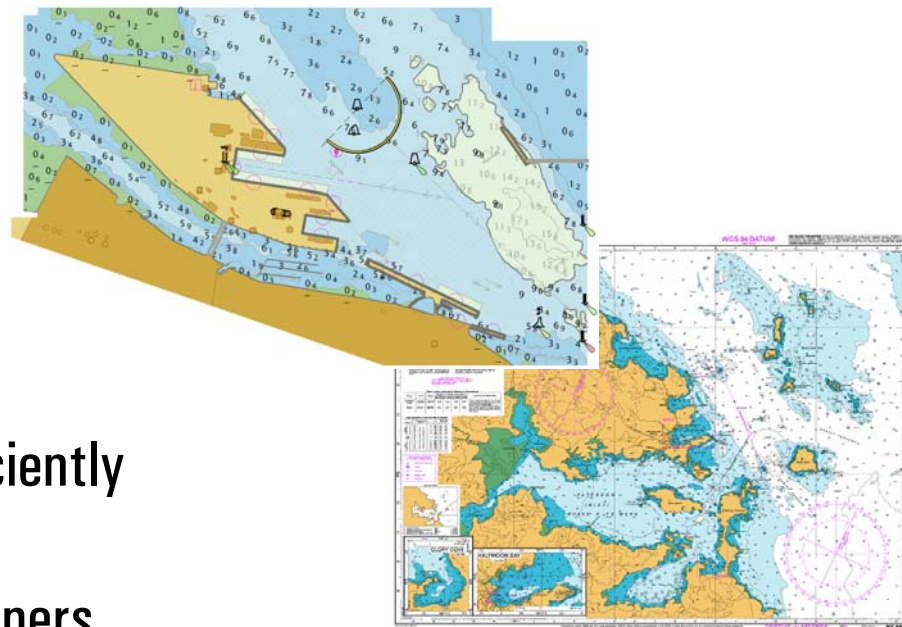


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Summary

LINZ goals:

1. Create paper charts and ENCs efficiently
2. Continue to meet the needs of mariners



**Charts will continue to
meet the needs of
safe navigation
but continue to change**