

10th Hydrographic Commission on Antarctica (HCA) Meeting
 British Antarctic Survey (BAS), Cambridge,
 United Kingdom, 20-22 September 2010

ENC SCHEMES AND PRODUCTION STATUS

IN ANTARCTICA

September 2010

Summary

I. ENC SCHEMES

An ENC scheme for bands 1 “overview” and 2 “general” was agreed in 2007 (HCA Letter 1/2007 refers). An ENC scheme for band 3 was agreed in 2009 (Action 8/13 from HCA8 refers). They are available from the IHO website. They are also at Annexes A and B, respectively.

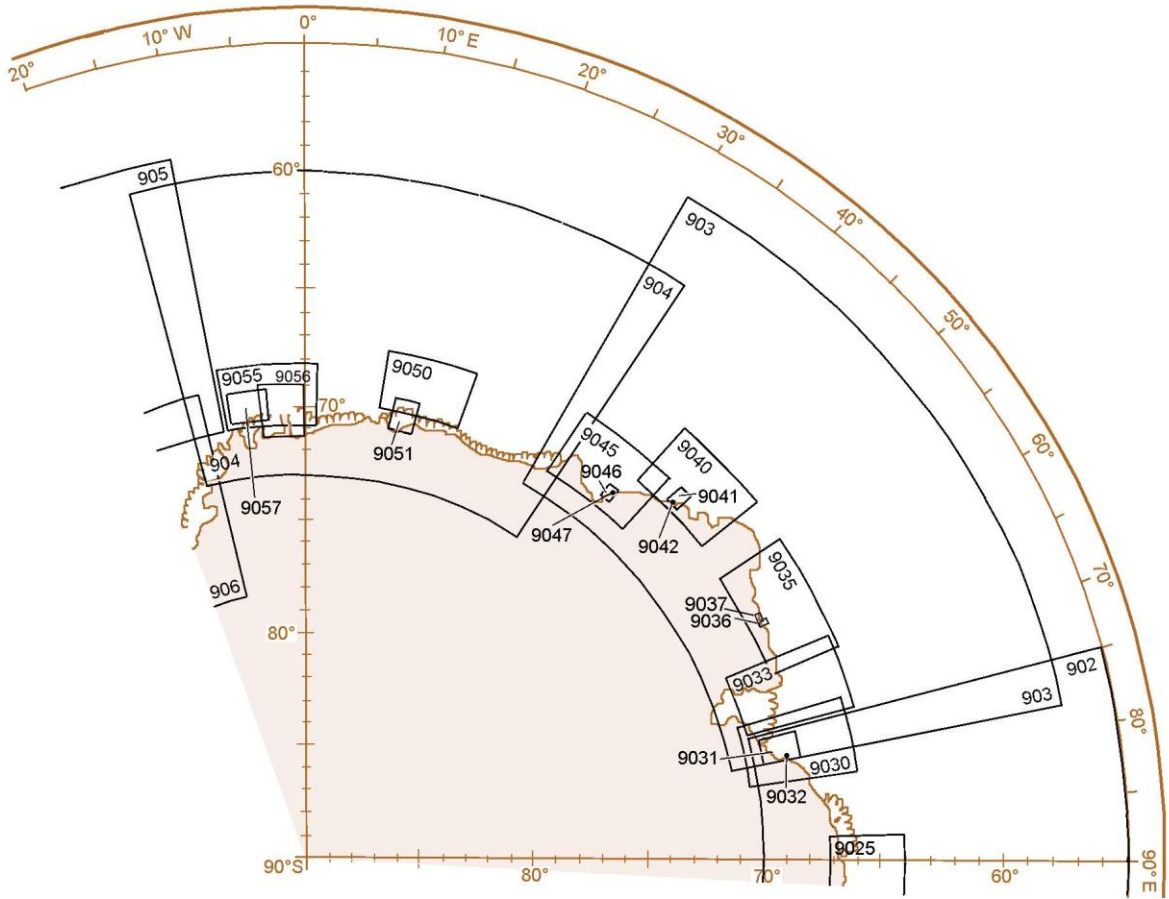
II. ENC PRODUCTION

From the information available at the IHB, 43 ENCs have been published to date, based on various national charts and on 17 INT charts. Those ENCs include 13 “overview”, 2 “general”, 10 “coastal”, 8 “approach”, 9 “harbour” and 1 “berthing”. Current status of ENC production in Antarctica is as follows:

- **Chile**
 - Published:
 - 1 coastal ENC (CL3MA850)
 - 3 “harbour” ENCs based on INT 9102 (CL5MA890), INT 9155 (CL5MA800) and (CL5MA860).
- **UK**
 - Published:
 - 12 “overview” ENCs based on INT 24 (GB104024A and GB104024B), INT 64 (GB104064A and GB104064B), INT 75 (GB104075), INT 65 (GB14065W and GB14065E), INT 63 (GB104063), INT 74 (GB104074), INT 907 (GB104907), and on national charts BA 4213 (GB104213) and BA 3200 (GB103200).
 - 1 “general” ENC based on BA 3593 (GB203593)
 - 4 “coastal” ENCs based on INT 9158 (GB372110), INT 9153 (GB372220), INT 9154 (GB372210) and BA 2010 (GB372010).
 - 4 “approaches” ENCs based on INT 9106 (GB47211A), INT 9109 (GB47201A) and BA 3593 (GB43593A and GB43593B).
 - 2 “harbour” ENCs based on INT 9158 (GB57211A and GB57211B).
 - Planned:
 - 1 “coastal” ENC (GB368506).
- **France**
 - Published:
 - 1 “approaches” ENC based on INT 9016 FR475940).
 - 1 “harbour” ENC based on INT 9017 (FR575930).
 - 1 “berthing” ENC based on INT 9017 (FR67593A).
 - Planned:
 - 1 “overview” ENC based on INT 901 (FR175910).

- “coastal” ENC based on national charts 6741, 6498 and 7171.
- **Norway**
 - Published:
 - 1 “overview” ENC based on INT 904 (NO1A5500).
- **Australia**
 - Published
 - 2 “approaches” ENCs based on INT 9036 (AU468062 and AU468063).
 - 1 “harbour” ENC based on INT 9036 (AU5600P1).
 - Planned 2011 :
 - 4 « overview » ENCs based on INT 74 (AU190060, AU190090, AU190120 and AU190150)
 - 13 « general » ENCs based on INT 9035 (AU270050), INT 9035 & 9033 (AU270060), INT 9033 & 9030 (AU270070), INT 9030 & 9031 (AU270080), INT 9031 (AU270090), AUS 454 (AU270100 and AU270110), and AUS 597 (AU260060, AU260070, AU260080, AU250060, AU250070 and AU250080)
 - 1 « coastal » ENC based on INT 9014 (AU367142).
 - 5 « approach » ENCs based on INT 9021 (AU466110 and AU467110), on INT 9032 (AU468077 and AU469077), and on INT 9014 (AU468142).
 - 2 « harbour » ENCs based on INT 9014 (AU5603P1) and INT 9021 (AU601P1).
- **Italy**
 - Published
 - 2 « coastal » ENCs based on INT 9004 (IT300884) an INT 9005 (IT300881).
 - 1 “harbour” ENC based on INT 9005 (IT400881).
- **Germany**
 - Published
 - 1 “general” ENC based on INT 9055 (DE260001)
 - 1 «coastal» ENC based on INT 9057 (DE3600010).
 - Planned 2011:
 - 1 “overview” ENC based on INT 905.
- **Brazil**
 - Published
 - 1 “coastal” ENC (BR325110)
 - 1 «approach» ENC (BR425121)
 - 1 “harbour” ENC (BR525121)
- **New Zealand**
 - Planned
 - 1 “overview” ENC based on INT 65.
 - 1 “general” ENC based on INT 900.
 - 4 “coastal” ENCs based on INT 9008, INT 9009 and INT 9012.
 - 5 “approach” ENCs based on INT 9001, INT 9003, INT 9006 and INT 9007.
 - 4 “harbour” ENCs based on INT 9002, INT 9003 and INT 9006.
- **South Africa**
 - Produced
 - 1 “coastal” ENC based on INT 9056 (ZA300300)

LAZAREV SEA TO COOPERATION SEA (20°W – 90°E)



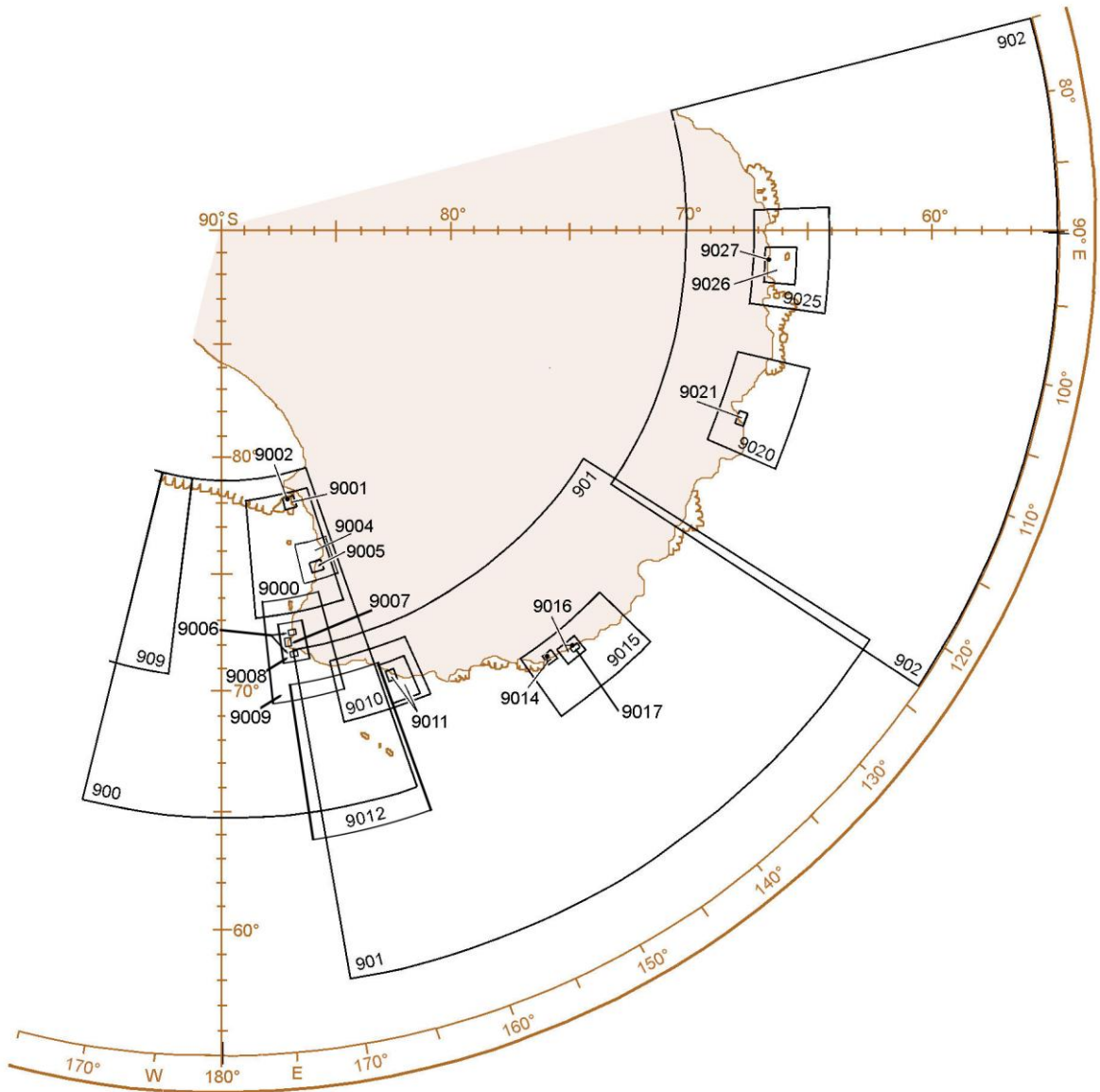
LAZAREV SEA TO COOPERATION SEA (20°W – 90°E)

INT No.	Scale 1:	Latest Edition	INT Producer	ENC available ?	ENC Producer	Edition Date	ENC Number
903	2 000 000	2001	RU	NO			
904	2 000 000	2002	NO	YES	NO	2008	NO1A5500
9030	500 000	1992	AU	Proj.	AU	2011	AU270080
9031	500 000	2002	AU	Proj.	AU	2011	AU270080 AU270090
9032	12 500	2003	AU	Proj.	AU	2011	AU468077 AU469077
9033	500 000	1991	AU	Proj.	AU	2011	AU270060 AU270070
9035	500 000	1993	AU	Proj.	AU	2011	AU270150 AU2700601
9036	25 000	1987	AU	YES	AU	2008	AU468062 AU468063 AU5600P1
9037	25 000	Proj, 2007	AU	NO			
9040	500 000	2000	RU	NO			
9041	100 000	1999	RU	NO			
9042	12 500	1999	RU	NO			
9045	500 000		JP	NO			
9046	100 000		JP	NO			
9047	10 000		JP	NO			
9050	500 000	1999	RU	NO			
9051	200 000	1998	RU	NO			
9055	500 000	2009	DE	YES	DE	2009	DE260001
9056	300 000	2005	ZA	YES	ZA	2010	ZA300300
9057	200 000	2009	DE	YES	DE	2009	DE3600010

DAVIES SEA TO ROSS SEA (75°E – 165°W)

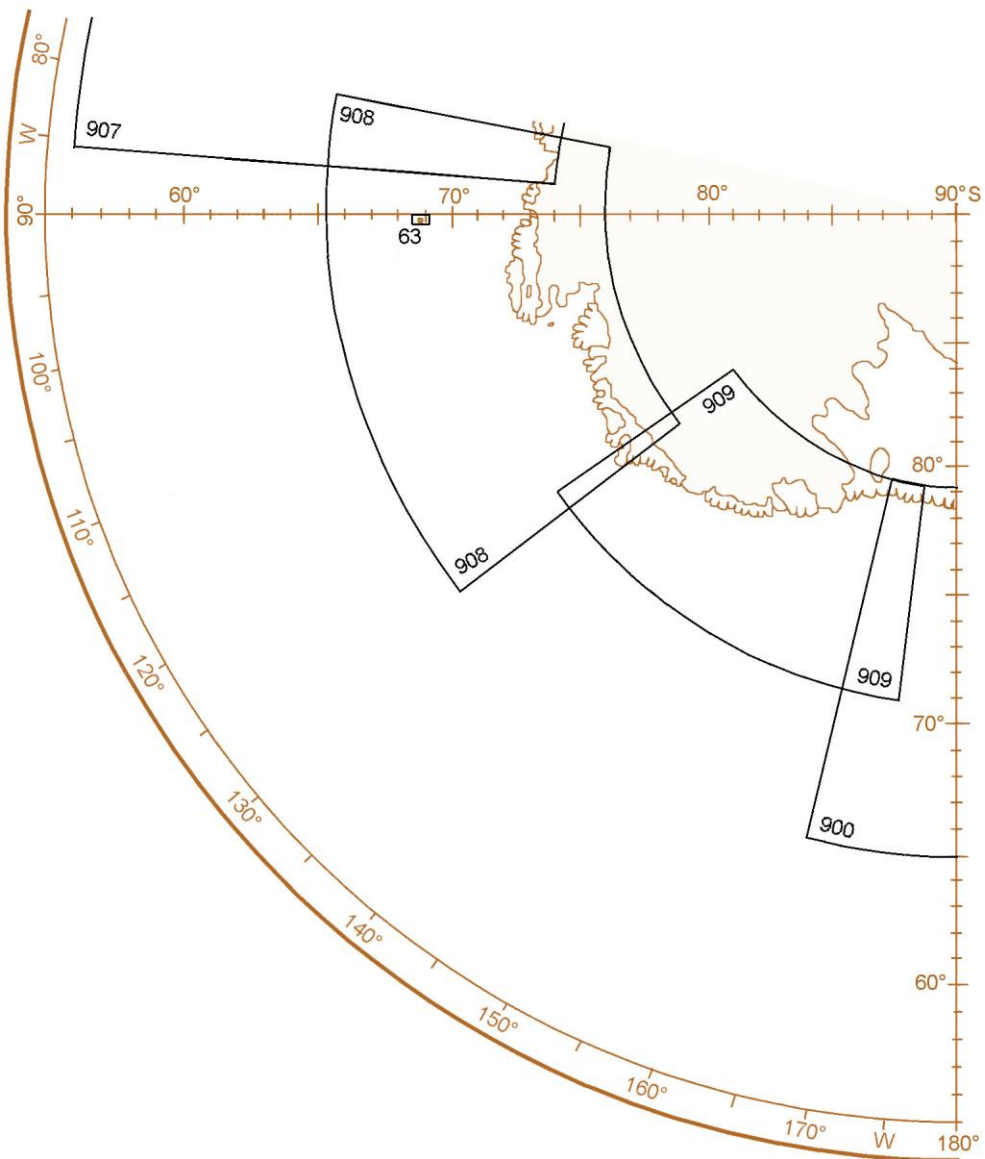
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900	2 000 000	1998	NZ	Proj.	NZ		
901	2 000 000	2006	FR	Proj.	FR		FR175910
902	2 000 000	2000	RU	NO			
9000	500 000		IT	NO			
9001	50 000	2007	NZ	Proj.	NZ		
9002	5 000	2007	NZ	Proj.	NZ		
9003	75 000	2008	NZ	Proj.	NZ		
9004	250 000	2007	IT	YES	IT	2007	IT300884
9005	50 000	2000	IT	YES	IT	2007	IT300881 IT400881
9006	50 000	2003	NZ	Proj.	NZ		
9007	60 000	2003	NZ	Proj.	NZ		
9008	200 000	2003	NZ	Proj.	NZ		
9009	500 000	2004	NZ	Proj.	NZ		
9010	500 000	2000	RU	NO			
9011	200 000	2000	RU	NO			
9012	750 000	2006	NZ	Proj.	NZ		
9014	25 000	2002	AU	Proj.	AU	2011	AU367142 AU468142 AU5603P1
9015	500 000	2004	FR	NO			
9016	100 000	2004	FR	YES	FR	2008	FR475940
9017	20 000	2002	FR	YES	FR	2008	FR575930 FR67593A
9020	500 000	1998	AU	NO	AU		AU270153
9021	50 000	1999	AU	Proj.	AU	2011	AU466110 AU467110 AU601P1
9025	500 000	1999	RU	NO			
9026	200 000	1999	RU	NO			
9027	10 000	1999	RU	NO			

DAVIES SEA TO ROSS SEA (75°E – 165°W)



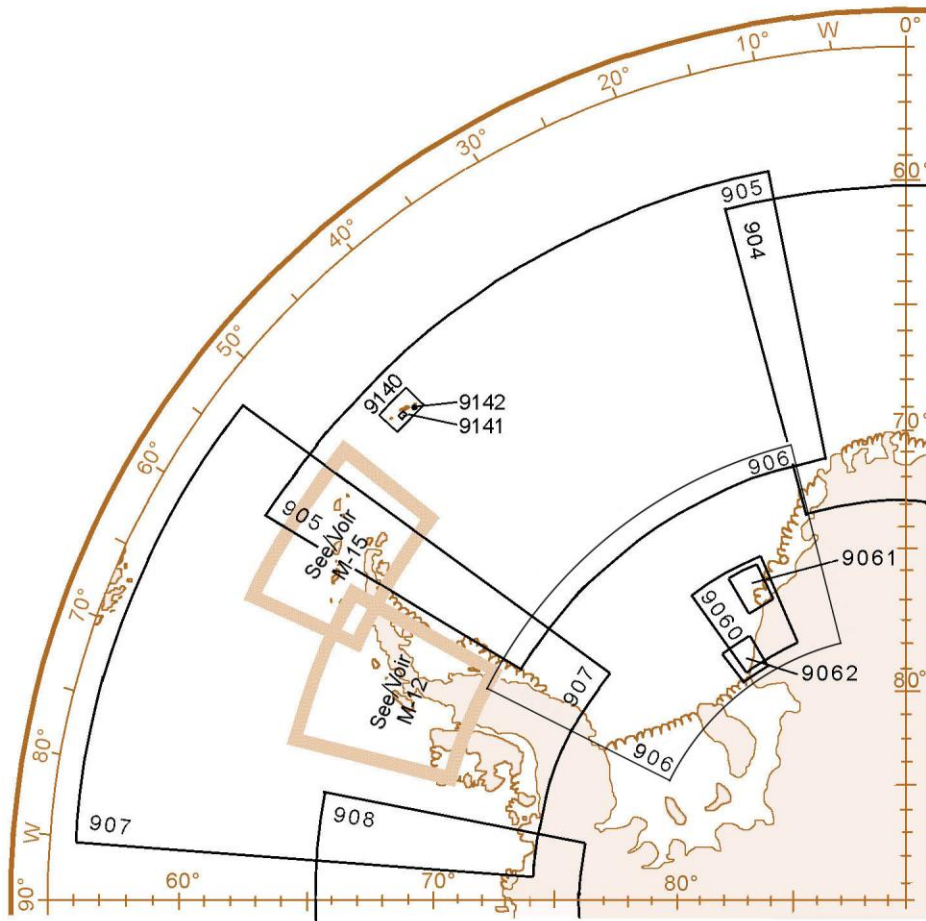
ROSS SEA TO BELLINGSHAUSEN SEA (180°W – 80°W)

INT No.	Scale 1:	Latest Edition	INT Producer	ENC Available ?	ENC Producer	Edition Date	ENC Number
908	2 000 000		GB	NO			
909	2 000 000		NO	NO			



BELLINGSHAUSEN SEA TO WEDDELL SEA (90°W – 0°W)

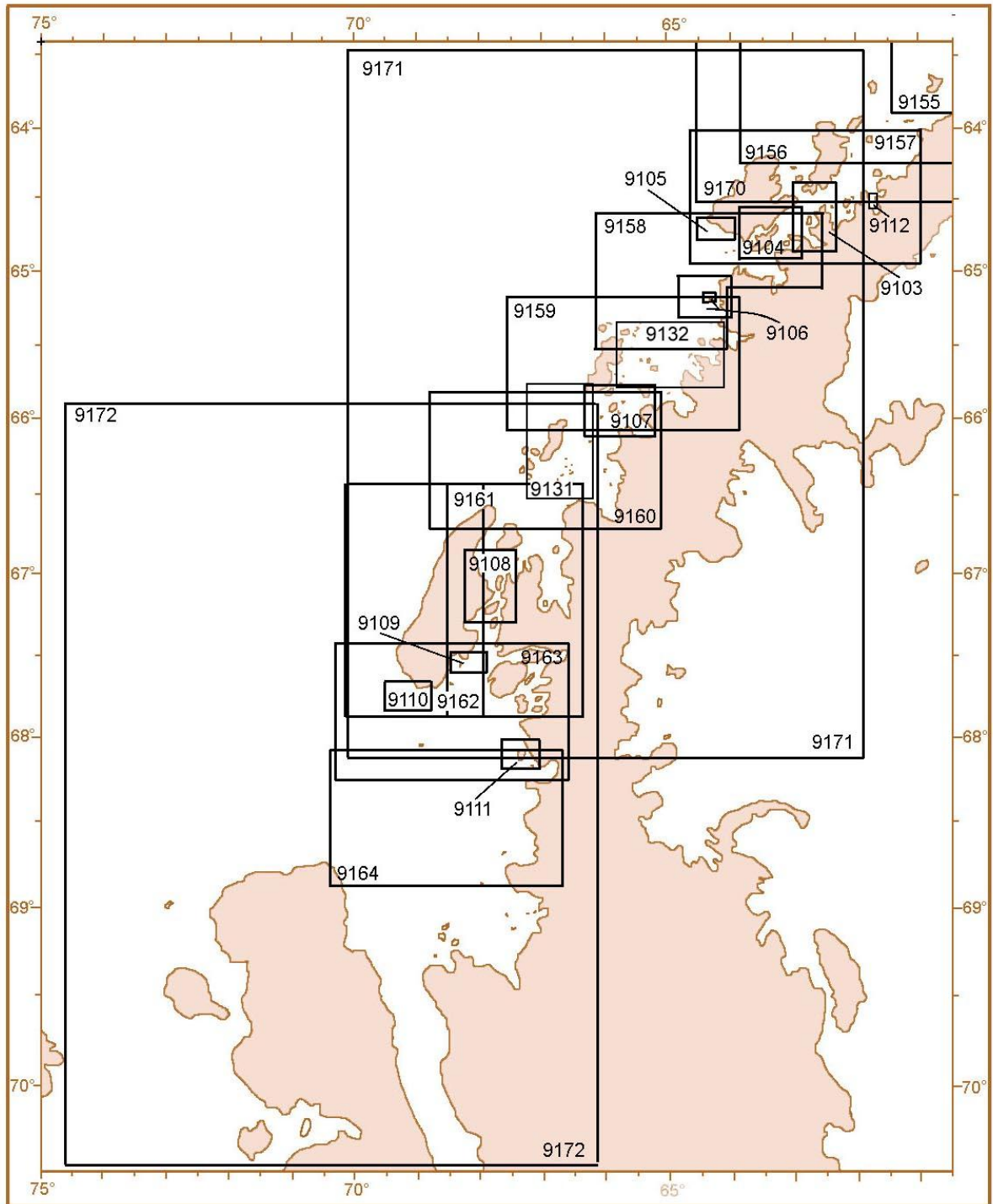
INT No.	Scale 1:	Latest Edition	INT Producer	ENC Available ?	ENC Producer	Edition Date	ENC Number
905	2 000 000		DE	Proj.	DE	2011	
906	2 000 000	2005	GB	NO			
907	2 000 000	2000	GB	YES	GB	2008	GB104907
9060	500 000	2000	RU	NO			
9061	200 000	2005	GB	NO			
9062	200 000		???	NO			
9140	150 000		AR	NO			
9141	50 000	2006	GB	NO			
9142	10 000	2006	AR	NO			



ANTARCTIC PENINSULA, GRAHAM LAND – PALMER LAND

INT No.	Scale 1:	Latest Edition	INT Producer	ENC Available ?	ENC Producer	Edition Date	ENC Number
9103	50 000		CL	NO			
9104	50 000		CL	NO			
9105	25 000		???	NO			
9106	60 000	1996	GB	YES	GB		GB47211A
9107	50 000		GB	NO			
9108	50 000		CL	NO			
9109	25 000	1999	GB	YES	GB		GB47201A
9110	30 000		CL	NO			
9111	25 000		AR	NO			
9131	75 000		GB ?	NO			
9132	75 000		GB ?	NO			
9157	150 000		CL	NO			
9158	150 000	2003	GB	YES	GB		GB372110 GB57211A GB57211B
9159	150 000	Proj. 2009	GB	NO			
9160	150 000	Proj. 2009	GB	NO			
9161	150 000		CL	NO			
9162	150 000		CL	NO			
9163	150 000	Proj. 2008	GB	NO			
9164	150 000		CL	NO			
9171	500 000		GB	NO			
9172	500 000	1999	RU	NO			

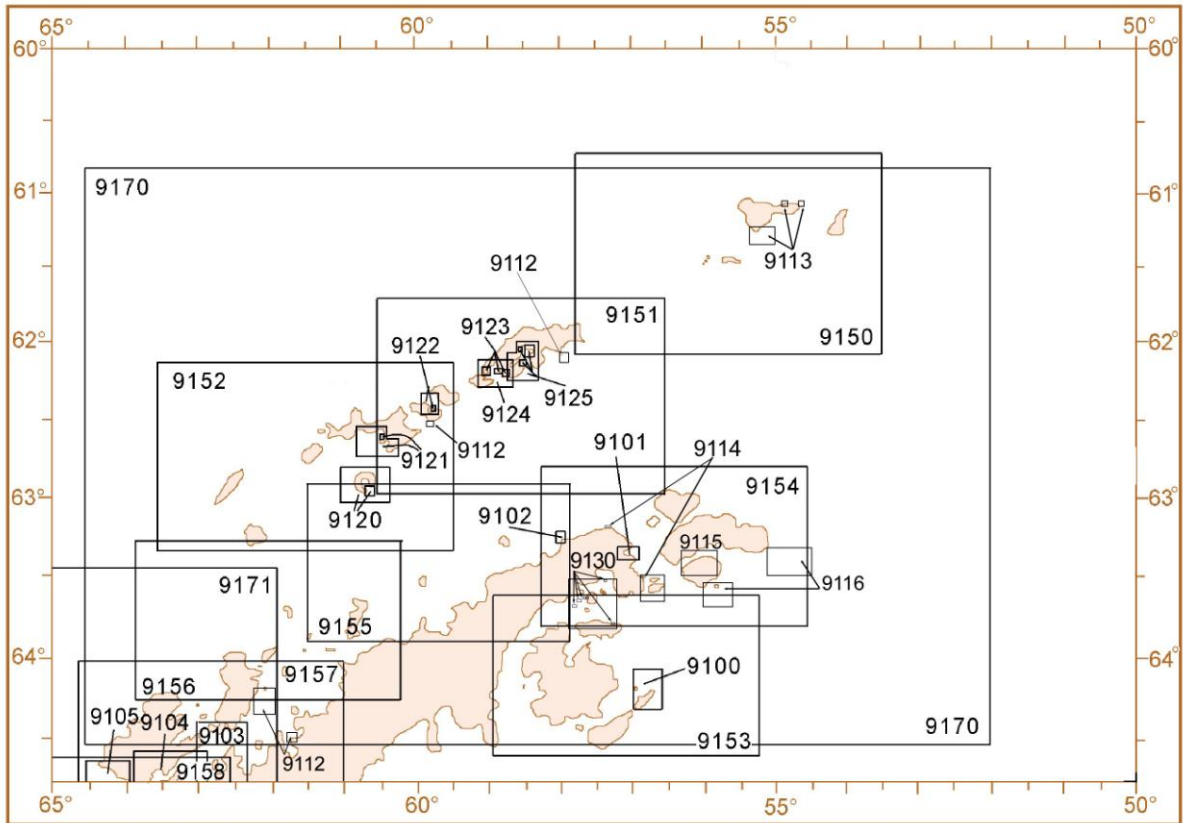
ANTARCTIC PENINSULA, GRAHAM LAND – PALMER LAND



ANTARCTIC PENINSULA, GRAHAM LAND – SOUTH SHETLANDS ISLANDS

INT No.	Scale 1:	Latest Edition	INT Producer	ENC available ?	ENC Producer	Edition Date	ENC Number
9100	25 000		AR	NO			
9101	10 000		AR	NO			
9102	10 000	2003	CL	YES	CL	2004	CL5MA890
9112	Various		GB	NO			
9113	Various		GB	NO			
9114	Various		???	NO			
9115	50 000		AR	NO			
9116	Various		GB ?	NO			
9120	50 000	2006	AR	NO			
9121	35 000	1998	ES	NO			
9122	20 000	1998	CL	NO			
9123	10 000	Proj. 2007?	CL	NO			
9124	25 000		CL	NO			
9125	40 000	Proj. 2010	BR & PE	NO			
9126	40 000			NO			
9127	40 000			NO			
9130	75 000		GB ?	NO			
9150	200 000	1999	BR	NO			
9153	150 000	2004	GB & AR	YES	GB		GB372220
9154	150 000	2002	GB & AR	YES	GB		GB372210
9155	150 000	2003	CL	YES	CL	2003	CL3MA800
9156	150 000	Proj. 2007?	AR	NO			
9170	500 000	1997	AR	NO			

ANTARCTIC PENINSULA, GRAHAM LAND – SOUTH SHETLANDS ISLANDS



ENC SCHEME FOR SMALL-SCALES IN ANTARCTICA
(Coordinator: IHB)

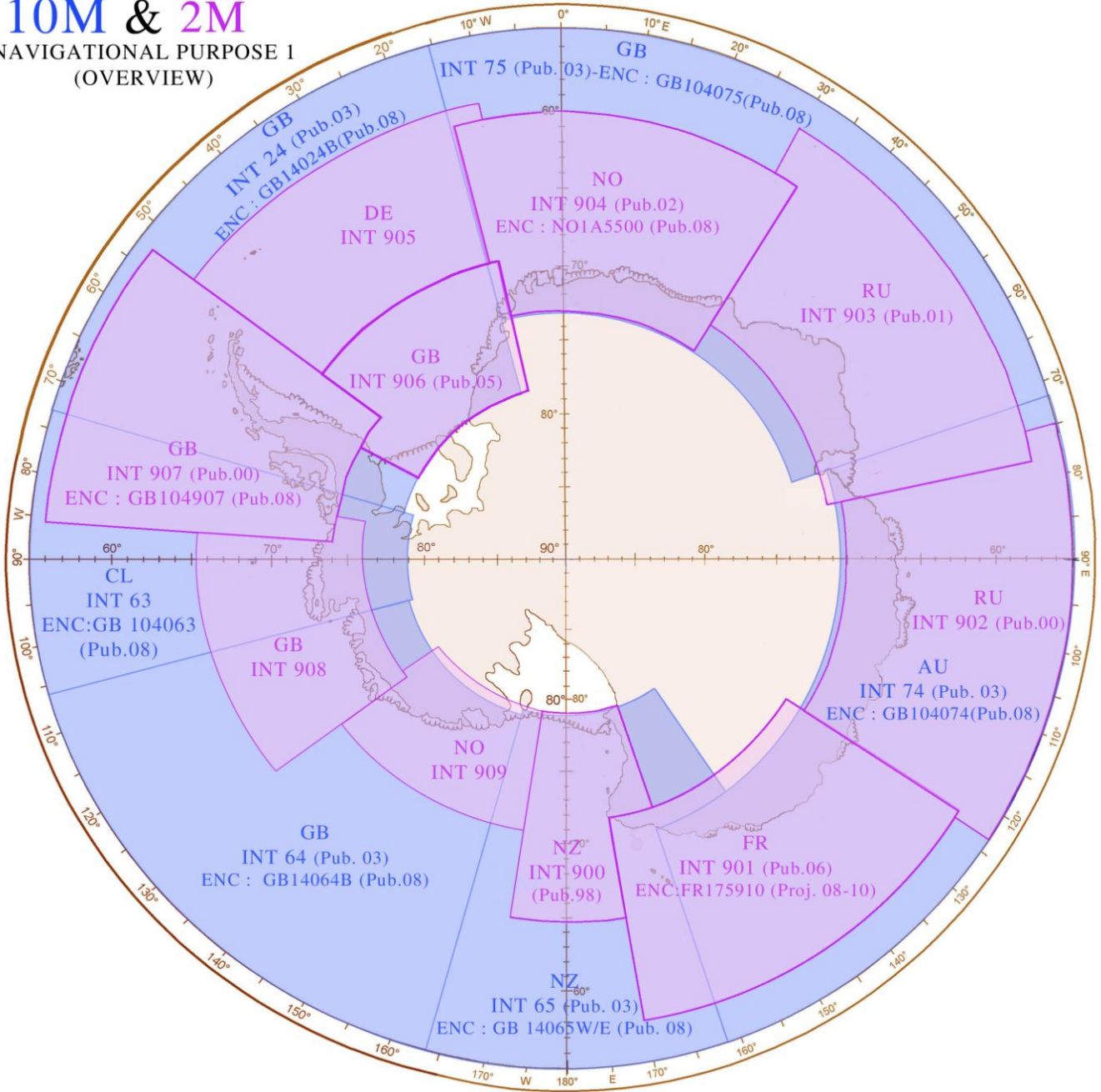
HCA Letter 1/2007 circulated a draft ENC scheme for small scales in Antarctica, for navigational purposes 1 (overview) and 2 (general), in accordance with Action no. 5 from the 6th HCA meeting.

No objection was expressed by HCA members; no change was suggested. Support was expressed by France, Norway and Spain.

The proposed ENC scheme (reproduced hereafter) is therefore adopted, including that an ENC producer HO will be that of the INT chart on which the ENC is based. HCA Member States are invited to follow this scheme when producing a small scale ENC (“overview” and “general”).

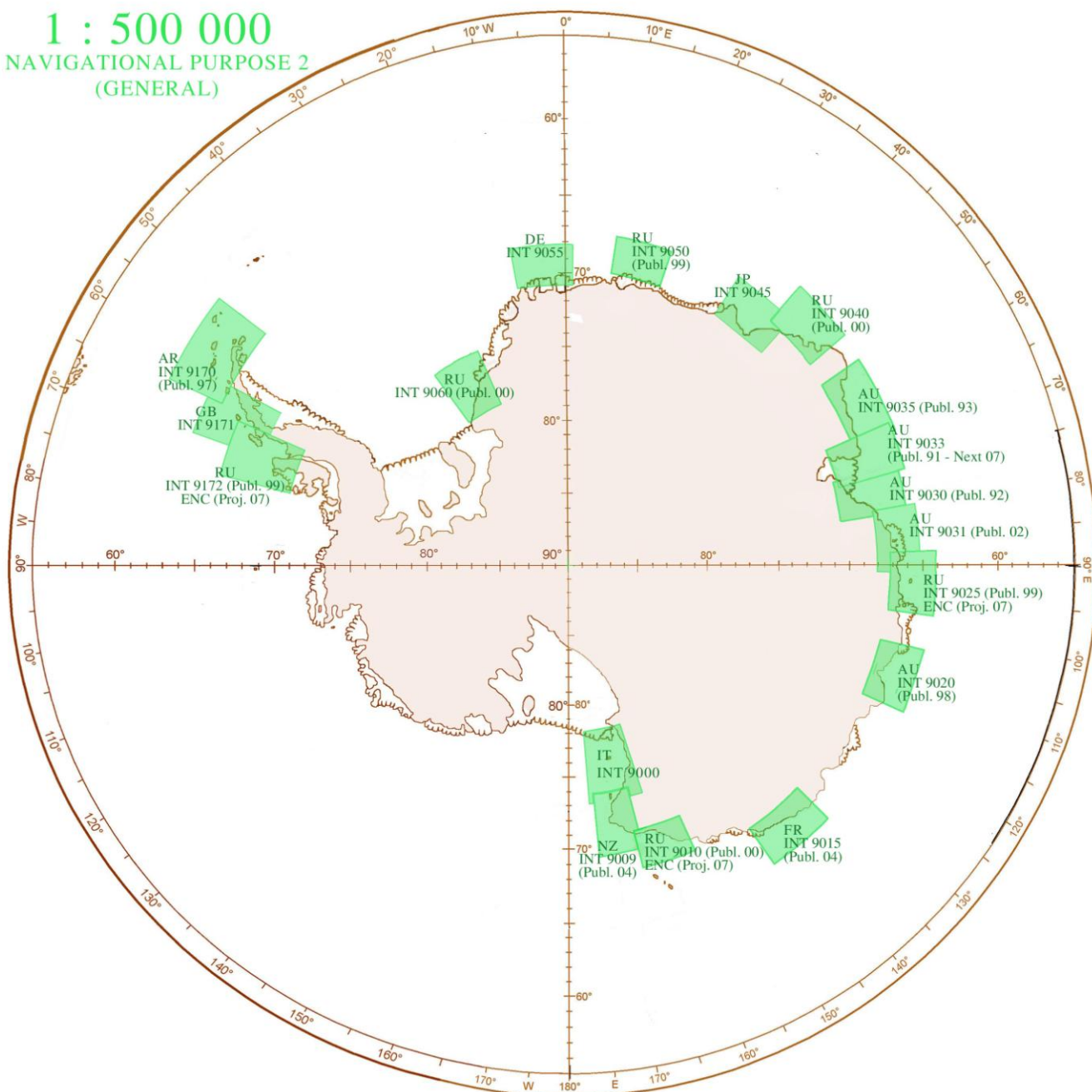
REGION M
ENC SCHEME FOR NAVIGATIONAL PURPOSE 1 (OVERVIEW)
Based on the 1: 10M and 1: 2M (Region M) INT Chart Series

10M & 2M
NAVIGATIONAL PURPOSE 1
(OVERVIEW)



REGION M
ENC SCHEME FOR NAVIGATIONAL PURPOSE 2 (GENERAL)
Based on the 1: 500K INT Chart Series

1 : 500 000
NAVIGATIONAL PURPOSE 2
(GENERAL)



**ENC SCHEME FOR MEDIUM-SCALES IN ANTARCTICA
(Coastal Navigation: Navigational Purpose 3)**

A draft ENC scheme was prepared at the IHB for Navigational Purpose 3 (Coastal Navigation), based on the IHO INT chart scheme at scales 1: 100K to 1: 300K. It is reproduced hereafter.

In preparing this draft, the followings were taken into consideration:

1. WEND Principle 2.4, which reads: *“The INT chart system is a useful basis for initial area selection for producing ENC’s”* (see IHO TR K2.19).
2. The approaches adopted in MBSHC and EAtHC areas to develop ENC schemes for Regions ‘F’ and ‘G’, under France’s coordination.
3. The recommended assignment of navigational purposes to scale ranges, as contained in IHO CL 47/2004, Annex A, § 3.
4. Section 2.2 (Cells) of the ENC Product Specification (Appendix B.1 of S-57 Ed. 3.1), where it is said: *“Cells with the same navigational purpose may overlap. However, data within the cells must not overlap. Therefore, in the area of overlap only one cell may contain data, all other cells must have a meta object M_COVR with CATCOV = 2¹ covering the overlap area. This rule applies even if several producers are involved”*.
5. Priorities to resolve ENC cell overlaps, as given below by decreasing order:
 - ENC cell already published.
 - ENC cell which publication is planned for the coming year(s).
 - ENC cell based on the larger scale INT chart within navigational purpose 3, in case of overlapping INT charts.
 - INT chart already published (latest edition date determines overlapping priority).
 - INT chart not yet published.
 - INT chart with no assigned producing HO yet.

It was proposed that the producer of an ENC be the same as that of the corresponding INT chart. Also, limits of the proposed ENC cells would be the same as those for the corresponding INT charts, as shown in Publication M-11 (see www.iho.int > Standards & Publications).

This draft (Doc. HCA8-07.2B) was presented to the 8th HCA Meeting (Niteroi, RJ, Brazil, Oct. 08). HCA Members were to review the proposed medium scale ENC scheme and provide any comments to the IHB before 15 January 2009 (Action 8/13 refers). No comment was subsequently received at the IHB and the proposal is therefore adopted. HCA Member States are invited to follow this scheme when producing medium scale ENC’s (“coastal”).

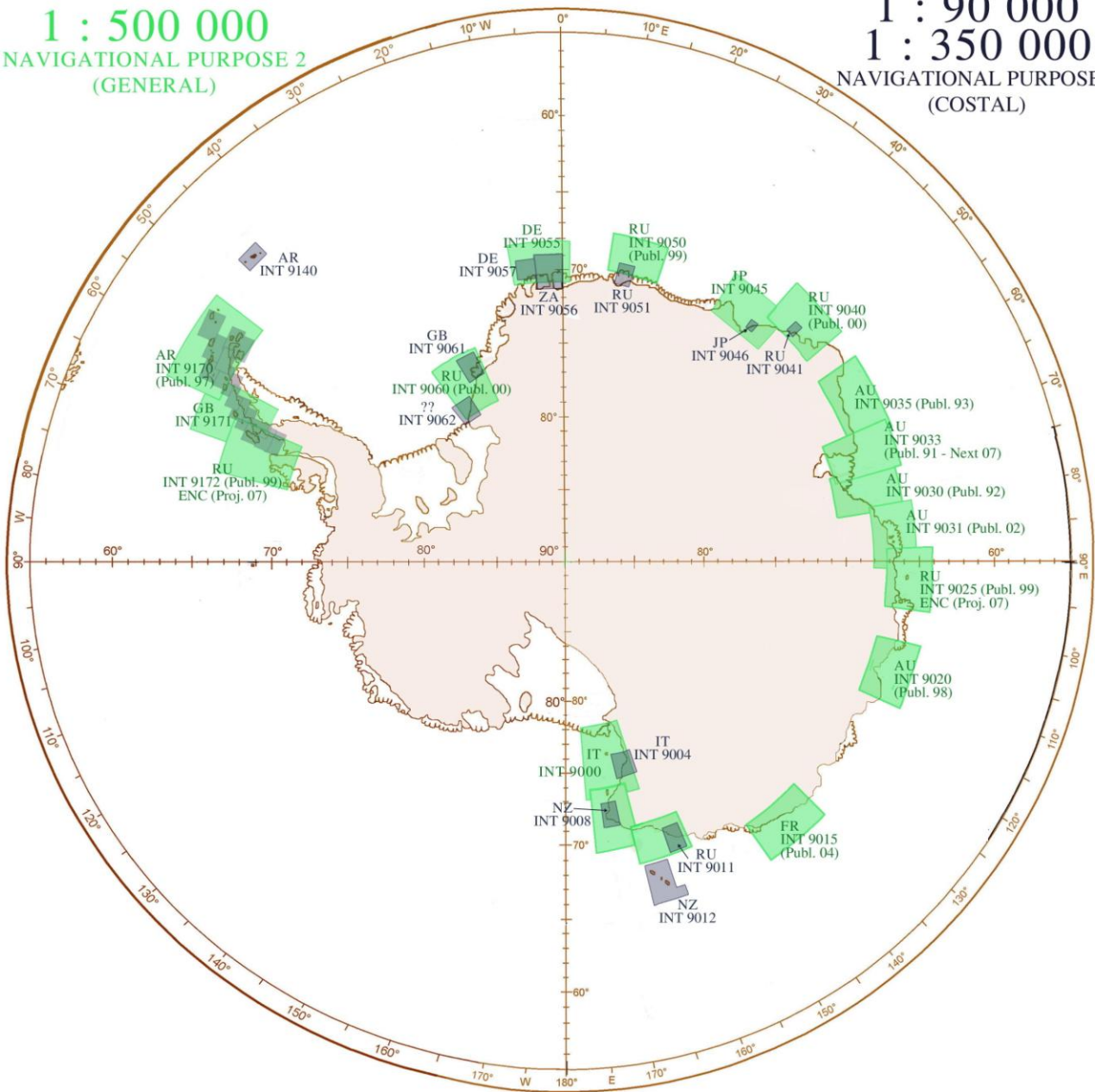
The already adopted 1:500,000 scale ENC Scheme (“general”) is shown on the diagrams hereafter for convenience.

¹ no coverage available

ENC SCHEME FOR MEDIUM-SCALES IN ANTARCTICA

1 : 500 000
NAVIGATIONAL PURPOSE 2
(GENERAL)

1 : 90 000
1 : 350 000
NAVIGATIONAL PURPOSE 3
(COSTAL)



ENC SCHEME FOR MEDIUM-SCALES IN ANTARCTICA

1 : 90 000
1 : 350 000
NAVIGATIONAL PURPOSE 3
(COSTAL)

