STANDARDS AND DIRECTORIES PROGRAMME

MAP AND DATA STANDARDS PROJECT

**SUMMARY OF FEATURE CODES FOR USE ON MAPS
AND IN DATABASES, AND DATA DICTIONARY**

A draft document was prepared by the UK between November 1998 and February 1999, providing a comprehensive list of features that are likely to be included in topographic databases and on maps at all scales. Sample pages of the document are attached. The full document was circulated to a few WG-GGI colleagues for comment and a final version will be completed for distribution at XXVI SCAR in Tokyo, July 2000.

The coding system that was devised enables a unique number to be applied to any feature. The definition of the feature is included in the table and it is envisaged that a graphic representation of the feature will also form part of the final document.

A separate specification code is also shown on the sample pages. It was intended that this would be used to identify colour, line weight, patterns, etc. However, it is likely that the specification code will become redundant and that the feature code will be used to identify the graphic representation of the feature.

The SCAR code given in the sample page of the table will not be shown in the final document. It has been included as a baseline identifier only during the preparation of the draft document.

If you would like to receive a copy of the full draft document for comment, please contact me by e-mail: Janet.W.Thomson@bas.ac.uk. Comments should be with me by 31 October 1999, please.

J.W. Thomson/28.06.99

SCAR Working Group on Geodesy and Geographic Information

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NOTES
A list of the features that are likely to be found on maps of Antarctica at scales of 1:25,000 to 1:20,000,000 is shown below. A system of feature codes is also proposed. It is hoped that sufficient flexibility has been built into the feature code system to allow for additional features, and sub-sets of features, to be included at a later date, should the need arise. At the end of the document there is a sample page of a summary table that shows the features, codes and the map scales appropriate for depiction of the feature.

Features. The list of features has been developed from the SCAR *Standard symbols for use on maps of Antarctica*, to meet the needs of large-scale map production and the creation of databases. The features listed have been divided into two distinct categories: oceanic and terrestrial. Related features, for example coastal features such as ice-free coastline and ice-covered coastline, are grouped together in the table for ease of reference, and they have consecutive feature code numbers. The terms used in the list are defined in the Geographic Data Dictionary (see sample pages attached).

Feature codes. A six-digit code provides the following information about a feature:
a) the first number indicates: 1= oceanic features, 2 = terrestrial features, 3 = cultural features, and 4 = projection-related features,
b) 2nd to3rd digit (1 - 999), type of feature,
c) 4th digit (0-9), subset of feature,
d) 5th digit: 0 = undifferentiated, 1 = point or mark, 2 = line, 3 = polygon, 4 = annotation,
e) 6th digit: 0 = without text, 1 = with text.

Specification codes. The specification code provides a link to a look-up table that specifies standards for line weight, colour, screens and patterns for area fill, size and shape of graphical symbols, style of annotation, etc. (see sample page of Standard Specifications for Topographic Symbols on Antarctic Maps and in Databases)

Summary table of features, codes and appropriate scales. The sample page shows how a look-up table could link features, feature codes and specification codes, and provide guidance on the most appropriate scale at which the feature can be depicted. A letter code shows whether the feature should be depicted by a line (L), a mark or point (M), or a polygon (P).

Acknowledgements: These draft documents have built on the solid work undertaken by Norsk Polarinstitutt in preparing the "Map specification standards recommended for use on topographic maps of Antarctica", tabled at XXIV SCAR in 1996. Cheryl Hallam and Jerry Mullins, US Geological Survey, and Paul Cooper, British Antarctic Survey, have contributed greatly to the development of the feature code system proposed herein.

J.W. Thomson/30.1.99

Feature	Code
Oceanic features	**100-113**
Permanent	**100-105**
Sea	100
Bathymetric contours	101
Isolated bathymetric depression	102
Sounding	103
Offshore rocks	104
Edge of continental shelf	105
Transient	**110-113**
Antarctic Convergence	110
Sea-ice extension	111
Fast or bay ice	112
Stranded iceberg	113
Terrestrial features	**200-256**
Coastal	**200-209**
Coastline, undifferentiated	200
Ice-free coastline, undiff.	201
Ice-free coastline against open sea	202
Ice-free coastline against ice shelf	203
Ice-covered coastline (ice wall), undiff.	204
Ice-covered coast (ice wall)against open sea	205
Ice-covered coast against ice shelf (grounding)	206
Ice shelf features	207
Ice tongues	208
Tidal zones	209
Inland, ice-covered	**210-213**
Disturbed ice features	210
Elevated features	211
Depression area	212
Blue ice	213
Inland, ice-free	**220-221**
Ice-free areas	220
Ice-free elevated features	221
Inland, drainage	**230-234**
Glacier	230
Stream/river	231
Alluvial fan	232
Swamp/flooded area	233
Lakes	234
Inland, elevation	**240-247**
Contours, undifferentiated	240
Contours, ice-covered ground, undiff.	241
Depression contours, ice-covered ground	242
Elevation point, ice-covered ground	243
Ice thickness	244
Contours, ice-free ground, undiff.	245
Depression contours, ice-free ground	246
Elevation point, ice-free ground	247
Survey	**250-256**
Control point, undiff.	250
Astronomical control point	251
Gravimetric control point	252
Geodetic control point	253
Geodetic satellite control point	254
Bench mark	255
Tide gauge	256
Cultural features	**300-374**
Tracks	**300-303**
Tracks	300
Oversnow route	301
Permanent tractor track	302
Roads	303
Aircraft	**310-316**
Aerodrome, undifferentiated	310
Aerodrome, wheeled aircraft	311
Aerodrome, ski-equipped aircraft	312
Aerodrome, helicopter	313
Water aerodrome	314
Landing strip	315
Aircraft wreckage	316
Ships and boats	**320-322**
Landing place	320
Shipwreck	321
Beacons	322
Constructions	**330-339**
Buildings	330
Scientific station	331
Refuge	332
Storage facilities	333
Radio mast	334
Pipe line	335
Power line	336
Automatic weather station	337
Signposts	338
Disturbed ground	339
Thematic	**340-343**
Historic site or monument	340
Antarctic Specially Protected Area	341
Antarctic Specially Managed Area	342
Site of Special Scientific Interest	343
Fauna: birds	**350-358**
Bird colony, undiff.	350
Albatross	351
Cormorant	352
Petrel	353
Penguin rookery, undiff.	354
Adélie rookery	355
Chinstrap rookery	356
Emperor rookery	357
Gentoo rookery	358
Fauna: animals	**360-361**
Animal colony, undiff.	360
Seal colony, undiff.	361
Flora	**370-374**
Vegetation, undiff.	370
Moss bank	371
Lichen colony	372
Grass patch	373
Algae	374
Projection-related features	**400-406**
Isogones	400
Magneatic declination	401
Magnetic pole	402
Geographical pole	403
Antarctic circle	404
Geographical grid	405
Non-geographical grid	406

Feature code	Feature	Specification code	Definition	SCAR code
	Oceanic features **100-105**			
100,000	Sea, undifferentiated	001	A large body of salt water, smaller than an ocean; type of sea surface undefined	-
100,001	Sea, undifferentiated, with text	001	-	-
100,100	Ice-free sea	002	Open sea	1.1
100,200	Ice-covered sea (seasonal ice)	003	Sea covered by seasonal ice (fast or bay ice)	-
101,020	Bathymetric contours, undifferentiated	004	Lines connecting points of equal depth of water (isobath)	-
101,120	Definite	005	Data points are closely spaced and contour position is well defined	1.2
101,220	Definite index	006	Well defined contours, at specific intervals of 500, 1000 m, etc.	-
101,320	Indefinite	007	Data points are widely spaced and contour position is approximate	1.3
101,420	Indefinite index	008	Approximate contours, at specific intervals of 500, 1000m, etc.	-
101,520	Conjectural	009	Data points are scattered and contour position is poorly constrained	-
102,020	Isolated bathymetric depression, undifferentiated	010	An isolated area of the sea floor lying deeper than its surroundings and defined by a closed contour.	1.4
102,120	Definite	011	Depression defined by contour at known depth	-
102,220	Definite index	012	Depression defined by contour at known specific depth	-
102,320	Indefinite	013	Depression defined by contour at approximately known depth	-
102,420	Indefinite index	014	Depression defined by contour at approximately known specific depth	-
103,010	Sounding, undifferentiated	015	A measured water depth/known spot depth which has been reduced to a chart datum	1.7
103,110	Digital	016	A water depth obtained by digital recording process	-
104,000	Offshore rocks, undifferentiated	017	Rocks located between the tidal area and the seaward edge of the continental shelf	-
104,110	Rock awash	018	A rock awash at any state of the tide, between mean sea level and the sounding datum, or awash at these levels	1.9
104,210	Rock submerged	019	A rock submerged at any stage of the tide, and near enough to the surface of the sea to be a danger to navigation	1.8
104,300	Dangerous area	020	An area with rocks or underwater objects that are a danger to navigation	-
104,420	Limiting danger line	021	Boundary of area of dangerous rocks	1.10
104,510	Dangerous area markers	022	Markers around boundary of area of dangerous rocks	-
105,020	Edge of continental shelf	023	A line representing the transition from the gentle gradient (typically 1°) of the continental shelf to the steeper continental slope (typically 2-5°)	1.6

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