General remarks

- All ice charts are in the Shapefile format.
- All data are in the geographical co-ordinate system given as longitude/latitude

Each ice chart consists of 11 files, where 5 files constitute the polygon part of the ice chart. These files conforms to following naming convention:
YYYYMMDDHH_AA_area.*

Another 5 files constitute the point symbol part of the ice chart and conform to following naming convention:
YYYYMMDDHH_AA_sym.*

One file contains the metadata and has the following name:
YYYYMMDDHH_AA_area.md

where
YYYY : year
MM : month
DD : day
HH : hour
AA : object AOI (area of interest, see table 8)

The tables provided on subsequent pages outline and define codes used for attributes in the SIKU Ice Analysis, SIGRID codes and metadata IDs.

Ice analysis attributes:

Object type	SIKU Attribute	Geometric type	ID
AOI frame	Line_id	Line	10
Data frame	Line_id	Line	20
Coastline	Line_id	Line	30
Cloud edge	Line_id	Line	40
Ice edge	Line_id	Line	50
Ice class boundary	Line_id	Line	51
Estimated ice edge	Line_id	Line	52
Estimated ice class boundary	Line_id	Line	53
Sea ice, source unknown	Area_id	Area	900
Sea ice, source Radarsat	Area_id	Area	901
Sea ice, source NOAA	Area_id	Area	902
Sea ice, source DMSP	Area_id	Area	903
Estimated Sea ice, unknown	Area_id	Area	800
Estimated Sea ice, Radarsat	Area_id	Area	801
Estimated Sea ice, NOAA	Area_id	Area	802
Estimated Sea ice, DMSP	Area_id	Area	803
Open water (sea)	Area_id	Area	200
Cloud	Area_id	Area	400
Land	Area_id	Area	300
NO-DATA	Area_id	Area	500

Table 1. SIKU attribute identification numbers of the object class ‘ice_class’.

Object type	SIKU Attribute	Geometric type	ID
Ice bergs	Symbol_id	Point	100
Many ice bergs	Symbol_id	Point	105
Growlers	Symbol_id	Point	110
Many Growlers	Symbol_id	Point	115
Belts	Symbol_id	Point	120
Ice free	Symbol_id	Point	130
Bergy water	Symbol_id	Point	140
New ice	Symbol_id	Point	150
NO-DATA	Symbol_id	Point	500

Table 2. SIKU attribute identification numbers of the object class ‘ice_symbol’.

Attribute	Geometric type	Application purpose	Definition
Area	Area	Internal	Area of polygon in units corresponding to projection
Perimeter	Area	Internal	Perimeter of polygon in units corresponding to projection
Ice_cl	Area	Internal	A unique ID automatically generated (and updated) by ERDAS for each polygon (Record no.) in the theme. Should not be changed by the analyst.
Ice_cl_id	Area	Internal	ID which may be changed by analyst.
Area_id	Area	SIKU	ID which states the polygon characteristics. The analyst provides this ID. The polygon appearance depends on this ID and furthermore the ID is used in connection with queries and statistical calculations.
Ct	Area	SIKU	Total concentration
Ca	Area	SIKU	Partial concentration
Cb	Area	SIKU	Partial concentration
Cc	Area	SIKU	Partial concentration
Sa	Area	SIKU	Stage of development (ice thickness)
Sb	Area	SIKU	Stage of development (ice thickness)
Sc	Area	SIKU	Stage of development (ice thickness)
Fa	Area	SIKU	Floe size
Fb	Area	SIKU	Floe size
Fc	Area	SIKU	Floe size
So	Area	SIKU	Stage of development (ice thicker than Sa, but less than 1/10)
Sd	Area	SIKU	Stage of development (of greater remaining concentration)
Fp	Area	SIKU	Predominant floe size
Fs	Area	SIKU	Secondary floe size
Hatch	Area	SIKU	ID used for total concentrations, but translated from Ct into a code suitable for presentation purposes

Table 3. Attributes of the ice_class object class.

Attribute	Geometric type	Application purpose	Definition
Area	point	Internal	NA
Perimeter	point	Internal	NA
Ice_sym	point	Internal	A unique ID automatically generated (and updated) by ERDAS for each point (Record no.) in the theme. Should not be changed by the analyst.
Ice_sym_id	point	Internal	ID which may be changed by analyst.
Symbol_att	point	SIKU	May be used for providing additional information regarding a symbol, e.g. the angel at which a bar symbol should be rotated.
Symbol_id	point	SIKU	ID which states the characteristics of the point. The analyst provides the ID. The appearance of the point (symbol) depends on this ID and the ID is furthermore used in connection with queries.

Table 4. Attributes of the ice_symbol object class

SIGRID codes:

Definition	WMO Code	SIDRID
Ice Free	0	00
Less than 1/10 (open water)	< 1	01
Bergy Water	Δ	02
1/10	1	10
2/10	2	20
3/10	3	30
4/10	4	40
5/10	5	50
6/10	6	60
7/10	7	70
8/10	8	80
9/10	9	90
More than 9/10 less than 10/10	9^+	91
10/10	10	92
Concentration Intervals Cl : Lowest concentration in interval Ch: Highest concentration in interval		ClCh
1/10 - 3/10	1-3	13
4/10 - 6/10	4-6	46
7/10-9/10	7-9	79
9/10-10/10	9^+	91
Unknown	X	99

Table 5. Ice concentrations, attributes CT,CA,CB,CC.

Definition	WMO Code	SIDRID
Ice Free	0	00
No Stage of Development		80
New Ice	1	81
Nilas, Ice Rind (< 10 cm)	2	82
Young Ice (10- 30 cm)	3	83
Grey Ice (10-15 cm)	4	84
Grey - White Ice (15-30 cm)	5	85
First Year Ice (30-200 cm)	6	86
Thin First Year Ice (30-70 cm)	7	87
Thin First Year Ice Stage 1 (30-50 cm)	8	88
Thin First Year Ice Stage 2 (50-70 cm)	9	89
SPARE		90
Medium First Year Ice (70-120 cm)	1•	91
SPARE		92
Thick First Year Ice (>120 cm)	4•	93
SPARE		94
Old Ice	7•	95
Second Year Ice	8•	96
Multi Year Ice	9•	97
Glacier Ice	Δ	98
Undetermined/Unknown		99

Table 6. Ice types, attributes SA,SB,SC,SD,SO.

Definition	WMO Code	SIDRID
Pancake Ice (30 cm - 3 m)	0	00
Shuga/Small Ice Cake, Brash Ice (< 2 m)	1	01
Ice Cake (< 20 m)	2	02
Small Floe (20 - 100 m)	3	03
Medium Floe (100-500 m)	4	04
Big Floe (500-2000 m)	5	05
Vast Floe (2-10 km)	6	06
Giant Floe (> 10 km)	7	07
Fast Ice	8	08
Growlers, Floebergs or Floebits	(8)	09
Icebergs	9	10
Strips and Patches (1/10)	~1	11
Strips and Patches (2/10)	~2	12
Strips and Patches (3/10)	~3	13
Strips and Patches (4/10)	~4	14
Strips and Patches (5/10)	~5	15
Strips and Patches (6/10)	~6	16
Strips and Patches (7/10)	~7	17
Strips and Patches (8/10)	~8	18
Strips and Patches (9/10)	~9	19
Strips and Patches (10/10)	~10	20
Level Ice		21
Undetermined/Unknown	X	99

Table 7. Floe size, attributes FA,FB,FC,FP,FS.

Metadata ID:

Metadata	Remarks
Version	Version no.
Object Name	Naming convention: YYYYMMDDHH_AA where YYYY = Year MM = Month DD = Day HH = Hour AA = Object AOI
Object Format ID	0 : Erdas Image 1 : ARC/INFO Coverage 2 : TIFF 3: ERDAS Annotation 4: Shapefile
Data ID	20 : Ice Analysis 30: Model Forecast 40: Meteorological Observations 50: Derived Wind Speed and Direction
Object AOI	00 : Greenland 01 : Cape Farewell 02 : South West 03: North West 04: North 05: North East 06: North & Central East 07: Central East 08: South East 99: Undefined

Metadata	Remarks
Comment	Comments if any should be given here
Primary Source	0 : None 1 : Radarsat 2: Noaa 3 : DMSP 4 : Aircraft 5 : ERS 15 : Synop Stations 16 : HIRLAM Model
Secondary Source	0 : None 1 : Radarsat 2: Noaa 3 : DMSP 4 : Aircraft 5 : ERS 15 : Synop Stations 16 : HIRLAM Model
Valid Date	YYYYMMDD
Valid Time	HH.mm
Analyst	Initials of person conducting the ice analysis
Projection Name	Geographic
Datum	WGS 84
Spheroid	WGS 84

Table 8. Metadata ID.