Current and planned activities of the SCAR expert group on operational meteorology in the Antarctic (OpMet) and the WMO panel of experts on polar and high mountains observations, research and services (EC-PHORS).

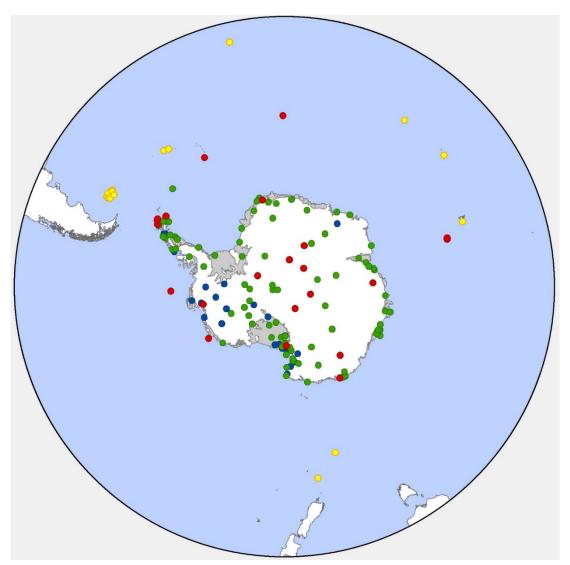
Steve Colwell

British Antarctic Survey

### Overview

- AntON and GCOS monitoring.
- READER.
- Antarctic contributions to the Global Cryosphere Watch (GCW).
- WMO Integrated Global Observing System(WIGOS)
- Antarctic Regional Climate Centre (RCC)

# **AntON stations**



Green: AntON stations; Blue: AntON associated stations; Yellow: AntON island station; Red: stations no longer reporting in real-time

#### Meteorology and Ozone Monitoring



Scientific Committee on Antarctic Research



#### Web Page for

#### SCAR Expert Group on Operational Meteorology in the Antarctic

#### & WMO EC-PHORS Antarctic Task Team

The SCAR Expert Group on Operational Meteorology in the Antarctic is a sub group of the SCAR Standing Scientific Group on Physical Sciences (SSG/PS). The Chairman of the Expert Group is Steve Colwell (S.Colwell@bas.ac.uk). If you would like to join the Group please contact him. The Antarctic Task Team is a sub group of the WMO Executive Council team on Polar and High Mountain Observations, Research and Services. The Chair of the ATT is Steve Colwell. Membership is by invitation. Jon Shanklin (J.Shanklin@bas.ac.uk), former chair of the Group and the ATT, currently maintains these pages.

#### Latest news:

- 2018 April 13 29 ships have reported weather observations, 86 identified ships have not, with many more unidentified ships present
- 2. 2018 March 5 27 ships have reported weather observations, 78 identified ships have not, with many more unidentified ships present
- 3. 2018 February 1 23 ships have reported weather observations, 75 identified ships have not, with many more unidentified ships present
- 4. 2018 January 1 13 ships have reported weather observations, 46 identified ships have not, with many more unidentified ships present
- 5. 2017 December 25 Sonde flights from Frei and O'Higgins received on the GTS during December and Frei in January
- 6. 2017 December 1 Six ships have reported weather observations, 24 others have not, though three of these did report from outside Antarctica.
- 7. 2017 November 3 The tourist season is underway, with three ships having visited. None have reported weather observations.
- 8. 2017 July 17 Two ships, Agulhas II and Laurence M Gould, have reported early Antarctic weather observations this season. The Norwegian trawler Antarctic Sea was fishing off Palmer in late June, but did not report any observations.
- 9. 2017 June 23 102 named ships and many others whose position was only known visited Antarctic waters during the 2016/17 season. Just 29 contributed synoptic observations. Five vessels were fishing at mid-winter 2017, with a supporting cargo vessel and tanker. They were not reporting meteorological observations.

#### General

► <u>Old News</u>	Members of SCAR EG-OMA and WMO ATT (Updated 2017 July 6)
<u>Details</u> of how to register for the .aq (Antarctic) domain.	Antarctic Station details (Updated 2017 February 3 - changes are highlighted)
<u>WMO AntON listing</u> (Updated 2017 February 3)	

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Monitoring	
► <u>UK Met Office global monitoring</u>	
► ECMWF global monitoring	► NCDC data list
AMPS usage stats (Pressure; site also gives temperature, humidity & wind)	<b></b>
More than the last 12 months (2017 May to 2018 April, updated 2018 June) are: 89262 (2017 May, June, July, August, September, October), 89592 (2018 January), 89625 (2018 February) and 89879 (2017 June, July, August). Non or partially operational GSN stations are: 68992, 89327 and 89662. Please check our GCOS AntON CLIMAT and SYNOP monitoring if your station is listed here and resend the data for the missing month(s). See the latest CLIMATs to check if your report has been received at BAS. See CLIMAT data for Antarctic AWS for all the University of Wisconsin AWS.	<ul> <li>▶ The first six stations to submit CLIMAT reports for 2018 May were Neumayer, Bellingshausen, Novolazarevskaya, Progress, Mirnyj and Vostok.</li> <li>▶ WMO no longer require distribution of the CLIMAT TEMP message and monitoring of these has ceased. See the TEMP monitoring below for performance.</li> </ul>
BAS GTS monitoring	
BAS GCOS AntON monitoring: Where we see problems with receipt of SYNOP, TEMP or CLIMAT messages stations or operators will be notified by email. Several AWS experience problems with low battery voltages restricting real-time transmissions during the winter.	➤ All GUAN stations are now carrying out at least some radiosonde flights each month. Several stations experience problems with balloons bursting early during the winter due to low stratospheric temperatures.
<ul> <li>AntON CLIMAT monitoring in 2018 (automated)</li> <li>AntON CLIMAT monitoring in 2017 (automated)</li> <li>AntON CLIMAT monitoring in 2016 (automated)</li> <li>AntON CLIMAT monitoring in 2015 (manual) / 2015 (automated)</li> <li>AntON CLIMAT monitoring in 2014</li> <li>AntON CLIMAT monitoring in 2013</li> <li>AntON CLIMAT monitoring in 2012</li> <li>AntON CLIMAT monitoring in 2011</li> <li>ABCN CLIMAT monitoring in 2010</li> <li>ABCN CLIMAT monitoring in 2009</li> <li>ABCN CLIMAT monitoring in 2008</li> <li>ABCN CLIMAT monitoring in 2007</li> <li>ABCN CLIMAT monitoring in 2006</li> </ul>	If the SYNOP or TEMP message percentage given here is lower than you think it should be, please check your GTS routing. Prior to 2015, TEMP monitoring is included with the SYNOP reports.  • AntON SYNOP monitoring in 2018 (automated), • AntON SYNOP monitoring in 2016 (automated), • AntON SYNOP monitoring in 2015 (manual) / 2015 (automated) • AntON SYNOP monitoring in 2014 • AntON SYNOP monitoring in 2013 • AntON SYNOP monitoring in 2012 • AntON SYNOP monitoring in 2011 • ABCN SYNOP monitoring in 2010 • AntON TEMP monitoring 2018 (automated) • AntON TEMP monitoring 2016 (automated) • AntON TEMP monitoring 2016 (automated) • AntON TEMP monitoring 2015 (automated) • AntON TEMP monitoring 2015 (automated)
Ships	
► Ships reporting in 2004/05	Ships reporting in 2005/06
► Ships reporting in 2006/07	Ships reporting in 2007/08
► Ships reporting in 2008/09	Ships reporting in 2009/10
► Ships reporting in 2010/11	Ships reporting in 2011/12
Ships reporting in 2012/13	Ships reporting in 2013/14
► Ships reporting in 2014/15	Ships reporting in 2015/16
P. China and discrete in 2016/17	Cl.:

Ships	
Ships reporting in 2004/05	► Ships reporting in 2005/06
► Ships reporting in 2006/07	► Ships reporting in 2007/08
► Ships reporting in 2008/09	► Ships reporting in 2009/10
► Ships reporting in 2010/11	► Ships reporting in 2011/12
Ships reporting in 2012/13	Ships reporting in 2013/14
Ships reporting in 2014/15	Ships reporting in 2015/16
Ships reporting in 2016/17	Ships reporting in 2017/18 [Updated 2018 March 26]
Sign up to send met reports through Yotreps	Latest list of ships with significant errors/biases in their reports
Download electronic met logbook software from the VOS website	Download <u>Turbowin</u> and instruction for sending messages <u>here</u>
Cceanographic ship locations (Sailwx)	► Ship locations (Sailwx)
Live ships map (Marine Traffic)	Palmer AIS (APRS.fi)
Planes	
Coding aircraft observations (Draft)	
Coding aircraft observations (Draft)	
Overland traverses	
Reporting traverse observations (Draft)	
Forecasting and Forecasts	
BAS Antarctic Weather Forecasting Manual	► International Antarctic Weather Forecasting Manual [updated 2009 June]
Antarctic Mesoscale Prediction System Forecast products from Byrd Polar Research Center of Ohio State University	<u>UV forecasts</u> from SCIAMACHY
Antarctic ensemble plots from the Australian BoM & CSIRO	Forecasts for Norwegian Antarctic sites
TAFs and Forecast charts generated at Rothera for BAS operations	Forecasts for Dronning Maud Land Air Network (DROMLAN)
Information	
► University of Wisconsin Real time weather data and displays	► WMO Polar Observations, Research and Services
Argentinian Antarctic weather information	Australian Antarctic weather information
► Brazilian Antarctic weather information	Chilean weather information
<b>•</b>	► <u>Italian Antarctic weather information</u>
Russian Antarctic weather information	Russian weather server for Antarctica and sub Antarctic islands
Polar View Antarctic portal	► UK Antarctic weather information
SCAR READER database	
Other Programmes	
► International Polar Year	International Programme for Antarctic Buoys
► Automatic Observations on Glaciers	► WMO/JCOMM Expert Team on Sea Ice

## **CLIMAT** monitoring 2018

#### Performance of the Antarctic Observing Network (AntON) CLIMAT

#### Surface stations

This chart shows the status of CLIMAT messages receied on the GTS during 2018 for stations in the EC-PHORS zone of interest

M = message on GTS, B = message generated from SYNOP by BAS both are displayed in green.

Yellow = NIL message received, Red = No CLIMAT message received, both of these boxes have the percentage of synoptic reports received for the main synoptic hours displayed.

NOTE monitoring does not distinguish between problems with generation and transmission of messages.

WMO no	Station name	Comments	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
61997	Isle Crozet	GSN station	M	M	M	M	0							
61998	Isle Kerguelen	GSN station	M	M	M	M	M							
68906	Gough Island	GSN station	M	M	M	M	M							
68992	Bouvetoya	GSN station	0	0	0	0	0							
68994	Marion Island	GSN station	M	M	M	M	M							
88870	Mount Byron		В	В	В	В	В							
88878	Pebble Island		16	0	0	50	83							
88881	Mount Kent		0	0	0	0	В							
88883	Weddell Island		В	69	В	В	В							
88889	Mount Pleasant Airport	GSN station	В	В	В	В	В							
88892	Sapper Hill		0	0	0	0	0							
88894	Mount Alice		0	0	0	0	0							
88897	Sea Lion Island		33	0	56	В	В							
88900	Bird Island		M	M	M	M	M							
88903	Grytviken	GSN station	M	M	M	M	M							
88986	South Thule Island		0	0	0	0	0							
88963	Esperanza	GSN station	M	M	M	M	M							
88968	Orcadas	GSN station	M	M	M	M	M							
89002	Neumayer	GSN station	M	M	M	M	M							
89003	Halvfarryggen EP11		0	0	0	0	0							
89004	SANAE	GSN station	M	M	M	M	M							
89009	Amundsen-Scott	GSN station	M	M	M	M	M							
89011	Soerasen		82	В	В	В	В							
89013	Baldrick AWS		M	M	M	M	M							
89014	Nordenskiold		В	В	В	В	В							
89022	Halley	GSN station	M	M	M	M	M							
89034	Belgrano II		M	M	M	M	M							
89047	Filchner		87	В	В	В	В							
89049	AGO-2	Failed	0	0	0	0	0							
89050	Bellingshausen	GSN station	M	M	M	M	M							
89053	Jubany		M	M	M	M	M							
89054	Dinamet		0	0	0	0	0							
89055	Marambio	GSN station	M	M	M	M	M							
89056	Frei	GSN station	M	M	M	M	M							
89057	Arturo Prat		В	83	В	В	В							
89058	Great Wall		В	В	В	В	В							
89059	O'Higgins		M	M	M	M	M							
89061	Palmer		М	M	M	M	M							

# **TEMP monitoring 2018**

#### Performance of the Antarctic Observing Network (AntON) TEMP

#### Upper air stations

The monthly columns show the status of TEMP messages with data to 100 hPa (after quality control) on the GTS, with yellow representing less than 70% of expected messages, amber representing less than 40% and red less than 10% of messages. Stations are assessed against their published programme in WMO No 9, Vol A at the beginning of the year.

NOTE monitoring does not distinguish between problems with generation and transmission of messages. Monitoring is automated and may have errors and there are occasional breaks in the BAS GTS feed. The 100 hPa level is chosen as the minimum target level for GUAN stations, but balloon performance often degrades during the polar winter and not all flights reach this level.

WMO no	Station name	Hour	Comments	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
61998	Isle Kerguelen	12	GUAN station	58	60	58	46	48							
68906	Gough Island	00	GUAN station	90	82	93	86	93							
68906	Gough Island	12	GUAN station	83	82	93	76	87							
68994	Marion Island	00	GUAN station	16	67	32	46	74							
68994	Marion Island	12	GUAN station	54	71	77	53	70							
88889	Mount Pleasant Airport	00	GUAN station	90	92	93	36	61							
88889	Mount Pleasant Airport	12	GUAN station	12	10	6	10	9							
94998	Macquarie Island	00	GUAN station	96	92	93	90	100							
94998	Macquarie Island	12	GUAN station	93	96	93	90	100							
89002	Neumayer	12	GUAN station	77	89	80	90	77							
89009	Amundsen-Scott	00	GUAN station	54	92	67	56	77							
89009	Amundsen-Scott	12	GUAN station	64	67	6	3	0							
89022	Halley	12	GUAN station	119	89	0	0	0							
89055	Marambio	12	GUAN station	6	7	16	20	12							
89062	Rothera	12		67	67	61	63	67							
89512	Novolazarevskaya	00	GUAN station	70	67	70	56	64							
89512	Novolazarevskaya	12	GUAN station	0	0	0	0	0							
89532	Syowa	00	GUAN station	48	57	74	73	74							
89532	Syowa	12	GUAN station	64	64	67	73	83							
89564	Mawson	12	GUAN station	54	57	61	60	67							
89571	Davis	00	GUAN station	100	96	87	86	93							
89571	Davis	12	GUAN station	93	85	87	93	80							
89592	Mirnyj	00	GUAN station	93	100	96	100	100							
89592	Mirnyj	12	GUAN station	0	0	0	0	0							
89611	Casey	00	GUAN station	100	100	96	100	93							
89611	Casey	12	GUAN station	100	96	100	100	96							
89625	Concordia	12		70	92	87	93	96							
89642	Dumont d�Urville	00	GUAN station	80	71	96	86	87							
89662	Mario Zuchelli Station	00		70	28	0	0	0							
89662	Mario Zuchelli Station	12		<b>6</b> 7	25	0	0	0							
89664	McMurdo	00	GUAN station	87	96	100	96	100							
89664	McMurdo	12	GUAN station	96	89	12	6	0							
89859	Jang Bogo	00		3	57	96	93	90							

# **SYNOP** monitoring 2018

#### Performance of the Antarctic Observing Network (AntON) SYNOP

#### Surface stations

This chart shows the status of SYNOP messages for the main hours on the GTS during 2018, with green representing good performance, light green representing less than 90% of expected messages (acceptable, but not adequate for CLIMAT), yellow less than 80% and amber less than 50%.

If less that 30% are found then the number of days in the month that observations were recieved is displayed which may have been on non main synoptic hours which occurs mainly for AWS transmitting via Argos.

When the number of days is displayed a D is shown before the number, greater than 25 days is displayed in green, light green for between 20 and 25 days, yellow for between 10 and 20 days, amber for between 5 and 10 days and red for less than 5 days.

WMO no	Station name	Comments	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	De
61997	Isle Crozet	GSN station	99	100		D 5	0							
61998	Isle Kerguelen	GSN station	100	100		<u>48</u>	D 19							
68906	Gough Island	GSN station	89	87	89	86	83							
68992	Bouvetoya	GSN station	0	0	0	0	0							
68994	Marion Island	GSN station	<u>75</u>	98	90	83	<u>86</u>							
88870	Mount Byron		<u>95</u>	92	<u>95</u>	98	<u>96</u>							
88878	Pebble Island		D 14	0	0	<u>50</u>	<u>83</u>							
88881	Mount Kent		0	0	0	0	96							
88883	Weddell Island		<u>91</u>	<u>69</u>	<u>90</u>		<u>93</u>							
88889	Mount Pleasant Airport	GSN station	<u>95</u>	91	93		94							
88892	Sapper Hill		0	0	0	0	0							
88894	Mount Alice		0	0	0	0	0							
88897	Sea Lion Island		<u>33</u>	0	<u>56</u>	98	94							
88900	Bird Island		98	100	100	98	<u>87</u>							
88903	Grytviken	GSN station	100	97	99	96	100							
88986	South Thule Island		0	0	0	0	0							
88963	Esperanza	GSN station	86	97	100	99	99							
88968	Orcadas	GSN station	97	100	9.5	98	99							
89002	Neumayer	GSN station	100	100	100	100	100							
89003	Halvfarryggen EP11		0	0	0	0	0							
89004	SANAE	GSN station	92	97	97	98	98							
89009	Amundsen-Scott	GSN station	90	<u>87</u>	<u>86</u>	83	<u>87</u>							
89011	Soerasen		<u>82</u>	97	96	98	97							
89013	Baldrick AWS		77	<u>75</u>	<u>71</u>	60	73							
89014	Nordenskiold		98	99	98	97	99							
89022	Halley	GSN station	97	97	88	94	<u>91</u>							
89034	Belgrano II		95	94	97	99	100							
89047	Filchner		87	96	92	99	96							
89049	AGO-2	Failed	0	0	0	0	0							
89050	Bellingshausen	GSN station	99	100	100	100	100							
89053	Jubany		94	92	94	9.5	98							
89054	Dinamet		0	0	0	0	0							
89055	Marambio	GSN station	99	99	<u>89</u>	73	95							
89056	Frei	GSN station	98	100	99	100	97							
89057	Arturo Prat		93	83	95	9.5	97							
89058	Great Wall		100	100	100	97	99							
89059	O'Higgins		00	00	0.8	100	00							

#### Performance of sensors on stations on 2018-07-10

This table shows where missing measurements inside a synoptic message were received on the GTS during the last 7 days.

Green shows that there were valid values received, yellow indicates betwen 50% and 80% were valid, orange indicates that between 20% and 50% were valid and red shows that less that 20% were valid.

The actual values themselves are not checked to see if they are suspect at this stage.

S4-4" N	C4_4' _ D	C	т	n	XX: 101	W. 1 D
	Station Pressure	Sea Level Pressure	1emperature	Depoint	Wina Speea	Wina Directio
_						
MARBLE POINT						
POSSESSION IS.						
LAKE JULIUS AWS						
NEW MAY DOWNS						
GOSFORD AWS						
PARNDANA CFS AWS						
POINT WILSON						
EAST SALE AIRPORT						
CAPE GRIM BAPS						
EDENHOPE AIRPORT						
ST KILDA HARBOUR RMYS	S					
THREDBO AWS						
	POSSESSION IS. LAKE JULIUS AWS NEW MAY DOWNS GOSFORD AWS PARNDANA CFS AWS POINT WILSON EAST SALE AIRPORT CAPE GRIM BAPS EDENHOPE AIRPORT ST KILDA HARBOUR RMYS	ANDOYA (1010 0) ANDOYA (1010 1) TRONDHEIM/VERNES OSLO/GARDERMOEN CORAL HARBOUR A, NU CORAL HARBOUR UA, NU PUDAHUEL OSORNO BALMACEDA COCHRANE LARSEN ICE SHELF THERESA DOME A EAGLE AMERY ICE SHELF (G3) DOME C II MARBLE POINT POSSESSION IS. LAKE JULIUS AWS NEW MAY DOWNS GOSFORD AWS PARNDANA CFS AWS POINT WILSON EAST SALE AIRPORT CAPE GRIM BAPS EDENHOPE AIRPORT ST KILDA HARBOUR RMYS	ANDOYA (1010 0) ANDOYA (1010 1) TRONDHEIM/VERNES OSLO/GARDERMOEN CORAL HARBOUR A, NU CORAL HARBOUR UA, NU PUDAHUEL OSORNO BALMACEDA COCHRANE LARSEN ICE SHELF THERESA DOME A EAGLE AMERY ICE SHELF (G3) DOME C II MARBLE POINT POSSESSION IS. LAKE JULIUS AWS NEW MAY DOWNS GOSFORD AWS PARNDANA CFS AWS POINT WILSON EAST SALE AIRPORT CAPE GRIM BAPS EDENHOPE AIRPORT ST KILDA HARBOUR RMYS	ANDOYA (1010 0) ANDOYA (1010 1) TRONDHEIM/VERNES OSLO/GARDERMOEN CORAL HARBOUR A, NU CORAL HARBOUR UA, NU PUDAHUEL OSORNO BALMACEDA COCHRANE LARSEN ICE SHELF THERESA DOME A EAGLE AMERY ICE SHELF (G3) DOME C II MARBLE POINT POSSESSION IS. LAKE JULIUS AWS NEW MAY DOWNS GOSFORD AWS PARNDANA CFS AWS POINT WILSON EAST SALE AIRPORT CAPE GRIM BAPS EDENHOPE AIRPORT ST KILDA HARBOUR RMYS	ANDOYA (1010 0) ANDOYA (1010 1) TRONDHEIM/VERNES OSLO/GARDERMOEN CORAL HARBOUR A, NU CORAL HARBOUR UA, NU PUDAHUEL OSORNO BALMACEDA COCHRANE LARSEN ICE SHELF THERESA DOME A EAGLE AMERY ICE SHELF (G3) DOME C II MARBLE POINT POSSESSION IS. LAKE JULIUS AWS NEW MAY DOWNS GOSFORD AWS PARNDANA CFS AWS POINT WILSON EAST SALE AIRPORT CAPE GRIM BAPS EDENHOPE AIRPORT ST KILDA HARBOUR RMYS	ANDOYA (1010 0) ANDOYA (1010 1) TRONDHEIM/VERNES OSLO/GARDERMOEN CORAL HARBOUR A, NU CORAL HARBOUR UA, NU PUDAHUEL OSORNO BALMACEDA COCHRANE LARSEN ICE SHELF THERESA DOME A EAGLE AMERY ICE SHELF (G3) DOME C II MARBLE POINT POSSESSION IS. LAKE JULIUS AWS NEW MAY DOWNS GOSFORD AWS PARNDANA CFS AWS POINT WILSON EAST SALE AIRPORT CAPE GRIM BAPS EDENHOPE AIRPORT ST KILDA HARBOUR RMYS

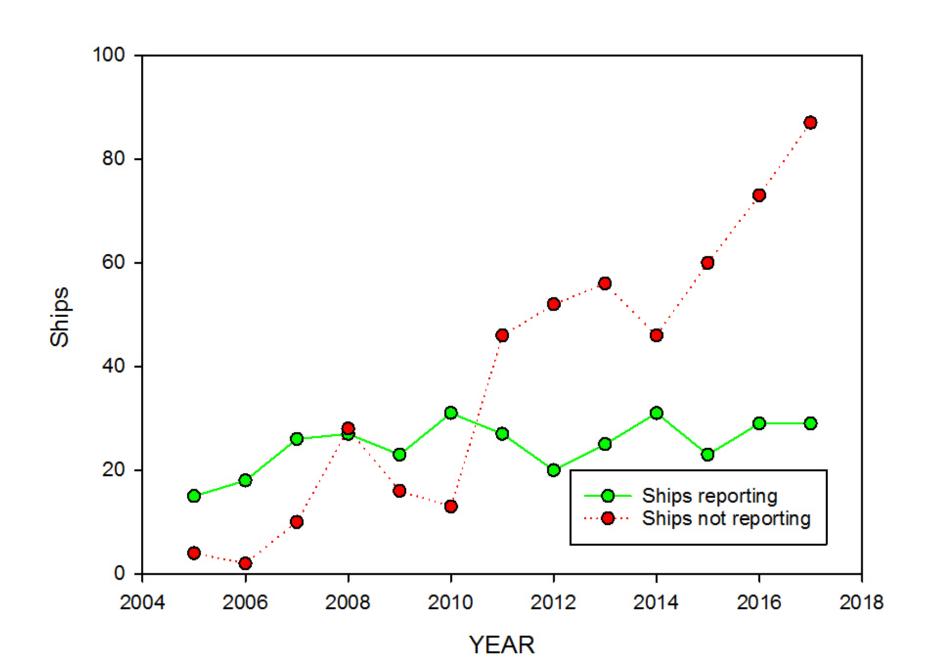
### List of ships that operated in Antarctica during the 2017/18 season, with call signs and names.

The SCAR and WMO request that all ships operating in Antarctic waters should make meteorological observations and report them on the GTS.

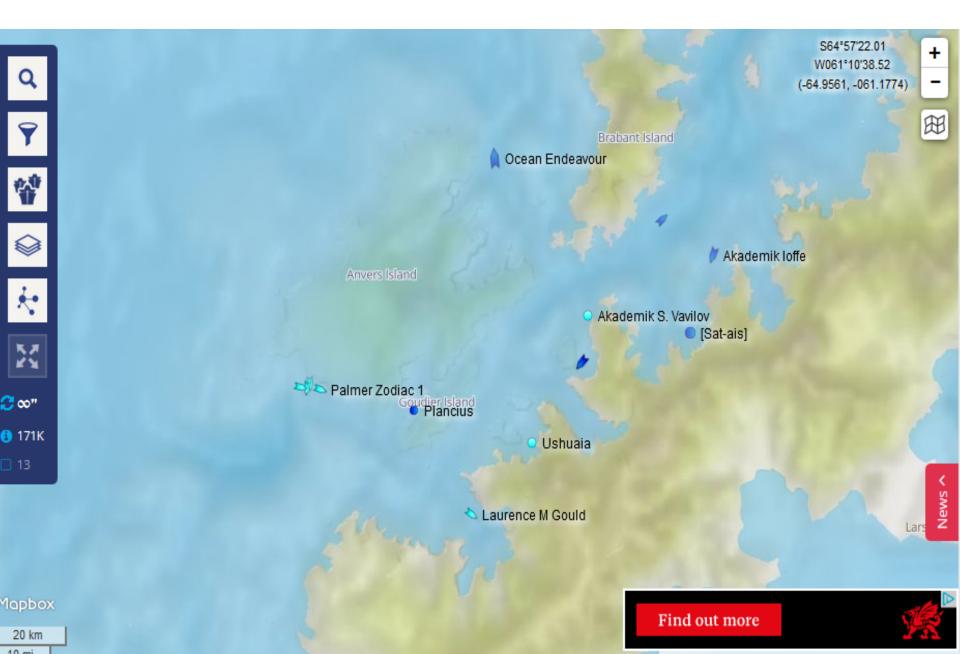
The following ships, which entered Antarctic waters in 2017/2018, made at least one meteorological report, they may have reported from outside Antarctic waters after the date given here. For most ships the season begins in November or December and ends in March. Country is the country of registration, VOS is the country of recruitment. Monitoring is manual and may miss some ships.

Call sign AMOUK01 AMOUK40 AMOUK70 AMOUK71	Name	Country	VOS UK UK UK UK UK	Arrive 2017 December 2017 November 2017 December 2017 November	Depart 2018 January 2018 March 2018 February 2018 February	Latest obs 2018 March 2018 March 2018 February 2018 February	
SHIP				2017 November	2018 March	2018 March	
ZSNO	Agulhas II (Supply)	South Africa		2017 July	2018 January	2018 February	
UCKZ	Akademik Fedorov (Research)	Russia	RU	2017 December	2018 March	2018 March	
UBXH3	Akademik Tryoshnikov (Research)	Russia		2018 March		2018 March	
PWPM	Almirante Maximiano (Ice breaker)	Brazil		2017 December	2018 March	2018 March	
PWAR	Ary Rongel (Navy ice breaker)	Brazil	BR	2017 October	2018 March	2018 March	
VNAA	Aurora Australis (Supply)	Australia	AU	2017 November	2018 February	2018 February	
C6JC3	Bremen (Tourist)	Germany	DE	2017 November	2018 February	2018 February	Note
9HJD9	Celebrity Infinity (Tourist)	USA	US	2018 January	2018 February	2018 February	
2FGX5	Discovery (Research)	UK	UK	2018 March	2018 March	2018 March	
ZDLS1	Ernest Shackleton (Supply)	UK	UK	2017 December		2018 March	
PDZS	Europa (Ice strengthened tall ship)	Netherlands	FR	2017 December	2018 March	2018 March	Note
CCMF	Fuentealba (Military ops)	Chile		2018 February	2018 March	2018 March	
CCGV	Galvarino (Navy)	Chile		2018 March	2018 March	2018 March	
VLMJ	Investigator (Research)	Australia	AU	2018 January	2018 February	2018 February	
ZDLP	James Clark Ross (Research)	UK	UK	2017 November	2018 March	2018 March	
WCX7445	Laurence M Gould (Oceanographic)	USA	US	2017 July	2018 March	2018 March	
WHKM	Maersk Peary (Oil Tanker)	USA	US	2018 January	2018 February	2018 February	
OXGN2	Mary Arctica (Containership)	Denmark	EU	2018 January	2018 January	2018 January	BATEU00
WBP3210	Nathaniel B Palmer (Oceanographic)	USA	US	2017 December	•	2018 March	
C6WR2	National Geographic Explorer (Tourist)	Bahamas	UK	2017 November	2018 February	2018 March	
WDG4379	Ocean Giant (Cargo)	USA		2018 January	2018 February	2018 February	
5BMC3	Ortelius (Tourist)	Cyprus		2017 November	-	2018 January	Note
PBQK	Plancius (Tourist)	Netherlands	NL	2017 November	2018 March	2018 March Note	e
ATD TO C	DI N. TILL	770.4		2040 7	2010 E 1	2010 E 4	

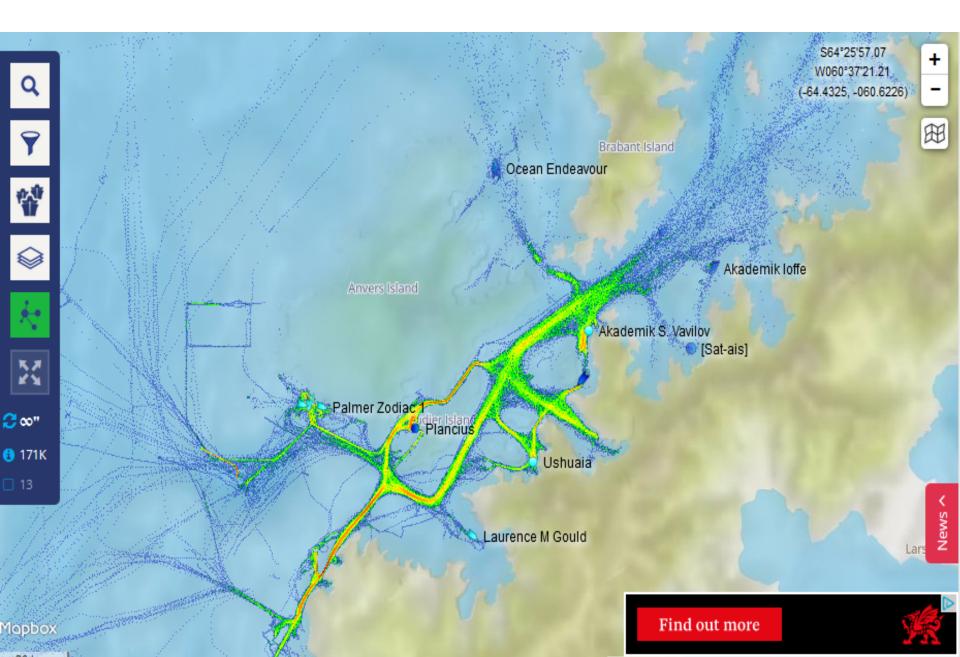
### Ships present in Antarctic waters



### Palmer AIS (Automatic Identification System)



### Palmer AIS (Automatic Identification System)



### READER

### (REference Antarctic Data for Environmental Research)

https://legacy.bas.ac.uk/met/READER/



Monthly and annual mean surface and upper-air meteorological data

#### Met READER

Background to the project

<u>Data</u>

Metadata

Last updated on 02/07/2018 at 11:35

Temperature and pressure data from the Australian Antarctic Division that is not included in Met READER can be accessed here

Ice READER can be accessed here

Southern Ocean READER can be accessed here

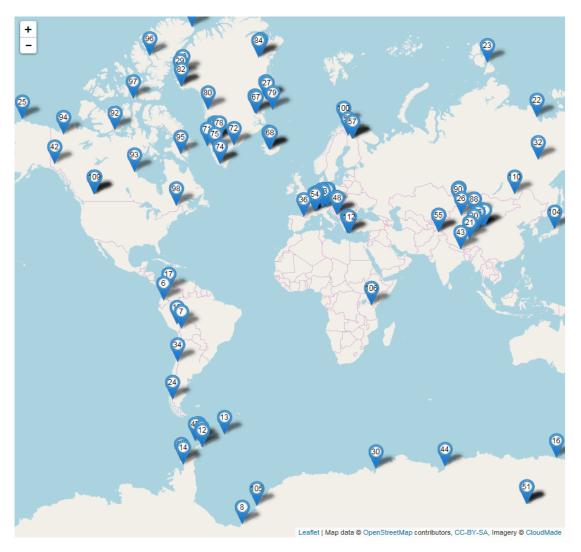
### Contributions to GCW 2016

Of the 32 approved croyonet stations and sites Concordia station is the only one in Antarctica



### Contributions to GCW 2017

Of the 112 approved croyonet stations and sites 13 are in the Antarctic



### The WMO Integrated Global Observing System(WIGOS)

- Upcoming plans are to try and get WIGOS compliance for Antarctica.
- WIGOS has two main strands, quality control and metadata collection.
- The required quality control is already carried out at the British Antarctic Surveys (BAS) and are we would like to encouraging the Antarctica station operators to update their stations metadata relating to their meteorological observing program that is held in the OSCAR database at
  - https://oscar.wmo.int/surface//index.html#/.
- If we can achieve WIGOS compliance then Antarctica will be the first region in the world to do this.





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#### Quick access

#### Generate station report by:

	Station name	¥
I	W//000 04-6 1466	

#### Generate station lists by:

Country	₩
Туре	v

#### Find people by:

Contact name	w
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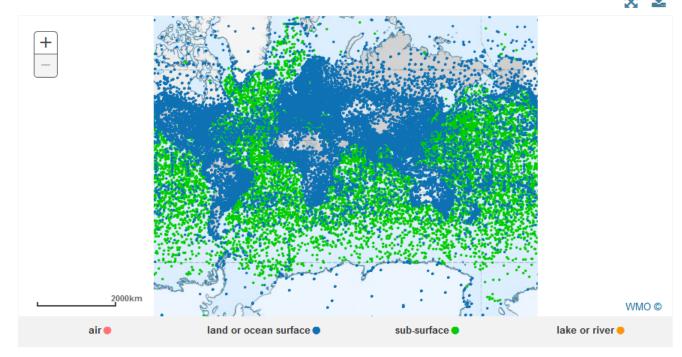
#### Filter map

#### By program / network:

- WIGOS components
  - **V** GOS
  - ✓ GAW
  - **▼** WHOS
  - ▼ GCW
- Co-sponsored components
  - ▼ GCOS
- GOOS
- ▼ GTOS
- Other components
  - Non affiliated

#### Welcome to OSCAR/Surface

OSCAR/Surface is the World Meteorological Organization's official repository of WIGOS metadata for all surface-based observing stations and platforms. For more details on OSCAR, please visit the About section. For additional information about WIGOS, visit the WIGOS Homepage.



#### Latest news

2018-03-26

2018-03-14

2018-04-19	Scheduled maintenance.	25.04.2018

GAWSIS and OSCAR will be unavailable for around five minutes on 25 April 2018 between 20.00 and 21.30 UTC due to scheduled maintenance of the authentication system.

We apologise for any inconvenience.

#### Maintenance, 28,03,2018

Both GAWSIS and OSCAR will be unavailable on 28 March 2018 between 20:00 and 21:30 UTC for scheduled maintenance of the authentication Service.

We apologise for any inconvenience.

Scheduled maintenance, 22.03.2018

GAWSIS and OSCAR will be unavailable for around an hour on 22 March 2018 between 08.00 and 11.00 UTC for

Support

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Links

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Station
Instrument
Contact
Bibliographic Reference

Homepage > Search > Station search > Station report details

#### **BUTLER ISLAND (Antarctica)**

in WMO Region Antarctica

Station characteristics

Last updated: 2018-07-09 by Colwell Steve

Station name:	BUTLER ISLAND				_
Station alias:			+	9	
Date established:	1986-01-01		H-H		
Station type:	Land (on ice)				/
Station class(es):					
WIGOS Station Identifier(s):	WIGOS Station Identifier	Primary			
	0-20000-0-89266			40km	-

WMO region: Antarctica
Country / Territory: > Antarctica

Coordinates: >72.2063888889°S, 60.16972222222°W

Time zone: Climate zone:

Station URL: https://legacy.bas.ac.uk/met/momu/weather\_display/Butler/index.html

Other link (URL):

Predominant surface cover:

Surface roughness: > Smooth (Mud flats, snow; no vegetation, no obstacles)

Topography or bathymetry:

Population in 10km / 50km (in thousands):  $\checkmark 0 / 0$ 

> Smooth (Mud hats, show, no vegetation, no obstacles)

Population in 10km	Population in 50km	From
0	0	1986-01-01

Supervising organization:

> UKMO

Site information: > The station was originally registered based on WMO Pub 9 Vol A information containing these

#### Photo gallery





#### Programs / network affiliation:

Program / network affiliation	Program specific ID	Current recorded status	Declared status	From	То	Status
GOS		Operational	Operational	2016-04-28		Approved
GSN		Operational	Operational	2016-04-28		Approved
ANTON		Operational	Operational	2016-04-28		Approved
CLIMAT(C)		Operational	Operational	2016-04-28		Approved

#### ▼ Observations / measurements

- > Atmosphere > Humidity
- > Atmosphere > Precipitation
- > Atmosphere > Pressure
- ▼ Atmosphere > Temperature
  - v Air temperature (at specified distance from reference surface) [Geometry: Point] [Method: Resistance thermometer, thermistor]

Variable: Air temperature (at specified distance from reference surface)

Variable unit: degree Celsius(°C)

Source of observation: Instrumental automatic reading

Geometry: Point

Representativeness: mesoscale (3 km .. < 100 km)

Method of observation: Resistance thermometer, thermistor

Near Real Time: Yes

Programs / network affiliation:

Near Real Time URL: https://legacy.bas.ac.uk/met/momu/weather\_display/Butler/index.html

Data policy / use constraints: WMOEssential

GOS( from 2016-04-28 )

ANTON( from 2016-04-28 )

GSN( from 2016-04-28 )

+

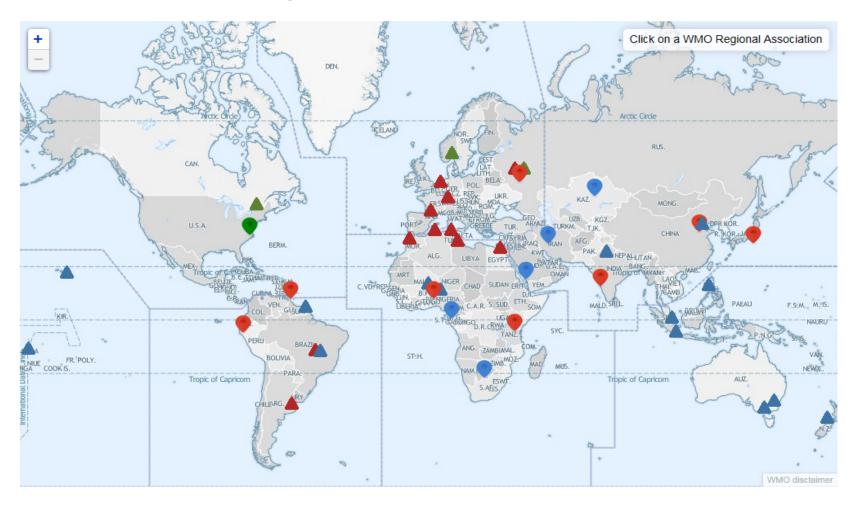
Measurement leader: Colwell Steve, Mr

On 2018-07-06 by Colwell Steve Last updated:

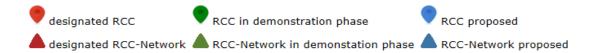
> Deployments

Air temperature (at specified distance from	om reference surface) - [Geom	netry: Pointj - [ivietnod: Resistance thermom	eter, thermistor]
Variable:	Air temperature (at specific	ed distance from reference surface)	
Variable unit:	degree Celsius(°C)		
Source of observation:	Instrumental automatic rea	ading	
Geometry:	Point		
Representativeness:	mesoscale (3 km < 100	km)	
Method of observation:	Resistance thermometer,	thermistor	
Near Real Time:	Yes		
Near Real Time URL:	https://legacy.bas.ac.uk/me	et/momu/weather_display/Butler/index.html	
Data policy / use constraints:	WMOEssential		
Programs / network affiliation:	GOS( from 2016-04-28 )		
	ANTON( from 2016-04-2	8)	
	GSN( from 2016-04-28 )		
Measurement leader: Colwell Steve, Mr			
Last updated:	On 2018-07-06 by Colwell Steve		
> Deployments			
> Atmosphere > Wind			
→ Station contacts			
> Mr Adam Barber			
> Mr Steve Colwell			
> Mr Stuart Thompson			
> Bibliographic references			
→ Documents			
Title	Author	Description	Date
Site visit for 2007/08 season			
Second site visit for 2007/08 season			
Site visit for 2009/10 season			
Site vist for 2012/13 season			
Site visit for 2017/18 season			
Site vist for 2014/15 season			
Site visit for 2014/15 season Site visit for 2011/12 season			

### **Current Regional Climate Centres (RCCs)**



#### Legend



### **Regional Climate Centre mandatory functions**

- Interpret and assess Long Range Forecasts (LRF) products from Global Producing Centres (GPCs) including the exchange of basic forecasts and hindcast data.
- Generate regional tailored products, including seasonal climate outlooks.
- Provide online access to RCC products.
- Perform regional climate diagnostics.
- Develop regional climate datasets.
- Establish a regional historical reference climatology.
- Provide climate archiving services.
- Implement a regional Climate Watch.
- Coordinate training for RCC users.
- Provide information on RCC products and guidance on their use.

### How to implement a Regional Climate Centre

- Carry out a survey on regional needs for, and capacity to deliver, WMO RCC services leading to a statement of requirements of the regional association.
- Implementation plan for WMO RCCs in the regional association including identification of potential hosts.
- Pilot phase (1 to 4 years) in order to implement, demonstrate and consolidate the RCCrelated products and services.
- Initiation of the official designation process through the president of the regional association according to the designation procedure defined in the WMO Manual on the Global Data-processing and Forecasting System (WMO-No. 485).
- Designation process overseen by the WMO Commission for Climatology and WMO Commission for Basic Systems, including a demonstration of the applicants' capabilities regarding the WMO RCC services required.
- Official designation by the WMO Executive Council and the WMO Congress.

# **Antarctica Regional Climate Centre (RCC)**

- The WMO is interested in setting up an Antarctic RCC.
- The Arctic one has just gone operational at <a href="https://arctic-rcc.org/">https://arctic-rcc.org/</a> but we feel that we need to assess the needs of the Antarctica community by engaging with all of the relevant stakeholders.
- There was an information paper put into the recent COMNAP AGM and also a poster at POLAR 2018 in Davos.
- How do we proceed now?

#### Review user needs

- Review COMNAP Sea Ice Challenges workshop report;
- Review of WMO survey to COMNAP;
- IAATO survey;
- IICWG Hobart 2017 breakout session: Ice information delivery for Antarctica;
- Response to ATCM papers 2016 & 2017;

#### **Assessment of NMHS interest and capabilities**

- Analysis of the 2015 survey to PR's;
- Conduct an updated Ant-RCC focussed survey through WMO members
- Setting the date and place for a scoping workshop.
- These can be discussed in this afternoons breakout session.

MONITORING

DATA ACCESS

REGIONAL SERVICES

ABOUT US



#### Welcome to the Arctic RCC Network

RCCs are Centres of Excellence that assist WMO Members in a given region to deliver better climate services and products including regional long-range forecasts, and to strengthen their capacity to meet national climate information needs.

ArcRCC-Network is based on the WMO RCC concept with active contributions from all the Arctic Council member countries through a mutually agreed structure consisting of three sub-regional geographical nodes, namely, (i) North America Node, (ii) Northern Europe and Greenland Node and (iii) Eurasia Node.

#### **Climate monitoring**

**Arctic Regional** 

**Climate Centre** 

Network

Climate monitoring products to be shown here.

#### Long-range forecasting

Products like seasonal outlooks.

#### Data access

Search datasets for the Arctic.

#### **Nordic Node**

Collaboration between Norway, Sweden, Denmark, Finland and Iceland.

#### American Node

Collaboration between Canada and USA.

#### **Eurasian Node**

Led by the Russian Federation.

#### News

#### WMO launches Arctic Regional Climate Centre Network

Submitted by leneo on Tue, 2018-05-22 09:55

A new Pan-Arctic Climate Outlook Forum has met for the first time to provide predictions for the forthcoming summer season as part of an international drive to improve weather, climate and sea ice forecasts in a region undergoing rapid environmental change.

Read the full WMO press release.

Tags: news wmo parcof

Read more

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▶ Old seasonal outlooks

About forecasts

WMS Sea Ice - GeoMet

Seasonal outlooks

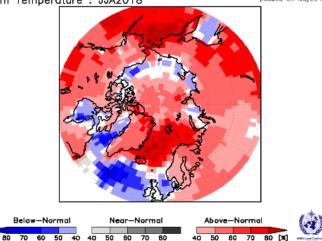
The images below show seasonal outlooks for June to August 2018, for temperature and precipitation.

#### Probabilistic Multi-Model Ensemble Forecast

/GPC\_seaul/GPC\_washington/GPC\_exeter/GPC\_moscow/GPC\_beijing/GPC\_melbourne/GPC\_optec/GPC\_pretoria/GPC\_montreal/GPC\_offenbach

2m Temperature: JJA2018

(issued on May2018)



Temperature JJA18 seasonal outlook: there is probability of at least 50% or more that the temperature will be above normal in the Alaskan region and in the Canadian Arctio. Over island and Greenland there is also at least 50% probabilities for the above normal temperature.

Over the European Arctic there at least 40% chance for the above normal summer in the southern and central Norway while in the northern Norway, Sweden and in Finland there is at least 50% chance for the above normal summer. We expect a probability of at least 50% for above average temperatures in the eastern and central Russian Arctic. In the most eastern part of Russia, near the region of Bering straight we expect somewhat higher probabilities of at least 60-70%. Source: https://www.wmoic.org/.

#### Probabilistic Multi-Model Ensemble Forecast

/GPC\_secul/GPC\_washington/GPC\_exeter/GPC\_moscow/GPC\_beijing/GPC\_melbourne /GPC\_cptec/GPC\_pretoria/GPC\_montreal/GPC\_offenbach

Precipitation: JJA2018 (issued on May2018)

Below-Normal Near-Normal Above-Normal 40 50 60 70 80 [\*] 80 70 60 50 40 40 50 60 70 80



Precipitation JJA18 seasonal outlook: there is a probability of 40% or more for above average precipitation over Alaska, western Canada and easternmost parts of Russia. There is also a 40% chance for above normal precipitation over the Canadian archipelago and northern Norway and Sweden. Below than normal precipitation is expected over the guilf of Bothnia with a probability of at least 40%. Otherwise, there is an equal chances for above, below or near normal precipitation over the Arctic belt. Source: https://www.wmoic.org/.

# Questions