

DATA BUOY COOPERATION PANEL (DBCP)

FORMAT FOR NATIONAL REPORTS ON CURRENT AND PLANNED BUOY PROGRAMMES

Country	Germany
Year	2020

Please Identify your Programme's Major Opportunities and Challenges/Risks during the upcoming year and how DBCP can most effectively assist your Programme.

1. CURRENT PROGRAMME:

Please Identify your Programme's Major Opportunities and Challenges/Risks during the upcoming year and how DBCP may assist your Programme.

Agency or programme	Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Snow Buoys	
Number and type of buoys	(a) deployed during the year	5
	(b) operational as of 31 August	4
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic, Weddell Sea	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	<i>Thayer School of Engineering in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Thermistor Buoys for Sea Ice Mass Balance</i>	
Number and type of buoys	(a) deployed during the year	4
	(b) operational as of 31 August	0
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography in collaboration with FMI and PRIC Thermistor Buoys for Sea Ice Mass Balance	
Number and type of buoys	(a) deployed during the year	3

	(b) operational as of 31 August	1
	(c) reporting on GTS as of 31 August	0
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input checked="" type="checkbox"/>
Main deployment areas	Central Arctic, Weddell Sea	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	<i>PRIC in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Thermistor Buoys for Sea Ice Mass Balance</i>	
Number and type of buoys	(a) deployed during the year	13
	(b) operational as of 31 August	7
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	<i>FMI in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Thermistor Buoys for Sea Ice Mass Balance</i>	
Number and type of buoys	(a) deployed during the year	12
	(b) operational as of 31 August	6
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	<i>NPI in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Thermistor Buoys for Sea Ice Mass Balance</i>	
Number and type of buoys	(a) deployed during the year	2
	(b) operational as of 31 August	2
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents	

	<i>If vandalism incidents have occurred during the year, please provide the details using the form in the annex.</i>
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Agency or programme	NTU in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Thermistor Buoys for Sea Ice Mass Balance	
Number and type of buoys	(a) deployed during the year	1
	(b) operational as of 31 August	0
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents <i>If vandalism incidents have occurred during the year, please provide the details using the form in the annex.</i>	

Agency or programme	UiT in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Thermistor Buoys for Sea Ice Mass Balance	
Number and type of buoys	(a) deployed during the year	1
	(b) operational as of 31 August	1
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents <i>If vandalism incidents have occurred during the year, please provide the details using the form in the annex.</i>	

Agency or programme	Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Phys CALIB Buoys	
Number and type of buoys	(a) deployed during the year	4
	(b) operational as of 31 August	2
	(c) reporting on GTS as of 31 August	0
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Lincoln Sea	
Vandalism incidents	(a) Number of incidents <i>If vandalism incidents have occurred during the year, please provide the details using the form in the annex.</i>	

Agency or programme	Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Ice Surface Velocity Profiler	
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Number and type of buoys	(a) deployed during the year	15
	(b) operational as of 31 August	8
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	PRIC in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Ice Surface Velocity Profiler	
Number and type of buoys	(a) deployed during the year	30
	(b) operational as of 31 August	20
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	COAS in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Ice Surface Velocity Profiler	
Number and type of buoys	(a) deployed during the year	33
	(b) operational as of 31 August	25
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	FMI in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Ice Surface Velocity Profiler	
Number and type of buoys	(a) deployed during the year	7
	(b) operational as of 31 August	6
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	

Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.
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Agency or programme	EUMETNET in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Ice Surface Velocity Profiler	
Number and type of buoys	(a) deployed during the year	12
	(b) operational as of 31 August	10
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	AARI in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Ice Surface Velocity Profiler	
Number and type of buoys	(a) deployed during the year	2
	(b) operational as of 31 August	2
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Radiation stations	
Number and type of buoys	(a) deployed during the year	11
	(b) operational as of 31 August	3
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input checked="" type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Ocean CTD buoy	
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Number and type of buoys	(a) deployed during the year	9
	(b) operational as of 31 August	1
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	NPS in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Autonomous ocean flux buoy	
Number and type of buoys	(a) deployed during the year	5
	(b) operational as of 31 August	1
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	University of Washington in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography UpTempo buoy	
Number and type of buoys	(a) deployed during the year	2
	(b) operational as of 31 August	2
	(c) reporting on GTS as of 31 August	
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

Agency or programme	OUC in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography DTOP Ocean profiler	
Number and type of buoys	(a) deployed during the year	5
	(b) operational as of 31 August	2
	(c) reporting on GTS as of 31 August	
Purpose of programme	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>

<i>(check/uncheck boxes using [] or [x] as appropriate)</i>	<i>(c) developmental</i>	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	<i>(a) Number of incidents</i> <i>If vandalism incidents have occurred during the year, please provide the details using the form in the annex.</i>	

Agency or programme WHOI	WHOI in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Ice-Tethered Profiler	
Number and type of buoys	<i>(a) deployed during the year</i>	3
	<i>(b) operational as of 31 August</i>	1
	<i>(c) reporting on GTS as of 31 August</i>	
Purpose of programme <i>(check/uncheck boxes using [] or [x] as appropriate)</i>	<i>(a) operational</i>	<input type="checkbox"/>
	<i>(b) met / ocean research</i>	<input checked="" type="checkbox"/>
	<i>(c) developmental</i>	<input type="checkbox"/>
Main deployment areas	Central Arctic	
Vandalism incidents	<i>(a) Number of incidents</i> <i>If vandalism incidents have occurred during the year, please provide the details using the form in the annex.</i>	

Agency or programme	Bundesamt für Seeschifffahrt und Hydrographie, German Argo (ARGOS-No. 1895)	
Number and type of buoys	<i>(a) deployed during the year</i>	39
	<i>(b) operational as of 31 August</i>	160
	<i>(c) reporting on GTS as of 31 August</i>	160
Purpose of programme <i>(check/uncheck boxes using [] or [x] as appropriate)</i>	<i>(a) operational</i>	<input checked="" type="checkbox"/>
	<i>(b) met / ocean research</i>	<input checked="" type="checkbox"/>
	<i>(c) developmental</i>	<input checked="" type="checkbox"/>
Main deployment areas	North Atlantic, Nordic Seas, Weddell Gyre, tropical waters, subpolar Gyre, South Atlantic, Indian Ocean, Mediterranean Sea	
Vandalism incidents	<i>(a) Number of incidents</i> 0 <i>If vandalism incidents have occurred during the year, please provide the details using the form in the annex.</i>	

Agency or programme	Bundesamt für Seeschifffahrt und Hydrographie, MARNET (ARGOS-No. 2120)	
Number and type of buoys	<i>(a) deployed during the year</i>	10
	<i>(b) operational as of 31 August</i>	9
	<i>(c) reporting on GTS as of 31 August</i>	6
Purpose of programme <i>(check/uncheck boxes using [] or [x] as appropriate)</i>	<i>(a) operational</i>	<input checked="" type="checkbox"/>
	<i>(b) met / ocean research</i>	<input type="checkbox"/>
	<i>(c) developmental</i>	<input type="checkbox"/>
Main deployment areas	North Sea, Baltic Sea	
Vandalism incidents	<i>(a) Number of incidents</i> 0 <i>If vandalism incidents have occurred during the year, please provide the details using the form in the annex.</i>	

Agency or programme	Bundesamt für Seeschifffahrt und Hydrographie, Norwave (ARGOS-No. 9981)	
Number and type of buoys	<i>(a) deployed during the year</i>	9
	<i>(b) operational as of 31 August</i>	8

	(c) reporting on GTS as of 31 August	1
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[x]
	(b) met / ocean research	[]
	(c) developmental	[]
Main deployment areas	North Sea, Baltic Sea	
Vandalism incidents	(a) Number of incidents 1 If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

(repeat table above as often as necessary)

2. PLANNED PROGRAMMES:

Agency or programme	Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Snow Buoys	
Number and type of buoys	planned for deployment in the next 12 months	10
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[]
	(b) met / ocean research	[x]
	(c) developmental	[]
Main deployment areas	Central Arctic, Weddell Sea	

Agency or programme	Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Thermistor Buoys for Sea Ice Mass Balance	
Number and type of buoys	planned for deployment in the next 12 months	9
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[]
	(b) met / ocean research	[x]
	(c) developmental	[x]
Main deployment areas	Central Arctic, Weddell Sea	

Agency or programme	PRIC in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Thermistor Buoys for Sea Ice Mass Balance	
Number and type of buoys	planned for deployment in the next 12 months	2
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[]
	(b) met / ocean research	[x]
	(c) developmental	[]
Main deployment areas	Central Arctic	

Agency or programme	Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Calib buoys	
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Number and type of buoys	planned for deployment in the next 12 months	6
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[]
	(b) met / ocean research	[x]
	(c) developmental	[]
Main deployment areas	Lincoln Sea	

Agency or programme	Univ. of Huddersfield in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Ice Surface Velocity Profiler	
Number and type of buoys	planned for deployment in the next 12 months	20
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[]
	(b) met / ocean research	[x]
	(c) developmental	[]
Main deployment areas	Central Arctic	

Agency or programme	EUMETNET in collaboration with Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Ice Surface Velocity Profiler	
Number and type of buoys	planned for deployment in the next 12 months	4
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[]
	(b) met / ocean research	[x]
	(c) developmental	[]
Main deployment areas	Central Arctic	

Agency or programme	Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung Sea Ice Physics / Physical Oceanography Radiation stations	
Number and type of buoys	planned for deployment in the next 12 months	2
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[]
	(b) met / ocean research	[x]
	(c) developmental	[x]
Main deployment areas	Central Arctic	

Agency or programme	Bundesamt für Seeschifffahrt und Hydrographie, German Argo (ARGOS-No. 1895)	
Number and type of buoys	planned for deployment in the next 12 months	75, APEX + ARVOR

Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[x]
	(b) met / ocean research	[x]
	(c) developmental	[x]
Main deployment areas	North Atlantic, Nordic Seas Weddell Gyre	

Agency or programme	Bundesamt für Seeschifffahrt und Hydrographie, MARNET (ARGOS-No. 2120)	
Number and type of buoys	planned for deployment in the next 12 months	12
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[x]
	(b) met / ocean research	[x]
	(c) developmental	[x]
Main deployment areas	North Sea, Baltic Sea	

Agency or programme	Bundesamt für Seeschifffahrt und Hydrographie, Norwave (ARGOS-No. 9981)	
Number and type of buoys	planned for deployment in the next 12 months	12
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[x]
	(b) met / ocean research	[]
	(c) developmental	[X]
Main deployment areas	North Sea, Baltic Sea	

Agency or programme	GEOMAR Kiel, Autonomous Glider (BMBF REEBUS ARGOS-No. 1783)	
Number and type of buoys	planned for deployment in the next 12 months	10
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[x]
	(b) met / ocean research	[x]
	(c) developmental	[x]
Main deployment areas	Subtropical North Atlantic	

Agency or programme	GEOMAR Kiel, Moored Buoys (H2020 BLUE ACTION ARGOS-No. 783)	
Number and type of buoys	planned for deployment in the next 12 months	2
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	[x]
	(b) met / ocean research	[x]
	(c) developmental	[x]
Main deployment areas	Subpolar North Atlantic & Cape Verde	

(repeat table above as often as necessary)

3. TECHNICAL DEVELOPMENTS:

(a) Buoy design	<ul style="list-style-type: none"> • Radiation stations have an improved casing (Pelicasces). The new casing is water proof and more robust in case of a polar bear attac. The plug-in connections are now water proof according to IP68. • New „ECO-LIGHT“ buoy with advanced surface unit to measure bio-physical ice and water properties.
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	<ul style="list-style-type: none"> • New Buoy type for the Baltic Sea and shallow water application. Spare buoy, which is able to measure even under ice conditions • New buoy type for the North Sea on the basis of an LT81-fairway buoy equipped with a LiDAR and standard oceanographic instruments, actual in a field trial •
(b) Instrumentation	<ul style="list-style-type: none"> • Continuation of development of autonomous measurements above, in, and under sea ice, as well as in the ocean. • Continuation of development of buoys for spectral radiation measurements and the integration of bio-physical sensors in collaboration with Bruncin (Croatia). Argo floats with alternative RBR CTD will be tested • BGC Argo floats with new sensors such as an alternative nitrate sensor and hyperspectral light sensors from Trios will be tested • Argo Float deployments in Baltic will be performed • A successful Argo float deployment in the Norwegian Trench has been carried out • Deployments of Argo floats in the Arctic are upcoming

4. PUBLICATIONS (on programme plans, technical developments, QC reports, etc.):

Ref	Title	Type ¹
1	Snow depth and air temperature evolution on sea ice derived from Snow Buoy measurements by Nicolaus et al	submitted to JGR Oceans
2		
3		
4		

(repeat rows in the table above as necessary)

5. ADDITIONAL COMMENTS:

(a) Quality of buoy data	<ul style="list-style-type: none"> • Comparisons of measurements of identical parameters with different buoy types are ongoing, mostly snow depth and air temperature • Problems with stability of the Argo SBE CTD (conductivity cell) have been investigated at international level. A report about the conductivity cell behaviour in 'fast salty drifters' by SBE was given at ADMT20 in October in Villefranche 2019 and at AST21 in April 2020 (virtually). Analysis is ongoing
(b) Communications	<ul style="list-style-type: none"> • AWI : Deployments are also performed for cooperation institutes like York University, Finish Meteorological Institute, E-SURFMAR • The web portal meereisportal.de is constantly improved and extended to provide near real time access to more and more buoy and buoy types. User feedback is included to improve data presentation and final publication.
(c) Buoy lifetimes	<ul style="list-style-type: none"> •

¹: Types of publications: (1) Implementation, (2) Operations, (3) Instrumentation, (4) Quality Management, (5) Data Management, (6) Data collection and/or location, (7) Data use, (8) Other

(d) Data Accessibility ²	<ul style="list-style-type: none"> • Data available at: http://data.seaiceportal.de/gallery/index_new.php?lang=en_US • http://www.bsh.de/de/Meeresdaten/Beobachtungen/MARNE-T-Messnetz/index.jsp • http://fino.bsh.de/
(e) New Observations ³	•
(f) GFCS and WIGOS ⁴	• Most buoys transmit their data into the GTS system
(g) Additional Requirements ⁵	•
(h) DBCP Linkages ⁶	•
(i) DBCP Excellence Awards ⁷	•
(j) Other	<ul style="list-style-type: none"> • Costs for data transfer are a big issue. Most funding available to us is infrastructure-based, which means that nearly no non-hardware costs can be covered. These costs need to be absorbed by the general budget of the individual sections. The IABP is currently supporting us by paying transmission costs for snow buoys and most SVPs. A general solution needs to be found. • We hereby report several acts of significant vandalism by polar bears. We'd be happy to learn how to avoid/minimize that. •

Note: It is recommended that this form is filled in electronically and returned also electronically to the Secretariat. A template of the form can be downloaded from the following ftp site:

<ftp://ftp.wmo.int/Documents/PublicWeb/amp/mmop/documents/dbcp/templates/Format-DBCP-National-Reports.doc>

² How does the international community access the ocean observing data provided by your Organization

³ What new ocean observations does your Organization plan to make in the upcoming year (i.e. new parameters, expanding geographic scope, filling spatial or latency gaps)?

⁴ How do your Organization's observations contribute to the WMO's Integrated Global Observing System (WIGOS) and/or Global Framework for Climate Services (GFCS)?

⁵ What additional requirements (other than climate) does your organization have that are currently not adequately addressed by the DBCP?

⁶ How would your organization benefit from DBCP's closer linkages to the JCOMM Services, Data Management and Modelling Communities?

⁷ Nominate a Member from your Organization who has demonstrated outstanding achievement in either a) advancing technology or b) applying ocean observation data in service to society.

ANNEX - FORM FOR REPORTING INCIDENTS OF VANDALISM ON DATA BUOYS

Country								
Contact person e-mail								
Year	Buoy Location		Type of Buoy (e.g. Tsunami / Met -Ocean Buoy/Drifter/ARGO floats/ Other)	Type of damage to buoy	Buoy id/WMO id	Number of days of transmission lost	Cost of replacement	Remarks (e.g. whether photos have been taken)
	Latitude	Longitude						
Efforts taken against vandalism								
Awareness meeting Organised								
Suggestions (if any)								
Photos on Vandalism		(please include pictures if available; and email electronic versions to dbcp-tc@jcommops.org and dr.r.venkatesan@gmail.com)						

Note: It is recommended that this form is filled in electronically and returned electronically also to JCOMMOPS (dbcp-tc@jcommops.org and dr.r.venkatesan@gmail.com). A template of the form can be downloaded from the following ftp site: <ftp://ftp.wmo.int/Documents/PublicWeb/amp/mmop/documents/dbcp/templates/Format-DBCP-Buoy-Vandalism-Reports.doc>