

Arctic Icebreaker User Ideas (submitted to the AICC before 01/2000)

REGION	DAYS/ CRUISE	DESCRIPTION	PI or CONTACT	#	COMMENTS
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GENERAL OR UNSPECIFIED YEAR

WESTERN

Bering, Chukchi, and Beaufort Seas (all years)		marine mammal surveys	US Fish & Wildlife Service	?	SOO only
East Siberian & Chukchi (2001-2003)	50	shelf-basin exchange & modification	Smethie, W.; Schlosser, P.	20	~100 stations along shelf crossing slope regions at right angles; envisioned to be coordinated w/ SBI
East Siberian (2001 onwards)	28-42	Late Quaternary Paleoceanography	Briggs, William M.	1	25-30 box cores along transects from basin to shelf
Chukchi Borderland (2002, 2003; summer/fall)	50	Paleoceanography of the Chukchi Borderland	Polyak, Leonid	4	sediment coring (long & box cores), CHIRP profiling, possibly plankton tows
(1) West Greenland Shelf & Baffin Bay (2001, 2002, 2004, 2005)	30/ cruise	sedimentology	Syvitski, James; Jennings, Anne; Andrews, John	10- 20	seismic surveys; multibeam sonar; coring & grab sampling (at least 10m piston core); giant gravity core, box or multicorer.

GENERAL OR UNSPECIFIED YEAR

EASTERN & CENTRAL

Northern Labrador	21	glacial geochronology	Clark, Peter; Brook, Ed	3-4	helicopter supported
Central Canadian Basin		thorium & protactinium isotopes	Edmonds, Henrietta		6 stations across the Basin; box cores
Central (2000-2005; 2-3 cruises)	20	microbial dynamics	Hollibaugh, James	10	25-35 stations along transect
Arctic Basin, Nansen-Gakkel Ridge 2000-2010	5/year	local earthquake survey	Sohn, Robert	4	long-term ocean bottom seismometers; revisit & deploy autonomous vehicle in following years; recover instruments
Nares Strait (helo from Kane Basin)	?	basal melting of Greenland glaciers	(Jacobs; Stan)	?	
Eurasian / Central (2000-2003)	30	stratus microfysics & chemistry	Borys, Randolph	2-3	effects of transport of Arctic haze aerosol on cloud physics & radiative properties
Lincoln Sea (2001, 2002)	45	Biochemical Cycling of Methyl Halides	Yvon-Lewis, Shari; Saltzman, Eric; et al	8	continuous measurements; depth profiles; incubations of water samples; isotopically spiked incubations
(2) E. Siberian shelf & Slope and Alaskan area (2001, 2002, 2004, 2005)	30 /cruise	sedimentology	Syvitski, James; Jennings, Anne; Andrews, John	10- 20	seismic surveys; multibeam sonar; coring & grab sampling (at least 10m piston core); giant gravity core, box or multicorer.
East Greenland Shelf & slope (2001, 2002) (summer)	35	ice & freshwater budget of the EGC	Minnet, Peter; Schlosser, Peter; et al.	20	6-8 sections from the Greenland coastline to the eastern edge of the EGC, using CTD, ADCP, surface meteorology, helo
trans-Arctic (any year)		bromine in snow & air	Lowenthal, Douglas	2	trans-Arctic transect

2000

WESTERN

Chukchi Sea	28	population of Bering & Chukchi Sea polar bears	Schliebe, Scott	4-6	line transect surveys of polar bears along ice-edge
Beaufort Sea	14	surface fluxes & radiometric properties	Maslanik, James A.	3	atmospheric state variables, surface temperature, and surface reflectance upwind, above & downwind of leads at various levels.
Western Arctic	5	Hydrophobic Organic Compounds	Buesseler, Ken	3	CTD/rossette; in situ pumps; multi-corer

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2001

WESTERN

Chukchi Sea (Aug/Sept.)	28	population e of Bering & Chukchi Sea polar bears	Schliebe, Scott	4-6	line transect surveys of polar bears along ice-edge
Chukchi Sea	14	ice-edge survey: Pacific walrus population	Garlich-Miller, Joel	4-6	determination of age-sex composition of walruses
Bering to Chukchi	14	A late Pleistocene coring transect	Keigwin, Lloyd	<10	acoustic surveying, water column sampling, gravity coring, piston coring, multicoring, and vibracoring.
Bering Sea, Chukchi Sea, Beaufort Sea (Feb-May)	45 /cruise	marine mammal ecology in the sea ice zone	Bengston, John; Moore, Sue; Lowry, Lloyd; et al.	6	aerial survey counts of pinipeds & cetaceans; deployment of satellite-linked instrument on pinipeds; biopsy samples
Western Arctic	3	Hydrophobic Organic Compounds	Buesseler, Ken	3	CTD/rossette; in situ pumps; multi-corer

2001

EASTERN & CENTRAL

Eurasian Basin	20-30	geodynamics	Tikku, Anahita	5-10	marine geophysical survey
Gakkel Ridge (summer)		study of Gakkel Ridge	Langmuir, Charles		petrological sampling, inter-disciplinary MG&G activities; with Germans (& Polarstern) - part of InterRIDGE
East Greenland slope; Greenland & Iceland seas	35	fate of dense Arctic Ocean outflows	Swift, James; Smethie, William; Schlosser, Peter	16	CTD/tracer study w. LADCP with multiple sections across East Greenland slope plus N-S section Iceland-Svalbard
Alpha Ridge	14	early history	Clark, David	5	sediment cores; age & origin of the Arctic Ocean

OTHER

"everywhere" (spring & summer)	multpl. cruises, 15-30 days ea.	Validation of ENVISAT Sea Ice Mapping	Nghiem, S.V.; Bertoia, C.; Flett, D.; McGillivray, P.;] Sielbeck, S.	4	ice types and properties along icebreaker tracks (include stops); helo for recon & photos; C-band radar backscatter; radiometer
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2002

WESTERN

Chukchi Sea (Aug/Sept.)	28	population estimate of Bering/Chukchi Sea polar bears	Schliebe, Scott	4-6	line transect surveys of polar bears along ice-edge
Chukchi Sea & Shelf, Barrow Canyon	14-16	shelf & shelf break processes in Chukchi Sea	Plueddemann, Al; Gawarkiewicz, Glen	6	Seasoar/CTD/ADCP survey of mesoscale and sub-mesoscale features; deployment of moored array spanning shelf break
Chukchi Sea	14	ice-edge survey: Pacific walrus population	Garlich-Miller, Joel	4-6	determination of age-sex composition of walruses
Long transects along route of SHEBA drift	40	spatial distribution of snow & ice characteristics	Sturm, Matthew	3-5	proposing a series of traverses in which coordinated snow & ice measurements are made in concert with remote sensing.
Western Arctic (1-3 cruises/year?)	28-42	SBI Phase II program	Grebmeier, Jackie	20+ ?	broad-based biological, geochemical, geological, and physical sampling programs, plus moorings;
Beaufort Sea (summer)	45-60	ice properties & upper ocean	Perovich, Don; Maykut, Gary; et al.	6+	albedo, transmission, and other optical properties; snow depth, ice pond measurements; ice physical properties; salinity and heat content in leads
Bering Sea, Chukchi Sea, Beaufort Sea (Feb.-May)	45 /cruise	marine mammal ecology in the sea ice zone	Bengston, John; Moore, Sue; et. al.	6	aerial survey of pinipeds & cetaceans; deployment of satellite-linked instrument on pinipeds; biopsy samples
Chukchi Borderland	21	Chukchi Borderland & Large-Scale Circulation	Woodgate, Rebecca; Aagaard, Knut; Swift, James	15	CTD/rossette sections including tracers, ADCP, box coring

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2002

EASTERN & CENTRAL

Gakkel Ridge (Or can do in odd years)	30	mantle melting & crustal genesis at slowest rate	Dick, Henry et al.	15-40	mesoscale & biological studies to follow for 10+ years; detailed petrological studies, anticipate 1/3 coverage per year; use of MAPR tool; preservation of hydrothermal vent community fauna, determination of rock compositions; seismic refraction studies; underway geophysical measurements
Western boundary north of Denmark Strait -Greenland Sea; Iceland Basin	50	origin of the Denmark Strait Overflow Water	Pickart, Robert; Mauritzen, Cecilie	15	CTD/LADCP survey ~100 stations along boundary north of Denmark Strait - Iceland Basin; deployment of profiling CTD moorings
Central	45-55	icebreaker & site survey support for drilling	Moran, Kathryn	7	high-resolution seismic reflection data collection; shallow piston core & box core operations; support to assist w/ maintaining primary drilling icebreaker

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2003

WESTERN

Chukchi Sea & Shelf, Barrow Canyon	14-16	shelf & shelf break processes in Chukchi Sea	Plueddemann, Al; Gawarkiewicz, Glen	6	Seasoar/CTD/ADCP survey of mesoscale and sub-mesoscale features; deployment of moored array spanning shelf break
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2006

WESTERN

Western Arctic	28-42	SBI Phase II program	Grebmeier, Jackie	20+ ?	broad-based biological, geochemical, geological, and physical sampling programs, plus moorings;
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