



Sjøfartsdirektoratet
Norwegian Maritime Authority

Update on ship traffic in the high seas area of the Central Arctic Ocean

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Ship traffic in the Arctic – recent projects

- CASE – Current Arctic Shipping and the Environment
 - CICERO (<http://www.cicero.uio.no>)
 - DNV GL (<http://www.dnv.no/>)
 - Norut (www.norut.no)
 - SINTEF Nord AS (www.sintef.no/nord)
 - Kystverket (www.kystverket.no)
- SHINE – SHip, Ice, Navigation, Environment

Sailed distance in the Arctic

Table 4-2 - Sailed distance in the Arctic

Ship type	Sailed distance in the Arctic - 2013							Total
	<1000 GT	1000 - 4999 GT	5000 – 9999 GT	10000- 24999 GT	25000- 49999 GT	50000- 99999 GT	≥100000 GT	
Oil tanker	122	219991	14481	94294	85978	33486	6798	455150
Chemical/Prod tanker	198	123922	53315	36533	19298	112		233377
Gas tanker							6955	6955
Bulk carrier		8085	1300	37876	93651	189		141101
General cargo	26041	301200	208966	125033	0			661239
Container vessel			84887	139715				224602
RoRo	10152	4227	128	8892		19074		42474
Reefer	346	74054	36053	9476				119929
Passenger	66197	215939	57466	84323 ⁽¹⁾	24328	12894	7994	469140
Offshore supply vessel	23874	59737	15735	5				99351
Other offshore service vessel	50142		1876	167				52185
Other activities	503971	368092	150544	162640 ⁽¹⁾	59			1185306
Fishing vessel	1184186	1697294	46656					2928136
Total	1865229	3072540	671406	698953	223314	65756	21747	6618946

(1) Part of the total distance is made by nuclear powered ships, 38 % for a passenger ship and 62 % other activities.

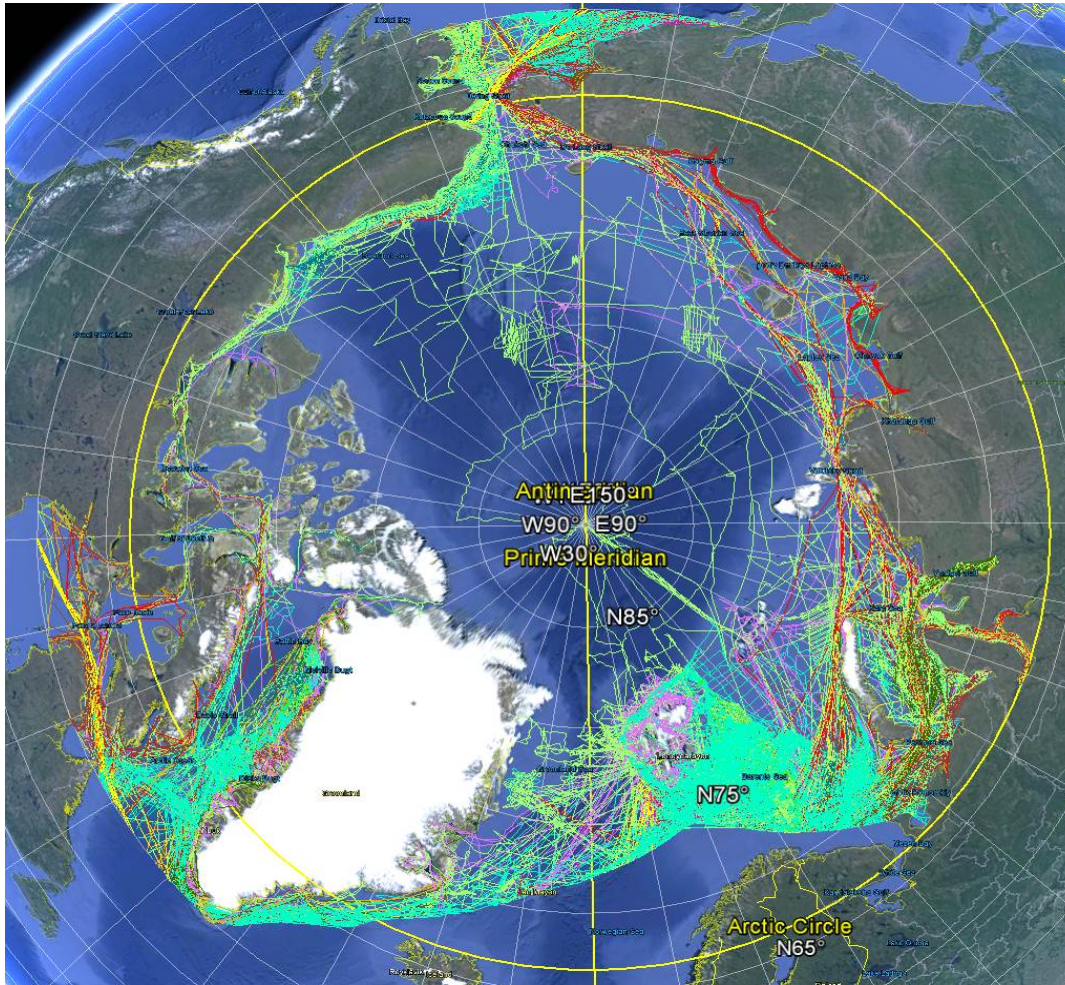


Open Sea Fuel Consumption versus operation in Ice

Table 5-10 – Estimated fuel consumption in open sea mode (baseline) and fuel increase due to operation in ice

Fuel & Emissions	Fuel consumption in Arctic (ton)		
	Open sea calculations “baseline”	Increased fuel consumption due to operation in ice	Total fuel consumption in Arctic
Oil tanker	29602	29,7 %	38 404
Chemical/Prod tanker	10141	3,9 %	10 541
Gas tanker	880	40,0 %	1 232
Bulk carrier	10284	14,9 %	11 814
General cargo	29495	13,5 %	33 478
Container vessel	19273	21,0 %	23 320
<u>RoRo</u>	4853	0,1 %	4 859
Reefer	6397	1,1 %	6 470
Passenger	21829	11,1 %	24 251
Offshore supply vessel	7030	43,1 %	10 058
Other offshore service vessel	759	3,5 %	785
Other activities	43266	28,0 %	55 379
Fishing vessel	75242	1,9 %	76 707
Total	259050	14,8 %	297 300

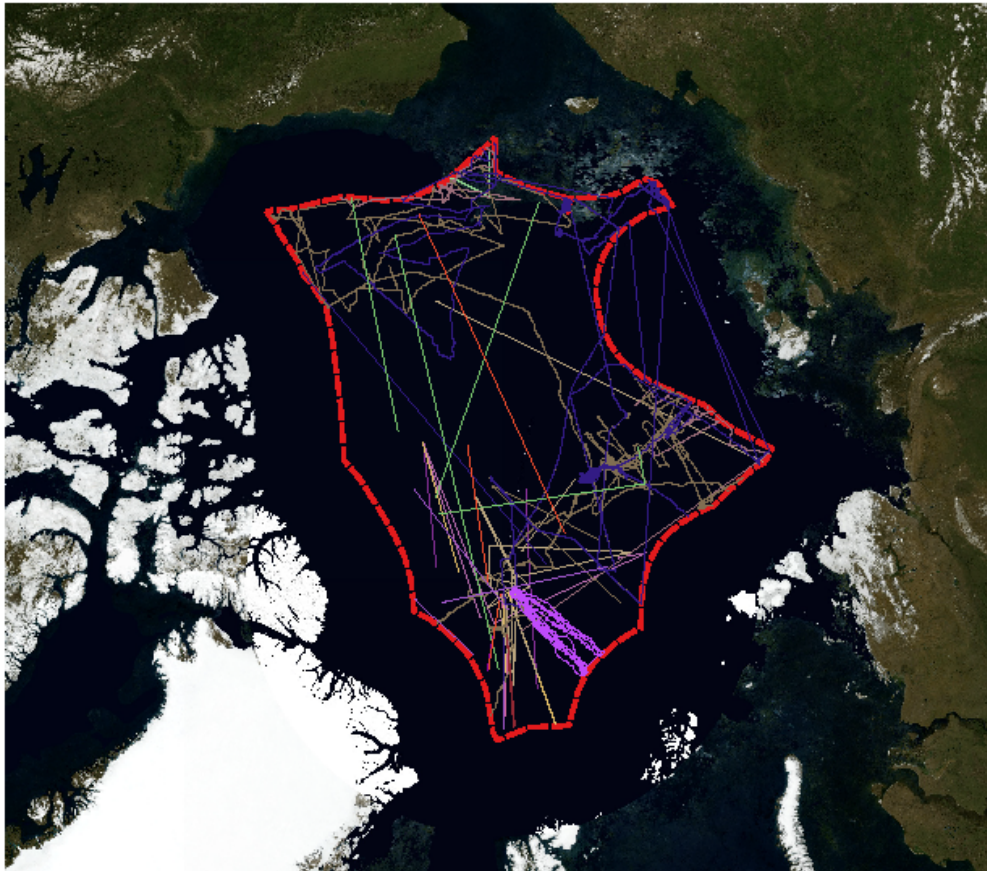
Ship traffic in the Arctic





High seas area of the Central Arctic Ocean

Traffic in open waters arctic - 201401-201507

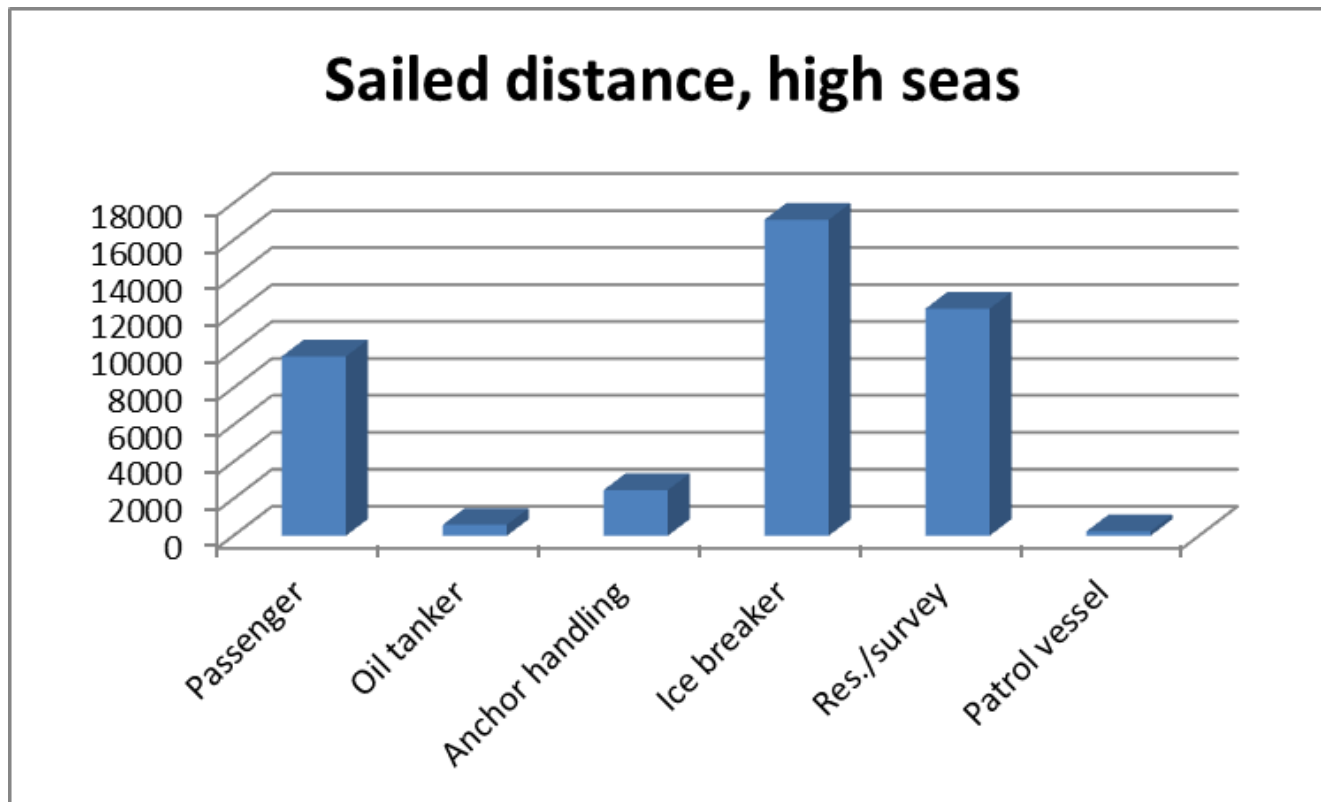


Legend

- OpenWatersArctic_201401
- OpenWatersArctic_201402
- OpenWatersArctic_201403
- OpenWatersArctic_201404
- OpenWatersArctic_201405
- OpenWatersArctic_201406
- OpenWatersArctic_201407
- OpenWatersArctic_201408
- OpenWatersArctic_201409
- OpenWatersArctic_201410
- OpenWatersArctic_201411
- OpenWatersArctic_201502
- OpenWatersArctic_201503
- OpenWatersArctic_201504
- OpenWatersArctic_201505
- OpenWatersArctic_201506
- OpenWatersArctic_201507
- ▭ Open Waters Arctic



Sailed distance – high seas area





Operational hours – high seas area

