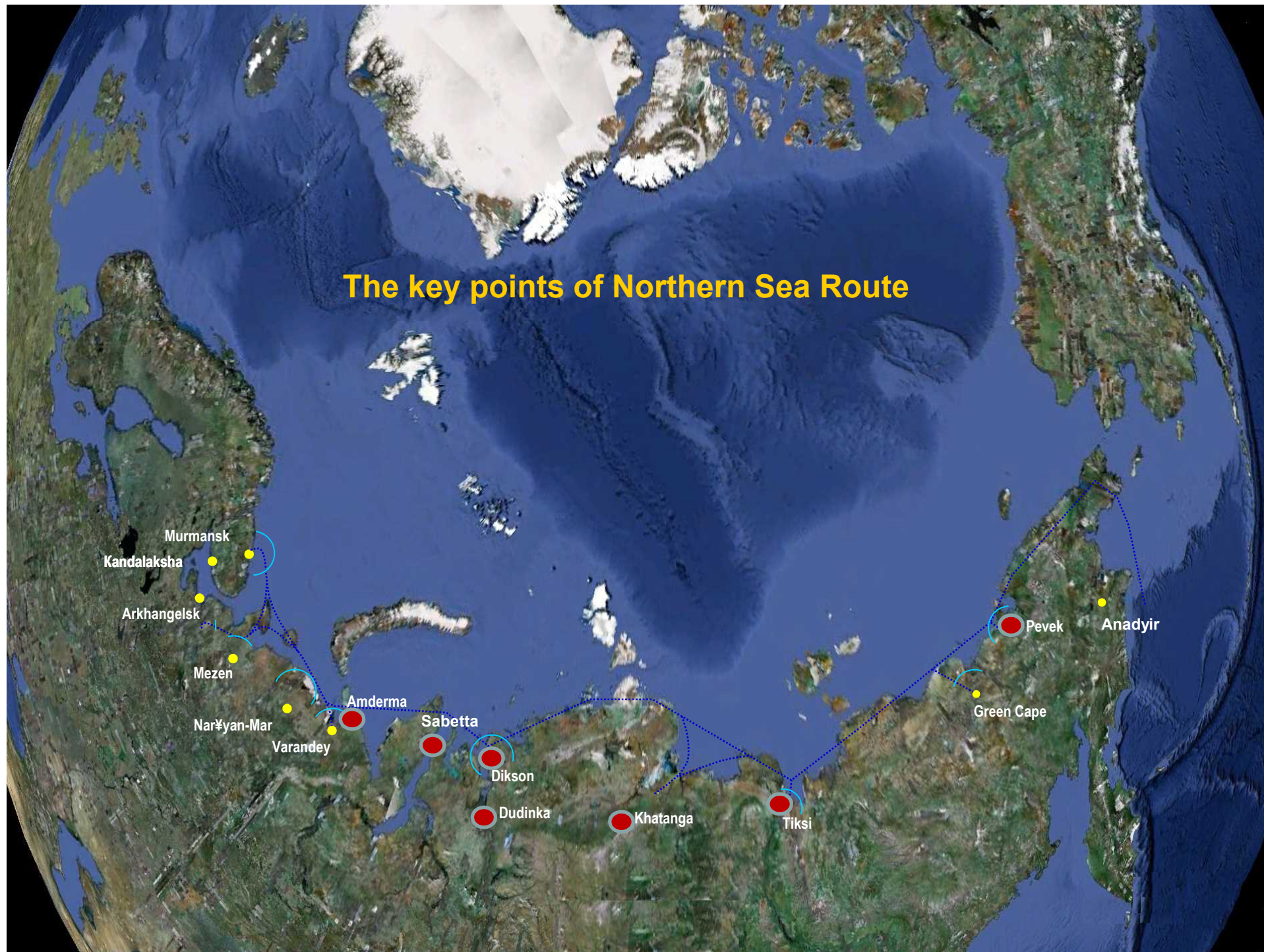


**Ports and navigation
supporting
infrastructure
along the Northern Sea
Route**

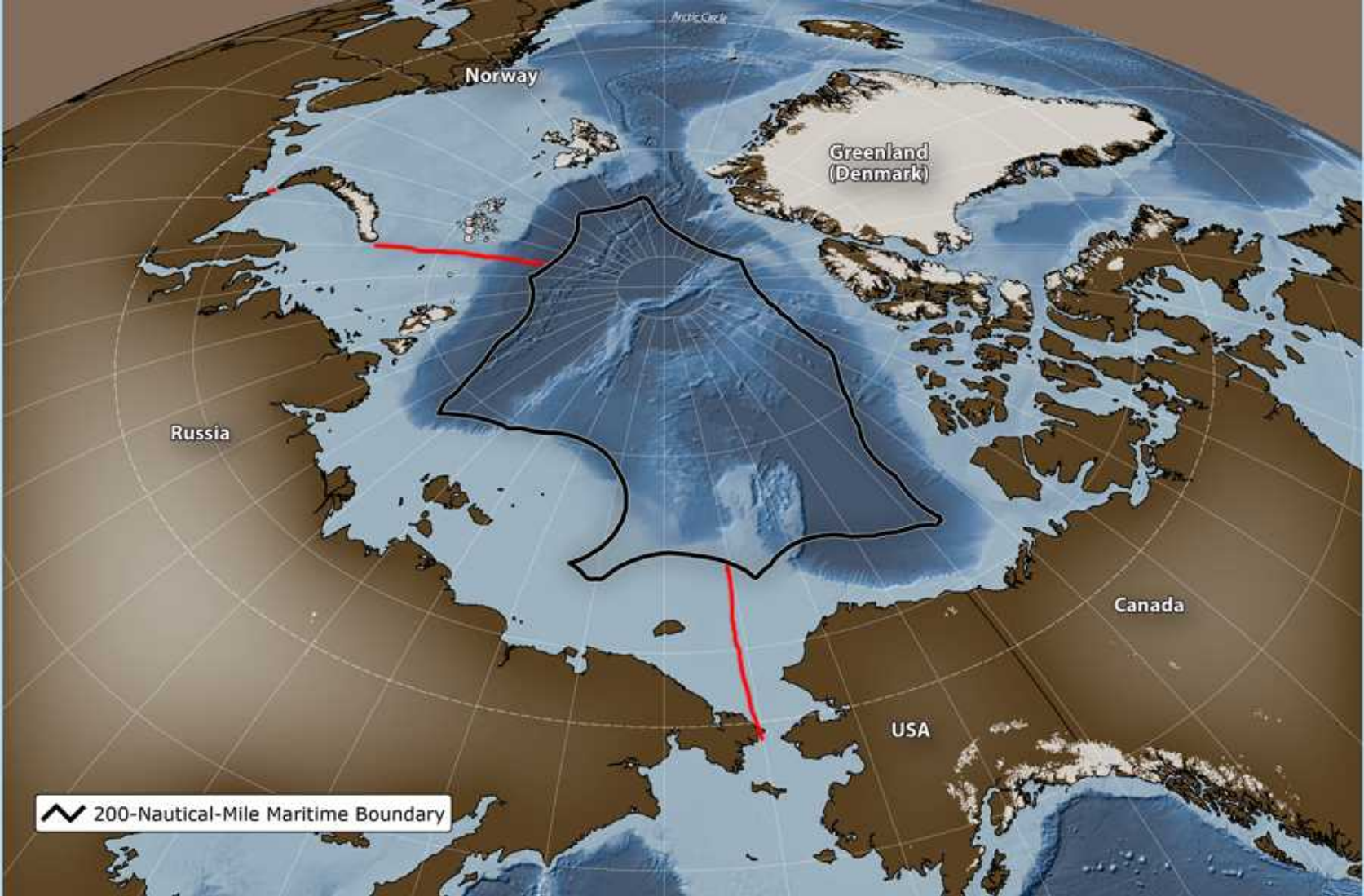
Vladimir Vasilyev
**Central Marine Research and
Design Institute (CNIIMF)**
Saint-Petersburg, Russia
Tokyo, 4 February 2016



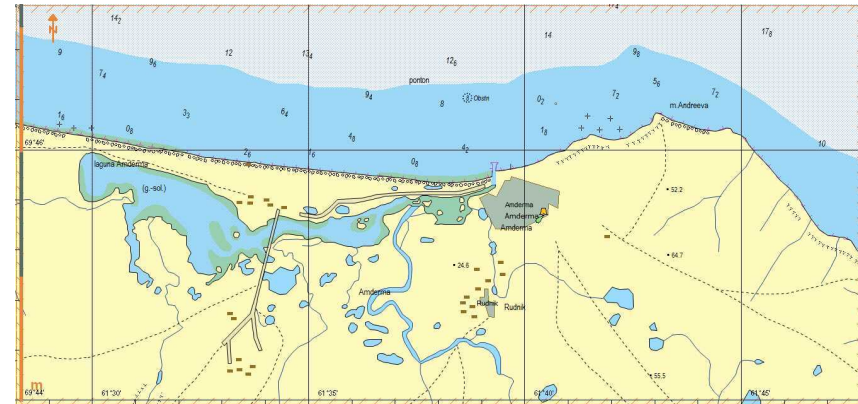
The key points of Northern Sea Route



New Northern Sea Route borders

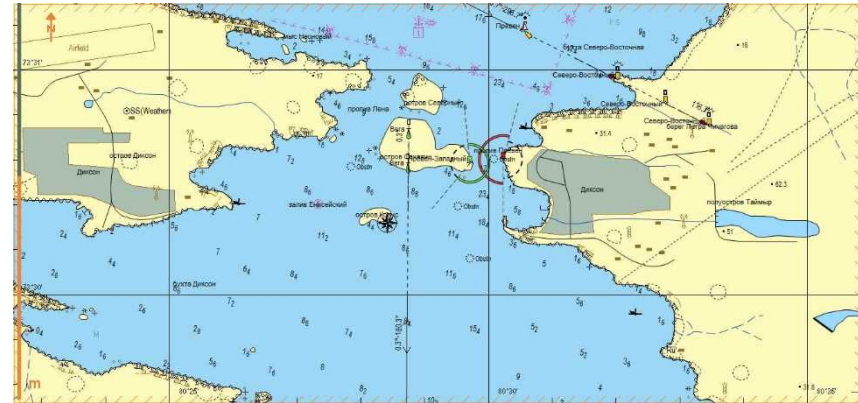
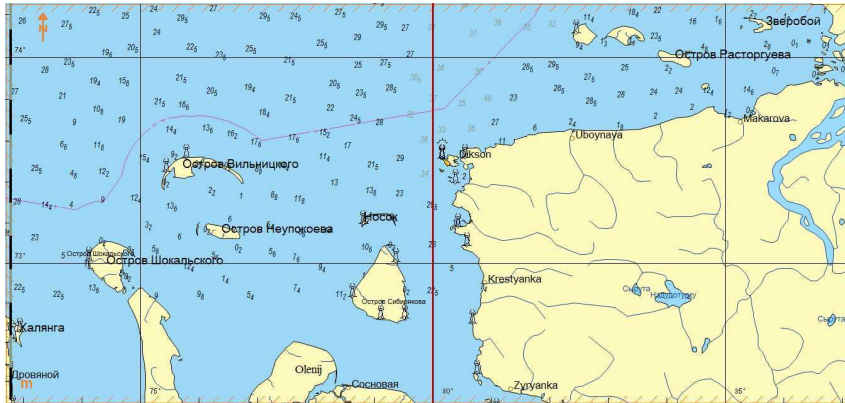


Amdrema (Naryan-Mar branch)



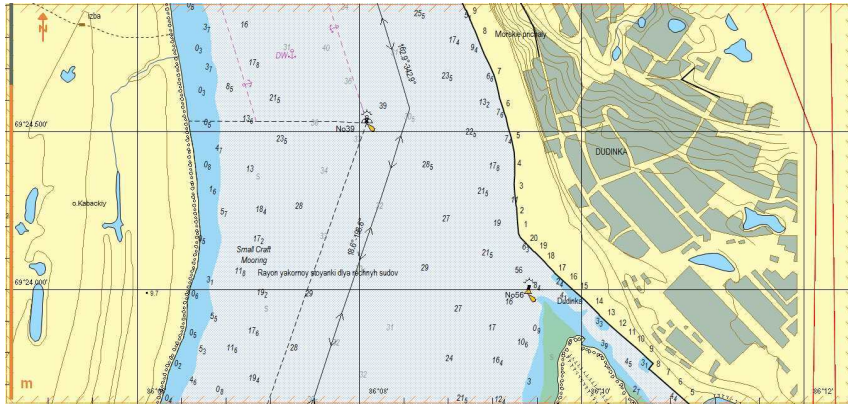
Port land area (ha):	0,6297
Port water area (km ²):	0,007268
Number of births	2
Length overall of births	346
Loading capacity (th.tons/year)	1,016
Including :	
Liquid	0,800
Dry :	-
Containers:	-
Passengers/annual	-
Maximal vessel size (draft, length, width) (м):	1,6 / 75 / 14,2
Warehouse indoor (th. m ²):	-
Warehouse outdoor (th. m ²):	-
Navigation period	01.06.-01.10.

Dikson



Port land area (ha):	3,308
Port water area (km ²):	0,182
Number of births	2
Length overall of births	149
Loading capacity (th.tons/year)	120
Including :	
Liquid	20
Dry :	100
Containers:	-
Passengers/annual	900
Maximal vessel size (draft, length, width) (м):	8,0/100/20
Warehouse indoor (th. m ²):	3,56
Warehouse outdoor (th. m ²):	0,60
Navigation period	01.06.-01.10.

Dudinka



Port land area (ha):	24,92
Port water area (km ²):	30,22
Number of births	9
Length overall of births	1723
Loading capacity (th.tons/year)	1885
Including :	
Liquid	50
Dry :	1530
Containers TEU th:	25,5
Passengers/annual	-
Maximal vessel size (draft, length, width) (m):	11,8 / 260,3 / 32,2
Warehouse indoor (th. m ²):	30,046
Warehouse indoor (th. m ²):	105,242
Navigation period	01.01.-20.05; 15.06-31-12

Khatanga



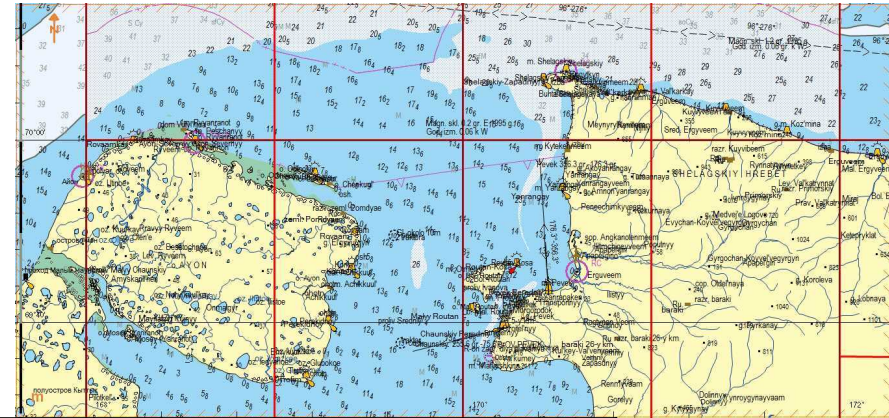
Port land area (ha):	10,62
Port water area (km ²):	3,70
Number of births	5
Length overall of births	400
Loading capacity (th.tons/year)	95
Including :	
Liquid	30
Dry :	65
Containers:	-
Passengers/annual	900
Maximal vessel size (draft, length, width) (m):	4,17 / 136 / 16,5
Warehouse indoor (th. m ²):	1,780
Warehouse outdoor (th. m ²):	2,500
Navigation period	01.06.-01.10.

Tiksi



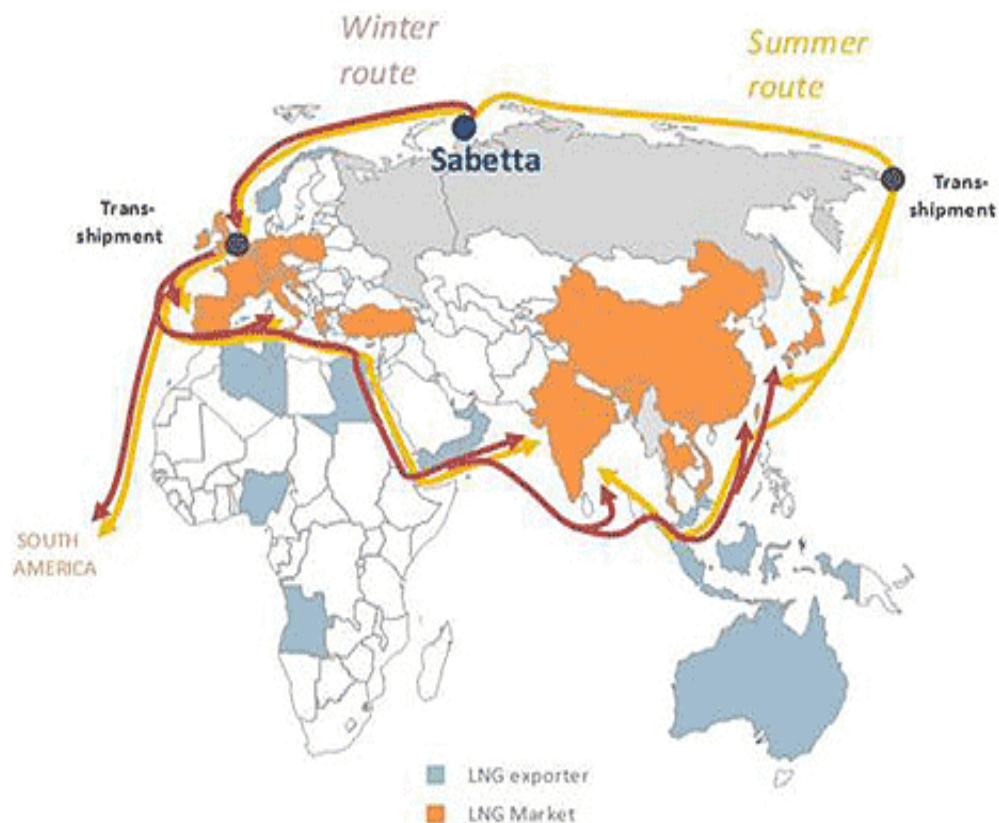
Port land area (ha):	10,62
Port water area (km ²):	3,70
Number of births	5
Length overall of births	400
Loading capacity (th.tons/year)	95
Including :	
Liquid	30
Dry :	65
Containers:	-
Passengers/annual	900
Maximal vessel size (draft, length, width) (m):	4,17 / 136 / 16,5
Warehouse indoor (th. m ²):	1780
Warehouse outdoor (th. m ²):	2500
Navigation period	01.06.-01.10.

Pevek



Port land area (ha):	10,62
Port water area (km ²):	3,70
Number of births	5
Length overall of births	400
Loading capacity (th.tons/year)	95
Including :	
Liquid	30
Dry :	65
Containers:	-
Passengers/annual	900
Maximal vessel size (draft, length, width) (M):	4,17 / 136 / 16,5
Warehouse indoor (th. m ²):	1780
Warehouse outdoor (th. m ²):	2500
Navigation period	01.06.-01.10.

Yamal is a new gas province and new transport hub in the NSR



The estimate of natural gas reserves of South-Tambeyskoye gas condensate field is 926 billion cubic meters.

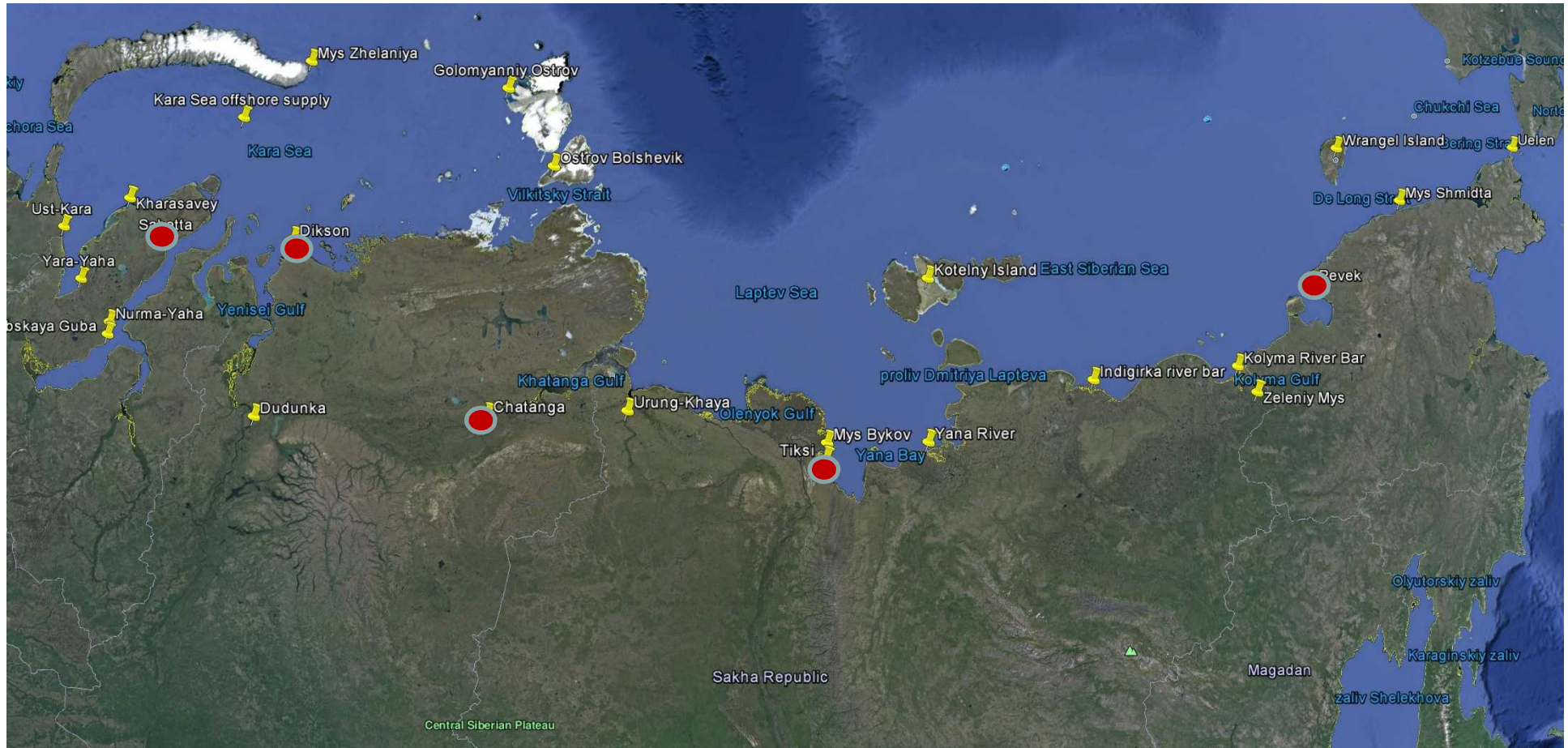
The annual volume of cargo flow from port Sabetta is estimated up to 17,85 million tons.

The beginning of production and transportation - first quarter of 2017.

NSR CARGO TRANSPORTATION 2015

Total (ton)	Oil and products	Gas-condensate	Coal	Ore concentrate	Other dry cargo
5 392 160	859 533	114 384	355 875	79 801	3 982 567
in					
3 937 927	333 740		319 516		3 284 671
out					
1 454 233	525 793	114 384	36 359	79 801	697 896

25 LOCATIONS OF NSR ON-OFF-LOADING



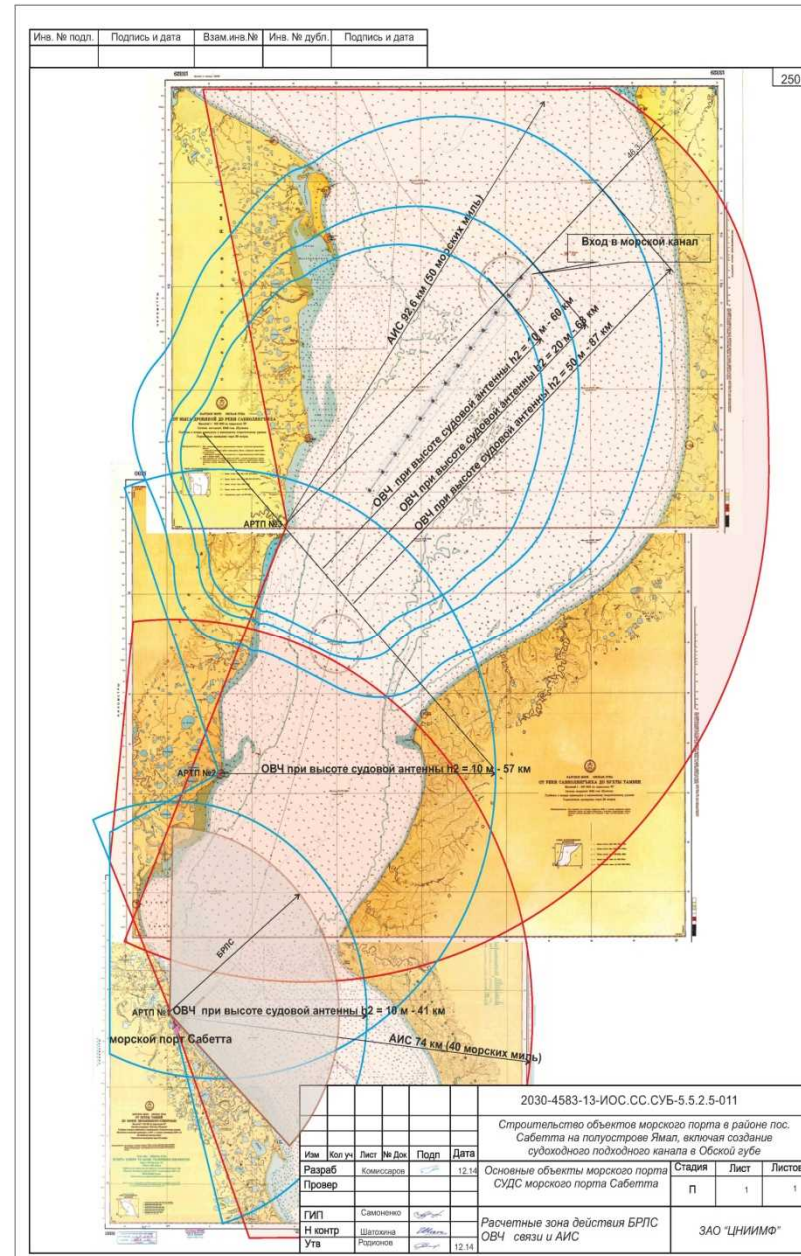
NSR CARGO FLOW IN 2015

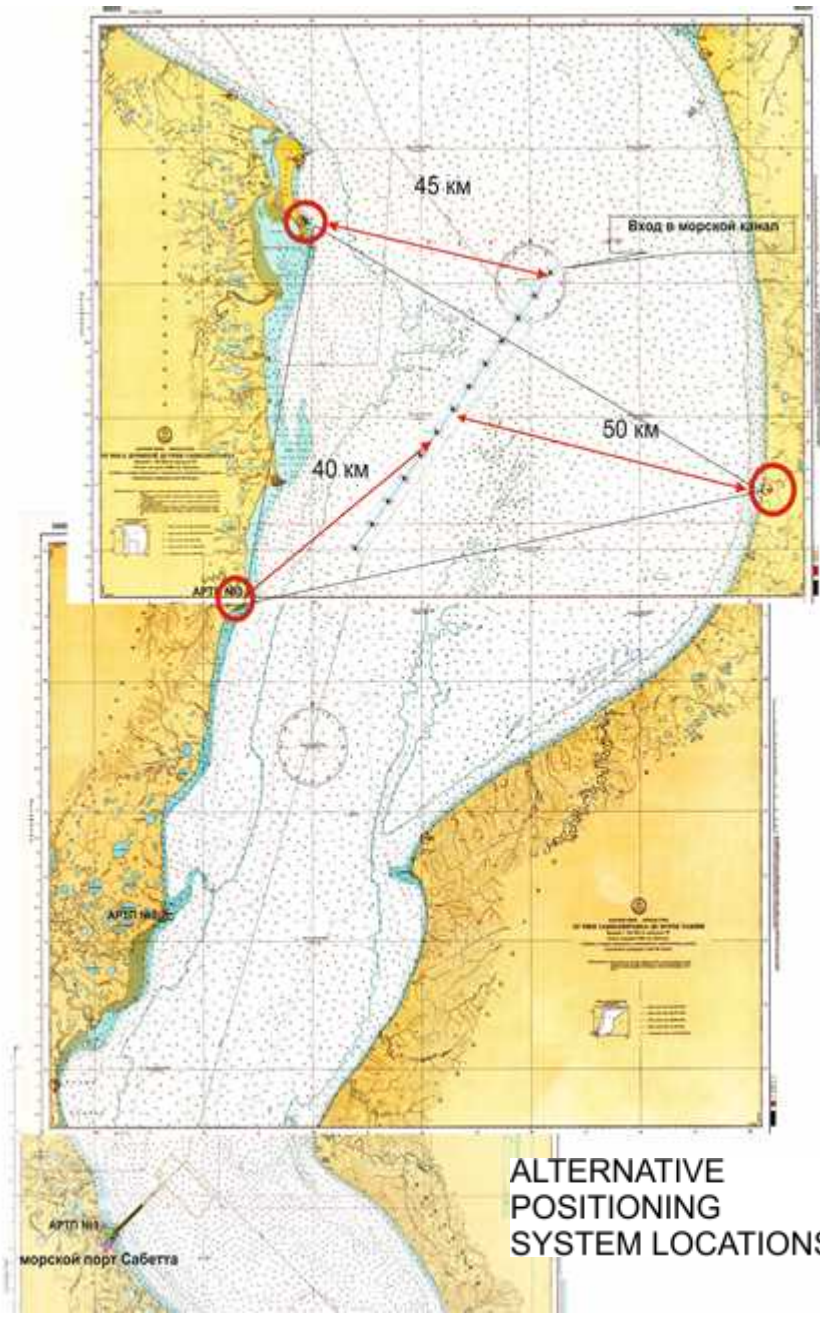
#	Ports and points of transshipment	Pickup ton	Delivery ton	Total ton
1	Dikson	2 177	11 515	13 692
2	Dudinka	796 572	432 321	1 228 893
3	Zeleny Mys Cape	17 819	5 368	41 006
4	Krara Sea offshore vessel supply		13 601	13 601
5	Mys Zhelaniya Cape		3 889	3 889
6	Mys Shmidta Cape		25 270	25 270
7	Mys Bykov Cape	7 961	139 338	147 299
8	Kolyma river bar		87 990	87 990
9	Obskaya Guba (Cape Kamenniy, Cape Trehbugorny)	497 680		497 680
10	Ostrov Bolshevyk Island		5 164	5 164
11	Pevek	110 559	244 566	355 126
12	Indiga river bar		293 636	293 636
13	Sabettaa	16 446	1 958 803	1 975 249
14	Tiksi	5 018	29 138	34 156
15	Ust-Kara		214	214
16	Uelen (and other Chukotka destinations)		25 392	25 392
17	Khatanga		13 763	13 763
18	Wrangel Island		10 931	10 931
19	Yurung-Khaya (Anabar river)		106 385	106 385
20	Yara-Yaha (Yamal)		17 065	17 065
21	Ostrov Ketelny Island		37 644	37 644
22	Устье реки Яна		158 943	158 943
23	Ostrov Golomyanniy Island		17 702	17 702
24	Kharasavey		308	308
25	Nurma-Yaha (incl. other Obskaya guba supply)		298 981	298 981
	TOTAL	1 454 233	3 937 927	5 392 160

SABETTA PORT -2015



Sabetta port construction, CNIIMF VTS, AIS & GMDSS





ALTERNATIVE
POSITIONING
SYSTEM LOCATIONS



SAR regions

The map of the boundaries of search and rescue region / of search and rescue sub-regions (SRR/SRS), the position of Maritime rescue co-ordination center / Maritime rescue sub-center (MRCC/MRSC) and forward operational location (FOL) with emergency and rescue equipment and oil spill recovery equipment of Federal Budgetary Institution «Marine Rescue Service of Rosmorrechflot» (MRS) in the water area of the Northern Sea Route and in the sea port of Provideniya

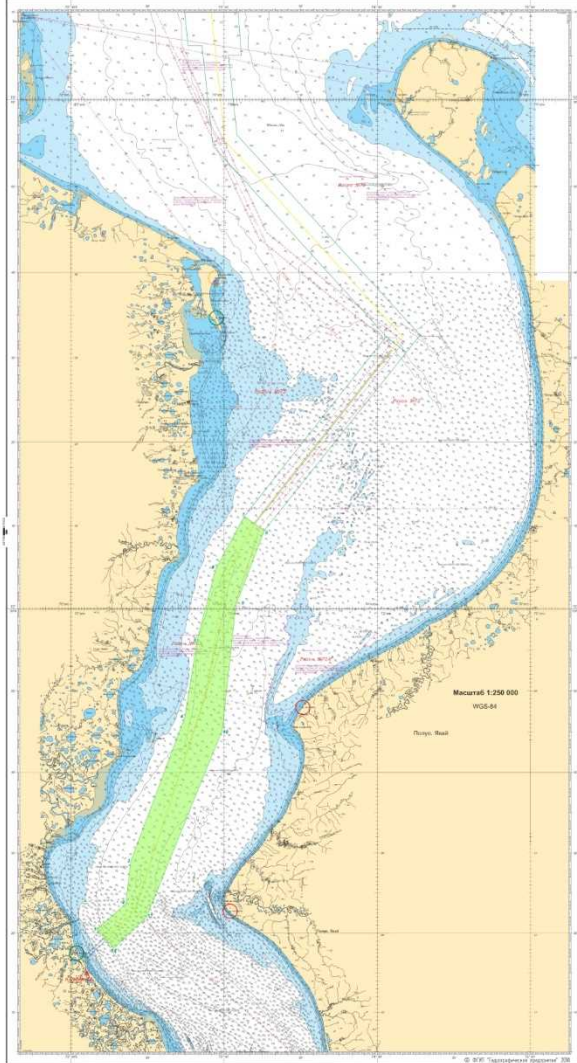


Survey by State Hydrographic Enterprise

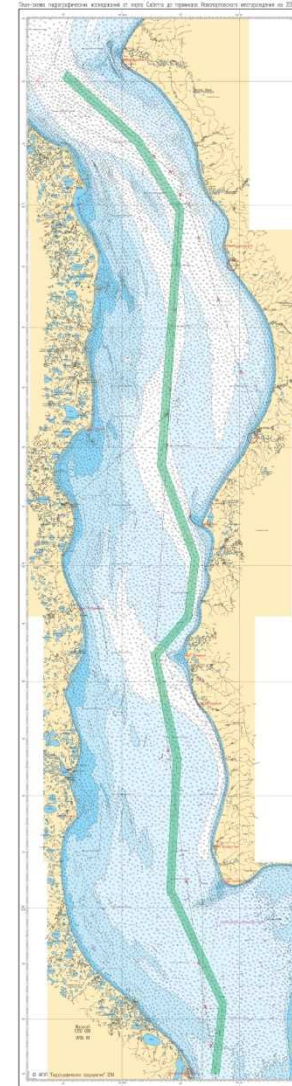


OBSKAYA GUBA SURVEY BY STATE HYDROGRAPHIC ENTERPRISE

План-схема гидрографических исследований северной части Обской губы в 2014 году



2014 – 28508 Km
2015 – 24519 Km



NSR PORTS AND INFRASTRUCTURE - CONCLUSIONS

- Development of NSR ports is a questions of industrial and political demand
- Navigation, search, rescue, survey along NSR is provided and developing
- Port of Sabetta development shows possibility of navigation safety and environmental protection in most severe conditions for ports ever
- Non, si male, nunc et olim sic erit (Horatius)
たとえ今、悪しくともいつまでもそうではない。

ご清聴ありがとうございました