

• • ”

• •

• • ,

• • :
- ; ;

• • ,

[9].

[7].

, -

, , , ,

[8].

,

,

-

572 . 182

390 -

,

:

-

-

-

.

12.9 3/ .

9.5 3/ .

7.9 .

[6].

[5].

- 38%; - 50% [1].

3.5 - 4.2

[1,2]. C -

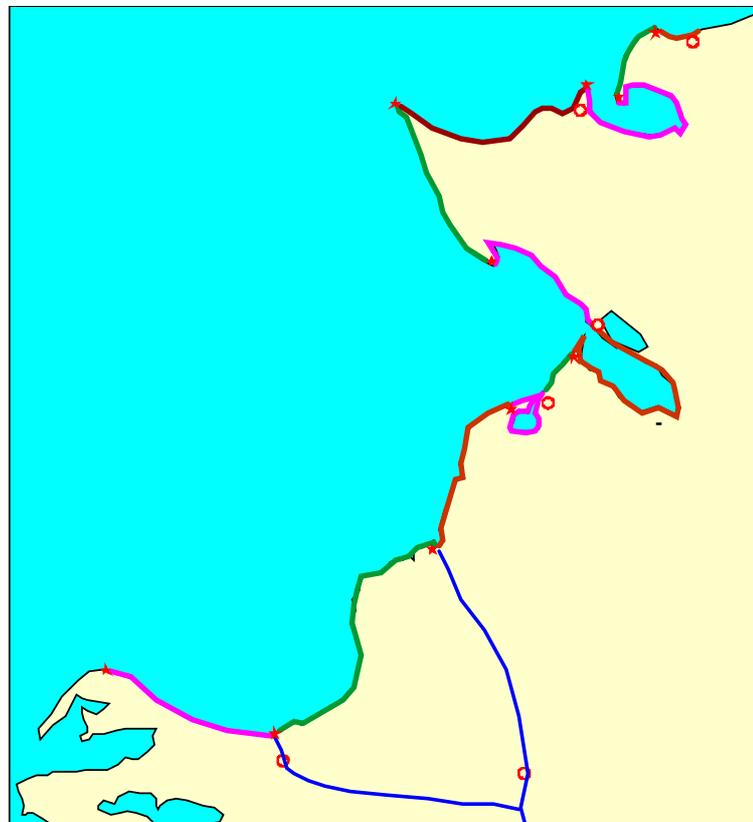
28-34 / .

3-3.5 .

4-6

4-5 ; - 50 .

1. - (44)
2. - (64)
3. - (45)
4. - - (29)
5. - (88)
6. - (33)
7. - (51)
8. - (53)
9. (53)
10. - (31)
11. - (12)



1 -

(.2).

30 .

- 200-300 .

5-10 ,

0.5-0.6 / .

0.028-0.111.

0.5 / .

(5-10)

20 60 (.3).



2 -



3-

5 .

45 .,

-

0.5-0.7 .

(. 4)

20-25

-

0.5 ,
80-

1-1.5 .

100 150 .

24 -29

[3].



4 -

-

).

(, ,

5-7 / .

2-5 / .

8-10 ,

0.06-0.08.

(70-90 %)

6 - 0.002.

30 / .

4 / .

31 .

5 15 ,

0.01 0.02.

(70-90 %),

(10-30%).

- 0.0001.

(.5).



5-

4 ,

- 8 .

1.0-3.6 / ,

- 6.0 / .

1956 -1970 .
 3.8 .
 0.15 ,
 14 [3].
 35 .
 (3.8) “ ” (.6).
 30, 35 50 .
 4-6 .



6- “ ”

450 .
 1985-1986 .
 1.5-2 (.7).
 (400),
 3.5-4.0 (.8).



7 –



8 –

18

6 , 1-1,5 (.9).

15-20 ,

25

5 .

10-50

1-2 .

30 .

80-90%



9 –

2-2,5 .

1 10 .

1-1,5

15 .

5-20 .

15

18

7-

8

(5-10)

0.11-0.12 .

(.

)

6 ,

- 4.0 .

80-95 %

,
(.10),



10-

(30)

- , 7-15 , 10-
25 , -0.07-0.11, -0.10-0.17. -

12 .

25-40 (.11),



11-

- 6-8 / . -
1-4 (. 12). " "
10 ,
(. 13). " "
[4].
20 6 ,
5 .
(. 14).



12- -



13-



14-

" "

. (. 15).
 , 20-26 3-6
 2.2 / ,
 4.0 / . - 5 , 0.08-0.09.
 1.9 / ,
 - 5.0 / . ,
 3 25 , ,
 , - . 3.5 (. 16).
 1988-1996 .
 - 20-40
 19-21 .
 ,
 ,
 13-15 , - 20-30 .
 1.8 .
 0.5 .



15-



16-

- 5 19 .
 4-6 , - 0.10-0.26. - ,
 (18)-
 7
 (3.0)

1.5 (5.5) [3].

,
1-5 .

30 .

80 % ,
20 .

1

).

90-

15

(. 17).



17 -

7 .

12-20 .

(. 18).

10-15 ,

- 26 .

1.4 .

7-22 .

(. 19).



18-



19-

, , 3 , 7 . , 10-13 20-25 -
 , 50-60 % - -
 , , . 40 % ,
 85%.

« » . , ,

3-10

10-12 .

45

15-20

- 230 .

116 .

227 ,

3-4 / ,

- 6-8 / .

45

12 (33)

5-10 %

1. :
 , 1986 .
2. ,
 1990 .
3. : " " , 2003. 350 .
4. : " " , 2000. 140 .
5. :
 , 1979 .
6. : . 1989.
7. Kos'yan R.D., Peshkov V.M., Yesin N.V., Shcherbakov S.Yu. Carbonate beaches of the eastern part of the sea of Azov under anthropogenic impact. Proc. Of the Int Conf. "Carbonate Beaches". 2000.
8. Yesin N.V., Kos'yan R.D., Ivanov A.A. Ecological Situation on the eastern coast of the Sea of Azov. Inter. Oceanographic Commission. Workshop Report N0 105 Supplement, UNESCO, 1995.
9. Yesin N.V., Kos'yan R.D., Ivanov A.A. Evolution of the sea of Azov eastern coast under the influence of anthropogenic impact. Proc. of the Inter. Conf. "Coastal Change' 95", Bordo, France, 1996.