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05.03.05

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«_____» _____ 2019 .

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1.1	-	
	6
1.2		
	9
2		-
	18
2.1		
	18
2.2		
	20
2.3		
	25
2.4		
	30
3		
	-	42
	51
	53

1

1.1

85

1247

42°53' – 44°01'

, 42°24' – 44°28'

696

167

123

3462

43

5642

43'

21''

42° 27''

[3, c. 94].

3

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 . ,
 , .
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 6 5 .
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1.2

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 - 9 : -
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 - .
 - ()
 - 3-4% .
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[10].

(.1.2).



.1.2.

[20]

1600 2400

1600 2600

80

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 . 2600
 3200 .
 , - , , , , , , , ,
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 3200 . , ,
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 (), ,
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 - 2172
 5470 (0,44 / ²),
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 (, ,)
 (, , ,
). -
 (, ,).
 , . , ,
 . - .

– 7,5 ^{3/} ,

(. 1.3)

2010 -

2015



. 1.3.

-

[16]

450

16,6 ² (0,13%),

70

0,01 ²

80 .

60 (— 94,3 , — 40,9),
40 , —

144,5 ² . 23

368 .

1 ² ,

0,3 ² ,

().

— 13

2.1

44⁰⁰1'

(42⁰⁰51'

.2.1

1

	* / 2	,
	3,58	66
	3,98	56
	4,34	42
	4,47	25
	5,07	13
	5,22	6
	5,33	8
	4,83	20
	4,34	36
	4,12	52
	3,50	63
	3,29	68
	4,34	37,8

. 2.1,

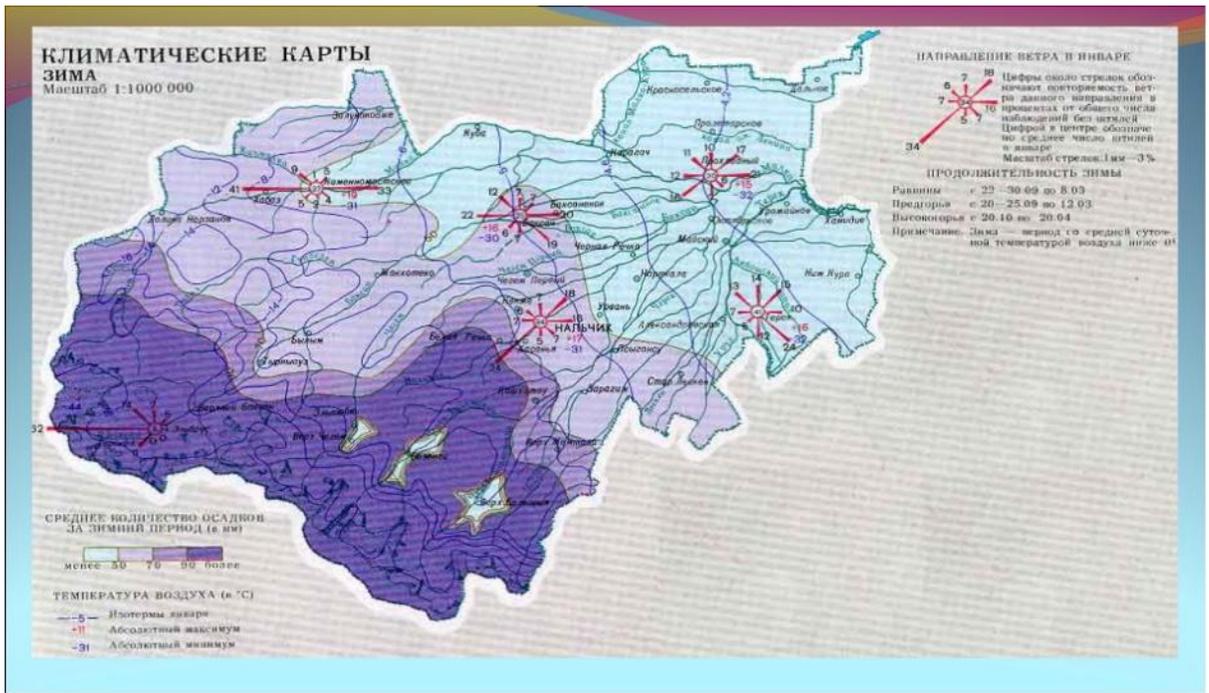
-

, 36,2 / 2 10-

(7,7 / 2),

(1,9 / 2)

(. 2.1).



. 2.1.

[18]

[18].

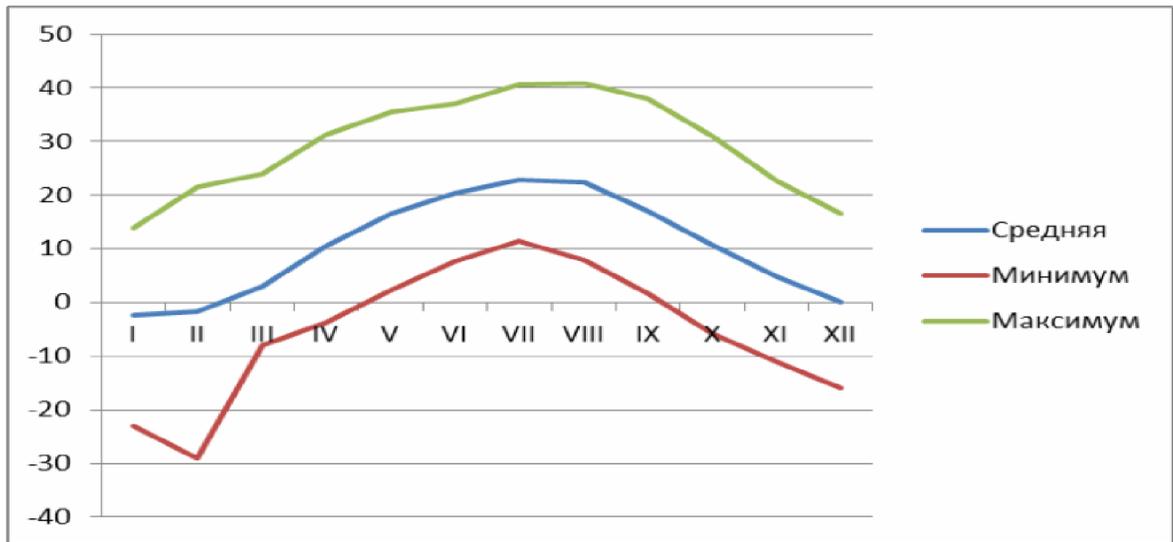
2.2

+ 30
 30%

6 10

43 45' 44 02'
217
740

(.2.2) .2.2.



.2.2.

(1985 –

2015 .)²

/

[12, с. 415].

10,5 .

22 , 20,4 , 22,9 - .
40 .

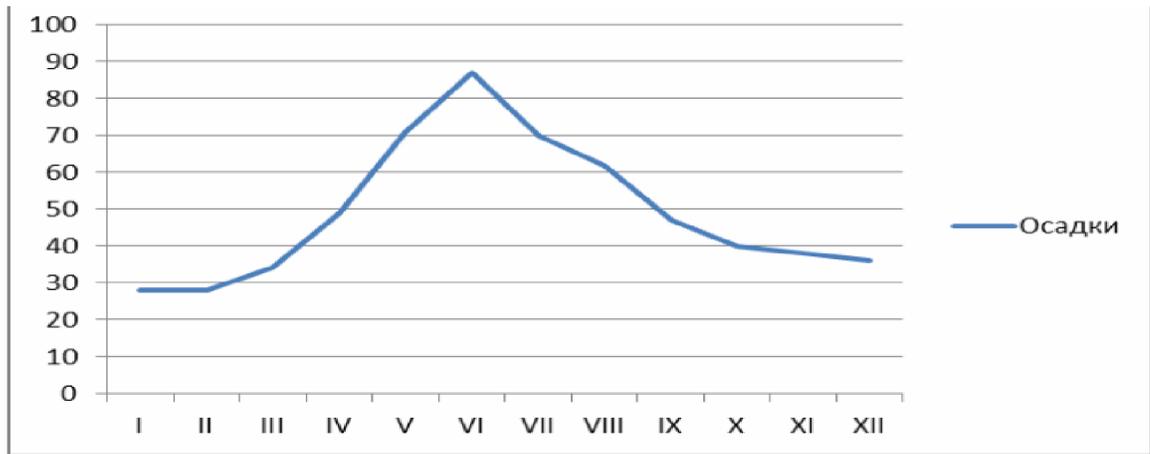
2.2

(1985-2015 .)³

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
	-2,4	-1,6	3,1	10,5	16,6	20,4	22,9	22,4	17,1	10,7	4,8	0	10,5
T _{min}	-23	-29	-8	-3,8	2,3	7,7	11,5	7,8	1,7	-5,6	-11	-16	-
T _{max}	13,9	21,4	24	31,4	35,6	37	40,6	40,9	38,1	31,1	22,5	16,6	-

-2,4 ,
-29.

(. 2.3) . 2.3.



. 2.3.

4

(. 2.3)

. 2.3,

590

³
⁴

2.3

(1985-2015)⁵

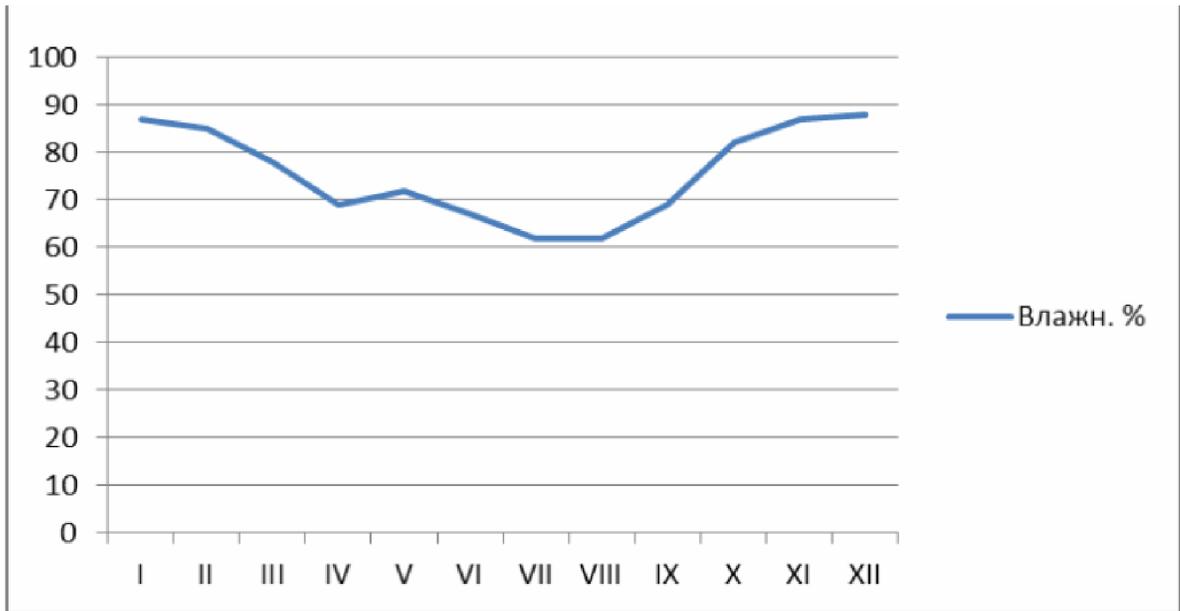
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
	28	28	34	49	71	87	70	62	47	40	38	36	590

, 2
9,5 %

56 ,

, 228 ,
38%

(.2.4) .2.4.



.2.4.

⁵

⁶

76%

2.4

(1985-

2015 .)⁷

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
%	87	85	78	69	72	67	62	62	69	82	87	88	76

85 – 88%.

62 67 %.

. 2.5.

2.5

(1985-2015 .)⁸

-	96 (26,3%)	71 (19,5%)	164 (44,9%)	34 (9,3%)
---	------------	------------	-------------	-----------

96 , 34

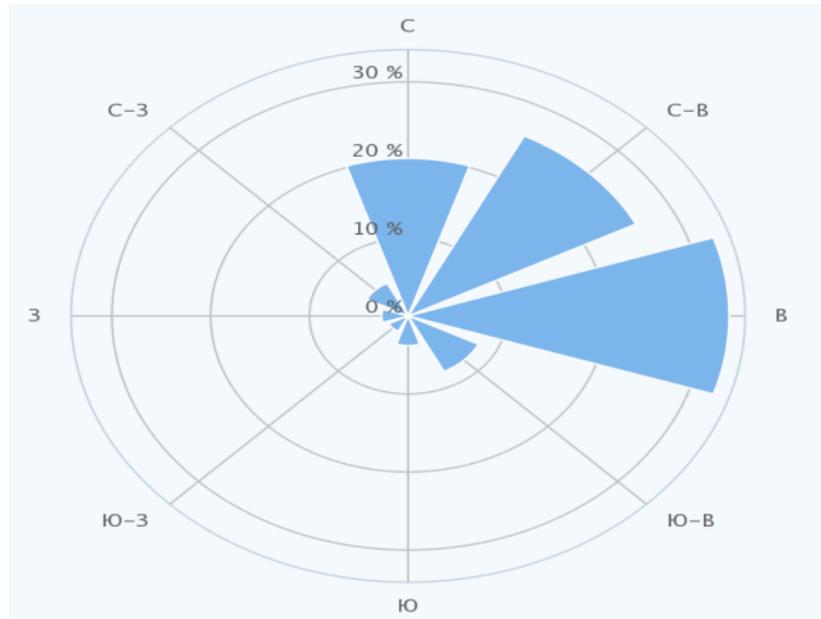
71 ,

164 ,

(. 2.5),

⁷

⁸



.2.5.

9

,
 , 32,5 % ,
 - (26 %) (20 %) [24, с. 58].

2.3

, 300 500
 .
 ,
 . , « »,
 , ,
 « » « ».

600 800

()

[21, с. 108].

43°29'

43°37'

420

800

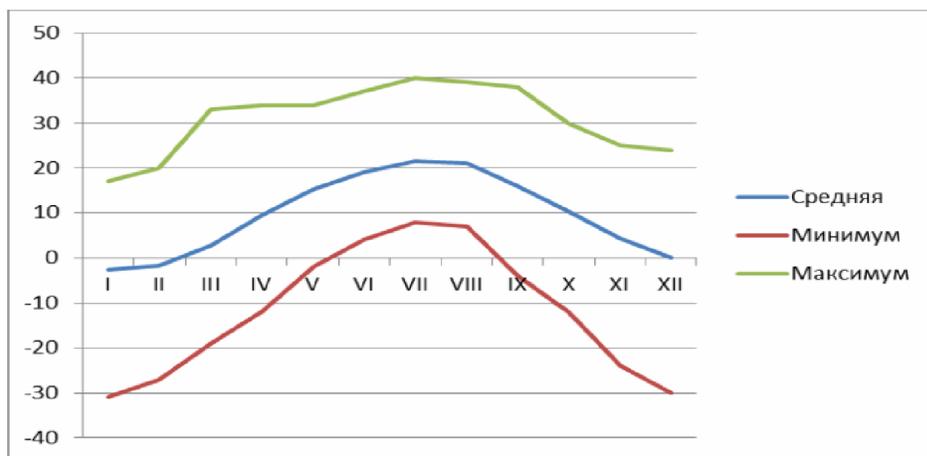
500

720

()

2.6)

. 2.6.



. 2.6.

(1985 –

2015)¹⁰

1985 2015 ,
9,6 ,

2.6

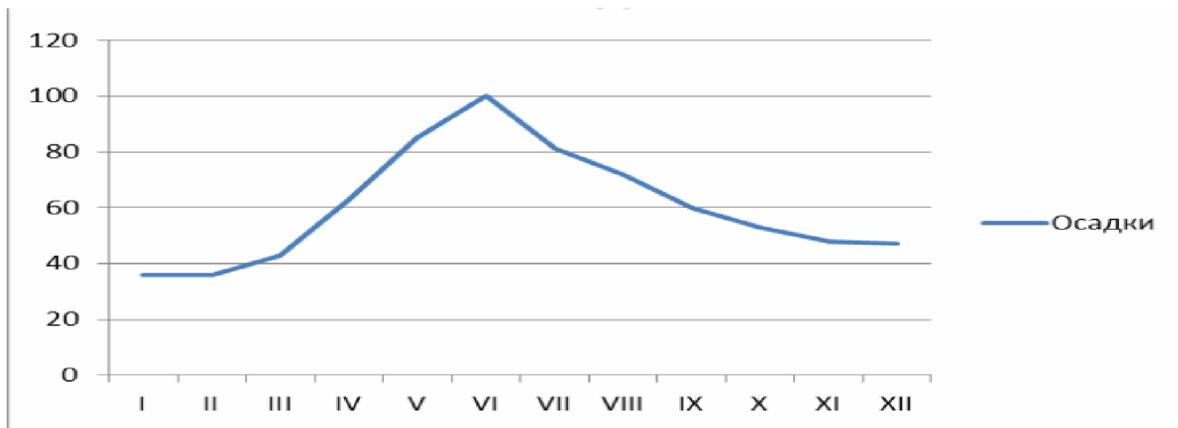
(1985 – 2015 .)¹¹

	I	II	III	IV	V	VI	VII	VI II	IX	X	XI	XII	
T	-2,5	-1,7	2,7	9,5	15	18,9	21,4	21	16,1	10,3	4,3	0	9,6
t _{min}	-31	-27	-19	-12	-2	4	8	7	-4	-12	-24	-30	-
t _{max}	17	20	33	34	34	37	40	39	38	30	25	24	-

-2,7 ,
-30 .
+ 21,4 ,
+ 21,0 ,
+ 40 [23, c. 57].

(.2.7) .2.7.
1985
2015 , . 724 .
56 ,
7,7 % .
266 , 36,7%
[7].

¹¹



.2.7.

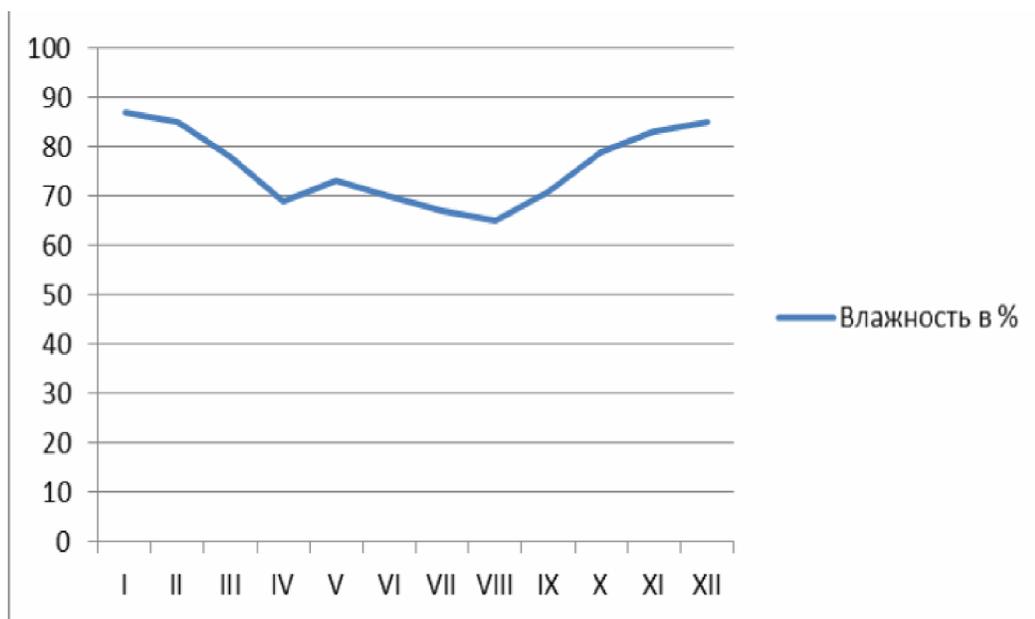
12

2.7

(1985 – 2015)¹³

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
	36	36	43	63	85	100	81	72	60	53	48	47	724

(.2.8) .2.8.



.2.8.

14

12
13
14

2.8

(1985 –

2015)¹⁵

.	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
.%	87	85	78	69	73	70	67	65	71	79	83	85	76

76%

[8, c. 81].

85 – 87 %.

65 –

67 %.

. 2.9.

2.9

(1985 –

2015)¹⁶

-	89 (24,4%)	72 (19,7%)	152 (41,8%)	52 (14,1%)

. 2.8

40%

152

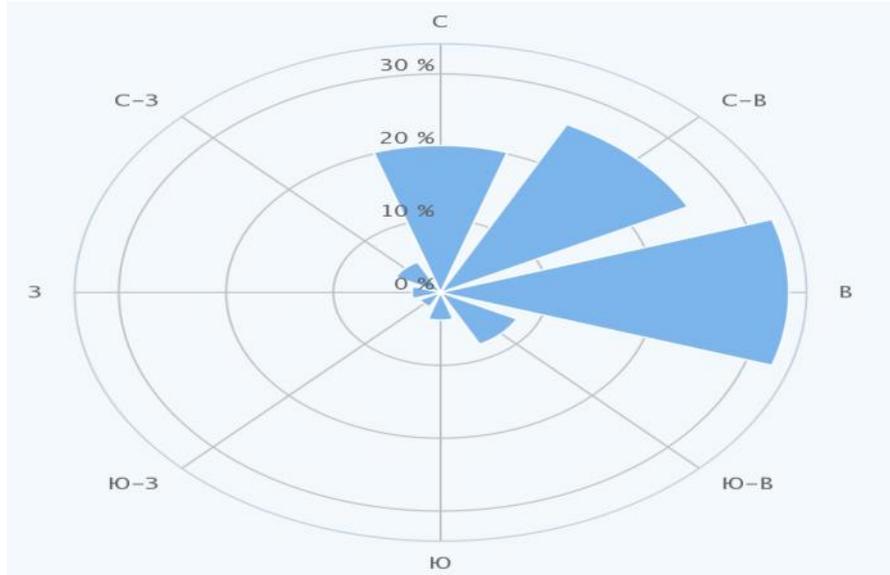
(89)

¹⁵

¹⁶

52 [5, c. 215].

(. 2.9).



. 2.9.

17

32,5%.
(20 %)

(26%)

2.4

24

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.

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,

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,

80

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,

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2500

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-

,

,

[9, .169].

-

, 43 21'

42 55'

-

,

.

,

1300 2000

,

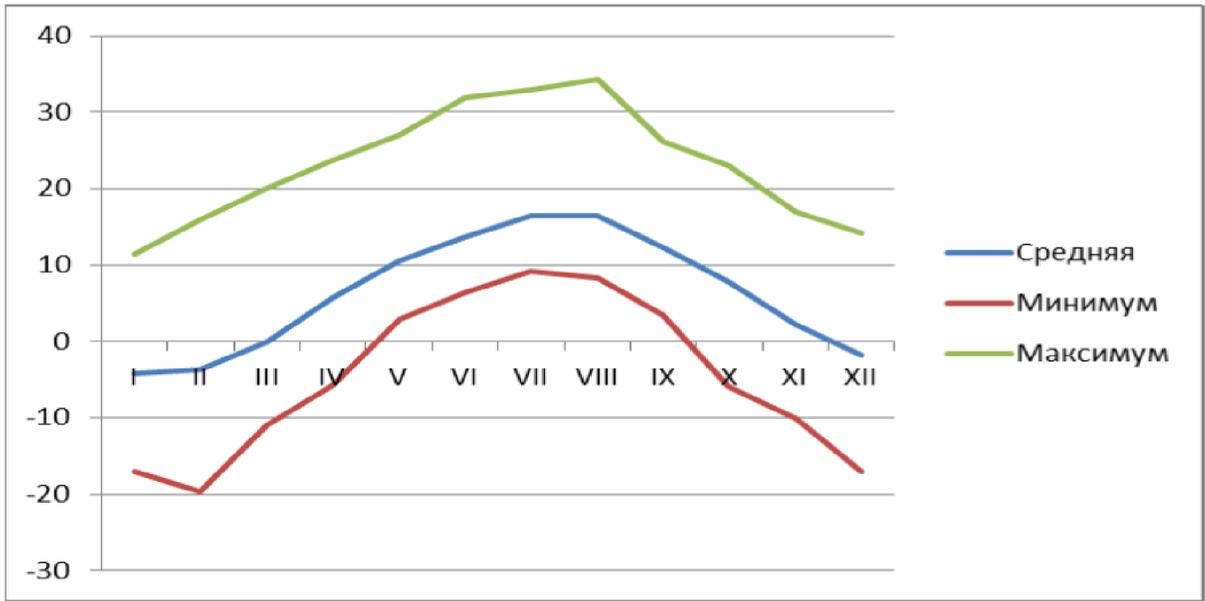
.

640

. . .

(.2.10)

.2.10.



. 2.10. (1985 – 2015 .)¹⁸

3,6⁰ - 3-4⁰ 20⁰ , 16,5 - 4,2 - 6,3 [4, с. 19].

2.10

(1985 – 2015 .)¹⁹

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
t .	-4,2	-3,6	0,1	5,7	10,6	13,7	16,4	16,5	12,3	7,7	2,3	-1,8	6,3
t _{min}	-17	-19,6	-11	-5,8	2,9	6,4	9,2	8,3	3,4	-6	-10	-17	-
t _{max}	11,5	16,1	20	23,8	27,1	31,8	33	34,3	26,2	23	17	14,2	-

-4,2⁰ ,
- 19,6⁰ .

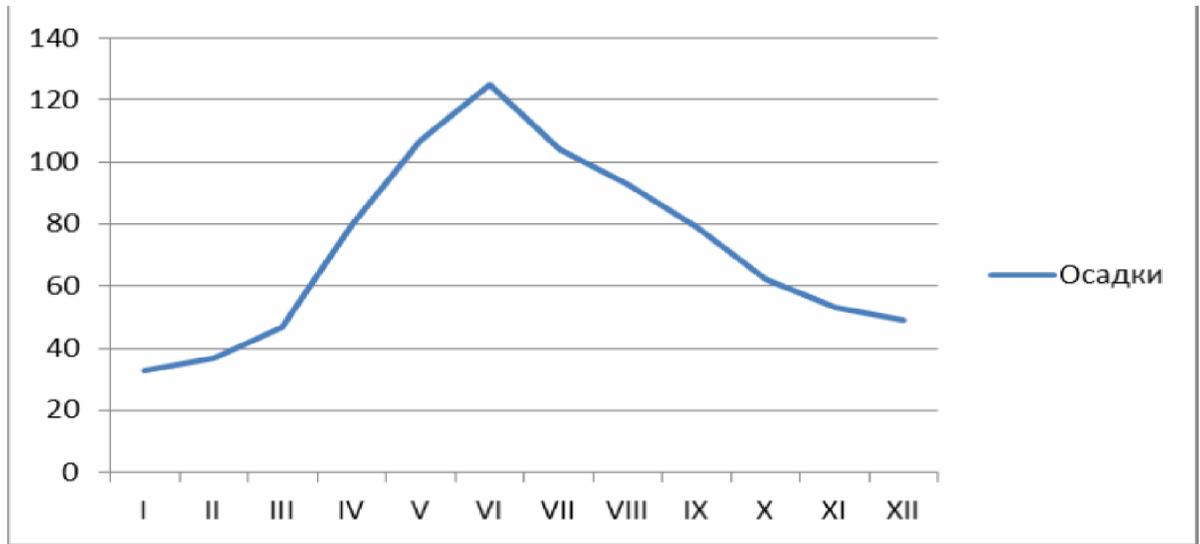
¹⁸

¹⁹

16,5 ° ,

+ 34,3 .

, (.2.11) .2.11



.2.11.

20

1985 2015 ,

850 , . .

2.11

(1985 – 2015 .)²¹

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
	33	37	47	80	107	125	104	93	79	62	53	49	850

70 ,

8,2 %

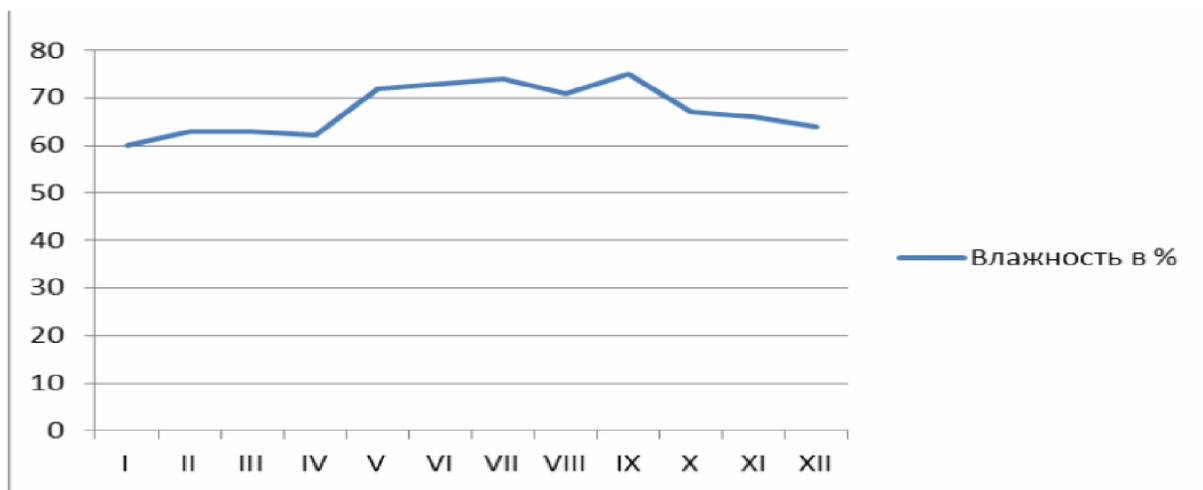
336 ,

39 %

20

21

(. 2.12) . 2.12.



. 2.12.

22

67%,

10%

2.12

(1985 –

2015 .)²³

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
%	60	63	63	62	72	73	74	71	75	67	66	64	67

60

63%.

71 75%.

22

23

. 2.13.

2.13

(1985 – 2015 .)²⁴

-	144 (39,4%)	91 (25,1%)	81 (22,4%)	49 (13,4%)

144

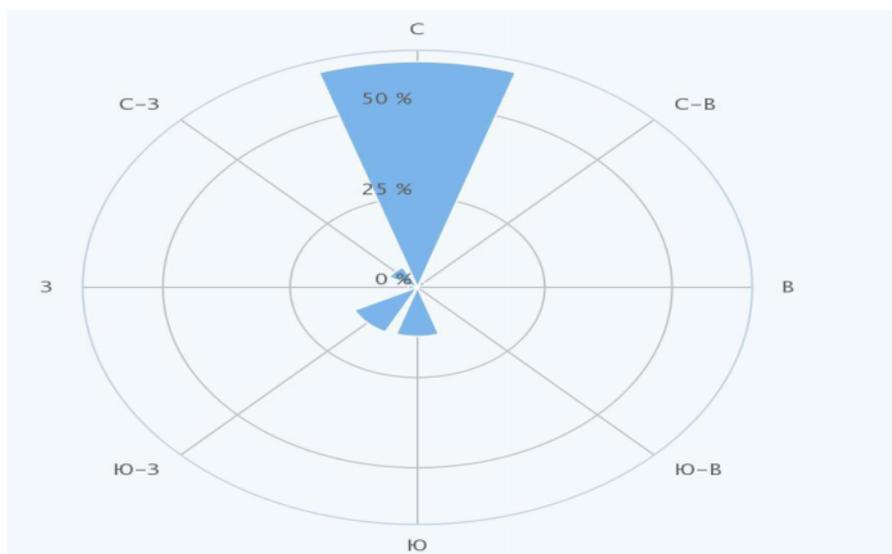
[6 . 179].

81

49

91

(. 2.13).



2.13.

25

24
25

62 %.

12 %

43 14'

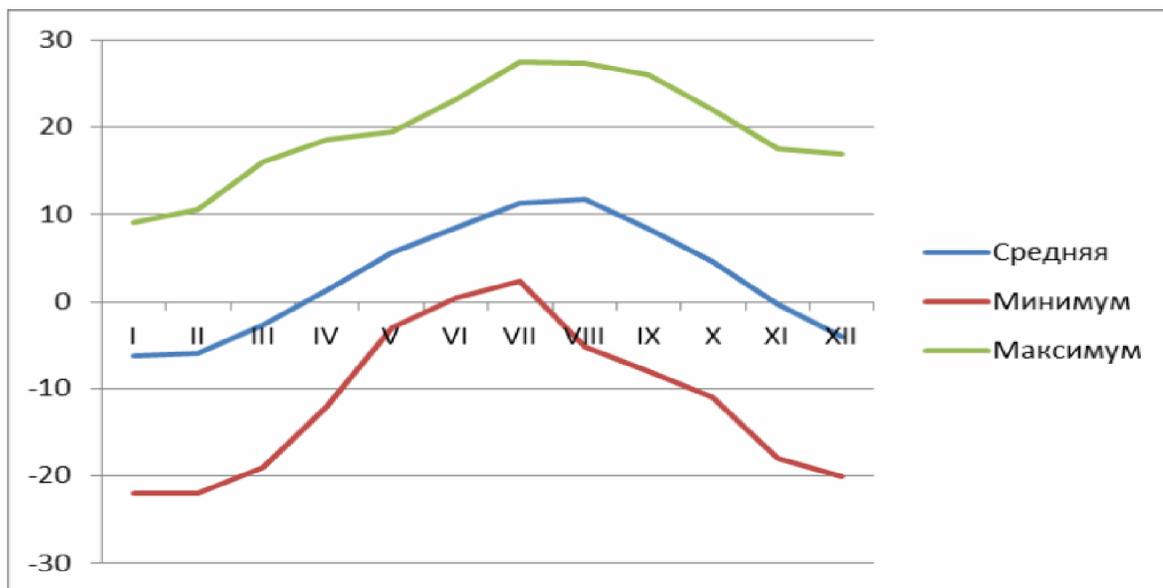
42 30'

2144

3000

610 . . [15].

(. 2.14) . 2.14.



. 2.14.

(1985 –

2015 .)²⁶

(1985 – 2015 .)²⁷

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
.	-6,2	-6	-2,7	1,3	5,7	8,4	11,3	11,7	8,3	4,6	-0,3	-4	2,7
T _{max}	9	10,6	16	18,6	19,4	23,2	27,5	27,4	26	22	17,6	17	
T _{min}	-22	-22	-19	-12	-3	0,5	2,4	-5,2	-8	-11	-18	-20	

+ 2,7⁰ ,7⁰6⁰

-6,2 ,

22 ,

- 40⁰ .

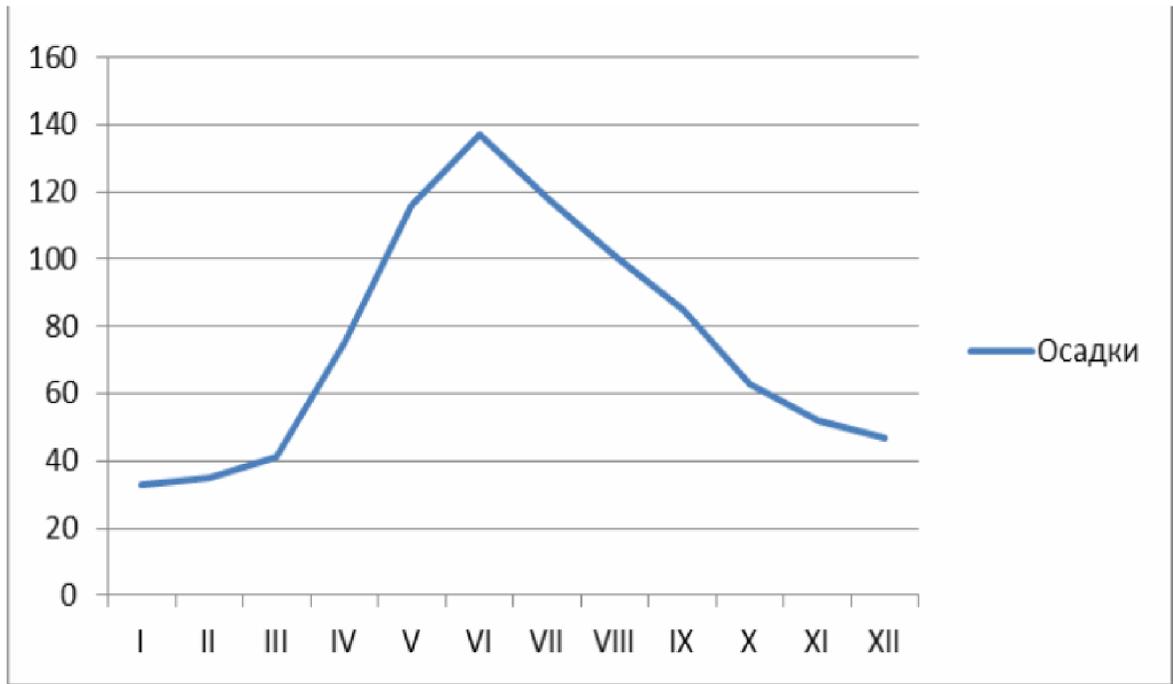
+ 11.3 + 11.7 ,

27.5 [11, c. 50].

2.15) . 2.15.

() ,

903 , .



. 2.15.

28

2.15

(1985 – 2015 .)²⁹

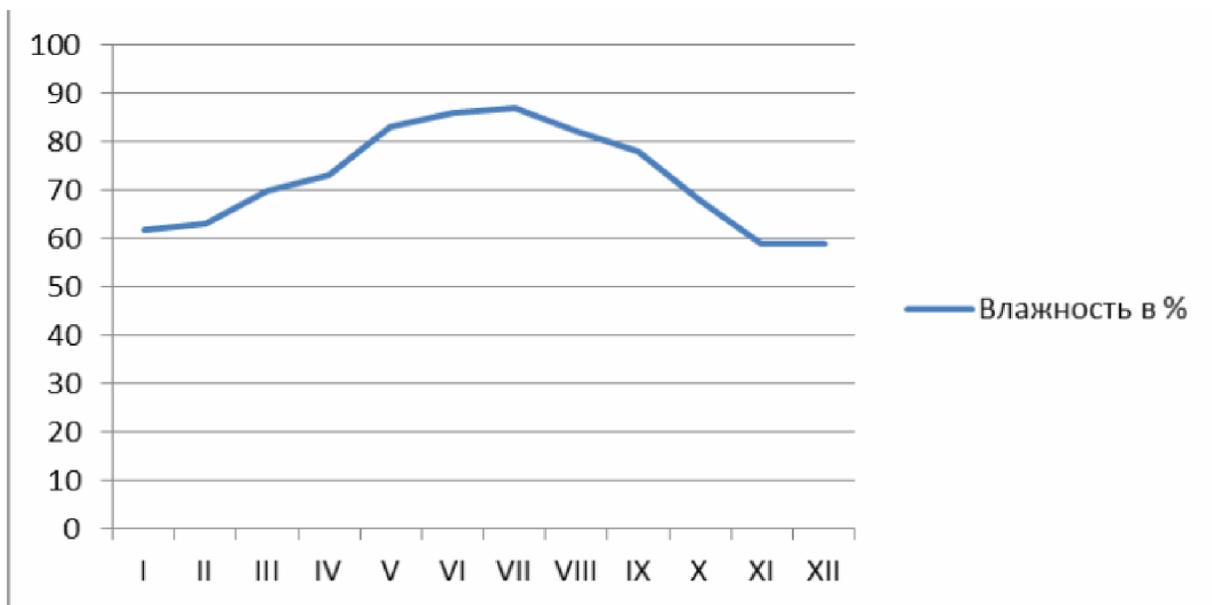
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
	33	35	41	75	116	137	118	101	85	63	52	47	903

: , 68 ,
 % , ,
 342 , %

28

29

(.2.16) .2.16.



.2.16.

30

2000 72%
(59-63) (82-87).

2.16
(1985 –

2015 .)³¹

.	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
. %	62	63	70	73	83	86	87	82	78	68	59	59	72

59%.

86 – 87 %.

30

31

. 2.17.

2.17

(1985 – 2015 .)³²

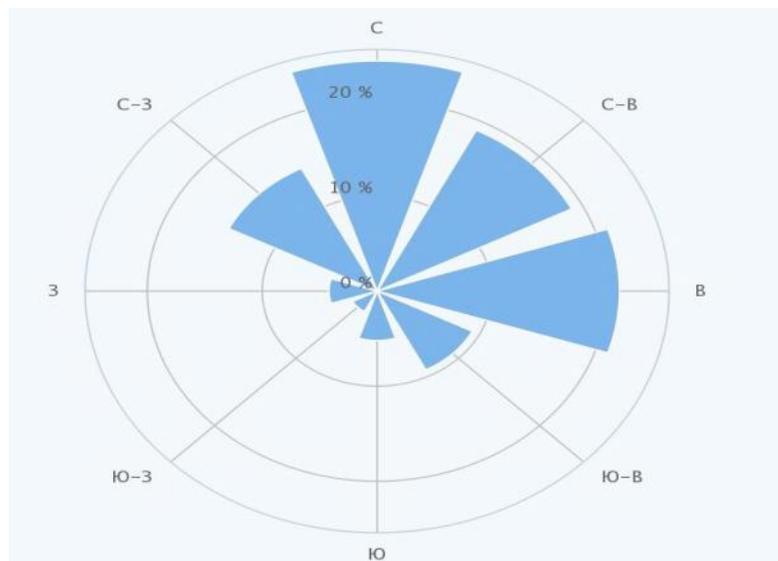
-	141 (38,7%)	136 (37,2%)	34 (9,4%)	54 (14,7%)

, 141 - 136

10% (34

),

(. 2.17)



. 2.17.

33

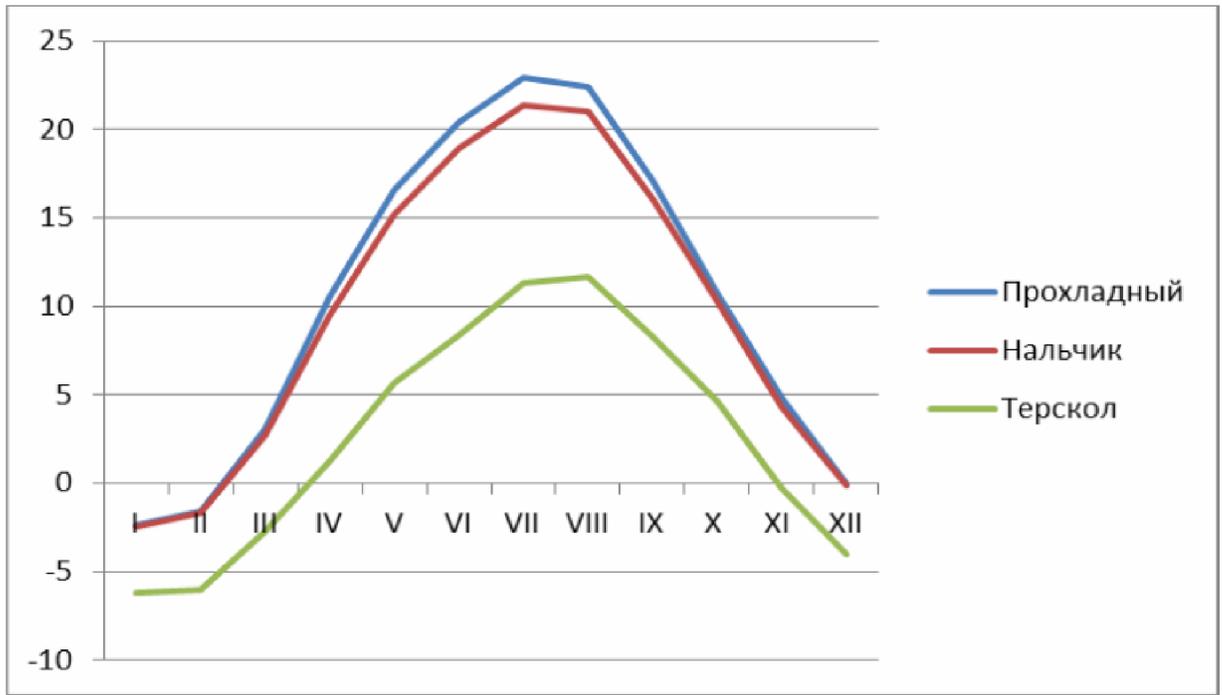
32

33

,
 24%, (21%)
 (19%)
 , ,
 4000 ((15 /)
 « - 11»
 , - 40
 40 /
 ,
 - -
 15 15 .

[1].

(. 3.1).



. 3.1.

(. 3.1)

0,9

2000

2,7 , 7,8

1 - 1,5

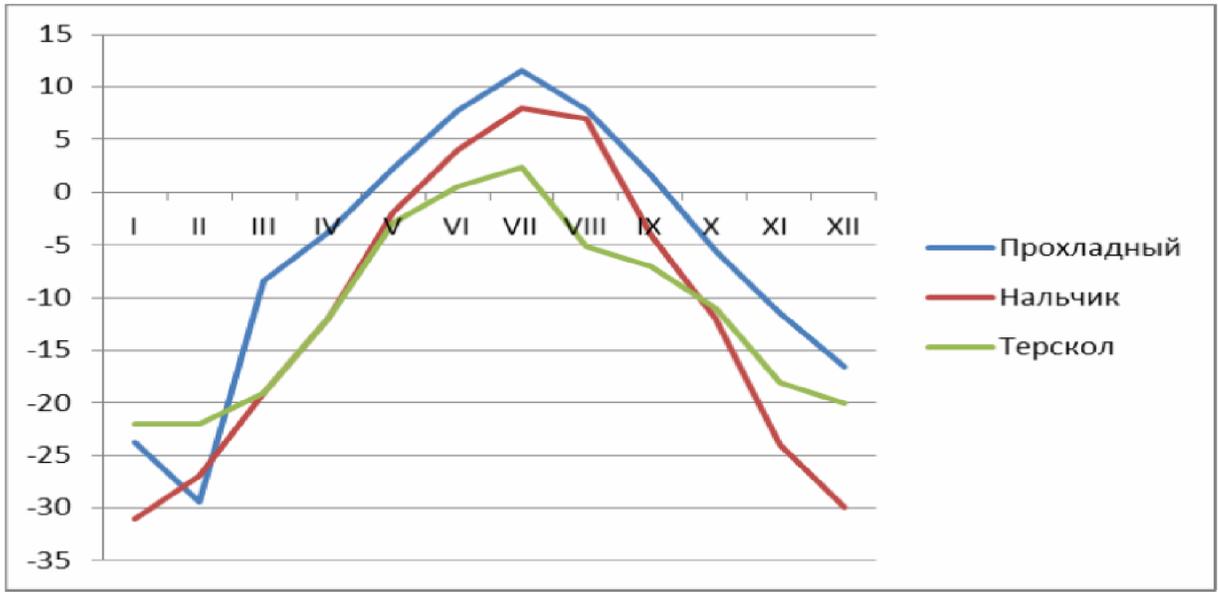
2

6 -7

1 .

[2, . 120].

(. 3.2)



. 3.2.

35

(. 3.2)

3 – 3,7

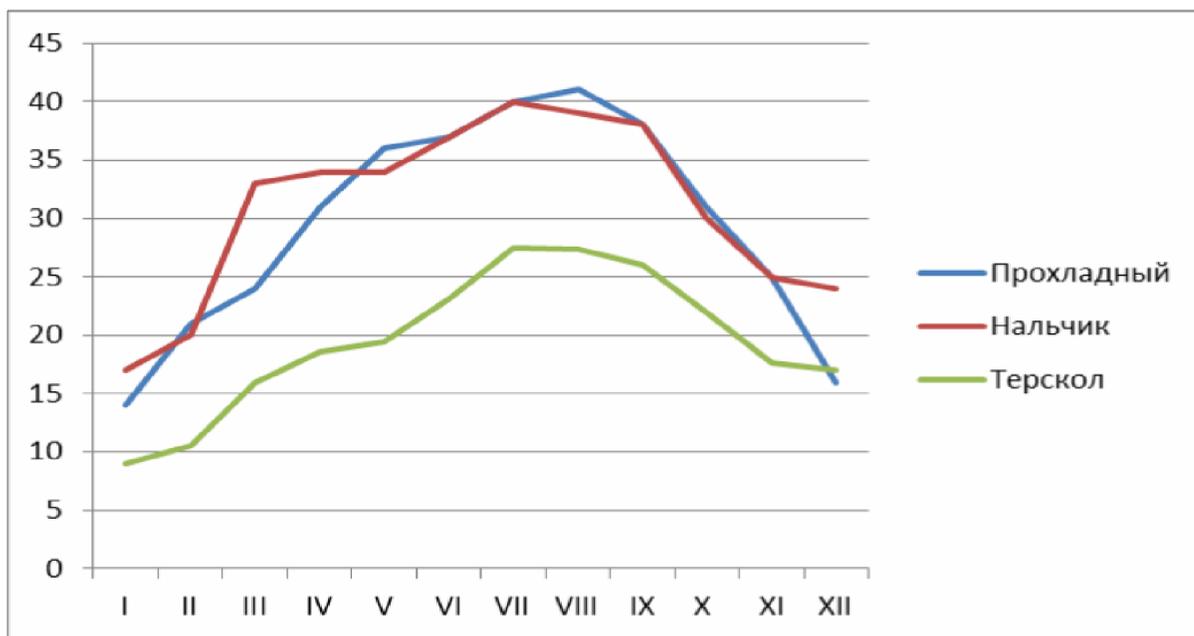
7 – 12

(. 3.2)

– 29, - 31

– 22

(. 3.3),



. 3.3.

36

(. 3.3),

[22, с. 157].

+ 38, +40 ,
+ 25, + 27 .

(. 3.4)



. 3.4.

(.34) ,

72 - 76%.

84 - 87%.

62 - 67%.

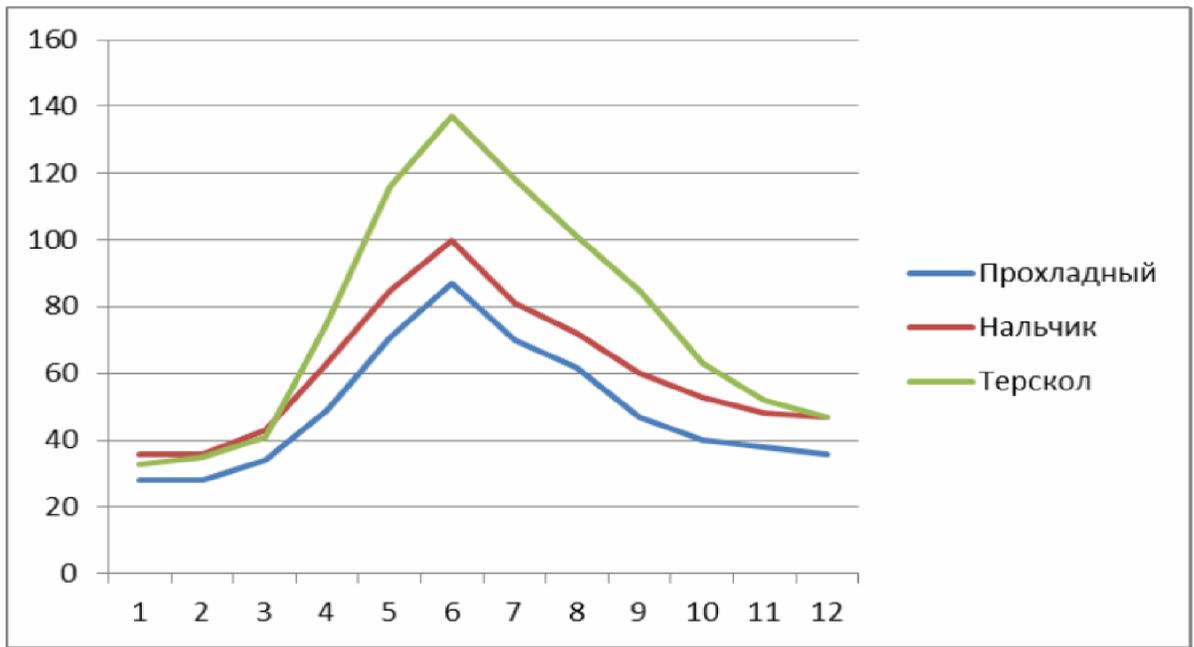
(.34) ,

84 - 86 %.

59 63 %.

[25, .56].

(.35)



. 3.5.

38

(. 3.5)

164 210 , 24-

30 %

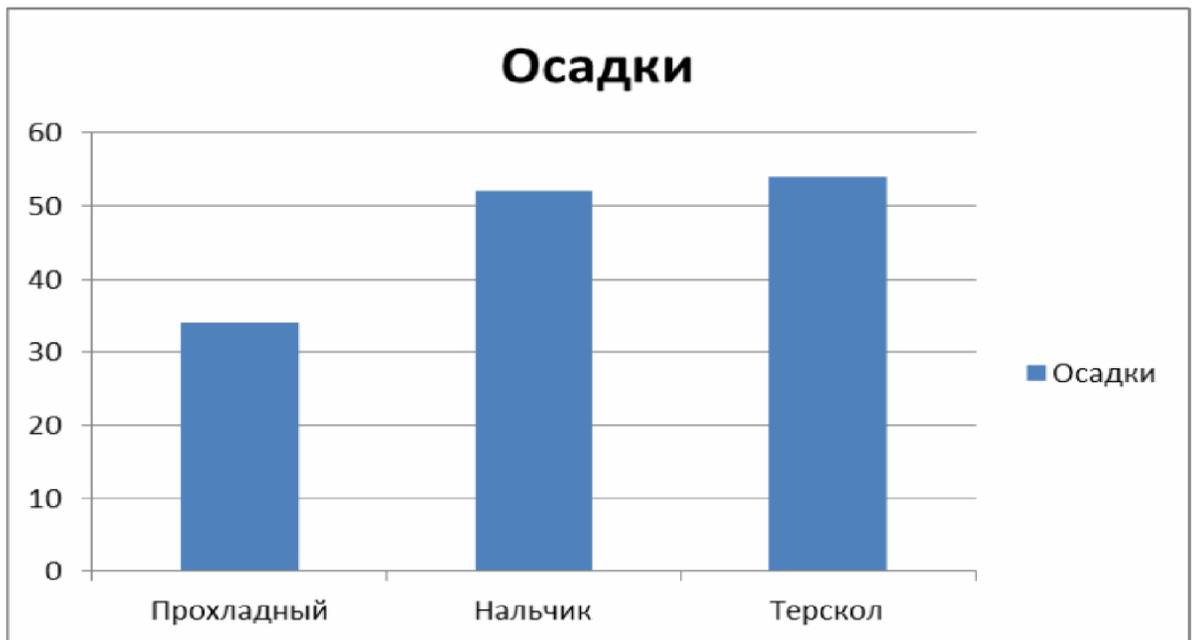
290 338 , 46 50 %

470

52 %

[19].

(. 3.6)



. 3.6.

39

34,

62 – 64

.

,

[13, .89].

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,

,

- .

1985 2015 ,

- .

:

1.

.

-

,

-

43° 45'

44 02'

,

.

217 ,

.

740 . .

-

43°29'

43°37'.

500 ,

,

800 .

720 . .

.

-

-

, 43

21'

42 55'

.

,

1300 2000 .

640 . .

-

-

,

, 43 14' 42 30'
2144 . . .

. 3000 .
610 . .

2.

70⁰ +40,7 - -29,9⁰ .
60⁰ , - 30 + 40⁰ .
54⁰ ,

,

3.

590 , 724 , - 850 , - 903 .
46 - 50 % ,
52 % .

4.

,
72 - 76% .
84 - 86 % .

1. []. URL: <https://ru.climate-data.org> (: 19.05.2019).
2. . . - / . . , . . , . . , . . . - : , 2005. - 150 .
3. . . / - : , 1984. - 313 .
4. . . . - : , 1922. - 94 .
5. . . . - : . , 2013. - 338 .
6. . . . - : , 1971. - 472 .
7. []. URL: <https://water-rf.ru> (: 28.04.2019).
8. . . . - : , 1957. - 491 .
9. . . . - : , 1977. - 711 .
10. - []. URL: <http://zapovednikkbr.ru> (: 25.03.2019).
11. . . - / . . , . . // . - 2003. - .92. - .49-52.
12. . . . - : , 1984. - 751 .
13. . . /

- ... , – : , 1967. – 242 .
14. []. URL: [http:// 07](http://07). (: 26.04.2019).
15. []. URL: <https://www.gismeteo.ru> (: 10.05.2019).
16. []. URL: <https://world-weather.ru> (: 05.05.2019).
17. []. URL: <https://rp5.ru> (: 16.05.2019).
18. []. URL: <https://meteoinfo.ru> (: 02.05.2019).
19. []. URL: <https://ru.wikipedia.org> (: 14.05.2019).
20. []. URL: <https://studopedia.ru> (: 31.04.2019).
21. . . - / « ».- . – 2003. – . 108-109.
22. . . . – : , 1969. – 645 .
23. . . // . – . – 2004. – . 9. – . 56-57.
24. . . / . . , . . , . . . – : , 2006. – 226 .
25. . . / . . , . . , . . // . – 2006. – 8. – . 54-58.