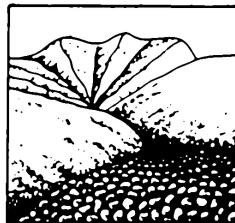


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Логотип конференции основан на рисунке из книги К.Е. Флейшмана «Катастрофы селевых потоков» (Москва: Географгиз, 1951, с. 51).
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Гидрометеорологические условия периодов массового селеобразования на о. Сахалин

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Hydrometeorological conditions of the periods of mass debris-flow occurrence on Sakhalin Island

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Far East Geological Institute of Far East Branch of Russian Academy of Sciences, Sakhalin Department, Laboratory of Avalanches & Debris-Flows Processes, Yuzhno-Sakhalinsk, Russia

JZkkfZljbZ_lky ēbygb fZdkbfZevguo agZq_gbc ūZfbo bdbo hkZdh gZ ijhp_kk nhjfbjhZgby ijjbhh fZkhh]h k_e]h]ZahZgby gZhkljh KZoZebg

We examine the influence of the maximum values of liquid precipitation on the process of the formation of periods of mass debris-flows occurrence on Sakhalin Island.

1 Введение

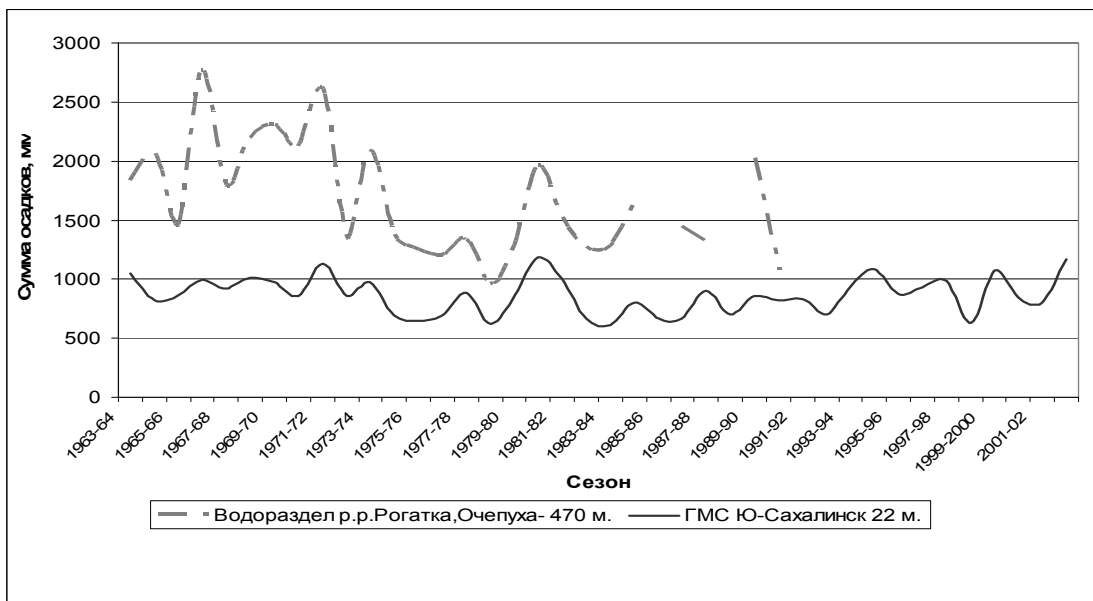
g[erbf nZdlhjh]f, hijeyxsbf bglgkbghklv jZablby k_e]uo ijhp_k- kh gbadh]hjv h KZoZebgZ_yey_lky dhebq_klh b bglgkbghklv hkZdh ūZZx - sbogZ_ljjblhjbb . <hijhkm ēbygby bdbo hkZdh gZnhjfbjhZgb k_e]c]gbadh-]hjv KZoZebgZ_ue ihkys_g jy jZ]hl (imZjbg b] ., 1987;]jh , 1989; DZaZdh]b mdhZ, 1988, 1990). HgZdh , fū ijb]bZ_fky a]eyZ , hjZ_ggh]h]jZ]hlZo (DZ aZdh]b Fbg_jbg, 2000; DZaZdh b]gkbhjhkdbc , 2007),]]bjhf]h jheh]bq_kdb nZdlhju k_e]h]ZahZgby jZkkfZljbZlky dZdihqbg_ggu , Z]eZ_gklmxsmx jhev b]jZxl nZdlhju]heh]bq_kdb

2 Рассмотрение проблемы

fhknjgu hkZdb, ūZZxsb gZ_ljjblhjbb hkljhZ , yeylky j_amevlZlhf Zdlbgc pbdehgbq_kdhc yl]evghklb. hhu kmffu hkZdh gbsZo hebg b gZ fhjkdhf ih]j]v xguo jZchgZo dhe]exlky ij_eZo 800-1100 ff(]hjZo kj_gb agZq_gbykmff ūZfbo hkZdh aZbkbfhklb hl ūklghc ahgu khklZeyxl 1500-2000 ff b hl]evgu]hu fh]ml ij_uzlv 3000 ff). Wlh ohjhrh bgh gZ kjZgb]evghf]jZnbd fgh]he]lg]h ohZ hkZdh, ijb]ggh]h gZjbk. 1.

< l]euc ijjbhh ūZZ] 65-80%]hhc ghjfu . Kmffu hkZdh ih Zgguf]bjhf]h]heh]bq_kdbc klZgpbc (FK) ih]gpZevgh k_e]hiZkguc ijjbhh (bxgv- hdly]j]v)]kj_g]f khklZeyxl 300-600 ff, fZdkbfmf hklb]Zy 1100 ff . GZh hlf - lblv ke]mxs , qlh ihZeyxsZy qZklvgZ]exZ]evghc k]b]Jhk]bjhf]IZ jZkiheh- g Zhev ih]j]bc, eb]h gbsZo j_qguo hebg hkljhZ . < LZ]ebp l ijbhhky ijhp]glgh khhlghr]gb jZkij_e]gby FK b]bjheh]bq_kdbo ihklh (E) ih ūkh - lZf gZ_ljjblhjbb hkljhZ (gkbhjhkdbc b DZaZdh, 2007).

< mkehbyo dh]Z , ¼ ljjblhjbb aZgy]h]hjZfb, kZ[khexlgufb hlf]ldZfb 350-1600 f. bkihevahZgb lhev]h Zgguo h]hkZdZo, ihemq_gguo gZFK, ijbhh d]g hm q]m]iZjZf]ljh]bjhf]h]heh]bq_kdbo ye]gbc , Zgguo bo gZ]ex]gbc g]fh]ml bkihevahZlvky ey khklZ_e]gby k_e]h]h ijh]ghaZ.



К[] KjZgb[]evguc[] jZnbd[] ohZ[] hkZdh[] ih[] jbjhf[]ihjheh[]jq[]kdhc[] klZgpbb[] Xgh[] - KZoZebgkd[] kmffZ[]jghfm[] hkZdhf[]jm[] , gZohbr[]fmky[] gZ[]hhjZa[]e[] j[]d[] Jh[]JldZ[] b[] Hq[]imoZ[] hdj[]klghklyo[] j[] Xgh[] -KZoZebgkdZ[]

LZ[]ebpZ[] 1. Ijhp[]glgh[] khhlghr[]gb[] jZkiheh[]gby[] eFK[] b[]e[] ih[] ukhlZ[]f[] gZ[]ijb[]h[]jbb[] KZoZ[] ebgZ[]

>bZiZahg[] ukhl[] Z[k[] f[]	% h[]h[]s[]h[] dhebq[]klZ[] eFK[] b[]e[]
0-50	77,7
50-100	9,6
100-200	11,7
>200	1

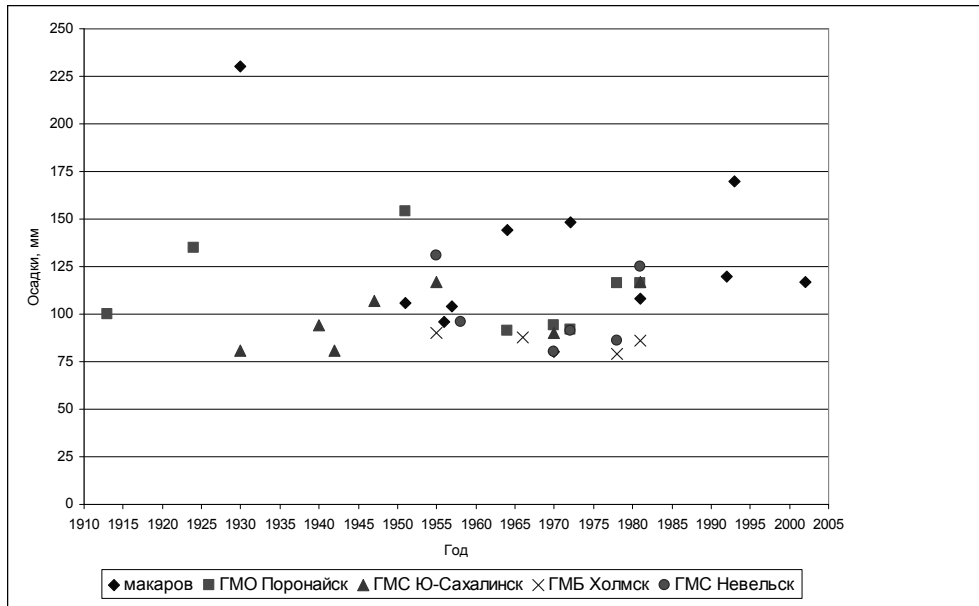
GZijbf[] , lZdZykblmZpbykehbeZkv[] q[]jZchg[] j[] FZdZjhZ[] q[]ijbh[] fZkhh[]h[] k[]e[]h[]jZahZgby[] q[]gZqZe[]k[]gly[]jy[] 1992[] , ihkdhevdm[] eFK[] jZkiheh[]gZ[] gZ[]fhjkdhc[] ijZk[] (Z[khexlgZy[] ukhlZ[] 38 f[]), ahg[]jZajmadb[]k[]e[]to[] hleh[]gbc[] , ZhhjZa[]e[] k[]e[]to[] [Zkk[]cgh[] gZohylky[] q[]hl[]ldZo[] 300-500 f[] , lh[] hkZdb[] , ulZrbo[] q[]jZchg[] klZgpbb[] agZqbl[]evgh[] hlebqZebkv[] hl[]hkZdh[] ulZrbo[] q[]ijbhhjZa[]evghc[] qZklb[]Zk[]k[]cgh[]

d[]hgpp[]e[]lZ[]b[] gZqZe[]hk[]gb[] gZ[]exZxlky[] tohu[] jem[]hdbo[] pbdehgh[] b[] lZcnm[]gh[] ijbgkysbo[] ebg[]to[] hbi[] AZkmldb[]hafhgh[] ulZ[]gb[] 1-2 f[]kyqguo[] ghjf[] hkZdh[] . LZd[]q[] >hebgkd[] q[]k[]gly[]jy[] 1947[] j[] aZkmldb[]ulZeh[] 222 ff[] hkZdh[] , ijb[] f[]kyqghc[] ghjf[] 120 ff[] . FZdkbfZevgu[] kmlhqu[] dhebq[]klZ[] hkZdh[] hl[]hy[] ijb[] -gu[] gZ[]j[]b[]kmgd[]2.

DZdbgh[] ba[]ijb[]q[]ggh[]h[] jbkmgdZ[] , kmlhqu[] fZdkbfm[]fu[] hkZdh[] fh[]ml[] ij[]to[] rZlv[] 200 ff[] K[]e[]h[]jZamxsZy[] kmffZ[] hkZdh[] gZ[] hkljh[] KZoZebgij[]urZ[] 50 ff[] ijb[] bgl[]gkbgk[]hb[] hkZdh[] 30-50 ff[] /kmlb[] (DZaZdh[]b[] Fbg[]jbg[] , 2000). HgZdh[] , q[] kemqZ[]ij[]r[]klm[]xs[]q[]h[] meZg[]gby[] ihjh[] q[]k[]e[]hf[] fZk[]kb[] , k[]e[]to[] ijhp[]kku[] jZa[]bZxlky[] ijb[] ulZ[]gbb[] 10-20 ff[] hkZdh[] q[]l[]q[]gb[] kmlhd[]

KhiZ[] q[]gb[] kmlhqu[] fZdkbfm[]fh[] hkZdh[] (ijb[]to[] fZdkbfZevgu[] kmlhqu[] hkZdb[] hl[]hy[] ij[]urZ[]xs[]b[] 70 ff[]) ih[] g[]kdhevdbf[] klZgpbyf[] , hgh[]f[]ggh[] mdZau[] Z[] ij[]bh[] fZkhh[]h[] k[]e[]nhjfbjhZgby[] gZ[]hevr[]c[] qZklb[] ij[]b[]h[]jbb[] h[] KZoZebg[] JZkfh[]jbf[] gZb[]he[]ihdZaZl[]evgu[] kemqZ[]fZkhh[]h[] nhjfbjhZgby[] k[]e[]c[]

>Zggu[] ij[]bh[] dZdijZbeh[] , hlf[]qZxlky[] kh[]lhjc[] ihehbg[] bxey[] h[] k[]j[]b[] -gu[] hdly[]jy[] b[] kyaZgu[] k[]ijhoh[] q[]gb[]f[] jem[]hdbo[] pbdehgh[] , khijhhZ[]xs[]boky[] ulZ[]gb[]f[] h[]bevguo[] hkZdh[] ([he[] 50 ff[] kmlb[]) ijb[] bo[]hevr[]c[] bgl[]gkbgk[]hb[] . HgZdh[] gh[]ohbfh[] h[]yaZl[]evgh[] mkeh[]b[] - gZdhie[]gb[] q[]k[]e[]to[] hqZ[]Zodj[]b[]bq[]kdh[]h[] h[]ul[]fZ[] ihl[]gpbZevgh[]h[] k[]e[]h[]h[] fZk[]kb[]Z[] (IKE). Dj[]b[]bq[]kdZy[] lhesbgZ[] IKE khklZey[] 0,5-1,0 f[] (DZaZdh[]b[] Fbg[]jbg[] , 2000).



Jbk2. Kmlhquu fZdkbfmfu hkZdh hl hy ih =FK k_e_hiZkguo jZchgZo aZi_jbh 1913-2003]]

Pbdehg, ijhfbc gZojjblhjb KZoZebgdhch[eZklb 18-19.09.1970 hoZlbe [hevrnx ijblhjbx hkljhZ. Kmlhquu fZdkbfmfu hkZdh khklZbeb jZchgZo k_e_hjZahZgby: =FK FZdZjh - 80 ff, =FK G_evk d - 80 ff,]hjZo x]Z (kg]heZbggZy k]Zgpby I]jZe, Z[k ukh]Z 300 f) aZ 12 qZkh]iZeh 121 ff. <uiZ]gb lZdh]h dhebq_k]Z hkZdh ijb_eh d fZkhhfm k_e_hjZahZgby G_evkdhf, Ohef-kdhf, FZdZjhkdhf jZchgZo KZoZebgdhc h[eZklb.

Ke_mxsbc jZkklZ]bZ_fuc i]jbh k_gly]v-hdly]v 1972]hZ, dh]Z ijhoh-]gb jyZ pbdehg ijb_eh d uiZ]gb agZqbl]evgh]h dhebq_k]Z hkZdh, m_eZg]gb ijblhjb b_uaZeh fZkhhuc koh_k_e_c ur_gZaZgguo jZchgZo. Km lhquu fZdkbfmfu hkZdh khklZbeb: =FK FZdZjh - 148 ff, =FK G_evk d - 91 ff, =FK Xgh- KZoZebgd - 68 ff (aZ9 qZkh). <]hjZo x]Z (kg]heZbggZy k]Zgpby I]jZe) aZ 12 qZkh]iZeh 121 ff.

?s_hbg i]jbh fZkhh]h nhjfbjhZgby k_e_c hoZlbfbc [hevrnx qZklv hkljhZ - Z]mk] 1978]hZ. Kmlhquu fZdkbfmfu dhe_]Zebkv h] 76 ff (]bjhf]hjh - eh]bq_kdh [xjh Ohefkd) h 116 ff (]bjhf]hjh]bq_kdZy h[k]Z]h]by]hjh - gZckd),]hjZo hkljhZ bg]gkbgk]v hkZdh [ueZ s_ ur_ (kg]heZbggZy k]Zgpby I]jZe) - 40 ff aZ 3 qZk]j]b ij_hoh]gbb lZcnmgh «Hbg » b «Nbeebk» 2-7 Z]m-klZ 1981] kmffZ hkZdh gZ=FK «Xgh -KZoZebgd (Z[k ukh]Z 22 f) khklZbeZ 220 ff. AZlh] i]jbh KmkmgZckdhf]i] ih Zgguf kmffZjguo hkZdh]h]bg-]jZe Z[khex]guo hlf]hd h] 400 h 600 f kmffu hkZdh khklZbeb [he_ 1200 ff.

<h k_o ur_]j]qbk_e_gguo i]jbhZo k_e_hjZahZgby, uiZrb_ hkZdb h[m-keZebZeb Zdlbg] h]ZahZgb k_e_uo ih]hdh.

HgZdh g_k]Z uiZ]gb agZqbl]evgh]h dhebq_k]Z hkZdh ijbhb] d fZk- khfm kohm k_e_c lZd, k_gly]v 1982]hZ, ijb ijhoh]gbb pbdehgZ kmlhgh_dh- ebq_k]h hkZdh ih =FK FZdZjh khklZbeh 124 ff. JZkoh_hu ih j_FZdZjh kh- klZbe 850 f³/k Zgguc jZkoh ih kh_c ebqbg, yey_lky]hjuf aZkv i]jbh gZ- [ex]gbc b mklmiZ]lhev dh dZ]Zkl]hnbq_kdhfm jZkohm hu 1722 f³/k (Z]mk] 1981]hZ). Gh fZkhh]h k_e_nhjfbjhZgby jZchg hlf_q_gh g_ [ueh. Wlh h[mkehe_gh]f, qlh]hfh jZg_ ihke_ ijhoh]gby lZcnmgZ «Nbeebk», khf]rb_ k_e_uo ih]h- db iheghklvx hqbk]beb k_e_uo hqZ]b h] ih]gpZevguo k_e_uo fZkhh] gZdhie- gby. Dh k]v h]kmlklZeh h]yaZ]evgh mkehb_ kohZ k_e_c]gbadh]hv h KZoZebgZ - d]blbq_kdbc h]f] fZ]j]bZeZ k_e_uo hqZ]Zo.



Жбк3. К[е]т[у] илхдб[ы] илхсбгхс и 2,5 ф ([Зкк[с]г[ж] Ж[л]ЗлдЗ). Нлх Лжм[с] .

3 Заключение

1. Кмффу хкЗдх □ П[г]лЗевгуо б Xгуо јЗчгЗо KZoZebgZ (hebгZo б гZ fhjkdбo ih[vyo]) □ ihl[gp]Zevgh k[е]hiZkguc i[jbh] (bxgv-hdly[jv]) □ kj[г]f khklZeyx □ 300-600 ff, □ fZdkbfmf hklb]Zy 1100 ff. □ Jhguo qZklyo hkljhZ aZ ye[gb] fh □ uiZklv (aZbkbfhklb h[ukhlu] f[klZ] [he] 1200 ff) hкZdh □.

2. □ JhjZo hkljhZ bg[г]gbghklv hкZdh fh □ khklZeylv [he] 40 ff/ q. Ijb ijhoh[гbb] lZcnmgh □ jZagbpZ f[м] hкZdZfb , hlf[qZ] fufb aZ ye[gb] □ ijb[j] -ghc, hebггhc qZklyo hkljhZ б hкZdZfb □ JhjZo fh □ khklZeylv 1000 ff) aZ ye[gb] -gb □

3. К[е]h[ж]ZamxsZy kmfZ hкZdh □ гZ hkljh □ KZoZebgi[urZ] □ 50 ff ijb bg-[г]gbghklb hкZdh □ 20-50 ff/ kmldb.

4. >ey fZkhh[h] k[е]nhjfbjhZgby г[h]ohbfh гZdhie[gb] □ k[е]т[у] hqZ]Zo djbblq[kdh]h h[ufZ] ihl[gp]Zevgh]h k[е]h[h] fZkkbZ lhesbghc 0,5-1,0 ф.

Список литературы

m[г]gZ H.Б., [j]h □ <N., KbhjhZ L.E. К[е]т[у] ye[gb] и KZoZebg- <klgbd Fhkdhkdh]h mglZ, k[ж] 5, [h]jZnby, □ 3, 1987, k 76-81.

[г]gbhhkdbс X .<, DZaZdh[G.]. G[hm]q[] hкZdh □ гbadh]hjv □ h. KZoZebgZdZd ijbqbgZ aZgb[гby] jZkq[гуо] iZjZf[]h khjm[гbc] ijb ijh_dlbjhZgbb б kljhb[evk] - [h- jbkд, □ 1, 2007, k 58-60.

DZaZdh[G.], [г]gbhhkdbс X .<. DZlZkLjhnba[kdb] k[е]т[у] илхдб □ гbadh]hjv □ h. KZoZebgZ б бо hiZkghklv ey fZ]bkljZevguo ljm[hijh]h (гZ ijb[] «KZoZebg-2»). - Ijh[е]fu ijh]ghabhZgby q[au]qZcguo kblmZpbc K[hj]gd fZ]jbZeh □ VII гZmqghijZdlbq[kdh] dhgn[]gpbb . FhkDZ: « [g]bklboby », 2007, k 34-35.

DZaZdh[G.], mdhZ AB. JZchgbjhZgb □ h KZoZebgih kl[]gb ijhye[гby] k[е]т[у] [yl[ev] -ghklb. - Ljmu [bjhf]lp[gl]Z KZoZebgkdh]hM=FK. J[]bhgZevgu[bkke]hZgby . Xgh - KZoZebgkd, 1988, k 131-137.

DZaZdh[G.], mdhZ AB. Mkehby nhjfbjhZgby k[е]т[у] iZhdh □ fZeuo hhlhdZo . - Ijb - jhgu[dZlZkLjhnу б klbocgu[]klby □ >Zevg[hklh]ghf j[]bhg, □ 2, <Zbkhld : >H :G KKKJ, 1990, k 394-400.

DZaZdh[G.], Fbg[jbg] B.< K[е]т[у] ijhp[kku] гZ h. KZoZebg- ljbdeZgZy [hwdheh]by, q[au]qZcguo kblmZpbb a[f]evguс dZkLj. <ui.4, Fh kdZ : Ihel[dk], 2000, k 35-38.

[j]h □ <N. К[е]т[у] ye[gb] гZ []jbh]bb KKKJ. FhkDZ : <BGBLB , 1989, 148 k