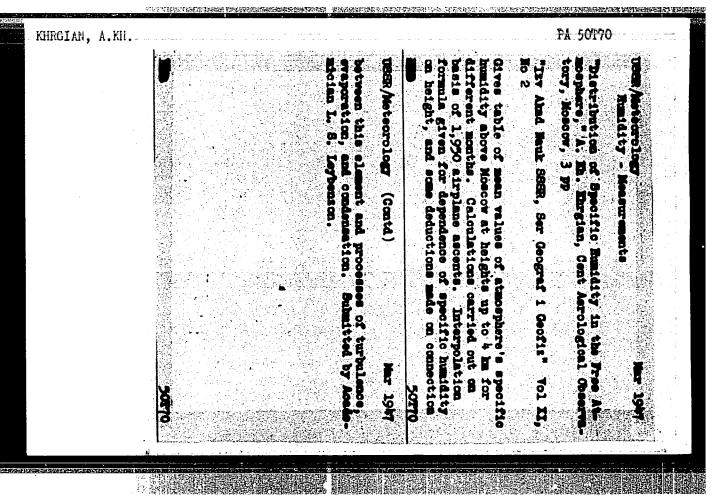
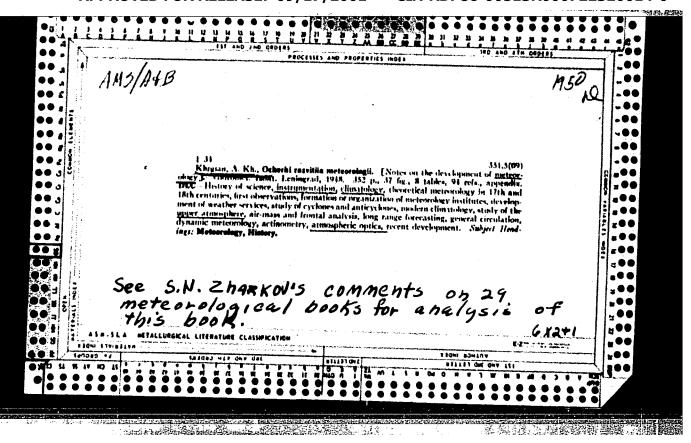
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KHRGIAN, A. KH.

Breezes of Lake Ladoga. Doklady GOIN (Reports of the GOIN) No 102, 1947.

SO: U-3039, 11 Mar 1953



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CIA-RDP86-00513R000722320014-0

KHRGIAN, A. KH.

DESR/Meteorology - Upper Air
Literature

"Book Reviews," A. Kh. Khrgian

"Meteorol i Gidrol" No 1, pp 123-127

Khrgian reviews three foreign books: Ehmert's "Tropospheric Ozone," P. Gotz's "Contemporary Status of Ozone Problems," and Ekhart's "Study of Wind Conditions in the Upper Stratosphere."

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With Distribution of Humidity over Moscow," Trudy of the Aerological Observatory, No. 1, 1948. Listed as a reference in a Symposium of 16 articles in Meteorol. i Gisrol., No. 1, September, 1950.

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35203. Polet 27 oktyabrya 1948 G. i issledovanie protsessov, proiskhodyashchikh v kapel'nykh oblakakh. Trudy tsentr. Aerol. Observatorii, Vyp. 5, 1949, s. 13-27.

SO: Letopis' Zhurhal'nykh Statey, Vol. 48, Moskva, 1949

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KHRGIAN, A. KH.

35202. Ob Issledovanii Struktury Oblakov Orticheskim Metodom. Trudy Teentr. Aerol. Observatorii, Vyp. 5, 1949, s. 28-37-Bibliogr: 9 Masv.

SO: Letopis' Zhurhal'nykh Statey, Vol. 48, Moskva, 1949

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722320014-0"

。 "我们是我们是我们的一个人,我们就是我们的一个人,我们就是我们的人,我们就是我们的人,我们就是我们的人,我们就是我们就是我们的人,我们就是我们的人,我们就是我们

SPASSKIY, H.F.; STRAKHOV, P.I. HEGIAN A.Kh., professor, redaktor; GRIGOROVA, V.A. redaktor; AKHLAMOV, S.N., tekhnicheskiy redaktor

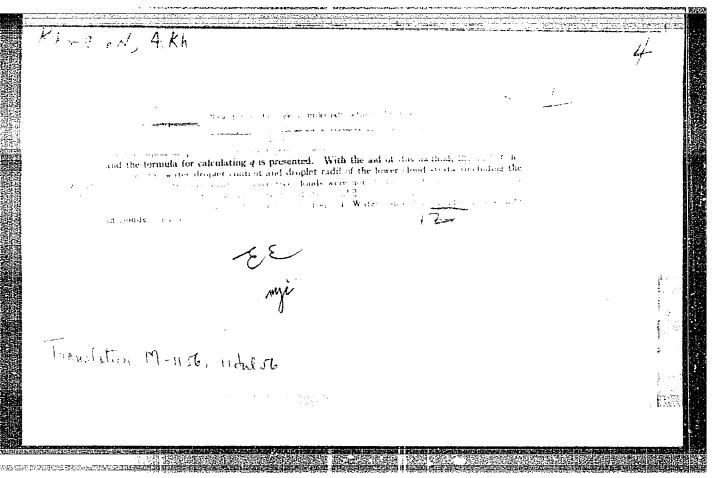
[Selected works on the physics of the atmosphere] Izbrannye raboty po fizike atmosfery. Redaktsiia i primechaniia A. Kh. Ehrgiana. Moskva, Gos.izd-vo tekhniko-teoreticheskoi lit-ry, 1951. 342 p. (MLRA 8:10)

KHRGIAN, A.Kh.

Atmospheric processes differing little from adiabatic processes.

Trudy TSAO no.6:184-186 '52. (NIRA 11:6)

(Atmosphere)



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KHRGIAN, A. KH. Prof

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UBSR/Meteorology - Air Waves

Nov 52

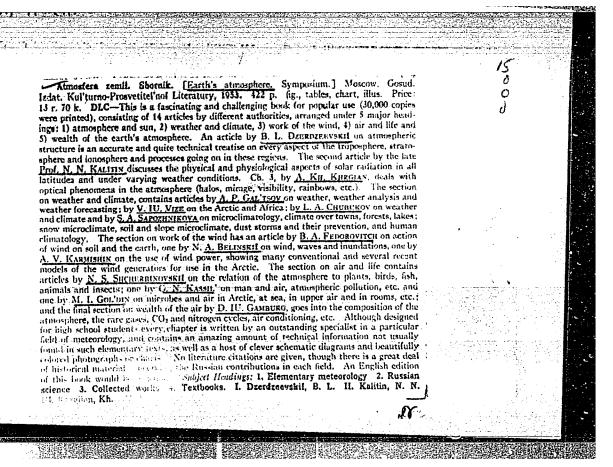
"Formation of Atmospheric Waves on the Lee Side of Mountain Ranges," Prof A. Kh. Khrgian, Dr of Geog Sci, Dolgoprudnaya Sta, Central Aerological Observatory

"Meteorol i Gidrol" No 11, pp 37-40

When an air current encounters a mountain range orientated approximately perpendicular to it, atmospheric waves are formed on the lee side of the range parallel to it.

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'A Study of C to Study Proc (with A. M. B		the Opt	ical Method," g Raindrops,"	and "A Flig p. 55, Sum.	ht on 27 October 51, 14 Jan 52	1948
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KHRGIAN, A.Kh.

PRASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 405 - I

BOOK

Author:

Call No.: AF628311

KHRGIAN, A. KH. le: PHYSICS OF THE ATMOSPHERE Full Title: Transliterated Title: Fizika atmosfery

Publishing Data

Originating Agency: None

Publishing House: State Publishing House of Technical and

Theoretical Literature

Date: 1953

No. pp.: 456

No. of copies: 5,000

Editorial Staff

Editor: None

Tech. Ed.: None

Editor-in-Chief: None Text Data

Appraiser: None

Coverage: The book is an advanced text in meteorology, based on mathematical physics and vector analysis. It includes 158 formulae; 219 graphs, charts, photos and diagrams; and 119 tables. It is based on observations made mainly on the territory of the U.S.S.R. A large number of Russian scientists, their work, their laboratory experiments and the results attained (in whirlwind, cloud formation, precipitation, etc.) are cited in the text. The book was compared with the Compendium of Meteorology of the American Meteorological Society (1951), the Handbook of Meteorology by Berry, Bollay and 1/10

Fiziká atmosfery

AID 405 - I

Beers (1945), several leading American texts, and the Russian text Kurs Meteorologii edited by Tverskoy (1951) (see our Treasure Island Bibliographical Report, AID 20 - II). The table of contents covers the subject matter well. Atmospheric optics and acoustics are not mentioned. Items which could not be found in available American texts, or which have a different explanation, or new and different formulae are marked by asterisks (*) in the table of contents.

The text may be considered as a theoretical advanced course, or a supplement to, or a methematical development, of Prof. Tverskoy's Kurs Meteorologii. In its descriptive part and in its accumulated data, as well as in its clear and well written definitions, it resembles the latter. But in the application of mathematical physics it goes further, and a thorough knowledge of higher mathematics is a prerequisite. There is scarcely any descriptions of instruments and little on methods of observations. Numerous references are tited in the footnotes, very few of them to non Russian sources, and at the end of the text nine books are mentioned, all Russian, on which the author has based his work. The first of these books is the above mentioned course edited by Prof. Tverskoy. The system of symbols and formulae describing known physical 2/10

AID 405 - I Fizika atmosfery phenomena used in this work differs from those employed in the comparable English, American and Russian texts, especially that of Tverskoy. Except for this, nothing new was found. PAGES TABLE OF CONTENTS 7-15 Introduction 16-32 Ch. I Composition of the Atmosphere Fundamental data. Theory of separation of gases. Oxygen. Helium and other inert gases. Carbon dioxide. Sodium in the atmosphere. Composition data of the upper atmospheric layers from spectra of aurorae boreales. Hydrogen and hydroxyl in the atmosphere. Escape of gases from the atmosphere. Gaseous tail of the Earth * (pp. 31-32). 33-44 Ch. II Ozone The role of ozone in atmospheric processes. Its distribution in the atmosphere. The physical processes governing this distribution. Horizontal advection. 45-58 Ch. III Atmospheric Dust General. Falling of dust particles. Air turbulence and its importance in dust distribution. Theoretical considerations on dust distribution. Dust and sand transportation. Sand drifts. 59-67 Water Vapor Ch. IV Units. Distribution of humidity: vertically and in the ground layer.

Fizika atmosfery

AID 405 - I

PAGES 68-87

Ch. V Basic Laws of Atmospheric Statics. Air Pressure Equation of state of the air. Dependence of pressure on altitude above sea level. Some examples of the use of the barometric formula. Barometric formula of the geopotential. Barometric formula for great heights (100-1000 km). Air pressure at sea level. Diurnal variation of pressure.

88-102

Ch. VI Adiabatic Processes in the Atmosphere 88 Dry adiabatic process. Entropy. Wet adiabatic process. Adiabatic (thermodynamic) diagrams. The level of condensation. Foehn (chinook). Thermodynamic stability in the atmosphere. The reserve of energy of instability. Processes differing little from the adiabatic. Determining instability by the layer method.

1Ch. VII Radiation Processes in the Atmosphere. Solar Radiation

103-131

Radiation laws. Distribution of solar heat on the surface of the earth assuming the absence of atmosphere. Secular variations of climates. Absorption and dispersion of solar rays in the atmosphere. Length of path of a ray from the sun in the atmosphere. Solar radiation reaching the earth's surface. Scattering of solar radiation. Albedo of the earth's surface.

4/10

THE PROPERTY OF THE PROPERTY O

AID 405 - I Fizika atmosfery PAGES Ch. VIII Radiation from the Earth's Surface and 132-142 the Atmosphere Nature of terrestrial surface radiation. Absorption and emission of long-wave radiation in the atmosphere * (pp. 134-136 with 2 tables). Results of observations of radiation. Total effective radiation. Radiation under various angles with the horizon. Radiative balance. Heat Interchange in the Upper Layers of the Ch. IX Soil and Water 143-162 Principles of the theory of the spread of heat in the soil. Annual and daily temperature variation in the soil in natural conditions. Snow cover and the soil temperature. Possible artificial method of changing soil temperatures * (pp. 153-157 with 2 tables). Permafrost * (pp. 157-160 with a chart and graph). Heat interchange in the surface layers of the sea. Distribution of Temperatures in the Lower Atmospheric Layers 163-188 Some theoretical considerations of distribution of heat

emanating from the sun. Heat carried by maritime currents. Heat interchange in the atmosphere between land and sea. General air temperature distribution on the globe. Temperature in mountain country and its dependence on the relief.

5/10

AID 405 - I Fizika atmosfery PAGES Annual variation of temperature. Non-periodical temperature variations. Effect of plant growth on air temperatures. Frost. Radiant and Heat Balance in the Atmosphere and 189-208 Temperature as a Function of Altitude Methods of theoretical study of radiant balance. Diurnal variation of temperature. Temperature distribution in free atmosphere. Inversion. Ch. XII Temperature in Upper Atmospheric Layers Concept of the temperature of rarified gas. Sonic method of 209-220 determining temperatures. Determining high altitude temperatures by observation of meteors. Optical methods. Observation by rockets. Ionosphere observations. Conclusions. Stratification of the upper atmospheric layers. 221-234 Ch. XIII Evaporation Molecular-kinetic evaporation theory. Diffusion process of water vapor. Evaporation 1) from a limited area, 2) from a water surface under natural conditions, 3) from the soil. Evaporation and diurnal variation of air humidity. Effect of irrigated areas on air humidity * (p. 234 with 2 tables). Ch. XÍV Condensation and sublimation of water vapor 235-247 in the Atmosphere Pressure of saturated water vapor. Cooling of the air-

6/10

Fizika atmosfery AID 405 - I PAGES cause of condensation and sublimation. Nuclei of condensation. Some data on the number of condensation nuclei. Freezing nuclei. Ch. XV Clouds and Fogs 248-285 Phases of water in clouds. Microstructure of water and ice clouds. Classification of cloud types. Physical processes in cloud formation. Amount and height of clouds. Fogs. Mother of pearl clouds. Silver luminous (nocti-lucent) clouds (probable cause: temperature inversion at 80-85 km. altitude). Ch. XVI Formation of Precipitation 286-302 The growth of drops by condensation. Coagulation * (pp.290-293). Coagulation caused by the difference in velocity of the falling droplets. Turbulent coagulation. Hydrodynamic and electrical forces. Probability of fusion of droplets. Over-condensation and isothermal condensation. A few considerations about the shape of growth of ice crystals. Artificial action on clouds and formation of precipitation. Ch. XVII Precipitations 303-320 Rain and drizzle. Snow and frostgraupeln (soft hail). Hail. Precipitation formed on surfaces. Aircraft icing. Amount of precipitation on the globe. 7/10

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Fizika atmosfery

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321-334

335-355

Ch. XVIII Wind and Kinematics of Air Currents
Wind velocity. Turbulence in air currents * (pp. 322-325,
with 3 graphs and 1 table). Its structure. Vertical distribution of the mean wind velocity. Its annual and daily
variation. Lines of flow and trajectories of air particles.
Ch. XIX Forces acting in the Atmosphere and the Simpler

Types of Atmospheric Motion
Gradient force and gravitation. Deflecting force of the
earth's rotation. Geostrophic wind. Centrifugal force.
Force of inner friction. Turbulent friction. General equations of atmospheric motion. Ageostrophic wind deviation *
(pp. 344-345 with 1 graph). Theory of the change in wind
velocity with the height in the friction layer. Theoretical
dependence of wind velocity on the height in the friction

(ground) layer. Changes in wind with height as caused by horizontal gradients of temperature. Approximate solution of general equations of air motion in the form suggested by I. A. Kibel!.

Ch. XX Frouts and Cyclones

356-399

Air masses. Dry (scorching) wind (in USSR) * (pp.359-361). Atmospheric fronts: origin, warm, cold, occluded. Origin of cyclones and anticyclones. Different forms of cyclonic

8/10

Fizika atmosfery

AID 405 - I PAGES

and anticyclonic circulation. Tropical cyclones. Anticyclones. Tropopause in cyclones and anticyclones. Sources of energy in the atmosphere and transformation of energy. Weather forecasting. Long-range forecasts.

。 1975年,1975年,1976年,1978年,1978年,1978年,1978年,1978年,1978年,1978年,1978年,1978年,1978年,1978年,1978年,1978年,1978年,1978年,1

Ch. XXI Local Winds 400-413 Mountain and valley winds. Other winds in mountain countries.

Breezes.
Ch. XXII General Circulation 414-441
Temperature distribution in the atmosphere, as related to the general circulation. Circulation: in the tropical belt,

the general circulation. Circulation: in the tropical belt, in the moderate belt, over the polar regions, in the stratosphere. Theory of general circulation of the atmosphere. Monsoons.

Appendices

I. Vapor pressure, saturating space above a plane surface
(E) specific humidity (q), ration of the mixture (m) and
the virtual temperature (47) at temperatures from
-50°C to +50°C

II. Radiation from a 1 cm² black surface into a half sphere 444

III. Meteorological symbols and schemes for plotting data on a synoptic chart and on baric surfaces of 850, 700, 500, 300 and 200 mb.

9/10

445-451

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441-443

RESHETOV, V.D.; KHRGIAN, A.Kh., [redaktor]; BRAYNINA, M.I., [tekhnicheskiy redaktor].

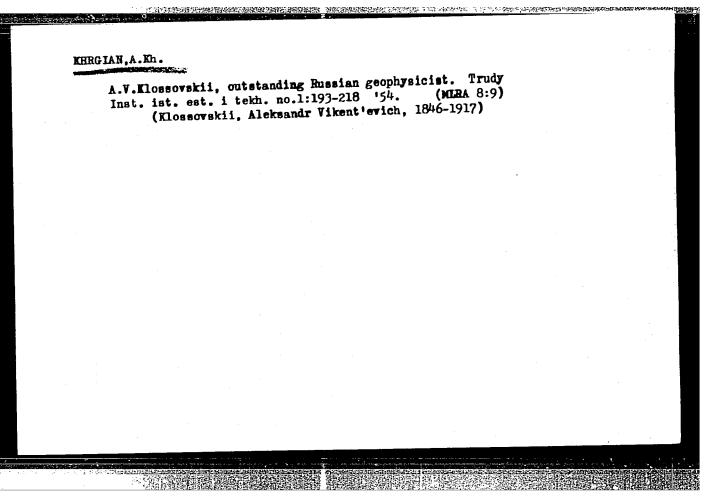
Inertia and sensitivity of the hair hygrometer in low temperature.

Trudy TSAO no.11:3-64 '53. (MIRA 8:5)

(Hygrometry)

Computing the errors of aerial droplet samplers. Trudy TSAO no.12:
3-12 '53.

(Meteorological instruments)



		V, A. Ku.
USSR/ Me teo	rolo	
Card 1/1		Pub. 86 - 27/36
Authors	1	Shmakov, V. N., and Khrgian, A. Kh., Prof.
Title	•	A rare case of hall
Periodical	•	Priroda 2, 116-117. Feb 1954
Abstract	8	Two rare case of hailing (July 5, 1953) with hailstones weighing from 15-75 g are reported. Drawings.
Institution		
Institution Submitted		마이스 사람들은 사람들이 다음 사용하다는 것이 되었다. 그 사람들은 사람들이 되었다는 것이 되었다. 그런 사람들은 사람들이 함께 함께 다른 사람들이 되었다. - * * * * * * * * * * * * * * * * * * *

KhRUTAN, A. Kh., Prof. USSR/ Meteorology - Aeronautics

Card Pub. 86 - 13/36

Khrgian, A. Kh., Prof. at the Lomonosob University in Moscow Authors

THE PERSONAL PROPERTY OF THE PERSONAL PROPERTY

Title Standing air waves

Friroda 43/8, 88-92, Aug 1954 Abstract

The formation of standing waves on the lea side of mountain ranges is explained as well as their danger and advantage to aviation. Methods of calculating the dimensions of these waves and the speed of accom-

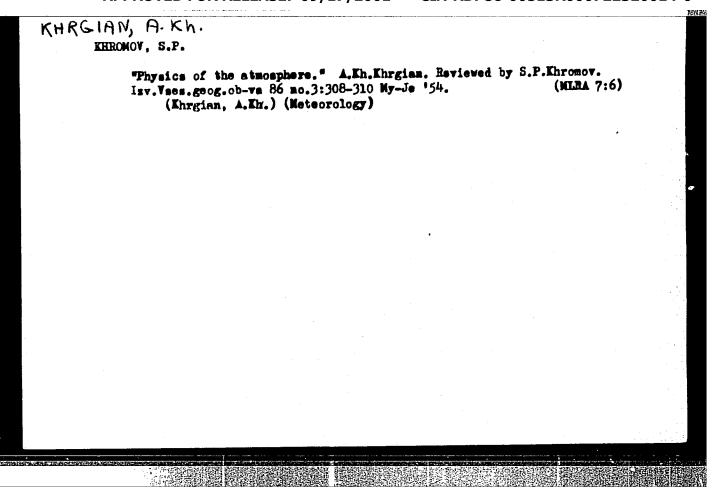
panying currents are given. Accompanying manifestations such as eddy currents are discussed. An analysis is made of the effect of standing waves on the climate, and the regions where these waves may be

found. Illustrations; graphs; drawings.

Institution

Periodical

Submitted



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KHRGIAN, A. Kh. AN IKEYEV, A.S. redaktor; MULIN, Ye.V., tekhnicheskiy

[Mikhail Fedorovich Spasskii] Mikhail Fedorovich Spasskii. Moskva, Isd-vo Moskovskogo univ., 1955. 50 p. (MLRA 8:7) (Spasskii, Mikhail Fedorovich, 1809-1859)

MAR	GIAN, A.M) •		2	
· Mar	uighal English Uppe	nniala stenosfers (trans. by C. N. Ro er atmosphere) (*Mescow, leder b. A. Kh. Khindan in Mescorologica effection original English, see 4.8.15	individual eningrad No		
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KHRGIAN, A.KH.

AID P - 2508

Subject : USSR/Meteorology

Card 1/1 Pub. 71-a - 18/26

Author: Khrgian, A. Kh., Doc. Phys. and Math. Sci.

Title : I. I. Kasatkin and his work on storms and cumulus clouds

Periodical: Met. 1 Gidro., 3, 52-55, My-Je 1955

Abstract : The article reports on the life and studies of I. I.

Kasatkin who died in 1941. His theory on the cumulusnimbus with anvil type is presented with diagrams. A map illustrates the storm nucleus formation. Seven Russian references, 1905-1927 and 1 American, 1948.

Institution: None

Submitted: No date

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AID P - 3864

Subject

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: USSR/Meteorology

Card 1/1

Pub. 71-a - 27/35

Author

: Khrgian, A. Kh.

Title

M. A. Minkel'dey, M. M. Pomortsev - Pervyy Russkiy
Aerolog (M. M. Pomortsev - first Russian aerologyst)
Gidrometeoizdat, 1954. (Book review)

Periodical: Met. 1. gidr., 6, 58-59, N/D 1955

Abstract

The author reviews a biography of a Russian scientist of the 19th century who investigated meteorology and aeronautics. The book is strongly recommended for the general public and for specialists in these fields.

Institution:

None

Submitted

: No date

NASILOV, Dmitriy Nikolayevich; KHRGIAN, A.Kh, professor, redsktor; SEMENOV,
A.A., redsktor; RYDNIK, V.I., redsktor; TUMARKINA, N.A., tekhnicheskiy redsktor

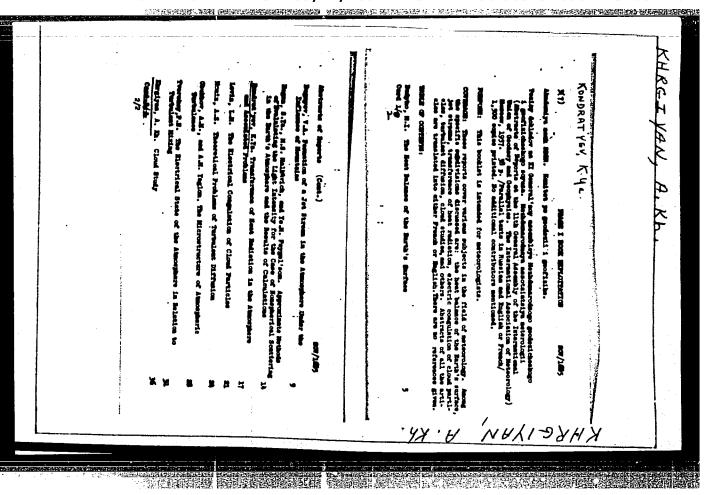
[Radiometeorology; radio methods in meteorology] Radiometeorologiia; radiometody v meteorologii. Pod red. A.Kh.Khrgians. Moskva, Gos. indvo tekhniko-teoret. lit-ry, 1956. 215 p. (MIRA 9:12)

(Meteorology) (Atmospheric electricity)

Analysing methods for describing spectra of cloud particle dispersion.

TrudyTSAO no.17:36-46 156.

(Clouds-Spectra)



APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722320014-0"

GATORROV, S.S., THROIN. The, redaktor; TARKHUNOVA, V.I., redaktor; KICHAN, Yu.V., tekhnicheskiy redaktor.

[Aerological observations on the drifting station "Morth Pols - 4" in 1955-56] Aerologicheskie nabliudeniia na drakfulushchei stantsii "Severnyi polius-4" v 1955-56 g. Moskva, Gidrometeor. ind-vo (Otd-nie), 1957. 44 p. (TSentral'naia aerologicheskala observatoriia. Trudy, no.18).

(Atmosphere) (Arctic regions)

(Arctic regions)

kKHRGIAN, A. Kh.

"Modern Conceptions on the Structure of Clouds," paper submitted at International Assoc, of Meteorology Meetings, Toronto, Canada, 3-14 Sep 57

C-3,800, 327

KHRGIAN, A.Kh.: BOROVIKOV, A.M.; DZERDZKYKYSKIY, B.L.; DYUBYUK, A.P.;

ZVERBY, A.S.; ZOLOTAREV, M.A.; KRICHAK, O.G.; KLEMIN, I.A.;

PINUS, M.Z.; SELEZNEVA, Ye.S.; YASHOGORODSKAYA, M.M., red.;

VLADIHIROV, O.G., tekhn.red.

[Cloud atlas] Atlas oblakov. Leningrad, Gidrometeor.izd-vo, 1957. 45 p. (MIRA 12:9)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye gidrometeorologicheskoy sluzhby.

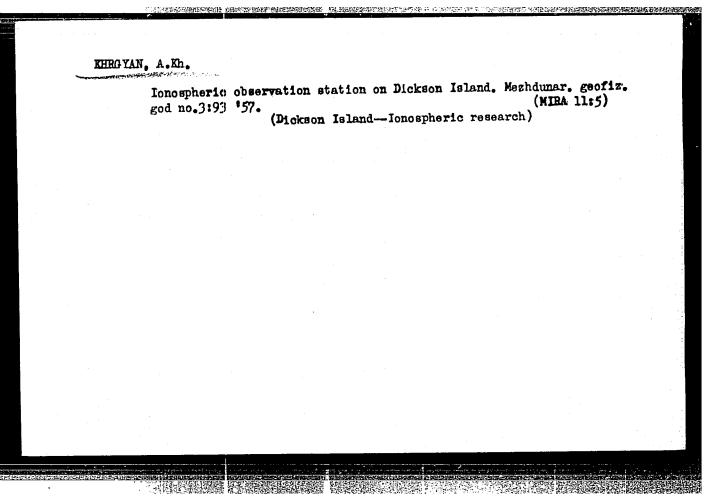
(Clouds)

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VIRGIAN, A.Ch., otvetstvennyy redsktor; YASNOGORODSKAYA, M.M., redsktor;
VIADIMIROV, O.G., tekhnicheskiy redsktor

[Cloud stlas] Atlas oblakov. Leningrad, Gidrometeor.ixd-vo, 1957.
131 plates ----- [Explanatory text] Poissnitel'nyi tekst. 1957.
65 p. (MLRA 10:9)

1. Russia (1923-- U.S.S.R.) Glavnoye upravleniye gidrometeorologicheskoy slushby (Glouds)



The International Geophysical Year and the participation of the

U.S.S.R. universities in it. Vest. Mosk. un 12 no.1:192-195 '57. (MLRA 10:8)

(International Geophysical Year, 1957-1958)

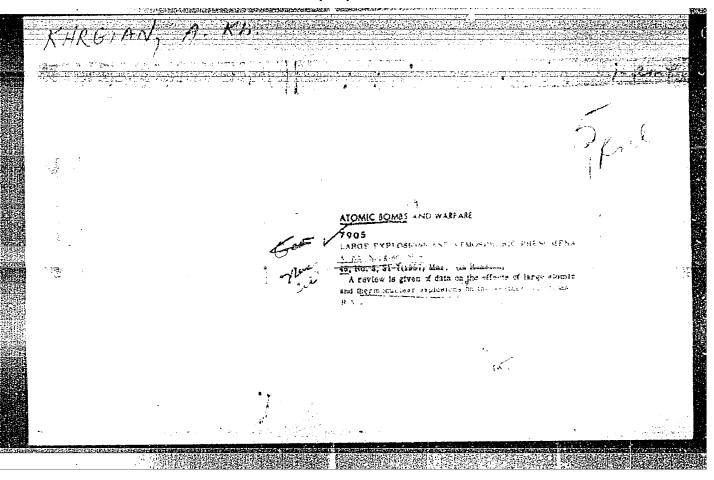
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KHRIGIAN, A.Kh.

Nacreous clouds. Vest. Mosk. un. Ser. mat. mekh. astron., fiz., khim. 12 no. 6:51-55 \$57. (MIRA 11:10)

1. Kafedra fiziki atmosfery Moskovskogo gosudarstvennogo universiteta, (Clouds)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722320014-0"



Khrgian, A.Kh., Britayev, A.S.

53-4-7/10

AUTHORS:

TITLE

The International Geophysical Year (Mezhdunarodnyy geofiziches-

kiy god)

PERIODICAL:

Uspekhi Fiz. Nauk, Vol. 62, Nr 4, pp. 475-483 (USSR) 1957

ABSTRACT:

First, the author gives a short report on the past geophysical years. Next, the organization of the present geophysical year is described. The object of the scientifical investigations of the international geophysical year is the solution of those most important planetarial problems of geophysics which demand simultaneous observations on the entire universe. The program of the works during the international geophysical year include the most important branches of modern geophysics: meteorology, terrestrial magnetism, polar phenomena and luminescence of the sky at night, ionosphere, solar activity, cosmic radiation, determination of longitudes and latitudes, glacialogy, oceanography, seismology and gravitation. The various investigations are, however, combined by the leading ideas to a whole. Increased observations shall take place during the so-called "regular world days" (full moon, solar eclipse, increased falling of meteors, etc.). An important place is occupied during the international geophysical year by the investigation of the circulation of the atmosphere;

Card 1/2

The International Geophysical Year.

53-4-7/10

special attention is devoted to the antarctic. The exact determination of time and longitudes by means of astronomical methods is connected with the problem of the entire circulation of the atmosphere. Rotation of the earth becomes slower within the course of centuries, and, besides there exist fairly regular annual fluctuations of the duration of the day. Whilst the angular momentum of the earth remains constant, either the moment of inertia or the relative velocity of the rotation of the atmosphere changes. Here the actual velocities of wind on the entire earth have to be taken into account. The longitudinal determinations of various observatories have to solve the problem of the motion of the continents. A further complex of problems is connected with solar radiation received by the earth. With this also the reflection of solar radiation by the earth is connected. The investigation of the spectra of the polar phenomena, luminescence of the night sky and the corona are of great importance. Further fields of research are mentioned.

AVAILABLE:

Library of Congress

Card 2/2

3(7)

PHASE I BOOK EXPLOITATION

SOV/1374

Khrgian, Aleksandr Khristoforovich

Fizika atmosfery (Physics of the Atmosphere) 2d ed., rev. Moscow, Fizmatgiz, 1958. 475 p. 5,000 copies printed.

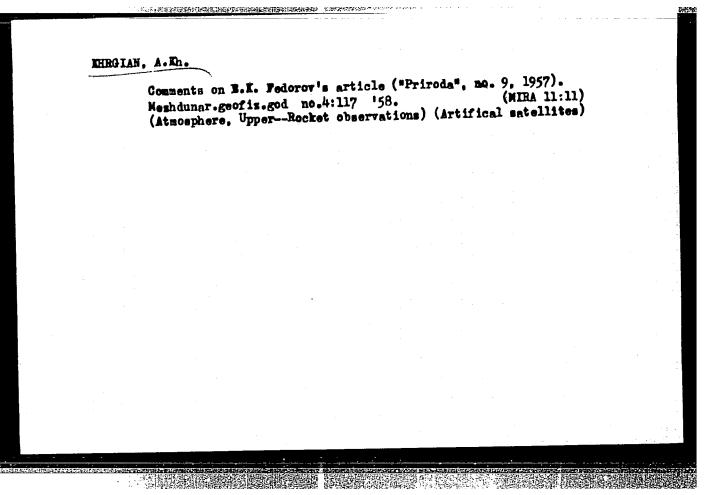
Ed.: Dubnik, R.L.; Tech. Ed.: Akhlamov, S.N.

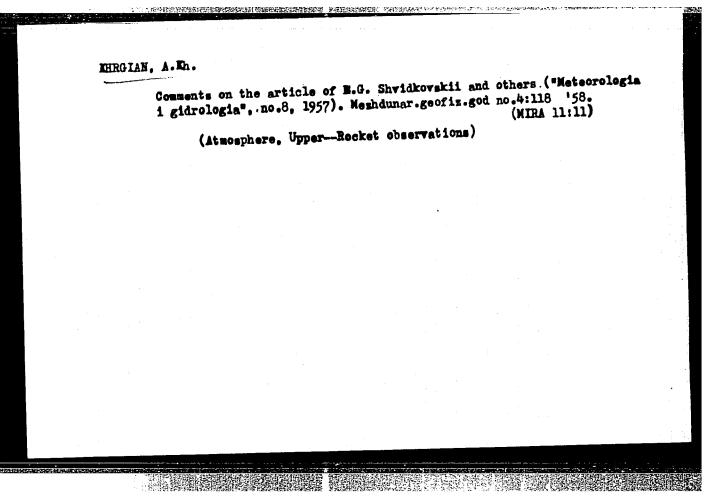
PURPOSE: This book is intended for geophysicists and students of atmospheric physics at the university level.

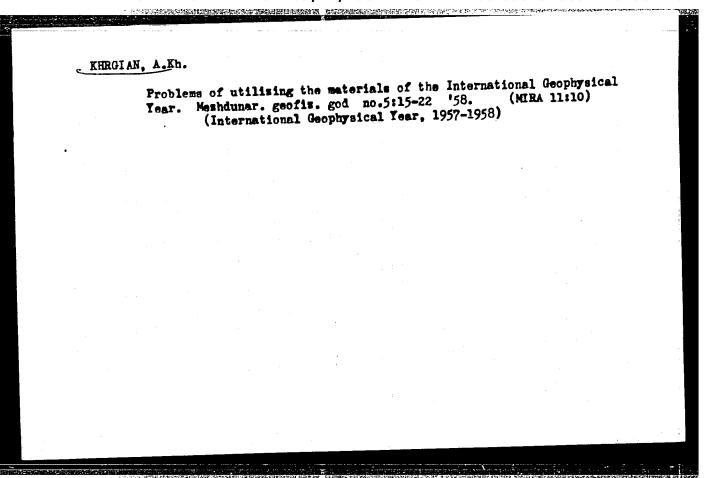
COVERAGE: This volume defines the subject matter of atmospheric physics, describes the constituents of the atmosphere and the physical processes occurring in 1t. Following a brief historical out-line, particularly of the work done in pre-revolutionary Russia and Soviet Union, the author discusses, among other factors, atmospheric dynamics, the methods and tools for carrying out observations, and the application of high-speed computing machines. Recent developments in the Soviet Union and the contributions of leading scientists to this field are also discussed. The author expresses his thanks to V.A. Bugayev, V.A. Dzhordzhio and S.P. Khromov for their assistance in the preparation of the book. There are 218 diagrams Card 1/13.2

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722320014-0"

Physics of the Atmosphere	sov/1374
and 19 references, of which 11 are Sovand 1 Indian (in Russian translation)	/let, 5 English, 2 German,
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sov/169-59-6-6238

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 6, p 121 (USSR)

AUTHORS:

Borovikov, A.M., Grudzinskiy, M.E., Khrgian, A.Kh.

TITLE:

On the Meteorological Conditions of the Alpine Tien Shan

PERIODICAL:

Tr. Tsentr. aerol. observ., 1958, Nr 21, pp 176 - 199

ABSTRACT:

The authors give data on the mean air temperature in summer of 1956 in the area of the upper part of the Inylchek glacier, on the diurnal course of temperature, humidity, and pressure, on wind conditions, on the recurrence of the various forms of cloudiness and on precipitations of various duration. The synoptic processes and the character of weather during the expedition are briefly described. The observations in the southern Inylchek reveal the considerable cooling caused by the glaciers: A temperature decrease by 3°C is observed in the lower layer of the air near the glacier instead of a temperature increase by 3 - 4°C in comparison to the free atmosphere, typical for the rocky mountain ranges of the Tien Shan. It was found that the synoptic conditions of the mountainous

Card 1/2

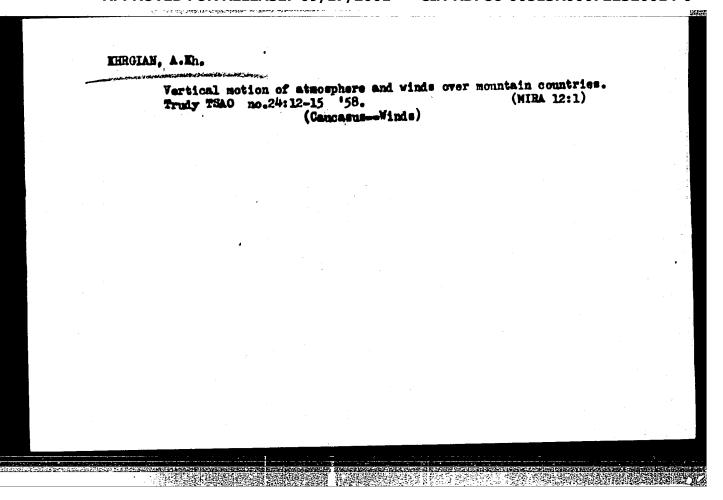
sov/169-59-6-6238

On the Meteorological Conditions of the Alpine Tien Shan

country are also out of the ordinary. The approach of a cold front is accompanied by increased cloudiness, precipitations, intensification of the wind, etc, a great distance ahead of the front line. The cloud system of the cold front in mountains turns often into a wide system of stratified rainy clouds. Bibl. 8 titles.

N.I. Zverev

Card 2/2



24、4点的现代,我们是我们是是我们的是是我们的是是是我们的是一个人,但是我们的是是我们的是我们的,但是我们的是我们的,但是我们们的是我们的,但是我们们的一个人

KUKARKIN, Boris Vasil'yevich, prof.; RYBNIKOV, Konstantin Alekseyevich, prof.; BASHMAKOVA, Izabella Grigor'yevna; YUSHKEVICH, Adol'f Pavlovich; YANOVSKAYA, Sof'ya Aleksandrovna; SPASSKIY, Boris Ivanovich, dotsent; MIKHAYLOV, Glab Konstantinovich, starshiy nauchnyy sotrudnik; MATYNOV, D.Ya., prof., otv.red.; GORINYKV, D.I., prof., red.; IVANENKO, D.D., prof., red.; KUDRYAVTSEV, P.S., prof., red.; KULIKOVSKIY, P.G., dotsent, red.; KHRGIAN, A.Kh., prof., red.; SHKVTSOV, N.S., prof., red.; VERKHUNOV, V.M., assistent, red.; KONONKOV, A.F., red.; YERMAKOV, M.S., tekhn.red.

[Programs of courses on the history of the physicomathematical sciences] Programmy po istorii fiziko-matematicheskikh nauk.

Moskva, 1959. 40 p. (MIRA 12:12)

1. Moscow. Universitet. 2. Orgkomitet Vsesoyuznoy mezhvuzovskoy konferentsii po istorii fiziko-matematicheskikh nauk (for Kukarkin. Rybnikov. Spasskiy. Gordeyev. Ivanenko. Kudryavtsev. Kulikovskiy. Mikhaylov. Khrgian. Shevtsov. Verkhunov. Kononkov).

(Physics--Study and teaching)

(Mathematics--Study and teaching)

GAYGEROV, S.S.; KHRGIAN, A.Kh., red.; BLINNIKOV, L.V., red.; KRIGMAN, YuV., telephoted.

[Some data on aerological investigations of the atmosphere over the Antarctic] Nekotorye dannye aerologicheskogo issledovaniia atmosfory Antarktidy. Moskva, Gidrometeoizdat (otd-nie). 1959. 85 p. (TSentral'naia aerologicheskaia observatoriia. Trudy, no.27). (MIRA 12:4)

(Antarctic regions--Moteorological research)

PHASE I BOOK EXPLOITATION SOV/5543

Moscow. Tsentral'nyy institut prognozov

KHRGIAN, A.K.

Voprosy diagnoza i prognoza nizkoy oblachnosti i obledeneniya samoletov (Problems in the Diagnosis and Forecasting of Low Cloud Formations and Icing On Aircraft) Moscow, Gidrometeoizdat (Otd-niye), 1959. 92 p. (Series: Its: Trudy, vyp. 80) Errata slip inserted. 800 copies printed.

A STATE OF THE PROPERTY OF THE

Sponsoring Agencies: Glavnoye upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR; Tsentral'nyy institut prognozov.

Ed. (Title page): N. V. Petrenko; Ed. (Inside book): M. I. Sorokina; Tech. Ed.: I. M. Zarkh.

PURPOSE: This publication is intended for synoptic meteorologists at aviation meteorological stations and other weather-service organizations. It may also be of interest to theoretical research workers in meteorology.

COVERAGE: The first four articles of this issue of the Transactions of the Central Institute of Weather Forecasting deal with conditions Card 1/3

Problems in the Diagnosis (Cont.)

sov/5543.

associated with the formation and forecasting of cloudiness in the low cloud level. The results obtained from balloon and aircraft soundings are presented. The conditions of aircraft icing in clouds are analyzed in two articles and the possibilities of forecasting the relative humidity are evaluated. No personalities are mentioned. References follow individual articles.

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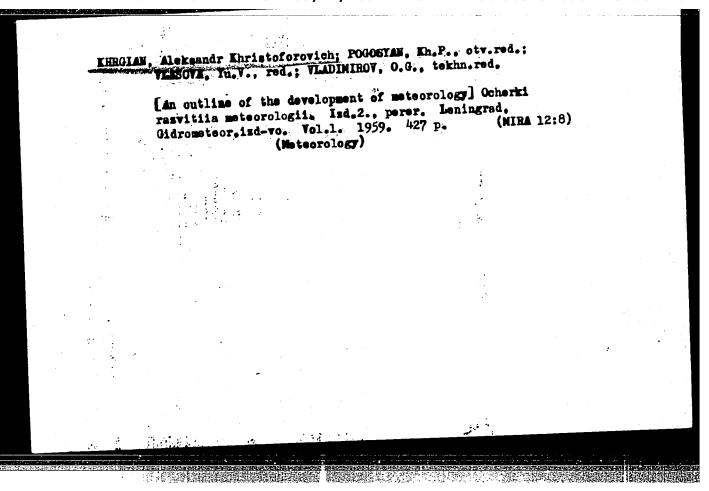
Abramovich, K. G., and A. Kh. Khrgian. Organization for Investigating Conditions Attendant to the Formation of Low-Level Cloudiness 3

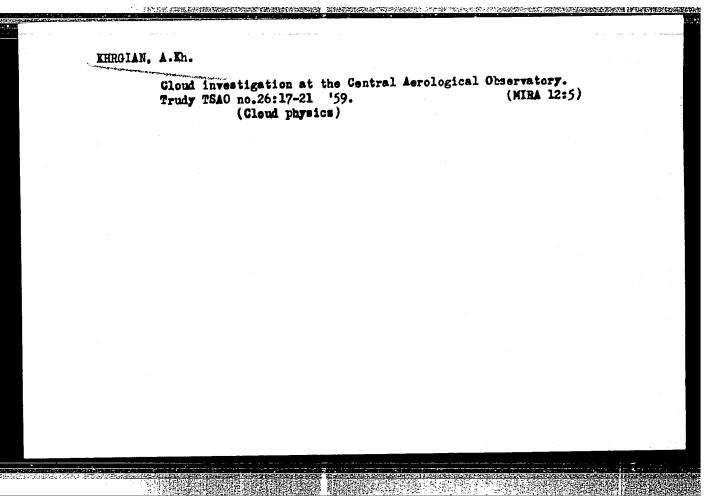
Abramovich, K. G. Conditions Attendant to the Formation of Low-Level Cloudiness

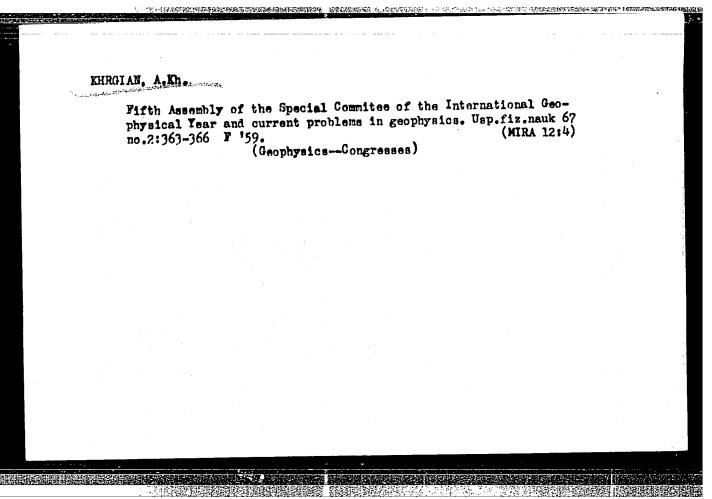
Gogoleva, Ye. I. Changes in Dew-Point Deficit Before the Appearance and Dispersion of Cloudiness Below Altitudes of 600 m 42

Kolokolova, G. V. Determination of the Transfer Level in Forecasting Low Cloudiness Card 2/3

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Card 3/3			9-6-61







RYBNIKOV, K.A., prof., red.; SPASSKIY, B.I., dotsent, red.; GORDEYEV, D.I., prof., red.; KURANKO, D.D., prof., red.; KUDRYAVTSEV, P.S., prof., red.; KULIKOVSKIY, P.G., dotsent, red.; MIKHAYLOV, G.K., starshiy nauchnyy sotrudnik, red.; KHRGIAN, A.Kh., prof., red.; SHEVTSOV, N.S., prof., red.; VERKHUNOV, V.M., assistent, red.; KONOMKOV, A.F., red.; MALIKOVA, M.A., red.; SOROKINA, L.A., red.; YEMMAKOV, M.S., tekhn.red.

[Summaries of papers and reports of the Interuniversity Conference on the History of Physics and Mathematics] Tezisy dokladov i soobshchenii Meshvusovskoi konferentsii po istorii fiziko-matematicheskikh nauk. Moskva, Isd-vo Mosk.univ., 1960. 187 p. (MIRA 13:6)

1. Meshvusovskaya konferentsiya po istorii fiziko-matematicheskikh nsuk. 1960. (Mathematics--Congresses) (Physics--Congresses)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722320014-0"

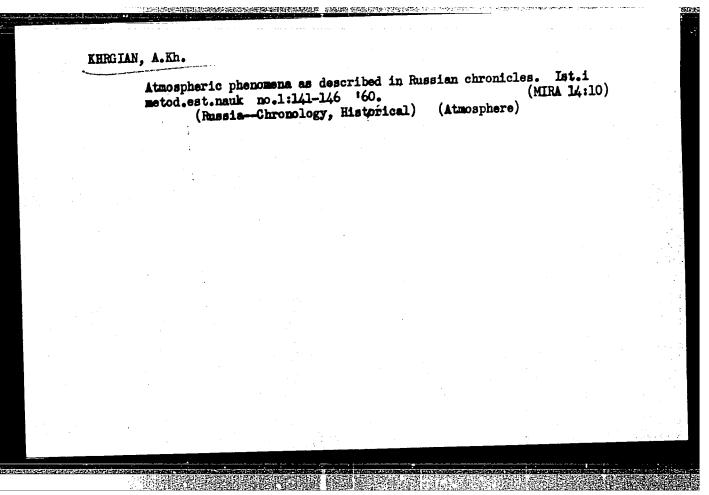
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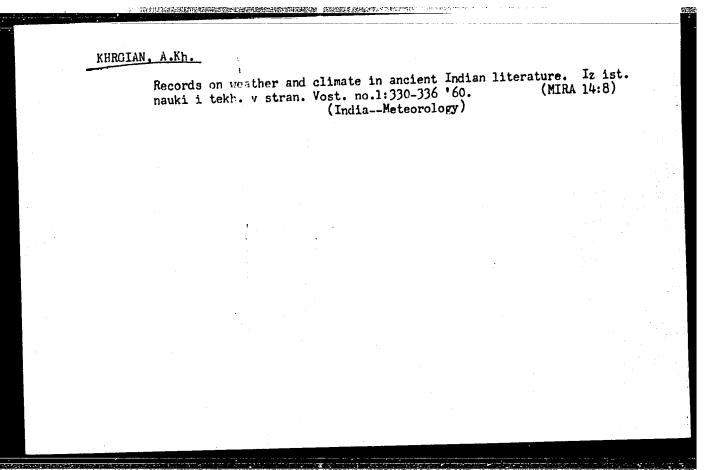
GORDHYEV, D.I., prof., glav. red.; DVORYANKIN, F.A., prof., red.;
KOHONKOV, A.F., red.; RYBNIKOV, K.A., prof., red.; SOLOV'YEV,
A.I., dotsent, red.; SPASSKIY, B.I., dotsent, red.; FIGUROVSKIY, N.A., prof., red.; SHEVTSOV, N.S., prof., red.; KHRGIAN,
A.Kh., prof., red.; ZAYTSEVA, M.G., red.; YKRMAKOV, M.S., tekhn.
red.

[History and methodology of the natural sciences] Istoria i metodologia estestvennych nauk. Moskva. No.1. [Physics] Fizika. 1960. 221 p. (NIRA 14:5)

1. Moscow. Universitet.

(Physics)





AUTHOR:

Khrgian, A. Kh.

S/050/60/000/03/016/020 B007/B002

TITLE:

On the Soviet "Cloud Atlas" and Classification of Cloud Forms

PERIODICAL:

Meteorologiya i gidrologiya, 1960, Nr 3, pp 53 - 56 (USSR)

ABSTRACT:

The Soviet Cloud Atlas was published in 1957. Since its classification differs from that given by the International Cloud Atlas, Professor S. P. Khromov put a number of fundamental questions. Here, the development of the Soviet Cloud Atlas is given in brief. It had already been set up in 1955, and when the International Cloud Atlas was published in 1956, the total edition of the Soviet Cloud Atlas had already been printed. The contents of the International Cloud Atlas are given in brief, and next, the principles of cloud classification given by the Soviet atlas, are described. Finally, the Soviet Cloud Atlas is said to correspond to the present knowledge on clouds, and for 2 years has been successfully used by all hydrometeorological stations of the USSR. The atlas is set up on the basis of pictures taken in the USSR. Although it has a number of shortcomings, these may be eliminated in the new edition. In their basic features, the classifications of the Soviet and the International Cloud Atlas are almost the same. The question as to the difference between

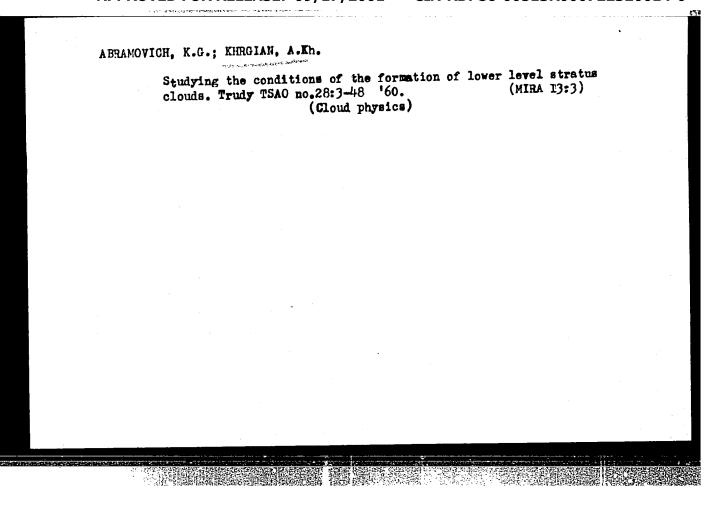
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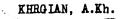
Cn the Soviet "Cloud Atlas" and Classification of Cloud Forms

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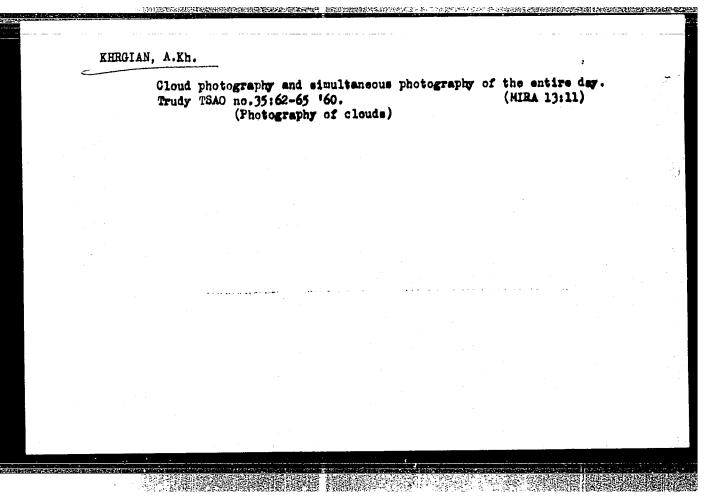
the two, has to be examined from two points of view. First, in what way the conformity of cloud data, the international exchange of which takes place in the form of synoptic telegrams, is maintained. This problem seems to be solved as far as corresponding indications for the composition of synoptic telegrams (as a supplement to the atlas) are available. Secondly, it must be found out in what way advantages and shortcomings due to different classifications, have an influence on the elaboration of scientific problems of cloud development. This problem requires a still more detailed investigation. However, the difficulty of a statistic interpretation of the indications given by the International Cloud Atlas must be pointed out, since this atlas allows different combinations of technical terms in the description of clouds.

Card 2/2





International Cloud Year, 1896-1897, and its contribution to the study of clouds. Trudy TSAO no.35:36-55 '60.(MIRA 13:11) (Cloud physics--Research)



KHRGIAN, A. Kh., otv. red.; YASNOGORODSKAYA, M.M., red.; VLADIMIROV, O.G., tekhn. red.

[Changes and additions to the "Cloud atlas" published in 1957] Izmeneniia i dopolneniia k "Atlasu oblakov," izd.1957 g. Leningrad, Gidrometeor.izd-vo, 1961. 3 p., illus. (MIRA 14:12)

1. Russia (1923- U.S.S.R.) Gisynoye upravleniye gidrometeorologicheskoy sluzhby.

(Clouds)

BOROVIKOV, A.M., kand. fiz.-mat. nauk; KHRGIAN, A.Kh., prof.; SOBOLEV, L.G., otv. red.; YASNOGORODSKAYA, M.M., red.; VLADIMIROV, O.G., tekhn. red.

是这个人的人,我们们是这个人的人,他们们是这个人的人,他们们们是这个人的人的人,他们们们们的人们们们的一个人的人们们们们的一个人们们们们们们们们们们们们们们们

[Abridged cloud atlas for hydrometeorological observations on ships] Sokrashchennyi atlas oblakov dlia sudovykh gidrometeorologicheskikh nabliudenii. Pod red. L.G.Soboleva. Leningrad, Gidrometeor. izd-vo, 1961. 52 p. (MIRA 15:2)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye gidrometeorologicheskoy sluzhby.

(Couds)

KHRGIAN, A.Kh., prof., red.; KUZMETSOV, G.I., red.; GEORGIYEVA, G.I., tekhn. red.

[Atmospheric ozone; results of the work of the International Geophysical Year in the U.S.S.R. Reports and resolutions] Atmosfernyi ozon; rezul'taty rabot Mezhdunarodnogo geofizicheskogo goda v SSSR. Doklady i rezoliutsii. Moskva, Izd-vo Mosk. univ., 1961. 195 p. (MIRA 15:4)

1. Konferentsiya po amosfernomu ozomu, Moscow, 1959. (Ozone) (Atmosphere)

3

KARGIAN A. KhR.

PHASE I BOOK EXPLOITATION SOV/5852

Borovikov, Aleksandr Moiseyevich, Ivan Ivanovich Gnyvoronskiy, Yelizaveta Germanovna Zak, Vadim Vladimirovich Kostarev, II' ya Paviovich Mazin, Vladislav Yevgen' yevich Minervin, Aleksandr Khristoforovich Khrgian, and Solomon Moiseyevich Shmeter

Fizika oblakov (Cloud Physics) Leningrad, Gidrometeoizdat, 1961. 458 p. 5000 copies printed.

Ed. (Title page): A. Kh. Khrgian; Ed.: V. S. Protopopov; Tech. Ed.: M. I. Braynina and O. G. Vladimirov.

PURPOSE: This book is intended for meteorologists and for specialists in fore-casting service and aviation.

COVERAGE: The book describes modern methods of studying the development, structure and origin of clouds. Special attention has been given to the forma-

Card I

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Cloud Physics

SOV/5852

tion of microscopic elements in clouds. The macroscopic properties of clouds are also studied in detail. Their position in space, motion, as well as their connection with thermodynamic structure of the atmosphere, general circulation, cyclonic activity, etc. are investigated. Flying in clouds is briefly discussed. One chapter deals with cloud modification and seeding. The book is based on Soviet and non-Soviet sources. Ch. I was written by Ye. G. Zak and I. P. Mazin; Ch. II, by A. M. Borovikov, V. Ye. Minervin, A. Kh. Khrgian and S. M. Shmeter; Ch. III, V, and VI, by A. Kh. Khrgian; Ch. IV, by A. Kh. Khrgian and S. M. Shmeter; Ch. VII, by Ye. G. Zak; Ch. VIII, by A. M. Borovikov; Ch. IX, by I. P. Mazin; Ch. X, by I. I. Gayvoronskiy; Ch. XI, by V. V. Kostarev, V. Ye. Minervin and A. Kh. Khrgian. The authors thank L. T. Matveyev and A. M. Baranov. There are 632 references: 274 English, 254 Soviet, 71 German, 30 French, 2 Hungarian and 1 Polish.

Card 2/12

5/169/63/000/002/009/127 D263/D307

AUTHOR:

Khrigian,

TITLE:

Contemporary problems of the study of atmospheric ozone

PERIODICAL:

Referativnyy zhurnal, Geofizika, no. 2, 1963, 13, abstract 2B102 (In collection: Atmosfern. ozon, M.,

Mosk. un-t, 1961, 3-5)

TEXT: Achievements in the study of atmospheric ozone were noted during a conference devoted to atmospheric ozone, held in Moscow in October 1959. A large amount of material was collected and systematized during 1957-1959. Papers read during the conference showed that, as a result of observations of ozonometric stations of the USSR and of foreign observations, valuable information has been obtained regarding the geographic distribution of ozone, ozone transport and other problems. / Abstracter's note: Complete translation._7

Card 1/1

5/169/63/000/002/024/127 D263/D307

AUTHORS:

Khrgian, A. Kh. and Kuznetsov, G. I.

TITLE:

On the daily variation of atmospheric ozone

PERIODICAL:

Referativnyy zhurnal, Geofizika, no. 2, 1963, 16, abstract 2B119 (In collection: Atmosfern. ozon, M., Mosk. un-t, 1961, 184-186 (summary in Eng.))

TEXT: The magnitude of the daily variation of ozone was determined from a consideration of daily ozone measurements taken during the IGY. It was found that the amount of ozone undergoes considerable non-periodic changes from day to day, although a systematic daily variation may be found by calculating the mean values of the overall ozone contents for individual hours. It was thus shown that at Vignia-di-Valle (Italy) during July-August the amount of ozone increased by 0.005 cm from 9 to 16 hrs and during September-November it increased by 0.006 cm from 10 to 16 hrs; in Elmasse (Sardinia) during July-September the overall ozone content increased by 0.011 om between 9 and 16 hrs, and during October-December it rose by

Card 1/2.

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ted from that dur ozone co	ation of ozone the theory of ring the late ontents were in Abstracter	of photochemi evening and increased in	ical equilibr early mornin comparison w	ium. It was g hours the ith the near	also found	
Card 2/2						

3000 s/035/62/000/003/032/053 A001/A101

AUTHOR:

Khrgian, A. Kh.

TITLE:

On the theory of lateral refraction

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 3, 1962, 20, abstract 30162 ("Izv. vyssh. uchebn. zavedeniy. Geod. i aerofoto-

s"yemka", 1961, no. 3, 17-22)

The author considers the phenomenon of lateral refraction. He proves the necessity of taking into account the inclination of air surfaces of TEXT: equal refractive index (equal density) to the horizon. It is shown that the magnitude of inclination angle of equal density surfaces may vary strongly depending on conditions. Thus, e.g., the inclination of surfaces due to horizontal gradient of temperature and air pressure within voluminous air masses may amount to 40", and the inclination in the frontal zone between voluminous air masses -15 - 20"; the angle which is observed by day over heated mountain slopes and by night over cooled slopes amounts sometimes to a few degrees, and near vertical cliffs (or walls) to several tens of degrees. A formula is derived for calculating the curvature radius of ray projection onto horizontal plane. Using the

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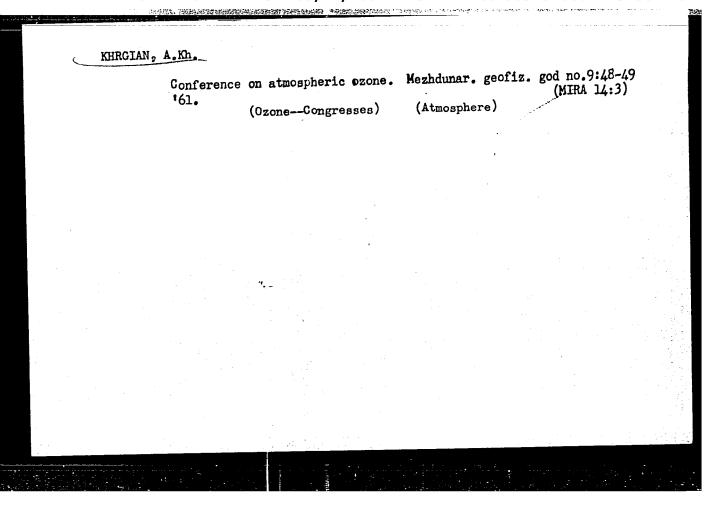
On the theory of lateral refraction

data published in the works by G. Foerster ("Veroeff. d. Preuss. geodaet. Inst.", 1929, 101) and B. N. Rabinovich ("Trudy TsNIIGAiK", 1949, no. 6) the author compares the values of curvature radius calculated from the average meteorological data for many years and those obtained from geodetic measurements. Divergences in the curvature radius values (calculated values are 2 to 3 times less than those from geodetic measurements) are explained, in the author's opinion, by the fact that actual meteorological conditions during the period of observations at triangulation points differed from their average values for many years. Several examples of existence of local refraction fields are cited, in which the curvature radius of refraction curve differs strongly from the calculated one. There are 7 references.

F. Noskov

[Abstracter's note: Complete translation]

Card 2/2

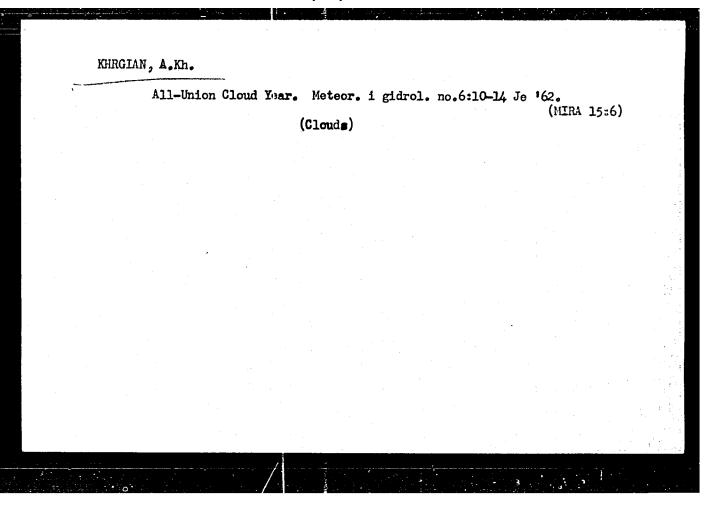


Indexinor, K.T.; KHRGIAN, A.Kh.

Third session of the Commission of Aerology of the World Meteorological Organisation. Meteor. 1 gidrol. no.2:69-71
F 162.

(MIRA 15:2)

(Meteorology—Congresses)



S/003/62/000/006/001/001 B117/B110

AUTHORS:

Khrgian, A. Kh., Professor, Doctor of Geographical Sciences, Shvidkovskiy, Ye. G., Professor, Doctor of

Physics and Mathematics

TITLE:

Soviet scientists attending the Assembly of Geophysicists

PERIODICAL:

Vestnik vysshey shkoly, no. 6, 1962, 71-72

TEXT: The tasks and activities of the International Union of Geodesy and Geophysics and the participation of Soviet scientists in its work are briefly reported, especially their contributions to the Helsinki assembly at the summer 1960 which was attended by 1740 delegates from 60 countries. At the meetings of the Association for Meteorology and Physics of the Atmosphere, A. M. Obukhov (USSR) reported on the choice of a baroclinic model of the atmosphere best suited for predictions, and S. V. Nemchinov on the solution of the system of equations for forecasting. The only report dealing with the clouds in the troposphere was that by N. Sh. Bibilashvili (USSR) on the physics and dynamics of convective clouds.

Card 1/3

Soviet scientists...

S/003/62/000/006/001/001 B117/B110

The problem of atmospheric ozone formed an important item in the working program of the assembly. This was studied by the International Commission of Atmospheric Ozone on which A. Kh. Khrgian (MGU) served as delegate from the USSR. In the Symposium on the Geophysical Aspect of Cosmic Rays 17 reports were presented, including that by D. D. Krasil'nikov (Yakutskiy filial AN SSSR (Yakut Branch AS USSR) on temporary and latitudinal variations of cosmic rays, their anisotropy and relation to the cosmic activity of the sun, and the interplanetary magnetic field. In the Symposium on Chemical Processes and Radioactivity of the Atmosphere, Ye. S. Selezneva of the Glavnaya geofizicheskaya observatoriya (Main Geophysical Observatory) reported on the results of the chemical analysis of precipitations in the USSR. Her report was based on information from 13 USSR observatories set up specially for the International Geophysical Year. Soviet scientists made considerable contributions to the investigation of northern lights and related phenomena. The observations they had collected were used in reports by Western scientists. The next assembly is planned for 1963. Its main tasks will be an evaluation of the material collected during the past International Geophysical Year and preparations for the International

Soviet scientists...

S/003/62/000/006/001/001 B117/B110

Year of the Calm sun. The USSR is expected to take part actively in the 1963 assembly.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

Card 3/3

S/169/62/000/011/020/077 D228/D307

AUTHORS:

Khrgian, A.Kh. and Kuznetsov, G.I.

TITLE:

The meridional circulation of the atmosphere and the

global transfer of atmospheric ozone

PERIODICAL:

Referativnyy zhurnal, Geofizika, no. 11, 1962, 19-20, abstract 113132 (Geofiz. byul., Mezhduved. geofiz. kom-t pri Prezidiume AN SSSR, no. 11, 1962, 3-11)

TEXT: The relation between circulation at the 500-mb level and the total ozone content is examined. It is noted that the nature of the fluctuations in the variability of ozone (difference between the maximum and minimum mean-daily value for each month) and the index of meridional circulation are close to each other. The authors reckon that there is a quite definite relation between the total ozone content x and the meridional circulation index Γ_{1-2} . Thus, the correlation factor r in March 1958 between x for Vinia-di-Valle (Italy) and Γ_{1-2} is 0.55; in July 1957 r = 0.20. For the station Bismark (USA) in April 1958, r = 0.41. The average total ozone con-Card 1/2

The meridional circulation ...

S/169/62/000/011/020/077 D228/D307

tent for 11 months (July 1957-May 1958) was calculated for Vinia-di-Valle, at different states of circulation (meridional and zonal). When the state of circulation at Vinia-di-Valle is meridional, x = 0.348 cm; for zonal circulation x = 0.339 cm, i.e. 2.6% more. The authors point to close relation between the total ozone content and the circulation type, characterized by the disposition of high-altitude ridges and troughs over West Europe and the Union's European territory. The nature of this relation, however, sometimes changes into an inverse one, on the transition from the cold to the warm season.

igsepAbstracter's note: Complete translation $oldsymbol{\mathcal{J}}$

Card 2/2

S/169/62/000/011/016/077 D228/D307

AUTHOR:

Khrgian, A.Kh.

TITLE:

All-Union scientific conference on meteorology

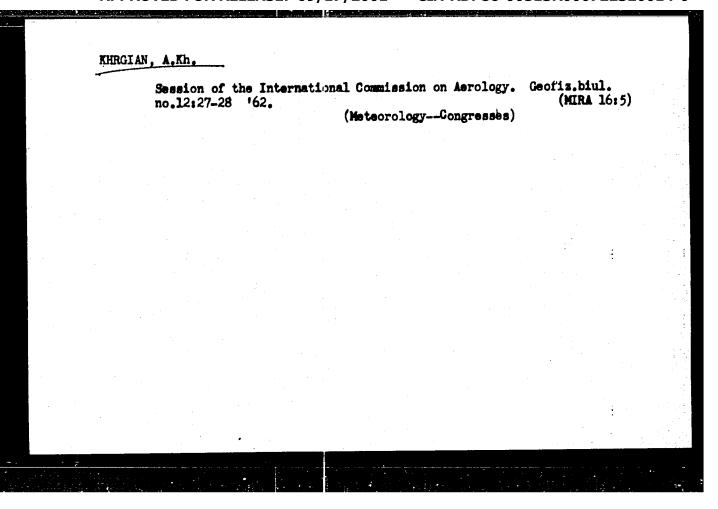
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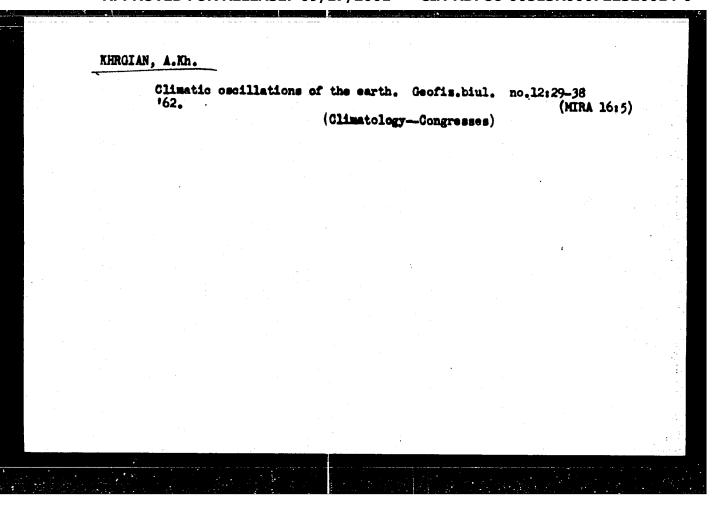
Referativnyy zhurnal, Geofizika, no. 11, 1962, 1, abstract 1184 (Geofiz. byul., Mezhduved. geofiz. kom-t pri Prezidiume AN SSSR, no. 11, 1962, 68-69)

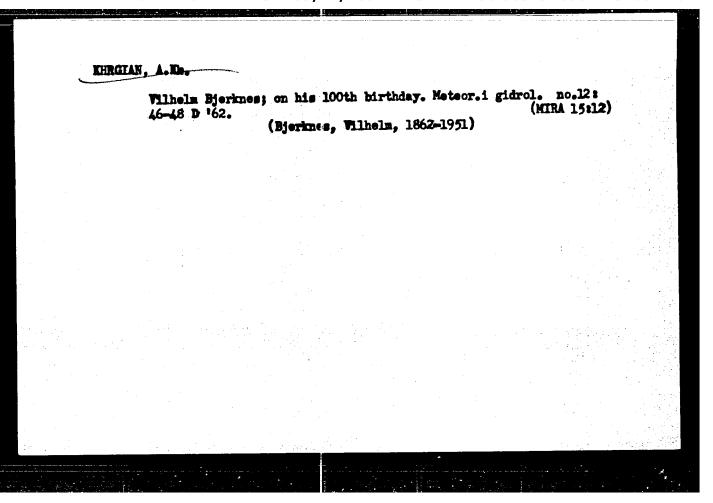
TEXT: Information is given about the work of the All-Union meteorologic conference, which was held in Leningrad from June 21-29, 1961, and was devoted to the 40th anniversary of V.I. Lenin's signing of the decree on the organization of the hydrometeorologic service of the USSR. Light is briefly thrown upon papers that the conference sections heard on dynamic and synoptic meteorology, climatology, the physics of the free atmosphere, actinometry and atmospheric optics, agrometeorology, the physics of the near-ground layer, instruments, and observational methods.

Abstracter's note: Complete translation 7

Card 1/1







Carried Control	KHRGIAN, A.Kh.								
	Cirrus forms.	Trudy	TSAO no.39:39-44 (Clouds)	162.	IM)	RA 15:6)			
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HERROVA, N.M.; SIMONOV, Ye.D., red.; GIPPENREYTER, Ye.B., red.; KIZEL', V.A., red.; KUZ'MIN, K.K., red.; LETAVET, A.A., red.; POLYAKOV, A.I., red.p ROTOTAYEV, P.S., red.; FILIMONOV, L.N., red.; KHRGIAN, A.Kh., red.; YUKHIN, I.V., red.; KONOVALYUK,, I.K., mlad. red.; GOLITSYN, A.V., red. kart; ARDANOVA, N.P. tekhn. red.

[Conquered summits; Soviet alpinism between 1958 and 1961] Pt-beshdennye vershiny; sbornik sovetskogo al'pinizma, 1958-1961.

Moskva, Geografgis, 1963. 406 p. (MIRA 16:6)

(Mountaineering)

s/2789/63/000/047/0003/0023

ACCESSION NR: AT4011393

TITLE: Latest developments in the study of the physics of stratiform clouds

SOURCE: Teentral'naya serelegicheekaya ebservatoriya.

Pizika oblakov, 3-23

TOPIC TAGS: meteorelogy, cloud physics; cloud; stratiform cloud, radiant heat exchange, turbulent heat exchange, turbulence, turbulence ecefficient, air bumidity, air temperature atmospheric surface layer, atmospheric inversion, aerology, weather forecasting, stratus cleud, strathouselus cleud

ABSTRACT: A review of sixty Seviet and Was articles on the status of knowledge of the physics of stratiform clouds has revealed that the theory of development of such clouds has been studied in considerable detail with respect to their dynamics and radiant and turbulent heat exchange. Calculation of a large number of numerical examples is necessary, however, to reveal more clearly the importance of individual factors in formation of cloud layers. Such further development requires the introduction into such computations of various values of the turbulent coefficient, vertical velocity, humidity and temperature for the layers above and below clouds. It was he necessary to take into account the evictories of marines to take into account the evictories of marines to take into account the evictories. may be necessary to take into account the existence of maximum tur-

ACCESSION NR: AT4011393

bulence in the lower part of the boundary layer and its attenuation upward in the direction of the boundary of the inversion. Numerical conclusions from the theory probably can give a sound basis for organization of detailed aerological observations, and as observational data is accumulated, for forecasting of clouds and precipitation. Further progress now requires more extensive geographical investigations of the heights, thickness, frequency of occurrence, and other characteristics of stratiform clouds, employing a uniform method. These investigations should be made in all climatic zones and under a wide range of geographic conditions. These investigations will make it possible to evaluate independently the influence of the temperature and humidity of the forming and above-lying layers and the influence of the underlying surface and other factors. Since theory shows that the form of the upper surface of cloud layers is associated with their instability it would be valuable to have statistical data on this point from different climatic zones. Simultaneous observation of forms and temperature and wind fluctuations will make it possible to clarify the relationship between regular convection and turbulence in the upper part of the cloud and whether in that part of the cloud there is exchange with the air above the cloud. Orig. art. has: 5 formulas, 6 figures and 13 tables.

ASSOCIATION: Observatory

TSENTRAL NAYA AFROLOGICHESKAYA OBSERVATORIYA (Central Aerological

Observation of the structure of clouds and the scientific problems of the International Tear of the Quiet Sun. Izv. AN SSSR. Ser.geofiz. no.1:169-176 Ja '63. (MIRA 16:2) (Gloui physics)

Klizaveta Germanovha Zak; on her 70th birthday. Meteor. i gidrol. no.5:
(MIRA 16:5)

(Zak, Elizaveta Germanovna)

