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**МЕЖДУНАРОДНЫЙ ЖУРНАЛ
ПРИКЛАДНЫХ И
ФУНДАМЕНТАЛЬНЫХ
ИССЛЕДОВАНИЙ**

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The background of the cover features a complex, abstract graphic design. It consists of multiple layers of wavy, parallel lines in shades of red and white. These lines create a sense of depth and movement, resembling a stylized landscape or a series of overlapping planes. The overall effect is modern and dynamic, with a strong emphasis on geometric and organic forms.

В ближайшие десятилетия глобальное потепление, нарастающий дефицит воды и сокращение сельскохозяйственных угодий станут решающим фактором миграции, констатируют участники конференции ООН. Миграционные потоки будут направляться по всему миру, что создаст реальную угрозу как глобальной безопасности, так и безопасности России, в особенности её восточным регионам.

Существует ещё одна проблема, обнаруженная авторами при исследовании количества осадков, выпавших на Земле на протяжении последних 80 лет. Согласно результатам, полученным авторами, глобальное потепление обусловит рост среднегодового количества осадков на территории России в холодный период в среднем на 6-7% больше, чем в настоящее время, а на территории Мексики на 3% больше, чем в настоящее время. Вследствие прогнозируемого изменения температуры и осадков уже к 2050 году ожидается значительное увеличение годового стока рек в северных районах и уровней озер.

Поэтому, важным последствием изменений климата для северных территорий России станут проблемы, связанные с наводнениями и паводками, которые из всех стихийных бедствий сегодня занимают первое место по суммарному среднегодовому ущербу. Увеличение осадков и стока создаст серьезные проблемы по защите населения и территорий от наводнений.

Расчеты также показывают, что к 2050 году северный морской путь будет открыт 100 дней в году, вместо 20, как сегодня, а к 2070 году Земля может практически полностью лишиться северной ледяной шапки. Это делает актуальным и значимым для нашего государства не только расширение масштабов судоходства в северных широтах, увеличения количества судов российского северного флота, но и крайне важной становится задача обеспечения безопасности на воде в этих районах.

Человек конечно «постарался со своей техногенной активностью», но пока ещё не нанес суперсерьезного вреда природе и если не совершать ничего сверхъестественного, то природа справится и с последствиями деятельности человека. Природа явление саморегулирующее, если, конечно, ее не слишком добивать.

Просто, у Солнца существует циклы, которые и влияют на климат. Нам повезло, и мы оказались свидетелями его очень интенсивной фазы. Солнце во всех этих процессах является решающим игроком и задаст нам множество новых загадок.

Несомненно, одно: ещё какое-то время мы будем наблюдать и рост температуры, и повышение уровня озер и морей, и рост количества осадков...

Ждет ли нас очередной Всемирный потоп? Окончательного ответа не дает ни одна из существующих сегодня теорий. Но, как пишет журналист Андрей Заволкин:

«В библейском житии Ноя сказано, что Бог оставил патриарху завет, что больше никогда все живое на Земле не будет истреблено Потомом. О том же, что нас больше никогда не подмочит, – такого завета не было.»

SPACE SOURCES OF EARTH'S CLIMATE: NATURAL SCIENCE AND ECONOMIC ASPECTS GLOBAL WARMING

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During tens of years the majority of mass media in the whole world are making gloomy oracles. We know from them that the humanity has very few years left to live. Greenhouse effect together with ozone holes and global warming will annihilate the humanity and the Earth as well. And it is the man or, it is better to say, his technological activity which is guilty in the future tragedy.

All these nightmares have led to formation of very authoritative and aggressive political powers in many countries. They are various ecological and green movements which have already become parties, in some places even dominant ones, or, at least, included to the dominant coalition.

But damages caused to the world economy by extreme weather phenomena – floods, hurricanes, earthquakes, etc. – have risen from 10 to 150 billions of dollars a year for the last fifty years (but in absolute expression). Natural disasters become more and more scaled, and scientists connect the growth of a number of them with climatic variations. And it is another question if they are man-made ones or not.

In addition, about thirty years ago ideas about the dominant influence of human activity on the climate appeared, and it brought to formation of the main international phenomenon called Kyoto Protocol.

Not only scientists have understood that the problem of changing climate is really important for the humanity to survive. In 1992 representatives of the world community decided to begin practical actions during the famous meeting in Rio-de-Janeiro. The UN Framework Convention on climate change became an outcome of this meeting.

The Convention came into force in 1994, and 186 countries set their hand on it. In 1997 the Kyoto Protocol to the Convention where numerical obligations to reduce emissions were prescribed was signed in Kyoto (Japan).

The Kyoto Protocol is the first stage of global ecological agreement on prevention disastrous climatic fluctuations. The main thing in the protocol is quantitative obligations of developed countries and countries with economy in transition including Russia to limit and reduce emission of greenhouse gases to atmosphere in 2008-2012.

That time ten years ago a decision to form a many-mullioned fond for fighting with global

warming – or with industrial and everyday emission of carbon dioxide – was taken in the OPEC conference in Riyadh (Saudi Arabia).

John Coleman, an American scientist, a founder of The Weather Channel, says that the global warming on the planet connected with human anthropogenic activity is a fiction invented by politicians, scientists and businessmen exploiting it pro domo sua.

I.Y. Libin, an author of the book, writes in one of his works, «It means that in case of signing the Kyoto Protocol we have no possibilities for a free of charge growth of our economy (for those who does not know that the year 1990 was a failed one in the Russian economy).

All said above does not mean that it is necessary to refuse from the Kyoto Protocol sharply, like the USA. As one of the politicians said, «War is a very serious thing to trust it to military men».

Not separate representatives of meteorology incorporated to the power and not officials should decide about the future participation of Russia in the Kyoto Protocol, but a wide scientific society. The decision to be or not to be in the Kyoto Protocol for Russia should be taken after wide open discussions by specialists in climatic sphere and economists.

Global change of the climate is a problem of a planetary scale, and the whole world will have to settle it. Making a coordinated decision is as necessary and unavoidable as a common fight with terrorism. And the earlier politicians begin real actions, the less damage will be».

But we would like to understand if the man is really such a self-killer, that he tries to kill himself and every living thing on the planet so passionately? Since the first minute of it's comparatively intelligent existence the humanity has always made damage to the planet to survive. And it (the humanity) has not had any other way to continue its existence on the Earth. All natural forces and other types of animals have always been stronger then a Homo sapiens.

Skeptics say that technologies harmful for nature have been developed especially quickly during last decades after an industrial revolution. But nature-conservative measures have gained up momentum as well. A common sense prompts, that the existence of the humanity is connected directly with development of modern technologies. Or it will not support itself. But what about invocations of a future disaster in mass media?

We often listen to a forecast of helio (solar) and geomagnetic activity for the nearest days on the radio and television and read it in newspapers and nobody thinks about that great work (of many research teams) which stands for these forecasts.

All of us have become consumers of forecasts, got used to their existence and do not think about their importance for our life.

But except common people lending their ear to all these forecasts and planning their behavior for the nearest days, EMERCOM specialists, operators,

cosmonauts and military men, meteorologists and biologists, doctors and hydrologists in our country and abroad are also consumers of these forecasts.

Galina Mashnich, a wonderful scientist, writes, «For successful forecast of the Earth's future climate it is necessary to come from a deadlock conception of geocentricism to a conception of heliocentricism in studying climate of our planet. It is necessary to understand that the Earth's climate is a natural component, prolongation of cosmic climate...»

But all forecasts are impossible without a fundamental science where the whole building of applied research is built on.

We can say the same about the science. It seems to me that today it has become a part of the world economy, because it makes it possible to value and make approximate forecasts of expected non-anthropogenic disasters, such as earthquakes, droughts, epidemics, weather cataclysms, frequency of hurricanes. It explains influence of solar activity variations on processes occurring on the Earth and in the closest cosmic space.

Nobody has abolished competition in the scientific society, but the price which the scientists are standing before today is very high – normal existence of the humanity in the nearest future.

That is why, scientists' practicalness and a wish to get the results as soon as possible overpowers normal individual ambitions.

Worldwide globalization which is widely discussed in the world but not always with respect unites not only finances and observation data today; it unites different researchers' creative multinational power. And as a result, multiethnic groups have made much more during the last years then during two decades of previous research.

A.L. Chizhevsky, an outstanding Russian scientist wrote, «In what way do roughness and storms occurring on the Sun influence the planet? Is our spacecraft «Earth» still sailing calmly and quietly or it is being rocked on the waves of solar cycles so much that time to time one can hear clatter of glasses in the cabin?».

In this book we have tried not only to generate the results of influence of solar activity on the Earth's climate (including our own ones) got with a lot of research but also to estimate what hazard do global climatic variations bring the humanity.

НАУКИ О ЗЕМЛЕ (учебное пособие)

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