

THE EVOLUTION OF CLIMATE COMMUNICATIONS IN CHRISTIAN DOCTRINE AND PRACTICE

A EVOLUÇÃO DAS COMUNICAÇÕES CLIMÁTICAS NA PRÁTICA E NA DOCTRINA CRISTÃ

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Abstract: This article examines the influence of the Christian Church on public perceptions and actions concerning global climate challenges. Through an analysis of historical texts and contemporary discourse, it traces the evolution of climate communication from the Middle Ages to the 21st century, with a focus on Catholic and Orthodox perspectives. The findings reveal the Church's dual role in shaping moral imperatives and endorsing the scientific consensus on climate change. The study concludes that both the Catholic and Orthodox Churches acknowledge the anthropogenic causes of global climate change and actively engage in addressing these challenges.

Keywords: Global climate change, Climate communications, Christianity, Catholic Church, Orthodox Church.

Resumo: Este artigo investiga o papel da Igreja cristã na influência das percepções e ações públicas em relação aos desafios climáticos globais. Ao analisar textos históricos e discursos contemporâneos, destaca a evolução das comunicações sobre o clima desde a Idade Média até o século XXI, com atenção especial às perspectivas católicas e ortodoxas. Os resultados demonstram o papel duplo da Igreja em moldar imperativos morais e apoiar o consenso científico sobre as mudanças climáticas. Os autores concluem que tanto a Igreja Católica quanto a Ortodoxa reconhecem o consenso científico sobre a causa antropogênica das mudanças climáticas globais e participam ativamente na superação desses desafios climáticos.

Palavras-chave: Mudança climática global, Comunicações climáticas, Cristianismo, Igreja Católica, Igreja Ortodoxa.

Introduction

One of the oldest and most powerful social institutions that directly affects at more than two-thirds of the world's population is religion. In recent years, religious leaders have made numerous statements about climate change. Many religious leaders are actively working with global climate agencies and civil society organizations on anthropogenic climate change. Such interaction took place at the

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highest level, involving the Pope, UN secretaries-general, and national leaders from key regions such as Europe, North America, and Asia, as well as monarchs (Rollosso, 2010). At the same time, some religious groups, particularly conservative evangelical Christian organizations, have received widespread media attention for climate change denial and anti-science bias.

Understanding the impact of religion on climate communications is important for several scientific reasons, including sociocultural context, trust, motivational and ethical factors, inclusiveness, etc. Religion plays an important role in shaping the worldview, values and beliefs of people. It can significantly influence the perception of climate change and its consequences. Considering the religious context allows to develop more effective communication strategies that resonate with the beliefs of target audiences. Religious leaders often have a high level of trust among their followers. Involvement of such leaders in climate communications can increase the level of trust in scientific data and recommendations, increasing the chances of successful implementation of environmental programs. Religious beliefs can motivate people to take environmentally responsible actions. Understanding how religious teachings influence people's environmental behavior helps create communication campaigns that emphasize religious aspects of environmental responsibility. At the same time, many religions offer ethical frameworks for behavior that can be used to promote ideas of sustainable development. Considering these ethical frameworks in climate communications can make messages more acceptable and effective. Understanding the influence of religion allows for more inclusive communication strategies that take into account the diversity of religious and cultural traditions. This helps involve a wider range of people in discussing and solving climate problems. Religious communities may have unique resources and strategies for adapting to climate change. Exploring their experiences and integrating this knowledge into communication strategies can increase the resilience of communities to climate change. The study of the influence of religion on climate communications contributes to the development of interdisciplinary research, combining the natural sciences, social sciences, religious studies, and communication sciences. This allows you to get a more comprehensive understanding of the problem and find holistic solutions. Religious organizations can have a significant influence on political decisions and public opinion. Taking these impacts into account in communication strategies it helps to promote climate initiatives at different levels,

from local to global. Understanding the influence of religion on climate communications is critical to developing effective strategies that can reach diverse audiences and foster broader community engagement in climate solutions. This provides a deeper and more comprehensive approach to environmental education and community engagement. Churches have rich experience in working with environmental issues, in particular, many churches today are already actively engaged in environmental issues, such as land protection, clean energy and environmental education. This experience can be valuable to others working on climate change and climate communications.

It is important to note that the world's leading religions explain climate and weather phenomena in different ways. For example, in Christianity God is believed to control all aspects of nature, including the weather and climate, the Bible has many references to how God uses natural phenomena to express His will. The stories of Noah and the flood, the prophet Elijah calling for rain, or Jesus calming the storm illustrate how natural phenomena are integrated into theological narratives. In Islam, it is believed that all natural phenomena are manifestations of the will of Allah. Climate and weather are considered signs from God that indicate his omnipotence and mercy, the Qur'an contains numerous references to natural phenomena that are seen as evidence of God's power. Rain, for example, is considered a blessing from Allah to sustain life. In Hinduism, there are many deities associated with natural phenomena. For example, Indra is the god of rain and thunder, Vayu is the god of wind, and Surya is the god of the sun. Climate events can also be seen as the result of karma, where the actions of individuals or communities are the cause of certain natural phenomena. In Buddhism, natural phenomena are viewed through the prism of cause-and-effect relationships. All events, including climate events, are the result of certain causes and conditions. Some Buddhist practices aim at harmonizing with nature, and natural phenomena are often seen as part of a larger cosmic order. In Shintoism, the traditional religion of Japan, there is a belief in kami - spirits that live in natural objects and phenomena. Some kama are associated with specific natural phenomena, such as winds, mountains, rivers. Shinto rites are often aimed at appeasing the kama to ensure harmony between people and nature. In Judaism, climate and weather phenomena are also seen as part of the divine plan. There are many examples in the Torah and other religious texts where natural phenomena are used by God to communicate with people. In Judaism, there are special prayers for rain and good

weather, which reflects the dependence of agrarian society on climatic conditions. In Taoism, nature is seen as a manifestation of Tao, the universal principle that governs the universe. Natural phenomena are perceived as part of a harmonious cosmic order. Climatic phenomena are often viewed through the prism of balance between yin and yang – two complementary forces. In many indigenous religions, natural phenomena are explained by the actions of spirits living in nature. These religions often have a deep knowledge of ecological systems and cycles. Local environmental knowledge is passed down through generations and includes an understanding of climate and weather patterns. Studying these religious approaches to explaining climate and weather phenomena allows for a better understanding of how cultural and spiritual factors influence people's attitudes towards the environment and can be taken into account in climate policy, education and climate communications.

Literature review

Analysis of the evolution of the discourse on climate change in climate communications shows that it has undergone significant transformations since the second half of the 19th century. It is believed that the scientific discourse on the issue of climate and global climate change was started by the French mathematician and physician Jean Fourier as early as 1824 when he described the greenhouse effect, which is actually at the center of the climate debate today. About half a century later, S. Arrhenius published the first scientific calculation of global warming based on human CO₂ emissions (Coats, 1969).

M. Rahman (2013), analyzing the climate discourse in dynamics, offers its periodization and notes that "the discourse on climate change belongs to three different paradigms that have evolved from theological to physic-chemical with the development of certain perspectives based on relevant scientific theories and assumptions" (p. 5). In his opinion, the first period of climate study, from the first publications of Fourier to the 70s of the 20th century, is characterized by "the dominance of religious explanations of weather events and phenomena", "a lack of knowledge about climate change" and "scientific interest".

S. Weart (2003) and S. Vlassopoulos (2012) agree that the beginning of the discourse in the 19th century was initiated by the works of Fourier and describe it as a transition from a theological explanation to the "pursuit of scientific knowledge

about climate change" among climatologists. According to M. Rahman, the second stage of the development of the discourse on climate change from the 1970s to the beginning of the 00s was characterized by public doubts about the positive results of human activity for the planet, which was reinforced by the growth of environmental research. As S. Weart (2017) notes, this transformed society's "curiosity" into "climate concern" and led to the involvement of a wide range of interested parties.

M. Rahman believes that the third stage of the development of the climate discourse took place from the beginning of the new millennium and is characterized by the transition of the discussion from "how to protect the environment" to the topic of "how to ensure sustainable development" and is connected with the results of the UN Conference on the Environment and development held in Rio de Janeiro in 1992. S. Vlassopoulos notes that during this period, the understanding of the term "global warming" as an autonomous environmental problem, the causes of which (in particular, CO₂ emissions) must be dealt with, is gradually changing, to the discussion of it as the cause of other global problems that threaten the well-being of mankind. At this time, in his opinion, the discourse on climate change considers the problem not so much in the context of the consequences of anthropogenic environmental degradation, but as one of the causes of other serious problems, in particular, problems of global development, migration, security, etc. That is, if in the second period (1970-80s) climate change was considered as a physical process within the scientific "ecocentric" paradigm, then at the beginning of the 21st century and until now it belongs to the "anthropocentric" paradigm (Bäckstrand, Lövbrand, 2007).

M. Rahman (2013) analyzes the development of the climate change discourse through the prism of Thomas Kuhn's concept of "paradigm shifts". It examines how perceptions and approaches to climate change have evolved over time. At first, this question was considered exclusively as a scientific one, but later it became an important issue of public discussion, integrated with development problems. Rahman emphasizes that crises in the understanding of climate change have led to paradigm shifts. For example, the shift from natural causes to the recognition of anthropogenic (human- caused) impacts was a significant shift in discourse. He also discusses how different paradigms, such as ecocentric and anthropocentric perspectives, have influenced environmental policy and public consciousness. Understanding these shifts helps researchers and policymakers

better navigate the complexities of climate change and develop more effective strategies to address it. The study highlights the importance of recognizing the dynamic nature of climate change discourse and the need for adaptive, integrated approaches to climate change mitigation and adaptation.

S. Vlassopoulos (2012) explores the different definitions of climate change and their impact on post-Kyoto political negotiations. Vlasopoulos notes that initially climate change was seen as a problem of environmental degradation, but over time, other competing definitions have emerged that interpret it as an issue of development, migration and security. According to the researcher, this multi-voiced discourse complicates the formation of new institutional balances and hinders effective political decision-making.

In his works, S. Weart (2003, 2017) examines the evolution of scientific understanding of climate change and the role of religious figures in solving this problem. In "The Discovery of Global Warming," Weart examines how scientists gradually came to understand the effects of anthropogenic factors on global warming. It emphasizes the importance of international cooperation and the establishment of the Intergovernmental Panel on Climate Change (IPCC), which provided science-based recommendations to governments for policy decisions. Weart also notes that many politicians and public figures, including religious leaders, have begun to realize the scale and severity of climate change, which has helped shape public opinion and political action to combat global warming. Weart's work highlights the importance of both scientific understanding and the involvement of civic and religious leaders in addressing climate change. They help to understand how integrated interdisciplinary approaches can contribute to more effective climate policy and environmental protection.

S. Seacrest, R. Kuzelka and R. Leonard (2000) examine how public opinion on climate change is formed and changed. They focus on the difficulty of translating scientific data on climate change into accessible and understandable information for a wide audience. The authors emphasize the importance of effective communication between scientists and society in order to achieve a deeper understanding and support for actions to mitigate the consequences of climate change.

The 1979 World Climate Conference (WCC) is believed to have been the first to provide a clear scientific explanation of human-caused climate change as a major environmental problem and to identify climate change as a problem to be

addressed through the establishment of international environmental policies. Since then, the World Meteorological Organization (WMO), the United Nations Environment Program (UNEP) and Intergovernmental Panel on Climate Change (IPCC) have become the main institutional actors, with the providing scientific and the latter political expertise and emphasizing "mitigation" measures as a method of addressing global climate challenges (Mee, 2005).

These organizations today offer a number of key measures and initiatives to address climate challenges, which aim to mitigate the consequences of climate change, adapt to changing conditions and support international cooperation in the field of climate policy. For example, the UN supports the Paris Agreement, which is an international commitment to limit global warming, developed 17 Sustainable Development Goals, among which Goal 13 addresses climate change and calls for urgent action to combat climate change and its consequences, and organizes various conferences and forums, such as the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC), for discussion and policy formulation. The United Nations Environment Program (UNEP) implements projects and initiatives aimed at adapting to and mitigating climate change, such as reforestation programs, reducing pollution and supporting climate-resilient agricultural practices; publishes GEO (Global Environmental Outlook) reports, which provide comprehensive analysis of the state of the environment and policy recommendations to combat climate change, and implements projects that focus on sustainable water management, renewable energy and biodiversity to reduce impacts climate change. The Intergovernmental Panel on Climate Change (IPCC) conducts comprehensive assessments of scientific data on climate change, its causes, consequences and possible solutions, which serve as the basis for political decisions and international agreements, publishes special reports, for example, on the impact of global warming, adaptation and 'mitigation, provide recommendations for politicians and states develop scenarios of possible climate conditions in the future, which help countries better plan adaptation strategies and mitigation policies. These international organizations provide financial and technical support to developing countries to implement climate mitigation and adaptation projects, such as through the Global Environment Facility (GEF) or the Adaptation Fund, conduct educational campaigns to raise awareness of climate change, and ways to overcome them among the public, support the development and implementation of national and international policies and strategies aimed at combating climate

change. These measures and initiatives reflect a comprehensive approach to solving climate challenges and contribute to international cooperation in the fight against global climate change.

Organizations such as the UN, UNEP and the IPCC take into account the position of the church and religious leaders on climate change through cooperation, dialogue and joint initiatives. During the Paris Agreement negotiations, religious leaders actively supported climate action. Pope Francis, for example, published the encyclical *Laudato Si'*, which called for global action on environmental protection and climate change. The UN frequently invites religious leaders to participate in forums and summits on climate change, which provides a platform for the exchange of ideas and coordination of action between the scientific, political and religious communities. UNEP initiated the "Faith for Earth" program, which aims to mobilize religious leaders and their communities to support environmental action. This initiative includes educational programs, environmental projects and actions that promote awareness and active action against climate change. International organizations support the creation of interreligious alliances that unite representatives of different faiths for joint action on climate change. Such alliances work on environmental education, advocacy and support for sustainable practices. The IPCC and other organizations recognize the importance of ethical and moral aspects in the fight against climate change, including the recognition of the role of religious values in shaping environmental awareness and motivating people to act. The UN and UNEP support local initiatives based on religious beliefs and practices. This may include projects for sustainable land use, biodiversity conservation and the use of renewable energy sources that are consistent with religious principles of conservation. IPCC and UNEP reports and documents often reflect the views of religious leaders and organizations, emphasizing shared values and goals in the fight against climate change. International organizations can include references to religious texts and documents that support environmental action to emphasize the moral imperative to combat climate change. These activities contribute to the greater integration of religious communities in global efforts to address climate challenges, reinforcing the moral and spiritual dimension of environmental responsibility.

Highly specialized studies of the influence of religions on the spread of ideas related to climate change are, in particular, the works of N. Rollosson (2010) on the interaction of international organizations including the UN and the Church in

overcoming global climate challenges, G. Kerber (2013) on how the world's religions are responding to climate change, V. Jenkins and V. Chapple (2011) on the historical role of the church in climate communications, D. Gerten and S. Bergmann (2012) on the impact of climate change on the activities of the modern English church, K. Bloomquist (2009) on the ethical component of climate communications of the Lutheran Church, B. Taylor (2009) on how environmental changes may affect the position of the church in the future, N. Smith and A. Leiserowitz (2013) how the topic of climate is represented in the activities of American evangelicals, D. Schlehe (2010) about how the modern church explains global environmental and climate change. At the same time, it can be discussed that modern scientific research does not provide a comprehensive analysis of the history of religious interaction with climate change, although the connection between weather phenomena and religious positions is present in most religions of the world. Theologian- ecologist M. Northcott (2007) considers global warming "as a judgment on the moral shortcomings of selfish consumers" (p. 87). Such comments, in our opinion, indicate that there is a religious message in the current climate debate that the natural world is sensitive and responsive to human behavior.

Thus, an analysis of the evolution of the climate change discourse has shown that climate change from a "purely scientific problem" has turned into a cause of "environmental degradation" and recently transformed into something much more than environmental degradation. The change in the discourse on the problem of global climate change was accompanied by the results of scientific research, the involvement of a wide range of interested parties, increasing the responsibility of all countries of the world, recognition of the issue at the international level, and the introduction of international climate policies.

Materials and Methods

In the study authors use a methodological approach that integrates comparative and literary analysis to delve into the impact of Christian churches on climate communication throughout history. This methodology primarily focuses on the qualitative examination of both historical texts and contemporary scientific papers, providing a comprehensive view of the evolving discourse on climate change within religious contexts.

The comparative aspect of the methodology involves examining the roles

and statements of different branches of Christianity, particularly the Catholic and Orthodox Churches, in relation to climate change. This comparative study highlights the variances and similarities in how these institutions have historically addressed and are currently engaging with climate issues. The authors compare the doctrinal and public stances of these churches, focusing on official documents, encyclicals, and public speeches made by religious leaders. This approach provides insights into how religious teachings and institutional policies have evolved in response to growing scientific evidence of climate change.

The literary analysis is applied to a range of texts, including ancient religious scripts, medieval writings on natural phenomena, and modern scientific literature on climate science. By analyzing these texts, the authors trace the shift from a theological interpretation of weather events to a more scientifically oriented explanation that incorporates religious perspectives. This analysis is crucial in understanding how religious narratives have either supported or conflicted with scientific interpretations of climate phenomena over the centuries.

The method also involves a detailed review of secondary sources such as academic papers, books, and conference proceedings that discuss the intersection of religion and climate change. This secondary literature review helps contextualize the primary texts within the broader scholarly discussion on environmental ethics and religious responsibility.

This approach not only highlights the historical depth of religious engagement with environmental issues but also evaluates the contemporary relevance of religious voices in global climate politics.

The historical role of the church in climate communications

Historically, clergy played a key role in observing and documenting extreme weather events, often describing them as "miraculous" or "unusual" signs of divine "providence." These records were not just chronicles but spiritual interpretations, reinforcing the belief that an almighty God controlled both natural and human events. The doctrine of providentialism, central to this view, held that nothing occurred by chance, and even catastrophic weather was part of God's plan. This belief helped communities interpret disasters as divine messages, shaping societal responses and religious practices. Despite the development of science that offers explanations for the causes of extreme weather phenomena, the belief in

divine intervention and special providence remains among the main religious postulates. Reading the signs of God's work was common throughout Christendom. Storms with thunder and lightning were explained by the fact that people violated the Sabbath, so God sends such "miracles" to warn sinful communities about the approach of disaster and recommend people to a pious and repentant life. Alexandra Walsham (1999) notes that through natural disasters, "God manifests himself and demonstrates his intervention in human affairs to bring order to an unpredictable and dangerous world" (p. 106).

Belief in miraculous signs didn't always shape how people responded to crises or understood nature. Religious interpretations often coexisted with emerging scientific ideas and folk astrology, with traditional "weather knowledge" passed down through proverbs, customs, and almanacs helping rural communities predict future seasons. While modern science has largely replaced religious and mystical explanations, older forms of weather observation have persisted. In Europe and the U.S., belief in divine intervention through strange coincidences or unexplained phenomena remained, even as faith shifted toward natural laws. This mix of science and religion continued to influence how societies interpreted and responded to natural events (Daston, 1991).

Ceremonies and rituals related to the weather were common to European societies in the Middle Ages and the early modern world (White, 2015). To mitigate the effects of adverse weather conditions, for example, crops and houses were sprinkled with holy water, bells were rung in church belfries, and special sacraments were held. It was believed that this practice was supposed to help calm anxious citizens. Special masses, processions, fasts, and special prayers for rain were intended to influence the weather by appealing to divine influence. Priests saw such actions as an opportunity to cleanse communities of sin and return believers to a closer relationship with God. Analyzing the effect of religious rituals on climate change, A. Duiveman (2019) comes to the conclusion that "in times of disaster, joint prayers and processions can strengthen the sense of corporate solidarity and common identity" (p. 550). D. Hardwick (2017) agrees with him that such actions have a significant impact on the public because "the sense of responsibility, solidarity and humility that is formed as a result of performing rituals has an impact on large, diverse and multi-religious communities" (p. 687).

L. Kearns (2011) notes that Christian attitudes toward weather rituals and prayers in the 20th century shifted from emphasizing God's power to focusing on

believers' character and behavior. This reflects a broader shift toward human responsibility in religious consciousness, which persists today amid increasing extreme weather events. In Great Britain, commentators highlight the social and historical value of communal prayers for rain (Groom, 2013). Evangelical clergy in the 21st century blame moral decline in Western society for disasters like floods and hurricanes, arguing that human behavior affects the environment (Hulme, 2018). This view merges moral and naturalistic explanations, showing the enduring belief that human actions and weather are connected, even in a scientific age.

Catholic church and climate change

Like most social institutions, religious groups have intensified activities aimed at the formation of "eco-justice" since the second half of the 20th century. It can be argued that they are looking for ways to solve global climate challenges and environmental degradation based on past traditions. In the early 1980s, the World Council of Churches (WCC) recognized the growing threat of environmental degradation and took a proactive stance by launching the Justice, Peace, and Integrity of Creation (JPIC) project. This initiative was among the first to highlight global warming as a critical issue, signaling a shift in how religious organizations viewed their role in addressing environmental concerns. The JPIC project called attention to the ethical dimensions of environmental stewardship, emphasizing the need for collective action to protect the planet. One of the central proposals put forth by the WCC was the introduction of a carbon tax, a policy aimed at reducing greenhouse gas emissions by taxing carbon-intensive activities. The WCC's advocacy for such measures, referred to as "atmospheric solidarity," sought to unite nations and communities in the fight against climate change, ahead of the landmark 1992 Earth Summit in Rio de Janeiro.

During this same period, the environmental crisis also began to capture the attention of major religious institutions like the Eastern Orthodox Church and the Roman Catholic Church. These institutions increasingly recognized that environmental issues were not just scientific or political matters but also moral and spiritual ones. In 1986, Pope John Paul II took a significant step by organizing an unprecedented ecumenical gathering of representatives and leaders from 160 world religions for the World Day of Prayer for Peace in Assisi, Italy. This event was symbolic not only because it brought together faith leaders from around the globe

but also because it was held in Assisi, the birthplace of St. Francis, who is revered as the "patron of ecology." St. Francis' deep connection with nature and his teachings on humility and care for all living things made Assisi a fitting location for such a gathering, reinforcing the notion that care for the environment is deeply rooted in religious traditions.

The theme of environmental responsibility continued to resonate within the teachings of the Roman Catholic Church. Both Pope John Paul II and his successor, Pope Benedict XVI, consistently advocated for "climate justice," a concept that ties the ethical treatment of the environment to broader social and economic justice. Their teachings emphasized that the impacts of climate change disproportionately affect the poor and vulnerable, underscoring the moral imperative for wealthier nations to take stronger actions to mitigate environmental harm.

This commitment to environmental issues culminated in June 2015 when Pope Francis released his encyclical, *Laudato Si': On Care for Our Common Home*. This was the first encyclical to address a global audience on the pressing issue of environmental stewardship and climate change. In *Laudato Si'*, Pope Francis not only tackled the environmental crisis but also highlighted the growing inequality between rich and poor, exacerbated by climate change. He introduced the concept of "climate refugees," referring to those displaced by environmental disasters linked to global warming. By framing the environmental crisis as both a moral and a human rights issue, Pope Francis made a compelling case for immediate and collective action. The encyclical urged individuals, governments, and corporations alike to take responsibility for safeguarding the Earth, emphasizing that care for the environment is inseparable from care for humanity, especially the most vulnerable.

Laudato Si' was widely praised for its comprehensive and inclusive approach, bridging the gap between environmental science and spirituality. It also reinforced the long-standing tradition within religious communities to view environmental stewardship as a sacred duty, calling for a renewed sense of global solidarity in the face of environmental destruction. The document became a crucial part of the growing global dialogue on climate change, urging faith communities to play an active role in advocating for sustainable development and justice for future generations. Through these efforts, religious institutions have continued to assert their relevance in the ongoing global struggle for climate justice, bridging faith, ethics, and environmental responsibility. Although *Laudato Si'* covers much more than climate change, the world's media, especially the American media, have paid

the most attention to the Pope's position on climate change. Such an informational emphasis, in our opinion, was probably connected with two historical events scheduled for the end of the same year, namely the Pope's address to the US Congress (September 2015) and the development of the Paris Agreement on climate change (December 2015). Pope Francis is leveraging his moral authority and global influence to urge the world to act on the climate crisis. He highlights not only the scientific facts but also the moral and ethical dimensions of climate change, emphasizing the need for a values-driven approach. The Pope advocates for the protection of the poor and vulnerable, whom he believes will be disproportionately affected by the consequences of climate change (Landrum, Vasquez, 2020). The Pope's unique voice, position and moral authority strengthen his influence, which is necessary to integrate humanity's efforts to overcome global climate challenges.

At the same time, in the international political and scientific environment, opposite opinions were spread about the Pope's ability to catalyze social change at the global level regarding the solution of climate challenges. Thus, some researchers express concern that the expressed climate ideas may reduce the credibility of the Pope. Others hoped that as the leader of a religious institution, Pope Francis would have a unique opportunity to change the minds of climate skeptics with moral and biblical arguments. In this context, the position of the United States, the country – the largest emitter of carbon dioxide in the world, where the climate issue is highly politicized and has polarized public opinion, is considered important. Important, in our opinion, was the potential of Pope Francis in the year of the publication of the encyclical to influence the views not only of the citizens of the country, but also of the members of the government, where about 31% of the members of Congress and two-thirds of the judges of the Supreme Court considered themselves as Catholic. A study by the Pew Research Center (2016) found that Pope Francis was perceived by the American public as a reliable communicator (52%), who ensures that religious leaders will act in the best interests of society. Then-US President Barack Obama stated: "As we prepare for the global climate talks in Paris this December, I hope that all world leaders — and all of God's children — will consider Pope Francis' call to unite to take care of our common home" (The Associated Press, 2015).

While President Obama supported policies aimed at combating global climate change, in 2017, President Donald Trump announced the U.S. withdrawal from the Paris Agreement, an international effort to reduce greenhouse gas emissions. Trump also excluded global climate change from the list of key national

security threats (Chemnick, 2017), ordered the removal of terms like "global warming" and "climate change" from government websites, and appointed Scott Pruitt, a known climate change skeptic, as the head of the U.S. Environmental Protection Agency (Joselow, 2019).

A. Landrum and R. Vasquez's study of the effectiveness of the climate messages specified in the encyclical of Pope Francis revealed the limited influence of Pope Francis on reducing the climate polarization of the US public (Landrum, Vasquez, 2020). We can agree with D. Bodansky's view that "the Pope's climate arguments align with the scientific consensus, but the key difference from scientists' calls to address global climate change lies in the Pope's focus on morality" (Bodansky, 2015, p. 128). Pope Francis, in his encyclical, frames the response to climate change as a moral obligation. His messages, both within and outside of the 2015 encyclical, stress the urgency of the climate crisis and call for immediate action from the international community to protect our shared planet. However, as research by A. Landrem and R. Vasquez showed, the message of Pope Francis did not cause the expected resonance among the international public, including among Catholics, and it also failed to influence politically conservative deniers of climate change in the United States.

At the same time, the relevance of climate and environmental challenges is understood at the local level. Thus, the idea of "Green churches" is developing, when examples of ecologically responsible attitude to natural resources are demonstrated at the level of individual parishes, for example, in many churches solar panels are installed, garbage is sorted, and water is taken care of. Following their example, people can reproduce these models at home. Protestant churches allocate special grants for the followers so that they can use eco-technologies. The network of "Green Churches" has its own sites, for example, www.greenchurches.ca, www.creationcare.org, which contain practical recommendations, workshops, presentations, sermons on environmental and climate issues.

The Ukrainian Greek Catholic Church also emphasizes the importance of climate and environmental issues in its activities. The issues of environmental protection became especially relevant for Ukraine after the beginning of the full-scale invasion of Russia in February 2022. The environmental direction is most actively represented in the activities of the Ukrainian Catholic University of the Ukrainian Greek Catholic Church (UCU), the Institute of Ecumenical Studies of the

UCU, and the public organization "Center for Ecotheology and Sustainable Development". On a regular basis, they hold conferences, seminars, publish publications, and carry out interdisciplinary research devoted to issues of sustainable peace, justice, and solidarity. For example, the "Ecology" block was considered as part of the "Ecumenical Social Week" held in October 2023, which discussed the issue of preserving human life, which, according to Christian teaching, is closely related to the natural environment, and accordingly the more the environment is destroyed, the worse it affects human well-being and health (Ecumenical social week, 2023).

Modern orthodox church and climate changes

If the number of Catholics around the world is more than 1.3 billion people (Vaticannews, 2023), while more than 60% of believers live in America, the number of those who practice Orthodoxy is much smaller - approximately 300 million men, of whom 77% live in Europe (UkrInform, 2018). Unlike the Catholic Church, which is the only an organization led by the Pope and a system of authorities, the Orthodox Church has no centralized authority or leadership, it is a constellation of independent and equal national churches, where the Ecumenical Patriarch is honored as "first among equals." Therefore, the influence of the Orthodox Church in the context of the number of representatives of the target audiences can be considered much smaller compared to the Catholic throne.

However, it should be noted that the Orthodox Church of Constantinople also recognizes the fact of global climate change, the need to protect the environment and natural resources, and supports actions aimed at mitigating climate challenges. Thus, in March 2023, the Ecumenical Patriarchate joined the annual international initiative "Earth Hour 2023", initiated by the World Wildlife Fund, by turning off the external lighting of the Patriarchal House and the Patriarchal Church in Phanar for one hour. This act became "a symbolic step in raising awareness of what changes can be made in behavior and approaches to the use of resources to reduce the negative impact on the environment and preserve it for future generations" (MethodiusFund, 2023). In the Message of the Ecumenical Patriarchate - the Council of the Orthodox Church, climate change is identified as one of the modern challenges to the church. The document states that "the roots of the ecological crisis, spiritual and ethical, lie in the heart of every person, and

climate change greatly threatens the natural environment". The document states that:

the rupture of relations between man and nature is a distortion of the true approach to the use of God's creation. The approach to the environmental problem, based on the principles of the Christian tradition, dictates not only the need for repentance for the sin of exploiting the planet's natural resources, that is, a radical change in worldview and behavior, but also asceticism - as an antidote to consumerism, adoration of one's needs and possessiveness. It also foresees our enormous responsibility to preserve for future generations a habitable environment and to use it in accordance with God's will and blessing (The Cathedral of the Orthodox Church, 2016).

Primate of the Orthodox Church of Ukraine, Metropolitan Epiphany also emphasizes the importance of overcoming global climate challenges. He admits that "ecology is the object of attention and care of the entire Ecumenical Orthodoxy" (Epiphanius, 2016). On his initiative, Ukraine joined one of the Christian actions for the protection of the environment: now every year on the first Sunday of September in every church of the Orthodox Church of Ukraine, not only a prayer is held, but also a sermon for all believers, so that they are aware of the problems that affect all humanity. According to the position of Metropolitan Epiphanius, the origins of all ecological cataclysms lie in spiritual and ethical reasons, because a person is careless about the world that surrounds him and for which he should take care. The importance of climate communications with believers, issues of ecology and climate change were discussed at the meeting of the All- Ukrainian Council of Churches and Religious Organizations with ambassadors and diplomats of the G7 states and other countries, held in July 2021. These actions, in our opinion, testify to the efforts of the church leadership aimed at the formation of environmental awareness in society.

Conclusions

For centuries, extreme weather events have been viewed by religious figures as a sign of divine judgment for sins committed in human society. Religions continue to make significant efforts to shape public attitudes and behavior regarding weather events and global climate change.

Since ancient times, the church has explained various manifestations of weather (both favorable and unfavorable) with "divine providence", which was

later reflected in the "doctrine of providentialism". Such an explanation allowed the church to influence the public and control human behavior through rituals, rites, and sermons. It is the idea of "providentialism" that remains the main religious postulate to this day. At the same time, with the development of science, religious explanations of weather phenomena began to compete with the pragmatic provisions of scientific theories. It should be noted that science studied weather phenomena rather as a consequence or result of physical and chemical reactions in the atmosphere, but did not explain the reasons for which these processes occur. Today, significant scientific achievements and the development of technology dominate in public opinion regarding the causes of climate and weather changes, but have not displaced church regulations from the information space. As before, the church today emphasizes the moral aspect of overcoming natural crises and at the same time carries out significant climate communications aimed at creating awareness of climate change, and religious rituals should help foster a sense of collective responsibility. To this day, the Catholic Church takes an active part in solving the global problems of our time, including in overcoming climate challenges. The Pope uses his authority and influence to convey to the congregation the importance of climate-friendly behavior. At the same time, the message of "divine providence" as the cause of climate change is also present in the climate communications of the Catholic Church. This shows that the Catholic Church recognizes the fact of global climate changes and determines their dual cause: scientific consensus regarding the anthropogenic factor and causes independent of human activity. But we can say that the influence of the church in this matter is not very strong, compared to the solutions of international political issues and international security issues, at the same time, representatives of the Catholic Church actively work at the community level, which contributes to the formation of climate-friendly human behavior.

The Orthodox Church's recognition of global climate change determines its actions to protect the environment, including support for civil climate initiatives and measures. Global climate change is considered by the Orthodox Church as a challenge to the church itself. The Ukrainian Orthodox Church shares the position of the Ecumenical Patriarchate that the cause of climate change is, first of all, the unethical attitude of man towards nature and the planet, that is, it supports the idea of God's influence on humanity through natural phenomena. Climatic

communications of the Orthodox Church are carried out both at the international level (through the support of international initiatives) and at the national level (through direct communications, for example, sermons and appeals to the faithful).

So, we can assert that the leadership of the largest Christian churches are aware of climate challenges, recognize the scientific consensus about the human factor causing climate change, and at the same time use the message about abnormal natural and climatic phenomena as God's punishment of mankind for unethical behavior, careless attitude towards the environment and each other. At the global level, both Catholic and Orthodox senior religious leaders are making statements about the need to protect the environment, adapt to and mitigate the effects of global climate change. At the local level, there is informational and practical work with followers, encouragement of climate-friendly behavior.

In addition, religious leaders have a significant influence on the formation of public opinion. Their words and actions can motivate large communities to take active action to protect the environment and fight climate change. Incorporating religious values into climate action strengthens the moral and ethical basis of these actions. This helps create a deeper understanding of the importance of environmental responsibility and motivates people to act not only for practical reasons, but also for ethical reasons. Joint initiatives and projects between religious communities and international organizations can significantly improve the effectiveness of climate change measures. Christian religious leaders often support the ideas of sustainable development, which coincides with the UN's goals. This contributes to the wider implementation of sustainable development practices at the local and global levels. Initiatives involving faith communities help raise awareness of climate change and promote environmental education. This creates a more informed society that is ready to support and implement environmentally responsible solutions. Thus, engaging religious leaders and integrating their positions on climate change is an important component in global efforts to address climate challenges.

Further researches

At the same time, the issue of studying the role of religious institutions has been investigated in a fragmentary manner. Such aspects of the topic as, in particular, the role of religion in the formation of climate policy, communication

tools regarding climate change with representatives of different faiths, the level and extent of denial of anthropogenic causes of climate change in different religions, the concept of "climate justice" in different faiths, etc., need further clarification. These issues determine the prospects and directions of further research.

On a practical level, it is necessary to continue and expand the dialogue between religious leaders and scientific organizations to coordinate actions on climate change, the implementation of joint projects involving religious communities can increase the effectiveness of climate measures, the inclusion of ethical and moral aspects in climate policy will help strengthen public support for environmental initiatives, supporting local environmental initiatives based on religious beliefs can promote the wider adoption of sustainable practices.

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