

PLANETARY PROTOCOL FOR CLIMATE CHANGE RESILIENCE



THE PONTIFICAL
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ACADEMY OF SOCIAL
SCIENCES

A new way
to navigate
through the
climate crisis.

MAY 6, 2024

CO₂ has created an invisible, human-made blanket that traps heat and heats the planet.



Photo Source:
United Nations Climate Action
Data Source:
IPCC-AR6-2021

The blanket currently weighs 1200 billion tons and by 2030 -2035 planetary heating can reach the critical threshold of 1.5°C.

We are a diverse, international group of researchers, faith leaders, policymakers, and heads of cities, towns, governorates, and provinces, assembled under the auspices of the Vatican's Pontifical Academy of Sciences and Pontifical Academy of Social Sciences. Pope Francis presided over a summit in May of 2024 which led to this protocol.

The Rationale for the Protocol

The year 2023 was the hottest year on record, resulting in severe global impacts due to extreme weather events. The planet is very likely to exceed the critical global heating threshold of 1.5°C by 2030 to 2035. We have to prepare for and respond to the crisis, rather than reacting to it.

Five billion of the eight billion people in the world, together, contribute about 90% of the pollution. On the other hand, the poorest three billion contributed less than 10% yet suffered 75% of the losses. The 46 Least Developed Countries (LDCs), most of them in Africa, with 15% of the population of the world, contribute only 1% of the world's CO₂ emissions.

Women and children are more vulnerable than men to the impacts of climate change since 70% of the people living in poverty (about 1.3 billion) are women. Women own less than 10 % of the land, but women can also be powerful agents of resilience building.

Nearly a billion children live in countries at “extremely high risk” of climate devastation. They are most vulnerable to the physical and psychological impacts of climate change as their bodies and minds are still developing. The impacts of climate change upon them have deep implications for their current well-being and their potential to flourish. Further, eco-anxiety adds to mental health vulnerabilities across the globe and impeding our youth's sense of future possibilities.

Human inaction in the face of rapid climate change is immoral. The European Court of Human Rights found the States' inadequate climate action is a violation of human rights. However, the global population is now increasingly sensitised to meaningful actions to solve the climate crisis. The accelerated progress we need is being affected by increased misinformation and disinformation.

Climate change poses a grave danger to every aspect of public health, including mental health. Air pollution from fossil fuels alone leads to over five million premature deaths in children and adults every year.



The poorest 3 billion people have contributed less than 10% of the CO₂ emissions but suffered 75% of the losses.

Over 3.6 billion people live in areas highly susceptible to climate change. For them, extreme weather patterns are the new drivers of forced migrations. Over [a billion people](#) could be displaced globally by 2050.

The climate crisis has resulted in a material loss of \$4.3 trillion over the last 50 years. With unchecked emissions, the loss incurred during the next 50 years could be a staggering \$178 trillion. With the current trend of emissions, warming can approach 2.7°C by 2100. This would render about [one-third of the currently habitable space on Earth uninhabitable](#).

Starting from 2023, with [implemented policies](#), we face at least 25 years where global warming will inevitably surpass targets, [reaching](#) 1.5°C (2.7°F) to 2.0°C (3.7°F). This escalation heightens the risk of severe disruptions. Current mitigation efforts are not enough to ensure the safety of people and ecosystems.

We must accelerate endeavors to bend the warming curve by phasing out fossil fuels and rapidly reducing greenhouse gas emissions to enable sustainable living. At the same time, we must focus our efforts on strengthening the resilience of people and ecosystems. Following IPCC-AR6 (2023), *We define resilience as the capacity of social, economic, and environmental systems to cope with a hazardous event, trend, or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure while also maintaining the capacity for adaptation, learning, and transformation.*

The Protocol

We call for the creation of a Planetary Protocol for Climate Change Resilience, endorsed by experts in both the sciences and social sciences and, crucially, by those in direct service to the communities of the world, including mayors and governors. We are committed to the immediate implementation of these critical measures:

- 1) A One-Earth approach is needed to guide urgent action and speed up policy change and implementation. It is imperative to acknowledge the fundamental right of every individual to climate change resilience.
- 2) We are dealing with separate but interconnected systemic challenges: climate change, large-scale biodiversity loss, environmental pollution, global inequity, and food insecurity. These issues, if not addressed collectively with great urgency, pose existential threats to humans and other living beings, as well as the ecosystems they depend upon. Poor people will be the most adversely affected.

An average of 21.5 million people have been forcibly displaced by weather-related hazards each year since 2008.

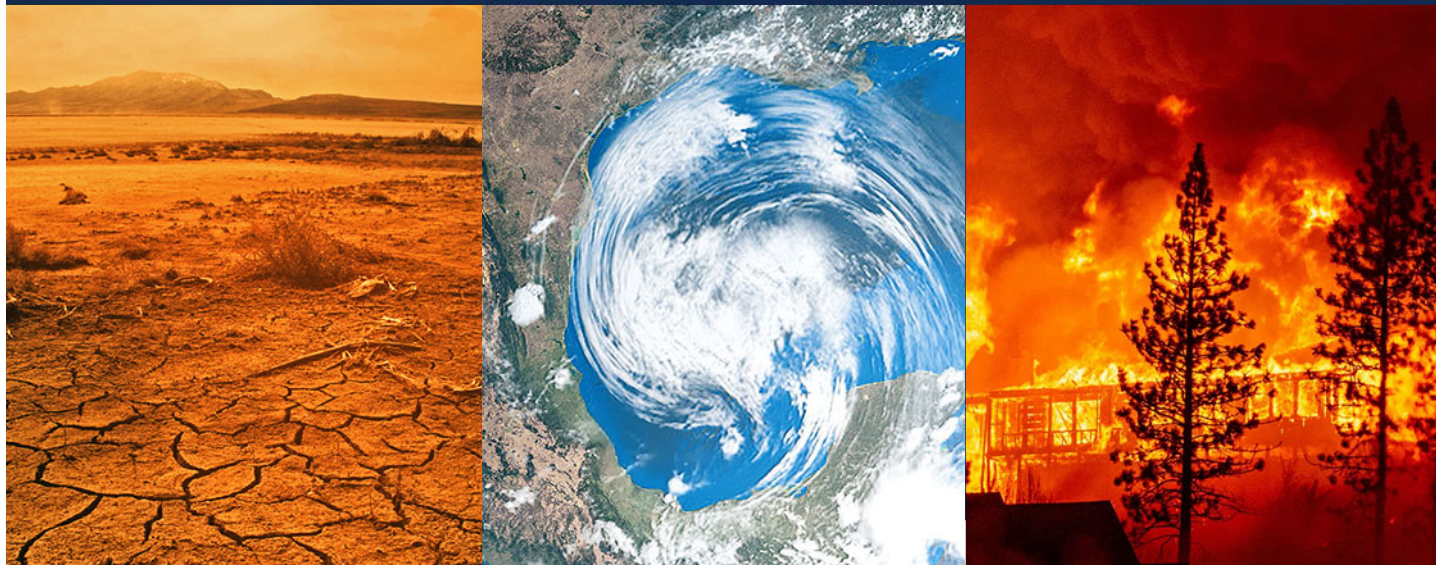


Over a billion people could be displaced globally by 2050.

- 3) We recognize that the climate crisis will get **worse** in the near-term, even if the most optimistic mitigation actions to bend the emissions curve are put into place now. Emissions already present in our atmosphere, will cause suffering that socio-political inertia will extend. We need both a short-term plan (a sprint over the next 25 years) and a long-term plan (a marathon over 25 to 100 years).
- 4) Bend the warming curve down rapidly, and, rebound to sustainable living to survive and thrive in ways that are just and lasting. Global cooperation is essential, since emissions anywhere is global heating everywhere.
- 5) We advocate for a swift, multifaceted approach to climate resilience: rapidly reducing emissions, adapting to current climate shifts, and implementing innovative financing mechanisms. This effort demands global cooperation to address, for example, anticipated large-scale migrations, immediate behavioral shifts to cool the planet, transformative education, and ocean and land restoration.
- 6) Wealthy nations and the global affluent must empower the poorest three billion, who contribute least to climate change, with access to clean energy, water, food, and air. These actions will contribute to climate justice and peace, locally and globally.
- 7) We recognize that healthy natural systems underpin our physical, social, and economic resilience, and advocate for urgent action to scale implementation of nature-based climate solutions.
- 8) We acknowledge that the architecture of the P2C2R must be built on the three-pillar MAST principle, as described in COP-28 statement of **PAS and PASS**. The details of MAST such as its core elements are given in the extended version of this protocol.
 - I) Doing everything in our power to rapidly reduce global greenhouse gas emissions and bend the warming curve by 2050 to limit temporary overshoot to below 2°C and to limit the warming to 1.5°C as soon as possible, is the first pillar of MAST... and also prioritizing nature-based solutions in the proactive removal of CO₂ from the atmosphere.
 - II) Adaptation to unavoidable climate change is the second pillar of MAST. Adaptation has three objectives: reducing sensitivity to climate change, reducing exposure to climate threats, and enhancing adaptive capacity. However, there are limits to human and ecosystem adaptations, and to stay within these limits, adaptation must be tightly integrated with mitigation. Crucially, adaptation must be prioritized equally with mitigation and requires

THE COST OF DOING NOTHING

Unchecked climate change could cost the global economy \$178 trillion in net present value terms from 2021- 2070.



By 2050, it is estimated that an additional \$33 trillion on top of existing spending plans (\$98 trillion) is needed to achieved 1.5°C goal.

action, across all sectors and levels of society. Adaptation efforts should include a focus on public health, including mental health and well-being, along with the flourishing of other living beings and ecosystems - a critical priority in the design of adaptation, solutions under P2C2R. Adapting to heat stress is essential to avoid large numbers of deaths in the coming decades.

III) Societal Transformation is the third pillar of MAST, which is essential for thriving in a sustainable future after surviving the crisis. Societal Transformation involves fundamental shifts in behavior, including consumption, and in socio-economic systems and governance. In Pope Francis' words, "This transformation is akin to an ecological conversion." The climate crisis presents us with an unparalleled opportunity to build a stronger, healthier, and more just world that reflects the fact that our thriving depends on the well-being of the natural world and other living beings.

- This transformation requires climate literacy for all, from children to adults; access to affordable energy, clean air and water, and education for the poorest three billion people on the planet so they can adapt to climate disasters and thrive in a post-global warming world; public-private partnerships to finance both mitigation and adaptation; provision of skills and training, to allow all access to the jobs needed to deliver these changes, and partnerships with faith-based institutions to garner strong public support for climate actions.
- Planning and policy initiatives must adopt and include child-centered approaches to fostering resilience.
- Comprehensive environmental and sustainability education should be integrated into school curricula worldwide, ensuring that all children develop a deep understanding of ecological issues, sustainable practices, and their roles in fostering a sustainable future from an early age. This should include the promotion of attitudes that encourage responsible stewardship of the planet, critical thinking about environmental challenges as well as preparation for future careers in sustainable industries.
- We must urgently transition from fossil fuel energy to clean energy.
- Harmful subsidies for fossil fuels must be shifted to support actions that can rapidly bend the warming curve, improve universal health coverage, facilitate public transportation, reducing air and water pollution, provide healthy food choices, and promote equity.

MAST: A Strategy to Survive and Thrive the Climate Crisis.



Mitigation Adaptation Societal Transformation

- A firm commitment must be made to sustainable agriculture so as to rapidly bend the warming curve, promote equity and offer healthy food choices.
- Behavioral change in people, communities, and the private sector must be rooted through a new global initiative to educate everyone from childhood to old age.
- Researchers and policymakers working on solutions should adopt evidence-based trans-disciplinary collaborations that involve mayors, governors, and local NGOs to manage the resources available at various levels of government.
- Climate change is global, impacts locally, and requires local action. Therefore, we call upon heads of nations to facilitate stronger voices of mayors and governors in global climate policy.

The need for a profound societal transformation across the global population is immediate and critical. Our aim is to enlighten and galvanize societies worldwide into prompt, unified action against climate change and for climate resilience. Our strategy is comprehensive, spanning policy shifts, education, and behavioral changes under the banner of MAST. This is a pivotal moment that calls for unwavering commitment and immediate action. We must capture this moment and transition to a benevolent era with no one left behind.

Authors

V. Ramanathan (PAS; Co-Chair of the Protocol Document, India, USA), Marcelo Suarez-Orozco (PASS; Co-Chair of the Protocol Document, Argentina, USA), Joachim von Braun (President of PAS; Germany), Sr. Helen Alford OP (President PASS; UK), Cardinal Turkson (Chancellor of PAS and PASS; Ghana), Orjan Gustafsson (PAS; Sweden), Mohamed Hassan (PAS; Sudan/Italy), John Schellnhuber (PAS; Germany), Virgilio Viana (PAS; Brazil), Hoesung Lee (IPCC Chair until 2023; S Korea), Gina McCarthy (Former EPA Chief and Climate advisor to Biden administration; USA), Sunita Narain (Dir General, CSE; India), Gabrielle Dreyfus (Chief Scientist, IGSD; DC), Jeremy Farrar (WHO Chief Scientist; UK); Joyce Kimutai (Univ of Cape Town and Oxford U; IPCC Lead author on desertification; South Africa), Melissa Hoffer (Climate Chief, Massachusetts; USA), Carola Suarez-Orozco (Harvard University, USA), Soumya Swaminathan (Former chief scientist, WHO; President, Swaminathan Foundation, India), Romina Picolotti (Former Environment Minister, Argentina/USA and IGSD; DC; USA, Argentina); Kongjian Yu (China/USA).

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