



CRIME, LAW ENFORCEMENT AND CLIMATE CHANGE

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INNOVATION CENTRE

**BACKGROUND
PAPER**

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1. INTRODUCTION

Climate change is set to be one of the defining global trends of the 21st century, affecting everything from the economy to planetary security.¹ In 2022, extreme weather events fuelled by global warming, including record-breaking heatwaves; huge wildfires; and disastrous flooding; have already killed thousands, displaced millions and caused widespread upheaval around the world.

Within the law enforcement community, there has been growing awareness about the importance of climate change. However, the issue still rarely features on the agenda of police leadership, underlining that **there is not yet a strong sense of urgency about climate change in policing**. Some of the findings of the 11th session of the STRATalks Futures Series about “Climate Change and its Implications for Law Enforcement,” organized by the **INTERPOL Innovation Centre (IC)’s Futures and Foresight Lab** on 19 May 2022, provided possible explanations for this issue.²

For example, a representative from Australian law enforcement suggested that many police organizations suffer from **temporal exhaustion**: dealing with the many crises of today leaves no room to project themselves into the future.³ At the same time, participants argued that not adapting how the concept of “climate change” is articulated in a policing context could also lead to a lack of understanding of what climate change means concretely for law enforcement.



Results of a poll submitted to the STRATalks Futures Network on 19 May 2022

To address this gap and help the global law enforcement community better understand the implications of climate change for policing and crime, **the INTERPOL Innovation Centre (IC)’s Futures and Foresight Lab** has developed the present Background Paper. The paper aims to:

¹ The expression ‘planetary security’ is used to capture the scale of the security challenges of our century. <https://www.nato.int/docu/review/articles/2019/12/10/planetary-security-the-security-implications-of-climate-change/index.html>

² The INTERPOL STRATalks Futures Network is a global network of over 180 strategic advisors, planners and foresight practitioners in law enforcement from across all INTERPOL regions. Since 2015, regular STRATalks meetings have provided a forum for the advancement of strategic foresight in the law enforcement community, providing insights on global trends and emerging issues affecting policing.

³ The expression “temporal exhaustion” was coined by sociologist Elise Boulding: “If one is mentally out of breath all the time from dealing with the present, there is no energy left for imagining the future.”

- (i) summarize the latest scientific evidence available on the current state and plausible futures of climate change and, more importantly;
- (ii) present findings from the INTERPOL Global Horizon Scanning process, including the outcomes of the 11th session of the STRATalks Futures Series, on the impact of climate change on crime and law enforcement.

2. THE SCIENTIFIC EVIDENCE ON CLIMATE CHANGE

This section draws primarily on the latest findings of the **Intergovernmental Panel on Climate Change (IPCC)**, in order to provide a general scientific overview of the current and future state of climate change. This will set the basis for the following sections, which focus more exclusively on the impact of climate change on crime and law enforcement.⁴

The IPCC is the intergovernmental body of the United Nations responsible for advancing knowledge on human-induced climate change. Its work is widely agreed upon by leading climate scientists, as well as governments. As such, the IPCC can be considered as an internationally accepted authority on climate change.

KEY DEFINITIONS:

- **Climate change:** a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods;
- **Global warming:** estimated increase in global mean surface temperature averaged over a 30-year period, or the 30-year period centered on a particular year or decade, expressed relative to pre-industrial levels unless otherwise specified;
- **Climate extreme:** occurrence of a value of a weather or climate variable above (or below) a threshold value near the upper (or lower) ends of the range of observed values of the variable.

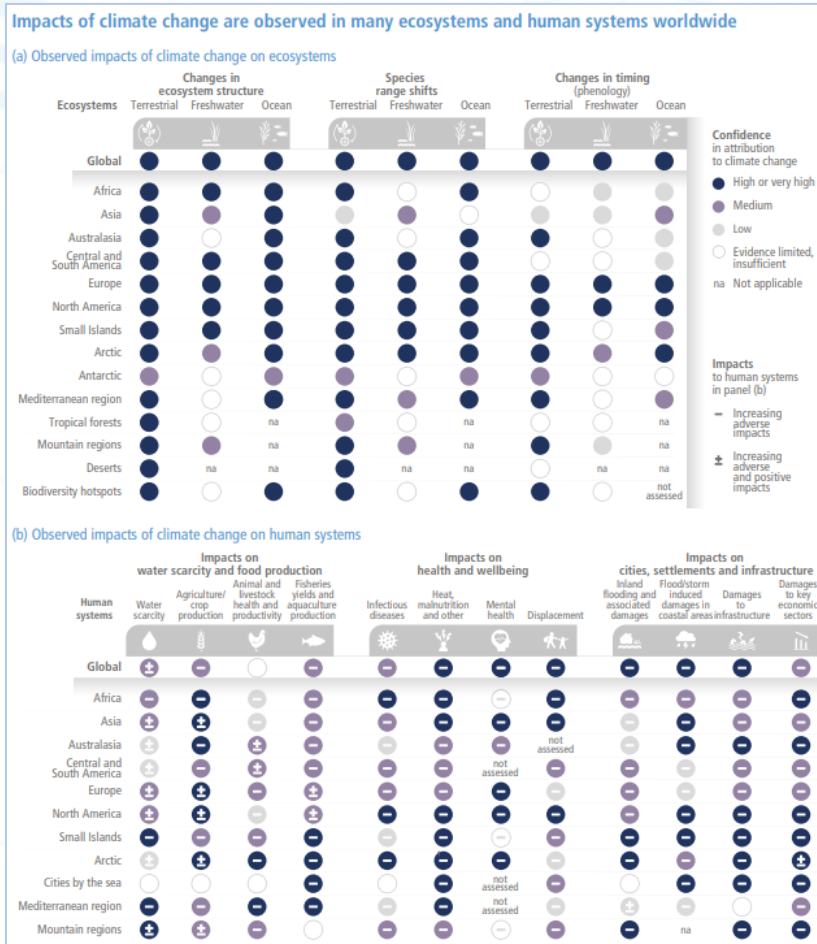
For more definitions of key scientific terms, please refer to the Glossary compiled by the Intergovernmental Panel on Climate Change: [Link](#)

2.1 The current state of the climate

The latest findings of the IPCC on the current state of the climate are unequivocal:

- **Human influence has warmed the atmosphere, ocean and land at a rate unprecedented in the last 2,000 years.** Observed global warming is driven by emissions generated from human activities, notably greenhouse gases like carbon dioxide and methane;
- **In turn, global warming has brought about widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere.** The scale of change and current state of many aspects of the climate system are unprecedented in centuries or even thousands of years;
- **Human-induced climate change is already affecting weather and climate extremes in every region across the globe, including heatwaves; heavy precipitation; droughts; and tropical cyclones;**
- Due to the interdependence of the climate, ecosystems and human societies, **human-induced climate change has already caused widespread adverse impacts as well as related losses and damages to nature and people** (refer to the box below);

⁴ The IPCC is now in its sixth assessment cycle. The Sixth Assessment Report (AR6) features contributions by its three Working Groups and a Synthesis Report, three Special Reports, and a refinement to its latest Methodology Report. To date, only the first two working groups have released their findings, in the form of two reports: “Climate Change 2021: The Physical Science Basis” and “Climate Change 2022: Impacts, Adaptation and Vulnerability.” The present Background Paper draws primarily on these two reports.



Source: Working Group II contribution to the [Sixth Assessment Report of the IPCC](#)

- Impacts differ across regions, but globally the most vulnerable people continue to be disproportionately affected. Approximately 3.3 to 3.6 billion people live in contexts that are highly vulnerable to climate change, with hotspots of high human vulnerability found particularly in West, Central and East Africa; South Asia; Central and South America; small island developing States; and the Arctic. Poverty, governance challenges, violent conflicts, inequity and marginalization linked to gender and ethnicity exacerbate vulnerability.

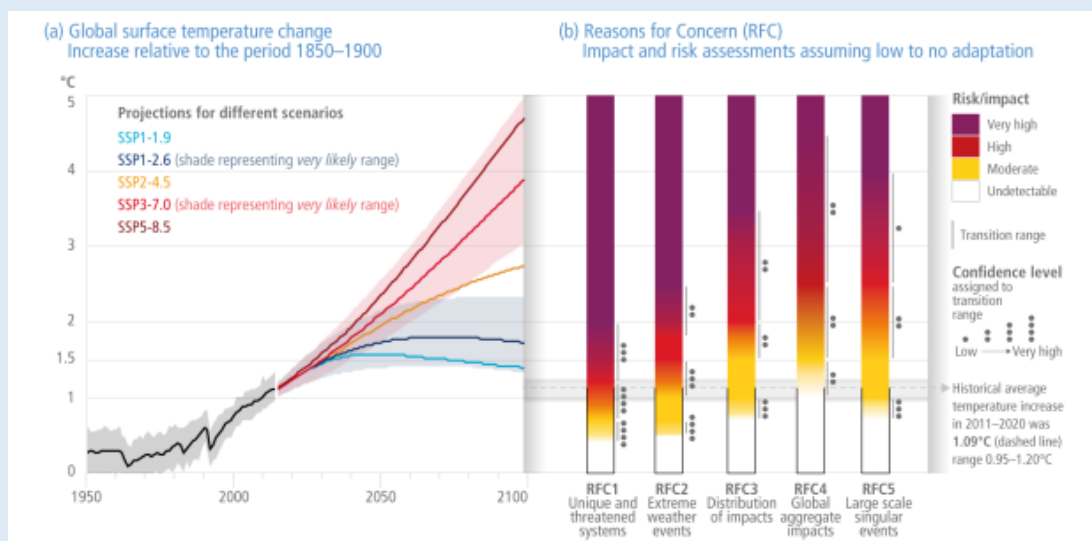
2.2 Possible climate futures

The IPCC often uses **scenario thinking** to explore different climate futures. Although each scenario is built considering different levels of mitigation and prevention measures, some general considerations regarding the **future of climate change** can be drawn. Notably:

- **The continued acceleration of climate change is likely to have increasingly severe – and often irreversible – impacts on ecosystems, biodiversity and human systems.** Many changes due to past greenhouse gas emissions are already irreversible for centuries to millennia;
- **The degree of global warming will affect the severity of the impacts and risks to climate change.** The IPCC warns that with every increment of global warming, changes in regional average temperatures and extremes are more significant: every additional 0.5°C of global warming has a clear impact on the frequency and severity of weather extremes (e.g. heatwaves, heavy precipitation and droughts);
- As human activity is now the key driver, **the magnitude and rate of future climate change and associated risks will largely depend on how human societies evolve** and on how they respond, mitigate and adapt to global warming.

SCENARIOS FOR CLIMATE CHANGE:

In the IPCC's Sixth Assessment Report, five illustrative scenarios are used to model the likely impact of different (human) socioeconomic pathways for global warming and associated risks. For example, SSP1-1.9 depicts a world where the Paris Agreement's target of keeping global warming below 1.5°C is achieved; whereas SSP3-7.0 is characterized by regional rivalries and the steady rise of emissions, resulting in a 3.6 °C rise in average temperatures by 2100.



For more information on the IPCC scenarios: [IPCC AR6 WGII SummaryForPolicymakers.pdf](#)

3. IMPLICATIONS OF CLIMATE CHANGE FOR LAW ENFORCEMENT

3.1 Law enforcement as first responders to the effects of climate change

- Around the world, climate change is causing an increase in the frequency of **natural disasters** and **extreme weather** events, including intense droughts; severe fires; flooding; catastrophic storms; and other extreme weather events. **As global warming brings more natural disasters, police officers will likely be on the frontlines as first responders;**
- Due to the intensifying impact of climate change, law enforcement faces the prospect of **having to respond to more frequent natural disasters** and crises in the coming decades. This could include supporting evacuations; aiding recovery efforts; identifying missing persons; addressing theft and plundering; and mitigating local fights, etc.;
- **Disasters also have consequences on crime.** For example, some research suggests that disasters can also reduce the number of people and households that are left unguarded, thus lowering the cost of committing non-violent crime.⁵ There is also **evidence that natural and human-made disasters are typically followed by longer-term increases in crime rates**, most notably in property crime and domestic abuse.

3.2 The expansion of the policing domain

- In addition, as outlined in the following paragraphs, climate change is having a **strong impact on criminal activities**, offering a breeding ground for new criminal activities, and providing means for others to transform and evolve;

⁵ However, it should also be noted that in some cases massive trauma caused by large-scale disasters can promote solidarity and potentially reduce crime.

- As the frequency and intensity of natural disasters and extreme weather events is set to increase in the near future, this could also **negatively impact** societies, notably in terms of fuelling growing tensions and discomfort among citizens, as well as large-scale migration;
- The nexus between climate change and crime, as well as global warming's potential impact on public disorder, are likely to **be increasingly incorporated into the policing domain**, resulting in **new policing duties** and the need for **enhanced policing capabilities**.

Weak signal from law enforcement

Due to the record-breaking droughts in the summer of 2022, France has mandated a “police of the environment” to enforce a prefectural order restricting water consumption in some departments. While its main duty is to raise public awareness, the police of the environment can issue fines of up to 7,500 euros for breaches in water consumptions. Since May 2022, its 1,700 inspectors have already conducted more than 4,000 interventions, in some cases requiring sophisticated tools like GPS mapping of river systems.

- **What other environmental areas will law enforcement be called to police? How should law enforcement agencies prepare to do so effectively?**

4. THE NEXUS BETWEEN CLIMATE CHANGE AND CRIME

- Beyond natural disasters, there is a complex **nexus between climate change and crime**:
 - On the one hand, environmental exploitation by criminal groups causes environmental degradation and resource scarcity, directly contributing to climate change;
 - On the other hand, climate change has the potential to strongly impact existing categories of crime. The impacts of climate change can put pressure on local economies and communities, generating instability and opportunities for new illicit markets;
- **INTERPOL's Environmental Security Programme (ENS)⁶ targets international criminal groups** who are responsible for the perpetuation of crimes damaging the environment and enhancing the effects of climate change. The Programme focuses on **fisheries, forestry, pollution and wildlife crimes, and illegal mining**;
- The ENS not only provides member countries with the **operational support** to dismantle criminal groups, but also offers **capacity-building activities** to effectively tackle them, and **creates awareness** among INTERPOL's 195 member countries on the topic. The ENS' operating model is based on three pillars, notably **prevention, detection, and disruption**;
- It should also be noted that while **climate change is a global issue, it is intensively felt on a local scale**. Its impacts manifest worldwide, but they do so unevenly. The greatest risks tend to be concentrated in regions already facing political and social marginalization as well as vulnerability.

5. NEW CRIMINAL OPPORTUNITIES CHALLENGING LAW ENFORCEMENT

Given existing efforts made by ENS to tackle environmental crimes, this paper will focus on exploring how climate change is currently affecting the criminal landscape or how it may affect said landscape in the near future, as well as the potential implications for law enforcement.

⁶ INTERPOL's Environmental Security Unit is in charge of bringing together member countries, the private sector, international organizations and civil society to fight crimes against the environment. For more information on this Unit, please see: <https://www.interpol.int/Crimes/Environmental-crime/Our-response-to-environmental-crime>

Some of the possible criminal consequences of climate change are listed below.

5.1 Old crimes, new prioritization?

- There is documented evidence that organized **environmental crime**, which includes activities such as illegal logging; illicit wildlife trade; illegal, unreported and unregulated (IUU) fishing; illegal mining; and pollution crimes, **intensifies climate change and undermines mitigation efforts**.⁷ For example, illegal logging is responsible for nearly half of all tropical deforestation, which in turn contributes to climate change and its impacts, such as extreme weather, drought, resource scarcity, etc.;⁸
- Rising public concerns over climate change could result in the **scaling up of legislative and law enforcement efforts against criminal activities contributing to climate change**. For instance, there are already calls to include **anti-wildlife trafficking measures** as part of international agreements such as the UN's Climate Change Conference of the Parties (COP);⁹
- The **further prioritization** of crimes impacting the environment could require law enforcement to acquire new knowledge and tools, and perhaps even to establish more specialized **green police units**.

Weak signal from law enforcement

In Israel, the Ministry of Environmental Protection has an enforcement and deterrence arm known as **the Green Police**, which is empowered to open cases on environmental crimes, ban the use of vehicles whose emissions exceed allowed standards, hand down administrative orders to remove waste, etc.¹

- **Will police forces establish an internal dedicated agency that will be in charge of exclusively policing the environment?**

5.2 The growing momentum for a crime of ecocide

- Growing concerns over climate change could culminate in the emergence of a new crime, **ecocide**. This refers to
*“unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage being done to the environment being caused by those acts.”*¹⁰
- The concept dates back several decades, but it has been **gaining momentum** in recent years. In particular, advocates are pushing for its inclusion as a **fifth offence prosecutable by the International Criminal Court**, which would have implications for law enforcement globally;
- The push to make ecocide an international crime appears to be strongly supported by youth. For example, the 16th United Nations Climate Change Conference of Youth (COY16) demanded the implementation of legal sanctions for actions and crimes against the environment, including ecocide;
- Instances of ecocide could include significant, human-induced:
 - ocean damage: industrial fishing, deep-sea mining, and plastic pollution;
 - deforestation: industrial farming, mineral extraction, and wood production;

⁷ See for example the GI-TOC's [Environmental crime: The not-so-hidden obstacle to combat climate change](#)

⁸ According to the last Global Watch report, tropical forests lost 11.1 million hectares of tree cover in 2021, including fire-related and no fire-related losses. [Forest Loss Remained Stubbornly High in 2021](#)

⁹ [NGO: Wildlife Trafficking Must be Part of the Climate Change Talks \(occrp.org\)](#)

¹⁰ Definition adopted by legal experts from across the globe, as part of the *Stop Ecocide Foundation's* initiative. For more information: <https://www.stopecocide.earth/>

- land and water contamination: agricultural pollution, and damage to river systems;
- air pollution: radioactive and industrial contamination.¹¹

Weak signal from law enforcement

In Belgium, the Federal Parliament recently adopted a resolution aimed at recognizing the crime of ecocide in national and international criminal laws. During a meeting of the STRATalks Futures Network on May 19, 2022, the Chief Innovation Officer of the Belgium Police, and Belgium representative at the STRATalks Futures Network, noted that this development will likely lead to more enforcement actions against crimes harming the environment, promote more environmentally friendly measures and enhance the need for international police cooperation.

- **What would the global implications be if more and more jurisdictions started to criminalize ecocide?**

5.3 Resource scarcity and organized crime

- Through its impact on **resource scarcity**, climate change may generate conditions for the **co-optation of basic-needs markets by criminal groups**;
- For instance, in Kenya's informal settlements, **water cartels** have exploited **water scarcity** to force residents to pay 50 times more than residents in wealthy areas for water supply; while in Karachi (Pakistan), **armed gangs have stolen water** from illegal water stations to sell on the black market at an inflated rate.¹²

5.4 Climate refugees and migrants – a new target for criminal exploitation?

- As some countries are more exposed to the impacts of climate change such as droughts, natural disasters and the rise of sea levels, **new climate-induced migration flows** are expected in the mid to long term:¹³
 - There could be **216 million climate refugees by 2050** searching for safer and more economically stable places to live, 143 million of them in sub-Saharan Africa, South Asia and Latin America;¹⁴
- While some migrants may benefit from the new status of **climate refugee** – for instance, through so-called “climate visa” schemes enabling them to cross borders legally, it is also likely that many will not, and that they will instead attempt to cross over **clandestinely**, fuelling challenges for border security and controls;
- Climate migrants could be exposed to the same risks as migrants fleeing instability, including **hate crimes, human trafficking** and various forms of **exploitation**.

5.5 Ecological terrorism, a menace for the 21st century?

- Dissatisfaction with authority's response to climate change is already **leading to protests and unrest** around the world;

¹¹ For more examples, see:

- [What is ecocide? – Stop Ecocide International](#)
- [In pictures: Ten worst 'ecocides' | Environment | The Guardian](#)

¹² [Environmental crime: The not-so-hidden obstacle to combat climate change | Global Initiative](#)

¹³ As many as 48 countries – mostly islands – could disappear by 2100 because of rising sea levels. On land, the Sahara Desert expanded by 8%, or 100 kilometres, southwards between 1950 and 2015, and continues to expand at that rate.

¹⁴ [Future-Opportunities-Report-TheGlobal50-English.pdf \(dubaifuture.ae\)](#)

- In the long term, **growing frustrations, combined with a sense of urgency**, could fuel new forms of extremism, including the rise of **ecological terrorist groups**. This risk is particularly acute given the **widely unequal impact of climate change** – often the most polluting groups are not the ones to suffer the most severe consequences;
- There are already instances of such ecologically motivated terrorism in the 21st century, such as the failed bomb attack against the President of Chile in 2019,¹⁵ or the attempted bombing of Edinburgh's Princes Street Gardens in 2018 by an individual affiliated with *Individualidades Tendiendo a lo Salvaje*, a Mexican eco-terror group.¹⁶

5.6 Challenges from the Arctic

- Arctic sea ice is melting at a rate of almost 13 per cent per decade. If climate change continues unchecked, the Arctic could be ice-free in the summer by 2040, with serious implications for global warming worldwide;¹⁷
- As the ice melts, **new shipping routes** and free trade ports will likely open up in the Arctic. Although these new routes will remain dangerous, they may be **exploited by traffickers**;
- Climate change may also create new opportunities for **illegal mining** – according to the United States Geological Survey, the Arctic contains about 13 per cent and 30 per cent of the world's undiscovered conventional oil and natural gas resources;¹⁸
- Growing accessibility and contact with the Arctic region, notably due to renewed interest in resource extraction, could **increase the risk that indigenous women may be trafficked**;¹⁹
- Warming waters around the globe may also enhance the risk of illegal, unreported and unregulated (**IUU**) fishing in the Arctic, as fish stocks might migrate towards the poles in search of colder waters.²⁰

5.7 Climate change and maritime security

- Climate change is likely to have a disproportionate impact on **coastal populations**, notably through the rise of sea levels, flooding and alterations to existing biodiversity. According to recent reports from NASA and the United States Geological Survey, approximately **80 per cent of the Maldives will become uninhabitable by 2050**.²¹ This will likely have implications for both **climate-induced migrations** and **maritime security**;
- For example, the movement or shifting of fish species driven by climate change, combined with the exhaustion of fish stocks in some areas may fuel **IUU fishing**. Moreover, the degradation of fisheries and socio-economic conditions could impact the incidence of **piracy**.²²

5.8 Forest fires and pyro-terrorism

- Climate change is contributing to setting the **appropriate conditions for the exacerbation of forest fires**. Notably, record-breaking heat, unequalled droughts and extremely dry fuels and soils facilitate the increase in fire risk;

¹⁵ [Qué es ITS, el grupo eco-extremista al que el gobierno de Chile acusa de "actos terroristas" y que tiene presencia en otros países de América Latina](#)

¹⁶ ['Eco-terrorist' who planted bomb in Edinburgh park jailed](#)

¹⁷ [Six ways loss of Arctic ice impacts everyone | Pages | WWF \(worldwildlife.org\)](#)

¹⁸ [Climate- Fragility Risk Brief – The Arctic](#)

¹⁹ For a discussion of the risks in North America, see: Sweet (2016) [Rising Waters, Rising Threats: The Human Trafficking of Indigenous Women in the Circumpolar Region of the United States and Canada](#).

²⁰ <https://nerusprogram.org/works/climate-change-effects-on-illegal-unreported-and-unregulated-fishing/>

²¹ [Facing dire sea level rise threat, Maldives turns to climate change solutions to survive](#)

²² Germond and Mazris (2019) [Climate Change and Maritime Security](#)

- Nonetheless, **fires** are often **deliberately** set by individuals. Depending on the intentions, human-induced fires could be traced back to two main causes: **pyromania and arson**. The first one is a **psychiatric disorder** that leads individuals to develop a strong urgency to start fires. The second constitutes a **serious crime**, since burning activities are performed with the intention of destroying or damaging specific targets and for personal or economical gain. In the case of forests, fires are set mainly with the aim of clearing the area for agricultural or cattle activities;
- The **nexus between forest fires and ecoterrorism** is gaining relevance in various academic research. In fact, advocates argue that incendiary attacks, also referred to as **pyro-terrorism**, are used to intimidate governments and civil society;²³
- Given the increasing number of forest fire cases, police officers could be called to enhance their role as **first responders**. Moreover, the rising and evolving connection between the arson of forests and criminal activities will facilitate police officers in their **investigations of** such crimes, as well as the implementation of effective **preventative** strategies.

5.9 Expansion of wildlife trafficking

- According to the World Economic Forum, wildlife trafficking is the **fourth most lucrative global crime**, with a value of between **USD 7 billion and USD 23 billion** each year;²⁴
- Climate change is causing serious and often unexpected impacts on species, affecting their abundance, genetic composition, behaviour and survival. Inter alia, global warming has the **potential to cause extinctions** in a majority of the world's especially valuable ecosystems. For example, according to an international study, almost half of endangered mammals and nearly a quarter of endangered birds have already been subjected to the damage of climate change;²⁵
- For law enforcement, this may mean an increase in the number of species subjected to trade bans, such as through their inclusion in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);
- Climate change could also impact existing law enforcement efforts through the mass migration of wildlife and fisheries induced by habitat change.²⁶ While it may take some time for the biodiversity and natural habitats of these animals to shift to nearby zones, the **boundaries of protected areas** may have to be adjusted accordingly.

5.10 Digital pollution, a new priority?

- In less than a decade, law enforcement perceptions of **pollution crime** have changed markedly, emerging as a serious organized crime threat, in part thanks to the efforts of the INTERPOL Environmental Security Programme;
- For instance, a **recent report published by INTERPOL** demonstrates the relevance of the **nexus between organized crime and pollution**, as well as its global dimension, through an analysis of 27 cases.²⁷ Moreover, as the report shows, pollution crimes often involve **innovative, adaptive and sophisticated methods** and rely on de-centralized structures that operate across borders;
- In an increasingly digitalized world, **digital pollution** is likely to become a growing concern. It encompasses pollution from electronic equipment – from the extraction of raw materials and the

²³ [Pyro-Terrorism—The Threat of Arson-Induced Forest Fires as a Future Terrorist Weapon of Mass Destruction](#)

²⁴ [Wildlife crime: a \\$23 billion trade that's destroying our planet](#)

²⁵ [Climate change impact on mammals and birds 'greatly under-estimated' - UQ News - The University of Queensland, Australia.](#)

²⁶ According to WWF scientists, most species will have to "move" faster than 1,000 meters per year if they are to keep within the climate zone which they need for survival: [Impact of climate change on species](#)

²⁷ [Strategic Report - The Nexus between Organized Crime and Pollution Crime](#)

manufacturing process of devices to their disposal – as well as pollution related to data centres and network infrastructure;²⁸

- **Digital or Internet pollution crimes** may emerge as an important sub-category of pollution crime;
- A first type of digital pollution crime relates to **the illegal transnational trade of e-waste**. Illegal management of regular waste, including burning, misdescription, illegal export and dumping, has always constituted a harmful and serious crime. According to the Environment Agency, around 18 per cent of waste is managed illegally, meaning around 34 million tonnes every year. **In addition, millions of tonnes of hazardous e-waste** from Europe and North America are now illegally exported to countries in the global South;
- Organized criminal groups are often increasingly involved in fraudulently exporting e-waste as ‘reusable’ or ‘second-hand’ to developing countries, where it is destroyed in dangerous conditions. The number of fraudulent exports should only continue to grow as digitalization becomes more pervasive around the world;
- **Pollution from cryptojacking** may also emerge as a serious criminal offence, should concerns over climate change translate into political action;
- Some cryptocurrencies, like Bitcoin, are created through a process known as “mining”. Bitcoin mining requires extreme computing power, **consuming around 121.36 terawatt hours a year** – more than the consumption of all of Argentina. The process is estimated to generate over 22 million metric tonnes of CO2 emissions per year, roughly equivalent to the emissions of 2.7 billion households;²⁹
- Due to the heavy carbon footprint of mining, countries like China have clamped down on the cryptocurrency industry, although operations simply moved to countries with cheaper energy and fewer rules;
- Because of these developments, **cryptojacking**, a cybercrime that involves the unauthorized use of people's devices to mine for cryptocurrency, may in the future rise in significance, as well as being prosecutable on environmental grounds.

5.11 Policing climate mis/dis-information and postericide

- Research has demonstrated that much of (online) **climate change mis/dis-information** is financed, produced and amplified by a network of actors, notably through social media. Some have even dubbed this phenomena **organized climate denial**,³⁰
- While governmental policies vary widely on the subject, a growing number of countries now require law enforcement action against online misinformation.³¹ If action to protect the climate intensifies in the near future, **police could be asked to tackle mis/dis-information related to climate change**;
- Professor Catriona McKinnon, United Kingdom, has gone as far as to propose that international criminal law should be expanded to include a new criminal offence: **postericide**.³² According to her definition, the crime of postericide would be committed by intentional or reckless conduct fit to bring about the extinction of humanity, especially by influential individuals.

²⁸ For more information, see for example: [Internet pollution: how can its impact be reduced? \(selectra.com\)](https://selectra.com/en/internet-pollution-how-can-its-impact-be-reduced/)

²⁹ [Bitcoin's Impacts on Climate and the Environment](#)

³⁰ For instance, see: [Online misinformation about climate change](#)

³¹ For a country breakdown, see: [A guide to anti-misinformation actions around the world - Poynter](#)

³² [Endangering humanity: an international crime?](#)

5.12 Criminal exploitation of sustainable development

- There is now substantial research demonstrating how sustainable development can work in tandem with crime prevention.³³ However, it should also be noted that **measures implemented to prevent, mitigate and adapt to climate change may also be exploited by criminals**, resulting in new and sometimes unexpected forms of crimes;
- **Carbon credit fraud** is a good illustration of these potential risks. Following the Kyoto Protocol (1997), governments around the world implemented a market mechanism to minimize greenhouse gas emissions known as **carbon credits** or **carbon offsets**. These are essentially tradable permits or certificates that provide companies and other credit holders the right to emit a specified volume of greenhouse gases;
- Today, **carbon trading has emerged as one of the world's fastest-growing commodity markets**.³⁴ However, the growth of this market has been **accompanied by the growth of the carbon fraud market**, with several high-profile instances of security fraud, insider trading, embezzlement, money laundering and cybercrime;

Weak signal from law enforcement

In 2021, six people were put on trial in Germany for more than EUR 200 million (GBP 176 million) in tax in the European carbon market.

- **Could future policing be called upon to police personal carbon credits?**

- Another example of crime related to sustainable development measures is the **greenwashing of so-called phantom forests**.³⁵ This happens when companies invest a lot of money in planting programmes for new forests – as a sustainable measure due to offset their environmental impact – which eventually **never come to life or deliver limited results** in revitalizing ecosystems;
- Likewise, the technologically fuelled **transition to clean energies also carries risks** of generating new criminal activity that causes further environmental and social harm;
- For instance, technological advances often associated with sustainable development like **electric vehicles** can produce new risks and opportunities for criminals. Like many new technologies, electric vehicles require large quantities of raw materials, notably lithium and cobalt, for their batteries. Unfortunately, some of the world's largest cobalt mines have already been affected by scandals concerning child labour, while the discovery of massive lithium deposits in 2015 in Mexico was accompanied by concerns over organized crime interference,³⁶
- Without adequate safeguards, **a significant ramp-up in the production of high-tech, sustainable solutions like electric vehicles could make these issues more widespread**;
- If countries or municipalities increasingly adopt mitigation or adaptation measures against climate change, law enforcement may also have to **police and protect new systems and infrastructures**, such as flood defences, water-permeable pavements, smart grids, etc.

³³ For example, see: [“The Links between Crime Prevention and Sustainable Development”](#), or: [“Less Is More: What Design Against Crime Can Contribute To Sustainability”](#)

³⁴ [The world's hottest commodity market is the 'wild west'](#)

³⁵ Phantom forests refer to the remnants of either fully failed or never realized planting initiatives. To learn more, see: [How phantom forests are used for greenwashing - BBC News](#)

³⁶ [Mexican drug cartels could mess up the country's most important lithium project](#)

6. RECOMMENDATIONS FOR LAW ENFORCEMENT

6.1 Enhancing future preparedness

- **Future preparedness** starts with **awareness**. Police must continue to develop a better understanding of climate change and its implications;
- Investing in **identifying the new capabilities** needed to face the upcoming challenges related to climate change **and delivering the necessary training** would be crucial to effectively deal with them:
For example, **gamification** has proved to be an effective way to discuss the future preparedness of law enforcement for climate change. Notably, the Pakistan National Police Bureau has partnered with COMSATS University Islamabad to improve awareness through gamification. They used a card game-based approach known as the **Climate Collage Workshop**, to create a participatory and active discussion on the emerging role of law enforcement agencies in the context of climate change;
- The development of an **internal impact assessment** evaluating current and future implications and risks related to climate change may constitute a valuable exercise to raise awareness within law enforcement agencies. In addition, the assessment would enhance the **understanding of what climate change means concretely** for law enforcement, which may eventually lead police officers and senior police leaders to **rank climate change implications high in the agenda**.

6.2 Addressing the nexus between climate change and crime

- Due to the growing relevance of the nexus between climate change and crime, law enforcement agencies should **reinforce their efforts** to tackle existing and emerging threats that such nexus entails;
- A **deep understanding** of the latest evolutions of the criminal landscape driven by climate change effects will be crucial to **enhance policing capabilities to investigate environmental crimes**, as well as to develop **appropriate and effective prevention strategies**;
- The **adoption and use of technological devices** such as image satellites and drones might facilitate the **detection** of crimes harming the environment, as the ones driving deforestation, as well as providing **solid evidence** in the courts. Accompanying the introduction of technological tools with **tailored training sessions** will be crucial to enable the police workforce to fully and successfully implement their use;
- Considering the transnational component that environmental crimes often present, the **collaboration across countries** will constitute an asset in the fight against these crimes.

6.3 Transitioning towards green policing

- Law enforcement agencies will be called to do their part in preventing the escalation of climate change, namely by adopting more environmentally friendly and sustainable models of policing in daily operations and transiting towards a green model of policing;
- For instance, in 2019 Scotland became the first country in the world to declare a **climate emergency**, legally committing to achieving net zero greenhouse gas emissions by 2045. As a result, in 2021 Police Scotland launched its **first Environmental Strategy**, committing to reducing CO2 emissions by a further 35 per cent by 2026, improving biodiversity and supporting colleagues to work more sustainably: <https://www.scotland.police.uk/spa-media/uzhblrhq/environmental-strategy.pdf>;



Source: Police Scotland Environmental Strategy 2021

- “Greening” policing will likely require a multi-dimensional approach, including for example:
 - Using **more energy-efficient appliances and measures**;
 - Shifting to **paperless and virtual models**;
 - Prioritizing **green procurement**;
 - **Co-locating** with public and third sector partners;
 - Promoting **new mindsets** across the organization;³⁷
- The green transition will also be extended to the **operational side of policing**, with the adoption of electric and sustainable vehicles. For example, Police Scotland recently loaned a **high-performance, fully recycled, and reusable boat** for its maritime operations;³⁸
- **Innovation** will be an important factor to facilitate green policing. For example, innovative actions might be adopted to implement a **circular economy**, in order to minimize or avoid any waste and therefore contribute to the transition towards a greener police force;³⁹
- **The adoption of green models within police agencies, as well as the implementation of innovative solutions to transit to a green model of policing, might also require a dedicated economical investment, which might constitute a further obstacle to such implementation.**

Weak signal from law enforcement

Dubai Police has committed to being the first police force to become **carbon neutral**. To achieve this objective, it is measuring and reducing its emissions, as well as raising employee awareness through ‘Carbon Champions’. It is also **transforming its fleet** to prioritize more environmentally friendly vehicles like electric cars.

- **Given their role as one of the largest public sector employers, could other law enforcement agencies increasingly be asked to follow suit?**
- **And could “greening” policing make it a more attractive profession for younger generations?**

³⁷ See for example the detailed list of recommended actions to achieve green policing prepared for the Vancouver Police Department: [Green Policing \(ubc.ca\)](https://www.ubc.ca/green-policing)

³⁸ [Boat project joins Dive and Marine Unit](#)

³⁹ For more information on the concept of circular economy see: [Circular Economy and Material Value Chains](#)

7. THE ROLE OF INTERPOL: STRENGTHENING INTERNATIONAL COLLABORATION AND GLOBAL AWARENESS

- Although the impact of climate change will vary from country to country, there is a need to **approach this issue globally** – notably in relation to the prevention, detection, investigation and disruption of crimes that affect the environment;
- For instance, during the STRATalks session on 19 May 2022, a representative of INTERPOL's Environmental Security Programme (ENS), explained that **coordinated, multi-agency cooperation is crucial to tackling crimes harming the environment**, such as illicit fisheries, wildlife trafficking, illegal mining and pollution;
- Significantly, **collaboration** is strongly needed in all of the aforementioned stages, not just between international and national law enforcement organizations, but also with actors such as **environmental agencies, NGOs, civil society, the private sector**, etc.;
- INTERPOL should leverage its role as a **global connector** to encourage such collaboration. ENS' successful partnerships with external stakeholders such as The International Consortium on Combating Wildlife Crime (ICWC) or the Law Enforcement Assistance Programme (LEAP) of the United Nations Office on Drugs and Crime (UNODC) are a tangible example of this. Nevertheless, INTERPOL should also promote spaces and occasions to **share experiences** and provide **useful insights** on the topic of climate change in its relation to law enforcement;
- At the same time, INTERPOL should continue to actively contribute to **increasing global awareness** of the implications of climate change on law enforcement both internally, going beyond the Environmental Security Programme and reaching the other departments, and across its member countries.



Many different actors are required to effectively combat crimes that harm the environment.

Extracted from the presentation of a representative of INTERPOL's Environmental Security Programme on 19 May 2022.

8. CONCLUSION

The scientific data shows that the physical effects of **climate change** are already **impacting societies** around the world and will continue to do so in the coming decades. Similarly, climate change is offering **new opportunities for criminal actors**, who are already exploiting sustainable measures to mitigate climate change effects for their illegal activities, as well as adapting their existing criminal operations to changing environmental conditions.

Law enforcement will have to find **innovative ways** to prevent and tackle such criminal activities and prepare for the intensifying impact of climate change. Although climate change seems to be a remote emergency, police officers will soon be called to be **first responders** to increasing numbers of climate change-related social and natural crises. This will entail the emergence of **new policing functions** that will require the development and acquisition of **new capabilities** in order to be fulfilled.

Therefore, **promptly including climate change in law enforcement local and international policing agendas** has become an urgent and crucial action to effectively respond to climate change-related disasters and issues. Moreover, it would be advisable for policing agencies to **adopt green practices** in their everyday working activities and operations in order to help contain the effects of climate change.

Leveraging its role as a **global connector** and **trusted knowledge** hub for law enforcement, **INTERPOL** should promote **awareness** of the implications of climate change for police, as well as **provide general guidelines** on how to include green practices in the Organization. Addressing this topic on a global level would eventually encourage local and national law enforcement agencies to enhance their discussion around it.

By summarizing the latest scientific evidence and presenting findings from a preliminary Global Horizon Scanning process conducted by the INTERPOL Innovation Centre, this Background Paper aspires to move the discussion forward and contribute to future preparedness, but further research is warranted.

APPENDIX: SUMMARY TABLE OF THE NEXUS BETWEEN CLIMATE CHANGE, CRIME AND POLICING

CLIMATE CHANGE EFFECTS	IMPACTS ON THE CRIMINAL LANDSCAPE	IMPLICATIONS FOR LAW ENFORCEMENT
Increasing frequency of natural disasters (including droughts, severe fires, flooding, catastrophic storms and other extreme weather events)	<ul style="list-style-type: none"> - Growing incidence of non-violent crime. - Longer-term increases in crime rates, most notably in property crime and domestic abuse. 	<ul style="list-style-type: none"> - More frequent call to respond to natural disasters and crises (supporting evacuations; aiding recovery efforts; identifying missing persons, theft, plundering; and mitigating local fights). - Increasing presence of police on the frontlines as first responders. - Expansion of policing tasks, and capabilities required to effectively fulfil them.
	<ul style="list-style-type: none"> - Environmental crimes intensify climate change and undermine mitigation efforts. 	<ul style="list-style-type: none"> - Scaling up of legislative and law enforcement efforts against criminal activities contributing to climate change (for example, legally introducing the crime of ecocide). - New prioritization of older crimes that contribute to the exacerbation of the effect of climate change.
Resource scarcity	<ul style="list-style-type: none"> - Rise in organized criminal groups who exploit resource scarcity for economical profits. 	<ul style="list-style-type: none"> - Expansion of policing domain, including natural resources, natural areas, plants, wildlife, and fishing.
Ice melting in the Arctic	<ul style="list-style-type: none"> - New shipping routes. - Opening of free trade ports. - New opportunities for illegal mining. - Enhancing the risk of illegal, unreported and unregulated (IUU) fishing. 	<ul style="list-style-type: none"> - Expansion of the territory to police and consideration when investigating criminal networks and illicit activities.
Exacerbation of forest fires	<ul style="list-style-type: none"> - Forest fires are often set deliberately with the aim of clearing the area to settle agricultural or cattle activities. 	<ul style="list-style-type: none"> - Enhancing awareness of the rising and evolving connection between the arson of forests and criminal activities to facilitate police officers in the investigation of such crimes, as well as the implementation of effective preventative strategies.
Rising sea levels	<ul style="list-style-type: none"> - Increasing IUU fishing. - Impact on the incidence of piracy. 	<ul style="list-style-type: none"> - Growing importance of maritime policing units.

CLIMATE CHANGE EFFECTS	IMPACTS ON THE CRIMINAL LANDSCAPE	IMPLICATIONS FOR LAW ENFORCEMENT
Serious and unexpected impacts on species (i.e. abundance, genetic composition, behaviour and survival)	- Expansion of wildlife trafficking.	- Negative impact on existing law enforcement efforts. - Adjustment of the boundaries of protected areas. - Increase in the number of species subjected to trade bans.
Climate-induced migration flows	- Increasing dynamics of human trafficking	- New challenges for border security and checks.
Mitigation measures	- Providing opportunities for new forms of crimes (i.e. carbon credit fraud)	- Detection and reporting of offences related to mitigation measures. - Police and protect new systems and infrastructures.

The views expressed in this Background Paper do not constitute the official position of INTERPOL.



For questions or feedback regarding this Background Paper, please contact INTERPOL Innovation Centre at FFL@interpol.int