



EUROPEAN COMMISSION

# CLIMATE CHANGE AND INTERNATIONAL SECURITY

**Paper from the High Representative and the  
European Commission to the European Council**

# CLIMATE CHANGE AND INTERNATIONAL SECURITY

Paper from the High Representative\* and the European Commission to the European Council

## INTRODUCTION



*\* Mr Javier SOLANA MADARIAGA, Secretary General of the Council of the European Union and EU High Representative for the Common Foreign and Security Policy*

The risks posed by climate change are real and its impacts are already taking place. The UN estimates that all but one of its emergency appeals for humanitarian aid in 2007 were climate related. In 2007 the UN Security Council held its first debate on climate change and its implications for international security. The European Council has drawn attention to the impact of climate change on international security and in June 2007 invited the High Representative and the European Commission to present a joint report to the European Council in Spring 2008.

The science of climate change is now better understood. The findings of the Intergovernmental Panel on Climate Change demonstrate that even if by 2050 emissions would be reduced to below half of 1990 levels, a temperature rise of up to 2°C above pre-industrial levels will be difficult to avoid. Such a temperature increase will pose serious security risks that





would increase if warming continues. Unmitigated climate change beyond 2°C will lead to unprecedented security scenarios as it is likely to trigger a number of tipping points that would lead to further accelerated, irreversible and largely unpredictable climate changes. Investment in mitigation to avoid such scenarios, as well as ways to adapt to the unavoidable should go hand in hand with addressing the international security threats created by climate change; both should be viewed as part of preventive security policy.

Climate change is best viewed as a threat multiplier which exacerbates existing trends, tensions and instability. The core challenge is that climate change threatens to overburden states and regions which are already fragile and conflict prone. It is important to recognise that the risks are not just of a humanitarian nature; they also include political and security risks that directly affect European interests. Moreover, in line with the concept of human security, it is clear that many issues related to the impact of climate change on international security are interlinked requiring comprehensive policy responses. For example, the attainment of the Millennium Development Goals would be at considerable risk because climate change, if unmitigated, may well wipe out years of development efforts.

This report focuses on the impact of climate change on international security and considers the impact of these international security consequences for Europe's own security, and how the EU should respond.

The EU is in a unique position to respond to the impacts of climate change on international security, given its leading role in development, global climate policy and the wide array of tools and instruments at its disposal. Moreover, the security challenge plays to Europe's strengths, with its comprehensive approach to conflict prevention, crisis management and post-conflict reconstruction, and as a key proponent of effective multilateralism.





The European Security Strategy recognised the link between global warming and competition for natural resources while the Communication “Europe in the World” highlighted the effects of globalisation on external relations.

The report considers how the full range of EU instruments, including Community and CFSP/ESDP action, can be used alongside mitigation and adaptation policies to address the security risks. It also considers the implications for the intensification of political dialogue with third countries. A post-2012 agreement has to be developed by the end of 2009 and all levers of EU foreign relations must work towards this end.

The report concludes that it is in Europe’s self interest to address the security implications of climate change with a series of measures: at the level of the EU, in bilateral relations and at the multilateral level, in mutually supportive ways.

Although this report addresses the impact of climate change on international security, the EU’s response will be conditioned by the impact of climate change on Europe itself. Climate change will heavily affect Europe’s natural environment and nearly all sections of society and the economy.





# THREATS

The effects of climate change are being felt now: temperatures are rising, icecaps and glaciers are melting and extreme weather events are becoming more frequent and more intense. The following section outlines some of the forms of conflicts driven by climate change which may occur in different regions of the world.

## i) Conflict over resources

Reduction of arable land, widespread shortage of water, diminishing food and fish stocks, increased flooding and prolonged droughts are already happening in many parts of the world. Climate change will alter rainfall patterns and further reduce available freshwater by as much as 20 to 30% in certain regions. A drop in agricultural productivity will lead to, or worsen, food-insecurity in least developed countries and an unsustainable increase in food prices across the board. Water shortage in particular has the potential to cause civil unrest and to lead to significant economic losses, even in robust economies. The consequences will be even more intense in areas under strong demographic pressure. The overall effect is that climate change will fuel existing conflicts over depleting resources, especially where access to those resources is politicised.

## ii) Economic damage and risk to coastal cities and critical infrastructure

It has been estimated that a business as usual scenario in dealing with climate change could cost the world economy up to 20% of global GDP per year, whereas





the cost of effective concerted action can be limited to 1%. Coastal zones are the home of about one fifth of the world's population, a number set to rise in the years ahead. Mega-cities, with their supporting infrastructure, such as port facilities and oil refineries, are often located by the sea or in river deltas. Sea-level rise and the increase in the frequency and intensity of natural disasters pose a serious threat to these regions and their economic prospects. The East coasts of China and India as well as the Caribbean region and Central America would be particularly affected. An increase in disasters and humanitarian crises will lead to immense pressure on the resources of donor countries, including capacities for emergency relief operations.

### iii) Loss of territory and border disputes

Scientists project major changes to the landmass during this century. Receding coastlines and submergence of large areas could result in loss of territory, including entire countries such as small island states. More disputes over land and maritime borders and other territorial rights are likely. There might be a need to revisit existing rules of international law, particularly the Law of the Sea, as regards the resolution of territorial and border disputes. A further dimension of competition for energy resources lies in potential conflict over resources in Polar regions which will become exploitable as a consequence of global warming. Desertification could trigger a vicious circle of degradation, migration and conflicts over territory and borders that threatens the political stability of countries and regions.





#### iv) Environmentally-induced migration

Those parts of the populations that already suffer from poor health conditions, unemployment or social exclusion are rendered more vulnerable to the effects of climate change, which could amplify or trigger migration within and between countries. The UN predicts that there will be millions of «environmental» migrants by 2020 with climate change as one of the major drivers of this phenomenon. Some countries that are extremely vulnerable to climate change are already calling for international recognition of such environmentally-induced migration. Such migration may increase conflicts in transit and destination areas. Europe must expect substantially increased migratory pressure.

#### v) Situations of fragility and radicalization

Climate change may significantly increase instability in weak or failing states by over-stretching the already limited capacity of governments to respond effectively to the challenges they face. The inability of a government to meet the needs of its population as a whole or to provide protection in the face of climate change-induced hardship could trigger frustration, lead to tensions between different ethnic and religious groups within countries and to political radicalisation. This could destabilise countries and even entire regions.

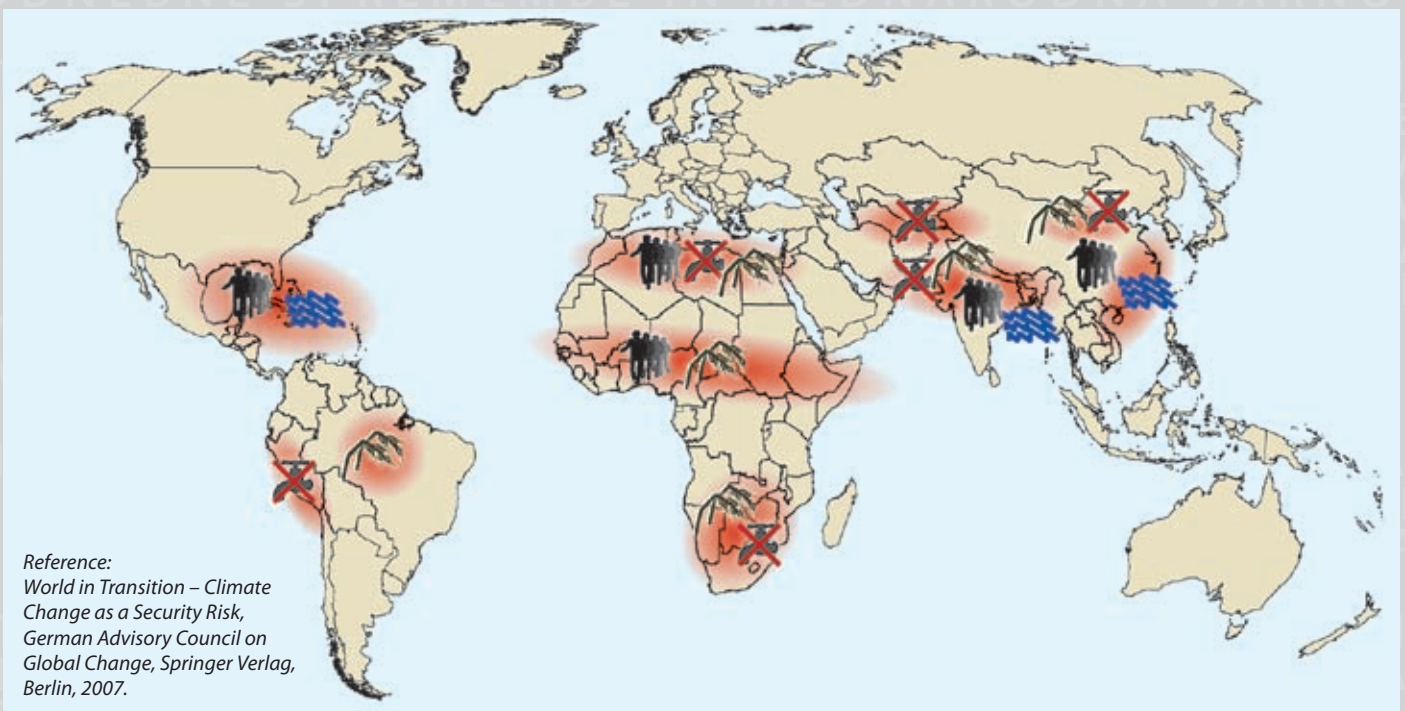


### vi) Tension over energy supply

One of the most significant potential conflicts over resources arises from intensified competition over access to, and control over, energy resources. That in itself is, and will continue to be, a cause of instability. However, because much of the world's hydrocarbon reserves are in regions vulnerable to the impacts of climate change and because many oil and gas producing states already face significant social economic and demographic challenges, instability is likely to increase. This has the potential to feed back into greater energy insecurity and greater competition for resources. A possible wider use of nuclear energy for power generation might raise new concerns about proliferation, in the context of a non-proliferation regime that is already under pressure. As previously inaccessible regions open up due to the effects of climate change, the scramble for resources will intensify.

### vii) Pressure on international governance

The multilateral system is at risk if the international community fails to address the threats outlined above. Climate change impacts will fuel the politics of resentment between those most responsible for climate change and those most affected by it. Impacts of climate mitigation policies (or policy failures) will thus drive political tension nationally and internationally. The potential rift not only divides North and South but there will also be a South - South dimension particularly as the Chinese and Indian share of global emissions rises. The already burdened international security architecture will be put under increasing pressure.



#### Conflict constellations in selected hotspots



Climate induced degradation of freshwater resources



Climate induced decline in food production



Hotspot

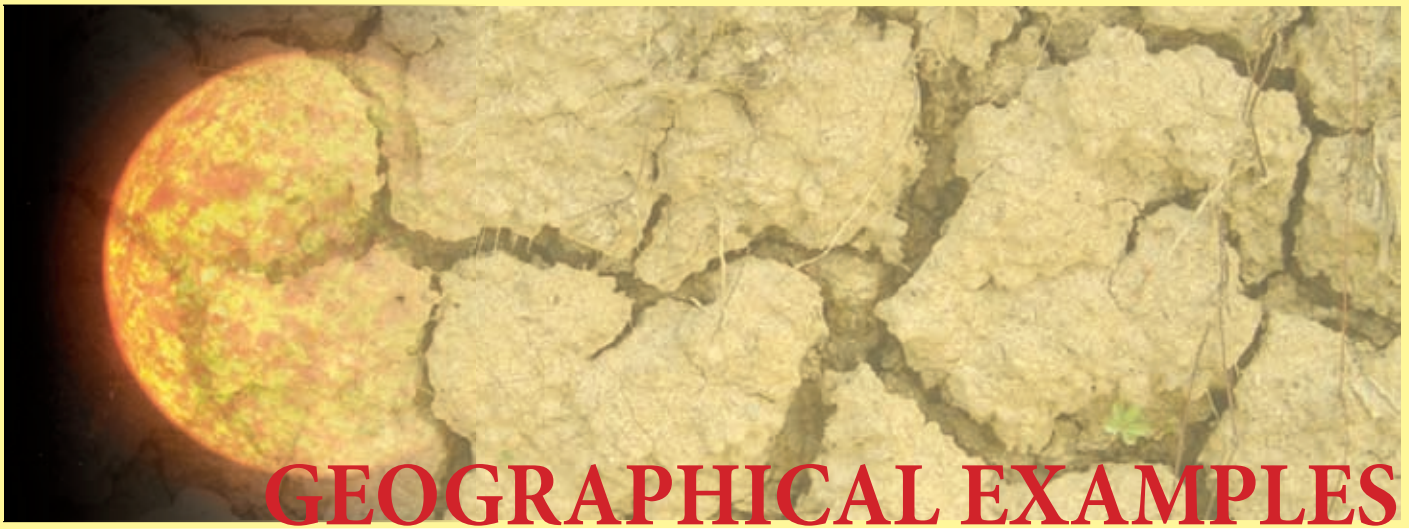


Climate induced increase in storm and flood disasters



Environmentally induced migration





## GEOGRAPHICAL EXAMPLES

In many regions, climate change is fuelling one or more of the threats identified above. The following sections illustrate how climate change is multiplying existing pressures in various regions around the world. Since the EU's neighbours include some of the most vulnerable regions to climate change, e.g. North Africa and the Middle East, migratory pressure at the European Union's borders and political instability and conflicts could increase in the future. This could also have a significant impact on Europe's energy supply routes.

### 1. Africa



Africa is one of the continents most vulnerable to climate change because of multiple stresses and low adaptive capacity. In North Africa and the Sahel, increasing drought, water scarcity and land overuse will degrade soils and could lead to a loss of 75% of arable, rain-fed land. The Nile Delta could be at risk from both sea-level rise and salinisation in agricultural areas while 12 to 15% of arable land could be lost through sea-level rise in this century with 5 million people affected by 2050. Already today, climate change is having a major impact on the conflict in and around Darfur. In the Horn of Africa reduced rainfall and increasing temperatures will have a significant negative impact on a region highly vulnerable to conflict. In southern Africa, droughts are contributing to poor harvests, leading to food insecurity in several areas with millions of people expected to face food shortages. Migration in this region, but also migration from other regions through Northern Africa to reach Europe (transit migration) is likely to intensify. In Africa, and elsewhere, climate change is expected to have a negative effect on health, in particular due to the spread of vector-borne diseases further aggravating tensions.

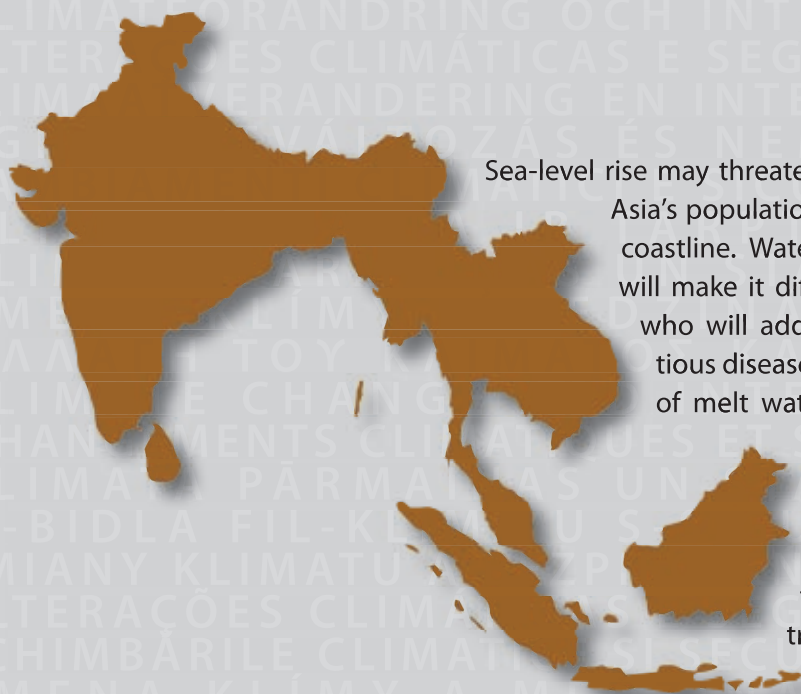
## 2. Middle East

Water systems in the Middle East are already under intense stress. Roughly two-thirds of the Arab world depends on sources outside their borders for water. The Jordan and Yarmuk rivers are expected to see considerable reduction in their flows affecting Israel, the Palestinian territories and Jordan. Existing tensions over access to water are almost certain to intensify in this region leading to further political instability with detrimental implications for Europe's energy security and other interests. Water supply in Israel might fall by 60% over this century. Consequently, a significant drop in crop yields is projected for an area that is already largely arid or semi-arid. Significant decreases are expected to hit Turkey, Iraq, Syria and Saudi Arabia and thus affect stability in a vitally strategic region for Europe.



## 3. South Asia

Sea-level rise may threaten the habitat of millions of people as 40% of Asia's population (almost 2 billion) lives within 60km from the coastline. Water stress and loss of agricultural productivity will make it difficult for Asia to feed its growing population who will additionally be exposed to an increase of infectious diseases. Changes in the monsoon rains and decrease of melt water from the Himalayas will affect more than 1 billion people. Conflicts over remaining resources and unmanaged migration will lead to instability in a region that is an important economic partner of Europe with factors of production and distribution concentrated along vulnerable coastlines.





## 4. Central Asia

Central Asia is another region severely affected by climate change. An increasing shortage of water, which is both a key resource for agriculture and a strategic resource for electricity generation, is already noticeable. The glaciers in Tajikistan lost a third of their area in the second half of the 20th century alone, while Kyrgyzstan has lost over a 1000 glaciers in the last four decades. There is thus considerable additional potential for conflict in a region whose strategic, political and economic developments as well as increasing trans-regional challenges impact directly or indirectly on EU interests.



## 5. Latin America and the Caribbean

In drier areas of Latin America climate change will lead to salinisation and desertification of agricultural land and to decreasing productivity of important crops and livestock. This will have adverse consequences for food security. Sea-level rise is projected to cause increased risk of flooding in low-lying areas. Increases in sea surface temperature due to climate change are projected to have adverse effects on coral reefs, and cause shifts in the location of fish stocks. Latin American and Caribbean countries are already subject to the detrimental effects, including many extreme events, associated with the El Niño cycle. Changes in rainfall patterns and the disappearance of glaciers are projected to significantly affect water availability for human consumption, agriculture and energy generation, for example in the Andes region. Countries in the Caribbean and the Gulf of Mexico are already increasingly affected by major hurricanes. This will be further exacerbated by climate change and result in social and political tensions in a region with often weak governance structures.



## 5. Climate

The rapid melting of the polar ice caps, in particular, the Arctic, is opening up new waterways and international trade routes. In addition, the increased accessibility of the enormous hydrocarbon resources in the Arctic region is changing the geo-strategic dynamics of the region with potential consequences for international stability and European security interests. The resulting new strategic interests are illustrated by the recent planting of the Russian flag under the North Pole. There is an increasing need to address the growing debate over territorial claims and access to new trade routes by different countries which challenge Europe's ability to effectively secure its trade and resource interests in the region and may put pressure on its relations with key partners.



Cape Morris Jesup, Greenland © Kurt H. Kjær, RINK project, University of Copenhagen





**T**he impact of climate change on international security is not a problem of the future but already of today and one which will stay with us. Even if progress is made in reducing the emissions of greenhouse gases, weather patterns have already changed, global temperatures have already risen and, above all, climate change is already being felt around the globe.

The active role of the EU in the international climate change negotiations is vital and must continue. The EU has demonstrated leadership both in international negotiations, in particular by advocating the 2°C target, and with its far-reaching decisions on domestic climate and energy policies. Yet, the EU cannot act alone. In a changing international political landscape, major emitters and emerging economies will also have to be engaged and commit to an ambitious global climate agreement under the UN framework.

In the EU's response, special consideration needs to be given to the US, China and India and what the implications mean for the EU's long term relations with Russia. The recommendations below should be complemented by further studies and followed up by coherent EU action plans, aiming at addressing the different dimensions of the responses required to address the impact of climate change on international security in a comprehensive and effective manner. The upcoming examination of the implementation of the European Security Strategy, and as appropriate proposals to complement it, should take account of the security dimension of climate change.

#### **Enhancing capacities at the EU level**

A first step to address the impact of climate change on international security should be to build up knowledge and assess the EU's own capacities, followed by an improvement in the prevention of, and preparedness for early responses to, disasters and conflicts. Financial implications for such responses should be identified and also be considered in the EU's budget review.

Possible actions that could be developed include:

- Intensify EU capacities for research, analysis, monitoring and early warning and Watch Lists including the Institute for Security Studies, the EU Satellite Centre (EUSC), the EU Joint Situation Centre (SITCEN), the EU Network of Energy Correspondents (NESCO), the Global Monitoring for Environment and Security and Joint Research Centres. Monitoring and early warning needs to include in particular situations of state fragility and political radicalisation, tensions over resources and energy supplies, environmental and socio-economic stresses, threats to critical infrastructures and economic assets, border disputes, impact on human rights and potential migratory movements.
- Further build up EU and Member State planning and capabilities including civil protection and the use of crisis management and disaster response instruments (civil and military) to contribute to the response to the security risks posed by climate change.
- Commission further work to look, region-by-region, in more detail at what the security implications are likely to be and how they will affect EU interests.

### **EU multilateral leadership to promote global climate security**

Climate change is a key element of international relations and will be increasingly so in the coming years, including its security dimension. If recognised, it can even become a positive driver for improving and reforming global governance. As it is a global problem, the EU is advocating a multilateral response. Building on the successful Bali conference in Dec 2007 the EU needs to continue and strengthen its leadership towards an ambitious post-2012 agreement in 2009, including both mitigation and adaptation action by all countries as a key contribution to addressing climate security.

Possible actions that could be developed include:

- Focus attention on the security risks related to climate change in the multilateral arena; in particular within the UN Security Council, the G8 as well as the UN specialised bodies (among others by addressing a possible need to strengthen certain rules of international law, including the Law of the Sea).





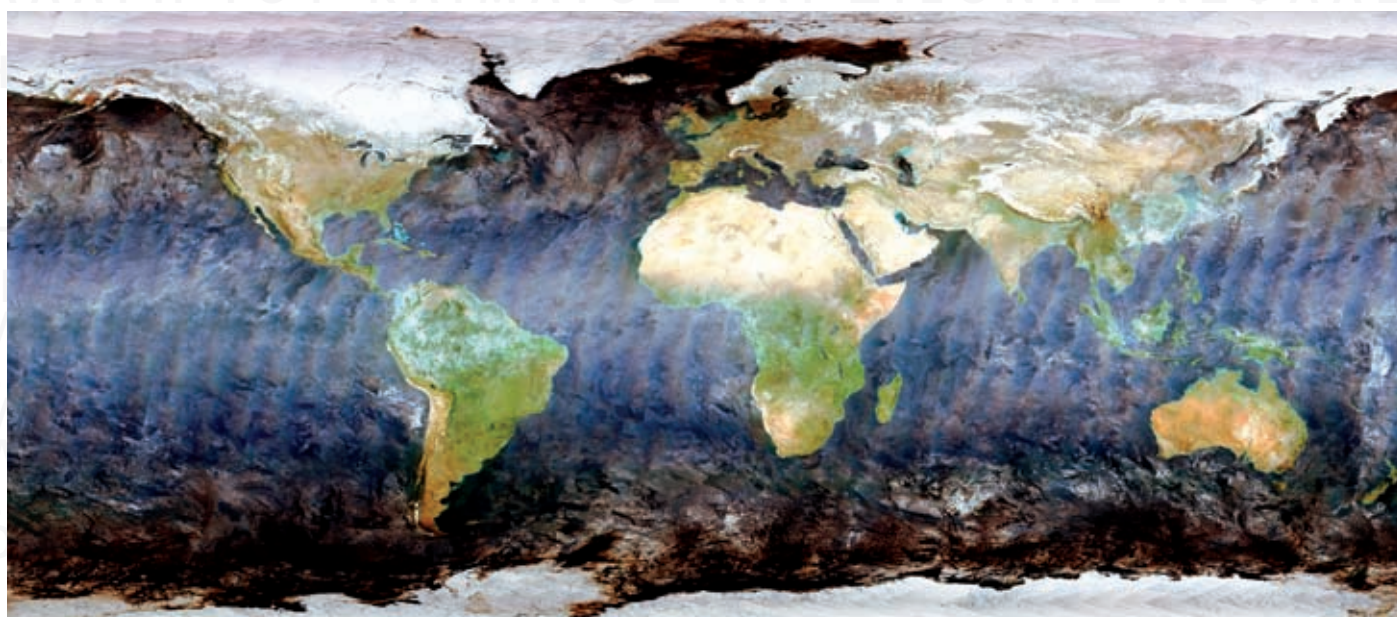
- Enhance international cooperation on the detection and monitoring of the security threats related to climate change, and on prevention, preparedness, mitigation and response capacities. Promote the development of regional security scenarios for different levels of climate change and their implications for international security.
- Consider environmentally-triggered additional migratory stress in the further development of a comprehensive European migration policy, in liaison with all relevant international bodies.

### Cooperation with third countries

Climate change calls for revisiting and reinforcing EU cooperation and political dialogue instruments, giving more attention to the impact of climate change on security. This could lead to greater prioritisation and enhanced support for climate change mitigation and adaptation, good governance, natural resource management, technology transfer, trans-boundary environmental cooperation (inter alia water and land), institutional strengthening and capacity building for crisis management.

Possible actions that could be developed include:

- Further integrate adaptation and resilience to climate change into EU regional strategies (for example Northern Dimension, European Neighbourhood Policy, EU-Africa Strategy, Barcelona Process, Black Sea Synergy, EU-Central Asia Strategy, Middle East action plan). Special attention should be given to the most vulnerable regions and potential climate security hot spots. The Global Climate Change Alliance between the EU and the most vulnerable developing countries should be built upon.
- Develop an EU Arctic policy based on the evolving geo-strategy of the Arctic region, taking into account i.a. access to resources and the opening of new trade routes.
- Examine the security implications of climate change in dialogue with third countries including through the sharing of analyses.





EUROPEAN COMMISSION

[www.europa.eu](http://www.europa.eu)

QC-81-08-248-EN-C

ISBN 978-92-824-2334-9



10.2860/50106