

# ASSESSING THE EVIDENCE: MIGRATION, ENVIRONMENT AND CLIMATE CHANGE IN IRELAND

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## ASSESSING THE EVIDENCE: MIGRATION, ENVIRONMENT AND CLIMATE CHANGE IN IRELAND

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CFRAM	National catchment flood risk assessment and management
CRED	Centre for Research on the Epidemiology of Disasters, Belgium
CSO	Central Statistics Office
DAFM	Department of Agriculture, Food and the Marine
DECC	Department of Environment, Climate and Communications
DCCAE	Department of the Communications, Climate Action and Environment
DJE	Department of Justice & Equality
DOS	Department of Operational Support
DRM	Disaster risk management
DRR	Disaster risk reduction
EEA	European Economic Area
EGD	European Green Deal
EPA	Environmental Protection Agency
EU	European Union
FAO	Food and Agriculture Organization
F2F	Farm to Fork Strategy
GDP	Gross domestic product
GHG	Greenhouse gas
GSI	Geological Survey Ireland
HDI	Human Development Index
ICT	Information and communications technology
IDMC	Internal Displacement Monitoring Centre
IHDI	Inequality-adjusted human development index
INDC	Intended Nationally Determined Contribution
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
IPO	International Protection Office
IRPP	Irish Refugee Protection Programme
ITIC	Irish Tourism Industry Confederation
MECC	Migration, environment and climate change
MGI	Migration Governance Indicators
NAF	National Adaptation Framework
NCDA	National Dialogue on Climate Action
NDC	Nationally Determined Contribution
NRA	National Risk Assessment
OPW	Office of Public Works
PUP	Pandemic Unemployment Payment
SDG	Sustainable Development Goal
SFI	Science Foundation Ireland
SLR	Sea level rise
SST	Sea surface temperature
UN	United Nations
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNFCCC	United Nations Framework Convention on Climate Change
UNHCR	United Nations High Commissioner for Refugees
UNWTO	World Tourism Organization

The well-being and security of populations worldwide continues to be challenged and diminished by anthropogenic climate change and environmental degradation. As these risks amplify, vulnerable populations are exposed to increased harm. Growing numbers of people are migrating temporarily, circularly or permanently in response to environmental shocks and stresses, including those caused by climate change. The rates of human displacement remain consistently high, particularly for sudden-onset hazards. For example, in 2020, 30.7 million new disaster displacements were recorded, mainly due to the weather-related disasters involving floods and storms (IDMC, 2021). This figure does not however include displacement driven by slow-onset hazards or other forms of migration: indeed, while the extent to which global climate change is influencing human migration patterns is poorly understood, the potential links are well recognized. Global recognition of such linkages has led to an increasing prominence of migration in climate change discourse. The Intergovernmental Panel on Climate Change (IPCC) Working Group II (WGII), the United Nations Framework Convention on Climate Change (UNFCCC), the Sendai Framework for Disaster Risk Reduction and the Global Compact for Migration have anchor text on migration in the context of climate change. These frameworks have helped guide the evidence and recommendations outlined in this report.

Ireland is the first European country to prepare an IOM Migration, Environment and Climate Change Country Profile. The role of this IOM MECC Country Profile is to draw attention to changing migration patterns in Ireland in the context of a warming planet and increasing environmental degradation. This Profile aims to inform and encourage the Irish Government, policymakers and relevant stakeholders to consider key challenges and opportunities arising from the “migration, environment and climate change” (MECC) nexus in Ireland. Engagements with the MECC nexus can be interwoven into policies and plans for enabling more effective planning and support towards migrants and others who are vulnerable to climate stresses because of where they live, their livelihoods, their demographics or other factors that contribute to deteriorated resilience. This report contributes to the knowledge and advocacy base on the MECC nexus in Ireland, while highlighting research and policy gaps.

Section I of this report relates Ireland’s demographic, economic and environmental context to the MECC nexus. Section II provides an overview of sudden- and slow-onset environmental and climate hazards that are or will impact Ireland, together with associated migration challenges and opportunities. A vulnerability analysis considers risks to different sectors, livelihoods, socioeconomic groups, demographics and locations, again noting how these may alter migration patterns within and into the country. Section III finalizes the report via a two-pronged approach: an analysis of the existing and emerging policy frameworks of Ireland, the EU and the UN and their relevance to the MECC nexus; and recommendations for policymaking and further research, based on identified good practices that address current policy silos and knowledge gaps.

This report finds that major climate impacts on Ireland, including increased temperatures, droughts, floods, extreme storms and sea level rise, will leave numerous communities increasingly vulnerable. Most of Ireland’s population resides in coastal zones whose long-term sustainability is threatened. Socioeconomic and demographic indicators will determine the extent of vulnerabilities to these risks. However, as Ireland currently has comparatively low risks stemming from climate change, this report also emphasizes advantages and opportunities for Ireland to build upon, to strengthen climate resilience, better support communities most vulnerable and improve understanding of the advantages of human mobilities and of those who are on the move. Supported by the findings, this IOM Country Profile provides recommendations for strengthening national responses that recognize and respond to rising uncertainties regarding human mobility in response to climatic and environmental changes in Ireland.

# KEY MESSAGES FROM ASSESSING THE EVIDENCE: MIGRATION, ENVIRONMENT AND CLIMATE CHANGE IN IRELAND

- Although hotter temperatures, droughts, flooding and severe storms are currently being felt more intensely elsewhere, Ireland is already beginning to feel the impacts of climate change. To a certain extent, Ireland is exposed to damage from extreme weather events and gradual changes resulting from a warmer climate.
- Some examples of these impacts on Irish communities, economies, critical infrastructure and livelihoods include:
  - Estimates in 2015 indicated that 85,000 properties, 70,000 of which are residential, are considered at risk from flooding in Ireland (OPW, 2015).
  - Sea-level scenario studies from 2012 have indicated that a 0.5 m rise in sea levels would leave over 6,000 vulnerable addresses in Cork, 5,000 in Dublin and 500 in Galway (Flood and Sweeney, 2012).
  - Ireland is already experiencing coastal recession, with beaches and dunes retreating. Approximately 20 per cent of Ireland's coast is at risk of coastal erosion, although the rate of recession depends on the location (Flood and Sweeney, 2012).
- However, the effects of climate and environmental changes are disproportionately impacting different socioeconomic groups, demographics and locations unevenly.
- Based on climate change projections, many places may become unviable for the human communities in Ireland – notably in densely populated coastal areas.
- On the other hand, the comparative advantages of climate change for Ireland's agricultural and tourism industries holds potential to include opportunities, including for labour migrants – however there are still large knowledge gaps regarding this dimension of climate and mobility.

The capacity to manage these risks and capitalize on potential opportunities relies on a variety of strategies – including migration and uplifting the role of migrants.

To capture positive outcomes and harness the benefits that both internal and international migration stimulate, Ireland's planning processes and climate action strategies must work alongside migration policies and frameworks.

## THIS REPORT:

- Focuses on how disaster risk management and climate change adaptation could be facilitated through migration pathways.
- Stresses the importance of protecting vulnerable populations, including migrants and those socioeconomically disadvantaged or otherwise marginalized.
- Will assist policymakers, advocates, community members and other key stakeholders in both climate and migration fields in making well-informed, proactive planning decisions that increase Ireland's resilience to the current and future impacts associated with the climate crisis and growing environmental and resource degradation.

## 1. INTRODUCTION

Despite efforts to mitigate its impacts, climate change has exacerbated existing underlying drivers of vulnerability in populations worldwide while also producing new ones. According to the Sixth Assessment Report (AR6) of the Working Group II (WGI) of the Intergovernmental Panel on Climate Change (IPCC), climate change is increasingly driving displacement in all regions, a trend which will increase on account of heavy precipitation, flooding, tropical cyclones, drought and sea level rise (IPCC, 2022). The nexus between migration, environment and climate change is multidimensional, and affects different kinds of movement including disaster displacement, planned evacuation, changing pastoralist mobility patterns, labour migration and planned relocation strategies. Migration is also widely used as a risk-management strategy, especially in countries already significantly affected by climate change (Ionesco et al., 2017).

The diversity of migration as it relates to climate and environmental change, has not yet been extensively considered in Ireland. This IOM report is presented to put the movement of people in the context of climate change on the Irish policy agenda. Human migration must be supported by effective planning, with well-managed migration policies, frameworks and institutions that reinforce positive effects (e.g. planned evacuation, labour migration, anticipatory planned relocation with socioeconomic benefits) and minimize negative effects (e.g. damage to human welfare through processes of forced displacement or further degradation of the natural environment) (Warner et al., 2014). The Summary for Policymakers of the WGI report of the IPCC AR6 notes with high confidence that increased adaptive capacities minimize the negative impacts of climate-related displacement and involuntary migration, for both migrants and origin and destination areas (IPCC, 2022).

The increasingly interconnected web of migration spans socioeconomic, gendered, political, institutional and environmental dimensions, which are further influenced by the multifaceted risks of anthropogenic climate change and environmental degradation (IPCC, 2018, IPCC, 2021). However, despite growing research on these links, there are significant gaps and inconsistencies in understanding how climate and environmental risks interrelate with existing drivers and consequences of migration (Black et al., 2013, Ferris, 2020). The case for migration in response to both sudden- and slow- onset hazards is no longer just

a theory – people are already on the move (Piguet and Laczo, 2014). With the looming threats revealed by climate model projections and scenarios, exacerbating climate variability, environmental degradation and extreme weather events that are already disrupting human welfare and natural ecosystems worldwide, this trend will continue. A call for considering integrated approaches to avert, minimize and address displacement related to adverse impacts of climate change and issues around human migration in the formulation of national and subnational, policies, legislations and strategies is therefore prudent, pragmatic and a priority (UNFCCC, 2021).

The IPCC AR6 Working Group I (WGI) report has highlighted the most recent understandings of the state of the climate, with evidence that anthropogenic climate change has affected weather and climate patterns in every region globally. Clear warnings have been made for future shifts in the absence of robust, rapid reductions in GHG emissions, positive trends in land-use changes and reductions in the exploitation of natural resources (IPCC, 2021). To stress the urgency for mitigation and adaptation, it is highlighted that the climatic changes arising from GHG emissions can be irreversible for centuries to millennia, especially climatic changes impacting on the oceans, ice sheets and global sea levels (ibid.). These IPCC messages illustrate the importance of mainstreaming climate futures into all policy planning and implementation processes, sectors, and levels, including those associated with human migration. As climate observations and projections increase in severity, the precarious situations that many human populations currently face will continue to intensify, with some populations becoming victims of uninhabitable environments. This leads to the questions about how existing migration patterns may change, how migrants themselves may be subject to increased vulnerabilities (whether arising from exposure, sensitivity and/or changes in adaptive capacity), and how could migrants and their families play a role in climate change adaptation.

Some of the highest strategic priorities identified in the latest National Risk Assessment (NRA) released by the Government of Ireland<sup>1</sup> are: (i) the social risks of housing and sustainable development, (ii) migration and integration, and (iii) the environmental risks of climate change and extreme weather events and other natural hazards (Government of Ireland, 2021b). While these are categorized separately in the NRA, this IOM Migration, Environment and Climate Change (MECC) Profile recognizes various interlinkages between these strategic priorities and provides various perspectives for addressing them through an integrated approach. As identified in the NRA, “the European Commission has recommended that resilience should be a new compass for EU policies so that all member states are better prepared to deal with unexpected shocks or crises in the future” (ibid.). To respond to this recommendation, integrating the imminent challenges and opportunities associated with the migration, environment and climate change nexus will be an essential practice for resilience-building and strengthening in Ireland.

Ireland is the first European country to prepare an IOM MECC Profile. The role of this IOM MECC Country Profile is to draw attention to changing human migration patterns in Ireland in the context of a warming planet and increasing environmental degradation. It aims to inform and encourage the Irish Government, policymakers and relevant stakeholders to consider key challenges and opportunities arising from the interlinkages between MECC in Ireland. Engagements with the MECC nexus can be interwoven into policies and plans for more effective planning, and to support migrants and others who are vulnerable to climate stresses. This report contributes to the knowledge and advocacy on the MECC nexus in Ireland while highlighting research and policy gaps.

Section 1 sets the foundation for understanding Ireland’s context in relation to the MECC nexus. Section 2 provides an overview of observed and projected impacts of both sudden- and slow-onset environmental and climate hazards on Ireland. Throughout Section 3, potential challenges and opportunities that migration offers in the context of different circumstances are presented. Section 3 refers to a two-pronged approach: an analysis of existing and pending policy frameworks presented for their relevance to the MECC nexus, along with recommendations for policymaking and further research.

## 1.1. OBJECTIVES AND METHODOLOGY

### Objectives

The linkages between human migration, environment and climate change in Ireland are currently under-researched and not well understood, with key information scattered across a range of sectors and institutions – thus spurring the motivation for specifying these connections and consolidating relevant information. This IOM MECC Country Profile aims to clarify these interconnected relationships by presenting an overview of demographic and socioeconomic indicators, major vulnerabilities to climate and environmental risks and hazards, with consideration of policy frameworks relevant to such vulnerabilities and migration issues. Policy and information gaps are identified, along with suggestions and options for policy and research development. Guided by a holistic outlook on the MECC nexus, this report aims to encourage progress towards shared social and environmental goals through the lens of climate-migration relationships.

### Methodology

This IOM MECC Country Profile has been informed existing sources that discuss migration in the context of climate change and other environment shifts, and of the underlying causes of vulnerability in Ireland and globally. Some of the main sources of information include

(i) UN agencies (e.g. IOM, UNDRR, UNDP, UNHCR, UNFCCC); (ii) Irish Governmental departments (e.g. DAFM, DCCA/DECC, D.O.S, Teagasc, CSO, DOFA, DOS, Department of the Taoiseach, EPA Ireland, GSI Met Eireann, OPW); (iii) the European Commission and Eurostat; (vi) key reports on this topic such as *Foresight Report on Migration and Global Environmental Change* (Foresight, 2011), *People on the Move in a Changing Climate* (Piguet and Laczko, 2014), *the Atlas of Environmental Migration* (Ionesco et al., 2017) and the *World Migration Report* (IOM, 2019b and 2021c) and (v) other sources such as the IPCC, the World Bank and media coverage.

The framework of this MECC Country Profile was constructed following an examination of existing IOM MECC Country Profiles. Available literature and resources were used to understand links between the MECC nexus in Ireland, using global precedents such as those identified in previous IOM MECC Country Profiles and other projects such as Trans-Re in Thailand.<sup>2</sup> NVivo, a qualitative data analysis software, was used to collate, organize and annotate sources.

## 1.2. NATIONAL CONTEXT

As a result of the climate crisis and of ecosystem degradation, many landscapes that could once support human settlements and livelihoods, while providing natural resources, will no longer be viable. Ireland’s coastal communities, those living in high flood- and erosion-risk zones (Smith et al., 2021) or whose livelihoods depend on a stable climate will be particularly affected. It will be necessary to consider human migration among the actions that could be taken to avert or minimize climate impacts. A national knowledge base is therefore needed to support the Irish Government, planning authorities and other stakeholders, including affected communities themselves, to prepare for these migration challenges and opportunities.

### 1.2.a. Migration, environment and climate change in Ireland – Evidence from the past

Throughout human history, migration has been employed as a possible adaptation strategy in the face of environmental risks (Cattaneo et al., 2019). Thus, while the nexus between migration, the environment and climate is not new, the onset of anthropogenic climate change has made risks greater and more pervasive. Alongside population growth, this may mean more people on the move (Piguet and Laczko, 2014). Historic Irish migration is exemplified by the movement of Irish populations during and after past famines. The Oat Famine (1728–1729) has been regarded as a case of environmental migration (Engler et al., 2013), while migrations in response to other famines such as during the Great Frost (1740–1741) and the Irish Potato Famine/Great Irish Famine (1845–1852) are regarded as evidence for the role of human migration as a risk management strategy (ibid.; Engler and Werner, 2015) or disaster relief (Gráda and O’Rourke, 2006). Extreme climatic conditions served as partial drivers of the mass hunger, mortality and migration that manifested, shown by the correlation of peaks of Irish migration and harsh, unexpected weather conditions (Engler et al., 2013).

However, human migration is rarely mono-causal (Foresight, 2011). Indeed, Ireland’s migratory movements in response to these famines built upon existing demographic, social, political and economic stressors, with climatic and environmental stressors pushing an already vulnerable society into crisis (Engler and Werner, 2015). Broadly, the non-environmental conditions included conflicts arising from oppressive English colonial rule; political and religious influences; prevailing social inequalities, exclusion and discrimination; loss of job opportunities; rising food prices; the overwhelming presence of poverty; ill-equipped health-care structures; population growth and agricultural deficiencies (ibid.).

The predominant migration flows during and after these famine crises in Ireland were internal, and followed familiar rural to urban patterns, due to greater access to relief structures in urban settings (ibid.). However, international migration was also commonplace during the Great Irish Famine with many destinations such as the United States operating an open-door policy (ibid.). The potential for emigration – something less common in modern times where securitization of borders is increasingly the norm – played an indispensable role in curbing mortality rates, relieving pressures on local resources in Ireland and in the provision of social and monetary remittances for those left back home (Gráda and O’Rourke, 2006, Fernihough and Gráda, 2018). For example, the diminished demand for labour at home, due to the economic depression caused by famines, caused many Irish men to seek opportunities in England as seasonal harvesters, or other jobs in large cities such as London (Gráda and O’Rourke, 2006). Indeed, the knowledge transfer concerning agriculture across the Atlantic Ocean and back to Ireland may be acknowledged as a social remittance, as this expanded access to different risk management mechanisms and practices (ibid.).

The evaluation of these historic processes offers insights into how migration is used as a risk management strategy by vulnerable populations, and how environmental and climate adversities act as risk amplifiers. While these historic events do not resemble Ireland’s current conditions or susceptibility to famines, there are valuable insights to be taken from understanding how migration has served as a risk management strategy throughout history and may continue to do so as risks amplify in the age of the climate crisis and related environmental degradation, environmental injustice and rising inequality.

### 1.2.b. Demography

Human migration is one of many strategies utilized for responding to climate and environmental changes. Demographic indicators, such as education, sex, gender, age, disability and migrant status, are key factors that determine whether a person is able to decide how they will adapt to these changes, including whether a person will adopt migration as a response strategy as well as the choices involved regarding which family member would migrate. This overview aims to indicate how certain demographic indicators in Ireland may continue to play roles in shaping the nexus between migration, environment and climate change.

#### Gender and age

Gender is an important variable to consider when analyzing climate-related human mobilities (Rothe, 2017). Globally, women are more likely than men

<sup>1</sup> Available at: [www.gov.ie/en/consultation/10488-draft-national-risk-assessment-20212022-public-consultation/?referrer=http://www.gov.ie/en/publication/8670d-draft-national-risk-assessment-20212022-public-consultation/](http://www.gov.ie/en/consultation/10488-draft-national-risk-assessment-20212022-public-consultation/?referrer=http://www.gov.ie/en/publication/8670d-draft-national-risk-assessment-20212022-public-consultation/).

<sup>2</sup> Available at: [www.transre.org/](http://www.transre.org/).

to suffer death or loss of livelihoods as a result of climate-related disasters (United Nations Office in Belgium, 2020). The higher a women's socio-economic status, the weaker the gender gap in life expectancy – exemplifying how gender-specific vulnerability to climate change is embedded in socio-economic patterns and inequality (ibid.). While Ireland is indicated to have high equality in HDI achievements between women and men,<sup>3</sup> women in Ireland still earn on average 14.4 per cent less than men, roughly equal to the gender pay gap average of 15 per cent in EU Member States (Eurostat, 2020). At lower income levels, this may indicate less financial security and weak safety nets for women in circumstances of stress or shocks and may also contribute to a limited capacity to engage in migration. An EU submission to the UNFCCC COP26 on dimensions of the gender-differentiated impacts of climate change; the role of women as agents of change; and opportunities for women provides some guidance for Ireland on gender. For example, it recommends collecting more sex-disaggregated data on climate change impacts and citizens' attitudes towards climate change.<sup>4</sup>

Ageing population trends in the EU and Ireland are an additional factor of vulnerability that can influence how migration responds to climate change. The ageing population in Ireland is projected to grow at a faster rate than the working-age population, which would nearly double the old-age dependency ratio<sup>5</sup> by 2050 (Government of Ireland, 2021b). The projections of increased heat waves and overall warmer temperatures are well demonstrated to be especially dangerous for elderly populations. For instance, over the last two decades, 88 per cent of deaths from extreme temperatures that occurred in Europe were attributed to elderly populations (CRED and UNDRR, 2020, p.18). Older people are particularly vulnerable due to major risk factors including a lack of mobility and pre-existing medical conditions (Vandentorren et al., 2007, Oudin Åström et al., 2011). This limited mobility can subject older people to a greater risk of being trapped in precarious locations (IOM, 2020).

## Population and migration

The total population of Ireland is around 5,123,536 people (CSO, 2022b). As of 2022, an estimated 86.2 per cent of the population are Irish nationals, while 13.8 per cent are non-Irish nationals (CSO, 2022a). According to the CSO, Ireland's population is projected

to reach 5,812,500 by 2036 with an increase expected for all regions, with internal and international migration flows influencing each region's population (CSO, 2016d). Ireland's CSO has conducted projections for this population growth by analyzing assumptions for "Dublin Outflow" scenarios and "Dublin Inflow" scenarios, with both scenarios including projections of low, moderate or high international migration levels (ibid.). The outcome of the next Census may provide further insight into whether trends are moving towards "Dublin inflow" or "Dublin outflow" scenario. These scenarios are key sources of information to consider when planning for the impacts that environmental and climate changes may have on migration patterns in Ireland. Currently, there is a lack of clear insight into the 'why' behind migration within and into Ireland, and to what extent (if any) these patterns are influenced by the impacts of climate change and the environment.

In 2021, sudden-onset disasters accounted for 276,000 new displacements in Europe and Central Asia and 25 new displacements in Ireland, according to estimates by the Internal Displacement Monitoring Centre (IDMC, 2022) – which exclude displacements driven by slow-onset events such as sea level rise, or increased occurrence and duration of droughts. The majority of disaster displacement occurs internally within countries' borders, however, some people may also move internationally (Bronen, 2022). As the climate and environmental pressures in Ireland and globally increase, the urgency against complacency to address the many implications of changing migration patterns are increasingly relevant. To investigate how transboundary movements may be harnessed for the benefits they bring, more analysis and attention are required for charting effective government policies, such as those that support migration through a better understanding of its contributions to prosperity and inclusivity in Ireland (NESC, 2006).

## Internal migration

The population density of Ireland has increased from 40.99 people per sq. km of land area in 1961 to 70.65 people per sq. km of land area by 2018 (World Bank, 2018). Much of Ireland's population is concentrated in the capital, Dublin, which is home to 28.5 per cent of the Republic's population (CSO, 2020a). According to the preliminary results of the latest Census carried out in 2022, County Longford had the highest population growth at over 14 per cent (CSO, 2022a). Following

the 2015 Census,<sup>6</sup> the fastest growing town in Ireland was Saggart, a village in South Dublin, where the population grew by 46.1 per cent in the last four years (CSO, 2016a). Saggart is also one of ten towns in Ireland identified as having the highest percentage of non-Irish nationals, which consisted of 28.9 per cent of the town's population in 2016 (ibid.).

Results from the CSO population projections indicate that Dublin would retain the highest population in all scenarios, and is projected to receive over 50 per cent of international migrants (CSO, 2016d). In "outflow" scenarios, an increase in population growth is seen for all regions, while in "inflow" scenarios, Dublin experiences the largest increase in population, with lower levels of population growth for most other regions. These scenarios indicate that population changes in Irish regions will be strongly influenced by Dublin's growth or decline. The 2015 Census also observed that 75 per cent of Irish-born residents remain in their county of birth (CSO, 2016a), thus most of the projected population changes by region may be strongly influenced by the choices made by international migrants regarding where to reside in Ireland.

Results from the 2016 Census have revealed that urban populations in general are rising at a faster rate than rural populations (CSO, 2016a). Meanwhile, the number of residents living in Ireland's rural offshore communities has been in decline: in 2011, a total of 2,846 people resided on coastal islands and by 2016 this had dropped by 7 per cent to 2,627 people (Government of Ireland, 2021c). The percentage of people without any formal, or only primary education, is starkly higher in Ireland's coastal island populations (32%) compared to Ireland's national average (15%) (ibid. p.88). The lack of educational and employment opportunities in coastal island communities notably is associated with migration to the mainland for education or employment purposes (ibid.). While urban centres such as Dublin may provide opportunities for many, they can also expose migrants to new climate risks, coupled with non-climatic risks challenges, such as high housing costs. According to the NRA, technological trends are predicted to replace, re-shape and create new jobs, so education and skills systems will need to adapt to address these changes both on the mainland and in coastal communities (Government of Ireland, 2021b), while also contributing to sustainable development and climate change mitigation efforts in the form of green jobs.

## International migration

According to an Irish Naturalisation and Immigration Service (INIS) annual report, growing numbers of international migrants are looking to Ireland to work, study and settle down (DJE, 2016). In 2017, Ireland had the fourth highest international migrant share out of European countries (IOM, 2017), and between 2009–2019, Ireland was among the top 20 countries with the largest proportional population change in Europe (IOM, 2019b). In 2021, the Irish Department of Justice (DJE) launched a regularization scheme to allow undocumented migrants who have been in Ireland for four years or more, to apply for legal residence.<sup>7</sup> This scheme will enable migrants to regularize their status, providing greater access to the Irish Labour Market and a pathway to citizenship. Regularization has the potential to allow many irregular migrants to reduce their vulnerability through increased employment opportunities and access to services, which could also contribute towards a strengthened capacity to adapt to shocks and volatility.

In 2016, non-Irish nationals (including EU and third country nationals) accounted for 14.9 per cent of the total workforce in Ireland (CSO, 2017a), where employment was concentrated in non-manual work (CSO, 2016b). The main sectors of non-Irish national employment include the wholesale and retail trades, accommodation and food services, manufacturing and the health care – contributing largely to Ireland's prominent and essential sectors (CSO, 2017a). To fill labour and skills gaps that cannot be met from within the European Economic Area (EEA), the Employment Permits Section of the Irish government issues employment permits based on skills (ibid.). From 2018 to 2019, there was a 22 per cent increase in the total of employment permits issued (Sheridan, 2019). Due to the demand for seasonal contracts for lower skilled workers, a Seasonal Employment Permit is under review (ibid.). For other short-term employment contracts, the Atypical Working Scheme currently provides work opportunities and application services, with 3,347 applications approved in 2019 (ibid.). The expanded opportunities available in the scope of regularized work permits have the potential to influence the positive growth of green jobs for migrant labour, such as those that contribute to restoring the environment, the circular economy or enhancing carbon sequestration. In addition to enhancing Ireland's resilience, these employment permits may also hold great potential for increasing adaptation in the migrants' origin communities through the transfer of remittances. The nature of these permits could facilitate patterns of circular, seasonal and temporary

<sup>3</sup> These ranks are based on maternal mortality ratios, adolescent birth rates, percentage of females in parliament seats, male and female secondary education percentages and labour force participation rates.

<sup>4</sup> EU SUBMISSION: GAP Activity A.4. S. Submission on dimensions and examples of the gender-differentiated impacts of climate change; the role of women as agents of change; and opportunities for women, 8 November 2021. Available at [www.unwomen.org/index.php/explore/library/dimensions-and-examples-gender-differentiated-impacts-climate-change-role-women](http://www.unwomen.org/index.php/explore/library/dimensions-and-examples-gender-differentiated-impacts-climate-change-role-women).

<sup>5</sup> According to Eurostat, the old-age dependency ratio is "the ratio between the number of persons aged 65 and over (age when they are generally economically inactive) and the number of persons aged between 15 and 64. Available at [ec.europa.eu/eurostat/web/products-datasets/-/tps00198](http://ec.europa.eu/eurostat/web/products-datasets/-/tps00198).

<sup>6</sup> The CSO of Ireland conducts a National Census every five years. However, the census that was due to be carried out in April 2021 was postponed on account of the COVID-19 pandemic. The new census date was April 2022 (CSO, 2020b). It will be paramount to note the changes that the COVID-19 pandemic has had and will continue to have on the population dynamics with the publication of the results of the next Census. Preliminary results were published in June 2022.

<sup>7</sup> Announcement of regularization scheme. Available at: [www.justice.ie/en/JELR/Pages/PR21000292](http://www.justice.ie/en/JELR/Pages/PR21000292).



movements that increase employment prospects for migrants who arrive from areas where environmental stresses such as droughts, floods, wildfires, sea-level rise, desertification and other hazards adversely affect local income opportunities.

While inward migration flows in Ireland have allowed for a multitude of benefits in the form of increased economic activity, enhanced skills and widened range of services, these benefits are also synchronous with the emergence of new tensions and inequalities (NESC, 2006). An increasing number of migrant victims of trafficking in persons are being identified in Ireland. Victims have been identified to come from Africa, Asia, Eastern Europe, and South America and have been trafficked for sexual exploitation and forced labour in various sectors and services (IOM, 2019b).

Lastly, Ireland is not only a destination for economic or educational migrants, but also those seeking refuge, asylum and international protection. The Irish Refugee Protection Programme (IRPP), established in direct response to the Mediterranean refugee crisis in 2015,<sup>8</sup> has pledged the Government of Ireland to accept a total of 4,000 refugees (DJE, 2016). As of 2019, plans for a new phase of the IRPP will aim to bring in 2,900 refugees between 2020 and 2023 (McGinnity et al., 2020). In 2019 alone, a total of 783 refugees were resettled in Ireland with the assistance of IOM and the United Nations High Commissioner for Refugees (UNHCR) (Sheridan, 2019). In addition, Ireland's International Protection Office (IPO) received 30.2 per cent more international protection applications in 2019 than in 2018, accounting for 0.64 per cent of applications made in EU Member States, from a total pool of 745,255 applications (ibid.). While the applications were concentrated in the usual Member States, including France, Germany and Spain, which receive over half of all applications in the EU countries, Ireland was among the few countries where applications notably increased in comparison to the year prior (EASO, 2020).

### 1.2.c. Economy

The Irish economy is small, trade-dependent and supported by a strong export sector. Based on Ireland's economy in 2018, the most prominent

economic sectors included industry; information and communication; wholesale and retail trade, transport, accommodation and food service activities, public administration, defence, education, human health and social work activities (European Commission, 2021a). Ireland's real GDP per capita<sup>9</sup> as of 2020 is 62,980 euros, the third-highest of the EU countries and exceedingly higher than the EU average, 26,340.<sup>10</sup>

There are approximately 137,500 family farms in Ireland (CSO, 2016c). Over half of Ireland's farms are located in the Border, Midland and Western regions (ibid.). In the West of Ireland, part-time farming is predominant, and these areas are generally structurally weak and marginal, and experiencing population declines (O'Sullivan, 2013). In contrast, the peri-urban areas of the South and East are experiencing the most population growth, with many Eastern European migrants contributing to the population rise (ibid.). The South and East are also where most agricultural output originates (ibid.), with farms in these regions averaging about 41.3 per cent larger in size than those in the Border, Midland and Western regions, and producing more than twice the Standard Output (CSO, 2016c).<sup>11</sup>

As a response to job losses induced by the socio-economic impacts of the COVID-19 pandemic, the Irish Government introduced the Pandemic Unemployment Payment (PUP) to provide temporary income support for those whose employment has been affected (CSO, 2021). The highest number of people by sector receiving PUP as of June 2021 was from accommodation and food service activities; wholesale and retail trade (both of which dominate employment for non-Irish nationals) and administrative and support service activities (Department of Social Protection, 2021). Meanwhile, international protection<sup>12</sup> applicants working in essential occupations were not entitled to the PUP until August 6th, 2020 (ibid.). The COVID-19 pandemic has amplified the existing disadvantages that non-Irish nationals experience in Ireland (Government of Ireland, 2021b).

### Migrant remittances

Monetary remittances are funds sent by migrants to their places of origin (Page, 2020). Remittances are utilized in a variety of functions including investing in education, health care, infrastructure and livelihood

diversification (Oakes et al., 2020). Social remittances (knowledge transfers, skills, behaviours, identities, etc.) are also widely acknowledged as ways that migrants and their diaspora communities can act as key agents in contributing to the development of both origin and destination locations (IOM, 2019a).

While, historically, Ireland strongly relied on inward remittances from diaspora abroad to secure economic resilience, reduce vulnerability to shocks and alleviate poverty, more recently, higher international outflows from Ireland indicate that those currently remitting from Ireland are attempting to secure the same goals that the Irish diaspora did in the past (McCarthy, 2009). In commitments for Ireland's SDG national implementation plan, by 2030, Ireland aims to reduce to less than 3 per cent the transaction cost of migrant remittances and to eliminate remittance corridors with costs higher than 5 per cent (Government of Ireland, 2018b). This will ensure that migrants and their families are receiving more out of their investments, potentially improving contributions towards household and livelihood security. However, remittance figures, such as those collected by the World Bank, are controversial (Ryan, 2019), as they are estimates and suffer from methodological challenges that may lead to overestimates and miscalculations (Migration Data Portal, 2021). Improvements in data collection are necessary to allow for better understanding of any relationships that remittances may have with climate change adaptation in the Irish context. As of 2019, it has been reported that the CSO has been investigating new approaches to deriving remittance information (Ryan, 2019).

Remittances interact with the MECC nexus across several dimensions, with evidence that remittances have played indispensable roles in household climate risk management strategies and in building adaptive capacities (Oakes et al., 2020). While remittances can act as "shock absorbers" in the face of climate-related adversities and environmental stressors when funds and/or knowledge transfers are used to establish short- and long-term adaptation-related investments (Musah-Surugu et al., 2017), the impacts that remittances have on households vary contextually (Czaika and Godin, 2021). For example, high dependence on remittances has also been shown to have negative impacts and lead to lower levels of uptake for other adaptive responses (Oakes et al., 2020). Additionally, the pressure of sending remittances in times of environmental or economic stress can overwhelm migrants (Humphries et al., 2009). Thus, it is crucial that remittances are not

viewed as a way of substituting public investments, social services and the role of government welfare and intervention (ibid.).

### Poverty

The United Nations Development Programme (UNDP)'s Human Development Index (HDI) ranks Ireland second out of 189 countries (UNDP, 2020). However, when considering the Inequality-adjusted HDI (IHDI), Ireland's 2019 HDI value falls by 7.3 per cent – indicating unequal distributions of HDI indices among the Irish population (ibid.). Inequality and poverty rates are important underlying factors of vulnerability to environmental and climate change adversities, which are also factors that influence migratory decisions. According to Ireland's Central Statistics Office (CSO), consistent poverty rates<sup>13</sup> are unevenly distributed among regions, ages and genders. For example, in 2018, the South-East and the Border regions had the highest rates of consistent poverty, while the Midlands, Mid-West and Dublin had the lowest rates (CSO, 2019). Additionally, rates of consistent poverty were higher for young people than for older people, and the rate was slightly lower for urban areas compared to rural areas (ibid.). Deprivation rates<sup>14</sup> were highest in the Midlands and lowest in the Mid-West, and urban rates of deprivation were higher than rural rates (ibid.). Meanwhile, similarly to consistent poverty rates, younger populations had higher deprivation rates (ibid.). The consistent poverty rate, at-risk of poverty population and deprivation rates were overall higher for females than males in Ireland (ibid.).

### 1.2.d. Environment and climate

Situated on an island in the North Atlantic Ocean in Northwest Europe, Ireland's climate is strongly influenced by the Atlantic Ocean. Ireland's relatively mild climate is heavily influenced by the Gulf Stream (Palter, 2015) where, despite the low latitude of Ireland, temperatures rarely drop below freezing. Studies of climate change impacts on ocean currents in the Atlantic have suggested that the Atlantic meridional overturning circulation (AMOC) may be undergoing slowdown changes (Boers, 2021) that could potentially lead to Ireland having more intense winter storms, colder winters and more intense and frequent droughts in the summer.

Ireland is one of the least forested countries in the EU (Government of Ireland, 2021c), with the majority of land usage comprising grasslands (Haughey, 2021).

8 Refugees primarily from The Syrian Arab Republic, Afghanistan and Iraq made the dangerous journey across the Mediterranean into EU countries to seek asylum due to conflict-induced displacement within their countries. According to the Pew Research Center, the number of refugees to Europe surged to a record number of 1.3 million in 2015. Available at [www.pewresearch.org/global/2016/08/02/number-of-refugees-to-europe-surges-to-record-1-3-million-in-2015/pgm\\_2016-08-02\\_europe-asylum-01](http://www.pewresearch.org/global/2016/08/02/number-of-refugees-to-europe-surges-to-record-1-3-million-in-2015/pgm_2016-08-02_europe-asylum-01).

9 According to Eurostat, this indicator is calculated as the ratio of real GDP to the average population of a specific year. While this is considered a measure of economic activity and understanding a country's material living conditions, it is still a limited measure of economic welfare as it excludes unpaid household work (which has gendered implications) and it does not take into account the negative effects of economic activity, such as environmental degradation.

10 Available at [ec.europa.eu/eurostat/databrowser/view/sdg\\_08\\_10/default/table?lang=en](http://ec.europa.eu/eurostat/databrowser/view/sdg_08_10/default/table?lang=en).

11 The standard output is the average monetary value of agricultural output at farm-gate prices (CSO, 2016c).

12 According to the United Nations High Commissioner for Refugees (UNHCR), persons in need of international protection are those who are unable to return home due to risks that their country is unable or unwilling to protect them from. Available at [www.refworld.org/pdfid/596787734.pdf](http://www.refworld.org/pdfid/596787734.pdf).

13 The Sustainable Development Goal (SDG) Target 1.1 is "to eradicate extreme poverty". Indicator 1.1.1 is measured by the proportion of the population below the international poverty line (1.90 USD/day), which is measured by the consistent poverty rate according to the CSO Survey of Income and Living Conditions (SILC).

14 Deprivation rates, according to the SDG indicator 1.2.2, measure the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.

Land use, land-use change and forestry depletion have been considered as net sources of greenhouse gas (GHG) emissions in Ireland (ibid.). Ireland is vulnerable to environmental hazards and climate risks in the form of sudden-onset hazards such as floods and storms, as well as slow-onset hazards, such as coastal erosion, sea-level rise, phenology distortions and rising temperatures (Walther et al., 2020). Such



Kerry, Ireland. Source: © Unsplash 2020/PJ K

hazards and risks are already impacting Irish society, natural ecosystems and the economy, and due to the nature of anthropogenic climate change, these hazards will continue to present unpredictable impacts on all of these aspects.

Aligned with the EU objective for reductions in greenhouse gas emissions, Ireland aims to reduce 80–95 per cent of its emissions by 2050 compared to levels in 1990 (DECC, 2021, p.1). In terms of adaptation, the National Adaptation Framework (NAF) outlines

strategic policy responses to manage and reduce vulnerability to the negative impacts of climate change (ibid.). Key sectors concerned in developing adaptation plans are identified in four thematic areas including, natural and cultural capital, critical infrastructure, water resource and flood risk management, and public health. The national objective toward climate policies is to achieve a transition to a competitive, low-carbon, climate-resilient and environmentally sustainable economy, by the year 2050 (ibid.).

## 2. KEY CHALLENGES AND OPPORTUNITIES: THE MIGRATION, ENVIRONMENT AND CLIMATE CHANGE NEXUS

### 2.1. SUDDEN- AND SLOW-ONSET EVENTS AND POTENTIAL EFFECTS ON MIGRATION PATTERNS

The current trends in Ireland's climate are congruent with the primary indicators of global climate change (DCCA, 2018). Threats from climatic impacts are compounded by biodiversity loss and ecosystem failures arising from deleterious land-use change, unsustainable natural resources (including water) exploitation, and also air and soil pollution. Nonetheless, the human activities that are contributing to these changes are not abating at the rate required for mitigating GHG emissions to limit global warming to 1.5 degrees Celsius, (or even 2 degrees). Indeed, global emissions continue to rise while climate change impacts continue to intensify posing even greater challenges for adaptation efforts. Consequently, adaptation measures are required to reduce the negative impacts of climate change on vulnerable human populations, while taking advantage of potential new opportunities.

The climatic and environmental hazards affecting communities, can be classified as (i) sudden-onset or (ii) slow-onset hazards.

(i) Sudden-onset hazards comprise severe events including storms, floods, landslides and extreme temperature events. These impacts are often easier to grasp as major, identifiable climatic risks, as they invoke immediate and often disastrous consequences (Cattaneo et al., 2019). Sudden-onset events may have the consequential effect of creating new migration patterns as a response to disasters, for example internally displaced persons (IDPs), planned evacuations and planned relocation.

(ii) Slow-onset impacts include environmental and climate risks that emerge gradually over time and can seem distant, both temporally and spatially (Clarke and Murphy, 2019). Slow-onset events typically alter key environmental features and dynamics, leading to far-reaching consequences (IOM, 2020). Slow-onset impacts include processes such as desertification, salinization, land degradation, biodiversity losses, droughts, coastal erosion, sea level rise and rising temperatures (ibid.). Slow-onset impacts also play a role in increasing the intensity of sudden-onset events (ibid.). Slow-onset events tend to significantly

affect livelihoods that depend on natural resources, such as farmers, fishermen and indigenous people (ibid.). Recent analyses have suggested that slow-onset climatic changes are more likely to increase migration than sudden-onset events (Chazalnoël and Randall, 2021).

Ireland's most recent National Adaptation Framework (NAF) for the years 2018–2023, reveals the connection between slow- and sudden- onset events in its consideration for the development of long-term resilience (DCCA, 2018). This is exemplified by the mutually reinforcing processes of sea level rise contributing to the intensity and frequency of storm surges, coastal flooding and coastal erosion, particularly in low-lying coastal areas (Musacchio et al., 2021). These connections demonstrate a need for more holistic, interdisciplinary approaches to climate change adaptation. In particular, addressing the socio-economic consequences that climate events exacerbate, including those related to migration, will be a necessary, proactive approach to protecting Ireland's most vulnerable populations. The NAF considers building resilience a proactive approach to addressing slow-onset events, while also playing a critical role in enhancing the preparedness for more frequent and more obvious sudden-onset challenges (DCCA, 2018).

This chapter outlines a non-exhaustive list of the major slow- and sudden- onset environmental change and climate-related events that have impacted, are impacting and are projected to impact Ireland.

#### 2.1.A. CHANGES IN PRECIPITATION PATTERNS

Over the last three decades, precipitation volumes in Ireland have increased by ~5 per cent, with climate model projections indicating further increases, in addition to increased variability compared to existing precipitation patterns (Musacchio et al., 2021). These rises have been observed in all seasons, although with variation in spatial distribution and intensity (Doran et al., 2019). The largest increases in precipitation are observed over the West of Ireland (DCCA, 2018). The overall effects of these changes include wetter autumn and winter seasons and drier summer and spring seasons (McGrath et al., 2008).

## 2.1.B. FLOODING

Flooding is considered to be the most significant natural hazard in Ireland in terms of likelihood and impacts (Desmond et al., 2017). Estimates in 2015 indicated that 85,000 properties, 70,000 of which are residential, are considered at risk from flooding (OPW, 2015). Flood risks concern several economic sectors, with shocks expected for infrastructure, the built environment, business, health, tourism, agriculture and

insurance industries (Doran et al., 2019). These shocks also directly influence the welfare of communities, disrupting everyday life involving work, transportation, education, etc. (ibid.). These substantial losses, costs and overall disturbances are already felt across Ireland. However, the influences of climate change, increasing land use change, rising populations and urbanization are likely to exacerbate the economic and socio-economic costs associated with flooding (ibid.).

### Box 1. Structural and non-structural flood management

The Office of Public Works (OPW), the leading Irish government agency for flood risk management, manages fluvial and coastal flooding (OPW, 2015, Clarke and Murphy, 2019). Pluvial and groundwater flooding is dealt with by local authorities at a municipal level, and other flood risks are managed by a variety of government authorities and agencies (Clarke and Murphy, 2019). While structural measures to combat risks of flooding are currently commonplace, the OPW recognizes that non-structural measures, such as sustainable planning and development management, adaptation planning, land use management and natural flood risk management, early warning systems, disaster prevention and preparedness and voluntary home relocation, are necessary for dealing with flood risks. These non-structural measures are directly related to avoiding forced relocation or displacement. It is important to recognize the interdependent interactions of different types of floods with other hazardous events, as adaptation responses will require more holistic measures that seek to balance potential trade-offs. Further insight into these risks is expected to allow for an increased understanding of the potential overlap the risks have with migration. For an outline of the different types of floods that occur in Ireland, see Appendix 2.

## 2.1.C. EXTREME STORMS

Major extreme weather events in Ireland, such as storm Barra (2021), storm Emma (2018), storm Ophelia (2017), storm Desmond (2015/16) and storm Darwin (2014)<sup>15</sup> exemplify the extent to which economic and social systems are vulnerable to the devastating impacts of disasters. During storm Desmond, over half of all stations recorded their wettest winter on record, and although this storm was considered a 1 in 100-year event, analysis suggests that such extreme rainfall was already up to 40 per cent more likely because of the effects of anthropogenic climate change (Doran et al., 2019). Now, storms such as Desmond are considered 1 in 72-year events (ibid.). Since 1950, the occurrence and intensity of storms in the North Atlantic have increased by a net three additional storms per decade (DCCA, 2018). Overall, projections indicate slightly fewer but more intense, storms for Ireland, with hazards from winter storms projected to have major impacts on Ireland.

## 2.1.D. SEA-LEVEL RISE (SLR)

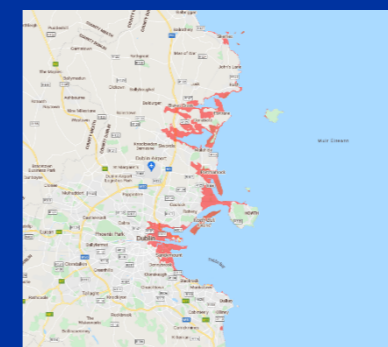
Measurements for the period 2006–2015 indicate that global average sea levels are rising by approximately 3.6 mm per year, in comparison to 1.4 mm rises per year from earlier records (Walther et al., 2020). Partly due to glacial isostatic adjustment, the south-west of Ireland experiences higher rates of SLR in comparison to the north-east, indicating uneven impacts for Irish regions (ibid.). Nonetheless, any rise in sea level will trigger storm surges and exacerbate their impacts, increase coastal erosion rates and accelerate flooding – leading to increased damage to property and infrastructure (McGrath et al., 2008, Hawchar et al., 2020). SLR-specific scenario studies have indicated that 350 km<sup>2</sup> of land in Ireland is at risk for a 1 m rise, while 600 km<sup>2</sup> of land is at risk for a 3 m rise (Flood and Sweeney, 2012). These scenarios found that for a 0.5 m rise, there are over 6,000 vulnerable residential, commercial and joint-use addresses in Cork, 5,000 in Dublin and 500 in Galway (ibid.). Under these scenarios, the greatest losses will occur in counties Wexford, Dublin and Louth in the Leinster province; counties Kerry, Cork and Clare in the Munster province and counties Donegal, Galway and Mayo in the Connaught and Ulster provinces

(ibid.). Reported as second to agricultural land in terms of greatest vulnerability of km<sup>2</sup> land, the SLR risks to the urban fabric ranged from 15 km<sup>2</sup> in the scenario of 0.5 m SLR, to 796 km<sup>2</sup> in the scenario of 6 m SLR (ibid.).

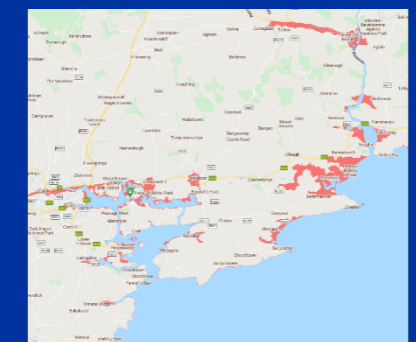
### Box 2. Sea Level Rise Mapping (Coastal Risk Screening Tool at [sealevel.climatecentral.org/maps/](https://sealevel.climatecentral.org/maps/))

Figure 1 delineates the land projected to be below annual flood level by 2050, with the red zones indicating areas below water level. Many of the largest risks are envisaged for south-western coasts, however risks are present along several coastal locations.

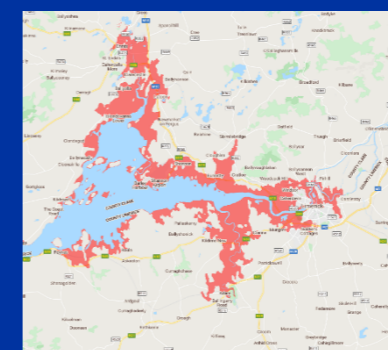
Figure 2 depicts closer detail of land projected to be below annual flood level by 2050 for locations in Dublin, Cork, Clare, Limerick and Galway.



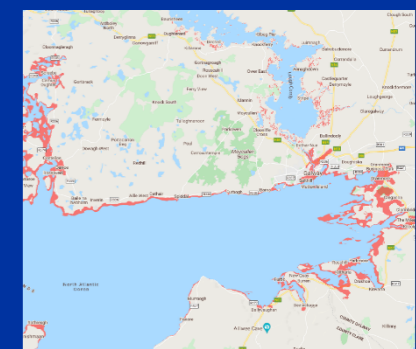
County Dublin



County Cork



County Clare and Limerick



County Galway

Figures 1-2: Land in Ireland projected to be below annual flood level by 2050  
Source: Coastal Risk Screening Tool at [sealevel.climatecentral.org/maps/](https://sealevel.climatecentral.org/maps/).

Note: These maps are for illustration purposes only. The boundaries and names show and the designations used on these maps do not imply official endorsement or acceptance by the International Organization for Migration.

<sup>15</sup> For more information on recent major weather events in Ireland, refer to Met Éireann's website: [www.met.ie/climate/major-weather-events](https://www.met.ie/climate/major-weather-events).

### 2.1.E. RISING SEA SURFACE TEMPERATURES (SST)

Another key oceanic observation is rising ocean temperatures. Mean annual SST is now more than 1.0°C higher than the long-term average calculated for the period 1961–1990 (Dwyer, 2013) and the Irish Sea has a projected warming rate of 1.9°C by the end of the century (DCCA, 2018). Notably, warming oceans are linked to accelerating SLR due to the thermal expansion of seawater and the influx of water from melting land ice (McGrath et al., 2008). Additionally, it is likely that the influence of rising SST in the Atlantic will lead to more extreme storms and risks of flooding (ibid.). SST also impacts oceanic ecological characteristics, impacting biodiversity, aquaculture industries and livelihoods dependent upon healthy aquatic habitats (Walther et al., 2020). Ocean temperature changes also influence terrestrial weather patterns and climate, marking the vital role the oceans play in determining life on land, as well as pointing to the interconnected Earth systems and its current equilibrium defects (Steffen et al., 2015).

### 2.1.F. COASTAL EROSION

Although coastal erosion is a natural phenomenon, it is exacerbated by other factors such as SLR and changing precipitation patterns (Flood and Sweeney, 2012). Studies indicate that approximately 20 per cent of Ireland’s coast is at risk of coastal erosion, which is especially prevalent along the eastern and southeastern coasts (ibid.). One-third of coastal local authorities have specified that land zoned for housing, commercial and industrial use is in locations where coastal erosion is taking place (Government of Ireland, 2021b).

### 2.1.G. HIGHER TEMPERATURES, DROUGHTS AND HEATWAVES

Since the early 1900s, temperatures in Ireland have increased by approximately 0.9°C, and records have marked fifteen of the top twenty warmest years since then (Walther et al., 2020). These changes have particularly taken place during summer and autumn, with the greatest warming projected in the South and East (McGrath et al., 2008). In line with observations across Western Europe from the period 1961–2010, the number of warm days (temperatures >20°C) have increased, while the number of frost days (temperatures below 0°C) have decreased (DCCA, 2018). Implications of these changes include the more frequent occurrence of heat waves and heat stress incidences, along with likely reductions in cold stress incidences (ibid.). Projections also imply that drought magnitude and duration may increase in Ireland on account of less rainfall and higher evapotranspiration in some areas (Roudier et al., 2016). These temperature anomalies and moisture deficits increase the risk of uncontrolled wildfires and lead to overall environmental damage and human health concerns – portraying the impact that slow-onset hazards (increased temperatures) exacerbate sudden-onset hazards (wildfires) (DCCA, 2018). To put Irish droughts in a historic context, between the period 1850 and 2015, Ireland suffered seven major drought-affected periods, with a total of 45 individual drought events identified (Falzoi et al., 2019).

#### Box 3. Droughts in the summer of 2018

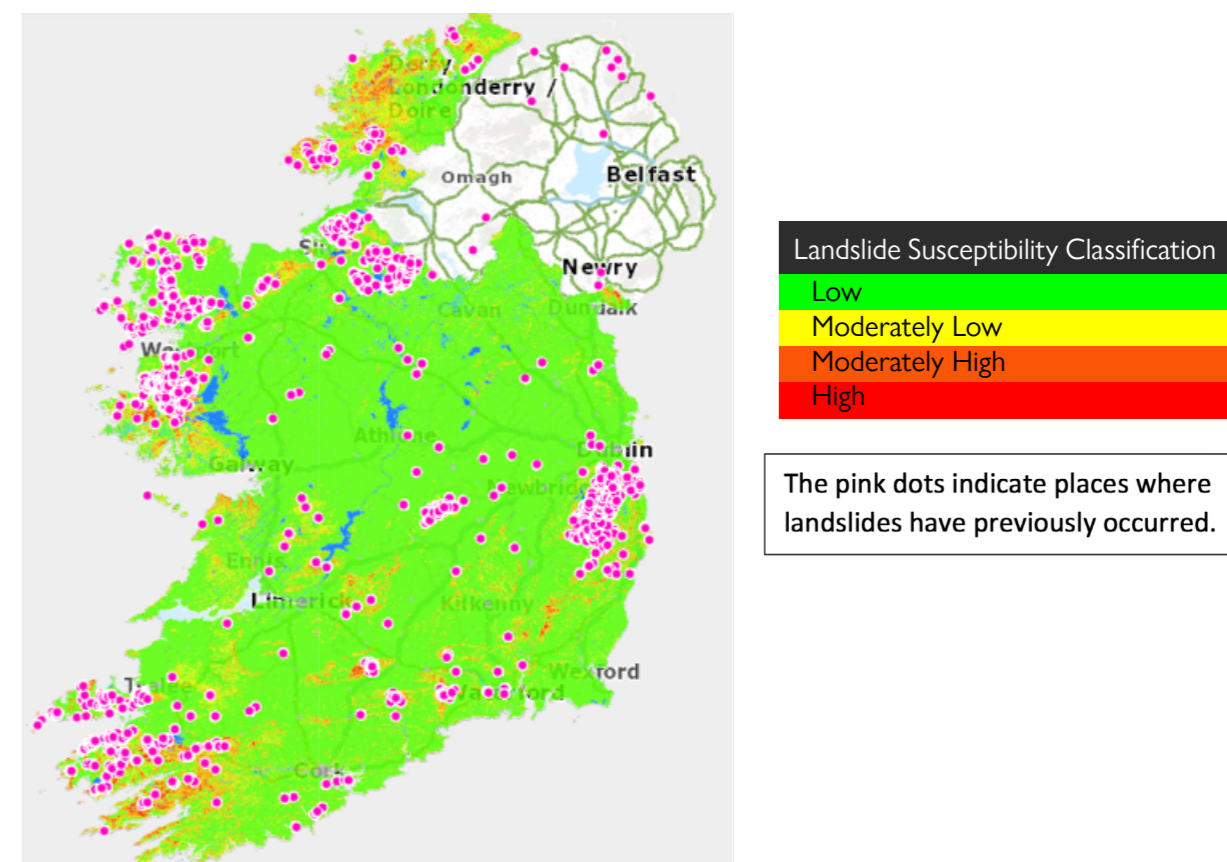
The summer of 2018 marked a record-breaking meteorological drought, along with heatwaves, where parts of Ireland recorded their worst droughts (Falzoi et al., 2019). While this was an event felt nationally, the impacts varied locally, due to various local conditions such as soil types and soil drainage capacity (ibid.). Overall, high moisture deficits, especially in the south-east, had major repercussions for farming communities (ibid.). In addition, the Irish water network was under immense stress due to water restrictions across the country, notably in the east, while other impacts included abnormal wildfire activity and low flows for rivers (ibid.). Events such as experienced over recent summers have been made more likely by climate change, with such summers now five times more likely (Met Éireann, 2018). While warmer temperatures may simulate positive changes in Ireland, such as the extension of the growing season, or the increase of tourism in certain areas, it is critical to keep in mind these mentioned hazards and the implications they will have for vulnerable populations and livelihoods – in rural, peri-urban and urban locations.

### 2.1.H. LANDSLIDES

The national landslide susceptibility map contained in Figure 3 was developed by Geological Survey Ireland (GSI, 2021). The purpose of the map is to identify areas that are likely to experience landslide events and to mark where landslides have already occurred. Susceptibility is determined by physical geography, notably the soil type and slope (McKeon, 2016). The

places most vulnerable are determined by the location, terrain and climate, and are located mainly in areas that have steep slopes where rock meets the surface and peat covers the terrain (ibid.). Thus, landslides in Ireland mainly occur on steep mountain slopes (ibid.). Additionally, heavy rainfall can impact the increased occurrence of landslide events (McKeon, 2016, Met Éireann, 2003).

Figure 3: National landslide susceptibility map of Ireland.



Source: Irish Public Sector Data (Geological Survey Ireland) licensed under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence.  
 Note: These maps are for illustration purposes only. The boundaries and names show and the designations used on these maps do not imply official endorsement or acceptance by the International Organization for Migration.

The impact that landslides have includes loss of life and major damages to infrastructure, as seen with global landslide events damaging roads, railways, canal embankments and dams (GSI, 2021). These may leave many housing, commercial or industrial properties at risk, as well as blocking river flows (ibid.). It is critical to determine the future risks of landslides to better plan infrastructure and development, which will prevent damage to future homes, buildings, roads and energy infrastructure such as wind farms (ibid.).

Existing human mobility patterns will potentially need to be reconsidered to adapt to, cope with and/or recover from growing climate stresses. These changes will also have profound impacts on existing ecosystem functions and services, and on those livelihoods and communities which depend upon them, including farming (DCCA, 2018). The time to adjust, rebuild and recover between extreme events is also becoming shorter, subjecting communities and individuals to vicious cycles of risk and vulnerability, with the poor and/or marginalized most threatened.

#### 2.1.I. SUMMARY OF IMPACTS

Each of these sudden- and slow-onset risks arising from environmental and climate change will have wide-ranging impacts on Irish communities and individuals.

## 2.2. VULNERABILITIES AND OPPORTUNITIES: WHO, WHAT AND WHERE?

The decision to migrate can be associated with a range of drivers, including environmental, political, social, economic and demographic circumstances, and the connections between them. This is further influenced by personal/household characteristics and the presence of absence of intervening obstacles or facilitators (Foresight, 2011). The different migratory decisions (or lack thereof in the case of “trapped populations”)<sup>16</sup> depend highly upon these drivers, many of which are also determinants of vulnerability to environmental risks. In addition, slow- and sudden-onset events contribute to shaping migration outcomes, including: the duration of movement (temporary, circular, seasonal or permanent); whether the moves are urban–rural, rural–urban, other internal moves or international moves; and where the movement sits on the spectrum between forced or voluntary mobility (i.e. reactive or proactive) (Ionesco et al., 2017, Cattaneo et al., 2019).

Accordingly, vulnerable populations within Ireland will face different scales of exposure to the slow- and sudden-onset impacts, with various ecosystems, infrastructures, economic sectors and social groups confronting intersectional vulnerabilities. In tandem, these changes (and the adaptation efforts that have been developed in response) will influence lives, livelihoods, sectors and land use systems. Migrating could be a strategy for managing risks when adapting in situ is not feasible, economically or otherwise. However, migration is seldom the most viable option for those who face intersectional dimensions of vulnerability (Kuran et al., 2020). In other cases, migration can create new opportunities for marginalized and vulnerable groups to enhance climate change adaptation and build assets in situations where it may not be possible to do so in their origin communities.

It is also important to recognize that climate action can be a window of opportunity to create new social systems that are more equitable and sustainable – a challenge that global societies are currently responding to, especially in the wake of the COVID-19 pandemic and the potential to “Build Back Better”.<sup>17</sup> Since further climate change is already irreversibly locked into the climate system regardless of mitigation efforts, it is crucial to consider how to take advantage of positive opportunities associated with these changes.

## 2.2.A. LIVELIHOODS AND ECONOMIC SECTORS

### Agriculture and livestock

Irish agriculture, including its livestock, crops and workforces, are a key foundation of the Irish economy and are profoundly affected by climate change, land degradation and resource use, and may also be affected by climate action efforts. Increased occurrence of droughts may increase vulnerability of crops and livestock, reduced productivity, increased susceptibility to diseases and heightened risk of uncontrolled fires and increased costs to implement irrigation infrastructure (DAFM, 2020). The precarious conditions of the spring and summer growing seasons (e.g. higher temperatures and droughts) are then followed by winter season struggles (e.g. pest growth and spread due to warmer winters), together with increased intensity of storms and floods which may damage infrastructure (ibid.). The persistent occurrence of such seasonal struggles may lead to consistent cycles without recovery, which could put a significant strain on the capacity to adapt in time to meet investment requirements for the next farming seasons – with implications concerning stable incomes of farmers and potential concerns for broader food security. The fodder crisis during the winter of 2012 and spring of 2013,<sup>18</sup> which cost €450 million, indicates the possible scale of future losses (DCCAE, 2018).

According to the latest census, 265,400 people were employed in the agricultural sector in 2016, a number that has remained largely stable over the past decade (CSO, 2016e). The burden of increasing risk will fall on those who manage and work on farms, which may come at initially high investment costs, posing a risk for small farms with low-profit margins and limited access to capital (Flood, 2013). Recently, during the summer of the 2018 drought, Teagasc reported 15 per cent reductions in average farm incomes (Met Éireann, 2018).

Overall, the financial losses and required investments needed to sustain farming operations may threaten the sustainability of the Irish agriculture sector and small farmers (ibid.).

<sup>16</sup> Trapped populations are considered those who are unable to move due to a lack of material ability to move or do not move due to psychological or cultural limitations and/or preferences (Oakes et al., 2020).

<sup>17</sup> “Building Back Better” is a slogan for using the recovery from the COVID-19 pandemic as a mechanism through which to address other developmental and environmental issues alongside the health and economic recovery needs.

<sup>18</sup> The fodder crisis was the result of a poor growing season and long winter, which affected grass and other fodder crop production and led to fodder shortages on several farms, overall increasing the dependency on external feed which cascaded into higher feed prices (DCCAE, 2018). Furthermore, the use of fodder during poor grass growth periods in the summer led to lower stocks available for the winter (ibid.).

Table 1: Economic viability, sustainability and vulnerability of Irish farms

Year of National Farm Survey	Economically viable farms (%)	Economically sustainable farms (%)	Economically vulnerable farms (%)
2010	26	36	38
2012	38	29	33
2014	37	31	32
2016	35	29	35
2018	32	34	34
2020	34	33	33

Sources: Results derived from Teagasc NFS reports for the chosen years Dillon et al. (2021), Dillon et al. (2019), Dillon et al. (2017), Hennessy and Moran (2015), Hennessy et al. (2013), Hennessy et al. (2011).

Table 1 demonstrates the economic viability, sustainability and vulnerability<sup>19</sup> of Irish farms. Climate change and environmental degradation could serve as tipping points that exacerbate the risk of the most vulnerable of this group, determining whether farmers choose to “hang in” in the face of adverse circumstances and maintain their livelihood, “step up” and invest in assets that improve their livelihoods or increase production or “step out” to invest in other activities or migrate (Dorward et al., 2009).

While Irish agriculture and livestock face a diverse set of challenges, these disadvantages are comparatively higher in other parts of the world. Projections indicate that parts of southern Europe will experience a higher decrease in precipitation and water availability when compared to Ireland (EEA, 2012). Projections for increased grass yields in Ireland have the potential to bolster Ireland’s leading position in milk and beef production in some areas (DCCAE, 2018), while extended growing seasons and decreased number of frost days may increase yields and allow for the introduction of additional crop species and crop varieties (DAFM, 2020). This may lead to shifts in agricultural concentrations in the European region through new market opportunities in Ireland (ibid.). To capitalize on these opportunities, potential influences on migration patterns within and into Ireland should be considered, especially seasonal or circular migratory patterns related to the food sector.

During the Celtic Tiger economic boom of the mid-1990s to late-2000s, major labour shortages in the agriculture sector were filled by international migrants, while part-time farming rose as horticulture farmers became dependent on migrant employees (O’Sullivan, 2013). Exploration into whether similar trends and shifts in migration patterns could occur due to Ireland’s comparative agricultural advantages could improve policies preparation.

Critically, the projections for more favourable conditions for grass growth must be taken with serious conditionality. While these may tempt a reliance and significant boost in livestock numbers, it will be a major imperative to consider the environmental impacts that livestock have on resource use, GHG emissions, land use changes, human health and other crucial factors. Irish agriculture and livestock sectors require transformative adaptation and mitigation strategies (Park et al., 2012). If implemented in accordance with policy suggestions under the scope of the European Green Deal, for example with the Farm to Fork strategy, Biodiversity strategy or the Circular Economy, these transformative changes can reap beneficial outcomes for these sectors, those employed by them and for long-term food security.

### Marine and fisheries

The ocean plays a central role in sustaining Ireland’s diverse marine economy. In 2018, Ireland’s ocean economy had a direct economic contribution of 1.1

<sup>19</sup> An economically viable farm is classified as having the capacity to pay family labour at the average agricultural wage and to provide 5 per cent return on capital invested in non-land assets. An economically sustainable farm is one that is not economically viable, but the farmer and/or spouse have an off-farm income. Lastly, economically vulnerable farms are not viable and do not have off-farm income. Source: NFS reports.

per cent to GDP and provided employment for 34,132 full-time equivalents, with the Irish seafood sector alone worth €1.25 billion in 2018 (DAFM, 2020). Currently, Ireland is working towards strengthening this 'blue economy' and doubling its contributions to the country's GDP (Carr, 2019). Ireland's coastal environment not only supports the economic viability of rural and coastal communities, it is an ecosystem that nurtures intrinsic values which are central to the culture and identity of many residents in Ireland (Farrell et al., 2017). In a local context, fishing acts as the cornerstone of employment opportunities in villages such as Killybegs in County Donegal, where 82 per cent of the regional activity is derived from the fisheries sector (Kalikoski et al., 2018). Unfortunately, marine ecosystems and their respective services and resources, are highly susceptible to climate variabilities (Carr, 2019). With increased human exploitation, these multifaceted pressures will warrant marine ecosystems less resilient and able to cope, posing risks for all those that depend on an aspect of the marine world for their livelihood.

The impacts of SLR and increased sea surface temperatures along with ocean acidification will lead to changes in the distribution and biogeographical range of fish species (DAFM, 2020, Cheung et al., 2012). In response, traditional fisheries and major commercial fish stocks may have to cope with potentially losing access to fish stocks, as southerly species may move northwards towards cooler waters while northerly species may reduce their range (DAFM, 2020, DCCAE, 2018). Herring and cod fish species, for example, are expected to decline with ocean warming (Nolan et al., 2010). This will also lead to the increased threat of non-native invasive species, loss of native species and overall biodiversity losses (ibid.). The shellfish aquaculture, an important sector of the Irish coastal economy, is also under threat from warmer and more acidic oceans, which present impractical conditions for mussels and oyster growth (DAFM, 2020). Rising and warming seas lead to intensified storm activity, which places a significant threat on vital infrastructure assets and human lives, potentially making work in this sector increasingly dangerous (ibid.). These threats have the potential to push the pursuance of marine livelihoods into different areas where fish stocks and conditions may be more reliable. However, the arrival of new species in Ireland's waters, such as turbot and sea bass,

could introduce new economic opportunities for the marine sector if sustainably managed (DCCAE, 2018, DAFM, 2020, Cheung et al., 2012).

The role of fisheries is envisaged to expand in response to recommendations of the European Green Deal, as the European Commission aims to work with the EU Member States in developing sustainable seafood as a source of low-carbon food in the transition to a sustainable blue economy (European Commission, 2019). While this is a strategy that may bolster work opportunities and income growth for livelihoods in fisheries, there will need to be significant efforts to ensure that agricultural livelihoods are not left behind in the blue economy transition.

#### Critical infrastructure

The stability of critical infrastructure is central to supporting population levels in Ireland. Infrastructure resilience determines the vulnerability level of society and the capacity to provide essential services reliably (Ryan et al., 2021). The functioning of Irish public services and economies revolve around the highly interdependent energy, water, transport and information and communications technology (ICT) networks (ibid.). Ireland's critical infrastructure assets are primarily located in urban, coastal areas, which are susceptible to threats from flooding, storm surges, extreme winds, wave heights and SLR (Hawchar et al., 2018, Doddy Clarke et al., 2022, Ryan et al., 2021). For this reason, Dublin exhibits the highest relative risk to critical infrastructure, followed by other urban areas in Cork, Galway and Limerick, however, the CI in rural Midlands are also prone to high risk (ibid.). Research has shown that minority migrant groups living in urban areas can be among the most affected to risks from the failure of critical infrastructure (Garschagen and Sandholz, 2018, Oakes et al., 2020). Current critical infrastructure must be ensured as resilient against changing environmental and climate conditions, while the design of new critical infrastructure, including renewable energy generation (Doddy Clarke et al., 2022), must build with future projections in mind. Centrally, critical infrastructure systems must be regionally balanced to meet demands in an equitable manner (Ryan et al., 2021).

Table 2: Critical infrastructure – Future demands, vulnerability, opportunities and potential implications for migration

Critical infrastructure type and increasing demands	Increasing vulnerability	Future trajectories	Potential implications for migration (inference by authors)
<b>ENERGY</b> Pumping for water supplies, wastewater disposal, agricultural irrigation and air-conditioning.	Floods; extreme weather; cascading failures due to interconnected energy grid.	Government of Ireland plans for ≥70 per cent renewable electricity by 2030 (e.g. wind, wave and tidal energy generation; solar power potentials).	Changes in the dynamics of the energy system may affect the composition of workforce, with the potential for new opportunities in some fields, and redundancies in others.  Capacity of the country to support higher populations with increased demands will highly depend on the durability of energy systems to withstand impacts of climate variability and change as well as other factors, such as fluctuations in energy markets.
<b>WATER</b> Urbanization, agriculture, industry, tourism, water usage restrictions.	Droughts, floods, pollution, salinization, unaligned spatial distribution, <sup>20</sup> threats from cascading failures of energy systems.	Ireland has the highest rate of water availability and usage in Europe – potential for more water-related restrictions as demands and threats increase.	Water demand from energy, food, health and other critical systems may increase with climate change. These impacts will be largely regional due to differing demands and current projections for the spatial distribution of precipitation. Uneven distributions could potentially influence decisions to move to access more reliable water resources for certain livelihoods and operations.
<b>TRANSPORT</b> Potential increases of the commuter population due to links between urban and rural areas.	Flooding, storms, coastal erosion, SLR, landslides.	Possible electrification of transport networks (potential threats from cascading energy failures).	Mid-range climate scenarios project that roads and rail networks that currently exist in 1-in-1000-year coastal flooding event zones align with the locations for 1-in-10-year coastal flood events (Ryan et al., 2021). These barriers to transportation may increasingly affect the mobility of populations, having potentially major impacts on commuter populations, and potentially leading to increased urbanization.
<b>ICT</b> Ireland hosts large amount of data centres, with more developments in question. <sup>21</sup>	Extreme winds, floods, high temperatures.	Increased monitoring of sector for its environmental impacts.	Whether the establishment of new data centres is put on hold or rejected may establish the availability of jobs in the sector – potentially having an impact on population movement as a result of targeted recruitment or Talent Schemes.

Sources: The Irish Academy of Engineering (2009), Dwyer (2013), O'Sullivan (2013), DCCAE (2018), Nolan and Flanagan (2020), Met Éireann (2018), Ojala et al. (2020), McCárthaigh (2021) and Ryan et al. (2021).

<sup>20</sup> The disproportionate supply of water in Ireland is illustrated by the concentration of availability in the West and Northwest and low levels of availability paired with high demands in the East and South-east (The Irish Academy of Engineering, 2009). For example, the water demand in the Dublin region is increasing in relation to population growth, which could result in significant burdens on the quality and quantity of water available (ibid.). Additionally, Irish water supply networks are not interconnected, unlike the energy grid, leading to a lack of resilience and capability in compensating for the failures of distant supply failures (ibid.).

<sup>21</sup> New data centre developments in Ireland have been put on hold, following claims that these are inconsiderate of environmental impacts and go against Ireland's climate action commitments and renewable energy targets (McCárthaigh, 2021). At present, Ireland hosts a significant amount of data centres, which add to the country's emissions, and the large energy usage of these centres continues to face opposition (ibid.).

Tourism is one of Ireland's most important economic sectors, yielding benefits for both cities and rural areas throughout the country (ITIC, 2018). While the sector currently employs 230,000 people, the industry strategy for growth to 2025, developed by Ireland's tourism industry, envisages a further 80,000 employees and the generation of €8.1 billion annually (ibid.). Tourist seasons are highly contingent upon the climate in terms of their duration and quality, since tourism operations depend upon water supply/quality and heating/cooling costs (UNWTO, 2008). Additionally, environmental factors are strong indicators that attract or deter tourists (ibid.).

Opportunity wise, Irish destinations may see increased levels of tourism in comparison to other European destinations. While popular tourist locations in the Mediterranean may experience uncomfortable conditions due to rising temperatures and drier weather (EEA, 2012, Kelly and Stacks, 2009), travel to Ireland may be more attractive due to comfortable, moderate conditions, extended tourist seasons and diversified holiday activities (DCCAE, 2018, The Irish Academy of Engineering, 2009). However, the level of preparedness of Ireland's tourism sector for climate threats has been questioned (Kopke and O'Mahony, 2011), given that the potential opportunities coincide with threats. Overwhelming tourist populations may add pressure onto already vulnerable natural assets and resources (DCCAE, 2018, Kelly and Stacks, 2009). Additionally, impacts of flooding and coastal erosion could put coastal attractions and amenities as well as archaeological and heritage sites at risk (ibid.).

Tourism is a key driver of employment in sectors such as accommodation and food services, which are also characterized by high levels of employment for foreign nationals. The role of migrants is central to the expansion of the tourism industry, leaving them either vulnerable to the negative effects, or allowing for more opportunities to find work in Ireland in this sector (ITIC, 2018). The expected growth in tourism may result in a heightened need for foreign nationals to continue to meet labour needs (ibid.). This was evident in recent economic booms in Ireland, where native Irish populations did not engage in low-paid and low-skilled employment, thus leading economic migrants to fill in the labour vacuum (O'Sullivan, 2013). To facilitate this, however, restrictive work permit laws, notably short-term work permits for skilled and qualified non-EU nationals, may need to be relaxed to attract non-Irish and non-EU nationals to work and live in Ireland (ITIC, 2018).

## 2.2.B. DISPROPORTIONATE VULNERABILITIES

Climate change, environmental degradation and natural resource scarcity affect people within and between countries unequally. In Ireland, those who already face a range of livelihood and financial problems stemming from the "debt crisis", the "housing crisis" or have lost their jobs as a result of Brexit or the COVID-19 pandemic – are prone to have less capacity to respond to the challenges climate and environmental changes present. While disaster displacement is not limited to poorer populations, the path to recovery will often differ between higher and lower socioeconomic groups – with lower-income, disadvantaged groups often facing greater obstacles to recovery.

Universally, conditions of marginalization, exclusion, poverty and deprivation as well as demographic indicators such as gender, age, culture, status and ethnicity, play a role in shaping differential vulnerability, both for sudden- and slow-onset events (IOM, 2020). Migrants and displaced persons also face heightened risks due to the unstable or non-existent provision of basic services, such as social protection, for these groups (Sabates-Wheeler, 2019). The disadvantages that these groups face can lead to higher rates of displacement in the face of sudden-onset disasters or slow-onset processes that destroy their homes or livelihoods either suddenly or over time. Sudden- or slow-onset events may also lead to "trapped populations", in which adaptation in place is no longer viable due to the nature of the adversity, yet those who are vulnerable may also be ill-equipped with the resources, social networks or financial capacities required to move to more viable locations.

### Lower socioeconomic groups

Ireland's National Adaptation Framework (NAF) recognizes that people in the lowest sociodemographic groups are disproportionately impacted by climate change and are also the least equipped to engage in "autonomous adaptation", which can include moving to a lower flood risk area or purchasing flood insurance (DCCAE, 2018). To illustrate these disproportionate impacts, the IDMC utilizes a global displacement risk model tool<sup>22</sup> to disaggregate average annual displacement in the context of sudden-onset events by the income level of the individuals displaced. According to this tool, in Ireland, people in higher-income groups have much lower displacement levels than people in lower-income groups.

The relative distribution of poverty levels can be a useful proxy for identifying population groups that may

be more vulnerable to the possibilities of displacement from sudden-onset hazards. While Ireland's "real" GDP per capita and high HDI partially reflects a higher quality of life for many of its residents, it is critically important to consider how the most vulnerable in the country are protected from hazards – especially considering that Ireland's IHDI reflects the unequal distribution of HDI indices among its population. When compared globally, Ireland is among the least vulnerable to displacement processes. Hence, it is not only critical to examine how these processes are unequally distributed within Ireland's borders, but also how Ireland can offer support and relief to those seeking assistance globally – through humanitarian aid and contributions to climate finance, making available migration pathways in the context of climate change and more ambitious reductions to GHG emissions and resource consumption.

### Vulnerability of migrants in Ireland

Internal and international migrants are one of the many social groups that are likely to face increased vulnerability in the face of slow-onset processes and related displacement (IOM, 2020). In Ireland, higher migrant unemployment rates in comparison with Irish nationals leave migrants more susceptible to a lack of financial security, a significant underlying driver of vulnerability (ibid.). This is exemplified by a case study in County Monaghan, where migrants initially moved to secure a better lifestyle and standard of living, but such ambitions were hampered due to higher rates of unemployment at the time of the 2008 economic downturn (O'Sullivan, 2013). Many migrants in Ireland also tend to reside in low-income areas, and it can be difficult for migrant families who have been residents in rural Ireland for several years to move their households to another location (ibid.).

To compound this, a multitude of barriers often inhibit migrants from building resilience. In particular for international migrants, language barriers act as impediments to social integration, in addition to ethnic minorities often being targets of abuses and xenophobia (O'Sullivan, 2013). Migrants also often lack social capital that allows for engagement with obtaining public and social services. Along with weaker connections with host communities, this leads to difficulties in obtaining information about job opportunities, education, health care and other crucial structures that would bolster their coping mechanisms (ibid.). The integration of migrants is dependent on the availability and quality of relevant services (ibid.), and in turn, these may serve to increase their adaptive capacities for confronting climate change and other environmental adversities.

## The importance of gender

Gender roles are shaped by social structures and largely determine the barriers and/or opportunities that are accessible to men and women, which are further influenced by intersectional factors such as sex, age, class, race, ability, ethnicity, geographic location, religion and socioeconomic status (Morchain et al., 2015). People around the world are subjected to various levels of gender-based discrimination, exclusion, marginalization, and human rights violations (OHCHR, 2022). Awareness of these differentiated roles is key in determining what resources and methods of dissemination are appropriate for addressing the vulnerabilities of different members of society (ibid.). If gendered implications of migration are excluded, strategies that aim to support migrants risk being ineffective, since they may fail to consider how women and men experience vulnerability differently (ibid.). In addition to better understanding differential vulnerabilities, assessing gendered roles will foster a better understanding of how both women and men can be active agents in adaptation strategies in the face of a changing climate.

Many migrant women in Ireland are particularly subject to negative gender disparities from exploitation, gender-based inequality and precarious work situations, while conversely, migration may also serve as a positive tool that enables women's autonomy and independence (Pillinger, 2007). A gender-based analysis of migration that incorporates the connections between climate change and environmental adversities with migration can reveal gender-related policy gaps and promote more integrated and successful migration support responses that capture these benefits and avoid negative outcomes. Existing strategies, such as Ireland's National Action Plan for Approaching the Women, Peace, and Security (WPS) Agenda, acknowledge that challenges including climate change and prolonged mass displacement and migration require the incorporation of gender analyses in policy responses to these challenges (Government of Ireland, 2019). Capturing the interrelatedness of migration, climate change and gender through policy responses is a good practice for identifying and confronting vulnerabilities and building solutions that involve all members of society.

22 IDMC's risk model tool can be accessed at: [internal-displacement.org/database/global-displacement-risk-model](https://www.internal-displacement.org/database/global-displacement-risk-model).

## 2.2.C. COASTAL, RURAL AND URBAN LOCATIONS

### Coastal threats

Over 50 per cent of Ireland's population lives within 15 km of the coast (Flood and Sweeney, 2012, Paranunzio et al., 2020), 40 per cent of the population live within five km of the coast and around 8 per cent live less than 100 m from the coast (CSO, 2016a). The increases in the frequency and intensity of floods, extreme storms, higher temperatures, landslide risks and SLR have contributed to Ireland's coastal areas being designated as climate change risk hotspots, which has dire implications for the majority of Ireland's population in both rural and urban coastal areas (Dwyer, 2013, Ryan et al., 2021). Amidst surging risks, the projected increases in the population of coastal cities relative to the rest of Ireland persist (Clarke and Murphy, 2019). However, as coastal cities grow, risks rise in tandem, which may restrain options for in-situ adaptation. This is especially the case for those with limited financial capacities who may not be able to invest in adaptation measures.

A range of studies are indicating that Ireland has been experiencing a series of barriers to addressing climate change threats to coastal areas, including governance structures, lack of national support systems and low levels of local-level awareness (Falaleeva et al., 2011, Kopke and O'Mahony, 2011, McKinley et al., 2021). Efforts towards implementing an Integrated Coastal Zone Management (ICZM) in Ireland are seeking to strengthen approaches for sustainability in coastal zones through involving stakeholder participation, and holistic, long-term views of coastal management (O'Mahony et al., 2014, Flannery et al., 2015).

Proactive, coordinated management of coastal protection around Ireland must be prioritized in lieu of reactive, isolated approaches (Cronin and Kandrot, 2017). These responses can have major implications for coastal populations, especially if considering managed retreat/realignment strategies, which allow for the shoreline to move inland (ibid.). This strategy may require the demolition or relocation of structures threatened by erosion, which can be supported by relocation, buy-back and buy-out programmes (i.e. the purchasing of at-risk property by the local council) as incentives for property owners to relocate (ibid.). Such long-term planning would involve the movement of certain populations, which could either increase their resilience through migration, or potentially create new risks, especially for low-income, marginalized and

vulnerable population groups. However, strategies that require people to move from their homes must be prepared to encounter resistance, due to strong and justified attachments to a sense of place, identity and property (Cronin and Kandrot, 2017, Clarke and Murphy, 2019). The Irish Coastal Protection Strategy Study (ICPSS) provides information to support decision making and to inform local policies around planning and development of coastal areas for managing the risks of coastal flooding and erosion and provides scenarios studies and coastal flood hazards and erosion maps for Ireland's coastlines.<sup>23</sup> The social, economic and environmental impacts associated with hazards is a key consideration of the study – marking an entry point for where migration concerns and discussions can emerge.

### Rural and urban areas – and the relationships between them

Slow-onset events tend to have stronger effects on those whose livelihoods that are more dependent on natural resources, such as farmers and fisherfolk (IOM, 2020), many of whom are concentrated in Ireland's rural and coastal areas. In urban locations, processes of urbanization have increased the risk of river floods (Pilla et al., 2019), and the phenomenon of the 'urban heat island' effect (Paranunzio et al., 2020).<sup>24</sup> The slow-onset rise of sea levels and rising temperatures therefore indicates shared threats to both rural and urban areas.

According to the IPCC, the vulnerability of rural areas will be heightened due to compounding processes of outmigration, reduced habitability and the high reliance on climate-sensitive livelihoods (IPCC, 2021). Historically, risks in rural areas have been alleviated through migration to urban areas, as observed during the Irish famines and successive waves of economic outmigration from rural areas in Ireland (see Chapter 1). Rural to urban migration may be utilized as a tool to manage risks posed by slow-onset processes, since cities provide more access to diverse markets, services, economic opportunities and effective protection systems (IOM, 2020). Enabling conditions, such as employment prospects, social protection measures, inclusive planning and educational opportunities will be required if urban locations are to serve as beneficial prospects instead of becoming areas where multiple vulnerabilities are concentrated. These risks include inadequate infrastructure and services; lack of quality, affordable housing; limited employment prospects; a lack of inclusion and integration; and rising environmental/climatic adversities. In turn, monetary and social remittances flowing from urban to rural

areas may improve rural areas' capacities for investment in adaptation measures and resilience to disasters and environmental change impacts over time (IOM, 2020). However, the enabling conditions required for these benefits include increased awareness of climate change adaptation measures, capacity development and incentives that encourage transformative changes.

Greater focus on urban areas may risk leaving adaptation in rural areas under-addressed, as exemplified with more frequent instances of rural exclusion from flood management schemes in Ireland (Tubridy and Lennon, 2021). With attention and investment shifting away from protecting agricultural land, there are increased uncertainties regarding the impacts that flooding will have on farmers and rural livelihoods (Tubridy et al., 2021). This may spur greater out-migration from the less developed and peripheral regions in Ireland, which would add to the out-migration patterns that already exist due to migration in search of higher skilled jobs in urban centers (Mac Éinrí and White, 2008). The

employment opportunities remaining in rural areas due to out-migration patterns have led to jobs being held by less qualified workers, and increasingly, migrant workers (ibid.), again reflecting the importance of migrant contributions to Irish society, and the need to increase their access to enabling mechanisms such as social protection and regular migration pathways in Ireland, such as the recent scheme for regularizing long-term undocumented migrants.

There are converging environmental, social, economic, political and demographic drivers that influence whether people decide to migrate or stay – for both rural and urban areas. Monitoring such movements may prove to be crucial for ensuring that people attempting to move out of vulnerability do not fall into another vulnerable situation or pursue maladaptive options. Better understanding of these human migratory flows and the motivators behind them can ensure that more efficient support is provided to those in search of sustainable adaptation options.



Rural and coastal Ireland. Source: © Unsplash 2019/Andi KULSE

<sup>23</sup> [www.gov.ie/en/publication/eed0fb-irish-coastal-protection-strategy-study-icpss/](http://www.gov.ie/en/publication/eed0fb-irish-coastal-protection-strategy-study-icpss/).

<sup>24</sup> The large urban area adaptation (URB-ADAPT) project seeks to identify the impacts of climate change on Dublin city and surrounding towns within the Greater Dublin Region ([urbadapt.com](http://urbadapt.com)). Such flood and heat risks are highlighted in through this project.



### 3. PROSPECTS AND OPTIONS FOR EVIDENCE-BASED POLICYMAKING ON THE MECC NEXUS

National stakeholders must consider more integrated approaches to avert, address and minimize displacement related to the adverse impacts of climate change and address migration challenges and opportunities. Proactively engaging with these risks and opportunities can strengthen migration policies that are better enabled to support migrants, in their origin and destination locations, while tapping into the benefits of migration. There is a need for more policy work and implementation to address the systemic risks that lead to displacement; to strengthen planned evacuation or planned relocation that seek to avoid or reduce displacement risk and to capitalize on labour migration as a strategy that allows people to manage risks and enhance climate change adaptation. The focus of this chapter is to consider the relevance of a range of Irish, EU and UN policies, programmes and institutions that aim to address with challenges and opportunities arising with the MECC nexus. As migration and climate change are broad, cross-cutting matters, they require interdisciplinary and intersectoral approaches, with solutions that will need to be iteratively examined as the risks and vulnerabilities evolve. To streamline these processes, there is a need to integrate climate considerations into migration frameworks, and vice versa, while simultaneously acknowledging that climate change adaptation will be required to address forms of migration that erode adaptive capacity and well-managed migration could support climate change adaptation.

#### 3.1. EXAMINING OVERLAPS BETWEEN CLIMATE AND MIGRATION POLICIES AND FRAMEWORKS IN IRELAND, THE EUROPEAN UNION AND THE UNITED NATIONS

Mainstreaming the migration considerations into climate action and vice-versa may provide for enhanced opportunities for success in both areas. Such integration may serve as a monitoring tool. The recognition of this integration offers a space for migration and climate change policies to align, such as those that address (i) migration, (ii) displacement, (iii) international protection, (iv) cooperation and development, and (v) climate action. The following policies, frameworks and strategies are recognized as building blocks for this integration, and this report seeks to highlight current progress, and to identify areas where further progress with the MECC nexus in Ireland could flourish.

#### UN Policies and Frameworks

The United Nations Framework Convention on Climate Change (UNFCCC) is a United Nations secretariat supporting the global response to the threats of climate change. Ireland is an Annex I Party of the UNFCCC, as it is an industrialized country that was a member of the Organisation for Economic Co-operation and Development (OECD).<sup>25</sup> Accordingly, the outcomes and recommendations of UNFCCC processes are to be directly aligned with Irish policies and practices.

The Task Force on Displacement of the Warsaw International Mechanism for Loss and Damage of the UNFCCC outlines six recommendations to parties for averting, addressing and minimizing displacement related to the adverse impacts of climate change (UNFCCC, 2018). The UNFCCC recommendations are summarized below:

- i. Consider integrated approaches to national and subnational laws, policies and strategies for averting, minimizing and addressing displacement related to climate change and the broader context of human mobility (recommendation 33a).
- ii. Enhance research, data collection, risk analysis and sharing of information to better map, understand and manage human mobility related to climate change through a participatory approach that includes the communities affected and at risk (recommendation 33b).
- iii. Strengthen preparedness through early warning systems, contingency and evacuation planning, resilience-building and innovative approaches (recommendation 33c).
- iv. Integrate human mobility challenges and opportunities into national planning processes (recommendation 33d).
- v. Strengthen efforts toward finding durable solutions for internally displaced people (recommendation 33e).
- vi. Facilitate safe, orderly and regular migration and mobility of people by considering the needs of those impacted and by enhancing opportunities for regular migration pathways (recommendation 33f).

These recommendations will serve as a guiding framework for the research and policy suggestions for Ireland's context, extrapolated in section 3.2. of this report.

The Global Compact for Safe, Orderly and Regular Migration is the first negotiated intergovernmental global framework on international migration (Global Compact for Migration, 2018). As a supporter of the Global Compact for Migration, Ireland played a key role in its development by co-facilitating the process and actively contributing to the intergovernmental negotiations. The Global Compact for Migration recognizes the need to integrate the impacts of climate change, environmental degradation and disasters in policy and emphasizes that there must be a more balanced focus on migration as not only a challenge but as a strategy that offers multitude of opportunities – which are often overlooked in planning processes, notably in climate change and migration policies. Global Compact for Migration Objective 2 relates to minimizing adverse drivers of migration, while Objective 5 relates to enhancing the availability and flexibility of regular migration pathways (ibid.) – both of which recognize the climatic and environmental considerations. According to a regional review of the Global Compact for Migration by the Irish Government (UNECE, 2020), the Global Compact for Migration does not necessitate any major changes to Ireland's migration policy and practice. Upholding this statement will require the Irish government to thoroughly evaluate how migration, environment and climate change nexus are to be addressed within relevant national policy domains.

The Sendai Framework for Disaster Risk Reduction was signed in 2015 by the UN Member States, including Ireland, and serves as a guide for directing efforts related to disaster risk reduction (DRR) and disaster risk management (DRM). The framework calls for a people-centred approach to preventing disaster risks, and urges governments to engage with relevant stakeholders, notably vulnerable populations, including migrants (UNDRR, 2015). In addition, migrants are recognized as valuable contributors to the resilience of communities due to their knowledge, skills and capacities – which could be harnessed towards the designing and implementation of DRR strategies (ibid.). Guadagno (2016) analyses four major ways in which the Sendai framework integrates considerations of human mobility: (i) including migrants in the design and implementation of DRR, (ii) adapting land use policy and urban planning to demographic change, (iii) managing population relocation to reduce disaster risk, and (vi) preparing for and managing evacuations and displacement. However, the author argues that there are still several migration issues relating to DRR that are left unaddressed by the framework.

#### European Union Policies

The European Green Deal (EGD) is a key strategy for the EU that outlines steps for responding to

the challenges of climate change and environmental degradation and for transitioning the EU to carbon-neutrality (European Commission, 2019). Central aspects of the transition include expanding sustainable and job-intensive economic activity, investing in the circular and bioeconomy and engaging the roles of farmers and fishers in sustainable development (ibid.). With an emphasis on a just and inclusive transition, the EGD urges that all EU action and policies must contribute to EGD objectives, as these challenges are complex and interlinked, requiring holistic approaches. However, this approach is deficient when it comes to migration and the role of migrants, as currently, the EGD limits references to migration by focusing mostly on averting, minimizing and addressing disaster displacement and addressing root causes of migration. While these are vital components of the migration spectrum, focusing only on these perspectives misses the opportunity to discuss enabling mechanisms that could allow migrants and their families to contribute to, and benefit from, the EGD.

The EU's Farm to Fork Strategy (F2F) ties into the EGD as the circular and bioeconomy strategy for tackling climate change, protecting the environment and preserving biodiversity while also ensuring a decent living for the farmers and fisherman that uphold these essential sectors (European Commission, 2020b). Rural areas are significant targets for the F2F strategy, with migrants and rural communities as potentially core change agents, if enabled. It will be key to consider the vulnerabilities of precarious, seasonal and undeclared workers in the F2F plan.

The European Skills Agenda for Sustainable Competitiveness, Social Fairness and Resilience entails the EU's commitment to up- and re-skill workers, both internally in Member States and migrant workers (European Commission, 2020a). The agenda emphasizes that labour migration should benefit all, and that equal access to up-skilling opportunities must be upheld (ibid.). To facilitate this, the agenda encourages a more strategic approach to legal migration. Ensuring that no one is left behind in the European Union's transition to carbon-neutrality is highly emphasized in the Skills Agenda.

One target of the European Union's New Pact on Migration and Asylum is to attract talent that will supplement aging European populations and resulting skills shortages (European Commission, 2021b). In the launching of a "Talent Partnership", the European Commission plans to match labour and skills needs with support for legal migration and mobility, complementing the goals of the European Skills Agenda. Highlighted in the pact is the importance of recognizing the potential of migrant workers in contributing to economic transitions with skills for green jobs (ibid., p. 25).

<sup>25</sup> More information on UNFCCC Parties & Observers available at [unfccc.int/parties-observers](https://unfccc.int/parties-observers).

## National Policies

In Ireland's Climate Action Plan 2021, the effects of climate change are considered as amplifiers of the occurrence of migration and displacement, with increased numbers of "climate refugees" and increased rates of labour migration (Government of Ireland, 2021a). However, the Action Plan does not capture the specificity of these impacts for Ireland's context, nor does it discuss the positive associations and outcomes of migration in the context of climate change – marking a missed opportunity for enabling and recognizing the valuable contributions of migrants, including in the scope of a Just Transition.

To meet the demands of Ireland's climate action goals, Ireland's Expert Group on Future Skills Needs has released a report on "Skills for Zero Carbon", detailing the requirements to be filled from the labour supply to enable the transition towards the low carbon economy (Expert Group on Future Skills Needs, 2021). Multiple facets of inward migration are proposed as one of the recommendations for filling skill gaps, including attracting labour from EEA migrants and returning Irish diaspora, with small levels of migrants originating from non-EEA countries (ibid.). The Future Skills report highlights that inward migration policies must support

the needs for skills and labour in Ireland to meet the urgency of the Climate Action goals.

"Our Rural Future" (2021–2025) is an Irish rural development policy that strives to reinvigorate rural areas in Ireland by enabling more people to live and work in rural communities, with a large emphasis on rural recovery from COVID-19 and the current and upcoming challenges associated with climate change (Government of Ireland, 2021c). With the concentration of agrifood and tourism sectors in rural Ireland, rural areas are well placed to see growth in employment in the circular and bioeconomy. However, low-skilled, less secure and underpaid employment may leave rural residents, including migrants, vulnerable to cyclical and structural changes in the labour market, which also may be amplified on account of environmental degradation, disasters and climate change (Mac Éinrí and White, 2008). Proactively approaching these challenges by ensuring adequate social protection, among other enabling mechanisms such as support for skills growth for both citizens and migrants, will be essential steps for ensuring that "Our Rural Future" includes all inhabitants of rural Ireland. Ireland's Sustainable Development Goals National Implementation Plan (2018–2020) indicates the relevant leads, stakeholders and national policies for each of the SDG indicators (Government of Ireland,

### Box 4. A Just Transition for Irish energy sectors

Throughout these policies and others, including Ireland's NAF and the European Climate Law, significant emphasis is placed on the concept of a "Just Transition", in which economic growth, social equity and environmental protection and restoration are linked. To be truly Just, policies referring to a Just Transition will need to intentionally integrate migration and migrants within their scope. In addition, the Just Transition concept itself may play a role in the movement of populations, as employees transfer from declining sectors into emerging ones, depending on where re-skilling and upskilling takes them. For example, in 2019, Bord na Móna, an Irish peat-harvesting and energy company, put 70 permanent employees on temporary unpaid leave and laid off 70 seasonal employees due to the suspension of a peat-fired power plant in County Longford on account of legal action taken by the EPA (Fitzgerald, 2019). Job losses such as these will persist in the Irish fossil fuel and possibly livestock industries as climate action plans intensify and the dependence on fossil fuels and high environmental footprint sectors weakens. Ensuring that livelihoods are not left behind must persist as a high priority for climate action.

2018b). With relevance to migration and the Global Compact for Migration, SDG 10.7<sup>26</sup> is led by the Department of Justice (DJE) with the Department of Foreign Affairs (DFA) as a key stakeholder (ibid.). The relevant national policy is listed as the DJE's 2015–2017 Statement of Strategy on "An Efficient, Responsive and Fair Immigration, Asylum and Citizenship System".<sup>27</sup>

However, there is no mention of climate change or the environment in this strategy. Planning for Ireland's progress in the SDGs moving forward must include more actionable strategies for addressing migration challenges and opportunities in the context of climate and environmental change.

The IOM Ireland Country Strategy for 2021–2024<sup>28</sup> outlines the strategic vision and goals for assisting the Irish government in progressive development that benefits both migrants and local populations (IOM, 2021a). Table 3 summarizes relevant objectives of the strategy that have the potential to coordinate with addressing challenges associated with the MECC nexus

and aims to present a case for integrating existing migration policies goals with climate change and environmental considerations. These objectives also align with approaches that aim to meet the recommendations of the Task Force on Displacement of the Warsaw International Mechanism for Loss and Damage of the UNFCCC to Parties.

Table 3: IOM Ireland Country Strategy Objectives and relevance to MECC nexus

Specific objectives from the IOM Ireland Country Strategy	Potential coordination with addressing challenges associated with the MECC nexus <sup>29</sup>
4.1.2. Specific Objective 2: Strengthen national policies and practices to address and reduce vulnerabilities in migration	Addressing and reducing vulnerabilities in migration must include ensuring that migrants and displaced persons are assisted and protected in the context of climate change, environmental degradation and natural disasters. The development and implementation of durable, inclusive and rights-based approaches, including anticipatory actions and live-saving aid, could thus be prioritized.
4.1.3. Specific Objective 3: Enhance understanding and response to adverse drivers of human migration due to environmental degradation, disaster and climate change	Understanding the adverse drivers of migration may lead to greater efforts towards planning processes that facilitate voluntary migration pathways and the aversion of migration out of necessity, including displacement. This objective includes analyzing and addressing environmental drivers of migration; accelerating climate action, including migration and adaptation; reducing risks; building resilience and enhancing adaptive capacities.
4.1.5. Specific Objective 5: Create conditions for migrants and diasporas to fully contribute to sustainable development	Efforts to reach this objective can play a significant role in the Just Transition if migrants are enabled to serve as active agents of change in Ireland. Relevant policies that may interconnect with these include the the EU Adaptation Strategy, Circular Economy, Farm to Fork Strategy and Ireland's Our Rural Future plan.
4.2.1. Specific Objective 1: Enhance labour market-responsive and rights-based labour mobility pathways to the region	As existing migration pathways may be altered or new ones may be forged due to changes in the environment and climate, this objective aligns with the need to strengthen regular migration pathways for those who move in the context of climate change and environmental adversities. In Ireland, new job opportunities in tourism, agriculture or fisheries, for example, may need to recruit migrant labourers, which will need to be supported through rights-based migration pathways.
4.3.2. Specific Objective 2: Enhance collection and utilization of accurate and disaggregated data as a basis for evidence-based policies and balanced public discourse on migration	The collection and use of accurate, comparable and reliable data will be helpful for monitoring migration pathways and how these may be influenced by climate and environmental changes, which will allow for stakeholders to monitor, evaluate and implement relevant policies that support vulnerable communities and ensure proactive support over time.
4.3.3. Specific Objective 3: Support coherent migration governance across sectors and ensure policy coherence at the national level	This objective is core to the goal of mainstreaming migration and enabling synergies within all policies and sectors, with one of the specific sectoral policies included as climate action. This objective also highlights how policies must achieve coherence between internal and international migration governance, which connects the shared challenges and potential synergies associated with internal and external migration.

<sup>26</sup> SDG target 10.7 is to "facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies". This target is directly linked to the Global Compact for Migration.

<sup>27</sup> DJE's 2015–2017 Statement of Strategy on "An Efficient, Responsive and Fair Immigration, Asylum and Citizenship System": [www.justice.ie/en/JELR/Strategy%20Statement%202015-17%20Accessible%20Version.pdf/Files/Strategy%20Statement%202015-17%20Accessible%20Version.pdf](http://www.justice.ie/en/JELR/Strategy%20Statement%202015-17%20Accessible%20Version.pdf/Files/Strategy%20Statement%202015-17%20Accessible%20Version.pdf).

<sup>28</sup> [iomireland.ie/wp-content/uploads/2021/04/IOMI-Country-Strategy.pdf](http://iomireland.ie/wp-content/uploads/2021/04/IOMI-Country-Strategy.pdf).

<sup>29</sup> This framing is influenced by the IOM Institutional Strategy on Migration, Environment and Climate Change.

Lastly, IOM has published Migration Governance Indicators (MGI) for Ireland (IOM, 2021b). The purpose of the MGI is to support well-managed migration policy by assessing the comprehensiveness of current migration governance structures and identifying priorities for assessing existent and emerging challenges and opportunities. The MGI complements several of the objectives outlined in this report. Specifically, the MGI indicates that while Ireland has strategies

that recognize the movement of people linked to environmental degradation and the adverse effects of climate change, these strategies do not specifically address migration (ibid.). The recognition of this gap in governance is useful, as it identifies the current reality of changing migration patterns, which need to be matched with proactive policy responses.

### Box 5. Uplifting and involving stakeholder voices

According to the Adaptation Preparedness Scoreboard, stakeholder engagement in Ireland includes processes that facilitate stakeholders' involvement in the preparation, implementation and assessment, evaluation and review of adaptation policies and measures (European Commission, 2018). For example, the National Adaptation Steering Committee and Climate Action High Level Steering Group contributes to monitoring and evaluating the progress of the NAF. Additionally, the National Dialogue on Climate Action (NCDA)<sup>1</sup> is a forum for collaboration between citizens, communities, youth, the government and relevant agencies that enables the discussion of issues relating to climate change and serves as a platform for informing people on opportunities and challenges for addressing climate change, motivating action and empowering participation in co-design of national climate policy and plans (Revez and Mullally, 2019). These processes provide the opportunity for stakeholders from a variety of backgrounds to address the emerging role that migration plays in Ireland's response to and experience with the climate crisis.<sup>2</sup>

1 NCDA available at: [www.gov.ie/en/publication/4bf2c-national-dialogue-on-climate-action-ndca/](http://www.gov.ie/en/publication/4bf2c-national-dialogue-on-climate-action-ndca/).

2 For additional relevant stakeholders aside from IOM, please refer to Appendix 3 "Organisations, programmes and funds in Ireland that support migrants and migration related issues" and Appendix 5 "Irish government department or agency with a level of oversight in migrant communities/migration related issues".

## 3.2. RESEARCH NEEDS AND POLICY OPTIONS

### 3.2.a. Integrated approaches for averting, minimizing and addressing climate-related displacement and addressing issues around migration

#### Mitigation, adaptation and loss and damage

Mitigating the impacts of the global climate crisis by reducing GHG emissions, regeneratively managing land use and rerouting towards sustainable paths of growth and development will be critical courses of action for ensuring a safe operating space for humanity (Steffen et al., 2015) – an indispensable component of reducing the causes of displacement globally. As an Annex I country and signatory of the Kyoto Protocol and the Paris Agreement,<sup>30</sup> Ireland has made commitments to substantially reduce its contributions to the climate crisis, as well as to financially support non-Annex<sup>31</sup> parties that have been least responsible for contributing to anthropogenic climate change but are especially vulnerable to the climate crisis.<sup>32</sup>

Nonetheless, mitigation efforts will not offset the need for adaptation, since the impacts of past and current emissions will continue to alter the composition of natural systems and give rise to unprecedented changes, risks and deficiencies to ecosystem services and functions (IPCC, 2021). Hence, the integration of migration in the context of climate change must be more holistically addressed within national adaptation plans, national communications, adaptation communications, sectoral vulnerability and adaptation assessments and the Climate Action Plan.

Together with mitigation efforts, it will be vital to develop and implement financing and recovery mechanisms for Loss and Damage related to the adverse impacts of climate change – including displacement. The Executive Committee of the Warsaw International Mechanism for Loss and Damage<sup>33</sup> has sought to address the residual impacts of climate change, across five thematic expert groups on slow onset events; non-economic losses; comprehensive risk management; the task force on displacement; and action and support.

Robust, iteratively assessed integration across these areas has the potential to enhance synergies between global policy frameworks. Participatory processes in the destination and sending communities are needed to

achieve this, and efforts should be made to ensure the inclusion of disadvantaged and vulnerable stakeholders such as migrants and their families, along with gender analyses, to ensure that the voices of all are heard and included.

#### Land use planning and development

Planning Ireland's development trajectories could be guided by greater use of vulnerability assessment and stakeholder engagement processes, including those that are iteratively adjusted in line with updated climate projections (The Irish Academy of Engineering, 2009). Sustainable land use planning and development are essential practices for preventing forms of migration that erode human welfare (Warner et al., 2014). Ireland's NAF encourages land use policies to find synergies in development, including those that have a "no-regret" benefit, such as the establishment of both flood resilience and increased access to wildlife in a green space (DCCAE, 2018). Such land use policies can also influence migration patterns in Ireland, whether directly or indirectly, where areas at risk of flooding may be converted to less vulnerable land uses, such as parks or open spaces for natural habitats (ibid.).

Such policies are also relevant to places vulnerable to coastal erosion, where managed realignment/managed retreat allows for coastal recession to take place, which may lead to the relocation of certain coastal properties (Murphy, 2014). Avoiding development and human habitation in areas prone to risk and promoting development in less vulnerable areas can accommodate the long-term benefit of limiting displacement or the need for near-future relocation (DCCAE, 2018). The active engagement of local communities and landowners will be essential if planning measures are to achieve equitable and resilient outcomes from conservation and restoration strategies (Haughey, 2021).

#### Housing

Inadequate availability of affordable housing to meet rising demands in Ireland, a prominent risk according to the NRA (Government of Ireland, 2021b), may meet increased pressures with intensified risks from climate impacts. Ireland's National Planning Framework (NPF) identifies Dublin, Cork, Limerick, Galway and Waterford as locations with heightened needs for new homes (Government of Ireland, 2018a). However, these are also hotspot locations for climate risks, as those described earlier in this report. To climate-proof planning processes and minimize future displacement

30 Ireland in the UNFCCC available at [unfccc.int/node/61086](http://unfccc.int/node/61086).

31 More information on Annex I, Annex II and non-Annex I parties is available at [unfccc.int/parties-observers](http://unfccc.int/parties-observers).

32 See Appendix 6 for examples of Ireland's climate-related Official Development Assistance in 2019.

33 Available at [unfccc.int/wim-excom](http://unfccc.int/wim-excom).

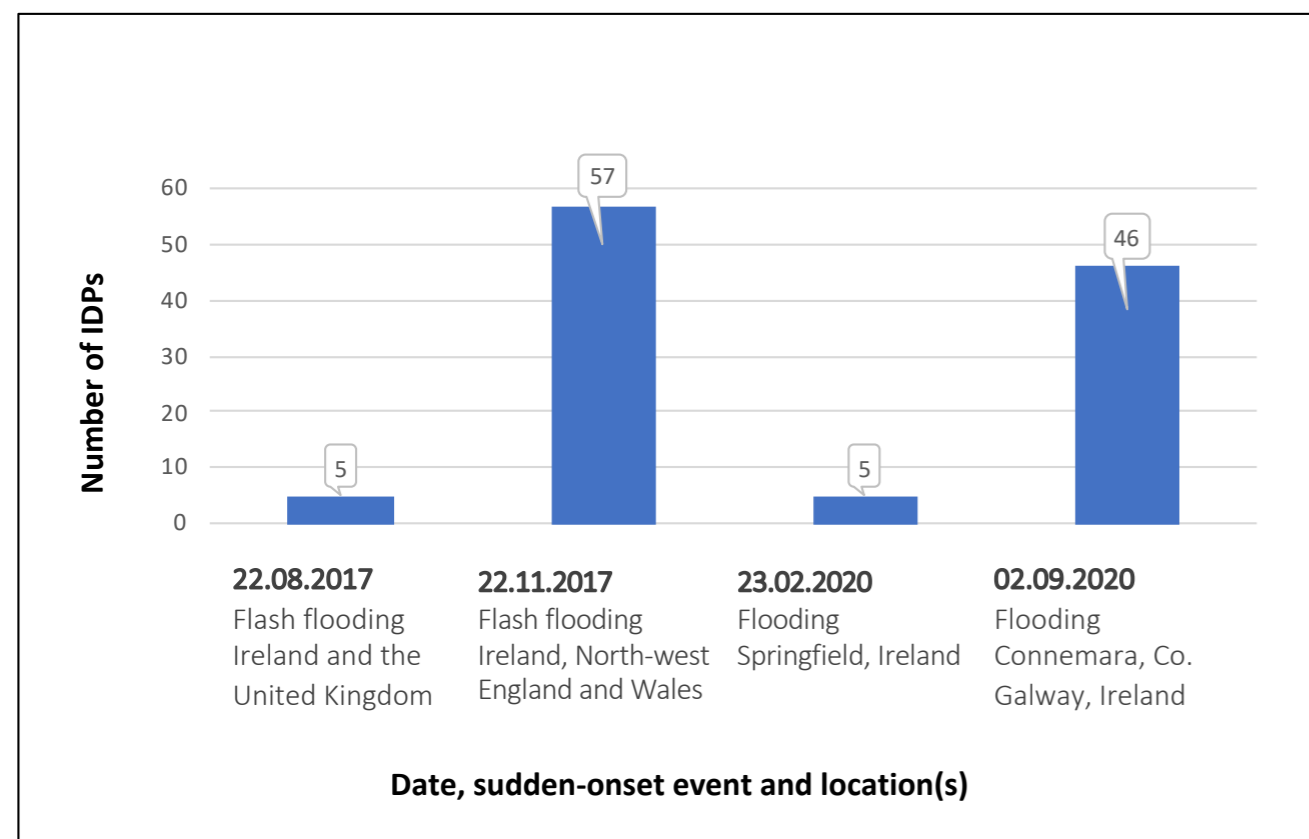
or relocation needs as well as provide safe living and working conditions for migrants and their families, these risks must be considered alongside housing planning, especially in high-demand and high-risk coastal and urban locations.

The NRA has also reported that skills and labour shortages are significant challenges in the construction sector, which is among critical contributor to the limited availability of affordable housing (Government of Ireland, 2021b). These labour gaps and barriers to development could be filled through more supportive migration pathways that enable international migrants to contribute to sustainable development in Ireland, while also potentially contributing to the sustainable development of their origin communities through enhanced opportunities for delivering monetary and social remittances.

### 3.2.b. Research, data collection and risk analysis through participatory approaches

There are significant gaps in understanding the likely trends that climate change may have for driving human migration, globally and specifically in Ireland. Current understanding of these linkages is constrained by data and knowledge gaps (Oakes et al., 2020). Nonetheless, current and future environmental and climatic risks have the potential to displace people. Some forms of migration (e.g. planned evacuation, labour migration, planned relocation) could contribute to disaster risk reduction and climate change adaptation. The experiences could vary among different social groups, as these experiences are shaped by one's age, gender and degree of marginalization. Gaining further insights into the MECC nexus locally and nationally must be reinforced with the collection, monitoring and analysis of reliable data, facilitated through a participatory approach, which is an essential step towards understanding how to best support affected populations and plan for long-term resilience.

Figure 4: Sudden-onset disasters and number of internally displaced persons recorded in Ireland



Source: IDMC, [internal-displacement.org/countries/Ireland](https://internal-displacement.org/countries/Ireland).

Realizing the future potential of migration in Ireland can be improved by investigating how population projection scenarios, such as those conducted by the CSO, can better factor in environmental and climate projections. This can help to support both inclusive planning in likely destinations and climate change adaptation in likely origin areas. Improved participation of disaggregated social groups could be better engaged to shed light on perceptions of risk and preferred adaptation strategies in relation to climate change and environmental hazards. Such studies will help policymakers and implementers to better understand the extent that the role of migration may have in preferred adaptation strategies.

Lastly, capturing all kinds migration and their intersections with climate change within data structures is currently challenging. This is due to the wide spectrum of migration actions, including evacuation, planned relocation or voluntary migration, and because climate and environmental factors are only some of the many factors which may surround a decision to migrate (Cundill et al., 2021). Additionally, reliable estimates of how much migration, voluntary or otherwise, occurs in response to slow-onset processes are difficult to obtain (Chazalnoël and Randall, 2021; Ionesco et al., 2017).

### 3.2.C. STRENGTHENED PREPAREDNESS

#### Disaster Risk Management and Disaster Risk Reduction

Disaster risk management (DRM) and disaster risk reduction (DRR) are essential strategies for preventing forms of migration that erode human welfare, such as displacements or forced relocation (Guadagno, 2016; Warner et al., 2014). Since the EU is a member of the Platform on Disaster Displacement,<sup>34</sup> Ireland is also responsible for pursuing the goals and aims of the PDD. These include promoting measures to:

- (i) protect and assist persons displaced across borders in the context of disasters and climate change,
- (ii) manage displacement risks in countries of origin through disaster risk reduction, climate change adaptation and resilience-building,
- (iii) create safe, orderly and regular migration pathways and planned relocation measures,
- and (vi) bolster protection for internally displaced persons.<sup>35</sup>

Although the level of uncertainty remains high (Doran et al., 2019), proactive disaster preparedness in Ireland

may involve movements of vulnerable populations away from areas at risk. Ireland's NAF recognizes the need to enhance coherence between the Paris Agreement on Climate Change, the Sendai Framework for Disaster Risk Reduction and the United Nations (UN) Sustainable Development Goals (SDGs). However, it does not make specific references to plans that would avert, minimize or address displacement related to adverse impacts of climate change, nor any issues that such migration might cause. Displacement is mentioned once in the NAF, in reference to the mental health effects of loss and displacement. The NAF follows a dynamic, iterative process, which provides an opportunity to address compounding vulnerabilities, and to develop strategies to address these. The next NAF report, to be published in January 2023 (European Commission, 2018), could take advantage of this through a more targeted plan for these frameworks to address the challenges and opportunities associated with the MECC nexus.<sup>36</sup>

#### Resilience-building – nationally and abroad

Ireland has been identified as one of five nations with favourable natural and anthropogenic characteristics that minimize the risk of societal collapse (King and Jones, 2021). In this analysis, King and Jones (2021) determined that well-managed migration policies, climate action and decreased dependence on fossil fuels are among key factors influencing whether Ireland retains this relative stability in the future. As there is clear evidence that people migrate into less disaster-prone or disaster-affected locations in pursuit of economic opportunities (Black et al., 2013), strategies in Ireland must continue to strengthen domestic resilience capacities, including inclusive planning to be able to host current and future populations, including international migrants. These strategies must avoid detrimental impacts on vulnerable members of the population including by strengthening social protection and continuing to support migrants and displaced persons.

In terms of resilience-building abroad, Irish foreign policy measures could include sustainable and predictable financing and requisite technical assistance to the most vulnerable countries, assistance in averting, minimizing and addressing loss and damage, reducing the risk of displacement due to climate change, and creating enabling conditions to leverage migration for adaptation.

<sup>34</sup> Available at [disasterdisplacement.org/](https://disasterdisplacement.org/).

<sup>35</sup> See the PDD Strategy 2019-2022 for further information: [disasterdisplacement.org/wp-content/uploads/2019/06/26062019-PDD-Strategy-2019-2022-FINAL\\_to\\_post\\_on\\_website.pdf](https://disasterdisplacement.org/wp-content/uploads/2019/06/26062019-PDD-Strategy-2019-2022-FINAL_to_post_on_website.pdf).

<sup>36</sup> For examples of DRM and DRR project and programmes in Ireland, see Appendix 4.

### 3.2.D. INTEGRATION OF MIGRATION CHALLENGES AND OPPORTUNITIES IN THE CONTEXT OF CLIMATE CHANGE INTO NATIONAL PLANNING PROCESSES

The UNFCCC requires its signatory Parties to integrate migration into their long-term adaptation plans (United Nations Office in Belgium, 2020). There is a pressing need for more holistic stances on how to avert, minimize and address displacement related to adverse impacts of climate change, explore planned relocation as a measure for addressing loss and damage and develop strategies to support migration within adaptation planning processes.

According to IOM, 81 per cent of the territories that have submitted national adaptation policies, plans or strategies refer to migration within them; 20 per cent of countries and territories referred to migration in their Intended Nationally Determined Contributions (INDCs); and 70 per cent of National Communications (NCs) mention migration (IOM, 2018a). Ireland's INDC/NDC is integrated within the overall EU INDC/NDC, which currently lacks any reference to migration (European Commission, 2020c). This gap is an opportunity for improvement for the next submission of the EU's NDCs. Learning from these policy reporting processes can be an important step towards better-integrated MECC policies in the Irish context. IOM also outlines relevant international processes for migration and climate change, along with recommendations for greater coherence and convergence of the global governance of migration in the context of climate change.<sup>37</sup> These also serve as useful indicators of good practices globally, in which Ireland can follow in its next steps towards adaptation planning.

While adaptation planning must include strategies that reduce vulnerabilities that would lead to displacement, adaptation plans can benefit from also recognizing and supporting the beneficial aspects that migration generates (Warner et al., 2014). A proactive approach can include uplifting voluntary migration pathways to prevent the occurrence of displacement, the need for planned relocation or the persistence of trapped populations (ibid.). The implications for greater policy planning coherence could include (i) leveraging of remittances and diaspora funding into climate action; (ii) skilling and re-skilling support for migrant workers, including those currently employed in fossil fuel industries and extractive sectors; (iii) inclusion of migrants and displaced people in adaptation and DRR planning processes and (iv) helping to ensure that the needs of those most vulnerable, including

migrants, displaced people and livelihoods dependent on ecosystem services are included in regional and national climate change policies and climate action tools (United Nations Office in Belgium, 2020).

In general, the coherence among migration and climate policies may simulate more meaningful and direct recognition of how adaptation and mitigation strategies should aim to include and benefit all people living in Ireland (ibid.).

### 3.2.E. STRENGTHEN EFFORTS TOWARDS FINDING DURABLE SOLUTIONS

#### Participatory, anticipatory planned relocation

It is increasingly recognized that incremental adaptation will, in isolation, be insufficient to deal with current and projected climate risks (Rickards and Howden, 2012, Kates et al., 2012). Indeed, the notion of 'transformative adaptation' has been promoted as an alternative (Clarke and Murphy, 2019). Clarke and Murphy (2019) identify relocation as an example of transformative adaptation that can be employed to manage or avoid climate impact. Indeed, while planned relocation of residential or commercial infrastructure should be a last resort, convergences of socioeconomic and environmental drivers may make it inevitable (Warner et al., 2014). Relocation may also be promoted in areas that are designated for the use of mitigation measures or adaptation projects (McAdam and Ferris, 2015). However, the emphasis on other proactive, durable solutions, such as early warning systems, resilient infrastructure, circular economy, sustainable food systems and strategies for DRM and DRR should be considered ahead of planned relocation measures.

For any strategy of relocation to protect human welfare and promote effective adaptation, it must build capacity and improve living conditions for those affected, while avoiding further exacerbating their adversities (Warner et al., 2014, Sina et al., 2019). National governments are the primary entities responsible for protecting displaced people— hence, there should be reliable institutions, policies, legislation, funding mechanisms and other enabling environments in place if, and when, a strategy of relocation becomes a necessity (Ionesco et al., 2017, UNHCR, 2014, Warner et al., 2014).

At present, Ireland has several voluntary homeowner relocation schemes (RTÉ, 2017) and a long-time pending voluntary farm building relocation scheme (Doyle, 2021). The existing voluntary homeowner relocation scheme has been claimed as inadequate due

to the small numbers households receiving assistance, and the lack of government oversight in the moving process (McCarthy, 2020). Many people living in flood-risk locations are excluded due to the lack of an institutional framework for acquiring relocation support, with some families calling on the Government to “buy them out” of their flood-prone homes (Raleigh, 2020).<sup>38</sup>

Current relocation schemes in Ireland fail to follow international best practice and could be greatly improved if good practices for relocation<sup>39</sup> are adapted to an Irish context. A key success factor of a planned relocation process is the extent to which those affected are involved in the design and planning of the process and receive informed consent to their relocation (Warner et al., 2014, McAdam and Ferris, 2015, Tubridy et al., 2022).

#### Box 6. Planned Adaptation in Coastal Ireland

One research project that seeks to integrate participatory planned adaptation strategies for coastal locations in Ireland is GeoPlan.<sup>1</sup> GeoPlan has highlighted the major risks that coastal locations face, such as coastal erosion, SLR and flooding, and seeks to transform what are currently reactive management strategies with more planning and decision-making which accounts for local knowledge, perspectives and needs in a codesign and coproduction process of adaptation planning. This project paves the way for better approaches to planned relocation, specifically managed retreat, and serves as a 'good practice' for the Irish context.

1 GeoPlan project available at [www.icrag-centre.org/research/projectlist/geoplanpublicperceptionandunderstandingofcoastalgeohazards.html](http://www.icrag-centre.org/research/projectlist/geoplanpublicperceptionandunderstandingofcoastalgeohazards.html).

by converging with land reform and a commitment to improve socioeconomic conditions of small farmers (Tubridy et al., 2021). This migration scheme assisted the relocation of farming households from “impoverished areas in the West of Ireland to larger farms and better-quality land in the East” (ibid.). Thus, migration was understood as a positive strategy for addressing risks to livelihoods in Ireland (ibid.). Applying the relative success of this scheme to present challenges can be achieved through policies and measures that support planned relocation with associated co-benefits, such as enhanced socioeconomic prospects with the added benefit of providing green jobs for the environment. To prevent future displacement and ensure that

people are not moved away from exposure of one risk to end up exposed to others, relocating should aim to be achieve economic, social and environmental sustainability for those affected (ibid.). Guaranteed or improved access to housing, land, public services and livelihood development, and consideration of intersectional vulnerabilities, could be integrated into a planned relocation process (ibid.).

Seen through this lens, policy programmes such as the GND, the F2F strategy and “Our Rural Future”, may serve as tools for facilitating economic integration of those relocated from at-risk areas, while also synergizing with climate change adaptation and mitigation. For example, the “Shannon Valley Flood Relief Scheme” has demonstrated beneficial aspects of planned relocation

### 3.2.F. FACILITATING SAFE, ORDERLY AND REGULAR MIGRATION

Different forms of migration offer flexibility, while simultaneously easing pressure on resources in places of origin. While certain narratives may portray migration as a failure to adapt or as a 'last resort' when all other strategies have been exhausted, this is not always the case (Engler et al., 2013). However, distress migration, including displacement and forced or unplanned migration, is often experienced by relatively poorer households and is generally considered an erosive coping mechanism (Schwan and Yu, 2018). Nonetheless, viewing migration in general as a failure to

37 IOM Analysis Report on “Mapping Human Mobility (Migration, Displacement and Planned Relocation) and Climate Change in International Processes, Policies and Legal Frameworks.” Available at [disasterdisplacement.org/portfolio-item/mapping-human-mobility-migration-displacement-and-planned-relocation-and-climate-change-in-international-processes-policies-and-legal-frameworks/](https://disasterdisplacement.org/portfolio-item/mapping-human-mobility-migration-displacement-and-planned-relocation-and-climate-change-in-international-processes-policies-and-legal-frameworks/).

38 The fallbacks of managed retreat in Ireland are discussed in the study “Flood risk management, (un)managed retreat and the 'relocation fix': Examining shifting responsibilities and compounding risks through two Irish case studies” (Tubridy and Lennon, 2021). This study examines the roles of responsibility in managing the risks of climate change and how mismanaged relocation schemes amplified and created new vulnerabilities to communities affected in County Galway. The researchers highlight that while the purpose of managed retreat is to manage immediate risks associated with hazards, the exacerbation of socioeconomic risks may follow if access to adequate housing and protection of people's livelihoods and well-being is not incorporated throughout the planning and implementation of the scheme.

39 Such practices are exemplified in the UNHCR report “Planned relocation, disasters and climate change: Consolidating good practices and planning for the future” (UNHCR, 2014).

adapt may be misleading and even harmful, since other strategies, such as the consumption of rotten potatoes by the poor during the Irish famines, or removing children from education to deal with unexpected expenses, can worsen conditions and exacerbate vulnerabilities.<sup>40</sup> Indeed, planned, voluntary migration can serve as a resilience-building option to those who are able to move. However, to achieve positive outcomes, international migration must be supported with regular migration pathways such as regularization schemes, work permits, social protection measures and integration efforts (Aleksandrova, 2020, Cundill et al., 2021). Indeed, from January to July 2022, the Government of Ireland opened a regularization scheme for long-term undocumented migrants residing in the State to apply for legal residence.

According to a study commissioned by the European Parliament, some of the alternative measures that could serve to fill in these “protection gaps” include humanitarian visas, humanitarian corridors or circular and seasonal migration (Kraler et al., 2020). Ireland already has humanitarian corridors in place which provide a pathway for those escaping conflict, such as the recent Afghan admissions programme led by the DJE and IRPP, which Kraler et al. (2020) and Matias (2020) suggest could be extended for people who are forced out of their origin countries on account of environmental adversities, as a “climate humanitarian visa”. Seasonal labour, meanwhile, could provide a relief for livelihoods that are threatened or eliminated due to climate change, and only for the minimum amount of time needed (ibid.). The component of seasonal labour may be an insightful method for facilitating international migration and internal migration.

In light of two recent policy briefs developed by the Center for Global Development and IOM United Kingdom, the Irish Government may take note of the pathways that have been outlined as recommendations for the United Kingdom government for leveraging regional environmental migration positively towards building resilience (Dempster et al., 2021, Pra et al., 2021). These reports discuss numerous methods for how the United Kingdom can contribute to facilitating environmental migration whilst benefiting its national development and contributing to global climate resilience. The authors discuss options for how the United Kingdom can extend support towards implementing and expanding Free Movement Protocols within regional agreements in climate hotspots. The discussion is also centered around how the United Kingdom can uphold its commitments under the Global

Compact for Migration implementation efforts. Several specific national policy recommendations, graded from “easy” to “hard” achievements, are presented. These include extending temporary protections to people from countries affected by disasters, targeting labour migration pathways to climate-vulnerable countries, creating a new ground for asylum claims and designing a new visa for people affected by slow-onset disasters. Through such approaches, Ireland can join global efforts for supporting migrants in resilience-building and by reducing drivers of displacement, distress migration or conditions of trapped populations – both internally and internationally. Simultaneously, there are opportunities for national development through meeting labour needs for green economy development. The utilization of existing migration pathways can be moulded to fit the context of increasing challenges amidst the impacts of sudden- and slow- onset events.

Building from this, it may also be beneficial to explore whether Ireland’s contributions as an Annex I party to the UNFCCC, as well as commitments to receive and protect international asylum seekers and refugees, could be better aligned with supporting migrants who are driven to move by environmental and climate factors. Furthermore, the NAF marks it as important for Ireland to “play its part at a global level in respect of discharging its obligations on matters relating to how we contribute to climate resilience in the developing world” (DCCAE, 2018), which may be extended further into a discourse suitable for the topic of environmental migration in the most vulnerable locations and situations.

#### Migrant-positive communication

The communication of migration is an integral component of how migrants will be regarded in national discourse and public opinion. Encouraging the public to engage in discussions involving the migration in the context of climate change can follow the lead of studies such as a representative online survey conducted in Germany, which explored the public’s acceptance of climate migrants (Helbling, 2020). In Ireland, current engagement is taking place through the Global Migration Media Academy (GMMA), an initiative in collaboration with IOM, NUI Galway and Irish Aid for media literacy programmes that identify, challenge and debunk misinformation about migration.<sup>41</sup> Given the common misperceptions, myths and overall misleading narratives surrounding climate-related migration (Boas et al., 2019), this programme may serve as a model for exploring public perceptions and narratives regarding

climate change and its relations to migration. Generally, it will be essential to develop evidence-based migration and climate narratives that do not cause undue panic or alarm or focus on the security-framing of migration. Uplifting narratives that facilitate reflection on future scenarios to inform better planning and co-benefits for migrants, source locations and destinations will create

more space for scientifically and empirically based knowledge on this nexus – which will concentrate the discussions for realistic, human-centered and long-term policy options that are able to foster meaningful impacts.



Temple Bar, Dublin, Ireland. Source: © Unsplash 2021/Anna CHURCH

<sup>40</sup> The Coping Strategy Index (CSI) is a helpful tool for identifying and measuring the harmful coping strategies that households may utilize when they lack enough food or enough money to buy food. Source: [www.indikit.net/indicator/21-coping-strategy-index-csi](http://www.indikit.net/indicator/21-coping-strategy-index-csi).

<sup>41</sup> IOM – NUI Galway media literacy programme on debunking myths about migration: [www.nuigalway.ie/about-us/news-and-events/news-archive/2021/april/nuigalway-spearheads-global-project-to-challenge-fake-news-on-migration.html](http://www.nuigalway.ie/about-us/news-and-events/news-archive/2021/april/nuigalway-spearheads-global-project-to-challenge-fake-news-on-migration.html).

## 4. CONCLUSIONS

This IOM Country Profile contributes to the ongoing discourse that examines the complexity of migration in the context of the climate crisis and environmental change. There are significant gaps in understanding the direct (or indirect) attributions and causations between migratory patterns and climate change (and/or environmental) stresses. This is partially attributed to the complexity of understanding migration decisions, which occur as a result of converging environmental, social, political, economic and demographic interactions, further influenced by personal/household characteristics and intervening obstacles and facilitators (Foresight, 2011). The consequences of climate change and environmental degradation supplement and exacerbate the existing socioeconomic pressures and motivations for mobilizing out of vulnerable situations, such as poverty, conflict and search for better employment or educational opportunities. Meanwhile, mal-managed migration can aggravate these same pressures, stimulating a negative feedback loop between the two phenomena.

To avoid the potential for exacerbating existing vulnerabilities with inadequate or uncoordinated MECC nexus responses, policymakers and relevant stakeholders across the migration, environment and climate sectors must work together and iteratively evaluate propositions for inclusive and just solutions to these growing challenges. As climate change adaptation becomes increasingly urgent in Ireland and globally, projecting future possibilities and adopting a precautionary approach to unpredictable circumstances can help protect communities and build capacity. The greater the efforts to address MECC challenges, the greater potential lies for migrants, their origin communities and their destinations communities to operate as key agents of change towards building a more sustainable, just and resilient future for all – both in Ireland and abroad.

When there are limits to adaptive capacities at any location and time in response to extreme and variable conditions, migration has historically offered a relief valve for those who are able to move. In such a context, the mainstreaming of migration in climate change policy and discourse, and vice-versa, offers a proactive and inevitable approach. To strengthen migration and associated adaptation strategies, the narrative of relocating as a voluntary choice, in which the migrant is an agent of their migratory plans, must be institutionally supported and triumph over

the narrative of unprepared, involuntary or forced displacement.

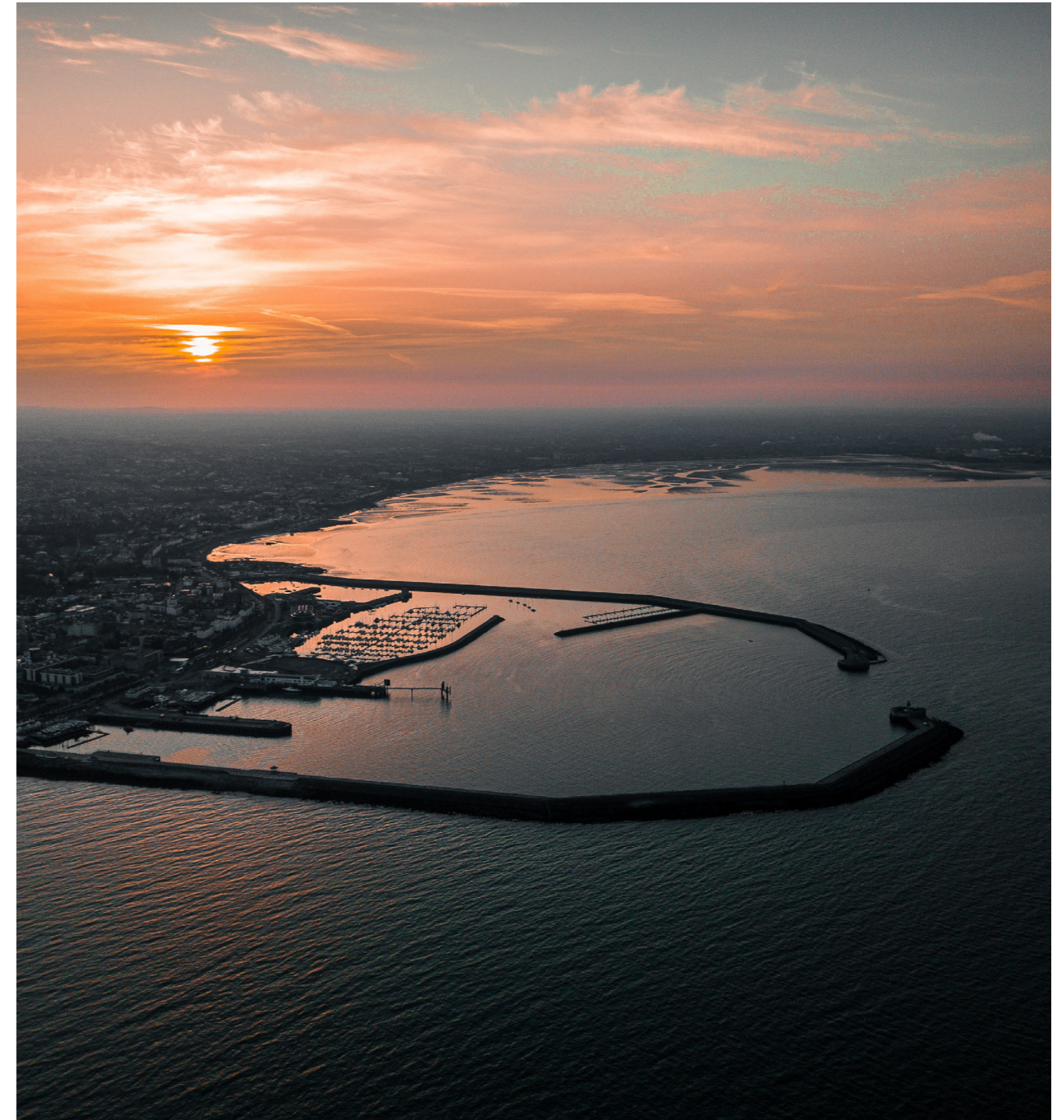
The Government of Ireland's NRA emphasizes that swift action to address climate change and curtail rising costs of inaction will be critical to avoid threats from a number of risks, including population displacement and mass migration (Government of Ireland, 2020). While uncertainties are manifold, the call to action for addressing the relations among migration, climate change and environmental changes must not be stalled. The precautionary approach, as highlighted by the Ireland's NAF, must be adopted through policy processes and research initiatives, despite, and in preparation for, this uncertainty.

The IDMC estimated 23.6 million new displacements in 2021 as a result of disasters, 94 per cent of which were the result of weather-related hazards such as storms and floods (IDMC, 2022). In 2020, disaster displacement figures were the highest in a decade, with inequality and many living in poverty making them particularly vulnerable (IDMC, 2021). As such, while Ireland is a developed country with a high GDP per capita and high rating in HDI indexes, the IPCC's AR4 report repeatedly states that even societies with high adaptive capacities will remain vulnerable to climate change particularly where there is ineffective and unsustainable action (IPCC, 2007). Those most vulnerable in Ireland will bear the weight to these threats, thus strengthening the country's overall adaptive capacity will be demonstrated by how those most vulnerable and marginalized are equipped to adapt.

Migration has been outlined as an adaptation strategy to climate change and environmental adversities. However, migration can also exacerbate vulnerabilities that hinder adaptive capacities through pathways of distress migration and forced displacement, failed relocation processes or furthered environmental degradation due to overwhelmed capacities. In addition, the lack of agency or capacity to engage in migration due to other constraining vulnerabilities can act as a barrier to adaptation. Capturing the benefits of migration will only be determined by integrated and coherent policies and strategies for managing migration that enable migratory pathways that serve important roles in sustainable development globally, have the potential to contribute to economic and social development, reduce forced migration and bolster human well-being (IOM, 2019a).

In conclusion, the key takeaway message from this IOM MECC Country Profile is that Ireland's role in the international discourse, research initiatives and policy strategies on migration in the context of climate change can work more effectively towards meeting the

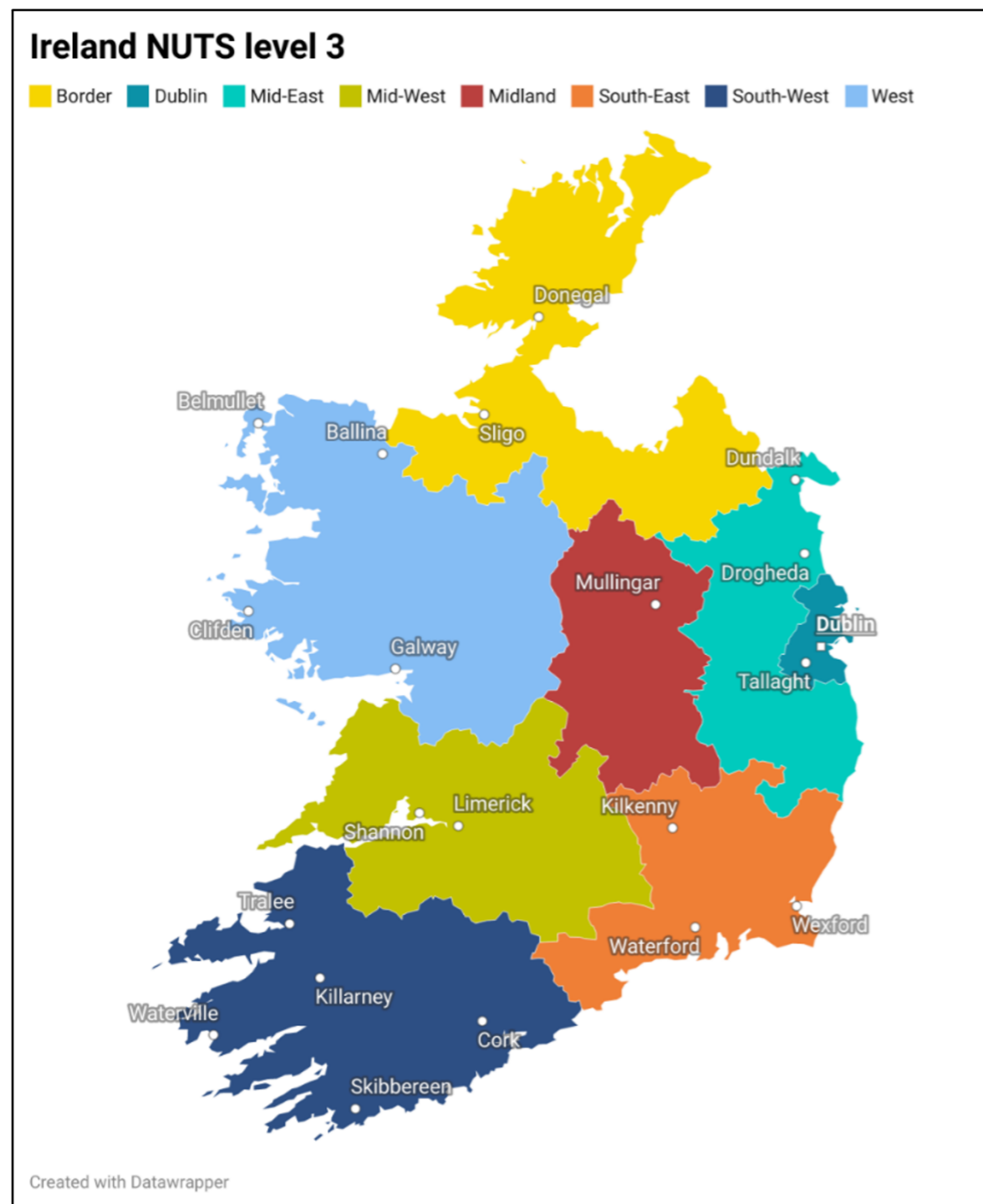
current and future challenges within the MECC nexus. In addition to efforts towards proactive migration, adaptation and resilience measures, Ireland can continue to contribute to strenuous climate change mitigation efforts.



Dun Laoghaire, Dublin, Ireland. Source: © Unsplash 2021/Paul COSTELLO

# APPENDICES

## APPENDIX 1: NOMENCLATURE FOR TERRITORIAL UNITS FOR STATISTICS LEVEL 3 REGIONAL AUTHORITIES MAP, IRELAND



Source: Eurostat. Graph created by DS using Datawrapper. Regional Authorities are based on the Nomenclature of Territorial Units for Statistics (NUTS) classifications created by Eurostat, which are used to define territorial units in order to produce regional statistics across the EU (CSO, 2017b). NUTS3 regional authorities are indicated by this map, along with a few of the region's main cities. These are referred to throughout the report.

Note: These maps are for illustration purposes only. The boundaries and names show and the designations used on these maps do not imply official endorsement or acceptance by the International Organization for Migration.

## APPENDIX 2: FLOOD TYPES AND POTENTIAL CONNECTIONS WITH HUMAN MOBILITY.

Flood type and recent example	Projected severity/rate of flood events	Potential connections with human mobility
<b>FLUVIAL</b> Winter (2015/16): Worst sequence of floods on record; infrastructure damages up to €106 million; over 1,100 properties flooded; state of emergency for two months.	Irish cities are among the most vulnerable to increased fluvial flooding across Europe. Cork and Waterford in particular are in line to be some of the most affected European cities [80% increases in fluvial flooding], meanwhile Dublin is predicted to be one of the worst affected European capitals.	As witnessed with recent flood destruction in Europe, flood events bring catastrophic damages that destroy homes, businesses and farmland. These risks could provoke movements out of areas at high risk or trigger displacement in advance of or following a major disaster.
<b>COASTAL</b> Winter (2013/2014): Widespread flooding led to serious coastal damage; estimated costs of €70 million; tragic loss of two lives in Cork and Limerick.	The occurrence and severity of coastal flooding in Ireland has been on the rise in recent decades, with SLR and increased storm activity indicating that these risks are likely to increase considerably, while also affecting previously unaffected areas to risks.	The dense concentration of coastal populations faces major risks to homes, businesses, livelihoods and critical infrastructure. This may provoke geographic redistributions of these compact populations in order to avoid dangerous living and working conditions, or trigger displacement.
<b>GROUNDWATER</b> Winter (2015/16): Largest groundwater flood events on record for Ireland.	In recent decades, Ireland has been experiencing more frequent instances of groundwater flooding, notably in the West of the country. The persistence of climate change will largely influence and alter the severity, frequency and duration of groundwater flood events.	Under extreme conditions, buildings, agricultural land and infrastructure can become inundated. Higher winter rainfall projections may increase occurrence and severity of these events, generating costly economic, socioeconomic and agricultural impacts. This may overwhelm local coping capacities, potentially provoking the demand to relocate.
<b>PLUVIAL</b> October (2011): Approximately 1,700 homes/businesses flooded in Dublin area; roads flooded; flights delayed or cancelled at Dublin airport; economic losses of nearly €130 million; two tragic fatalities.	Land use changes, ecosystem degradation and increased urbanization will largely determine future occurrences and severity of pluvial floods.	Changes to Ireland's natural fabric may continue to respond to increased demands for housing, especially in places that are already compact. It will be paramount to consider how these changes will put increased numbers of people and properties at risk to pluvial floods, potentially reversing the "pull" factors and carrying capacities of dense urban locations in the future.

Sources: Císcar et al. (2014), Nicholson and Gebre (2015), OPW (2015), Met Éireann (2017), Naughton et al. (2017), Guerreiro et al. (2018), Janjić et al. (2018), Clarke and Murphy (2019), Paranunzio et al. (2020) and Cornwall (2021).



## APPENDIX 3: MIGRANT/MIGRATION RELATED ORGANIZATIONS, PROGRAMMES AND FUNDS IN IRELAND

Organizations, programmes and funds in Ireland that support migrants and migration related issues. The Immigrant Council of Ireland also has a Directory of Migrant Led Organizations in Ireland, which includes 61 organizations.<sup>42</sup>

Migrant/Migration NGOs, Programmes and Funds	Overview of support
Asylum Migration and Integration Fund (AMIF) <a href="http://www.gov.ie/en/publication/4ab75-amif-and-esf-funding/#asylum-migration-and-integration-fund">www.gov.ie/en/publication/4ab75-amif-and-esf-funding/#asylum-migration-and-integration-fund</a>	"In order to promote the efficient management of migration flows and the implementation, strengthening and development of a common Union approach to asylum and immigration, the European Commission established the Asylum, Migration and Integration Fund (AMIF) to provide funding for the period 2014–20."
Clare Immigrant Support Centre (CISC) <a href="http://www.clareimmigrantsupportcentre.com/">www.clareimmigrantsupportcentre.com/</a>	"CISC provides a range of free services and programmes to immigrants including refugees and asylum seekers in County Clare, including a drop-in service, individual case support, English language programmes and community and outreach work."
Crosscare Migrant Project, Dublin <a href="http://www.migrantproject.ie/">www.migrantproject.ie/</a>	"Originally, we worked with Irish people intending to emigrate. In recent years, our work has expanded to include emigrants who are returning home as well as new migrants coming to Ireland. Our service is open to anyone, but we pay particular attention to supporting those who are marginalised or in vulnerable situations."
Doras <a href="http://doras.org/">doras.org/</a>	"Doras is an independent, non-profit, non-governmental organisation working to promote and protect the rights of people from a migrant background in Ireland".
European Migration Network (EMN) Ireland <a href="http://emn.ie/">emn.ie/</a>	EMN Ireland is the Irish National Contact Point of the <a href="#">European Migration Network</a> and is part of the Economic and Social Research Institute ( <a href="#">ESRI</a> )
Immigrant Council of Ireland <a href="http://www.immigrantcouncil.ie/">www.immigrantcouncil.ie/</a>	"At the Immigrant Council of Ireland, an Independent Law Centre, we have been working to provide assistance to people from a migrant background, improving and protecting their rights since our establishment in 2001".
Immigrant Support Clinic, Kilkenny <a href="http://fmcgrathcentre.ie/outreach-projects/associated-organisations/">fmcgrathcentre.ie/outreach-projects/associated-organisations/</a>	"The Immigrant Support Clinic offers free information, advice, advocacy and one to one support for immigrant communities in Kilkenny."
International Organization for Migration, Ireland (IOM) <a href="http://iomireland.ie/">iomireland.ie/</a>	"The International Organization for Migration (IOM) opened an office in Ireland in 2001. Ireland became a full member government of IOM in 2002. We work to help ensure the orderly and humane management of migration, to promote international cooperation on migration issues, to assist in the search for practical solutions to migration problems and to provide humanitarian assistance to migrants in need, including refugees and internally displaced people".
Irish Refugee Council (IRC) <a href="http://www.irishrefugeecouncil.ie/">www.irishrefugeecouncil.ie/</a>	"We provide services and support for people seeking protection and people recognised as refugees in Ireland and advocate for humane and dignified protection procedures and responses to people fleeing persecution".

Migrant/Migration NGOs, Programmes and Funds	Overview of support
Irish Red Cross <a href="http://www.redcross.ie/">www.redcross.ie/</a>	"We provide humanitarian support and community services to the most vulnerable at home and abroad".
Jesuit Refugee Service (JRS), Ireland <a href="http://jrs.ie/">jrs.ie/</a>	"The Jesuit Refugee Service (JRS) is an international non-governmental organization, founded in 1980 with the mission to accompany, to serve and to advocate the cause of refugees and forcibly displaced persons worldwide".
Mary Robison Foundation for Climate Justice <a href="http://www.mrfcj.org/">www.mrfcj.org/</a>	The foundation works in fields such as international migration law, climate change and human rights to identify and promote measures that protect human rights in the context of human mobility as it is associated with climate change. It has taken part in discussions at the UN Summit for Refugees and Migrants. President Robison noted that processes such as the Global Compact for Migration must include "the voices of the vulnerable such as those who have migrated due to climate-related factors". <sup>43</sup> Additionally, the foundation contributes submissions and recommendations to the Global Compact for Migration as well as the UNFCCC Taskforce on Displacement and has written a position paper on protecting the rights of climate displaced people. <sup>44</sup>
Migrant Rights Centre Ireland (MRCI) <a href="http://www.mrci.ie/">www.mrci.ie/</a>	"MRCI is a national organisation working with migrants and their families in Ireland to promote justice, empowerment and equality."
Nasc <a href="http://nascireland.org/">nascireland.org/</a>	"Nasc works with migrants and refugees to advocate and lead for change within Ireland's immigration and protection systems, to ensure fairness, access to justice and the protection of human rights".
New Communities Partnership (NCP) <a href="http://www.newcommunities.ie/">www.newcommunities.ie/</a>	"New Communities Partnership (NCP) is an independent national network of more than 150 immigrant-led groups comprising 65 nationalities".
The Killarney Asylum Seekers Initiative (KASI) <a href="http://www.wheel.ie/directory/organisation/killarney-asylum-seekers-initiative-kasi">www.wheel.ie/directory/organisation/killarney-asylum-seekers-initiative-kasi</a>	"The Killarney Asylum Seekers Initiative operates a drop-in service and provides local community support including homework clubs and English language support."
Tralee International Resource Centre (TIRC) <a href="http://tirc.ie/">tirc.ie/</a>	"TIRC support integration between local and international communities in Tralee, Co. Kerry by providing support services to asylum seekers, refugees and broader immigrant communities in Tralee. They operate a drop-in facility and moderate inter-agency cooperation towards greater integration."
United Nations High Commissioner for Refugees (UNHCR), Ireland <a href="http://www.unhcr.org/en-ie/">www.unhcr.org/en-ie/</a>	"We work with the Irish government, officials, NGOs and other partners to protect people forced to flee their homes and support them to live their lives with dignity and respect".

<sup>42</sup> [ec.europa.eu/migrant-integration/?action=media.download&uuid=299B0137-D7F9-F79B-B97CB7EC6DA67437](http://ec.europa.eu/migrant-integration/?action=media.download&uuid=299B0137-D7F9-F79B-B97CB7EC6DA67437).

<sup>43</sup> Available at [www.mrfcj.org/resources/mary-robinson-takes-part-in-round-table-discussion-at-un-summit-for-refugees-and-migrants/](http://www.mrfcj.org/resources/mary-robinson-takes-part-in-round-table-discussion-at-un-summit-for-refugees-and-migrants/).

<sup>44</sup> Available at [www.mrfcj.org/wp-content/uploads/2016/07/Protecting-the-Rights-of-Climate-Displaced-People-Position-Paper.pdf](http://www.mrfcj.org/wp-content/uploads/2016/07/Protecting-the-Rights-of-Climate-Displaced-People-Position-Paper.pdf).

APPENDIX 4: EXAMPLES OF DRM AND DRR PROJECTS/PROGRAMMES IN IRELAND

DRM or DRR project/programme	Relevance for migration
“Strategic Emergency Management (SEM) National Structures and Framework”. <sup>45</sup>	Published by Ireland’s Department of Defence and the Office of Emergency Planning, the SEM identifies the national structures in place for supporting emergency management and explains components of risk management, planning and preparedness, coordination of national-level responses and how recovery phases are managed, among other topics. The document explores Ireland’s recent national plans and structures for addressing emergencies, while highlighting the notion that emergencies should be dealt with locally as much as possible. However, the report only mentions displacement once, in the context of “emergencies abroad with the result of mass inward population displacement” (p. 42). Different contexts of migration fail to be recognized, such as internal displacement or planned relocation measures.
“WARNDIS: A Review of Climate Change-related Hazards and Natural Disaster Vulnerabilities and of Agencies Involved in Warning and Disaster Management” (Bruen and Dzakpasu, 2018).	This EPA project reviews climate change-related hazards and natural disaster vulnerabilities and the agencies in Ireland that address them. The project reveals that disaster response is coordinated on national, regional and local/on site levels. However, the authors argue that more coordinated support is needed. A key insight is that there is no existing national warning system for hazards that are not categorized as severe weather, and there is no single agency responsible for all aspects of peacetime disaster management in Ireland. Displacement and some risks associated with displacement are listed as potential outcomes of natural disasters.
“Enhancing Integration of Disaster Risk and Climate Change Adaptation into Irish Emergency Planning”. <sup>46</sup>	This EPA-funded project is conducted by Science Foundation Ireland (SFI) MaREI Centre <sup>47</sup> and the School of Law at University College Cork (UCC). The project aims to understand how climate change will affect vulnerable communities and sectors in Ireland in the short and medium term and explores the synergies between DRR and DRM with climate change adaptation and sustainable development. The goal coincides with Ireland’s NAF in that it seeks to provide opportunities for combining approaches of long-term adaptation plans with short-terms responses to extreme events. The emphasis on engagement with a wide range of stakeholders and pathways to long term resilience may offer a space for discussions on migration.
The National Catchment Flood Risk Assessment and Management (CFRAM) Programme. <sup>48</sup>	This programme has been undertaken by the OPW of Ireland in response to the EU Floods Directive. <sup>49</sup> The aim is to provide a clear and comprehensive analysis of flood risk and how to manage it effectively and sustainably. This has led to the development of 29 Flood Risk Management Plans. CFRAM is required to review its preliminary flood risk assessment, flood maps and plans every six years.

45 Strategic Emergency Management National Structures and Framework. Available at [www.gov.ie/en/publication/7ff6f-strategic-emergency-management-sem-national-structures-and-framework/](http://www.gov.ie/en/publication/7ff6f-strategic-emergency-management-sem-national-structures-and-framework/).

46 “Enhancing Integration of Disaster Risk and Climate Change Adaptation into Irish Emergency Planning”. Available at [www.marei.ie/enhancing-integration-of-disaster-risk-and-climate-change-adaptation-into-irish-emergency-planning/](http://www.marei.ie/enhancing-integration-of-disaster-risk-and-climate-change-adaptation-into-irish-emergency-planning/).

47 MaREI is the Science Foundation Ireland (SFI) Research Centre for Energy, Climate and Marine. Available at [www.marei.ie/](http://www.marei.ie/).

48 CFRAM programme. Available at [www.floodinfo.ie/about\\_frm/#structural-measures](http://www.floodinfo.ie/about_frm/#structural-measures).

49 EU Floods Directive: Available at [faolex.fao.org/docs/pdf/eur74931.pdf](http://faolex.fao.org/docs/pdf/eur74931.pdf).

APPENDIX 5: IRISH GOVERNMENT DEPARTMENTS/AGENCIES WITH OVERSIGHTS IN MIGRATION

There are currently 18 departments and 212 agencies of the Irish government – many of which have direct oversights dealing with and supporting migrant communities and/or migration related challenges and opportunities. A few of the departments or agencies with a degree of oversight in migrant communities/migration related issues are listed below.

Irish Government Department/Agency <a href="http://www.gov.ie/en/help/departments/">www.gov.ie/en/help/departments/</a>	Overview
Department of Children, Equality, Disability, Integration and Youth	The Department of Children, Equality, Disability, Integration and Youth’s mission is to enhance the lives of children, young people, adults, families and communities, recognizing diversity and promoting equality of opportunity.
Department of Social Protection	The Department of Social Protection’s mission is to promote active participation and inclusion in society through the provision of income supports, employment services and other services.
International Protection Office <a href="http://www.ipa.gov.ie/">www.ipa.gov.ie/</a>	The International Protection Office (IPO) is responsible for examining and processing applications for international protection.
Office of the Refugee Appeals Tribunal	The Tribunal decides appeals of those persons whose application for International Protection status has not been recommended by the International Protection Office.
Office for the Promotion of Migrant Integration (OPMI)	The functions include the promotion of the integration of legal immigrants into Irish society, the establishment of new structures for this purpose, the coordination of Ireland’s international reporting requirements relating to racism and integration and overseeing the operation of the Irish Refugee Protection Programme (IRPP) established in 2015 as a humanitarian gesture to migrants fleeing conflict and provide assistance to the EU effort to manage mass migration events in Europe.
Pobal <a href="http://www.pobal.ie/">www.pobal.ie/</a>	Pobal works on behalf of the Government to support communities and local agencies toward achieving social inclusion and development.

ODA description	Funds contributed or pledged to contribute in 2019
<b>SIDS Strategy:</b> Ireland set up this trust fund at the Asian Development Bank to support Asia-Pacific small island developing states (SIDS) in adapting to climate change and improving disaster resilience with a significant focus on gender elements.	€12 million
<b>Humanitarian relief</b> provided to several African countries who suffered from humanitarian emergencies often driven by conflict and impacts of climate change.	€49.6 million
Support to <b>UNHCR</b> and <b>IOM</b> for development assistance dedicated to education over the next five years and to peacebuilding.	€250 million
<b>UN peacebuilding fund (2020–2022)</b>	€4.5 million
<b>Crisis support:</b> flood risk relief and early recovery activities in Malawi.	€750,000
<b>Energy transition funds:</b> For the construction of a solar plant in the Palestinian Territories.	€8.8 million
<b>Food and Agriculture Organization (FAO):</b> For supporting sustainable agriculture, climate action and resilience-building projects.	€3.36 million
<b>International Development Association (IDA):</b> The World Bank Group's fund for the poorest countries with the least access to funding. Climate change was a theme under this framework.	€102 million
<b>Total climate finance by Ireland's Government Departments:</b> financing provided by Department of Foreign Affairs, the Department of Environment, Climate and Communications, the Department of Finance, and the Department of Agriculture, Food and the Marine.	€93,684,608
<b>Total overall ODA in 2019</b>	€869.87 million

Source: 2019 Irish Aid Annual Report (Government of Ireland, 2020) and Ireland's Climate and Environmental Finance Report (DoFA, 2020).

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