

# ALPJOBS

## Anticipate Future Jobs on Alpine Remote Areas



### Work package 2.2

## Report on Megatrend

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This project is co-financed (ARPAF funds) by the European Union

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## Definition of megatrends

"Megatrends" are defined as trends that can influence the development of humanity in the long and very long term. Unlike megatrends, the "simple" trends are weakened or deepened suddenly; can be reversed abruptly. The changes megatrends bring with them can go **through several generations**, profoundly modifying society and, consequently, the social-economic landscape in which the companies and institutions work.

The megatrends are numerous and each involves the development of entire areas of activity: being able to "ride" a megatrend following its development is a requirement for any development strategy to be robust and durable. Concerning a megatrend, **we must recognize it and adapt to it**. The possibility of changing a megatrend is almost nothing, let's consider:

- Increase and ageing of the population
- Increased energy demand
- Increase in food production
- Further development of cities

**Often megatrends are accompanied by secondary or counter-trends:** as the megatrend towards further urbanization (increase in cities) is accompanied by a secondary trend towards escape from the city, returning to the countryside or to the mountains. It is important to not confuse megatrends and secondary trends: although

secondary trends may be interesting because they indicate possible market niches, the megatrends are the real drivers of change.

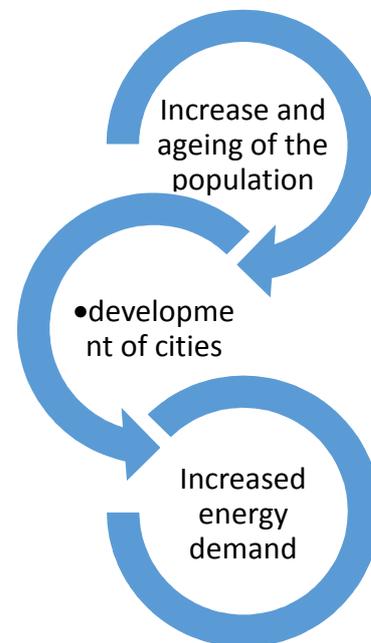


Figure 1 Megatrends are often interacting with each other.

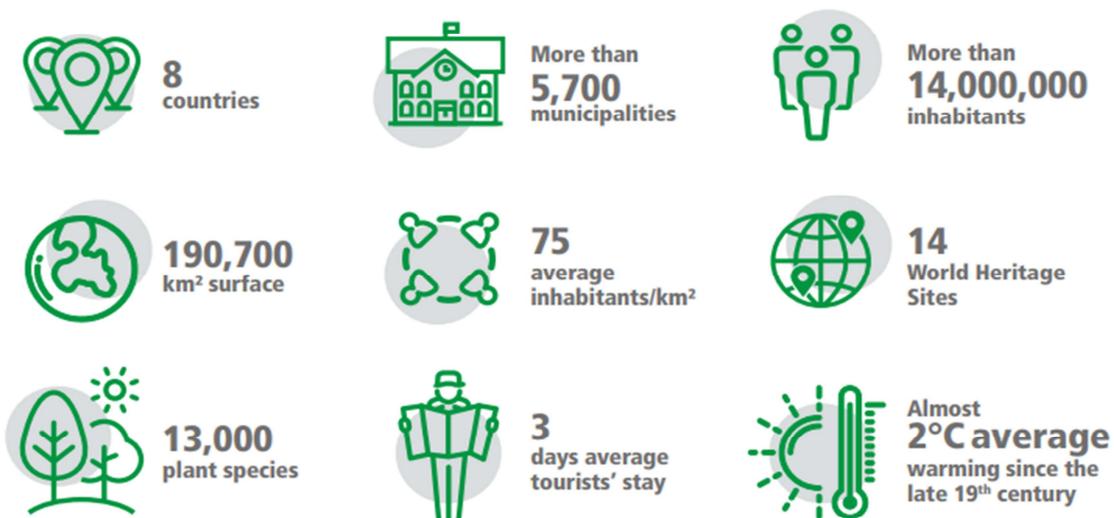
## Megatrends relevant for the EUSALP

In the Aljobs project we focus on megatrends as complex of changes that proceed autonomously over the next 30-50 years; specifically, we considered as relevant for the future socio-economic scenarios of job the following:

- increasing population
- ageing population
- urbanization
- mobility
- changing generations (characteristics)
- climate change

In accordance with what has been programmed, the most general and relevant information is shown below by schematic points or figures.

### The Alps at a glance



Sources: [www.alpconv.org](http://www.alpconv.org), Permanent Secretariat of the Alpine Convention (2013), Permanent Secretariat of the Alpine Convention (2015), Auer et al. (2014), Gobiet et al. (2014).

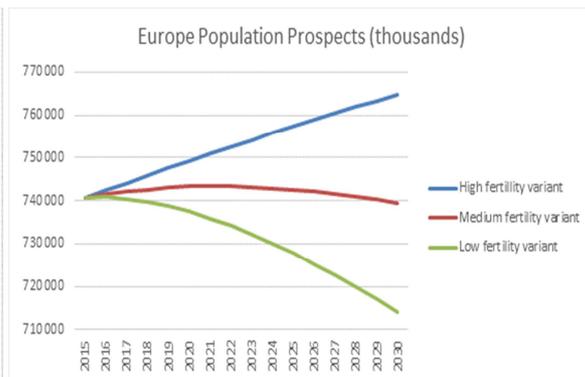
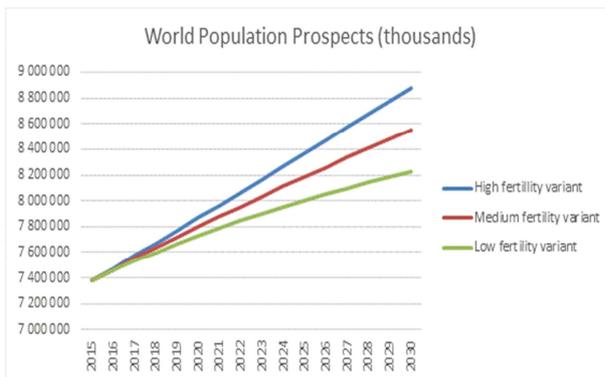
Figure 2 Beyond the individual data, understanding the dynamics behind them is more useful and strategic.

## Increasing population

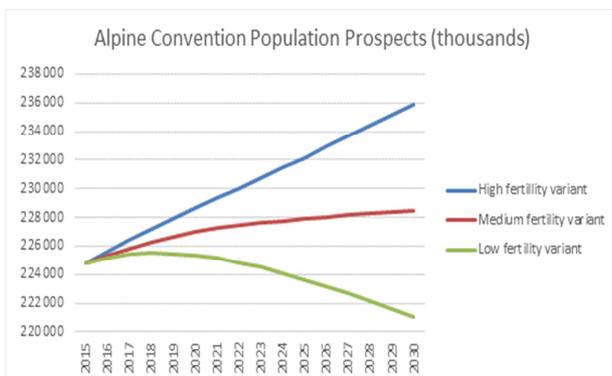
- The demographic structure of a country / community makes it possible to understand possibilities and constraints.
- World population: on a rise, population growth is concentrated in the poorest countries
- More than half of the anticipated growth in global population between now and 2050 is expected to occur in Africa
- Countries experiencing a decline of population by more than 15% by 2050: Bulgaria, Croatia, Latvia, Lithuania, Poland, Moldova, Romania, Serbia, Ukraine, Virgin Islands

Table 1 Medium variant projection (in millions)<sup>1</sup>

Region	2017	2030	2050	2100
<b>World</b>	<b>7550</b>	<b>8551</b>	<b>9772</b>	<b>11184</b>
<b>Africa</b>	<b>1256</b>	<b>1704</b>	<b>2528</b>	<b>4468</b>
Asia	4504	4947	5257	4780
<b>Europe</b>	<b>742</b>	<b>739</b>	<b>716</b>	<b>653</b>
Latin America and the Caribbean	646	718	780	712
Northern America	361	395	435	499
Oceania	41	48	57	72



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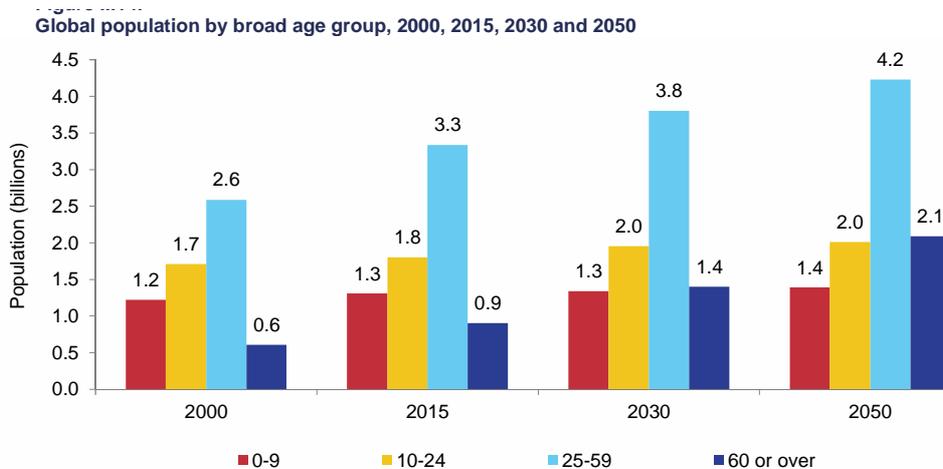
<sup>1</sup> Demographic sources: UN, World Population Prospects. The 2017 Revision; alpcnv.org

## Ageing population

The ageing of the population is one of the great achievements of humanity: we live longer thanks to better nutrition, hygiene, progress in the field of medicine, medical care, education and economic well-being. However, this ever-increasing longevity risks turning into a problem that affects the entire planet: the percentage of interests becomes more difficult than any other age group in many countries of the world, to associate this demographic change.

- The world's population is ageing; virtually every country in the world is experiencing growth in the number of older persons in their population
- Over the next 15 years, the number of older persons is expected to grow faster in Latin America and the Caribbean (+71%), followed by Asia (66%), Africa (64%), Oceania (47%), Northern America (41%) and Europe (23%)
- Older population is itself ageing: 80 and over: from 14% in 2015 to more than 20% in 2050
- Globally, the number of older persons is growing faster than the numbers of people in any other age group
- In most countries, international migration is projected to have only small effects on the pace of population ageing

Year	Area	Population 0-64	Population over 65
2015	WORLD	91,71%	8,29%
	EUROPE	82,40%	17,60%
	Alpine Convention	79,41%	20,57%
2030	WORLD	88,34%	11,66%
	EUROPE	76,92%	23,08%
	Alpine Convention	73,85%	26,10%

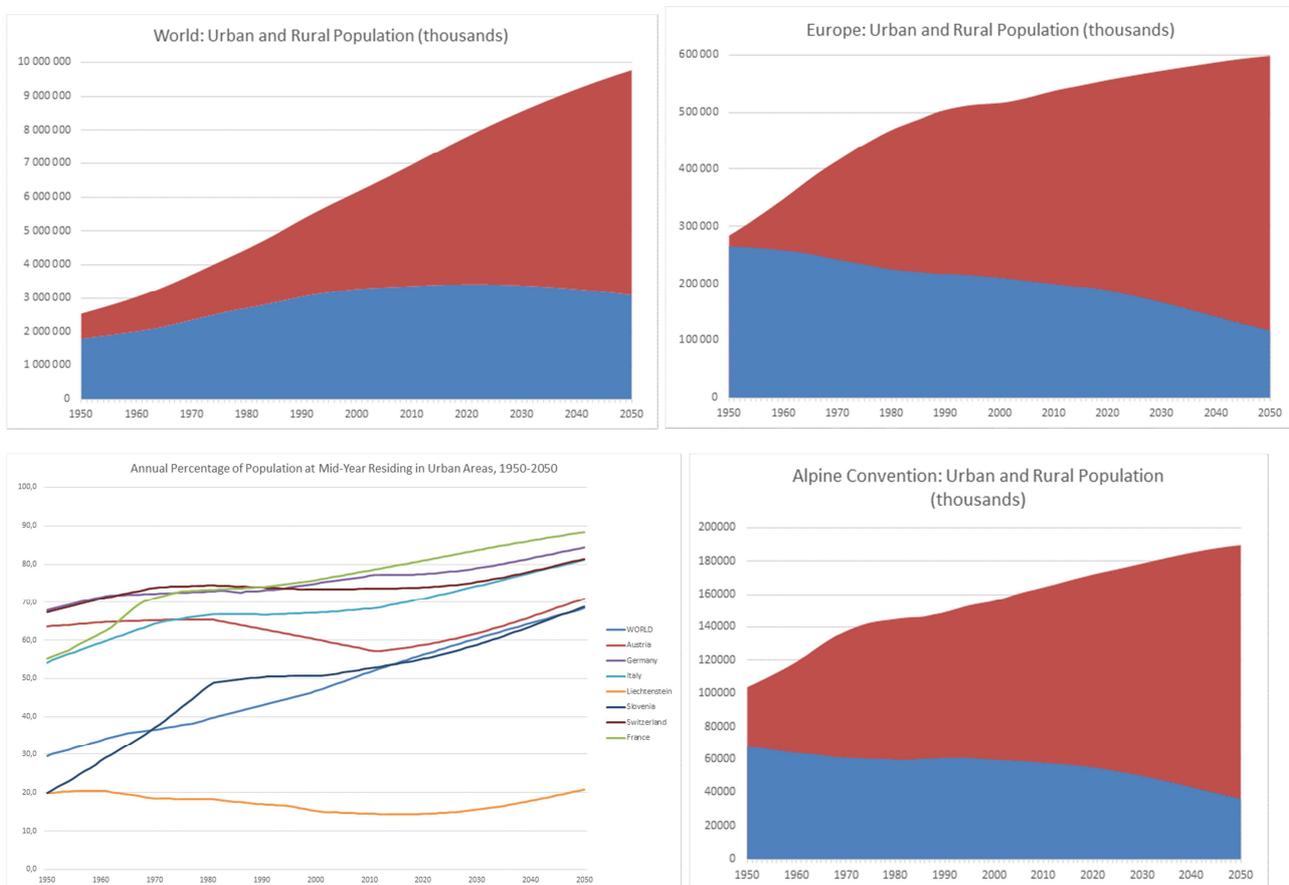


Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

## Urbanization

More than half of the world's population lives in cities, in ever-expanding urban areas that very often give rise to megacities of tens of millions of inhabitants, such as Tokyo, Shanghai and Mexico City. But this proportion, already impressive, could grow further in favour of the metropolis and to the detriment of rural areas, with more than six billion people who will be "citizens" in 2045<sup>2</sup>.

This increase will be due to two factors: on the one hand there is the growth of the world population that will go from more than 7 billion today to the 9 billion expected for 2050<sup>3</sup>, on the other there is the willingness of people to move around the city to look for a more economically and safer way of life from the point of services offered. The combination of the two will increase the number of city residents by another 2.5 billion compared to today over the next 30 years.



**Periurbanization, a trend within the trend:** a process of creating new urban settlements close to large cities or major communication routes, with a widespread morphology, "with a loose structure, quasi-city or tending to become a city" (Dézert 1991). Very often it is united and confused with the term "rururbanization". According to Perlik (1999), in the Alps the periurbanization process follows the same trend observed in non-Alpine cities: urban centres are stagnating while the peripheral municipalities grow. The growth of the urban area is therefore fundamentally due to the growth of the municipalities that gravitate around the centre.

<sup>2</sup> World Urbanization Prospects 2018, the document of the Economic Department and the United Nations Social Affairs on Urbanization

<sup>3</sup> United Nations, Department of Economic and Social Affairs, Population Division (2018).

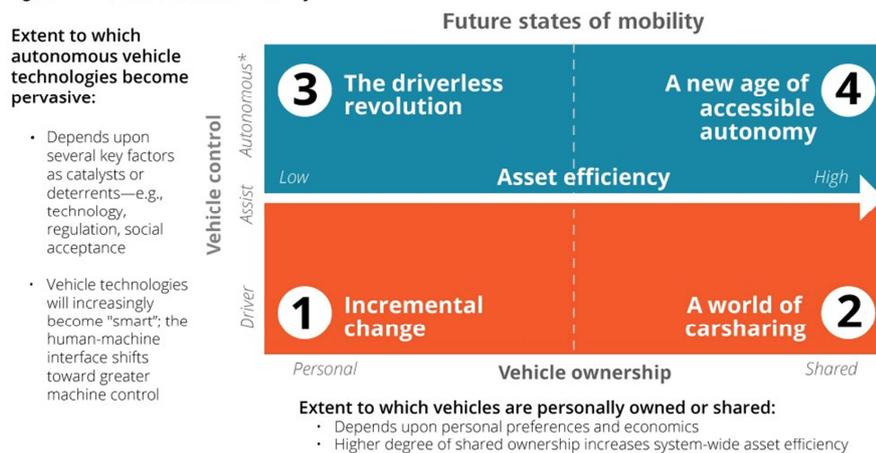
## Alternative mobility

Mobility, especially in cities, could radically change the future of automotive in the coming years: change is based on car sharing, ride sharing, e-mobility, electric cars, cars to share and self-driving cars.

In this scenario, 4 technological trends in the next few years will significantly modify the car industry:

- Conversion to the **electric**: the tendency is that of the progressive abandonment of the thermal engines, in favour of hybrid, electric or energy cells. A process that could undergo considerable acceleration thanks naturally to the fast and continuous development of alternative engines: reduction of the size of the batteries, increase in autonomy, reduction of production costs.
- **Autonomous** driving / remote driving: both technologies are already a common heritage of car manufacturers and companies operating in the software sector. While on the one hand the autonomous driving could encounter some difficulties on the normative level, on the other hand the remote driving could represent an intermediate passage between the current situation and the autonomous driving vehicles.
- **Alternative** mobility: a car with an increasingly anti-economic commodity object to be used when needed, with cars that lose their status symbol role.
- **Connectivity**: the infotainment systems and the development of the **Internet of Thing**, thanks to which the machine will interact directly with the traffic lights, the other cars, the urban transport network, with the same "agenda" of the driver-passenger and the parking lots they will make sure that the car can become a platform connected to its own world.

Figure 1. The future states of mobility



\*Fully autonomous drive means that the vehicle's central processing unit has full responsibility for controlling its operation and is inherently different from the most advanced form of driver assist. It is demarcated in the figure above with a clear dividing line (an "equator").

Source: Deloitte analysis.

Deloitte University Press | [dupress.deloitte.com](http://dupress.deloitte.com)

**New delivers for "inaccessible" areas:** with the first tests around the world, in China JD, an e-commerce company, has started drone delivery in the rural areas of China, areas difficult to reach on roadway or railway, as early as 2015. The solution is so used that in the provinces of Beijing, Sichan, Jaingsu, Shaanxi and Guizhou, JD is daily using a fleet of drones capable of carrying around 40 deliveries each day, flying to 40 kilometres.

## Generations (differences)

Boomers	1945-1964	Man on the moon, 1968, Pope Wojtyla	
X Gen	1965-1979	Chernobyl, end of the Berlin wall, laptops	Archetype: Nomadic
Y Gen (Millenials)	1980-1999	Twin towers, Lady Diana, cell phones	Archetype: Hero
Z Gen	2000-2014	Economic crisis, tablet	Archetype: Artist
Alpha Gen	2015-	???	Archetype: ???

- The generations are more and more different from each other, this is becoming an issue for the management of human resources (within organizations) and public services
- These differences (attitudes, values, different points of view about Work, friendships, family, leadership, career) are to understand to effectively manage clients with very different expectations and habits.
- Generation Zed (2000-2014), the *connected generation* is characterized as<sup>4</sup>:
  - Totally dependent on Information Technology
  - Multitasking and multidevice (the generation of 5 screens: TV, PC, Notebook, Smartphone and Tablet)
  - Always connected, very skilled in searching for online information that makes them key influencers in their family's buying choices
  - Enterprising, their models are the great entrepreneurs of the Network, is at ease with the world of start-ups
  - Used about work and professional changes
  - The Zetas have an average attention threshold of a few seconds and prefer the visual forms of communication
  - Generation of self-training and continuous learning through online platforms and mobile-learning apps
  - Massive use of large aggregator videos like Youtube and Vimeo
- Generation Alpha (2015-2025(?))
  - In 2025 over 2 billion: 1.4 billion will live in Cina and India, 650 million in Africa, 160 million in Europe and about 100 million in North America
  - As Zeds, already fully technologized, globalized and adapted to an ever-changing world

## Climate change (an ambiguous megatrend)

- "The climate system is a chaotic, non-linear, dynamic system and therefore it is not possible to foresee future climatic conditions in the long term" (IPCC TAR WG1, Working Group I: The Scientific Foundation). The climate is changing about there is no unanimity among the experts

<sup>4</sup> <https://mccrindle.com.au/insights/blogarchive/what-comes-after-generation-z-introducing-generation-alpha/>

on how it is changing. In 2010, during the International Conference on Climate Change, a dispute arose between those who support the theory of Global Warming, according to the most ascendant, and those who claim that the planet presents evident symptoms of a new glaciation<sup>5</sup>.

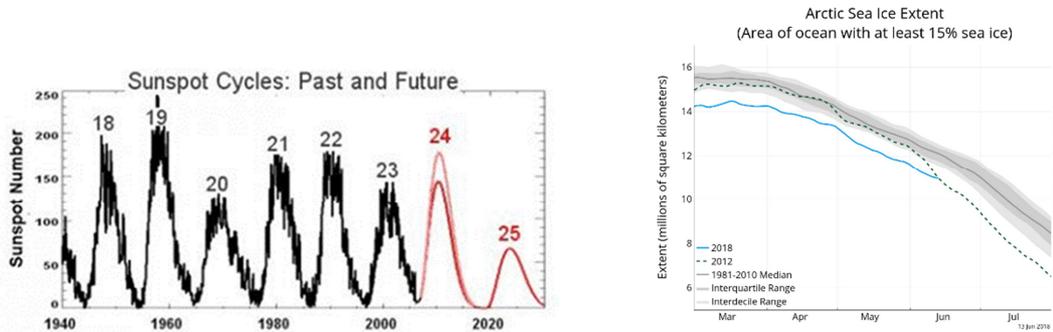


Figure 3 Solar activity cycles and the “minimum”<sup>6</sup>, Arctic Sea ice extent<sup>7</sup>

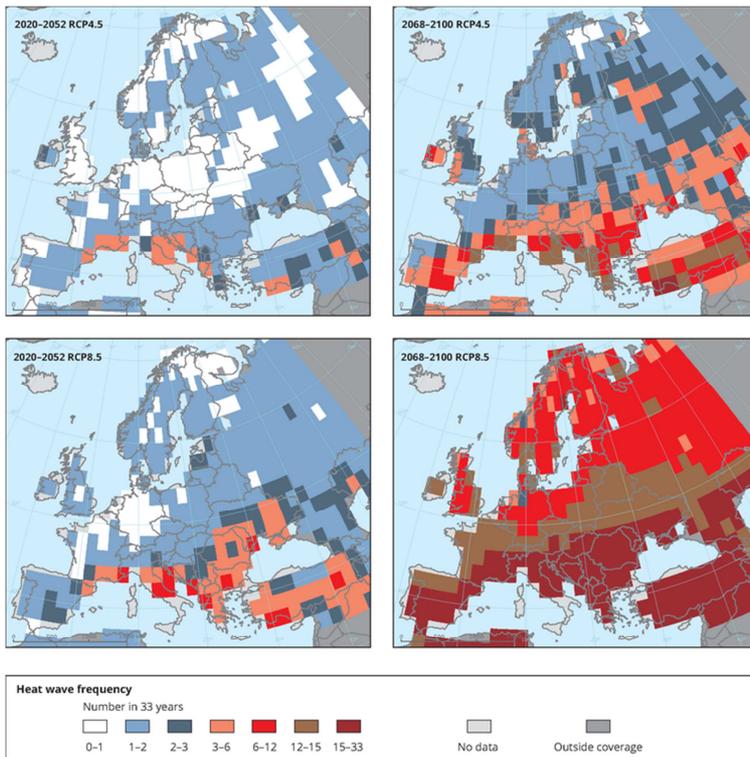


Figure 4 Number of extreme heat waves in future climates under two different climate forcing scenarios<sup>8</sup>

<sup>5</sup> New scrutiny for a slowing Atlantic conveyor. <http://science.sciencemag.org/content/352/6287/751>

<sup>6</sup> “Solar activities have had notable effect on palaeoclimatic changes, contemporary solar activity are so weak and hence expected to cause global cooling” <https://www.sciencedirect.com/science/article/pii/S2090123212001002>.

<sup>7</sup> <http://nsidc.org/arcticseaicenews/>

<sup>8</sup> <https://www.eea.europa.eu/data-and-maps/figures/number-of-extreme-heat-waves>