

TAZ PANTER
STIFTUNG
CLIMATE
JOURNALISM
HANDBOOK

DEAR READERS,

The Climate Journalism Handbook
is a publication of
taz Panter foundation

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this Climate Journalism Handbook aims to provide a practical starting point for journalists to appropriately, effectively and constructively cover the climate crisis in their reporting. It was written and produced exclusively for female journalists from Northeast Syria, Lebanon and Iraq working together with the taz Panter foundation. Although originally written for female journalists taking part in the one year taz-Panter-program "Her turn II – supporting women in reporting about climate change", this handbook will be helpful to journalists from all parts of the world, including an overview about relevant sources, databases and journalistic networks.

Whether the questions in how to report about the climate crisis arise on the road, on the job or in the newsroom, this handbook provides easy-to-understand answers to questions about the key facts of climate crisis, will guide you in finding relevant topics and will show you possibilities how to report in a solution-oriented way about probably the most important topic of our time.

Of course, this handbook won't magically write, or broadcast the news of the future. Journalists must still take initiative. But it should help answer the questions as quick and simple as possible to enable you to report about the climate crisis in a way that your stories and reports will make a difference. The climate crisis is a worldwide issue and so is climate journalism. The clock is ticking. And by reflecting the scope of the climate crisis more accurately and reporting constructively journalism can be a very powerful lever to speed the necessary actions up.

The Editors

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Climate change is an undeniable fact. Its impacts are being felt globally, but not by everyone equally. The climate crisis also acts as a catalyst for crises worldwide. Evidence shows that human-induced climate change has a direct effect on the social, economic and human development of societies, with women, girls and marginalised groups feeling the ramifications particularly, being more dependent on threatened natural resources.

According to Greenpeace, the Middle East and North Africa (MENA) are warming up nearly twice as fast as the global average. The MENA region is therefore disproportionately affected by the impacts of climate change in the form of high temperatures, desertification and water scarcity, leading to food insecurity, unemployment and migration.

To give a few examples: the Tigris and Euphrates rivers are in danger of drying up, so that 50% of the population of Iraq could potentially be affected by water shortages. Morocco has lost nearly 32,000 hectares of land to wildfires as of October 2022. The cedar trees, Lebanon's national symbol, now cover only 3 percent of the country, or 17 square kilometres. Whilst the MENA region contains the world's largest fossil fuel reserves, it also holds huge potential for renewable energy, particularly wind and solar power.

Often, this urgent topic remains on the sidelines, as media coverage of the Arab world focuses primarily on current events or other crises. Consequently, there is a lack of awareness among the general public about one of the most pressing challenges of our times. Due to extreme weather events in the region there is, however, a growing understanding of and sensitivity towards environmental issues.

With COP27 in Egypt in November 2022 and COP28 in the United Arab Emirates in 2023, special attention is being given to the climate-induced challenges in the MENA region.

Journalists play a vital role in this context in shaping public discourse and raising awareness. Climate journalism in particular has a unique role to play in filling the gap between accelerating climate mitigation and building public support. Fact-based, solution-oriented and constructive journalism helps readers to understand causal

links between climate-related and socio-economic factors, ideally presenting information in an easily digestible way. Including scientific data, reports from summits and predictions on the one hand and giving a voice to local institutions and people on the ground on the other hand can illustrate the link between local, regional and global impact. As environmental implications do not halt at national borders, building synergies on research findings through cross-border reporting and collaboration is pivotal. In light of the increasing complexity of the issue and its interdependent scope, environmental journalists should be encouraged to connect globally. A network of allies across the world can enhance the depth of understanding of trends by promoting exchange on fact-finding tools and methods to trace developments.

May this handbook serve to guide you in your endeavours to research and investigate local environmental matters and present them to a broader audience, in the hope that each reader will act as a force for change.

Anna Bartels
Commissioner for Foreign Cultural Policy,
Federal Foreign Office

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10 KEY FACTS ABOUT THE CLIMATE CRISIS AND HOW THEY ARE CONNECTED

The climate crisis – and species extinction – are not issues we can address in the media like others in, for example, foreign policy, sports, business or culture.

Planetary crises endanger our livelihoods and affect more or less all other areas of life and business. At the same time, decisions in all these areas have an everyday impact on the development of the climate crisis and on whether we can preserve our livelihoods or not.

Journalism must reflect this. The following 10 facts are important foundations that will enable us to report on developments and events appropriately.

1. CLIMATE CRISIS IS NOW: WE EXPERIENCE ALL CURRENT CONSEQUENCES AT AROUND 1.2°C OF GLOBAL WARMING

Lakes and fields dry up, extreme weather events increase as heavy storms damage power lines, houses, roads and railways. Increased snowfall in winter leads to power outages. Forests die or are destroyed by fires. Heat waves kill people, droughts cause crop failures and drinking water shortages. At times during the summer of 2022 many major rivers in Europe had extremely low water levels.

We are experiencing all of the consequences of climate change today – and that is with global warming of around 1.2°C. The effects are already felt on every continent, in every region, as the Intergovernmental Panel on Climate Change (IPCC) states clearly in its Sixth Assessment Report. Global heating is recognized as a “threat multiplier” that increasingly affects peace and security.

In the Paris Agreement from 2015 governments agreed to:

“Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.”

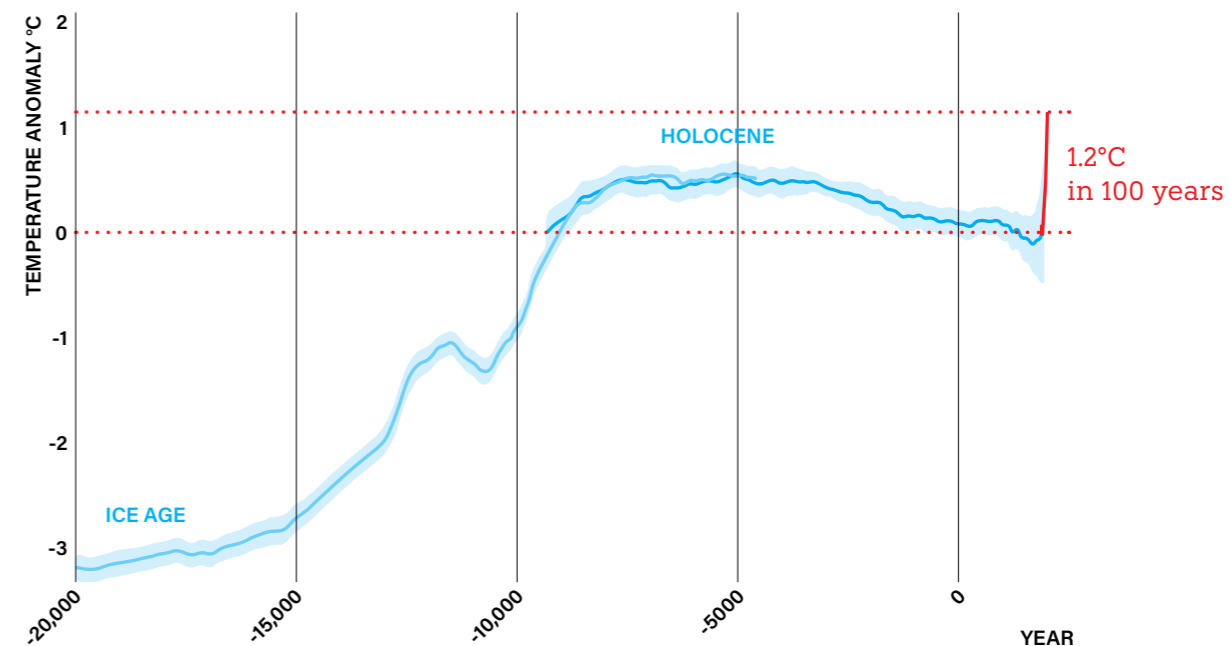
This demands a rapid reduction in emissions. They need to be halved by 2030 compared to 1990. But instead global emissions were still rising in 2022.

2. WE HAVE ALREADY LEFT THE STABLE CLIMATE OF THE HOLOCENE THAT MADE OUR LIVES POSSIBLE

Over the past 11,000 years known as the Holocene Earth Age, there has been a *an exceptionally stable climate*. This stable climate allowed humans to *develop agriculture*. This was the prerequisite for *becoming sedentary and developing a division of labor*. Some humans produced food, others specialized in building tools or houses, others researched and cured diseases. Only through this were we able to build the cities and civilizations we live in today.

We have already left the stable climate that made this possible.

The graphic shows the global temperature development of the past 20,000 years. We humans have *heated the Earth by 1.2°C in just around 100 years*. There hasn't been as much CO2 in the atmosphere as there is today for at least 800,000 years, probably more than in 3 million years.

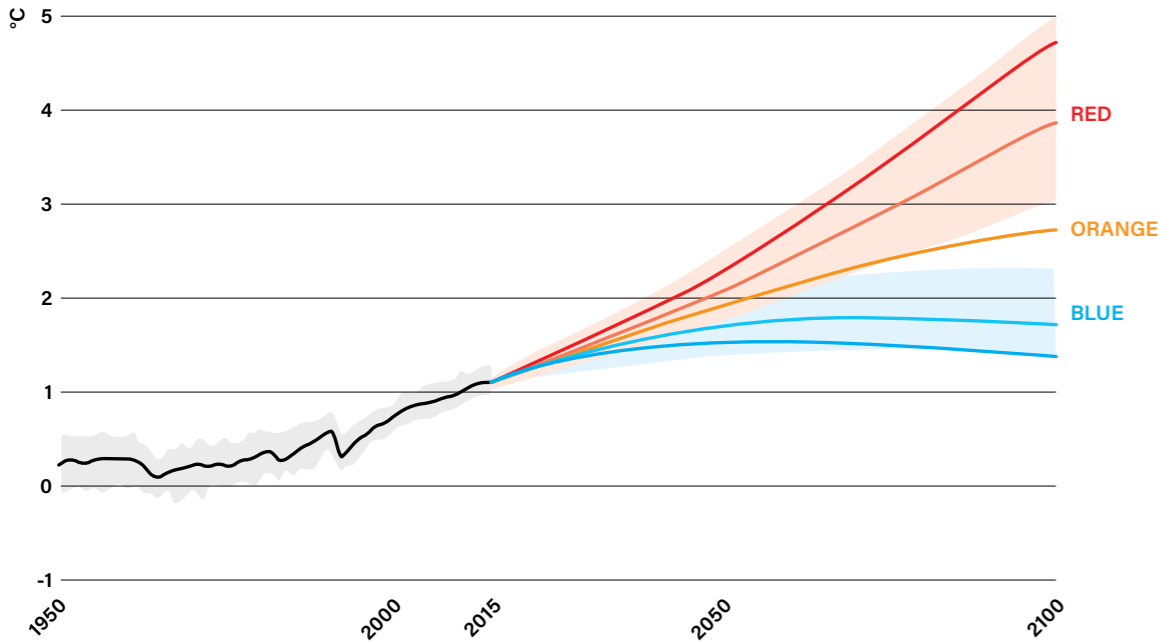


GLOBAL TEMPERATURE SINCE THE LAST ICE AGE

Data: Shakun et al. (Nature 2012) Marcott et al. (Science 2013) NASA GISTEMP up to 2019, edited based on a figure designed by Stefan Rahmstorf

3. 1.5°C IS NOT GOOD – BUT IT’S THE BEST WE CAN POSSIBLY STILL ACHIEVE

If you become aware of these connections, it becomes clear *that 1.5°C and 2°C of global warming are not just abstract numbers. They have a concrete impact on all of our lives within the next few decades.* Children born today will not even be 80 years old in 2100. Already within the next decades, up until 2050, our world will heat up more quickly and more intensively, which will cause huge changes to life as we know it.



GLOBAL SURFACE TEMPERATURE CHANGE RELATIVE TO 1850-1900

Edited based on figure SPM.8 in IPCC, 2021: Summary for Policymakers.

BLUE: This development is technically possible if we recognize the seriousness of the situation and do everything necessary to limit global warming to a level to which we can perhaps still adapt.

ORANGE: That’s about where we’ll end up if the governments of this world deliver on all the promises they currently make. In the past, however, that has rarely happened.

RED: These are the possible paths if we decide to get everything we can from fossil fuels. In that case, the Earth could heat to over 2°C by 2050 due to greenhouse gas emissions alone, and up to 5°C by 2100. That does not take into account feedback loops and tipping points (see point 5).

The most important statement this graph makes: *The level of global warming is not fixed.* *As humans, we decide every day which path to take and whether to seriously try to save our livelihoods.* At the moment, we still choose not to do what is necessary. There is not much time left to change this even though, technically speaking, reducing and even stopping emissions is possible. This was confirmed by the latest status report by the IPCC that points out the concrete measures that need to be taken now.

4. THE CLIMATE CANNOT BE REPAIRED

CO2 accumulates in the atmosphere, primarily through the combustion of coal, gas and oil. It has an extremely long life span. The fact that the earth cools down again because carbon dioxide decays, which reduces its impact, is not something that foreseeable generations will ever experience. That’s why it is important that greenhouse gas emissions are reduced and stopped as quickly as possible. Transitioning to renewables, increasing energy efficiency, stopping the production and consumption of red meat are crucial. *Everything we do counts, even those that seem small.*

5. TIPPING POINTS: THE EFFECTS OF THE CLIMATE CRISIS DO NOT COME IN A LINEAR FASHION

TIPPING POINTS: Critical thresholds beyond which an important subsystem of the earth transitions to a severely altered state. This is irreversible.

TIPPING ELEMENTS: There are three types of subsystems that can tip:
 → melting ice bodies
 → changing circulations of the ocean and atmosphere
 → threatened large-scale ecosystems

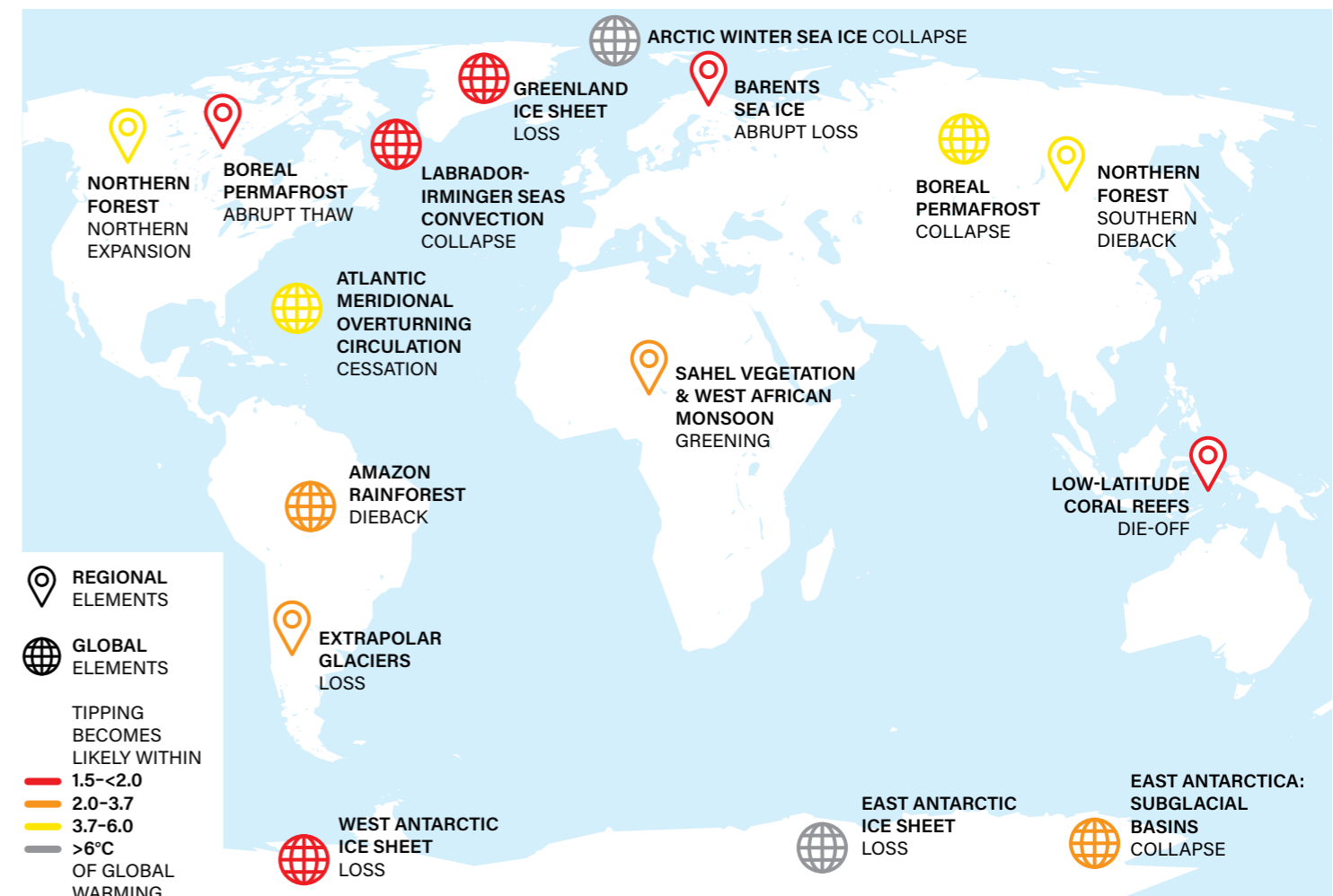
The change can happen quickly or slowly, but no matter what, it is fundamental and not easily reversible. For example, if the Greenland ice sheet melts completely, sea level will rise by 7 meters. This process cannot simply be stopped again, even if global temperatures were to fall.

And tipping points have *consequences, not only for local ecosystems, but for the climate system itself.* If sea ice melts, for example, the white surface of the ice that reflects heat back into space decreases and so does the so-called “albedo effect”. Seen from space, instead of a white surface, there is now a dark surface – the sea water. Not only does it not reflect heat, it actually absorbs heat faster. So the temperature continues to rise and this can trigger further tipping elements. This is just one example of the massive global effect that interconnected tipping points can have.

Scientists cannot say exactly at which temperatures these tipping points are triggered. A study published in the academic journal “Science” in September 2022 compared the results of many different scientific publications and concluded that *six tipping points are already on the way, even within the temperature ranges proposed by the Paris Agreement.* That’s why it is urgently necessary to limit global warming as much as possible now.

TIPPING ELEMENTS – BIG RISKS IN THE EARTH SYSTEM

Data based on Armstrong McKay et al., Science (2022), edited based on a figure designed by PIK.



6. THERE IS LITTLE TIME LEFT: THE CO2 BUDGET

If we want to stop the earth from heating up, we have to stop emitting greenhouse gases, especially CO2. First of all, this means a stop to burning coal, gas and oil. *If we do not want to exceed a certain temperature in the process, we may only emit a certain amount of CO2.* This is the so-called CO2 budget.

The budget for 1.5°C will be used up globally in little more than six years, if we continue as we are. The more we reduce emissions today the more time is left.

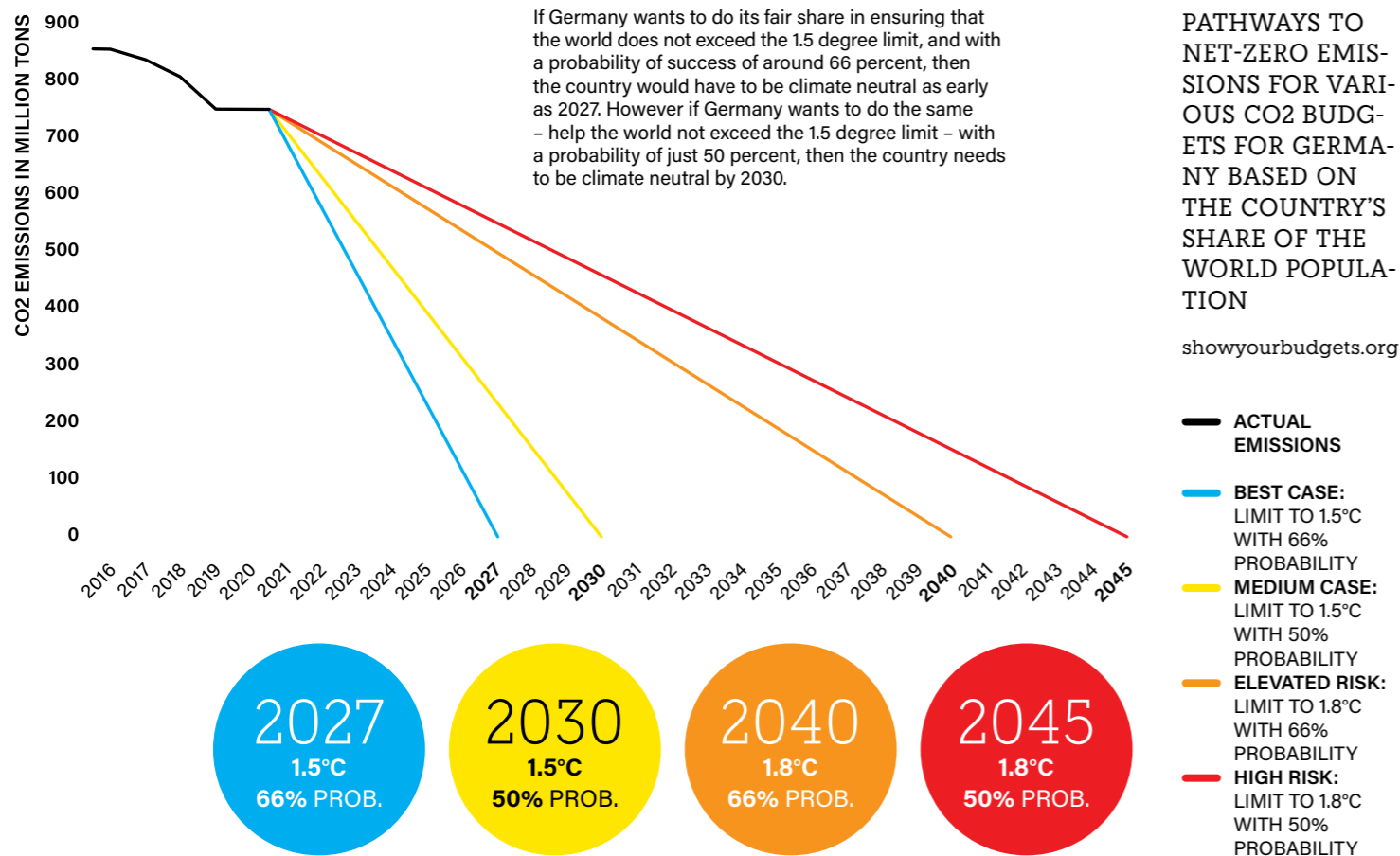
If we miss the limit, we don't automatically jump to 2°C. If 1.5°C is not feasible anymore, to preserve as many lives as possible we have to stop global warming at the next possible point, be it 1.58°C, 1.63°C or 1.71°C.

7. NATIONAL CARBON BUDGETS AND CLIMATE JUSTICE

If we do not want to heat the earth beyond a certain limit, *all countries must contribute.* So there are only certain amounts of CO2 emissions left that need to be divided up. How these could be distributed – and possibly traded – internationally, has not been discussed at all so far.

Essentially, all countries simply assume that they are allowed to emit more than is compatible with the goal of the Paris Agreement, which is precisely why we are currently heading for well over 2°C of global warming by the end of the century.

The idea of the international climate summits every year is to close this gap, by having countries presenting new, more ambitious plans and negotiating these. Thanks to the political promises made, this has led from a path toward 6°C of global heating to pledges of around 2.4°C. But concrete plans and actions are still missing and time is running out.



8. ADAPTATION IS ALREADY NECESSARY TODAY – BUT ONLY POSSIBLE TO A LIMITED EXTENT

Western countries like Germany, France and the UK often argue that they only contribute a small share of current emissions on a global scale. But if we look at the per capita emissions of their citizens rather than what each country contributes to global CO2 emissions, then Germany's obligation to be more ambitious about climate protection suddenly becomes clear. On average, every citizen in the world emits around four to five tons of carbon dioxide per year. In Germany, however, it is around ten tons per person.

Therefore Germany has significantly more to contribute to climate protection than most other countries, especially as it is one of the biggest emitters in the world historically.

It is clear that not all countries are going to implement adequate action. This does not mean that it is pointless to push ahead with measures at home. Firstly, from an economic perspective, *these can also lead to a self-reinforcing, competitive spiral towards greater climate protection.* Secondly, every reduction in emissions pays off because, firstly, every tenth of a degree counts and, secondly, because it *slows down the rate of global warming and gives us more time to adapt.*

Adaptation to the consequences of the climate crisis is already urgently needed today. The 1.2°C of global warming we are experiencing already bring more severe storms, floods and droughts year after year. Even 1.5°C will have dramatic consequences for the lives of people and animals all over the world. *The warmer it gets, the more drastic the consequences will be.* Every tenth of a degree counts.

The Paris Agreement defines the framework within which adaptation is ideally still possible. Beyond that, it is relatively certain that tipping points will increasingly be reached, which will push global warming and make adaptation impossible for the 8 billion people on Earth.

So yes, *every tenth of a degree counts. But some count more than others.*

9. SPECIES EXTINCTION: THE CLIMATE CRISIS IS NOT THE ONLY EXISTENTIAL CRISIS

Species extinction threatens our survival just as acutely as the climate crisis, but it is talked about even less. When people think of species extinction, they think of polar bears and rare species. Few seem to think of the fact that *we humans are part of the ecosystems that surround us, that we live in and from them,* and that we feel it when they get out of balance.

Even the COVID-19 crisis didn't change that much. There seems to be some awareness that COVID-19 will not be the last pandemic we experience – but there is little awareness that we could change our behavior to try to contain the threat of pandemics, or at least not increase it.

10. PLANETARY BOUNDARIES AND WHY WE MUST TAKE THEM INTO ACCOUNT

In addition to the climate crisis and species extinction, there are other planetary boundaries such as:

- freshwater consumption
- the ozone layer
- ocean acidification
- aerosols in the atmosphere

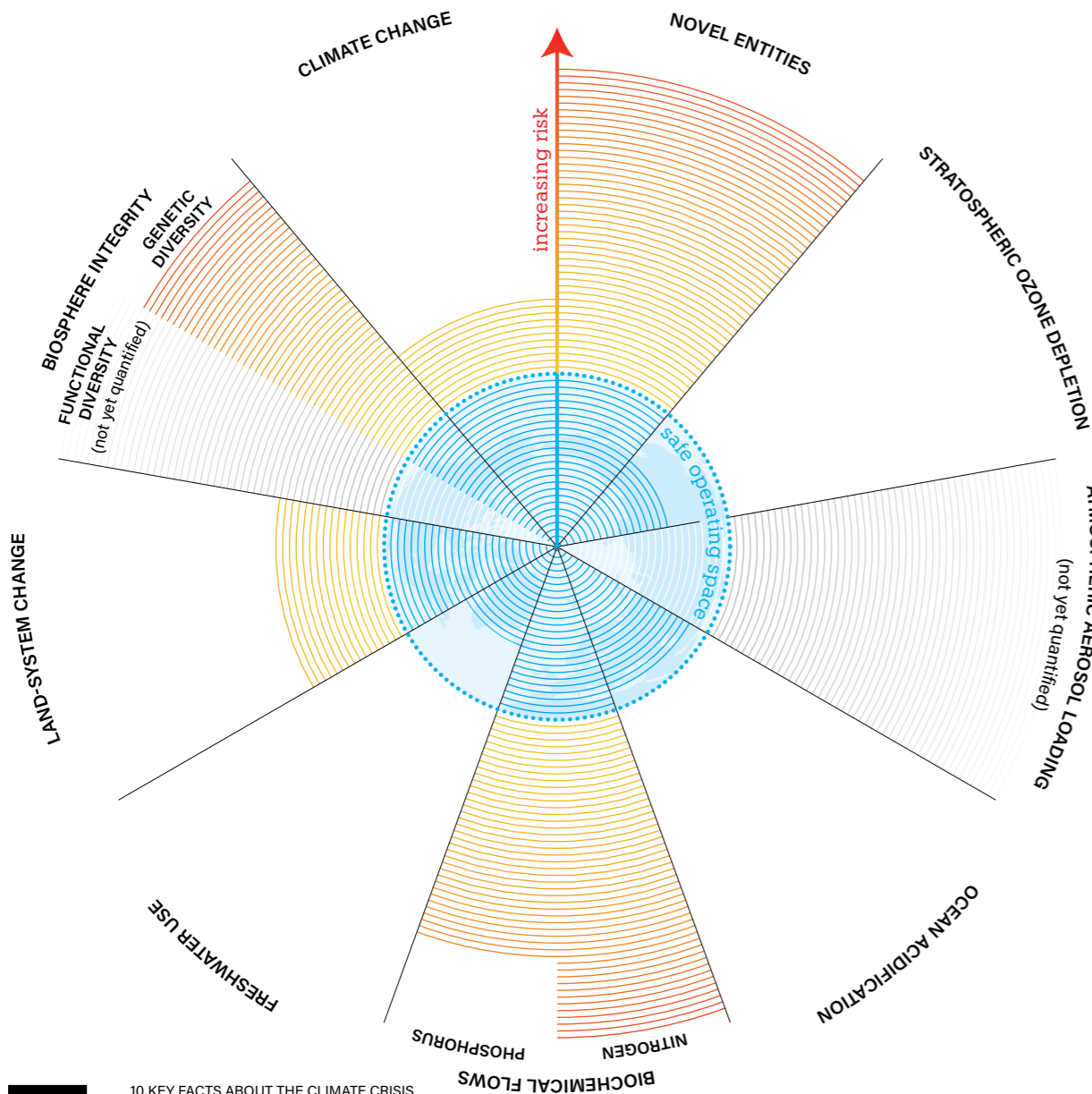
These boundaries have been measured for the first time over recent years, showing that some of them have already been crossed. For example:

- deforestation and so-called other land use changes, that alter the way soil and nature are able to store – or forced to release – CO2
- the introduction of novel entities such as microplastics
- the alteration of biogeochemical cycles, especially through phosphorus and nitrogen.

Stopping cows from farting – one of the main causes of the greenhouse gas, methane – won't be enough to preserve our way of life. They still need to drink massive amounts of freshwater and eat fodder, which is often cultivated in monocultures for them. This is how farming cattle contributes to land use changes, the extinction of species and the introduction of, as one example, nitrogen fertilizer into the soil and water. To get back to planetary boundaries where the life on earth can sustain itself, we need to significantly reduce cattle farming.



HOW DO I FIND TOPICS? THE CLIMATE CRISIS AS AN INTER-SECTIONAL THEME



PLANETARY BOUNDARIES

Based on analysis in Persson et al 2022 and Steffen et al 2015, edited based on a figure designed by Azote for Stockholm Resilience Centre.

More explicit climate reporting is not necessarily needed. But climate must be considered and, if necessary, made visible everywhere. Because the effects have long been there in every region of the world, and in more or less every area of life. So journalists must always ask themselves:

1. How does the topic I am reporting on influence the climate?
2. What influence does the climate have on the topic?

The word "climate" doesn't always have to be in the headline or even appear as an aspect at the top of the story. But similar to the COVID-19 crisis, it can – and must – be included wherever it plays a role.

CLIMATE IN LOCAL REPORTING

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If national states supposedly have such a small influence on the climate, why should climate be considered at the local level?

- Because it's where we feel the effects of delayed climate protection.
- Because it's where we urgently need to make climate adjustments.
- Because it's where climate protection is, or is not, being implemented.
- Because for serious climate protection, we not only have to cut emissions, we have to stop them completely. Everywhere. And as quickly as possible.
- Because no city or country can stop the climate crisis alone, but every entity must do its share.

EXAMPLE: INFLUENCE OF LOCAL CONSTRUCTION PROJECTS ON THE CLIMATE, AND VICE VERSA

- What can be done to cause as few emissions as possible, concerning the resources used and the facilities implemented? Everything that is built today will stand for longer than 30 years, so ideally it should already be as climate neutral as possible. Most of the emissions during the lifespan of a building are generated through construction and resource use.
- How can a building be built to be as energy efficient and self-sustaining as possible? How will a building's inhabitants or users profit from this in the short, medium and long term?
- How useable will the building be in the future climates, say of 2030, 2040 or 2050 or even later?
- What is the local impact of climate change and how is it considered in this building? For example, what is done to protect houses and people against longer heat waves or flooding?

CLIMATE AND SOCIAL ISSUES

The climate crisis is also a social crisis. Disadvantaged groups are the first to suffer from the consequences of global warming because they have the fewest resources to adapt or to protect themselves from such changes. This is true globally as well as locally.

Disadvantaged groups can't necessarily afford things like air conditioning or the electricity needed in heat waves; they have a harder time responding to drinking water shortages and crop failures caused by droughts, storms or floods because they cannot afford to pay higher prices for food and drinking water. They have less money to repair their homes or rebuild after extreme weather events.

At the same time, they are often the first to bear the costs of climate protection measures. This is an issue that should be monitored by journalists in a critical way. The costs of climate protection measures should not be used as an argument for not taking those measures. Rather, the costs must be distributed in a way that does not endanger societal peace or social cohesion. At the same time, it is important to monitor which groups of the population are most harmed or most protected by the measures being implemented.

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EXAMPLE: THE CLIMATE CRISIS AS A HEALTH CRISIS

- The link between climate and health is a good way to make clear how everybody is affected by the climate crisis and why climate protection is important.
- Heat is the biggest threat to our health and lives. Prolonged and lethal heat waves are clearly linked to the climate crisis. Heat waves are more likely and are more severe due to the climate crisis.
- How do heat waves affect the body, drinking water and food supplies, and even mental health?
- How are vulnerable groups affected – for example, low income families, people with pre-existing health conditions, people with disabilities, children and older people? Who bears the costs of medical treatment or protection?
- What can people do to protect themselves and their loved ones? What should local governments do?
- How can health facilities be protected against extreme weather and how can they prepare for it?
- What can health facilities do to become climate neutral? And how can medical professionals help communicate the need for climate protection and adaptation?

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HOW YOUR STORY MAKES A DIFFERENCE – OR, HOW TO REACH PEOPLE WITH YOUR STORIES

The key to appropriate action is informed decision making, which requires informed discourse. Facts alone are not enough to ensure this. It is also necessary to understand their greater significance, to break through mechanisms of repression, to understand interrelationships and to point the way to solutions.

In functioning societies, journalism plays a central role in ensuring critical discourse and enabling informed decisions and action. The better the reporting on the climate crisis becomes, the more likely it is to help drive a change in consciousness and to reach social tipping points. This is not activism, but journalistic enlightenment in the best sense.

So how can journalists adequately convey the urgency while constructively contributing to social discourse? How can journalists convey the complexity and break down the supposedly abstract issues so they better relate to the audience's real life?

SHOW CONNECTIONS

Not everyone is interested in the climate, but everyone cares about something. And all of that is affected by the effects of global warming.

The climate crisis is also:

- a health crisis
- a human rights crisis
- a supply crisis
- a justice crisis
- a social crisis
- a water crisis
- an economic crisis
- a personal crisis

Almost every topic has environmental dimensions. The best way to convey this is to think of climate as a dimension, as an intersectional issue, and to incorporate it wherever it plays a role (see Chapter 2).

LINK EMOTIONS AND FACTS

We can do this, for example, by showing the spatial and temporal proximity of the consequences of global warming. The climate crisis is already having a massive impact, including droughts, dead forests, heat waves, storms and floods.

Still sounding abstract? Then break it down further to the question: What does this mean concretely for your own life?

- droughts ... threaten food prices and drinking water supplies.
- dead forests ... increase the risk of landslides in mountain areas.
- heat waves ... threaten your own health or that of your parents.
- storms and floods ... threaten your own house and the infrastructure of your region.

We have to make the climate crisis comprehensible by associating it with topics like retirement, having children and buying a house, instead of talking about distant polar bears, glaciers and decades in the future.

It is also important to think of these problems altogether and not just report them as individual phenomena. The climate crisis is not a single extreme weather event, but has an impact on all regions and all areas of life – we are often not aware of this.

OVERCOME PSYCHOLOGICAL DEFENSE MECHANISMS

Our brain is good at protecting us from stressful information. Dealing with the effects of the climate crisis on one's own life is emotionally stressful. Psychological defense mechanisms like repression of unpleasant facts, or confirmation bias, protect us from being overwhelmed in everyday life. They are basically normal and healthy.

Confirmation bias means that we tend to interpret new information in such a way that it fits into our existing worldview, even if it is capable of shaking it. But in relation to the climate crisis, these psychological coping mechanisms have reached a level that is life-threatening. The hurdle is to break through them, to overcome psychological distance so we can respond adequately to the threat posed by the climate crisis.

To do this, journalism must contain three essential elements:

1. **The current state:** What effects of the climate crisis are already visible today?
2. **The future:** What will the world look like in 10, 30, 50 years if we do not implement effective climate protection measures now?
3. **The future with climate protection:** What will the world look like in 10, 30, 50 years if we do? How can things change for the better?

This does not mean that all aspects have to be treated equally and that every article or video has to be extremely long. The current state can often be summarized in one sentence: "Already today, with global warming of 1.2°C, we are experiencing X, Y and Z ". The same goes for future conditions: "Currently, we are moving towards a global warming of up to 3°C in 2100, a temperature to which our current civilization will not be able to adapt. Children born today won't even be 80 years old by then."

If one of the components is missing, it is easier for our brains to suppress or rationalize the information:

- "Things are bad today and will be worse in the future? OK, maybe but we can't do anything about it anyway – so I won't dwell on that either."
- "It can get that bad/good? Hmm, sounds like heaven/hell but it's a long way off anyway. The reality will be somewhere in the middle."
- "Today we already see problems – but the future could be better? Cool, if that's the case and solutions are known, then someone will take care of it, right?"

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CON- STRUCTIVE CLIMATE REPORTING

WHY?

Even if it is appropriate to cover the climate crisis in an excessive way – for example, the way the start of the COVID-19 pandemic was covered – this is not recommended. Understanding the scope of the climate crisis can be emotionally devastating and paralyzing. Problems can seem intractable because they are so complex and large.

Classical reporting focuses primarily on describing problems and that leads to distortions in public perception. "Problem talk creates problems, solution talk creates solutions," as the psychotherapist Steve de Shazer puts it; other psychologists also speak of so-called learned helplessness. In a nutshell: When we repeatedly read, hear or see reports that point out the problem but offer no alternatives or solutions, this leads to the feeling of not being able to change the situation.

Pointing out problems is without question an important part of journalism. But above all, it should enable people to make informed decisions. So they must be informed about possible solutions, and their opportunities and limitations. Focusing only on the problems shows only part of the existing reality and distorts our impression of the situation.

From a scientific point of view, the situation is clear: The climate crisis is extremely serious – but it is not hopeless. However, massive structural change is needed this decade to preserve decent living circumstances for as many people as possible. What possibilities we still have, where the limitations lie, but also what the consequences of inaction are – that is what journalists must consistently point out.

4. POINT OUT FEASIBLE ACTIONS AND SOLUTIONS

Those who deal with the facts about the climate crisis often experience cognitive dissonance. Because our own actions contradict our knowledge or values, an inner tension arises that is experienced as unpleasant. We have different ways of resolving this. By changing our actions – or, if that seems too difficult, or is currently not possible: by talking down the problem, or by devaluing climate-protective behavior as "moral," "ideological," or "exaggerated" and "radical."

This is why identifying possibilities for action at the individual and structural level (see Chapter 4) is also necessary, so that people are better able to acknowledge the facts and grasp the magnitude of the crisis. This is an important prerequisite for being able to act on it.

LINKING INDIVIDUALS AND STRUCTURES

Preoccupation with individual (mis)behavior can prevent people from addressing the structural problems behind it – and also from demanding structural solutions that enable individual behavior to change. When people recognize problems, they often want to take action to overcome their cognitive dissonance. Offering them opportunities to do so increases the likelihood that they won't repress the problem.

The crux: Individual behavioral changes are absolutely necessary but alone they will not solve the climate crisis. That's why referring to structural solutions is essential. At the same time, individual behavioral changes can make structural solutions more likely and even trigger them, if enough people get active and implement them.

POINT OUT REALISTIC SOLUTIONS

Recognizing *realistic and meaningful structural solutions* requires a certain expertise. For example, it's important to recognize that narratives around hydrogen fuels as a miracle technology, or claims that digital innovation will save us, are insubstantial. They are relevant parts of the necessary transformation but won't be enough on their own.

In general, *major systematic changes are needed in all possible areas*. This requires an agricultural, food, energy, construction and transport turnaround. As explained, to comply with the Paris Agreement, global emissions must be halved by 2030; to do their fair share, Western industrialized nations will have to move much faster. We thus *need technologies and measures that can be implemented directly*. Anything we invent in addition is great. But we cannot rely on it to save us.

EXAMPLE

MAIN TOPIC: Emissions reduction strategies

CONSTRUCTIVE ANGLE: Your government plans to reduce emissions by 20% by 2030. It doesn't look too good concerning an energy transition. But how can they achieve their goal, and maybe even more?

INSIGHT AND EVIDENCE: The main levers besides energy production are:

- energy consumption
- agriculture and diet
- land use
- mobility
- building and heating

What is the status? What needs to change? And to what extent will countries, communities and the economy benefit from the changes in the short, medium and long term? What can be implemented already? How will this help to make people and the economy more resilient and save costs in the future? What can individuals do to contribute to this – what must governments do to make appropriate behavior possible for as many people as possible?

LIMITATIONS: Reducing emissions in other areas does not make efforts toward the renewable energies any less necessary and urgent.

THE FOUR PILLARS OF SOLUTIONS JOURNALISM

from the Solutions Journalism Network

1. A solutions-oriented story focuses on a *response* to a social problem – and how that response has *worked*, or why it has not.
2. The best solutions reporting distills the lessons that make the response relevant and accessible to others. In other words, it offers *insight*.
3. Solutions journalism looks for *evidence* – data or qualitative results that show effectiveness (or lack thereof). Solutions stories are upfront with audiences about that evidence and what it tells us, as well as what it doesn't. A particularly innovative response can be a good story even without much evidence but the reporter has to be transparent about the lack, and about why the response is newsworthy anyway.
4. Solutions stories reveal a response's shortcomings. No response is perfect, and something that works well for one community may fail in others. A responsible reporter covers what doesn't work about a response and places it in context. Reporting on *limitations*, in other words, is essential.

EXAMPLE

MAIN TOPIC: Desertification

CONSTRUCTIVE ANGLE: How "tiny forests" – site-adapted, highly diverse forest ecosystems in urban areas – influence the microclimate, enhance biodiversity and make cities more resilient in terms of climate adaptation, for example, when it comes to heavy rain. They also provide a variety of ecosystem services and have positive social effects. Such as increasing the quality of living in cities, contribution to social balance or social integration, by creating free places for local recreation in public spaces.

INSIGHT AND EVIDENCE: Are best shown by portraying an existing project, possibly in your region, and speaking to experts.

LIMITATIONS: Even if the projects are implemented with the help of local residents, they require site-specific planning and monitoring to ensure that the trees planted actually become functioning ecosystems. Although "tiny forests" help to bind CO2, for this to have a noticeable effect globally, nature-based solutions must be implemented on a large scale.

HOW NOT TO ...

Constructive journalism is *not about communicating "positively"* or promoting certain solutions, but about constructively pointing out possible courses of action. This requires critical and informed reporting and clear information. Contributions must also *clarify limitations and weigh alternatives*.

In the climate crisis, there is so little time left for the necessary changes that journalists cannot retreat to simply criticizing approaches. The question that needs to be asked is: *Now what?* Constructive reporting attempts to answer this additional question, and it's one that all reporting faces in acute crises anyway.

Nor is it a matter of promoting certain approaches or taking sides. Solution-oriented journalism does not make demands – except in opinion pieces. Instead it clarifies, for example, if-then relationships. Of course, we can decide against measures driving the energy and transport transition today but then we don't prevent emissions now as we need to, thus breaking our climate targets and endangering our common future. This attitude is central: *explain and assess, instead of instructing*.

RESEARCH- ING CLIMATE ISSUES

Those who do in-depth research on local climate impacts and adaptation measures will often be the first to get exclusive news. Due to the lack of awareness and knowledge about the climate crisis, the importance of this is often not recognized by colleagues, politicians and the general public.

In general: In order to be able to report and assess topics and developments concerning the climate crisis well, a certain expertise is needed. But don't worry, this will develop over time. *Once you have understood the basic facts and connections, you will progress bit by bit.*

It is like during the COVID-19 crisis. *It's important that all journalists have a basic knowledge of the most important connections*, so that they can consider wherever these play a role in their reporting and then discuss it in an informed manner in their newsrooms or editorial teams. This didn't mean that you had to become an infectious diseases expert yourself. Still, it is advisable for editorial teams to hire or train several such experts. They can assess new developments in editorial conferences and help colleagues with queries and tips on sources and contacts in everyday editorial work.

IMPORTANT TOPICS AND RESEARCH APPROACHES:

LOCAL ADAPTATION

The consequences of the climate crisis are already being felt today, and they will be felt more and more in the years and decades to come. Questions that arise on the ground include:

- What adaptation measures are needed locally? Where are the limits of adaptation?
- From which countries, regions, companies and individuals can we learn?

- Keywords: drinking water security, food security, energy security, heat protection, flood protection, storm damage, droughts, spread of disease.
- What adaptation measures are being pushed by local and national governments on the ground? Are there plans for these measures? Are these plans being implemented?
- Are there international programs and support for them?
- What, if anything, can citizens do to protect themselves and their families?

LOCAL AND NATIONAL CLIMATE PROTECTION MEASURES

To stop global warming, greenhouse gas emissions must be reduced as quickly as possible, in all sectors. This leads to the following questions:

- Do companies and governments have corresponding goals?
- Do they have plans for how to achieve these goals?
- How well do the plans work toward those goals?
- Where do fossil fuel structures continue to be built, promoted, financed and subsidized?
- To what extent does it also make economic sense – in the short, medium and long term – to press ahead with the transformation as quickly as possible?

EXAMPLE

MAIN TOPIC: Climate impacts on water utilities

CONSTRUCTIVE ANGLE: Freshwater supply is not only endangered by drought but also by storms and flooding, the decrease of the source water quality, sea level rise and general utility preparedness. What can your local government do to protect the water utilities of your country or community?

INSIGHT AND EVIDENCE: The climate change adaptation resource center of the UN (ARC-X) advises authorities to construct new infrastructure, increase system efficiencies, model climate risk, modify land use, modify water demand, monitor operational capabilities, plan for climate change and repair and retrofit facilities. What would this look like in your region?

LIMITATIONS: Adaptation is already necessary but only feasible to a certain extent. If we don't implement effective climate protection as quickly and comprehensively as possible to stop global warming, adaptation will be difficult to impossible. Financial resources, local conditions, political awareness of the emergency and corruption will also determine whether and how appropriate adaptation measures are implemented.

TOOLS, SOURCES AND DATABASES

CLIMATE ACTION TRACKER

The Climate Action Tracker is an independent scientific project that tracks government climate action and measures it against the globally agreed Paris Agreement aim of "holding warming well below 2°C, and pursuing efforts to limit warming to 1.5°C."

→ climateactiontracker.org

CLIMATE CHANGE PERFORMANCE INDEX

The Climate Change Performance Index (CCPI) is an instrument to enable transparency in national and international climate politics. The CCPI uses a standardized framework to compare the climate performance of 59 countries and the EU, which together account for 92% of global greenhouse gas emissions. The climate protection performance is assessed in four categories: GHG Emissions, Renewable Energy, Energy Use and Climate Policy.

→ ccpi.org

UNEP EMISSIONS GAP REPORT

The UNEP Emissions Gap Report (EGR) series tracks our progress in limiting global warming well below 2°C and pursuing 1.5°C in line with the Paris Agreement. Since 2010, it has provided an annual science-based assessment of the gap between estimated future global greenhouse gas emissions if countries implement their climate mitigation pledges, and where they should be, in order to avoid the worst impacts of climate change.

→ unep.org/resources/emissions-gap-report

GLOBAL CLIMATE RISK INDEX

Who suffers most from extreme weather events? The Global Climate Risk Index analyses to what extent countries and regions have been affected by impacts of weather-related loss events such as storms, floods, heat waves and so forth.

→ germanwatch.org/en/cri

IPCC REPORTS

The Intergovernmental Panel on Climate Change (IPCC) is currently in its Sixth Assessment cycle. Reports from three working groups on the physical science basis of climate change, impacts, adaptation and vulnerability and the mitigation of climate change have already been published, with a lot of regional information and vivid graphics. Interesting links are:

→ ipcc.ch/ar6-syr

→ interactive-atlas.ipcc.ch

→ ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Annex-I.pdf

COUNTRY PROFILES FROM THE CLIMATE CENTRE ICRC

The Climate Centre aims to help the Red Cross and Red Crescent Movement and their partners reduce the impacts of climate change and extreme weather events on vulnerable people. It provides country profiles showing impacts and vulnerability:

→ climatecentre.org/wp-content/uploads/RCCC-ICRC-Country-profiles-Region_Middle_East.pdf

CLIMATE WATCH

The online platform provides open climate data, visualizations and resources to gather insights on national and global progress on climate change. It brings together dozens of datasets to let users analyze and compare the Nationally Determined Contributions (NDCs) under the Paris Agreement, access historical emissions data, discover how countries can leverage their climate goals and use models to map new pathways to a lower carbon future.

→ climatewatchdata.org

GLOBAL FOREST WATCH

GFW is an online platform that provides data and tools for monitoring forests and allows anyone to access near real-time information about where and how forests are changing around the world.

→ globalforestwatch.org/map

GLOBAL WATER QUALITY DATABASE GEMSTAT

The database and information system GEMStat is operated by the International Centre for Water Resources and Global Change (ICWRGC) in Koblenz, Germany, within the framework of the GEMS/Water Program of the United Nations Environment Program (UNEP). GEMStat offers water quality data for ground and surface waters providing a global overview of the condition of water bodies and the trends at global, regional and local levels.

→ gemstat.org

GLOBAL SURFACE WATER EXPLORER

A virtual time machine that maps the location and temporal distribution of water surfaces at a global scale over past decades. It also provides statistics to support better informed water-management decisions.

→ global-surface-water.appspot.com

GOOGLE EARTH TIMELAPSE

The Google Earth Engine combines a multi-petabyte catalog of satellite imagery and geospatial datasets with planetary-scale analysis capabilities. Scientists, researchers, and developers use the Earth Engine to detect changes, map trends and quantify differences on the Earth's surface.

→ earthengine.google.com

OPEN CORPORATES

Large open database of companies around the world. You need a free account to access the information:

→ opencorporates.com

UNITED NATIONS STATISTICS DIVISION

Provides general environmental and climate statistics on individual countries:

→ unstats.un.org/UNSDWebsite

PROJECT DRAWDOWN

The nonprofit organization seeks to help the world reach "drawdown"- the future point in time when levels of greenhouse gases in the atmosphere stop climbing and start to steadily decline. On its homepage it provides an overview of different climate solutions around the world.

→ drawdown.org

RESOURCES FOR JOURNALISTS

GLOBAL SOUTH CLIMATE DATABASE

The Global South Climate Database is a publicly available, searchable database of scientists and experts in the fields of climate science, policy and energy. The project, set up by Carbon Brief with the support of the Reuters Institute's Oxford Climate Journalism Network, aims to ensure that journalists from all over the world can contact climate experts from Asia, Africa, Latin America, the Caribbean, and the Pacific.

→ carbonbrief.org/global-south-climate-database

CLIMATE VISUALS

An image library that seeks to provide constructive photo journalism on topics around climate change. After registration, library users can see and access content for their profile and needs, searching by keywords, country, themes, causes, impacts, solutions, dates, license types and sources.

→ climatevisuals.org

CARBON BRIEF

Carbon Brief is a UK-based website covering the latest developments in climate science, climate policy and energy policy. They publish a wide range of content, including science explainers, interviews, analysis and factchecks, as well as daily and weekly email summaries of newspaper and online coverage.

→ carbonbrief.org

WORLD WEATHER ATTRIBUTION

Provides timely scientific assessments of current extreme weather events and offers a guide for journalists on how to handle the assessment of extreme weather events.

→ worldweatherattribution.org/reporting-extreme-weather-and-climate-change-a-guide-for-journalists

INTERNATIONAL JOURNALISM NETWORKS

COVERING CLIMATE NOW

CCNow collaborates with journalists and newsrooms to produce more informed and urgent climate stories, to make climate a part of every beat in the newsroom – from politics and weather to business and culture – and to drive a public conversation that creates an engaged public. They advise newsrooms, share best practices and provide reporting resources that help journalists ground their coverage in science while producing stories that resonate with audiences.

→ coveringclimatenow.org

CLEAN ENERGY WIRE – JOURNALISM FOR THE ENERGY TRANSITION

CLEW is an international network based in Germany that provides journalists with information to enable informed and profound reporting on the energy transition. They are available to support journalists in their work and offer to assist with research, provide background information and help find the right interviewees to speak with on a wide variety of topics.

→ cleanenergywire.org

OXFORD CLIMATE JOURNALISM NETWORK

The Oxford Climate Journalism Network (OCJN) works with a global community of reporters and editors across platforms and beats to improve the quality, understanding and impact of climate coverage around the world. The OCJN is a program at the Reuters Institute. Its mission is to help journalists, editors and media executives across the world develop their coverage of climate change.

→ reutersinstitute.politics.ox.ac.uk/oxford-climate-journalism-network

SOLUTIONS JOURNALISM NETWORK

The network's mission is to transform journalism so that all people have access to news that helps them envision and build a more equitable and sustainable world. It provides a "Learning Lab" and a collection of best practice solutions journalism, also on climate.

→ solutionsjournalism.org

