

World 'officially entered the era of climate migration,' says IOM. What to do for water stress regions ?



The director general-elect of the International Organization for Migration (IOM) called for urgent solutions to address climate change and human mobility challenges because the world has entered "the era of climate migration."

"Solutions to address the nexus of climate change and human mobility at a continental scale are urgent," **Amy Pope** said in a statement in 1st of September.



The Summit is the largest gathering of African heads of state, ministers, UN agencies, humanitarian and development partners, private sector and youth in the continent's history, the statement said.



"African countries are among the most vulnerable to the impacts of climate change, experiencing the dire impacts of the climate crisis including drought, flooding, extreme weather temperatures, rising sea levels," it said.

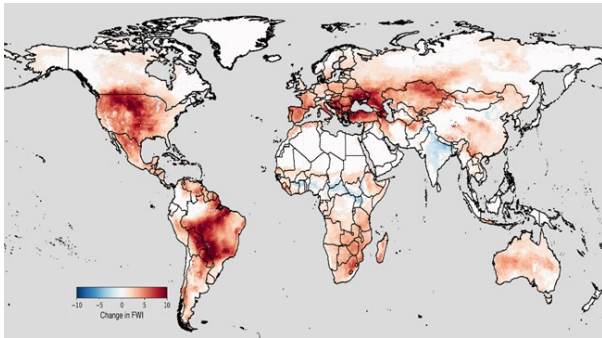
More than 7.5 million internal disaster displacements were registered on the continent in 2022, according to a report by the Geneva-based Internal Displacement Monitoring Centre.

Without a climate action plan, up to 105 million people are feared to become internal migrants by 2023 in Africa alone, a 2021 World Bank report estimates, it added.

The Summit is ahead of the Conference of Parties (COP28) slated for December in the United Arab Emirates "to unite the African continent towards agreement on climate change impacts on human mobility," it said.

Pope was elected in May as IOM director general and will take office Oct. 1, leading the organization for five years.

NASA Study Reveals Compounding Climate Risks at Two Degrees of Warming



This map shows global change in a measure called “fire weather index” (FWI) predicted by the study’s analysis for the year 2045 (red: greater extreme fire weather; blue: less). FWI captures a combination of conditions, including low rainfall and high winds, that together increase a region’s extreme fire weather condition.

Analysis by the NASA Earth Exchange of high-resolution climate projections concludes that, if global temperatures keep rising and reach 2 degrees above pre-industrial levels, people worldwide could face multiple impacts of climate change simultaneously, with serious consequences. Credit: NASA/Taejin Park

If global temperatures keep rising and reach 2 degrees Celsius (3.6 degrees Fahrenheit) above pre-industrial levels, people worldwide could face multiple impacts of climate change simultaneously. This is according to a NASA-led study that analyzed the projected impacts of such warming to understand how different climate effects might combine. A 2-degree rise in global temperatures is considered a critical threshold above which dangerous and cascading effects of human-generated climate change will occur.

The researchers found that more than a quarter of the world’s population could experience an additional month of severe heat stress each year compared to the middle of the 20th century (1950-1979). High temperatures and drought could combine dangerously in places like the Amazon, increasing the risk of wildfire. In the American West, extreme fire weather will likely be more intense and last longer.



Combining Climate Impacts

With the new dataset in hand, NEX researchers at Ames analyzed the downscaled projections to assess the changes predicted for six key climate variables. They examined changes in air temperature, precipitation, relative humidity, short- and longwave solar radiation, and wind speed at a point when warming passes 2°C.

“We wanted to study how these aspects of the environment are projected to change and what their combined impacts could mean for people around the world,” said Taejin Park, first author on the paper and a researcher at Ames with the Bay Area Environmental Research Institute (BAERI).

The researchers paid special attention to two climate indicators: heat stress – or the combined effects of temperature and humidity on the human body – and fire weather – which considers temperature, rainfall, humidity, and wind. Most regions of the world will experience higher heat stress, they found, while countries closer to the equator will suffer from a greater number of days considered extreme.

“The escalating impacts of all the climate extremes studied could cause significant damage to communities and economies, from fires, floods, landslides, and crop failures that may result,” said Ramakrishna Nemani, senior scientist at BAERI and co-author of the study

14 August 2023

Source:<https://climate.nasa.gov/news/3278/>

World 'officially entered the era of climate migration,' says IOM.

What to do for water stress regions ?

Dursun Yıldız , Director

Hydropolitics Academy

September 3-2023

The director general-elect of the International Organization for Migration (IOM) called for urgent solutions to address climate change and human mobility challenges because the world has entered "the era of climate migration."

"Solutions to address the nexus of climate change and human mobility at a continental scale are urgent," **Amy Pope** said in a statement in 1st of September. More than 7.5 million internal disaster displacements were registered on the continent in 2022, according to a report by the Geneva-based Internal Displacement Monitoring Centre.

The U.S. intelligence community prediction came true

It has been cleared out that climate change dynamics may well play out in several water stressed places in the World. But the level of awareness is not enough yet.

In fact ,The U.S. intelligence community was released a report in 2016 finding that global warming is already acting as a destabilizing force worldwide, with more serious ramifications to come in the next two decades. Globally, the report found that climate-related national security disruptions are already underway, with the potential for global warming impacts to overwhelm country's ability to absorb natural disasters and continue to govern its people(1).

The report states: • Over 20 years, the net effects of climate change on the patterns of global human movement and statelessness could be dramatic, perhaps unprecedented. If unanticipated, they could overwhelm government infrastructure and resources, and threaten the social fabric of communities. These statements show that they are very aware of the problem coming towards the modern world.

Before conclusion , in order to make a general risk assesment that the modern world will face there are some questions to be asked regarding with water stress regions .



Implications for US National Security of Anticipated Climate Change

- Are the region's water resources being managed sustainably and efficiently?
- Are water services being delivered reliably and affordably?
- Are water-related risks being appropriately recognized and mitigated?

If we got the answers as "NO" for many regions under threat ,It indicates that we are so late.....

WHAT TO DO ?

The first step is forwarding a new international water security paradigm and rethinking on the risk of conflict between countries in shared river basins. Water related crisis may destabilize local and national politics creating large-scale population movements and other risks to foreign and security policy. It is needed to rise an awaransess with a risk analyses. It is also considered that governments need to phase out subsidies for the water sector that contribute to inefficient and wasteful water use.

This will be politically perilous, but there is a precedent in the form of an international effort to help countries phase out wasteful fuel and energy subsidies in a responsible way. The international community needs to initiate a serious discussion on how to help countries solve their serious water crises, which may well represent the difference between success and failure for fragile states.

We can see some promising initiatives are under way in several fragile and water-scarce states. But at the end of the day, none of these initiatives are likely to succeed without significantly increased financing. The world's water hotspot areas need enough financial support, willpower ,research creating actionable knowledge and a security paradigm change .

[1] Implications for US National Security of Anticipated Climate Change. This Intelligence Community-coordinated memorandum was produced by the National Intelligence Council 10 August 2016

Destruction of Ukrainian Dam Has Dried Up a Vital Irrigation Network



The Kakhovka Reservoir before, left, and after, right, the Kakhovka dam was destroyed. NASA

AUGUST 3, 2023

The destruction of the Kakhovka dam in Ukraine has drained a critical reservoir, cutting off flows of water to surrounding farmland in the Kherson region. In recent weeks, the vast irrigation network fed by the reservoir has begun to dry up, new satellite imagery shows.

“The major challenge for farmers now is lack of water,” Inbal Becker-Reshef, director of NASA’s food security program, said in a statement. “Many of the summer crops grown in Kherson — such as corn, wheat, sunflower, tomatoes, and melons — are heavily reliant on irrigation.”

In the two months since the Kakhovka dam was destroyed, the four inlets linking the reservoir to the irrigation network have dried up. Early summer rainfall kept irrigation canals full for a time, but in recent weeks, canals have nearly emptied, imperiling the supply of water to an area larger than London. It will take three to seven years to restore irrigation from the reservoir, according to Ukraine’s agricultural ministry.



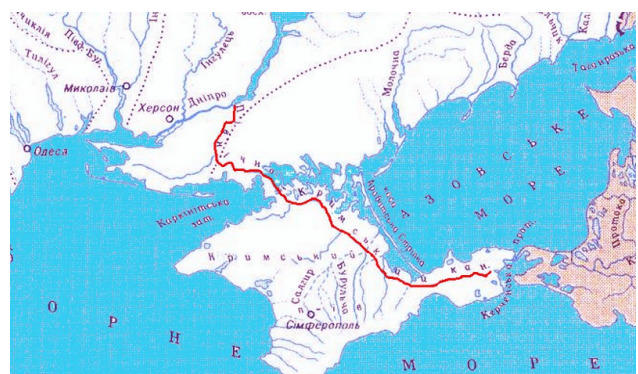
The North Crimean Canal, which feeds a broad swath of Ukrainian farmland, on June 3 and July 19. PLANET LABS VIA NASA

Ukraine’s agricultural heartland is contending with multiple challenges as a result of the war, as detailed in a new report from its environment ministry. The razing of fields, destruction of farm equipment, and contamination from explosives has led to \$8.7 billion in losses, according to the report, which said that landmines are now scattered across 30 percent of Ukrainian farmland.

Last year, 171 countries imported Ukrainian agricultural goods, including many countries in the Global South that are highly dependent on Ukrainian wheat. The June destruction of the Kakhovka dam pushed up global grain prices, as did Russia’s decision in July to pull out of a deal allowing the export of Ukrainian grain.

“The world’s food security is once again in danger,” Ukraine’s agricultural minister, Mykola Solskyi, said in a statement. “If we cannot export food, the population of the poorest countries will be on the edge of survival.”

Source: <https://e360.yale.edu/digest/ukraine-dam-agriculture-environment>



25 Countries, Housing One-quarter of the Population, Face Extremely High Water Stress

August 16, 2023

By **Samantha Kuzma, Liz Saccoccia** and **Marlena Chertock** Cover Image by: Kirsten Walla/iStock

New data from [WRI's Aqueduct Water Risk Atlas](#) show that 25 countries — housing one-quarter of the global population — face extremely high water stress each year, regularly using up almost their entire available water supply. And at least 50% of the world's population — around 4 billion people — live under highly water-stressed conditions for at least one month of the year.

Living with this level of water stress jeopardizes people's lives, jobs, food and energy security. Water is central to growing crops and raising livestock, producing electricity, maintaining human health, fostering equitable societies and meeting the world's climate goals.

Without better water management, population growth, economic development and climate change are poised to worsen water stress.

Here, we dive deep into what's causing growing water stress — and which countries and regions will be impacted the most



What's Causing Global Water Stress?

Across the world, demand for water is exceeding what's available. Globally, demand has more than doubled since 1960.

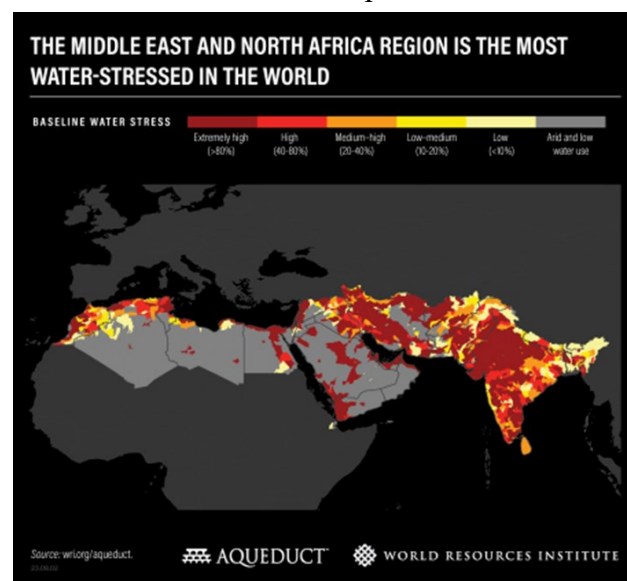
Increased water demand is often the result of growing populations and industries like irrigated agriculture, livestock, energy production and manufacturing. Meanwhile, lack of investment in water infrastructure, unsustainable water use policies or increased variability due to climate change can all affect the available water supply.

Water stress, the ratio of water demand to renewable supply, measures the competition over local water resources. The smaller the gap between supply and demand, the more vulnerable a place is to water shortages. A country facing “extreme water stress” means it is using at least 80% of its available supply, “high water stress” means it is withdrawing 40% of its supply. Without intervention — such as investment in water infrastructure and better water governance — water stress will continue to get worse, particularly in places with rapidly growing populations and economies.

Which Countries Face the Worst Water Stress?

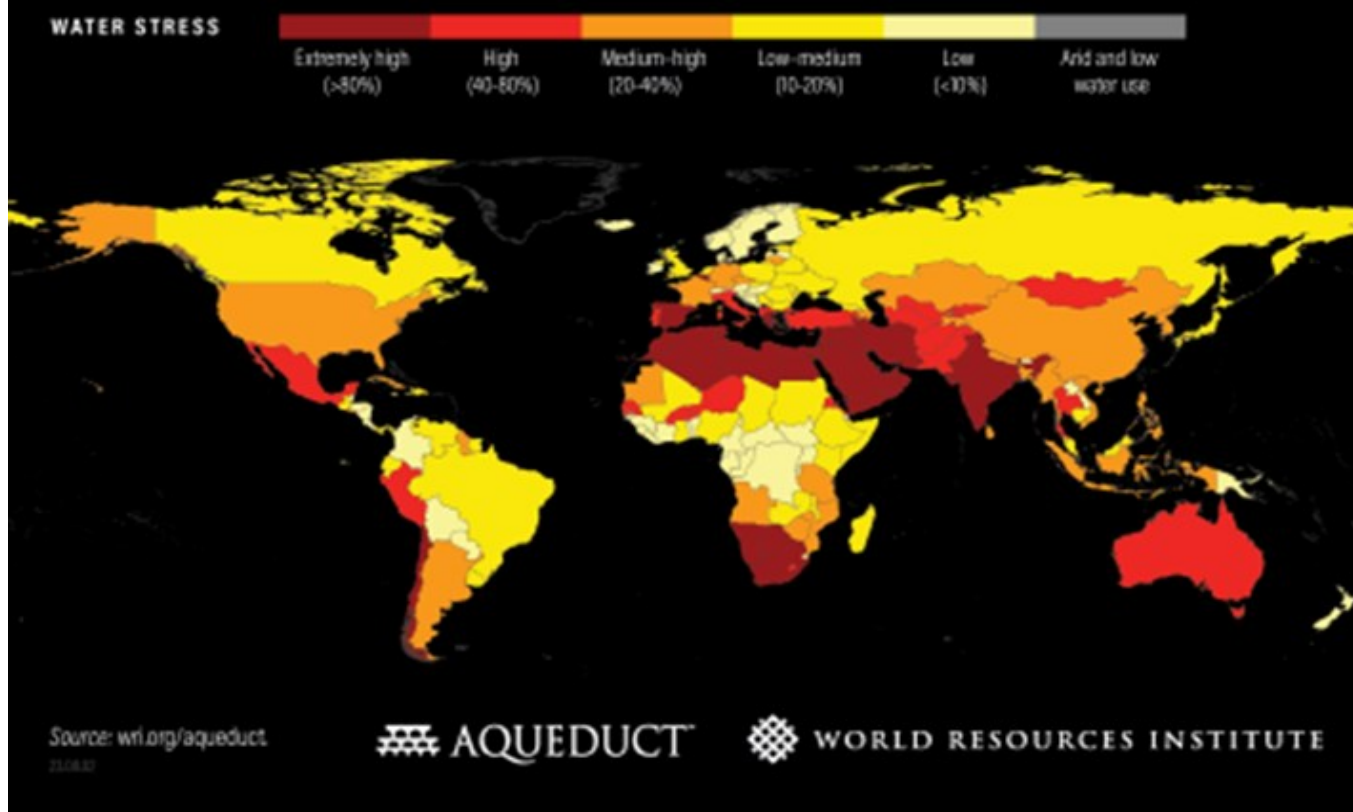
Our data shows that 25 countries are currently exposed to extremely high water stress annually, meaning they use over 80% of their renewable water supply for irrigation, livestock, industry and domestic needs. Even a short-term drought puts these places in danger of running out of water and sometimes prompts governments to shut off the taps. We've already seen this scenario play out in many places around the world, such as [England](#), [India](#), [Iran](#), [Mexico](#), and [South Africa](#). The five most water-stressed countries are Bahrain, Cyprus, Kuwait, Lebanon, Oman and Qatar. The water stress in these countries is mostly driven by low supply, paired with demand from domestic, agricultural and industrial use.

The most water-stressed regions are the Middle East and North Africa, where 83% of the population is exposed to extremely high water stress, and South Asia, where 74% is exposed.



Source :Source : https://www.wri.org/insights/highest-water-stressed-countries?utm_campaign=wridigest&utm_source=wridigest-2023-08-16&utm_medium=email

BY 2050, AN ADDITIONAL 1 BILLION PEOPLE ARE EXPECTED TO LIVE WITH EXTREMELY HIGH WATER STRESS



The Situation is Poised to Worsen

By 2050, an additional 1 billion people are expected to live with extremely high water stress, even if the world limits global temperature rise to 1.3 degrees C to 2.4 degrees C (2.3 degrees F to 4.3 degrees F) by 2100, an optimistic scenario

Global water demand is projected to increase by 20% to 25% by 2050, while the number of watersheds facing high year-to-year variability, or less predictable water supplies, is expected to increase by 19%. For the Middle East and North Africa, this means 100% of the population will live with extremely high water stress by 2050. That's a problem not just for consumers and water-reliant industries, but for political stability. In Iran, for example, decades of poor water management and unsustainable water use for agriculture are already causing protests — tensions that will only intensify as water stress worsens.

Water Demand Is Exploding in Africa; Plateauing in Wealthier Nations

The biggest change in water demand between now and 2050 will occur in Sub-Saharan Africa. While most countries in Sub-Saharan Africa are not extremely water-stressed right now, demand is growing faster there than any other region in the world. By 2050, water demand in Sub-Saharan Africa is expected to skyrocket by 163% — 4 times the rate of change compared to Latin America, the second-highest region, which is expected to see a 43% increase in water demand.

This increase in water use, mainly expected for irrigation and domestic water supply, could foster major economic growth in Africa — projected to be the fastest-growing economic region in the world. However, inefficient water use and unsustainable water management also threatens to lower the region's GDP by 6%.

Source: <https://www.wri.org/insights/highest-water-stressed-countries?>

ANTALYA INTERNATIONAL SCIENCE FORUM | ANISF



CLIMATE CHANGE Environmental Crisis
Migration



29 Nov.-1 Dec 2023 ANTALYA-Türkiye



Dear Sir or Madam,

Antalya International Science Forum (ANISF) on "Climate Change, Environmental Crisis and Migration" which is organised in **partnership with Antalya Metropolitan Municipality, Friedrich Ebert Foundation Turkey Representation (Istanbul), Centre for Turkish Studies (Germany-Essen) and Hydropolitics Association**, as we consider your work and contributions to science valuable.

ANISF aims to provide an opportunity for researchers, experts and practitioners to discuss current issues and solutions related to the Forum topic in an international and interdisciplinary environment. The Forum will address the problems caused by climate change in general, as well as the resulting migration movements and environmental disasters and degradation, as well as good practices and solutions developed in various regions of the world.

The Science Forum aims to discuss interdisciplinary approaches and solutions such as "climate resilient agriculture", "circular economy", "right to food", "climate justice", and "environmental law" in the context of global, regional and national impacts of climate change, migration and environmental crisis.

ANISF will bring together experts from different regions of the world and various institutions and organisations, providing a platform for them to share their knowledge and expertise on the impacts of climate change on migration and vulnerable communities, as well as strategies for mitigation and adaptation.

Sending abstracts is sufficient for participation. Later, you will receive information regarding the abstract submission deadline, forum accommodations detail, and participation fees. If the scientific committee accepts your abstract, your work will be included in the detailed program

The chosen studies will have the opportunity to be published in peer-reviewed international and national scientific journals. The forum's outcomes will also be compiled into an international report.

We invite you to contribute to the Science Forum between 29 November and 1 December 2023 and support this global effort to protect our planet and its inhabitants for future generations. Detailed information about the programme will be sent to you later. If you agree to participate at the Forum planned in Antalya, please get back to us via answering this e-mail or mail to info@anisf.com.

Kind regards.

Prof. Dr. Erol Esen

-Head of ANISF

-Head of Akdeniz University Social Policy and Migration Studies Application and Research Centre (ASPAG)

In order to contact the Forum Secretariat for all request and questions

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CollabEO-Floods
Collaborative Analysis of Flooding Event

RESEARCH CALL for Collaborative Analysis of Flooding Events with Processing of Earth Observation Datasets

Dear Colleagues,

Our workshop supported by ISPRS aims to gather MSc and PhD students on general flood risk and assessment knowledge. Our goal is to provide both a guide and research reference for flooding events.

This workshop will provide a research platform to the reserachers from varying disciplines to analyse Bozkurt flood and aiming to provide an exemplary flood risk and assessment work by evaluating varying determinants including meteorological, related to city planning, etc.

The workshop will include two sections

1. Short tutorials instructed by the experts and each focusing on the analysis of a specific related case :

- Earth observation (EO) tools, data processing, Geoinformatics science details are given to the Climatologist
- Climate, atmospheric science theory, and applications are given to EO experts
- Establishment of a collaboration among the participants through the organized workshop.

2. Presentations of the case study. Oral and poster sessions.

The event will be hybrid, and on-site (limited to 50 participants).

September 2023

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<http://hidropolitikakademi.org>



Participation is free.

Deadline for abstract submission * : 10/08/2023

Workshop date : 02/10/2023 09.00-18.00 (GMT+3)

Location : Ankara- Türkiye / Turkish Cadastre and Surveying Engineers Chamber Headquarters Training Center

- Submission link will be provided to the interested participants.

The study area of Bozkurt, Kastamonu-Türkiye is highly recommended, but any other location is welcome, too.

After the workshop, the presentations and abstracts will be publicly available online and published on the workshop website for probable interest.

Other outputs of this workshop: The studies of the workshop can be published as full texts in a special issue of a ULAKBIM (a Turkish Scientific Index)-based scientific journal. The results and preliminary studies of the workshop will be transformed into a national report and shared with relevant public institutions/organisations and stakeholders. An expert network will be formed with the workshop participants and will be included in the networking platform to be established.

Looking forward to receiving your valuable contributions and seeing you in **Ankara.-Türkiye**

Dr. Nusret Demir / Akdeniz University

Dr. Fulya Kandemir / Hydropolitics Association & Academy

Dr. Doğuşhan Kılıç / University of Manchester

Deadline of the survey (form) : 10/08/2023

Kind regards.

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We need to build a future,
Where people live in harmony with nature

HPA

Think Forward .Lead Forward