GWSC

GLOBAL WATER SECURITY CENTER

GWSC translates environmental science for national security.

Science Translation

Sometimes it's far easier to find environmental data than to figure out what to do with it. GWSC is a translator.

Data Analysis

GWSC analyzes environmental, social, and geographic information to provide innovative, thoughtful water- and environmental-security analysis.

Strategic Communications

We use clear, straightforward communications about water and environmental security to provide the right information in the right package to the right people.

About Us

GWSC is a public service center located at The University of Alabama. Our purpose is to be a scientific resource for the US Federal Government with a focus on security and stabllity implications of water, food, health, and energy challenges.

- Our world-class team of scientists and analysts provide the key information decision makers need to enable national security diplomacy.
- We partner with scientists in academia and government to pinpoint the most relevant data and carry out insight-generating research and analysis.
- GWSC's work directly supports the Department of Defense's water security priorities.

PART OF THE University of Alabama System

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Water Security is National Security

The Global Water Security Center approaches water as the cornerstone on which all other environmental security factors are built—the one that affects us most in our daily lives.

Water security is critical to food, energy, and health security–and water insecurity is widespread.

According to the United Nations, 10% of the world's population lives in areas of high to critical water stress.

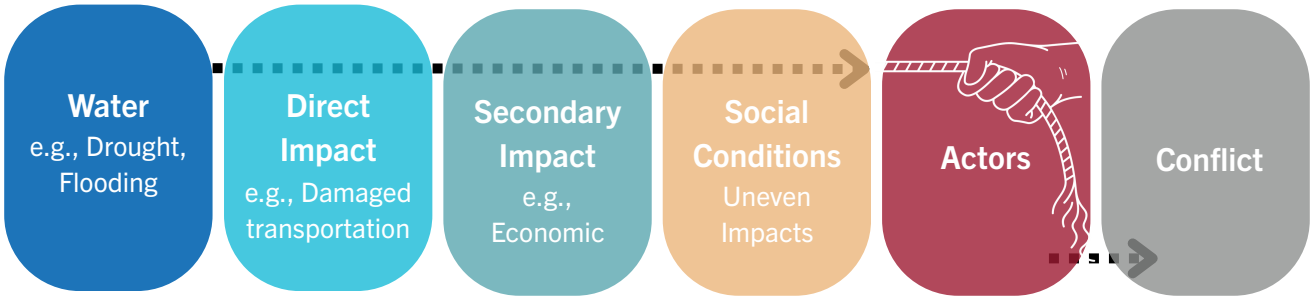
More than 70% of global water withdrawals are used for irrigated agriculture.

In the United States, producing an average megawatt hour of electricity requires more than 10,000 gallons of water.

Worldwide in 2015, 500,000 children died from diarrheal illnesses, most of which are caused by unsafe water, poor sanitation, and inadequate hygiene.

Water is already a key pressure point in contemporary conflicts. Water, food, energy and health insecurity can cascade into security threats by exacerbating conditions such as weak governance and ethnic tensions that set the stage for unrest and conflict. For example, if farming becomes unprofitable due to drought-driven crop decline, farmers may choose to fight for Violent Extremist Organizations to be able to support their families. When military support is needed for humanitarian relief, it diverts resources from defense activities. From long-term climate projections to seasonal rainfall outlooks, knowing what to expect will increase water security by helping improve planning and response.

GWSC's Approach to Analysis: The Pathways to Instability Framework



The Pathways to Instability framework illustrates how a biophysical water disturbance moves through socio-political elements in a society to produce instability. All water disturbances (biophysical phenomena driven by weather or by socio-environmental drivers like dam building or water consumption) take place in a human and geographic context. These water disturbances can directly impact landscapes and people and lead to secondary impacts like economic hardship or food insecurity. These secondary changes enable actors to leverage shifting social conditions to mobilize people to instability, which can range from communal clashes to diplomatic hostility and war. Intervention and cooperation are possible at various points along the pathway, so conflict is not a foregone conclusion.