

# Water, Climate, and Security

Building Resilience in a Fragile World

World Bank 2019

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# Summary: Peak Water, Climate, Conflict

Many kinds of water challenges, including “**peak water**” **limits and constraints**.

Water is central to the Sustainable Development Goals, **across** targets and goals.

Climate change can no longer be ignored and will complicate SDG **implementation** and **sustainability**.

There is a long history of conflicts over water and **risks are growing**, with complex causes.

**Integrated solutions** (technology, economics, management, policy) are all needed.

- SDG 6

- Ensure availability and sustainable management of water and sanitation for all

- SDG 13

- Take urgent action to combat climate change and its impacts



# Water Connects to Everything



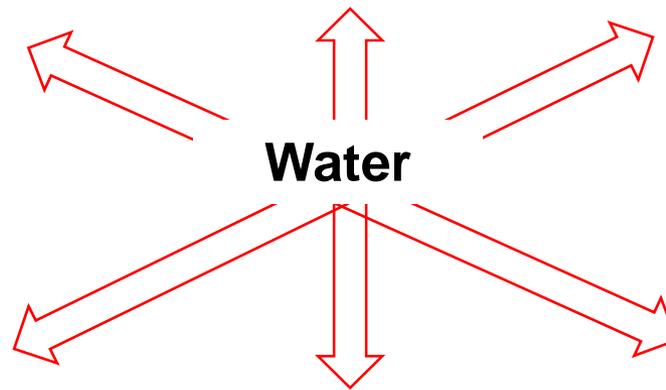
**Public Health**



**Infrastructure**



**Forestry**



**Energy**



**Environment**



**Agriculture**

# Climate Changes Already *Influence* Extremes (and we've know for decades)



“The evidence that humans are changing the water cycle of the United States is increasingly compelling.”

(*National Assessment Climate Report, 2000*)

# The Water Conflict Chronology

([www.worldwater.org](http://www.worldwater.org))



**THE WORLD'S WATER**  
Information on the World's Freshwater Resources

[The Books](#) [Water Data](#) [Water Conflict](#) [Other Resources](#)

## WATER CONFLICT

In an ongoing effort to understand the connections between water resources, water systems, and international security and conflict, the Pacific Institute initiated a project in the late 1980s to track and categorize events related to water and conflict, which has been continuously updated since. The database, updated in May 2018, presents the information as a chronology and map. Use the links below to explore the chronological list of events or the interactive events map.

Make a Difference!  
**DONATE**

### View the Water Conflict Chronology

#### [Chronological List](#)

A [table](#) listing conflicts over water that can be filtered by region, conflict type, and date range.

#### [Map](#)

An interactive [map](#) showing the geographic location where conflicts over water have occurred and information about each conflict.

“There are few books that can genuinely be described as indispensable. This is one...essential reading.”

–*Financial Times Global Water Report*

# The Water Conflict Chronology

([www.worldwater.org](http://www.worldwater.org))



- 457. Public officials taken hostage after an oil spill polluted local waters (2016)
- 458. Armed guards clash with farmers over drought-struck region of Bundelkhand (2016)
- 459. Islamic State fighters destroy pipeline that provides water for eastern Mosul, Iraq (2016)
- 460. Massive opposition to project that threatens Indian heritage and water supplies (2016)
- 461. Intentional attacks on water infrastructure (2016)
- 462. Stand-off over water rights and use resulting in death (2016)
- 463. Riots over water leave two people dead (2016)
- 464. Attack by the Islamic State on Tishreen Dam on the Euphrates River (2016)
- 465. Water pumping plant attacked in Syria (2016)
- 466. Water pipeline is bombed in Turkey (2016)
- 467. Water wells attacked in Somalia (2016)
- 468. Guard at water well in the Sudan is attacked (2016)
- 469. Disruption of electrical system cuts power to water supply in Damascus, Syria (2016)
- 470. Bombs detonated at hydroelectric power plant in East Java (2016)
- 471. Attack on a local dam in India (2016)
- 472. Water pipeline is damaged in Pakistan (2016)
- 473. Islamic State militants raid Great Manmade River Project pumping station (2016)
- 474. From late 2016 through early 2017, the water supply in Damascus, Syria is periodically cut when springs outside city are attacked (2016-2017)
- 475. Water shortage led to clashes between two



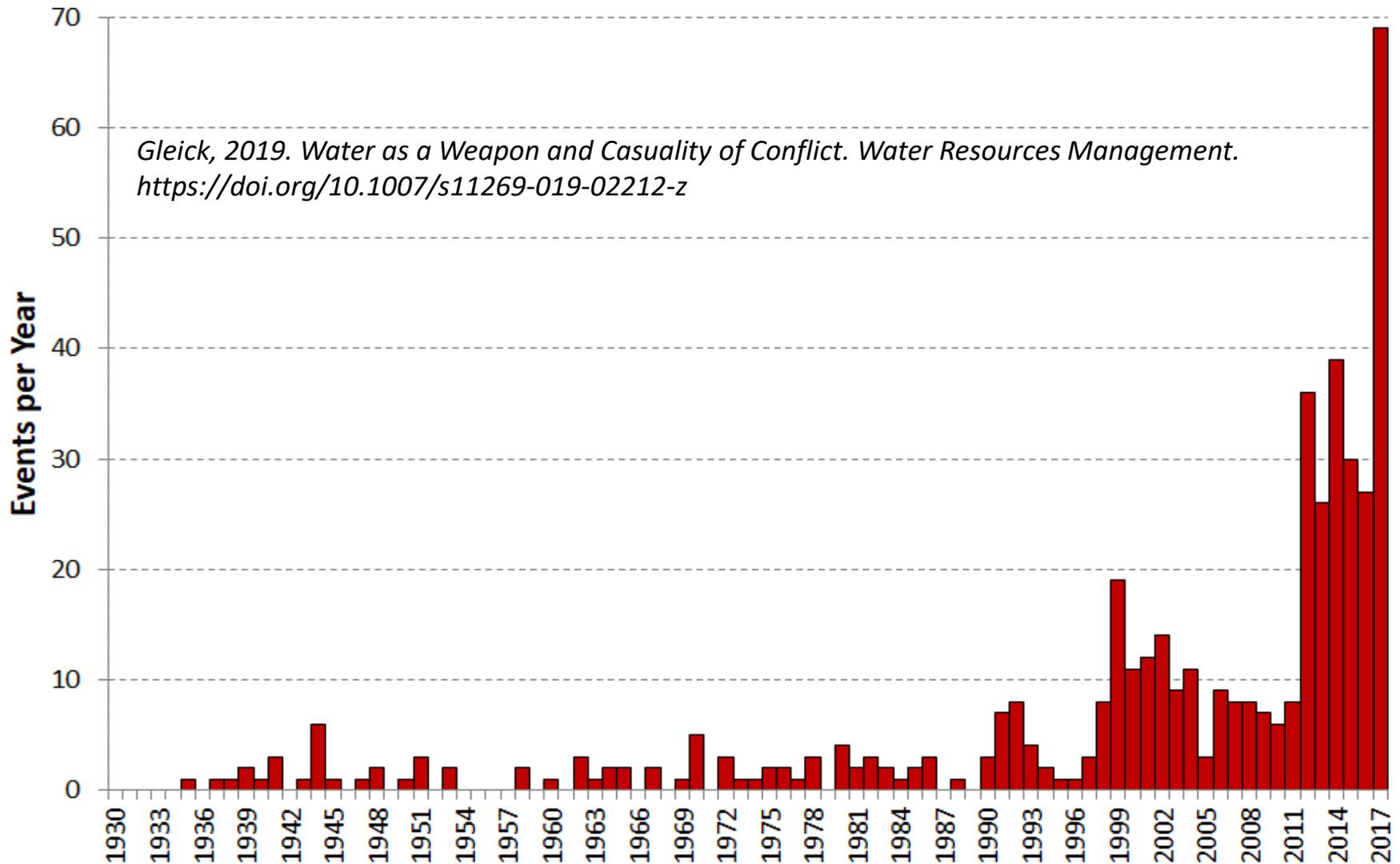
Map data ©2018 Google, INEGI

<http://worldwater.org/water-conflict/>

[View Water Conflict Chronology List](#)  
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# The Water Conflict Chronology

## Water Conflict Events, 1930 to 2017



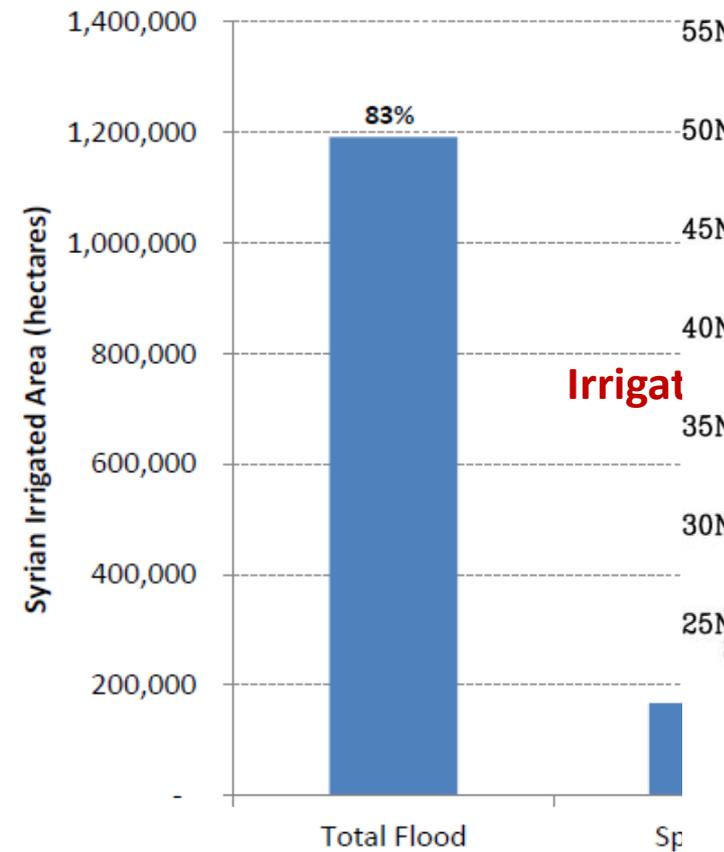
# Syrian Civil War: Multiple Factors

## Demographics, Hydroclimatology, Technology, Policy

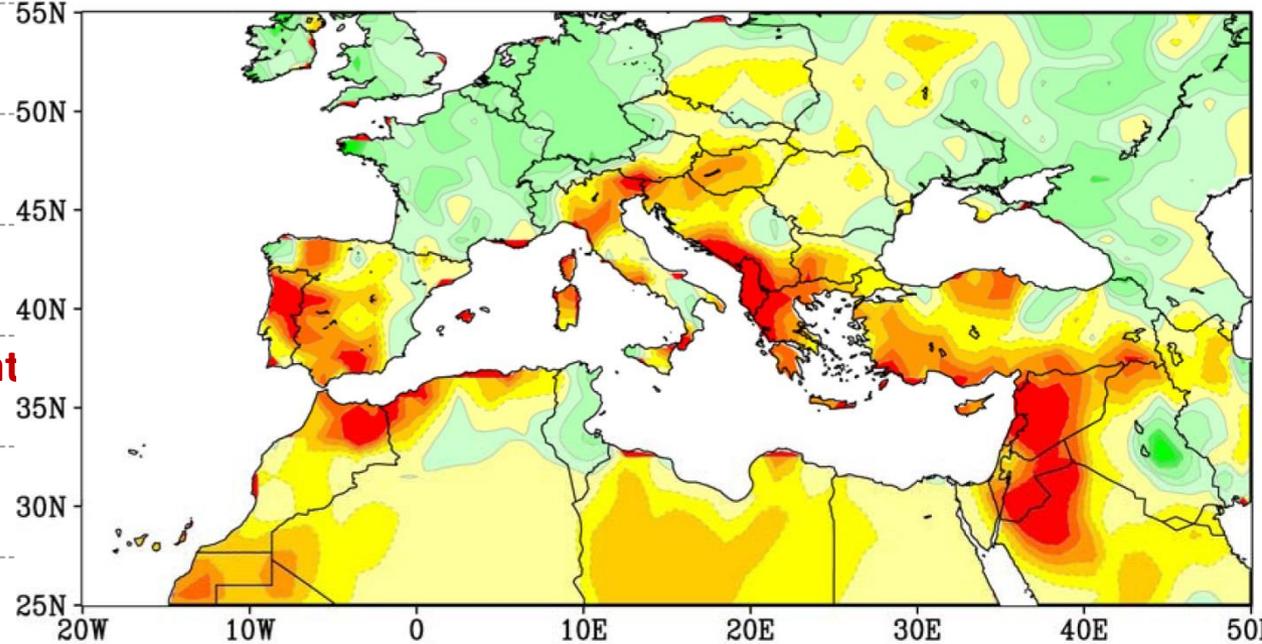
**Euphrates River Runoff**



**Population of Syria**

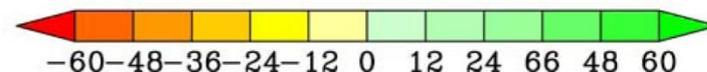


**Irrigat**



**Winter Precipitation Deficit/Drought**

**Millimeters**



# How many water conflicts would be lessened, solved or prevented by more sustainable use of water overall?

These are the same issues addressed by the World Bank's work on Water and Fragility, including: "[Water Management in Fragile Systems: Building Resilience to Shocks and Protracted Crises in The Middle East and North Africa](#)"

# Reducing the Risks of Water Conflicts

- Technical (address peak water)
  - Improve efficiency of water use in all sectors
  - Explore new supply options
- Economic (improve efficient allocation/use)
  - Reduce water subsidies; price water properly
  - Modernize agricultural water use; invest in infrastructure
- Management (address institutional fragility)
  - Public/ private/ community systems
  - Joint basin management
  - Dispute resolution mechanisms
- Political (move toward cooperation)
  - Effective and **comprehensive** water-sharing agreements
  - Equitable water rights allocations and control
  - International humanitarian law (“Laws of War”)

# Summary and Recommendations

- There are strong and growing links between water, energy, climate, and security.
- Conflicts over water seem to be worsening.
- The failure to address them will lead to inappropriate actions and unnecessary risks, ***especially in fragile states.***
- Smart policies can be efficient and effective, but trends are in the wrong direction.
- Strategies that are appropriate for moving toward “sustainable water” broadly are also important in this context.

“It is one thing to find fault with an existing system. It is another thing altogether, a more difficult task, to replace it with another approach that is better.”

**Nelson Mandela (2000)**



# CLIMATE SUMMIT

WHAT IF IT'S  
A BIG HOAX AND  
WE CREATE A BETTER  
WORLD FOR NOTHING?

- ENERGY INDEPENDENCE
- PRESERVE RAINFORESTS
- SUSTAINABILITY
- GREEN JOBS
- LIVABLE CITIES
- RENEWABLES
- CLEAN WATER, AIR
- HEALTHY CHILDREN
- etc. etc.



12/19 USA TODAY

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