

CLIMPACT

ΕΘΝΙΚΟ ΔΙΚΤΥΟ ΓΙΑ ΤΗΝ ΚΛΙΜΑΤΙΚΗ ΑΛΛΑΓΗ

**“CLIMPACT: The Greek Initiative for studying the
Climate change and its impacts”**

N. Mihalopoulos

National Observatory of Athens

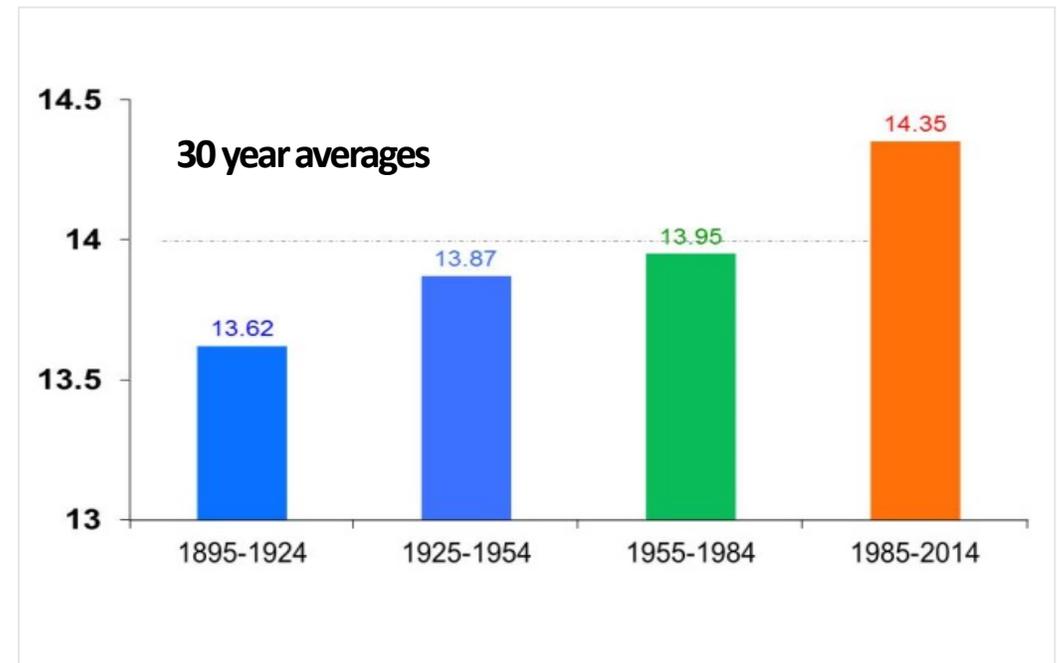
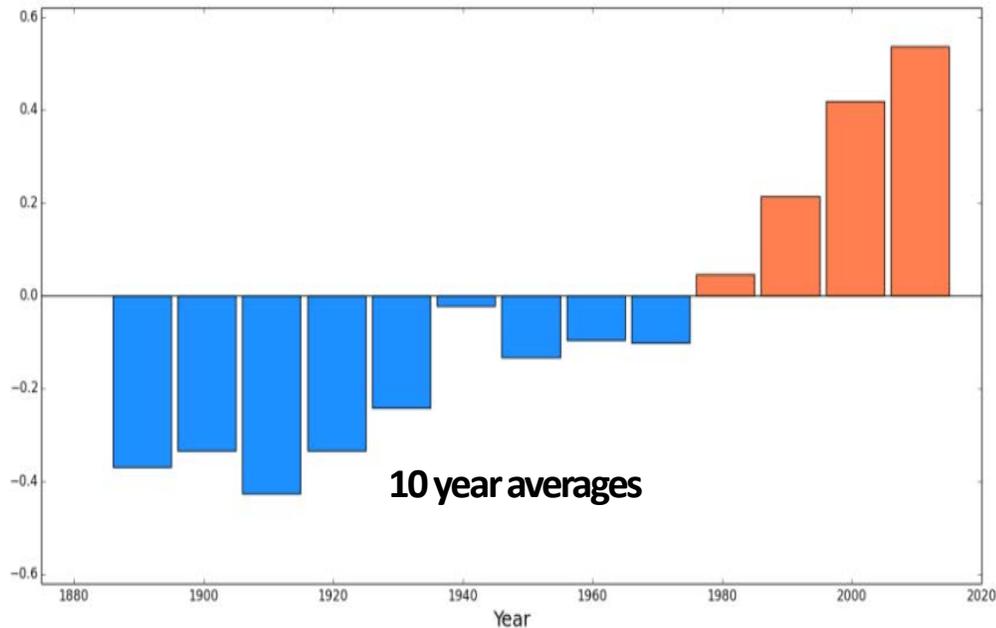
University of Crete



Το έργο χρηματοδοτείται από το ΠΔΕ του Υπουργείου Ανάπτυξης και Επεν

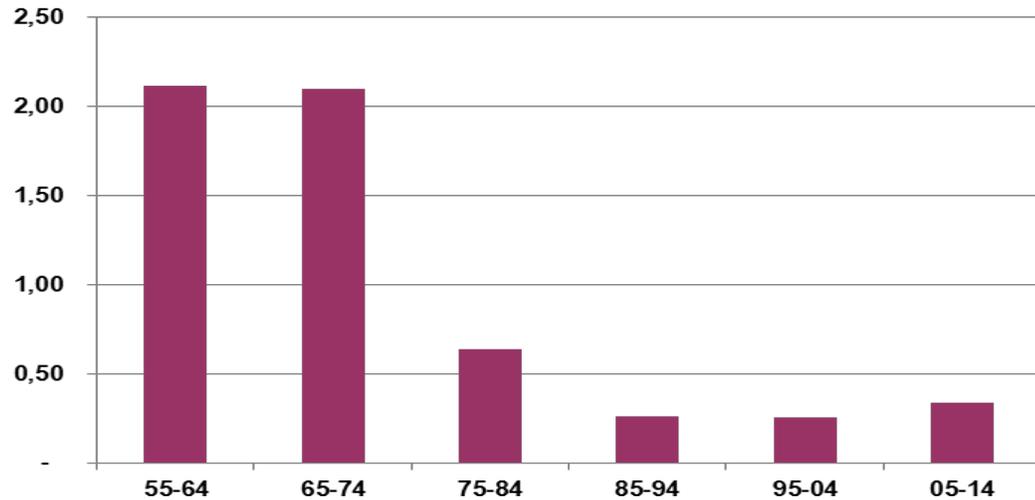
- IPCC: “warming of climate system is unequivocal”.
- “Human influence on the climate system is clear”

Global surface temperature anomalies 1880-2015

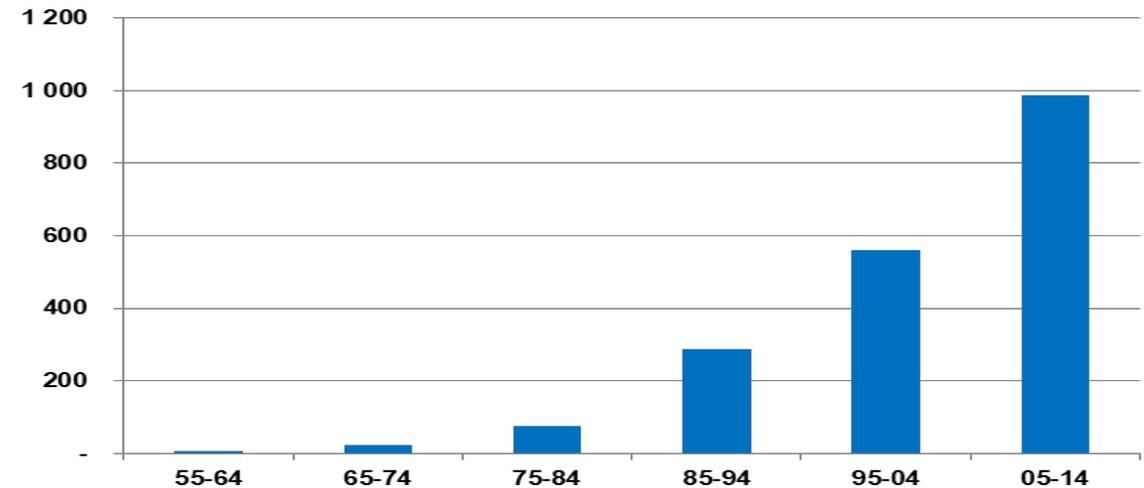


21st Century: The context

Weather and climate disasters



Deaths per decade (millions)



Economic losses per decade (Billion US\$)

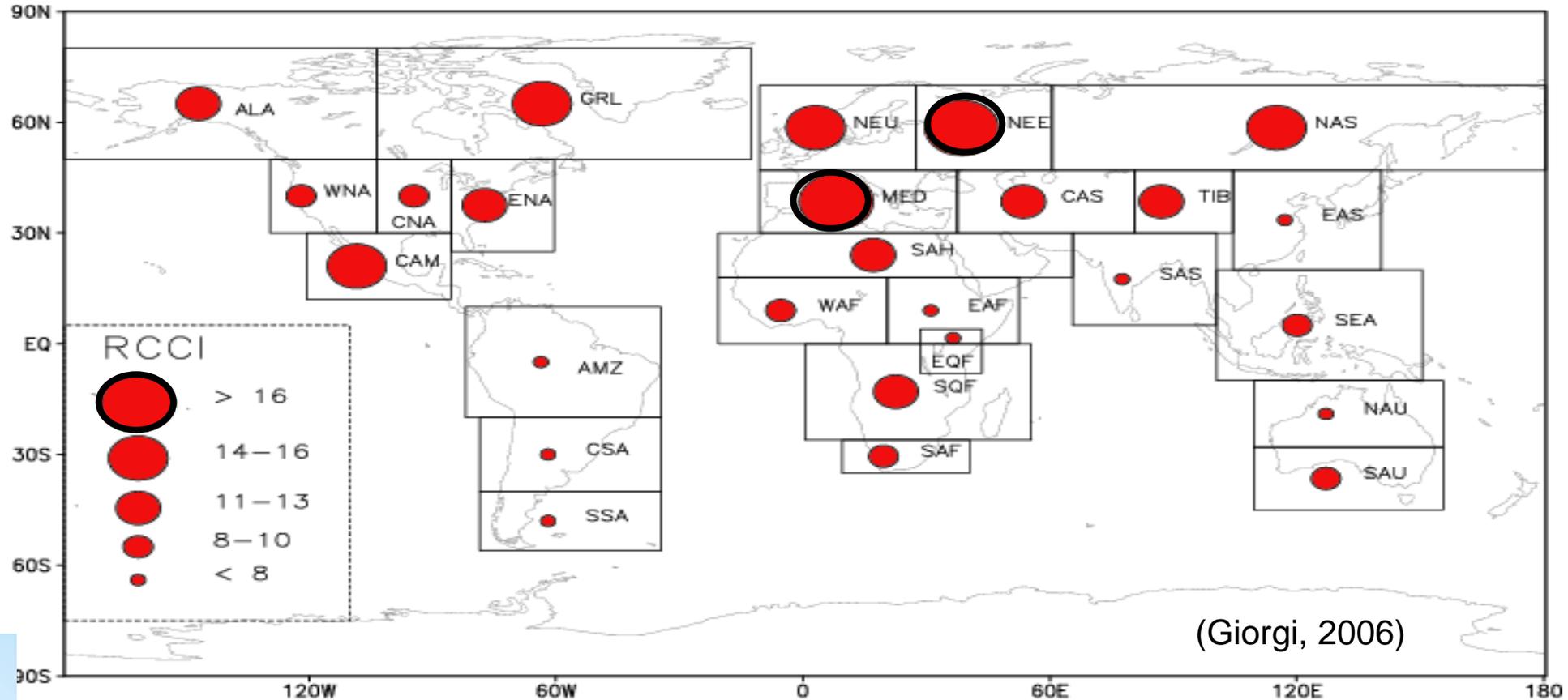
Developing countries affected much more, relative to their economic size

Source: WHO

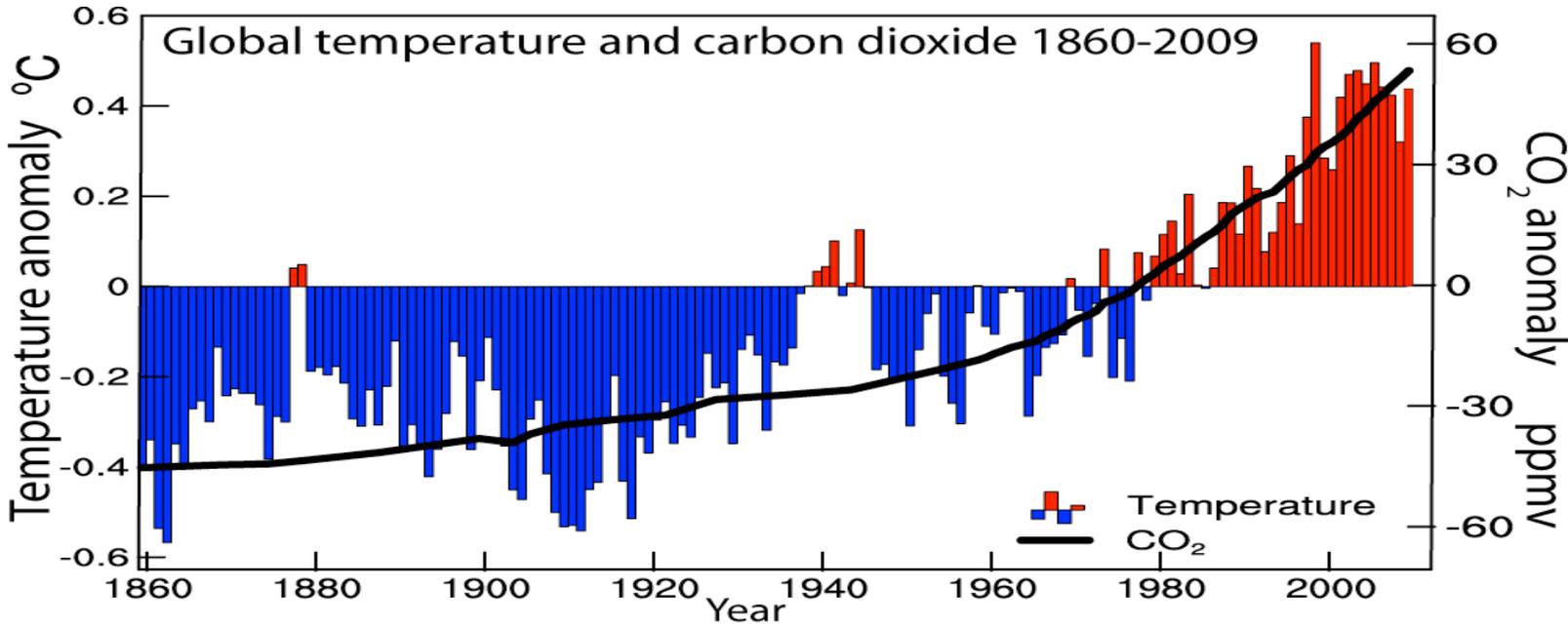
Air pollution & Climate Change in the Mediterranean

The Mediterranean: A major climate Hot Spot region

Regional Climate Change Index, 20 models, 3 scenarios



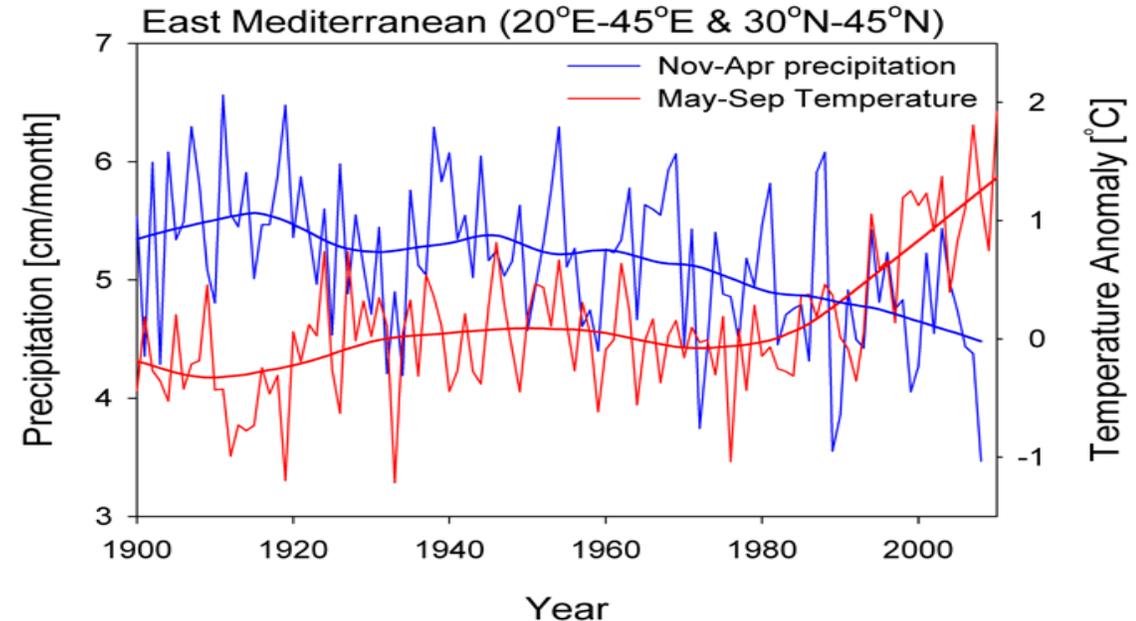
Climate Change & Air pollution in the Mediterranean



Climate Change between 1980-2010

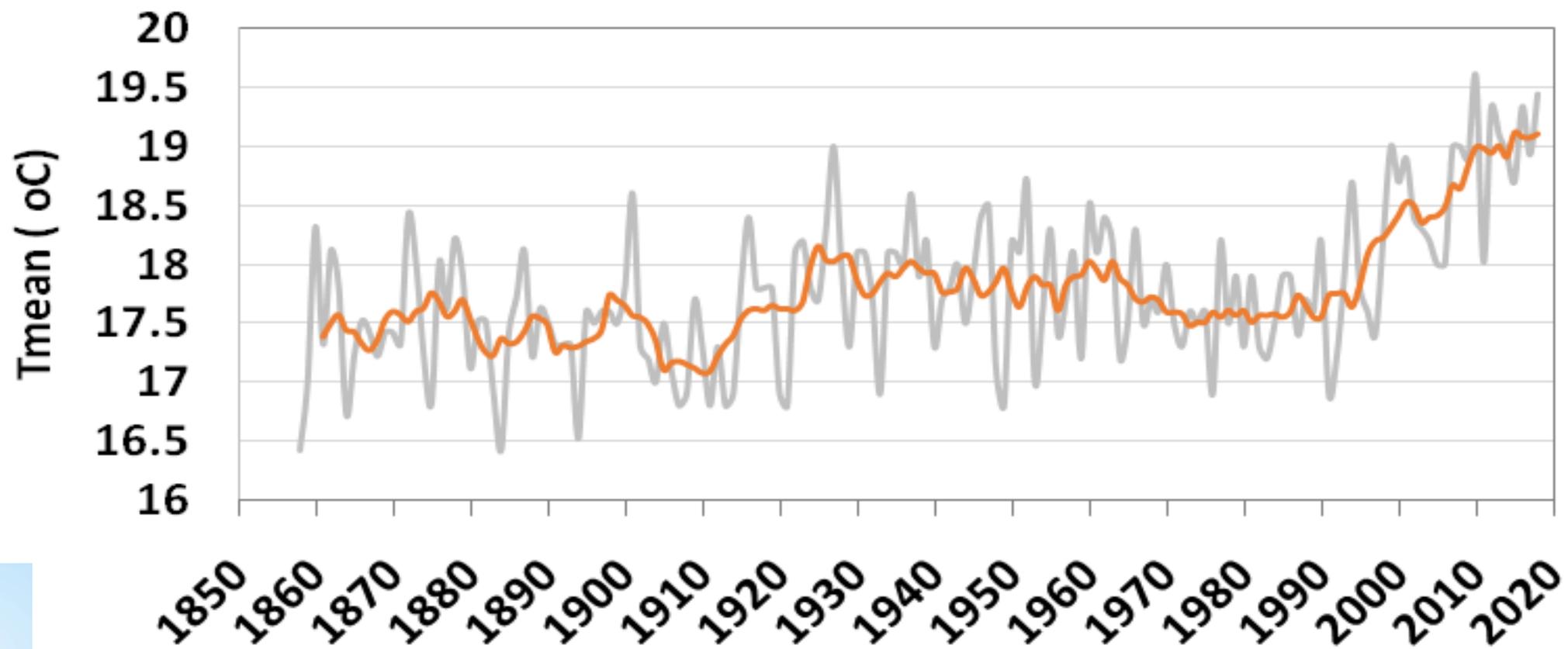
World := +0.7degree C

Eastern Mediterranean = +1.5 degree C !!!

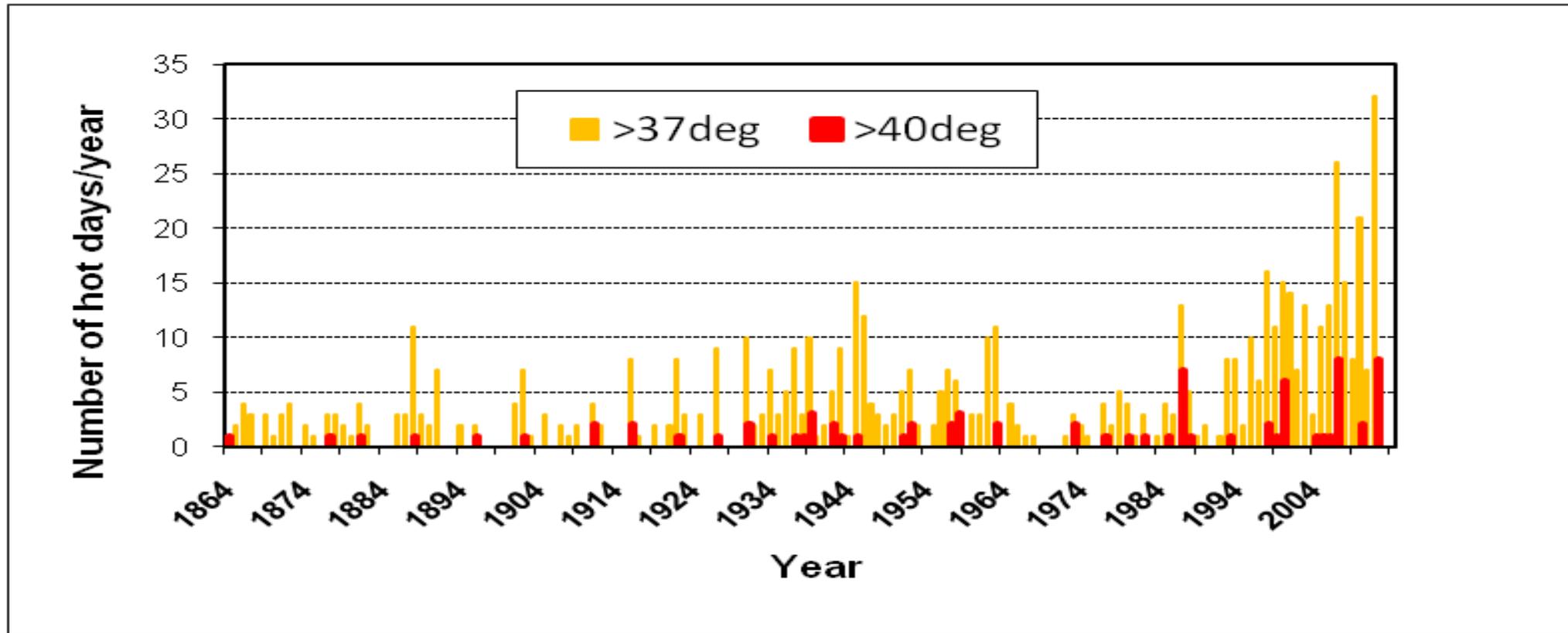


High Impact region: trends in temperature and precipitation go in different directions
(The World Bank, 2012)

Annual mean temperature in Athens (1858-2018)



Frequency of hot days since 1860



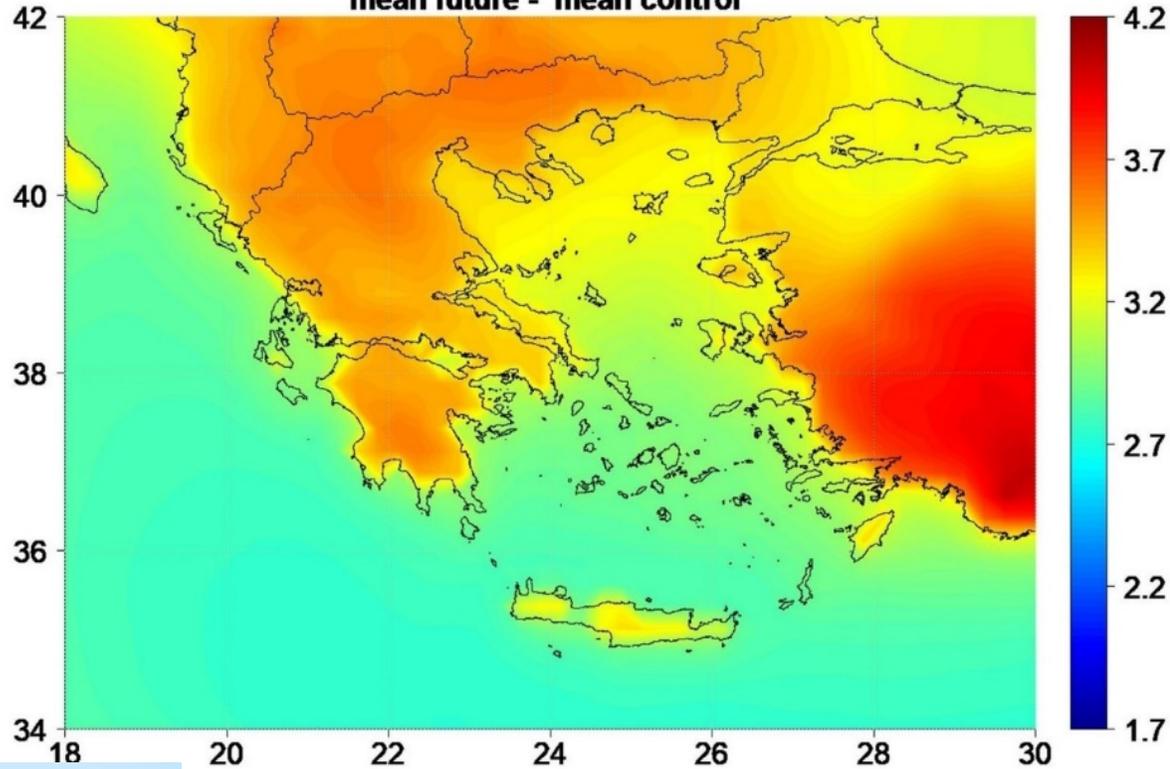
Source: Founda & Giannakopoulos 2009 (Global&Planetary Change)

This increase was accompanied by a **striking increase** in the **hot days frequency**

Impacts of Climate Change

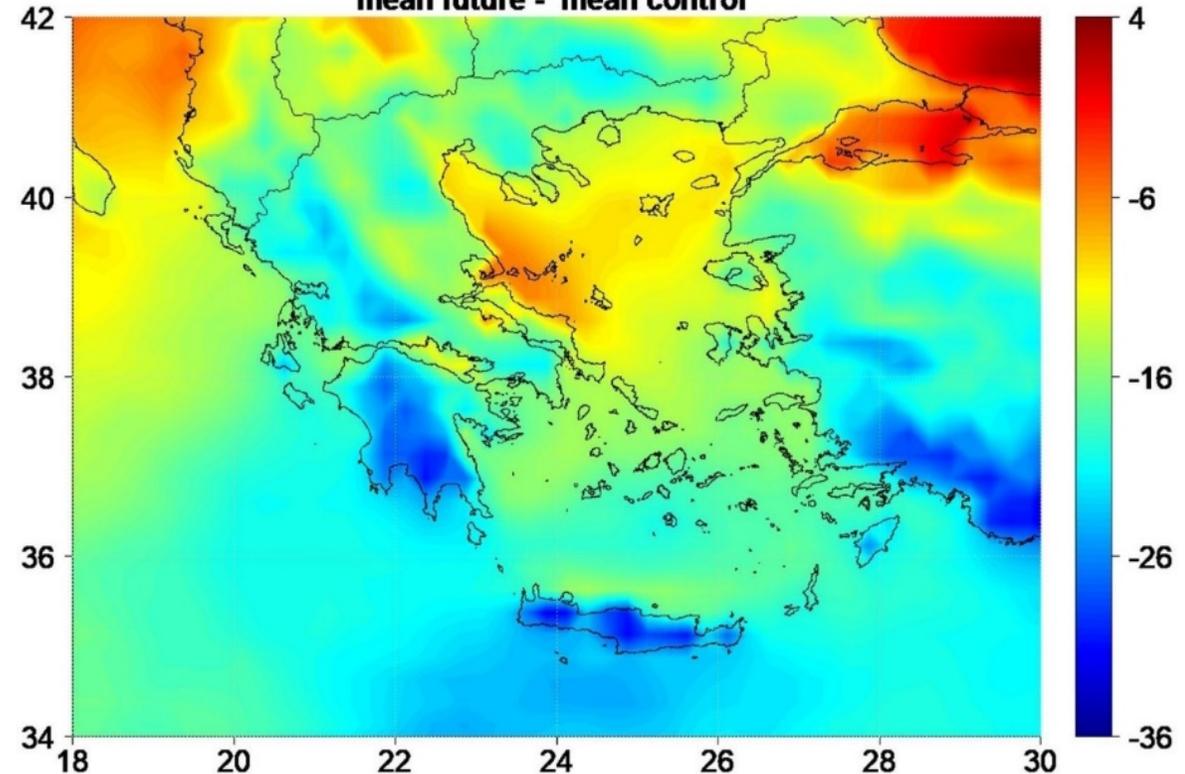
Mean Temperature

mean future - mean control



Mean precipitation height

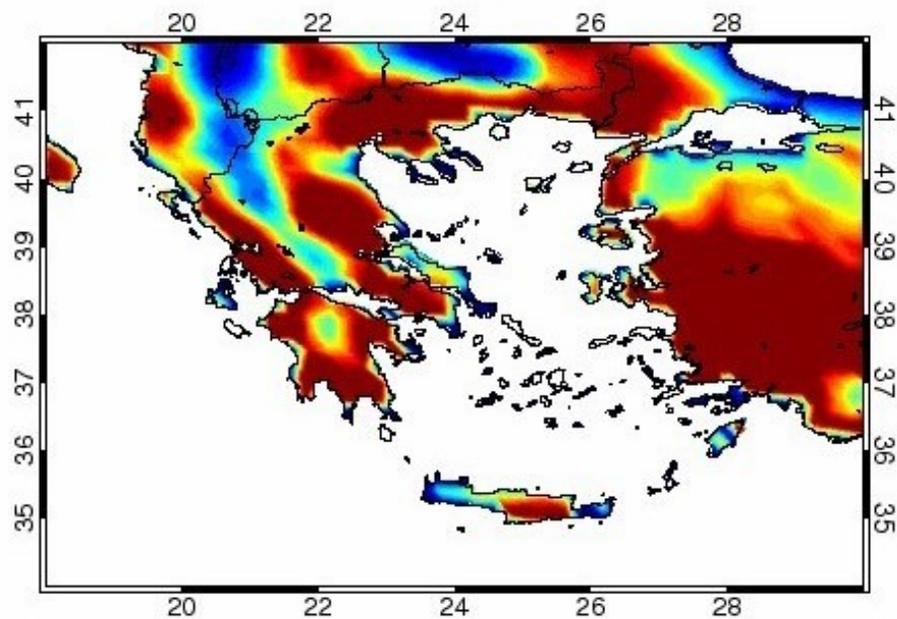
mean future - mean control



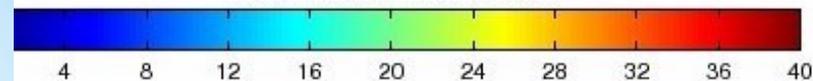
Period 2071-2100 relative to 1961-1990/ scenario A1B

Impacts of Climate Change *Extreme Events*

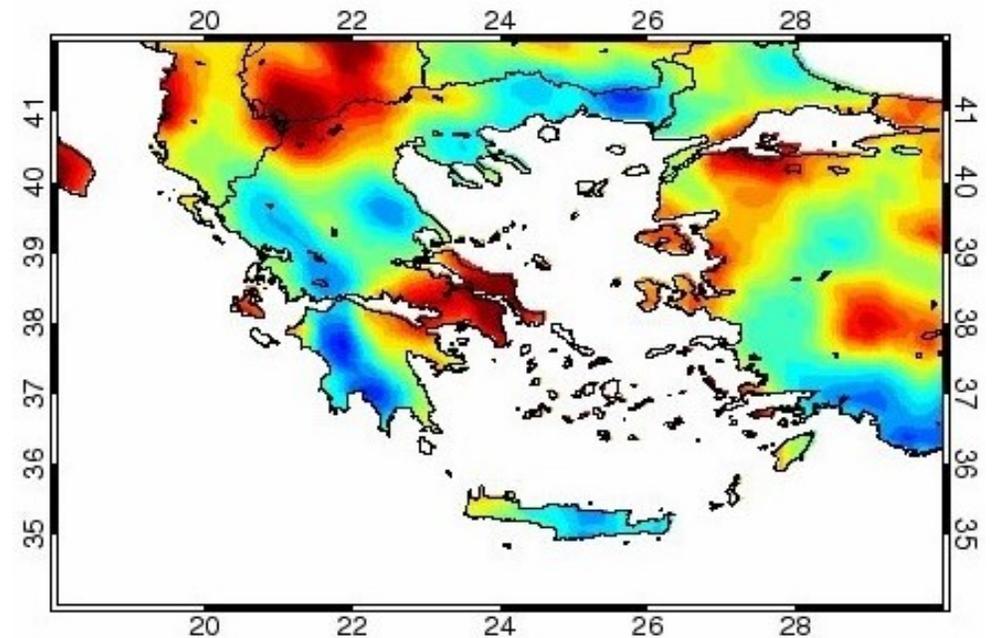
Number of dates $T > 35^{\circ}\text{C}$



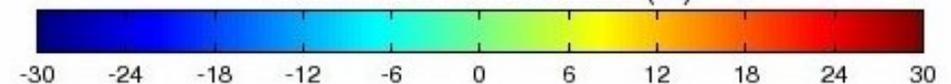
mean future - mean control



Total Rain, 3 consecutive days



mean future - mean control (%)



Period 2071-2100 relative to 1961-1990/ scenario A1B

CLIMPACT: The Greek Initiative for studying the Climate change and its impacts”

- The proposed initiative aims to create a scientific core of excellence in research, to produce new knowledge on climate change, as there is currently a core of Greek scientists actively involved on climate change issues.

Our country can utilize the significant number of terrestrial measurements (EMY, METEO), the current infrastructure of the road map (PANACEA, HIMIOFoTS) as well as the satellite data, producing innovative information necessary for the more accurate quantification of climate change and its effects.

Aims of CLIMPACT

- The optimization of the existing climate services and early warning systems for natural disasters in Greece, including the supporting observations from terrestrial networks, aerial platforms and satellite Earth observation systems collected in the relevant national infrastructures
- Utilization of new research results and methodologies in the production of original climate services and innovative early warning systems for natural disasters related to climate change.

Aims of CLIMPACT

- The creation of a national database through the systematic collection, control and archiving climatic and environmental parameters, data from satellite earth observation systems, models and products, and their free and open use by the Greek and international scientific community.
- Valid and timely dissemination of information to decision-making bodies, cross-sectoral policy design (with emphasis on tourism, agriculture, forests / ecosystems, and civil protection), shielding of citizens, society and economy in general from the effects of Climate Change.

Pillars of CLIMPACT

Pillar 1: Science and High quality data related to Climate Change

Pillar 2: Climate Change: Impacts on agriculture, tourism and energy consumption – adaptation – mitigation – financial impact

Pillar 3: Hazard and risk estimation from Climate Change

Participants

- National Observatory of Athens (NOA, Co-ordination)
- Academy of Athens
- Aristotle University
- University of Athens
- National Technical University of Athens
- Hellenic center of Marine Research (HCMR)
- Demokritos Research center
- University of Crete
- National technical University of Crete
- Research Center Athena
- National Center for Social Studies
- **The initiative is open to other Greek Institutes and Universities**

Ευχαριστώ για τη προσοχή σας

Thank you very much for your attention

The Economist

MAY 28TH - JUNE 3RD 2011

Economist.com

Obama, Bibi and peace
Huntsman blows his horn
A soft landing for China
The costly war on cancer
How the brain drain reduces poverty

Welcome to the Anthropocene



Geology's new age



CO2

BUILDING BRIDGES

Long-standing disputes can be fixed — in theory

PAGE 148

SCIENTIFICALLY SPEAKING

How English became the academic lingua franca

PAGE 154

TAKING IT PERSONALLY

Model the growing interconnectivity of risk

PAGE 151

nature

THE INTERNATIONAL WEEKLY JOURNAL OF SCIENCE



NATURE.COM/NATURE
12 March 2015

The **Anthropocene** is proposed as the new geological epoch where **human-influence will dominate the fossil records**. There is overwhelming global evidence that atmospheric, geologic, hydrologic, biospheric and other Earth system processes are now modified by human activity.

CO₂

