



# SALUTE CIRCOLARE

Un modo di pensare.

Ilaria Capua,  
Professor and Senior Fellow in Global Health  
Johns Hopkins University - SAIS Europe



Credit: FIDAL.it



Credit: heraldo.it





Natività, Giotto - ca 1310,  
Basilica di San Francesco  
D'Assisi

# Le pandemie sono causate da agenti patogeni che spesso hanno un serbatoio animale o un progenitore virale negli animali

## History of deadly plagues, epidemics and global pandemics

Major outbreaks

● 1 million or more deaths\* ● Less than 1 million

Before 1300

Plague of Athens  
430 BC  
Estimated deaths:  
**100,000**

Antonine plague  
165 - 180  
**3.5 - 7 million**

Japanese smallpox  
735 - 737  
**1 million**

Plague of Justinian  
541 - 542  
**25 - 100 million**

After 1300

Black death  
(Bubonic plague)  
1347 - 51  
**25 - 50 million**

Great plague  
of London  
1665 - 66  
**100,000**

Spanish flu  
1918 - 19  
**50 - 100 million**

HIV  
1981 -  
**32 million+**

**COVID-19**  
2020 -  
**580,000+**  
as of June 29

Smallpox  
(in Mexico)  
1520  
**8 million**

Great  
plague of  
Marseille  
1720 - 23  
**40,000**

Russian flu  
1889-90  
**1 million**

Asian flu  
1957-58  
**1.1 million**

Ebola  
2014-16  
**11,300**

Cocoliztli  
(possibly typhoid,  
Mexico)  
1545 - 48  
**15 million**

Cocoliztli  
1578  
**2 million**

Russian plague  
1770 - 72  
**100,000**

Swine flu  
1968 - 70  
**1 million**

MERS  
2012 -  
**850**

Swine flu  
2009 - 10  
**151,700-  
575,400**

SARS  
2002 - 03  
**770**

\*Toll estimates vary  
according to different  
sources

Da millenni sappiamo che alcune pandemie sono eventi trasformativi e Covid 19 è una di queste



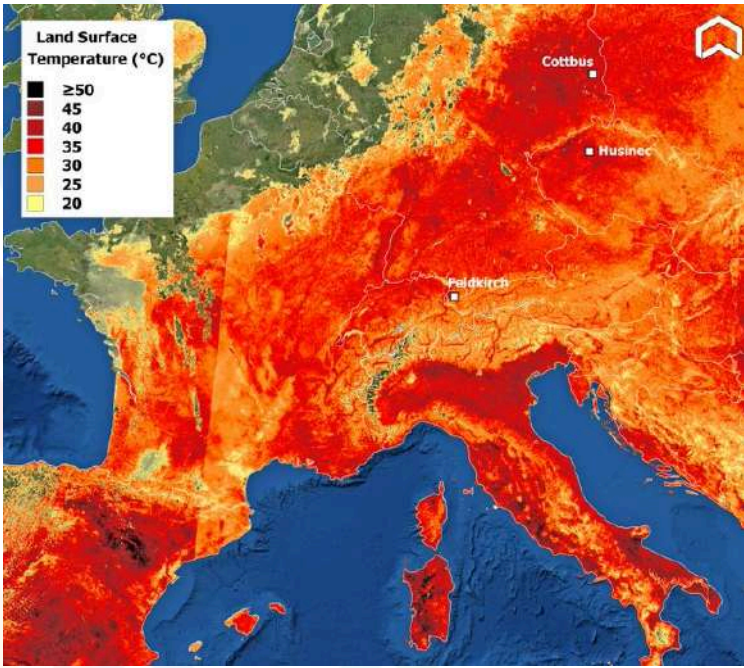
Ci sarà un prima e un dopo

I sistemi verranno scossi e alcuni potrebbero collassare

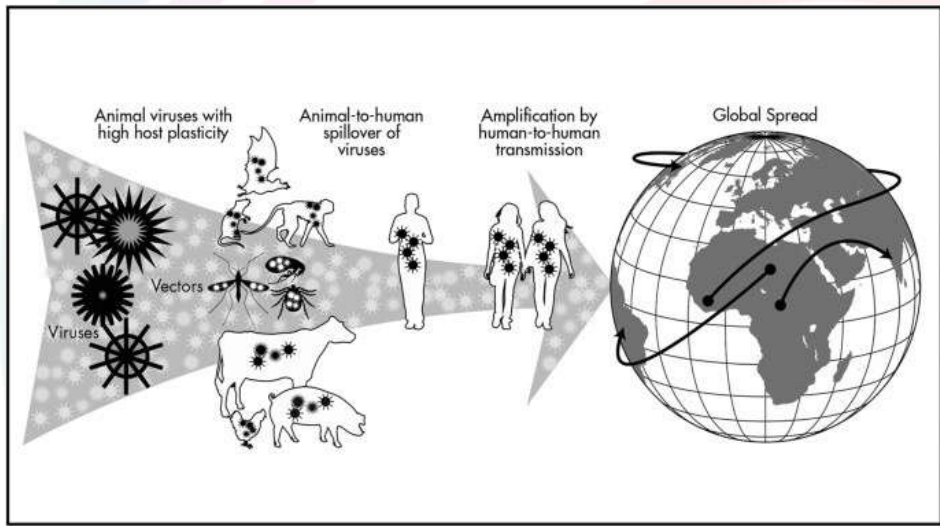
Come 'specie' dovremmo imparare e migliorarci

# Convergenza di crisi

Fonte Copernicus.eu



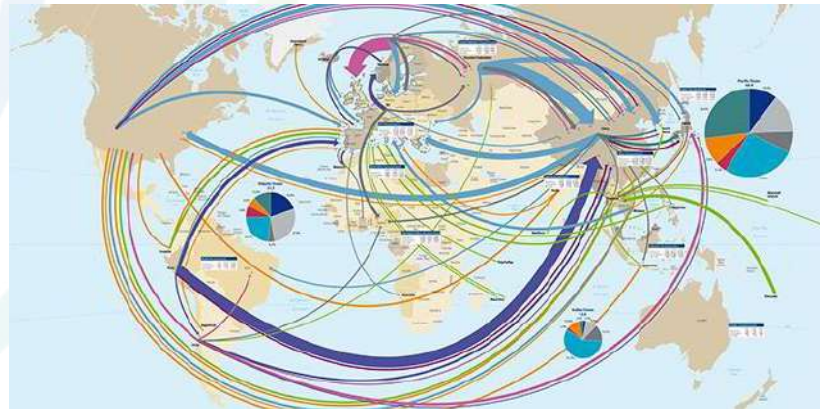
Fonte Nature (2015)



Fonte Sky News



Fonte Rai News



Fonte Rabobank



# Salute Circolare



# Terra : il nostro cibo



# Terra: le piante



# Acqua :

Salute degli  
oceani e dei  
mari



# Acqua :

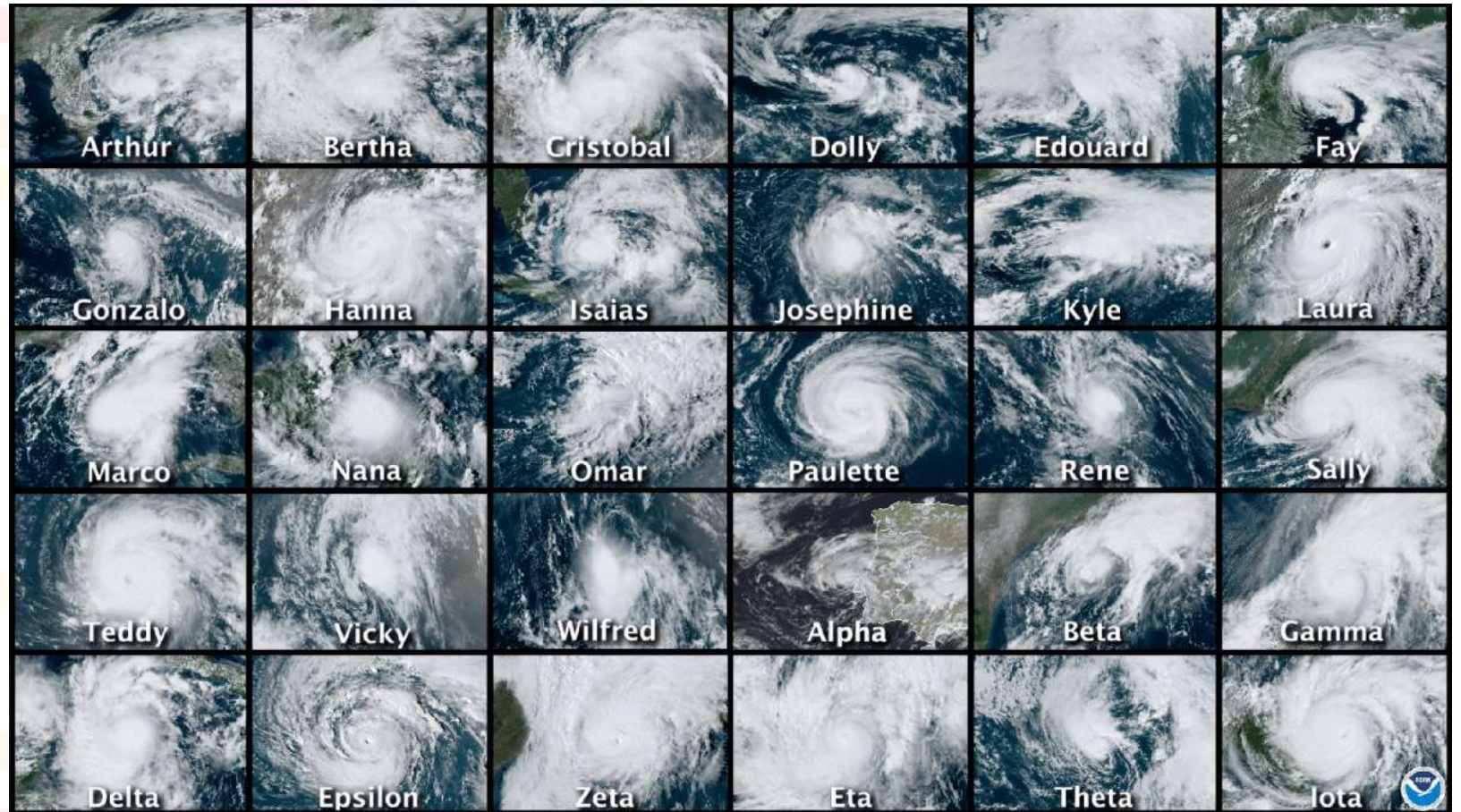
## Salute delle fonti di acqua dolce



Fonte: Il giornale dell'ambiente

# Aria :

eventi meteo  
estremi ed  
uragani



# Fuoco :

## Incendi

Migrazioni di umani ed animali

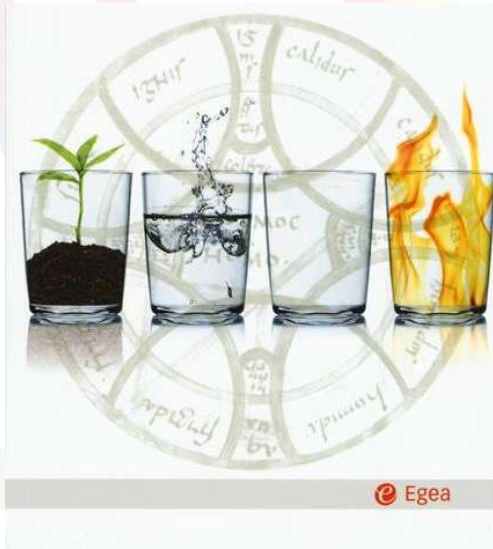
Devastazione ecosistemi



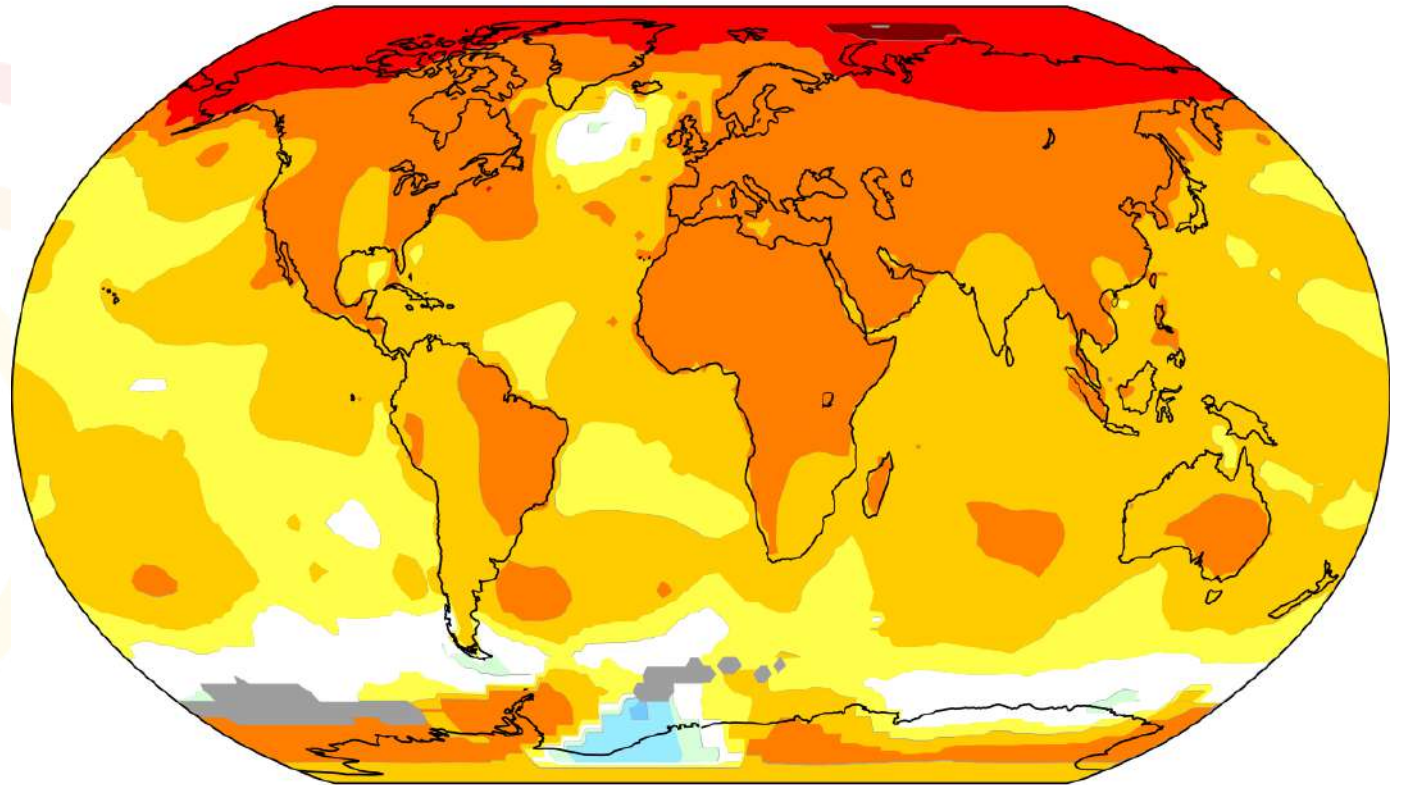
# Fuoco :

riscaldamento  
globale

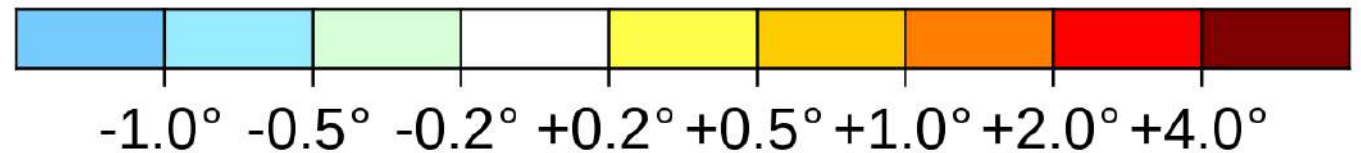
Aspettativa di vita



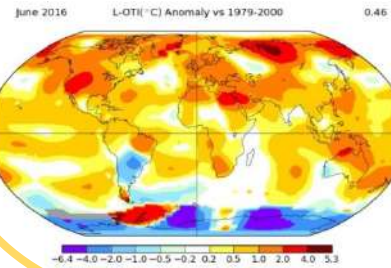
Temperature change in the last 50 years



2011-2021 average vs 1956-1976 baseline (°C)







FIRE

Earth

3 GOOD HEALTH AND WELL-BEING

Water



Air



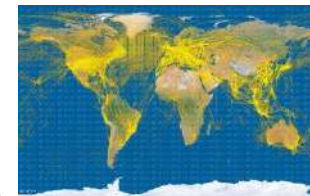
**CHOLERA WATER.**  
**BOARD OF WORKS**  
**FOR THE LINCOLN DISTRICT.**  
 Competing, Lincoln, Hatfield, Sturtevant, and Wapping.

THE INHABITANTS of the District within which CHOLERA is PREVALENT, are earnestly advised

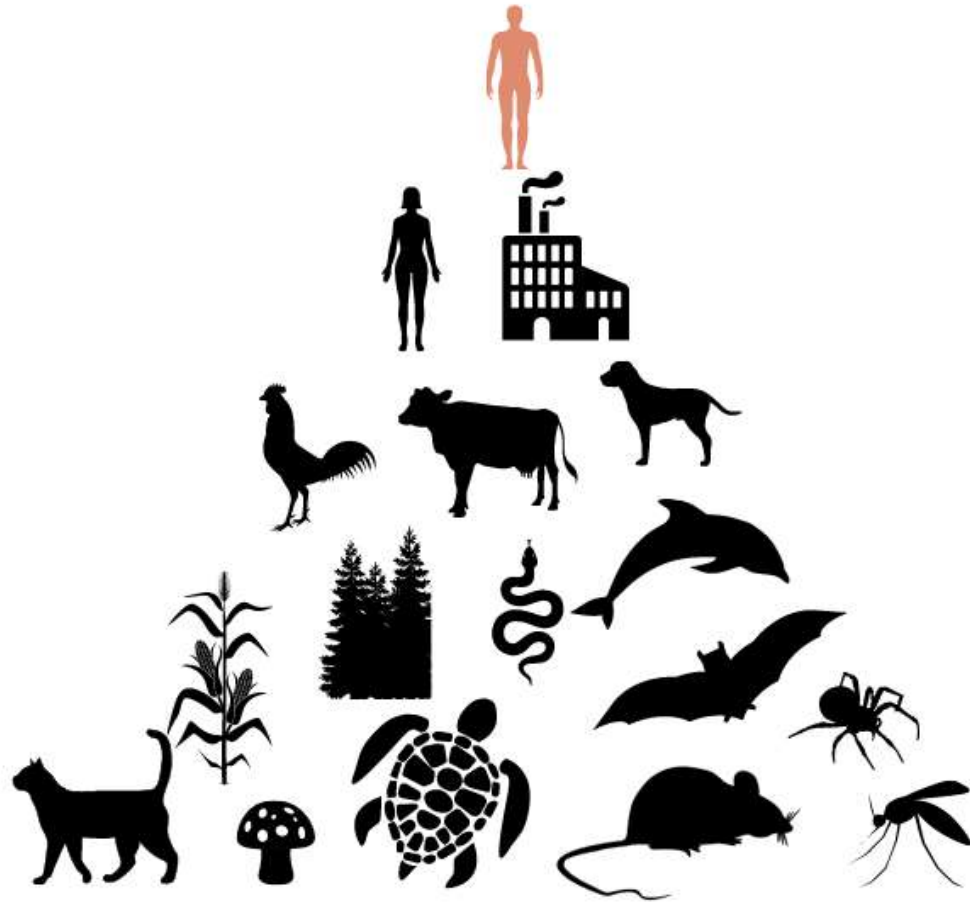
**NOT TO DRINK ANY WATER**  
**WHICH HAS NOT**  
**PREVIOUSLY BEEN BOILED.**

Fresh Water ought to be Boiled every Morning for the day's use, and what remains of it ought to be thrown away at night. The Water ought not to stand where any kind of dirt can get into it, and great care ought to be given to see that Water Butts and Cisterns are free from dirt.

BY ORDER,  
**THOS. W. RAYCLIFF,**  
 Clerk of the Board.



# EGO



# ECO





Salute circolare  
e fertilità

# 'Catastrophic' loss: Huge colonies of emperor penguins saw no chicks survive last year as sea ice disappears

By Rachel Ramirez, CNN  
Updated 5:59 PM EDT, Thu August 24, 2023



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Emperor penguin chicks need to stay on the ice until their waterproof feathers have developed. Image © vladsilver/Shutterstock.



# Tartarughe marine

Se le uova di una tartaruga si incubano al di sotto dei  $27,7^{\circ}\text{C}$  i piccoli di tartaruga saranno maschi. Se le uova incubano al di sopra dei  $31^{\circ}\text{C}$  i piccoli saranno femmine. In alcuni siti di riproduzione stanno nascendo 99% femmine.





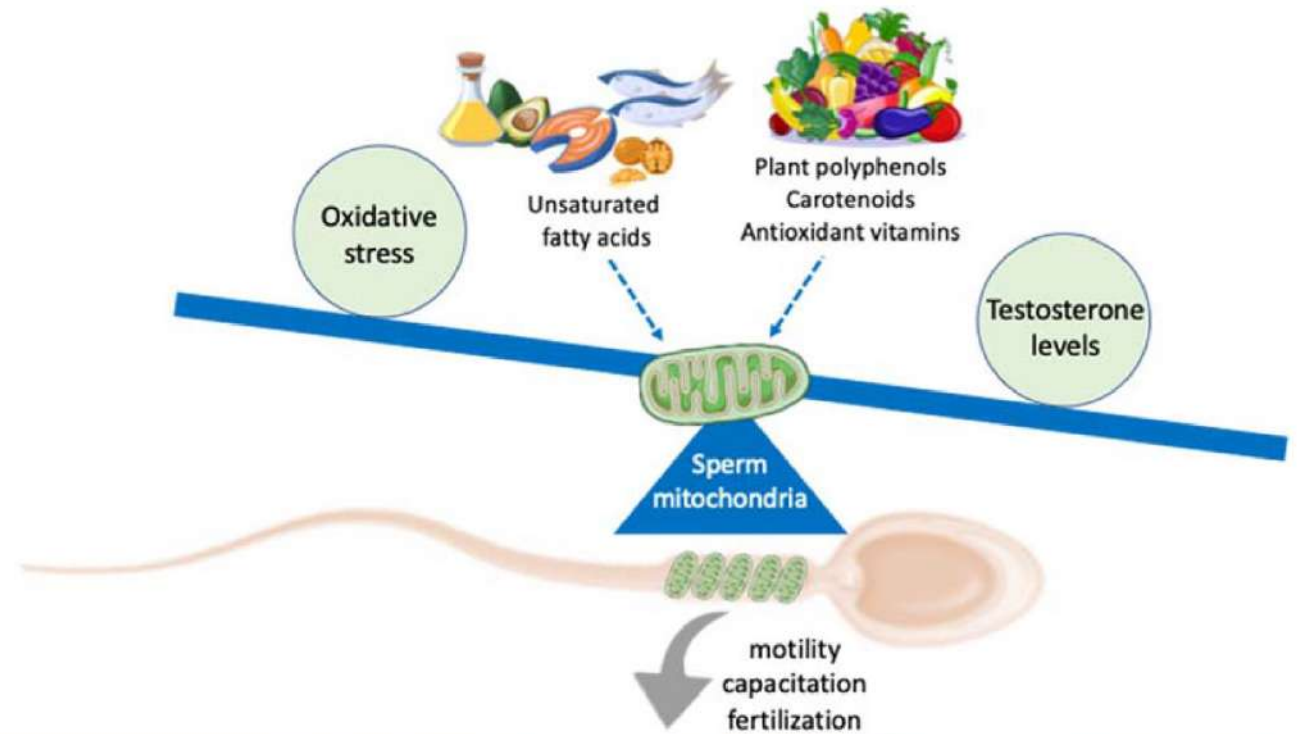
Review

# Diet and Male Fertility: The Impact of Nutrients and Antioxidants on Sperm Energetic Metabolism

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# Female Fertility and the Nutritional Approach: The Most Essential Aspects



REVIEW

Kinga Skoracka, Alicja Ewa Ratajczak, Anna Maria Rychter, Agnieszka Dobrowolska, and Iwona Kreła-Kaźmierczak

*Department of Gastroenterology, Dietetics and Internal Diseases, Poznan University of Medical Sciences, the Heliodor Swiecicki Hospital, Poznan, Poland*

## Legame tra dieta e fertilità femminile

- dieta ricca di grassi trans, carboidrati raffinati e zuccheri aggiunti può influire negativamente sulla fertilità
- dieta mediterranea ricca di fibre alimentari, acidi grassi omega-3 ( $\omega$ -3), proteine vegetali, vitamine e minerali, ha un impatto positivo sulla fertilità femminile.
- dieta inappropriata può alterare la composizione del microbiota



## DEMOGRAPHY

ISS

RESEARCH ARTICLE | DECEMBER 05 2019

The Impact of the Flint Water Crisis on Fertility **FREE**

Daniel S. Grossman; David J.G. Slusky

Demography (2019) 56 (6): 2005–2031.

<https://doi.org/10.1007/s13524-019-00831-0>

Flint (Michigan, USA) cambia la fonte dell'acqua pubblica nell'aprile 2014, aumentando l'esposizione della popolazione al piombo e ad altri contaminanti.

Attraverso il confronto con altre cittadine del Michigan emerge che il tasso **di fertilità e la salute alla nascita a Flint sono diminuiti del 12%** e che la salute generale alla nascita è diminuita.





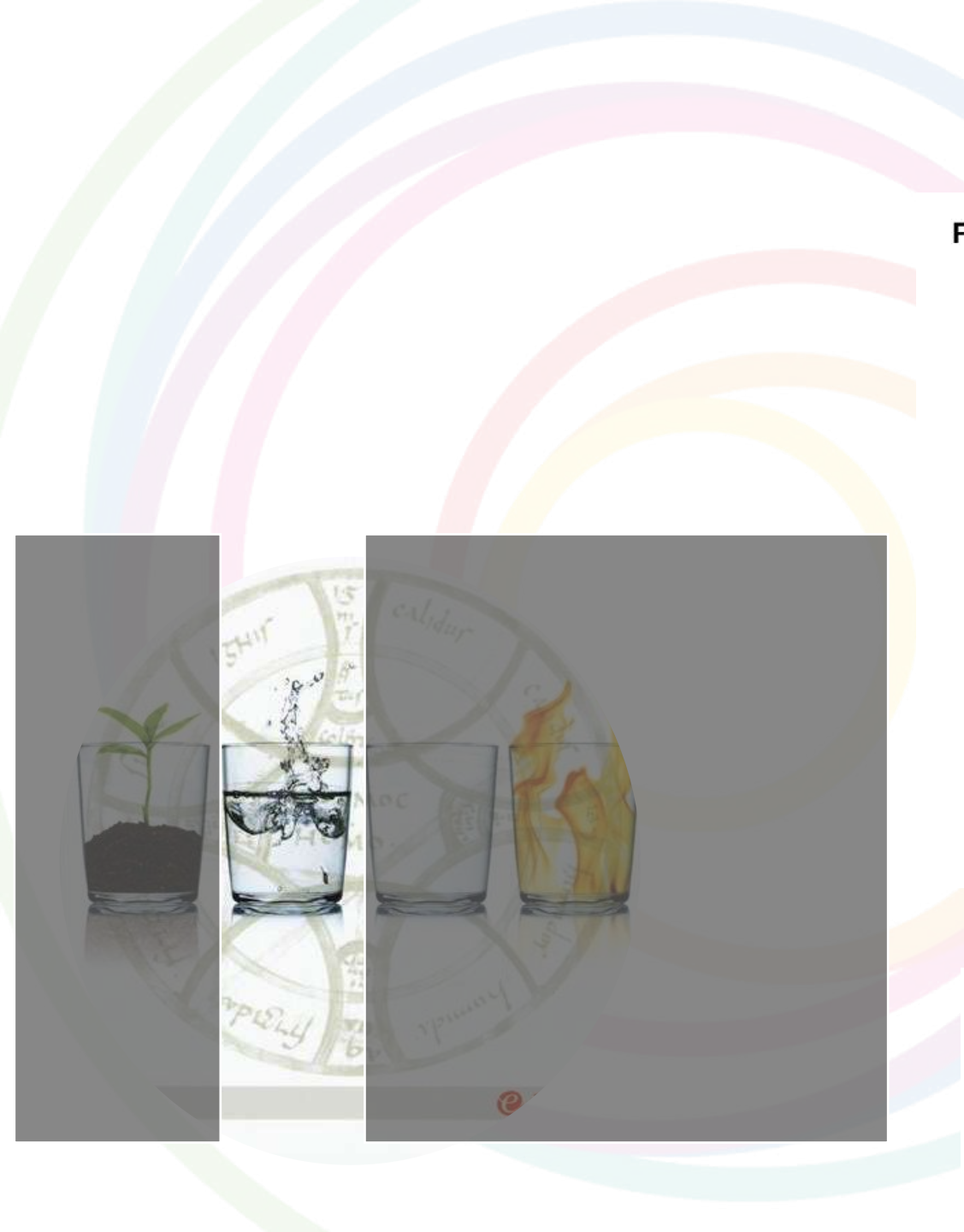
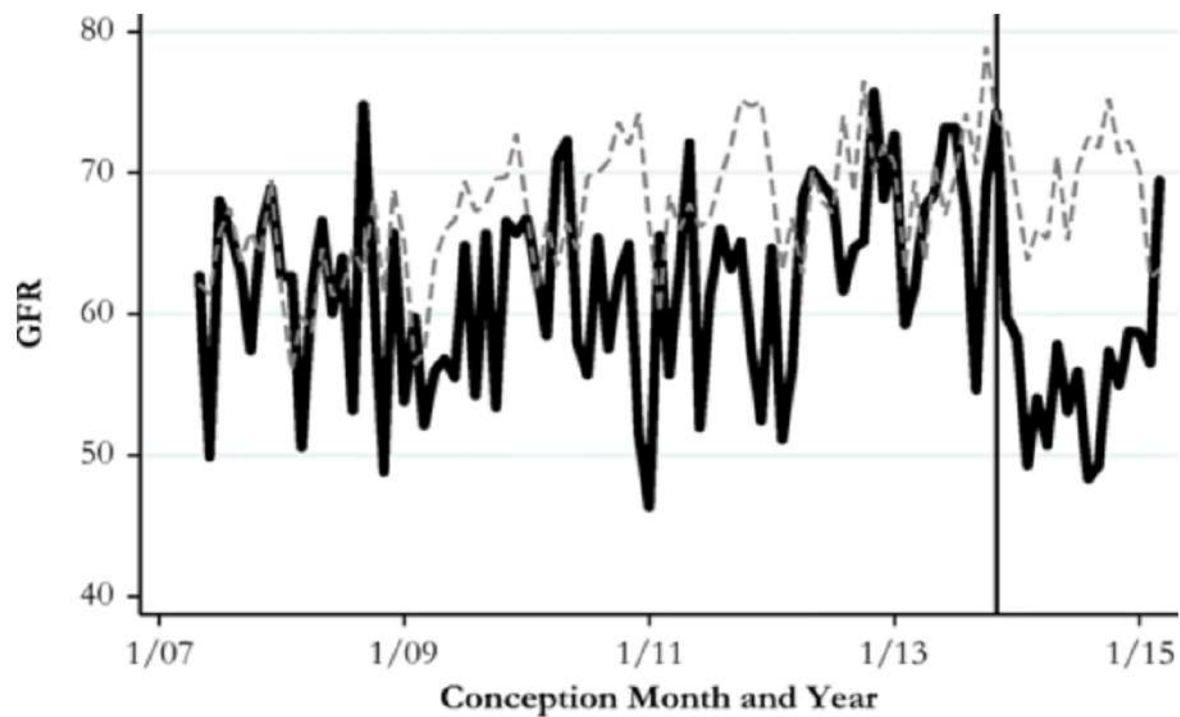


Fig. 2



Conception Month and Year

— Flint    - - - - - 15 most populous MI cities (excluding Flint)



## The Minderoo-Monaco Commission on Plastics and Human Health

ORIGINAL RESEARCH

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EM, Charles D, Chiles TC, Donohue  
MJ, Enck J, Fenichel P, Fleming



# Systematic review of climate change effects on reproductive health

Thalia R. Segal, M.D. and Linda C. Giudice, M.D., Ph.D., M.Sc.

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Studio Repubblica Ceca : aumento 10-mg/m<sup>3</sup> PM2.5 ridotto la fecondabilità del 22%.

Studio in Danimarca: aumento del successo procreativo del 3% ogni 200 m di distanza da una arteria di traffico

Ogni aumento di 2 mg/m<sup>3</sup> di PM2,5 da esposizione residenziale è stato associato a un calo del 7,2% nella conta dei follicoli antrali (AFC), equivalente a un aumento di 2 anni dell'età biologica femminile.



# Impact of ambient temperature on ovarian reserve

Audrey J. Gaskins, Sc.D.,<sup>a</sup> Lidia Mínguez-Alarcón, Ph.D.,<sup>b</sup> Trang VoPham, Ph.D.,<sup>c</sup> Jaime E. Hart, Sc.D.,<sup>b,d</sup> Jorge E. Chavarro, MD, Sc.D.,<sup>d,e,f</sup> Joel Schwartz, Ph.D.,<sup>b,d,e</sup> Irene Souter, MD,<sup>g</sup> and Francine Laden, Sc.D.<sup>b,d,e</sup>

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L'esposizione a temperature più elevate (1°C) è stata associata a una minore riserva ovarica.

L'aumento delle temperature ambientali potrebbe provocare un'accelerazione dell'invecchiamento riproduttivo femminile

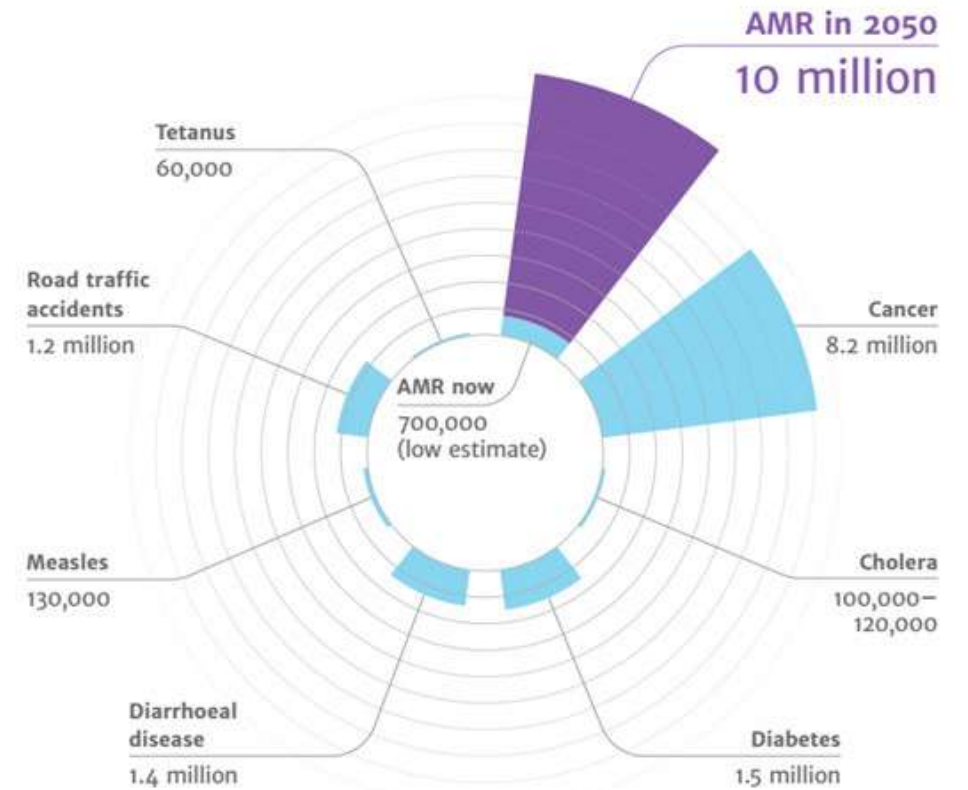




# Antibioticoresistenza ovvero i Superbatteri

Prima del Covid -19

L'antibioticoresistenza era già considerata una delle maggiori minacce per la salute pubblica a causa dell'aumento delle infezioni ospedaliere da batteri multiresistenti.



Source WHO, 2015

# CAUSES OF ANTIBIOTIC RESISTANCE



Antibiotic resistance happens when bacteria change and become resistant to the antibiotics used to treat the infections they cause.



Over-prescribing of antibiotics



Patients not finishing their treatment



Over-use of antibiotics in livestock and fish farming



Poor infection control in hospitals and clinics



Lack of hygiene and poor sanitation



Lack of new antibiotics being developed

[www.who.int/drugresistance](http://www.who.int/drugresistance)

[#AntibioticResistance](https://twitter.com/AntibioticResistance)



World Health  
Organization



# Ten Recommendations

1. A massive global public **awareness** campaign
2. **Improve hygiene** and prevent the spread of infection
3. Reduce **unnecessary use** of antimicrobials in agriculture and their dissemination into the environment
4. Improve **global surveillance** of drug resistance and antimicrobial consumption in humans and animals
5. Promote new, **rapid diagnostics** to cut unnecessary use of antibiotics
6. **Promote development and use of vaccines and alternatives**
7. Improve the numbers, pay and **recognition of people** working in infectious disease
8. Establish a **Global Innovation Fund** for early-stage and non-commercial research
9. Better incentives to promote **investment for new drugs** and improving existing ones
10. Build a global **coalition for real action** – via the G20 and the UN



# Review on Antimicrobial Resistance

Tackling drug-resistant infections globally



-  Antibiotics in agriculture and the environment
-  International coalition for action
-  Surveillance
-  Vaccines and alternatives
-  Public awareness
-  Sanitation and hygiene
-  Rapid diagnostics
-  Human capital
-  Global Innovation Fund

Regione Emilia-Romagna  
SERVIZIO SANITARIO REGIONALE  
EMILIA-ROMAGNA  
Agente  
di  
pubblica  
sicurezza

# ANTIBIOTICI

EFFICACI SE NECESSARI,  
DANNOSI SE NE ABUSI.

Il tuo medico sa  
come e quando usarli.

Scopri tutti i contenuti su  
[salute.regione.emilia-romagna.it/antibiotici](http://salute.regione.emilia-romagna.it/antibiotici)

**È UN PECCATO  
USARLI MALE**

The poster features a stylized red apple with a green leaf and a white and blue pill sticking out of its top. The background is yellow with a teal wave at the bottom. Logos for the Region of Emilia-Romagna and the Regional Health Service are at the top.



> [Eur J Popul](#) 2023 Oct 17;39(1):32. doi: 10.1007/s10680-023-09678-z.

# Working from Home During Covid-19 Pandemic and Changes to Fertility Intentions Among Parents

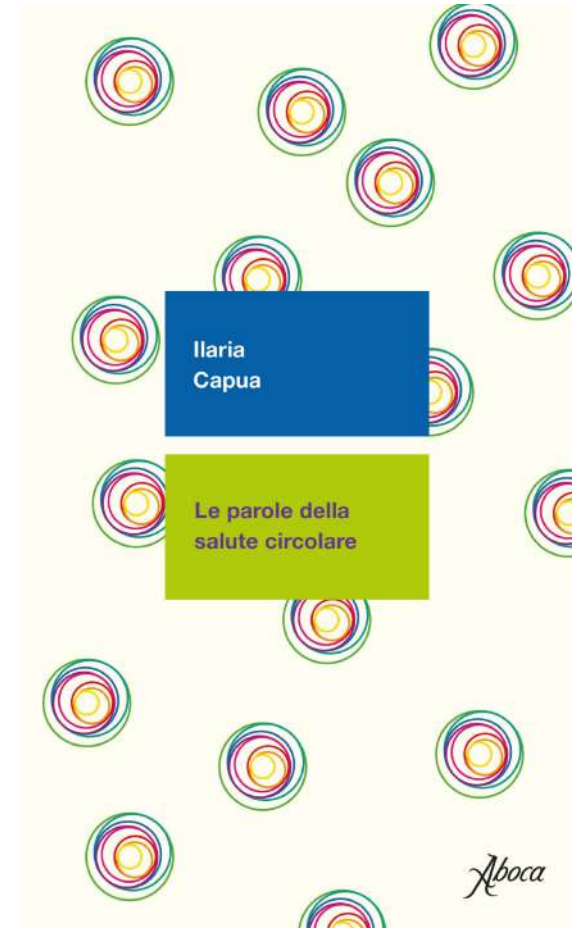
[Anna Kurowska](#)<sup>1 2</sup>, [Anna Matysiak](#)<sup>3</sup>, [Beata Osiewalska](#)<sup>4 3</sup>

Affiliations [+](#) expand

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