



*Centro Interdipartimentale per lo Studio
degli Effetti dei Cambiamenti Climatici
Centre for Climate Change Impact*



**LE ATTIVITÀ DELL'UNIVERSITÀ DI PISA SUL TEMA
DEGLI EFFETTI DEL CAMBIAMENTO CLIMATICO**

6 dicembre 2019, ore 9-18

**PSYCHOLOGICAL MECHANISMS
FOR GAINING AWARENESS OF
(AND REACTING TO)
CLIMATE CHANGE CHALLENGES:
EMOTIONAL LEVERS
FOR COGNITIVE REMODELING**

Frumento, Gemignani & Menicucci

Dipartimento di patologia chirurgica medica molecolare e dell'area critica



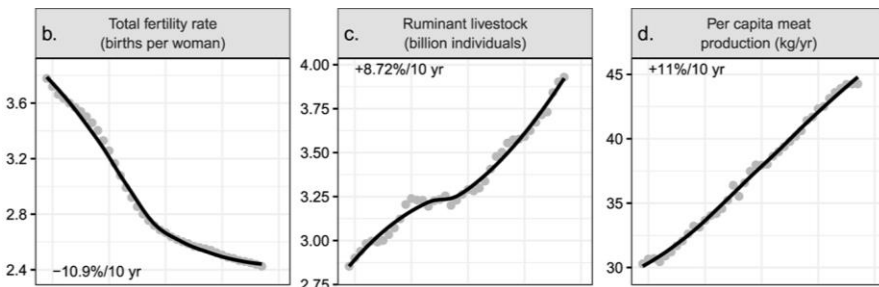
Awareness is the first (of many) step to recovery...

Viewpoint

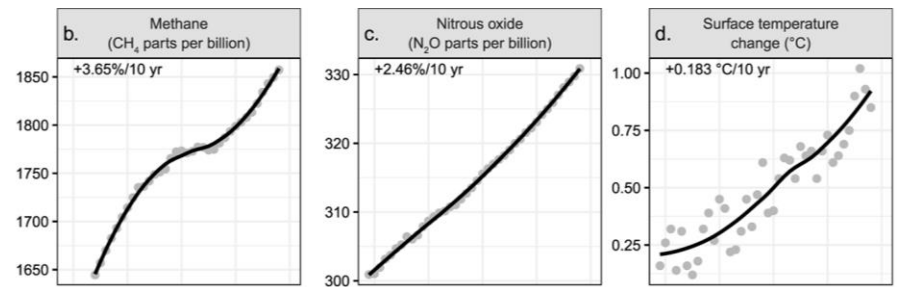
World Scientists' Warning of a Climate Emergency

WILLIAM J. RIPPLE, CHRISTOPHER WOLF, THOMAS M. NEWSOME, PHOEBE BARNARD, WILLIAM R. MOOMAW, AND 11,258 SCIENTIST SIGNATORIES FROM 153 COUNTRIES (LIST IN SUPPLEMENTAL FILE S1)

Change in global human activities.



Climatic response time series



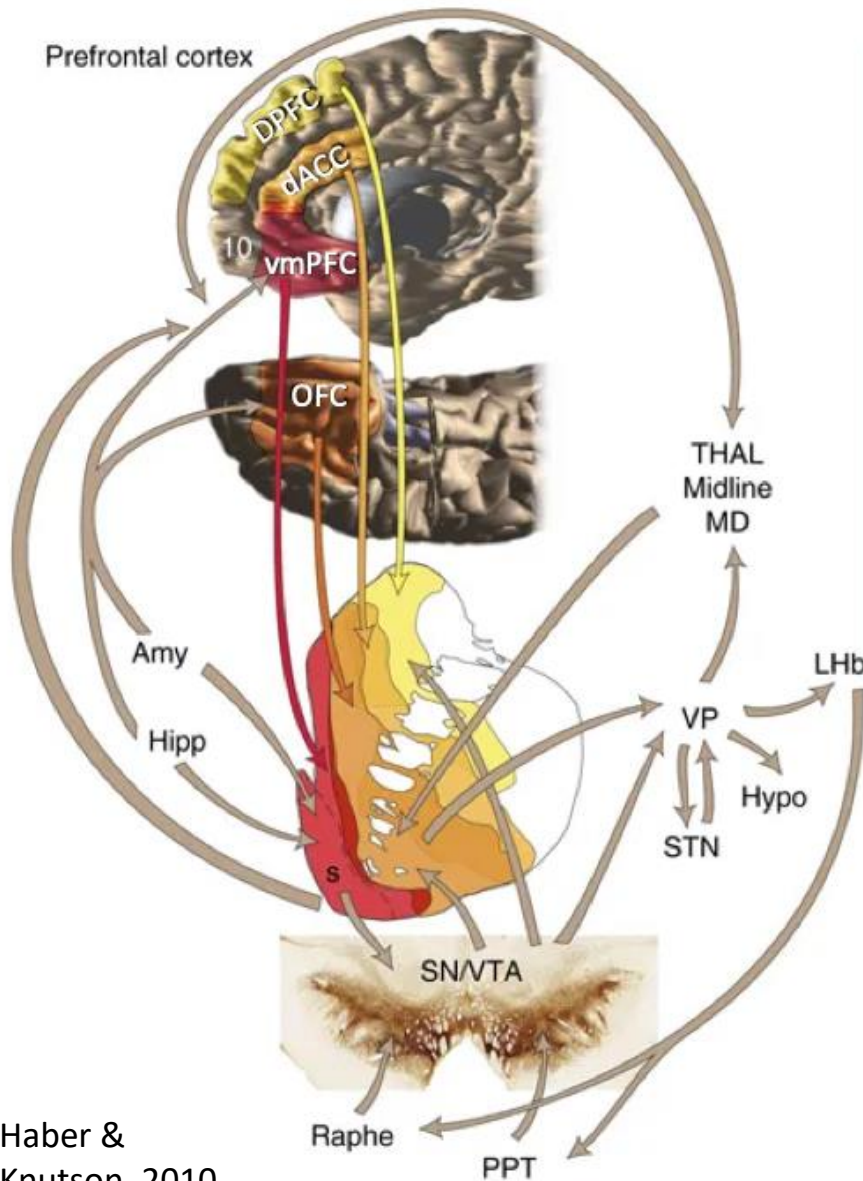
Awareness is the first **(of many)** step to recovery...

WHY
does
it
happen
?

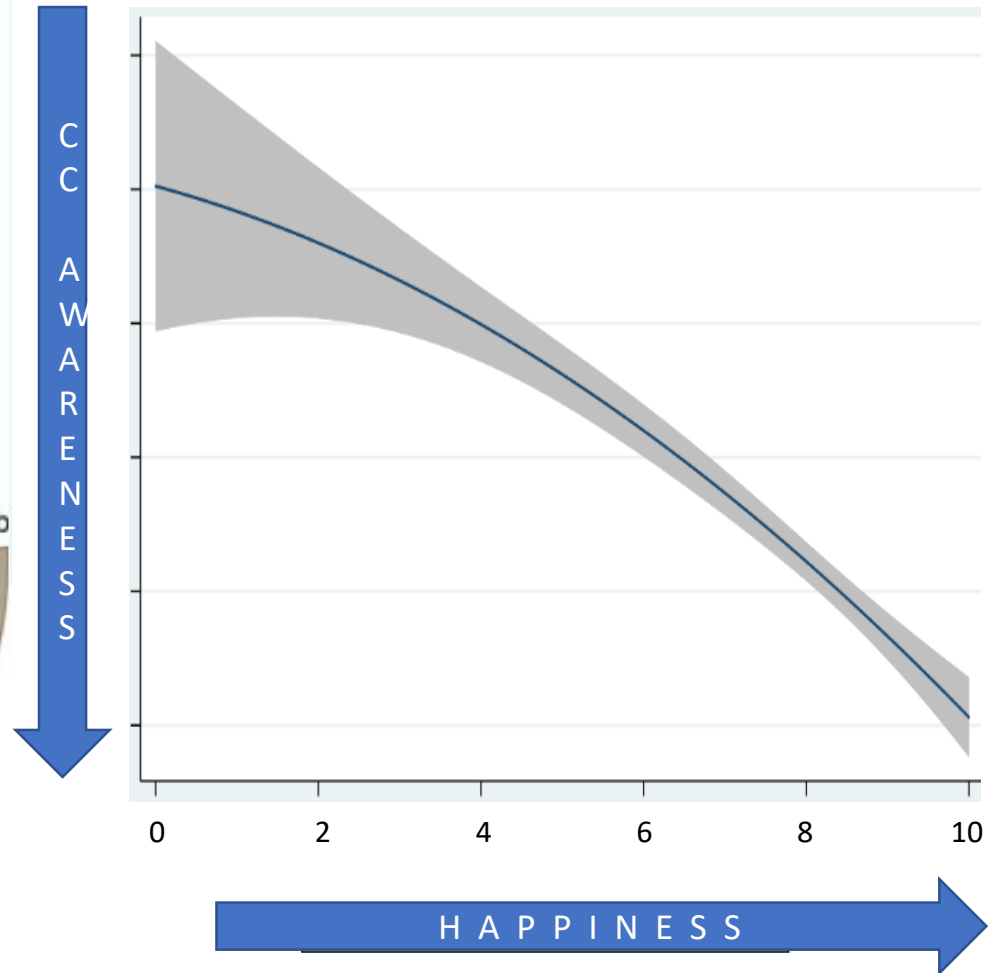


HOW
can
we
fight it
?

The reward system



Wave 8, European Social Survey (2016-2017)



Factors limiting **awareness** of ecological issues

Difficulties in
cause-effect
association



10 years later...



**Number
based**
communication

The Guardian

The world passes 400ppm
carbon dioxide threshold.
Permanently

Factors limiting **adherence** to pro-ecological behaviors

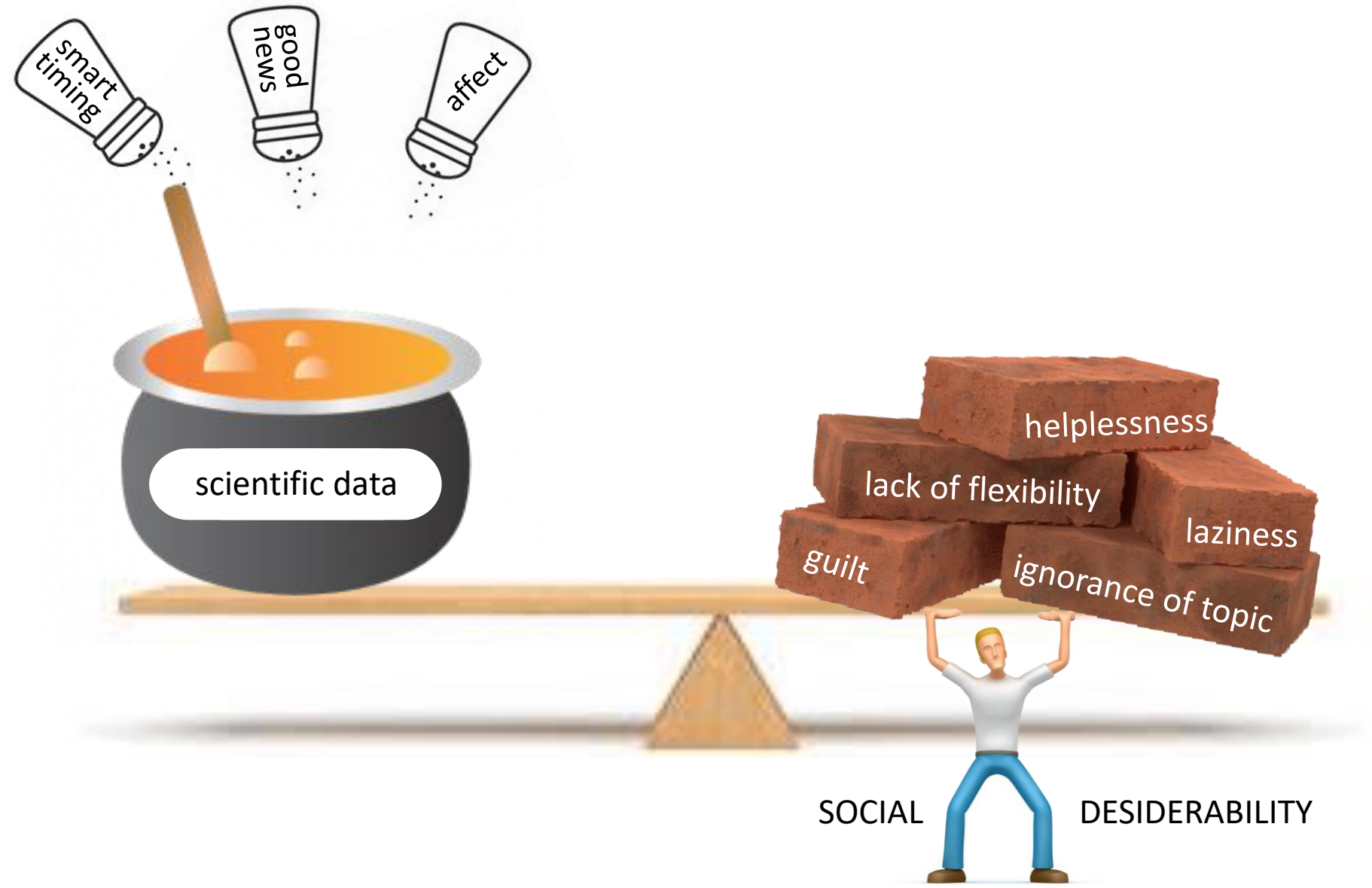


Beware the
cause-Affect
association!



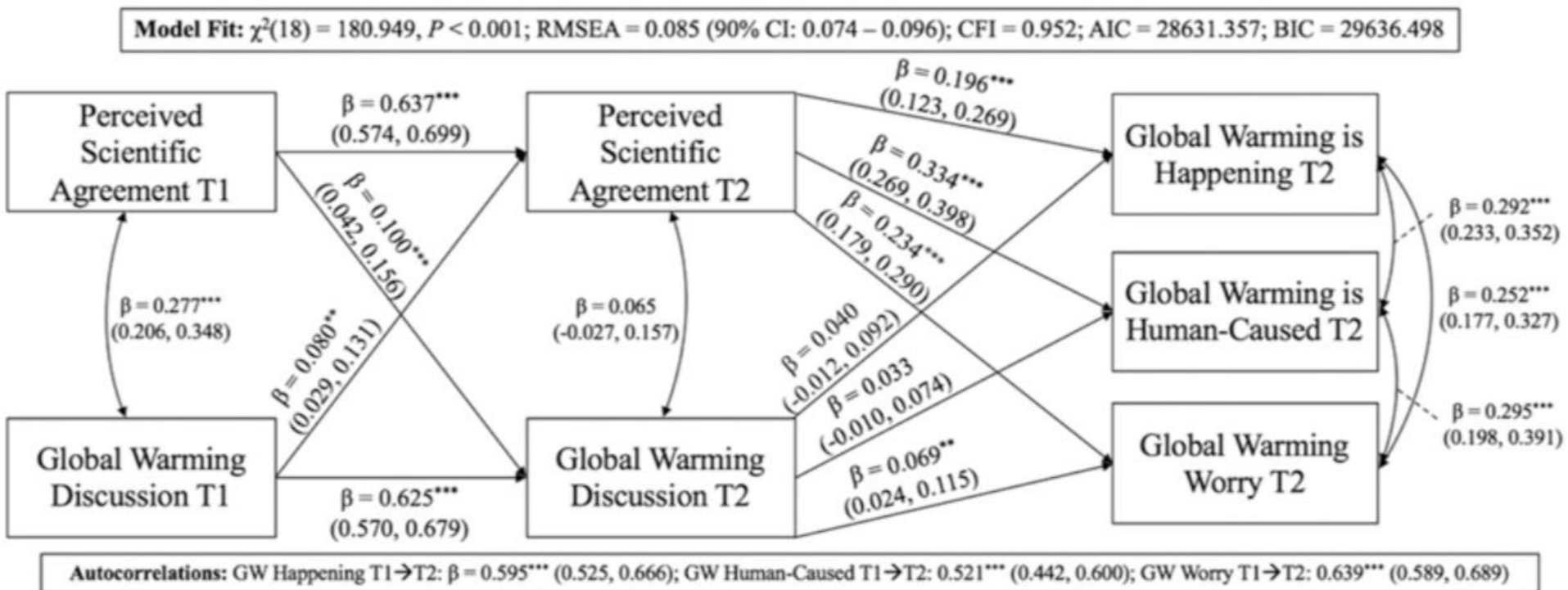
Changing habits
requires a great
cognitive flexibility

Factors **promoting** awareness of ecological issues and eco-behaviors



Social desirability in **family** and in close relationships

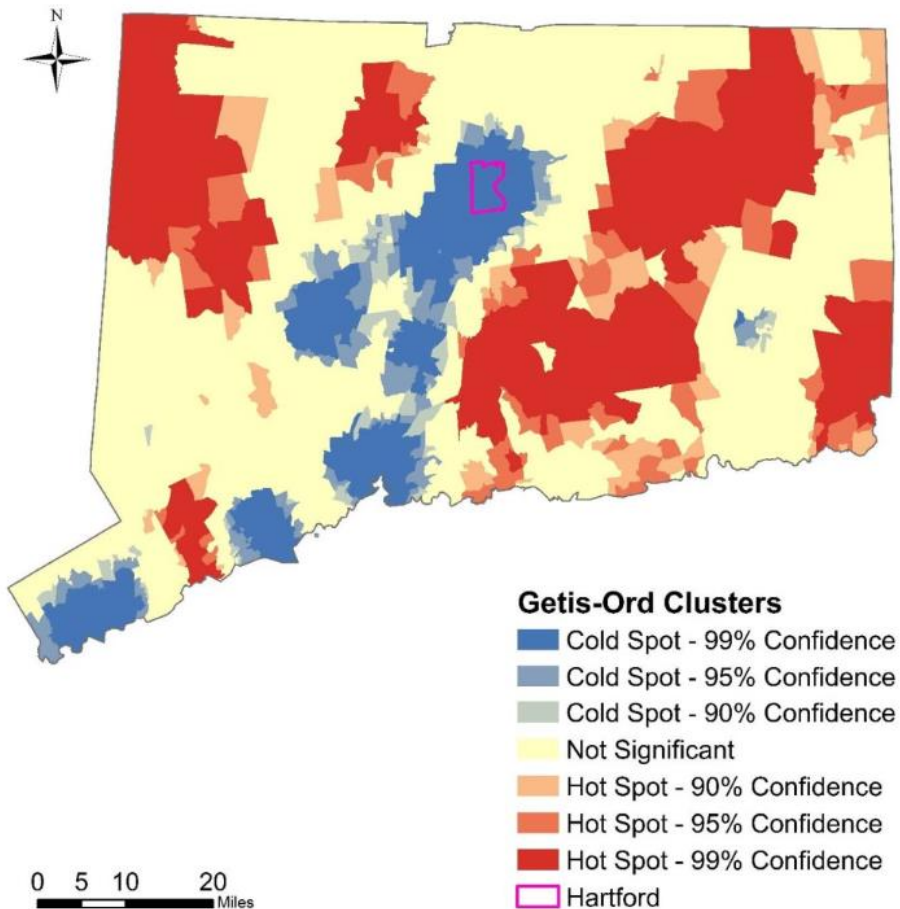
Goldberg et al., 2019



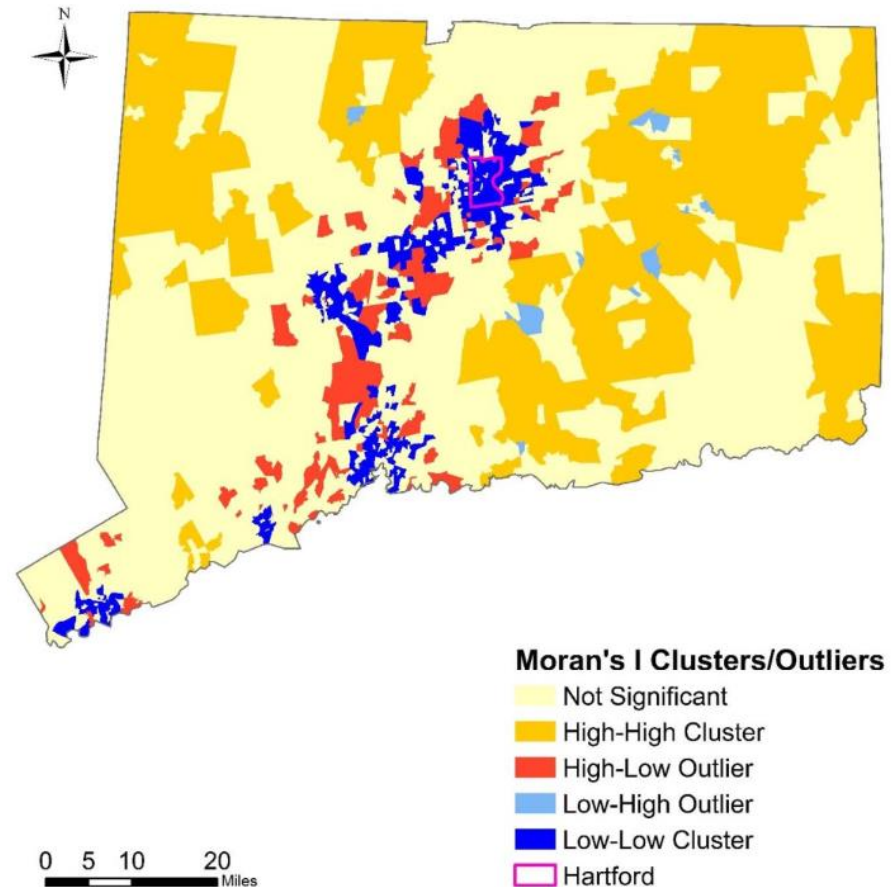
“Encouraging people to discuss global warming with their **friends** and **family** may be a productive way to initiate the *social feedback loop*, but that **the actual content** of the discussion itself (e.g., scientific agreement) plays a key role in changing relevant beliefs.”

Social desirability within small communities (neighborhoods)

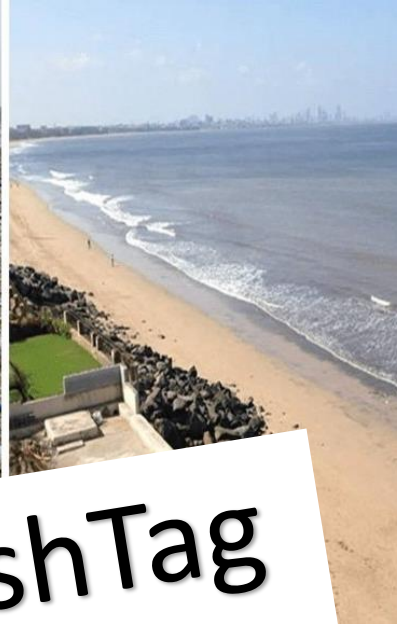
B. Block Group Level Optimized Getis-Ord Results (2013)



C. Block Group Level Local Moran's I, 10 Miles Cutoff (2013)



Social desirability within **wide communities** (social networks)



TrashTag

Less raw data, more links to **everyday impact** of the news

Emotional leverage must make people feel more **guilty responsible**

A **smart timing** in narrating climatic events can strenght **cause-effect** relationship

Sharing good news too can improve **empowerment**

Practice (and spread) **step-by-step** changes in everyday habits

Make pro-ecology behaviors **socially desirable** and **virals**

BODHΨLAB

Dipartimento di
Patologia Chirurgica, Medica, Molecolare e dell'Area Critica

Angelo Gemignani

Gaspare Alfi

Valentina Cesari

Sergio Frumento

Paul Hitchcott

Danilo Menicucci ()*

Andrea Piarulli

Andrea Zaccaro

Marco Laurino

Francesca Mastorci



(*) danilo.menicucci@unipi.it