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Neuroinflammation and psychiatric illness

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Abstract

Multiple lines of evidence support the pathogenic role of neuroinflammation in psychiatric illness. While systemic autoimmune diseases are well-documented causes of neuropsychiatric disorders, synaptic autoimmune encephalitides with psychotic symptoms often go under-recognized. Parallel to the link between psychiatric symptoms and autoimmunity in autoimmune diseases, neuroimmunological abnormalities occur in classical psychiatric disorders (for example, major depressive, bipolar, schizophrenia, and obsessive-compulsive disorders). Investigations into the pathophysiology of these conditions traditionally stressed dysregulation of the glutamatergic and monoaminergic systems, but the mechanisms causing these neurotransmitter abnormalities remained elusive. We review the link between autoimmunity and neuropsychiatric disorders, and the human and experimental evidence supporting the pathogenic role of neuroinflammation in selected classical psychiatric disorders. Understanding how psychosocial, genetic, immunological and neurotransmitter systems interact can reveal pathogenic clues and help target new preventive and symptomatic therapies.

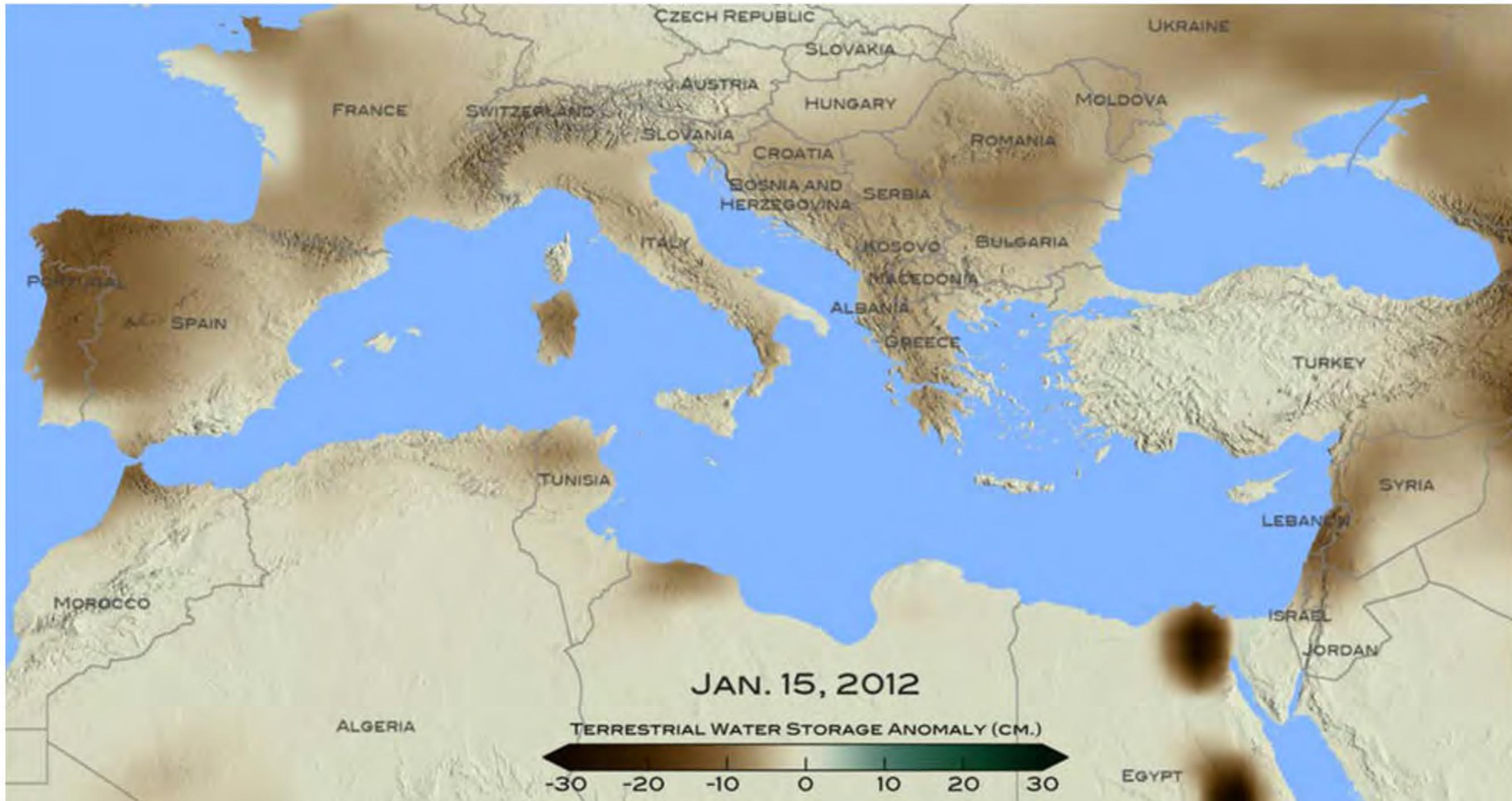
“Reviewing...the evidence supporting the pathogenic role of neuroinflammation in selected psychiatric disorders...”

NASA Finds Drought in Eastern Mediterranean Worst of Past 900 Years



A new NASA study finds that the recent drought that began in 1998 in the eastern Mediterranean Levant region, which comprises Cyprus, Israel, Jordan, Lebanon, Palestine, Syria, and Turkey, is likely the worst drought of the past nine centuries.

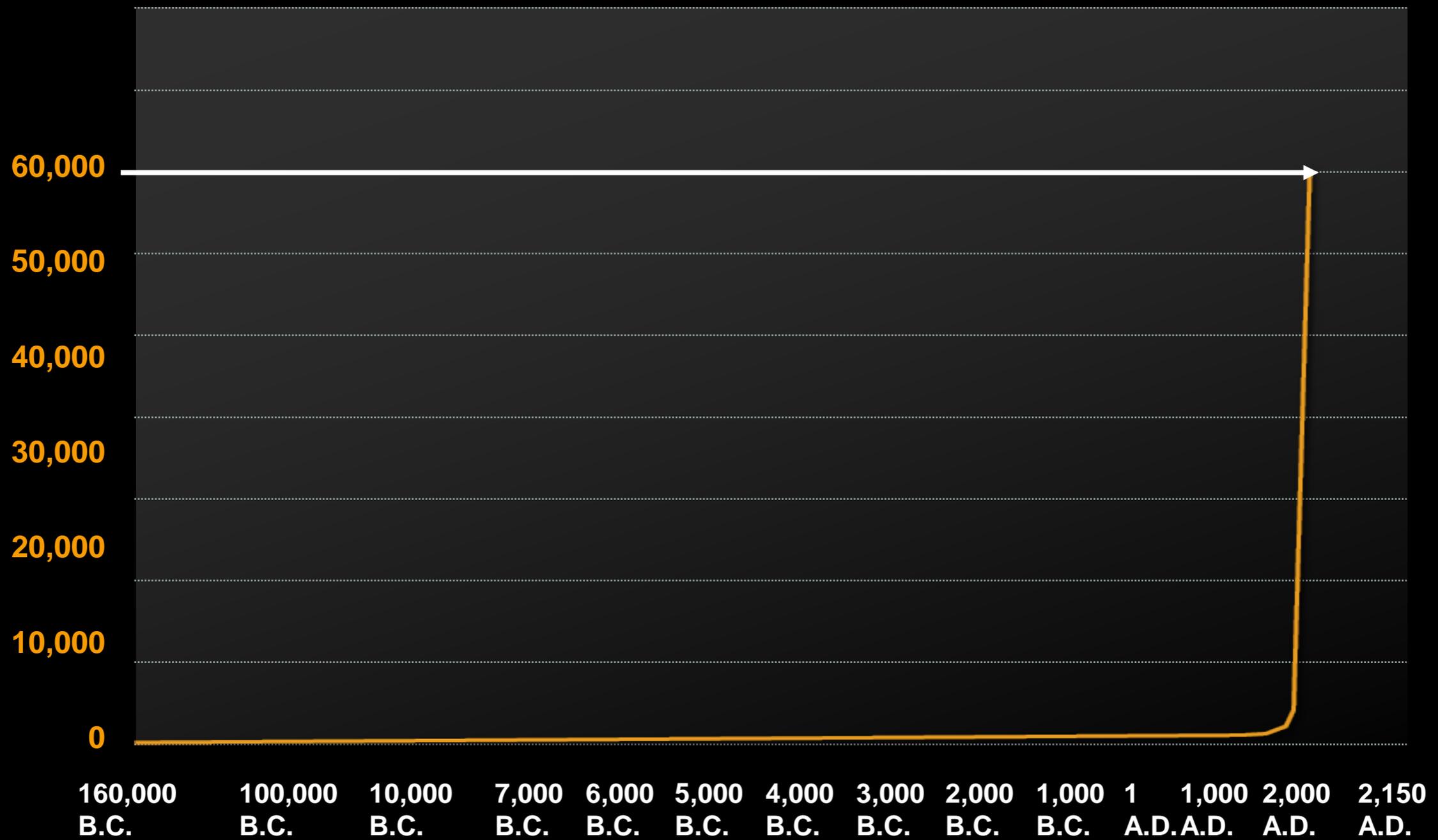
Scientists reconstructed the Mediterranean's drought history by studying tree rings as part of an effort to understand the region's climate and what shifts water to or from the area. Thin rings indicate dry years while thick rings show years when water was plentiful.





Species Loss

— Species Loss





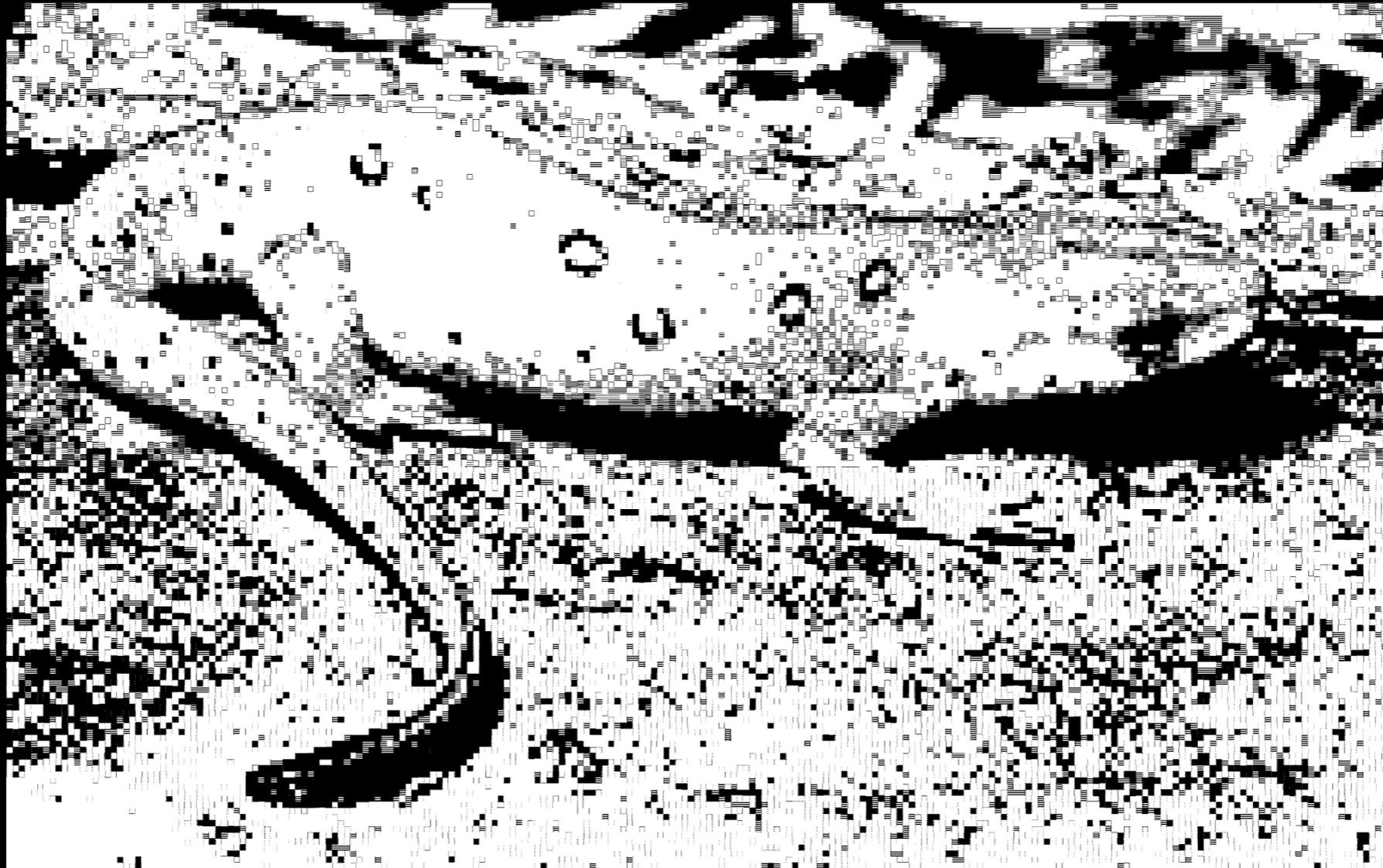
Antimicrobials



Squalamines



Pain Killers



Regeneration



Osteoporosis Type II Diabetes



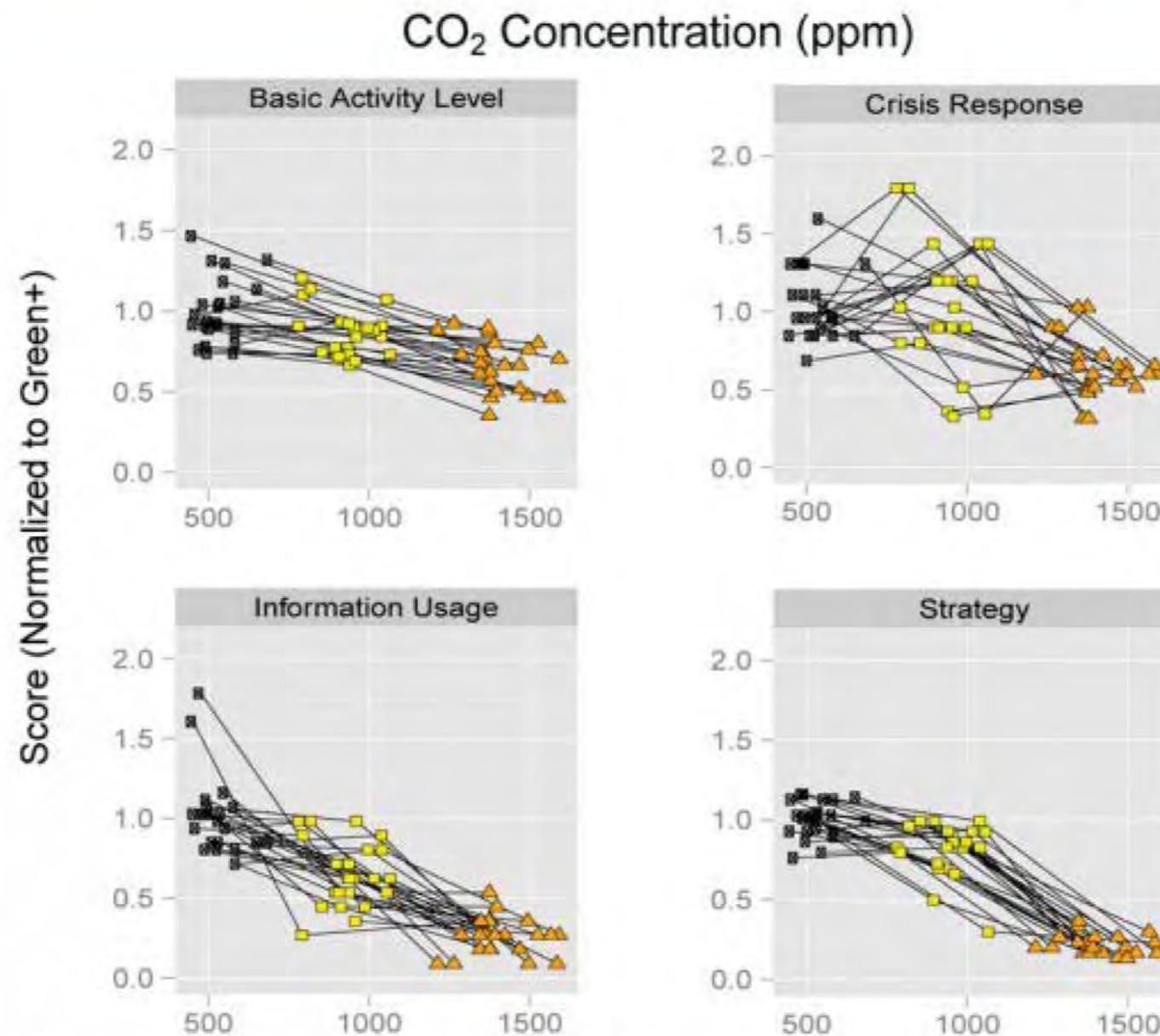
The relationship between hot weather and crime is linear -- as it gets hotter, people get more aggressive



4% between individuals

14% between groups

How CO2 Levels Affect Human Cognition



Normalized cognitive function scores by participant and corresponding CO₂ levels in their cubicle. The Green+ case had CO₂ in the 500 ppm range due to high levels of outside air. It was compared to office settings in the 930 ppm range (yellow squares) and in the 1400 ppm range (orange triangles).

■ Green+ ■ Medium CO₂ ▲ High CO₂




MARINA MILITARE



[PDF] [NRDC: California's Energy Efficiency Success Story - Saving Billions ...](#)

<https://www.nrdc.org/.../files/ca-success-story-FS.pdf> Natural Resources Defense Council ▼

by D Wang - 2013 - [Related articles](#)

figure 1: **California per Capita electricity Consumption** vs. rest of the nation ... the ninth-lowest level in the nation, nearly \$700 less than that of the average Texas.

[PDF] [energy efficiency - California Public Utilities Commission](#)

www.cpuc.ca.gov/uploadedFiles/.../Regulating... ▼ California Public Utilities Commission ▼

is an integral part of **California's** efforts to lead the nation in fighting climate The average refrigerator today uses 75 percent less energy than one in ... IOUs' voluntary energy efficiency programs to plan for future energy needs in order savings) cost effectiveness test would indicate a highly cost-effective portfolio that , in.

[California leading nation, world, to a clean-energy economy - San ...](#)

www.sfchronicle.com/.../California-leading-nation-world-to-a... ▼ San Francisco Chronicle ▼

Sep 27, 2016 - ... climate change while boosting its economy and lab testing ideas that the rest of the ...

Back then the idea was to pull emissions back to 1990 levels by 2020, a goal ... not just the well-off — to use the sun for energy needs. ... The message to emit less and innovate more is sinking in more broadly than ever.



Nation's 1st Bullet Train Breaks Grou...

NBC Bay Area - 620 x 349 - Search by image

California to Break Ground on Bullet-Train on Tuesday

“Prevention” reducing the causes of global warming...changing a culture

- **reducing E consumption**
- **greening the workplace**
- **advocating for sustainable practices**
- **calling for a price on carbon**
- **testifying, advising on policies...**
- **joining organizations that need us: Citizens Climate Lobby, The Climate Mobilization, Earth Day Network - calling to**
“Keep fossil fuels in the ground”

Protecting our Patients and Communities

- **educating providers and patients**
- **advising about risks and what to do (see tip sheet)**
- **providing CME credits for training**
- **beefing up preparations for climate disasters**
- **identifying and setting in motion best practices for crisis management ... sharing what we know...building resilience**

Is it time to consider climate disaster subcommittees? climate mental health specialists?