

Bifurcations and the limits of the system



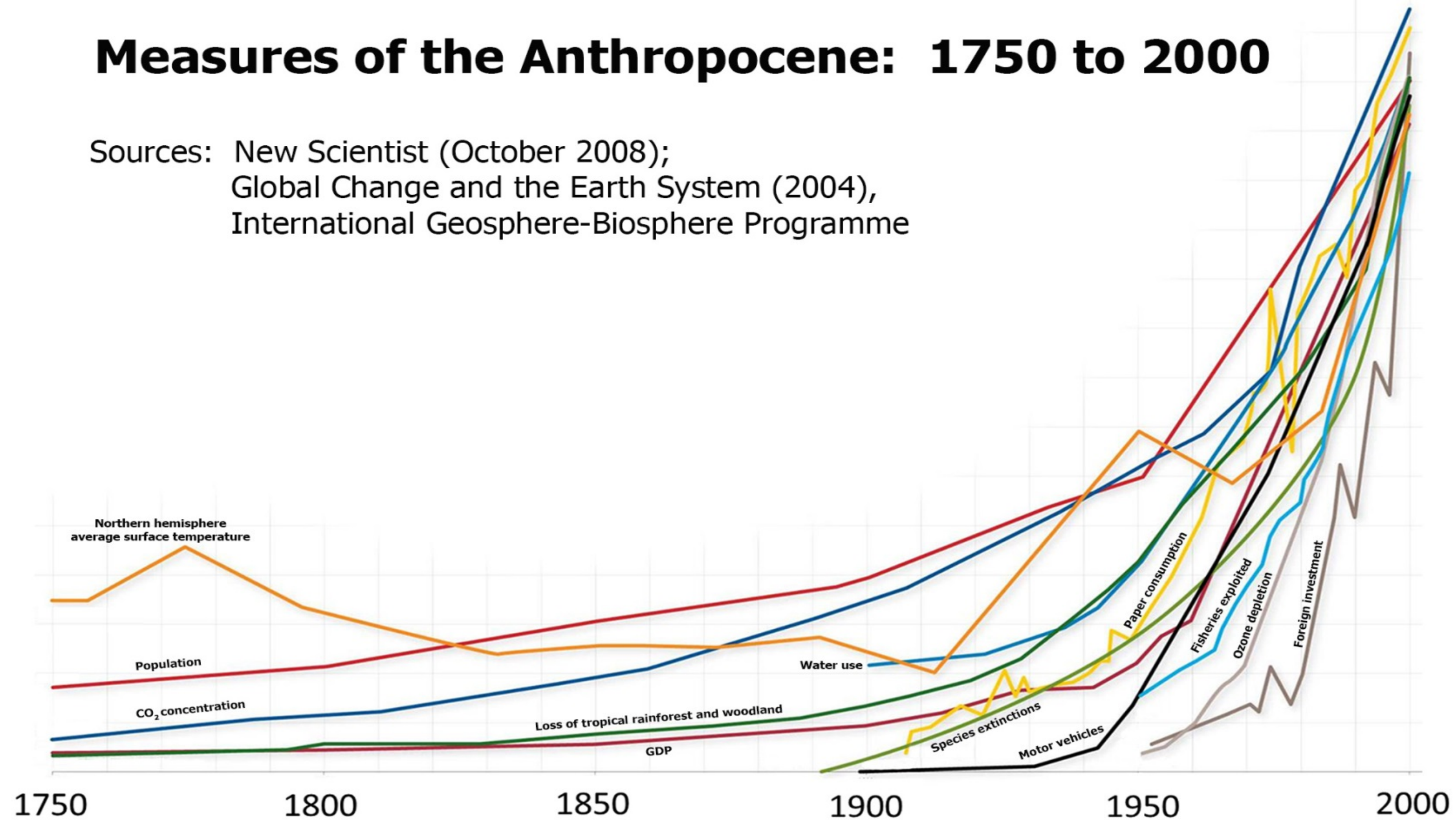
Ana Esther Ceceña

Observatorio Latinoamericano de Geopolítica

www.geopolitica.ws

Measures of the Anthropocene: 1750 to 2000

Sources: New Scientist (October 2008);
Global Change and the Earth System (2004),
International Geosphere-Biosphere Programme



Fuente: Moore, Jason 2019

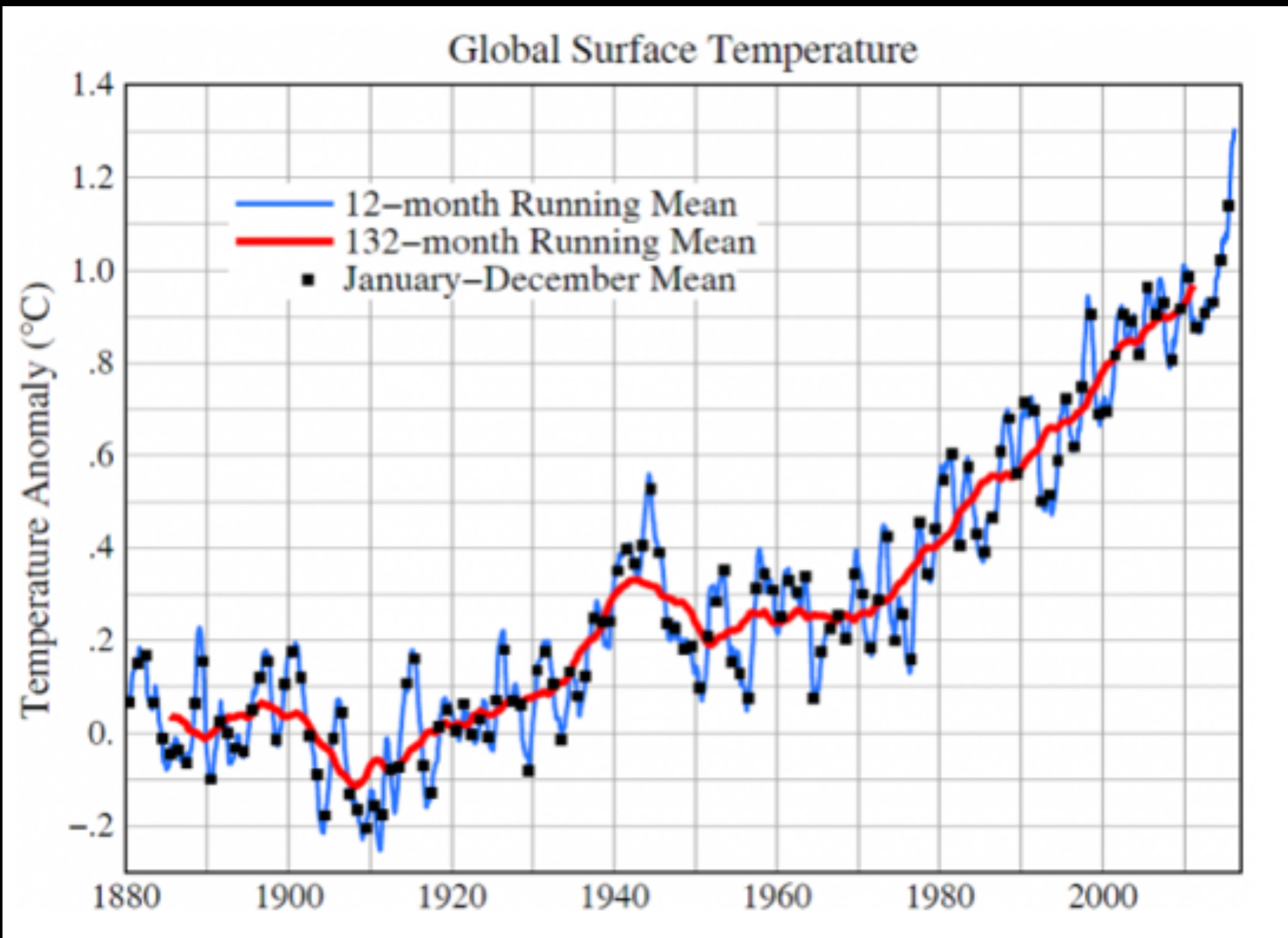
Every hour

3 species disappear

a thousand times faster than the natural rate of extinction

4 million tons of CO₂

are emitted into the atmosphere



Fuente: James Hansen, Makiko Sato, "A Better Graph" in *Climate Science*; <http://csas.ei.columbia.edu/2016/09/26/a-better-graph/>

Every year

13 million hectares of forest

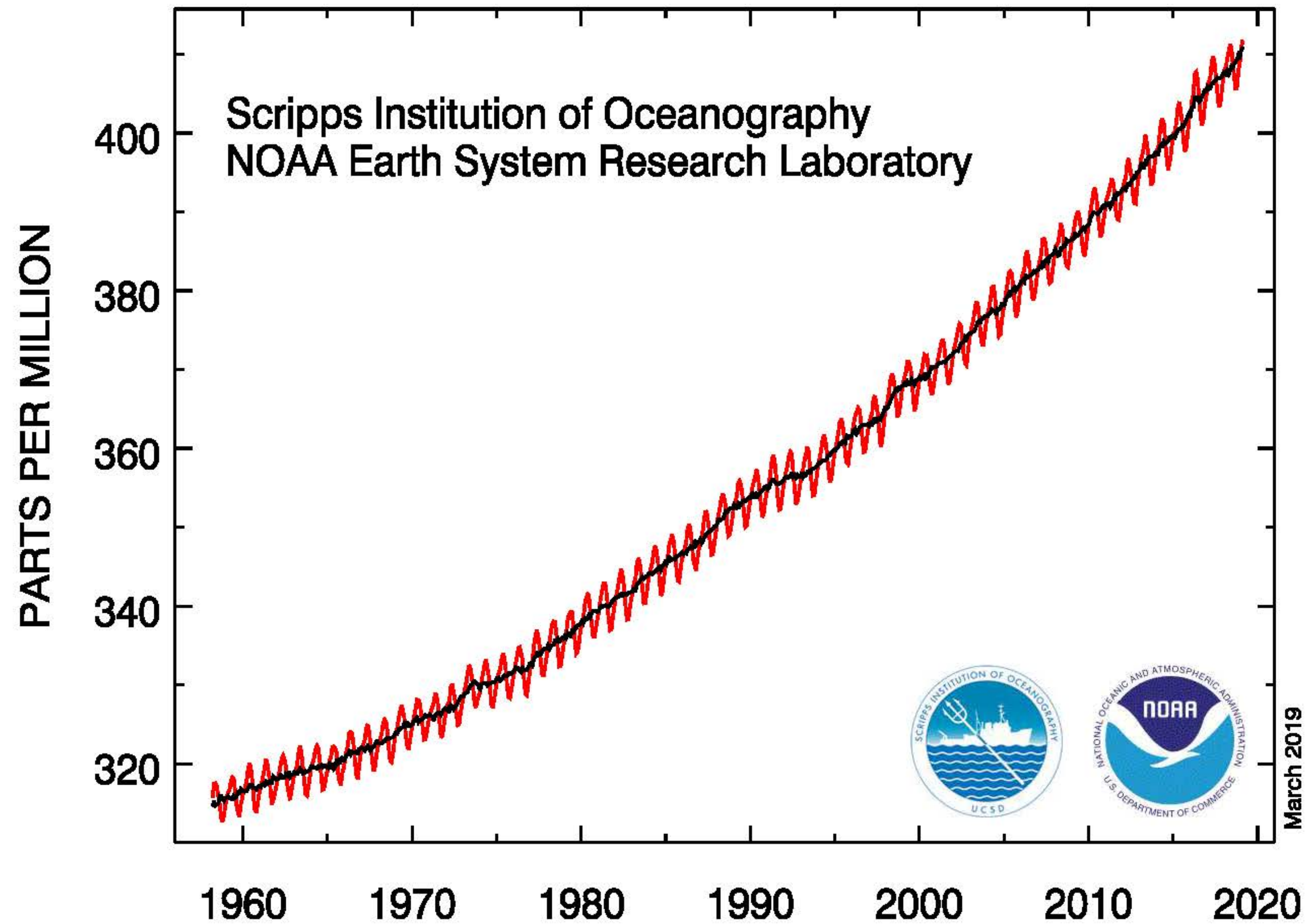
are cut down

In 2019, the tropics lost 11.9 million
hectares of tree cover. Nearly a third were
primary forests

The equivalent of losing one football pitch
of primary forest every 6 seconds.

World Resources Institute

Atmospheric CO₂ at Mauna Loa Observatory



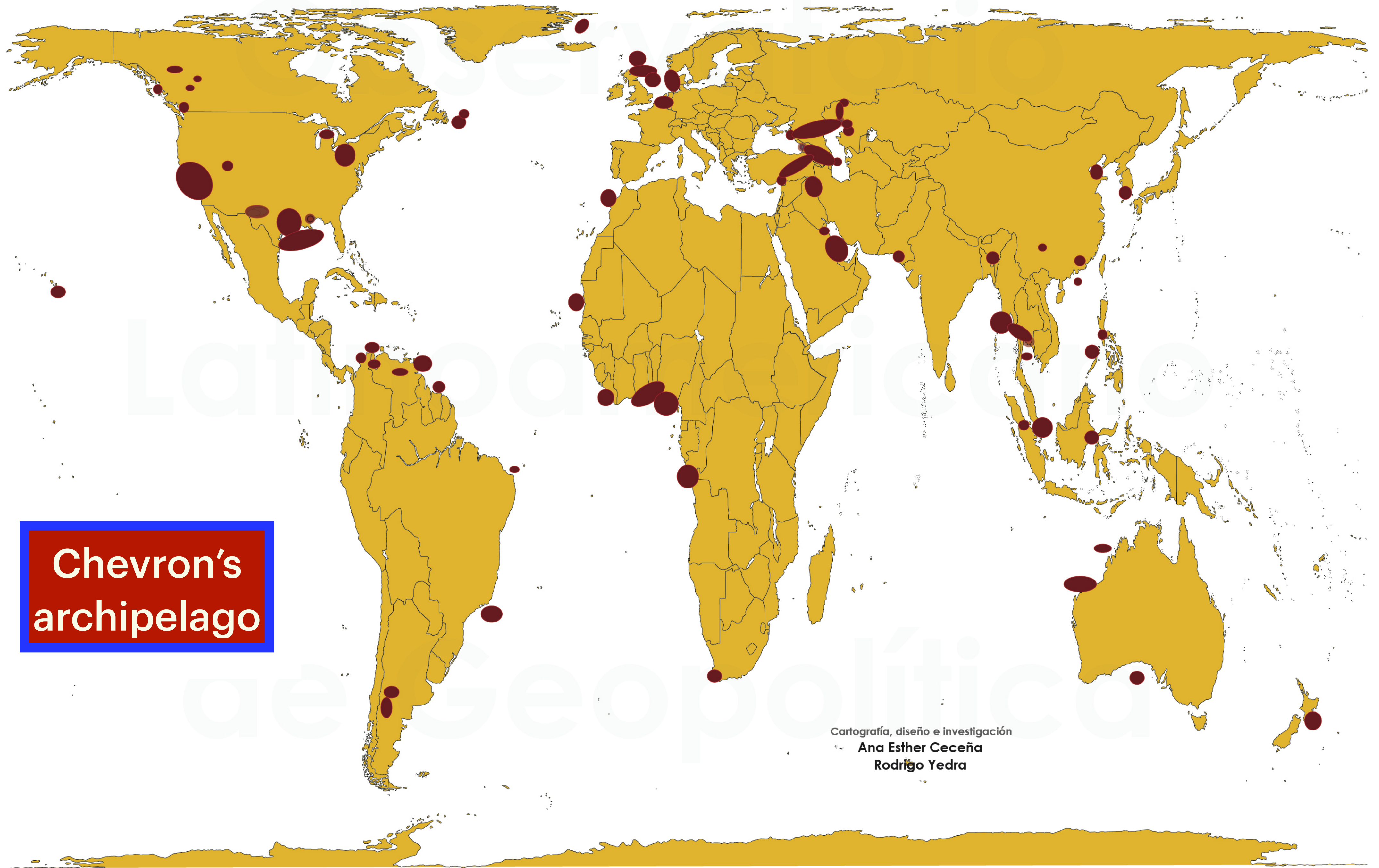
45.8% of the world's trees
have been lost since the origin of human
civilization

Approximately 15.3 billion trees have
been cut down in the last 12 years

Social overshoot



Chevron's archipelago



Cartografía, diseño e investigación
Ana Esther Ceceña
Rodrigo Yedra

**Chevron's
archipelago**

Cartografía, diseño e investigación
Ana Esther Ceceña
Rodrigo Yedra

Chevron's archipelago

- Leftovers
- Oil fields

Cartografía, diseño e investigación
Ana Esther Ceceña
Rodrigo Yedra

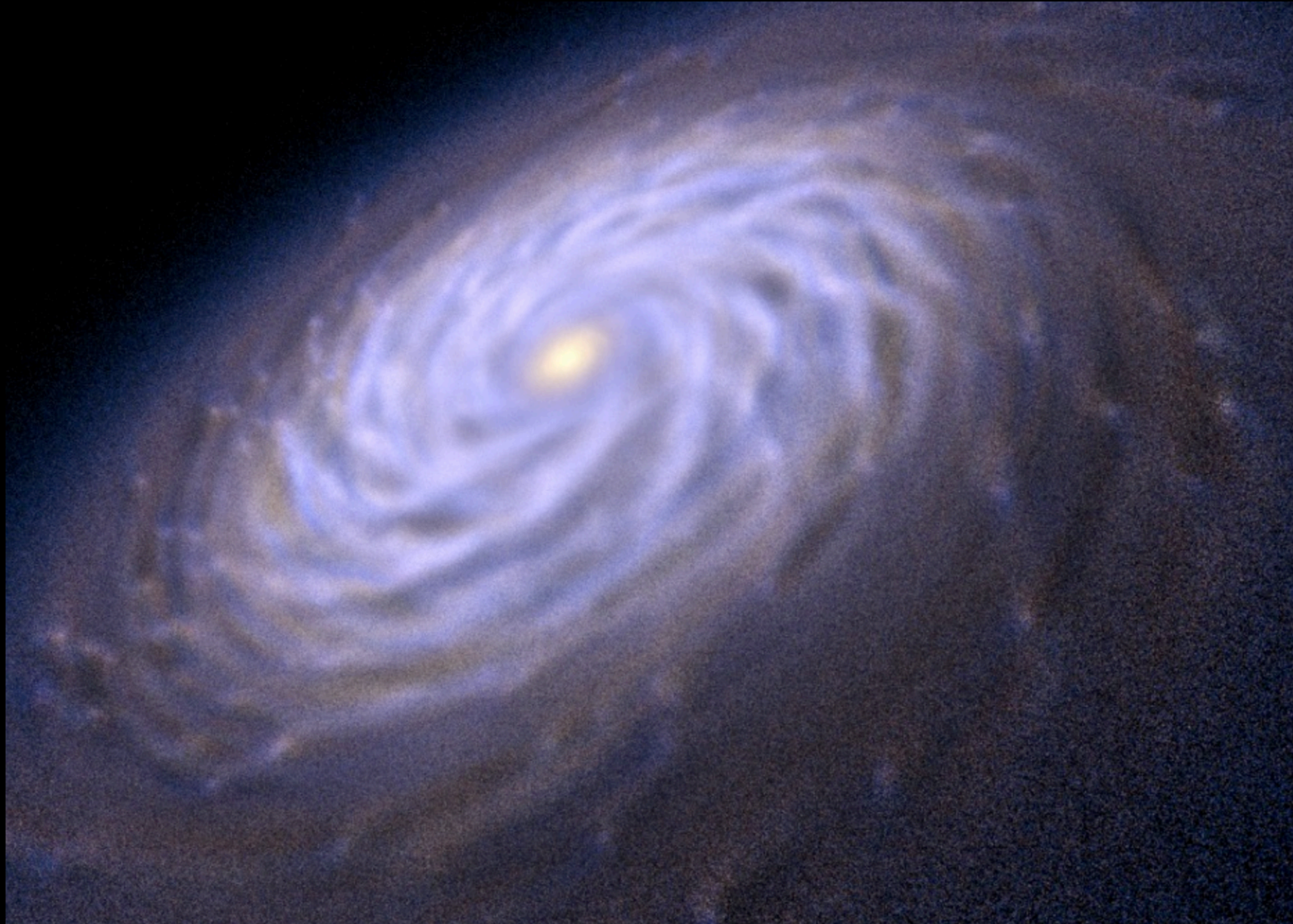
Leftovers



Leftovers



Systemic attraction coherence



Bifurcation



Bifurcations and the limits of the system



Ana Esther Ceceña

Observatorio Latinoamericano de Geopolítica

www.geopolitica.ws