

Qualche problema

RAPPORTO ROCKSTROM Stockholm Resilience Centre

9 BOUNDARIES:

- **Climate change;**
- **Rate of Biodiversity loss;**
- **Interference Nitrogen and Phosphorus Cycles;**
- Stratospheric Ozone Depletion; Ocean Acidification; Global Freshwater Use; Change in Land Use; Chemical Pollution; Atmospheric Aerosol Loading



Vegetalia Cremona
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Interference Nitrogen and Phosphorus Cycles

“Modern agriculture is a major cause”

- Human processes (primarily the manufacture of **fertilizers** food production) convert around **120 million tonnes of N₂** from the atmosphere per year into **reactive** forms - the flow of new reactive nitrogen **25% of its current value** ;
- Some **20 Mtons of phosphorus** is mined every year and around 8.5–9.5 Mtons of it finds its way into the oceans. Approximately **8 times the natural background rate** of influx.

