



# VALUING NATURE

**Assessing the safe operating  
space for nutrient loads to river  
estuaries: a  
palaeoenvironmental approach  
to estuary management**

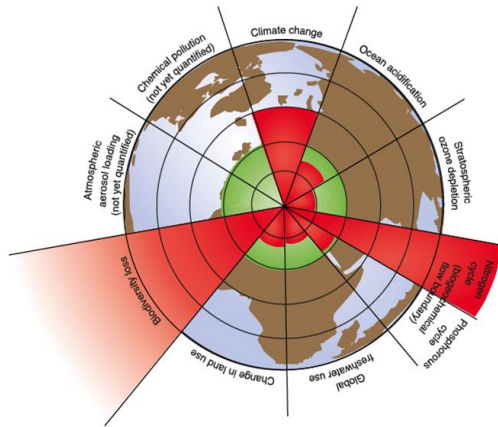
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# Research Area - defining a safe operating space

## Planetary boundaries

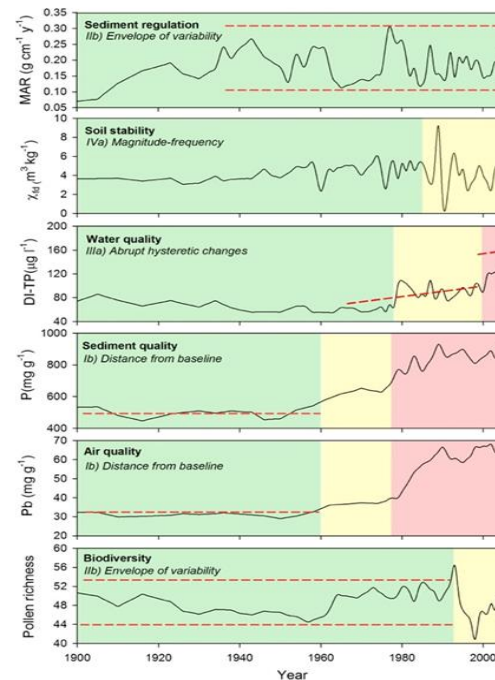


Boundaries: “safe operating space for humanity with respect to the Earth system and are associated with the planet’s biophysical subsystems or processes”.

Threshold, or tipping point: critical value that once surpassed can have disastrous consequences.

(Rockström et al., 2009)

## Regional SOS



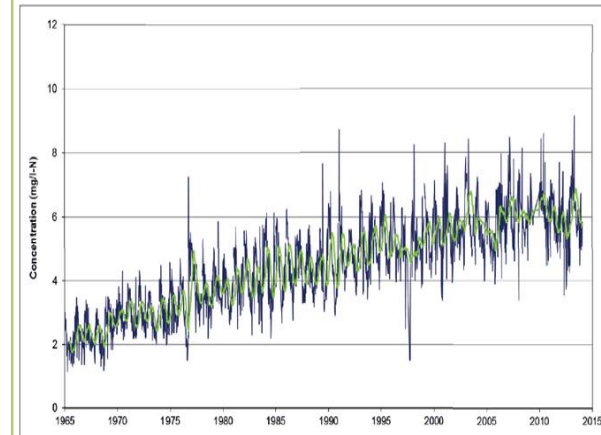
Ecological boundaries for Shucheng County, Anhui Province, China.

Red line illustrates different dynamical behaviour and boundaries.

Coloured segments represent historical changes.

(Dearing et al., 2014)

## Poole Harbour



(Poole Harbour Catchment Initiative, 2014)

Land use change within the catchment of Poole Harbour has increased nutrient loads to the estuary, increasing productivity and eutrophication.

Reconstructing pre-impact/industrial nutrient and ecological baseline using palaeo-reconstruction techniques to identify a SOS with respect to nutrient loading and maintaining a stable ecosystem.

# Why the Business Impact School?

- Broaden understanding of how research and businesses can work together.
  - The possibilities and challenges.
- How my skills can be used within businesses.
- Post-PhD career.

# Opportunities and Challenges

- Research outputs to be used in policy management – Poole Harbour Catchment Initiative Catchment Plan.
- Results to be presented to the farming community.
- Will the PhD outputs be what the business expected and will they be useable?