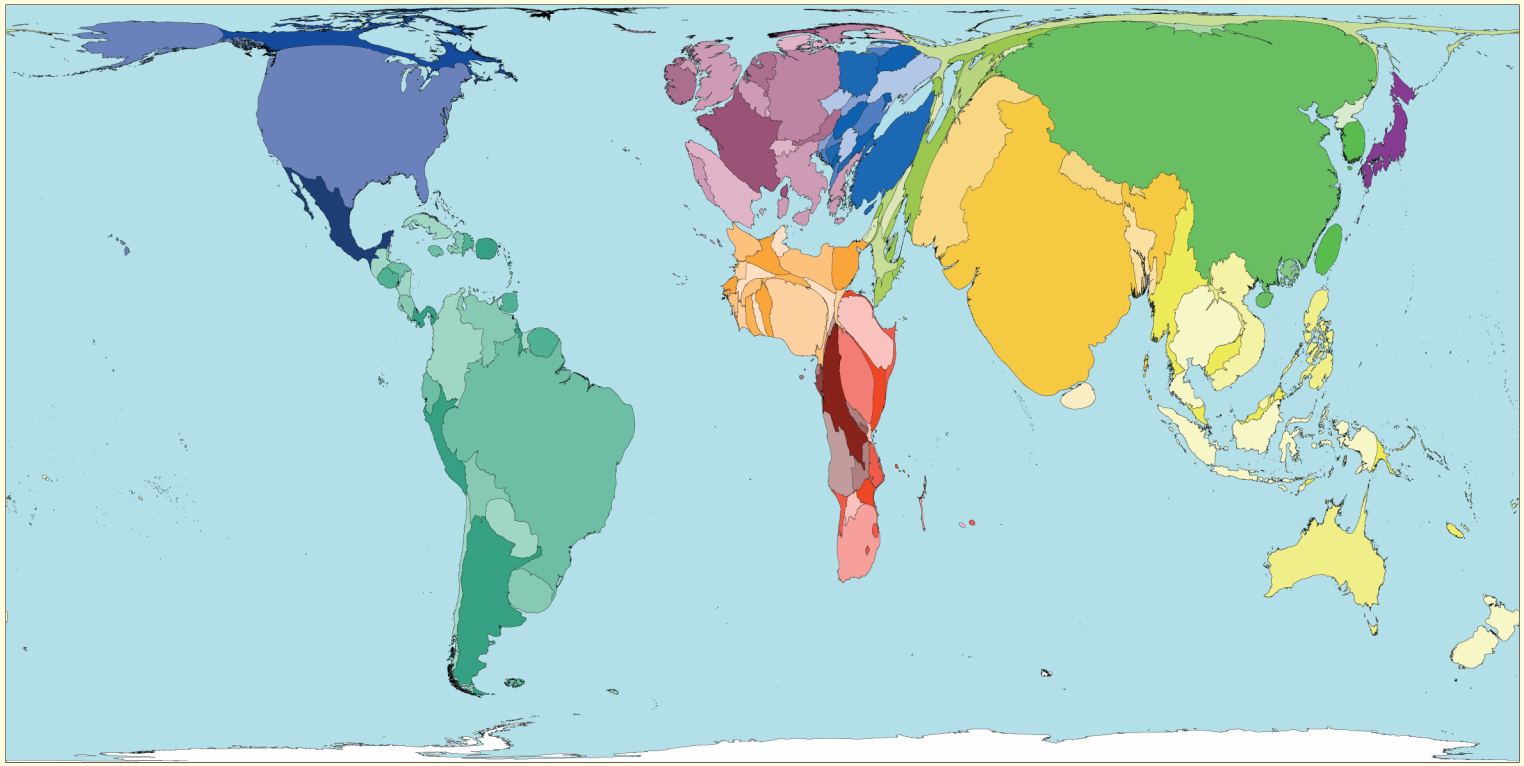
Methane and Nitrous Oxide

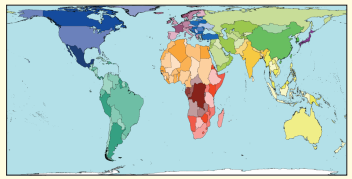
The University Of Sheffield. The Leverhulme Trust Geographical Association
Produced by the SASI group (Sheffield) and Mark Newman (Michigan)



The main agricultural contributions to greenhouse gases are methane and nitrous oxide. Methane is produced by animals and their manure. Nitrous oxide is emitted from soil, particularly when nitrogen fertilizers are used. Each gas has a different potency, so weight alone does not indicate its effect. By weight, methane has 21 times and nitrous oxide 310 times the greenhouse effect of carbon dioxide.

South America is the region with the highest carbon dioxide equivalent emissions of agricultural methane and nitrous oxide per person. The territory with the highest emissions per person is New Zealand, at the equivalent of 9.7 tonnes of carbon dioxide in 2002.

Territory size shows the proportion, by their global warming potential, of agricultural methane and nitrous oxide emissions from there.



Land area

Technical notes

- Data are from the United Nations Statistics Division, 2005.
- *Quantities of methane and nitrous oxide are converted to equivalent tonnes of carbon dioxide by their global warming potential. Only methane and nitrous oxide from agriculture are counted.
- Note that the estimated greenhouse effect of methane compared to carbon dioxide varies.
- See website for further information.

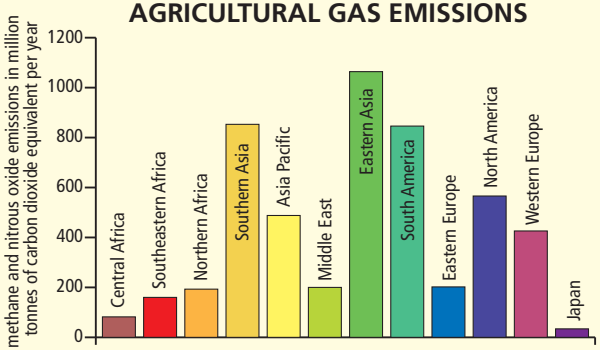
MOST AND LEAST METHANE AND NITROUS OXIDE EMISSIONS

Rank	Territory	Value
1	New Zealand	9.70
2	Brunei Darussalam	8.56
3	Uruguay	7.73
4	Australia	5.42
5	Paraguay	5.13
7	Ireland	4.80
11	Argentina	3.03
12	Botswana	2.82
13	Bolivia	2.72
14	St Vincent & The Grenadines	2.63

Rank	Territory	Value
191	Sierra Leone	0.044
192	Mozambique	0.031
193	Madagascar	0.031
194	United Republic of Tanzania	0.031
195	Kiribati	0.006
196	Afghanistan	0.003
197	Nauru	0.000
197	Grenada	0.000
197	United Arab Emirates	0.000
197	Singapore	0.000

*agricultural methane and nitrous oxide emitted per person per year in tonnes of carbon dioxide equivalent, 2002**

AGRICULTURAL GAS EMISSIONS



"The emission of 1 tonne of methane into the atmosphere has the same effect on the climate system over 100 years as the emission of about 23 tonnes of carbon dioxide."

Dominic Ferretti, 2005