The Use of UN-Supplied Fuel Production and Trade Statistics for the Estimation of Global and National Fossil-Fuel-Derived Carbon Dioxide Emissions

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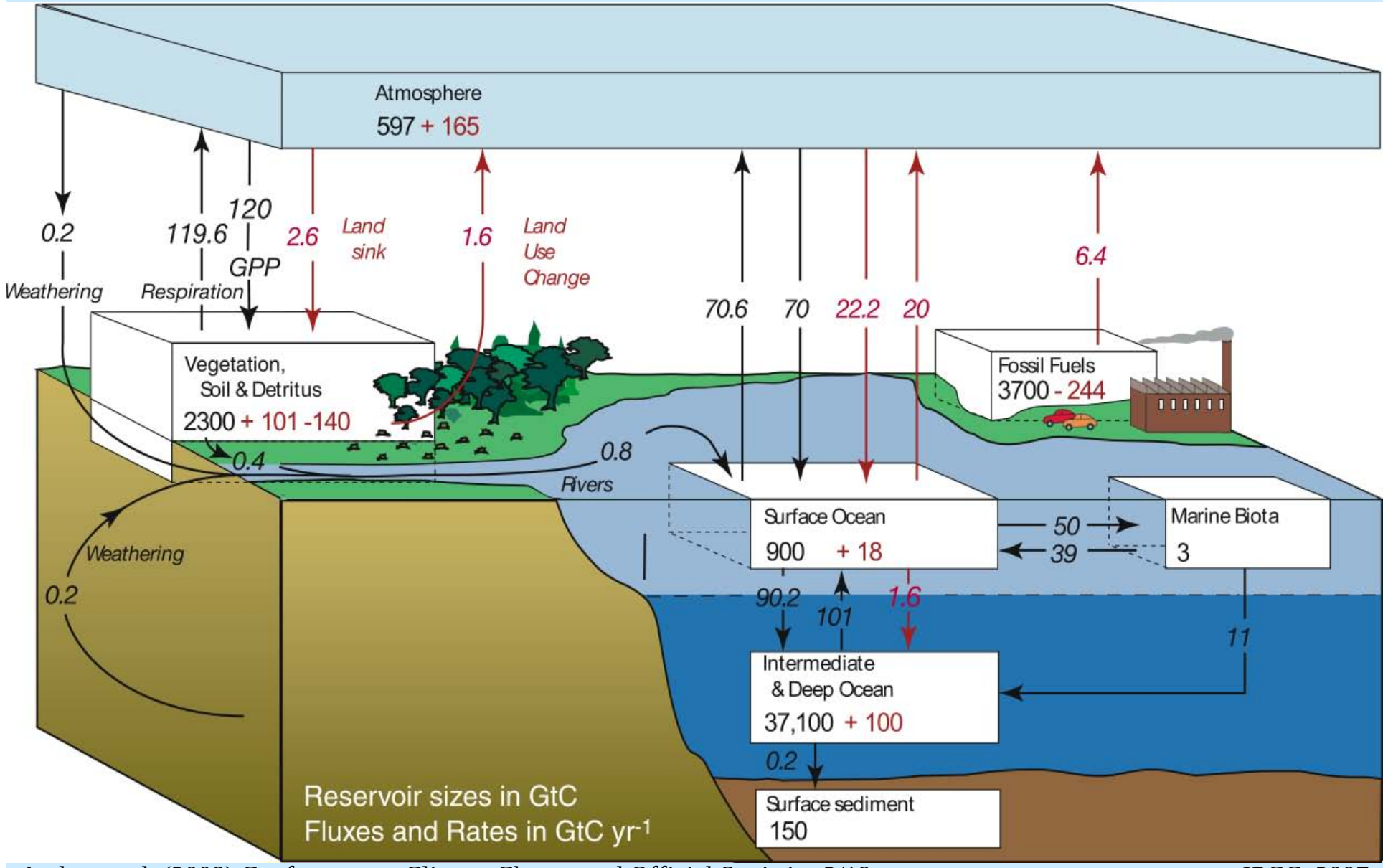
Carbon Cycle



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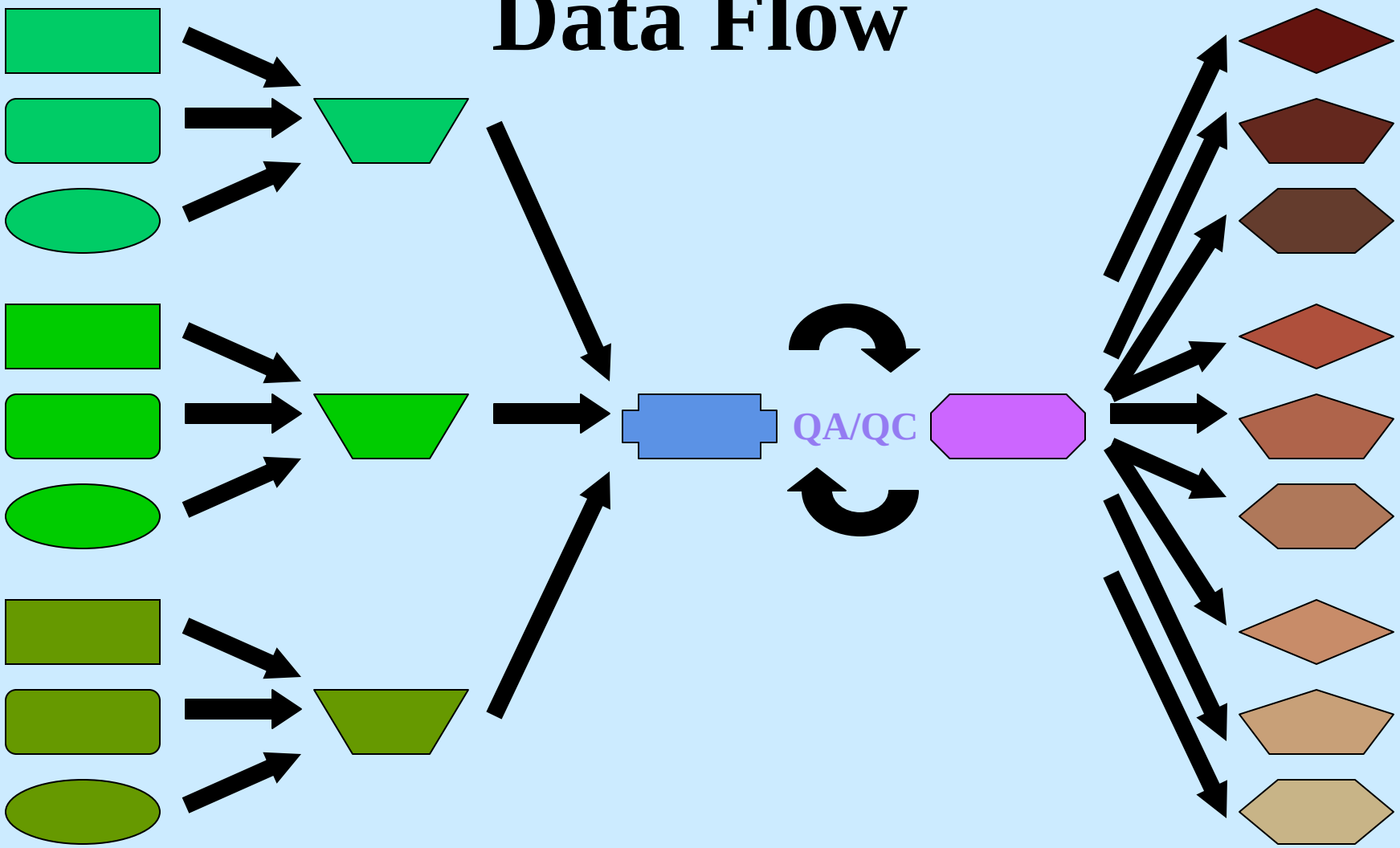
IPCC, 2007

Data Flow



Local statistics generation/ collection

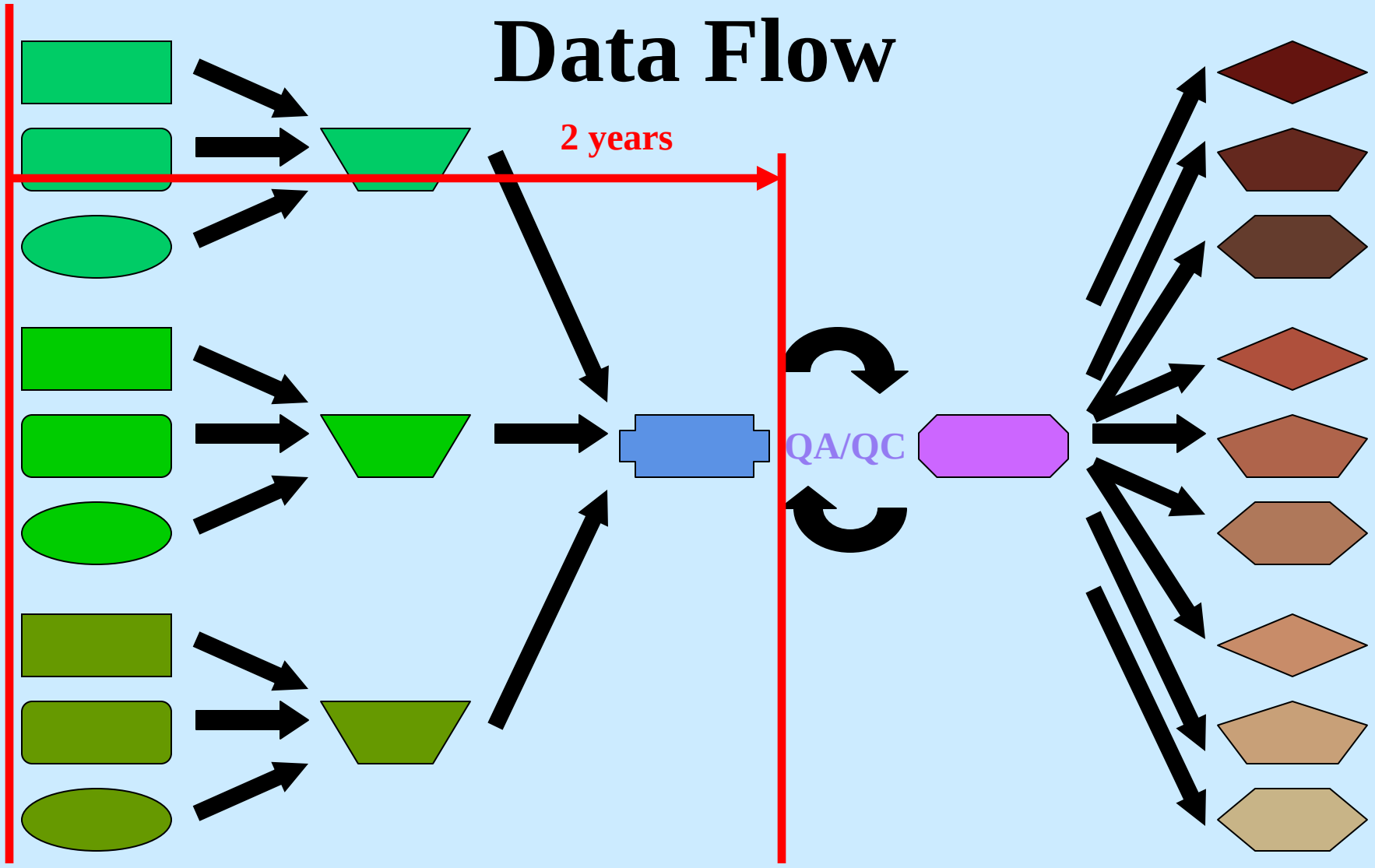
National Statistics Offices (NSOs)

United Nations Statistics Division (UNSD)

Carbon Dioxide Information Analysis Center (CDIAC)

General public, government entities, private firms, NGOs, …

Data Flow



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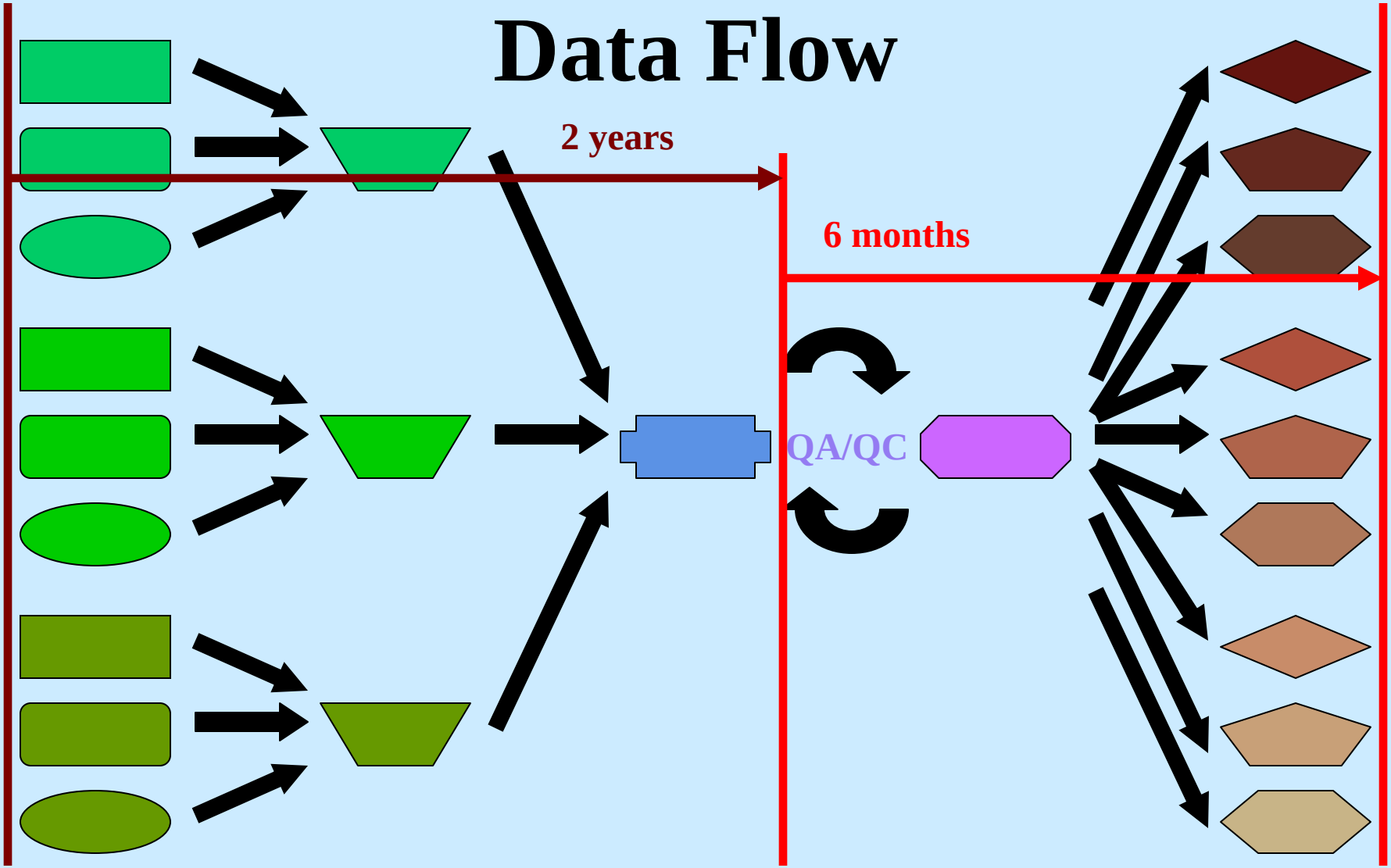

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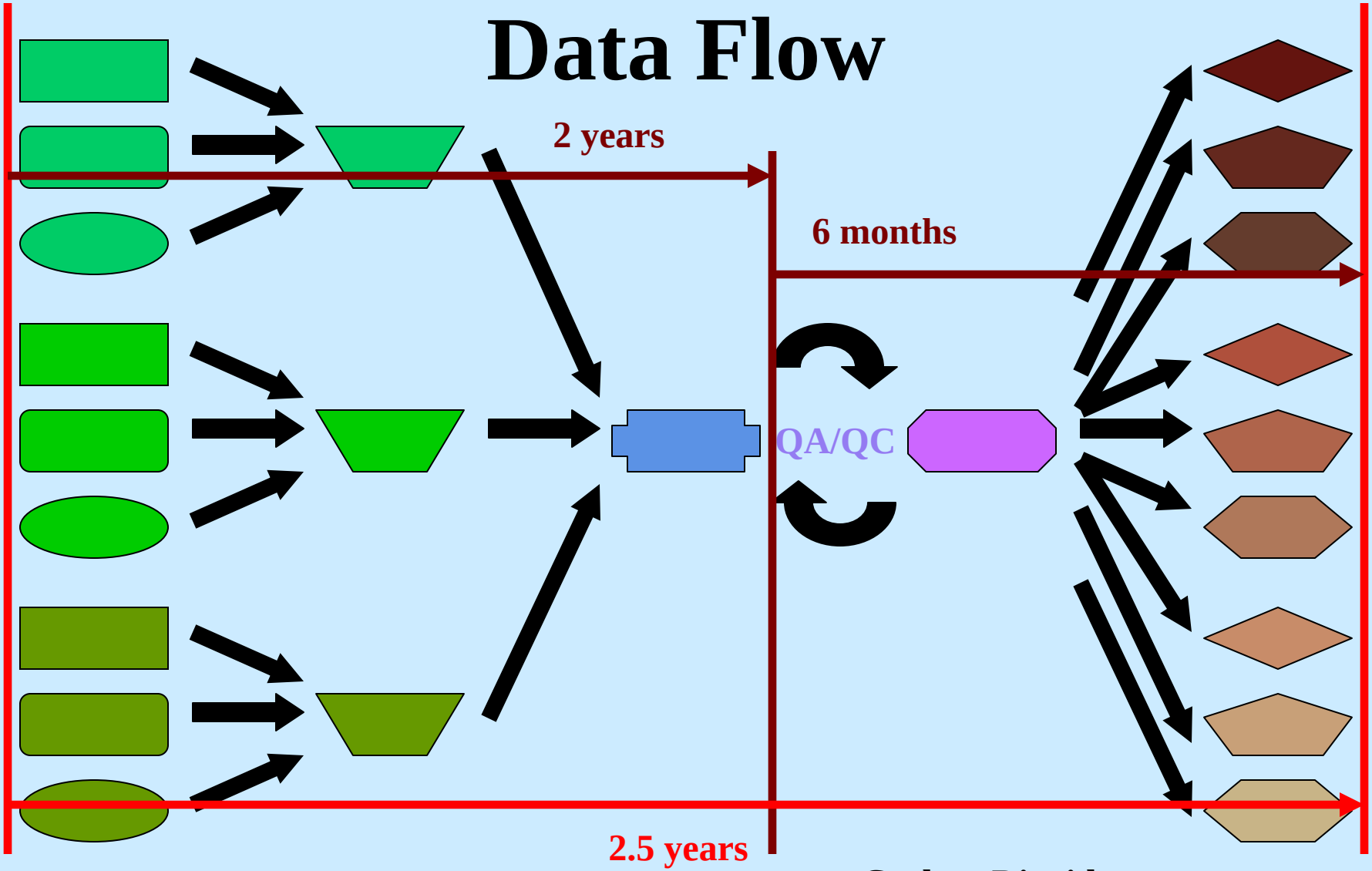
2 years
6 months
QA/QC
2.5 years
Local statistics generation/ collection
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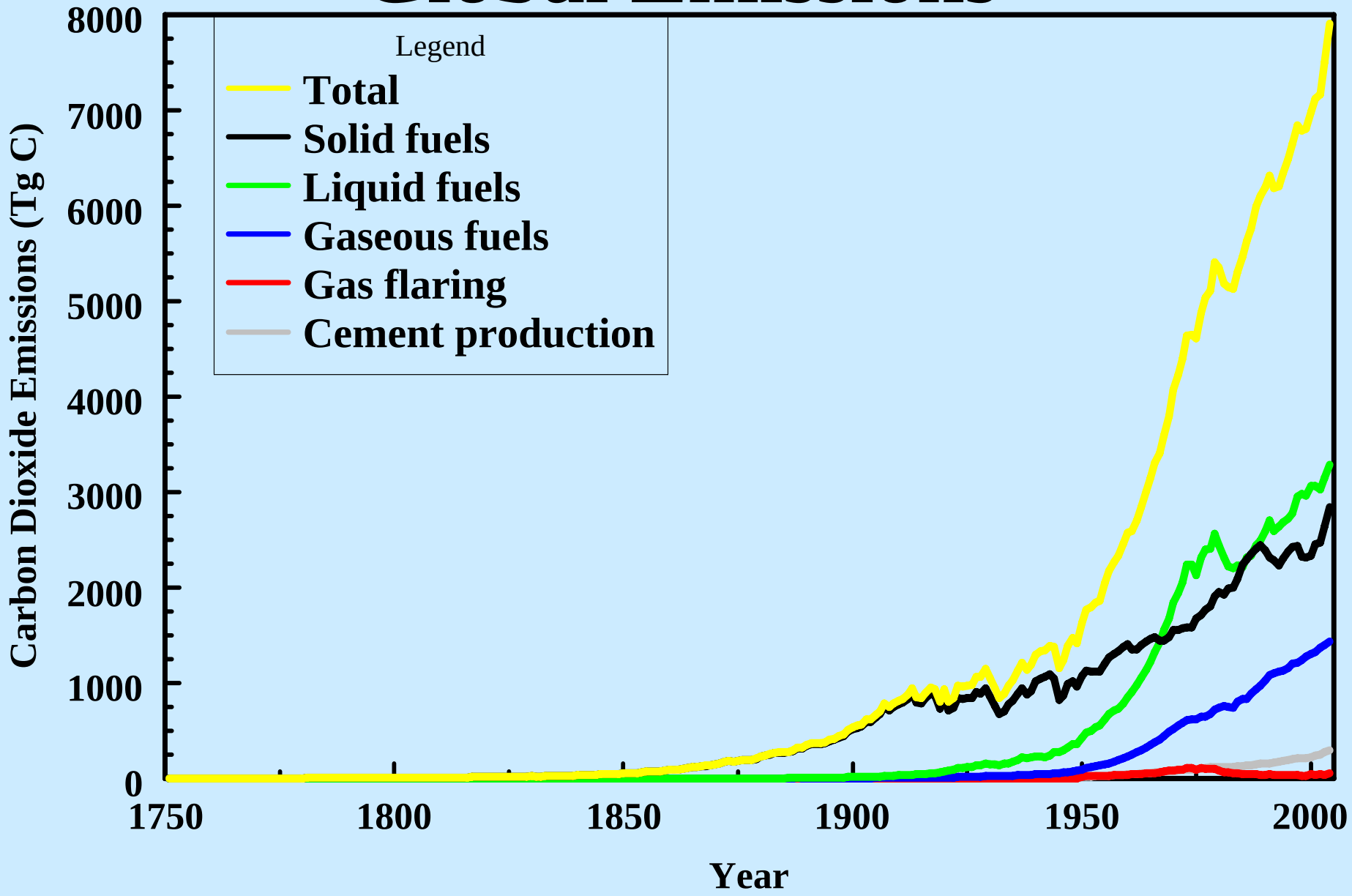
Global Emissions



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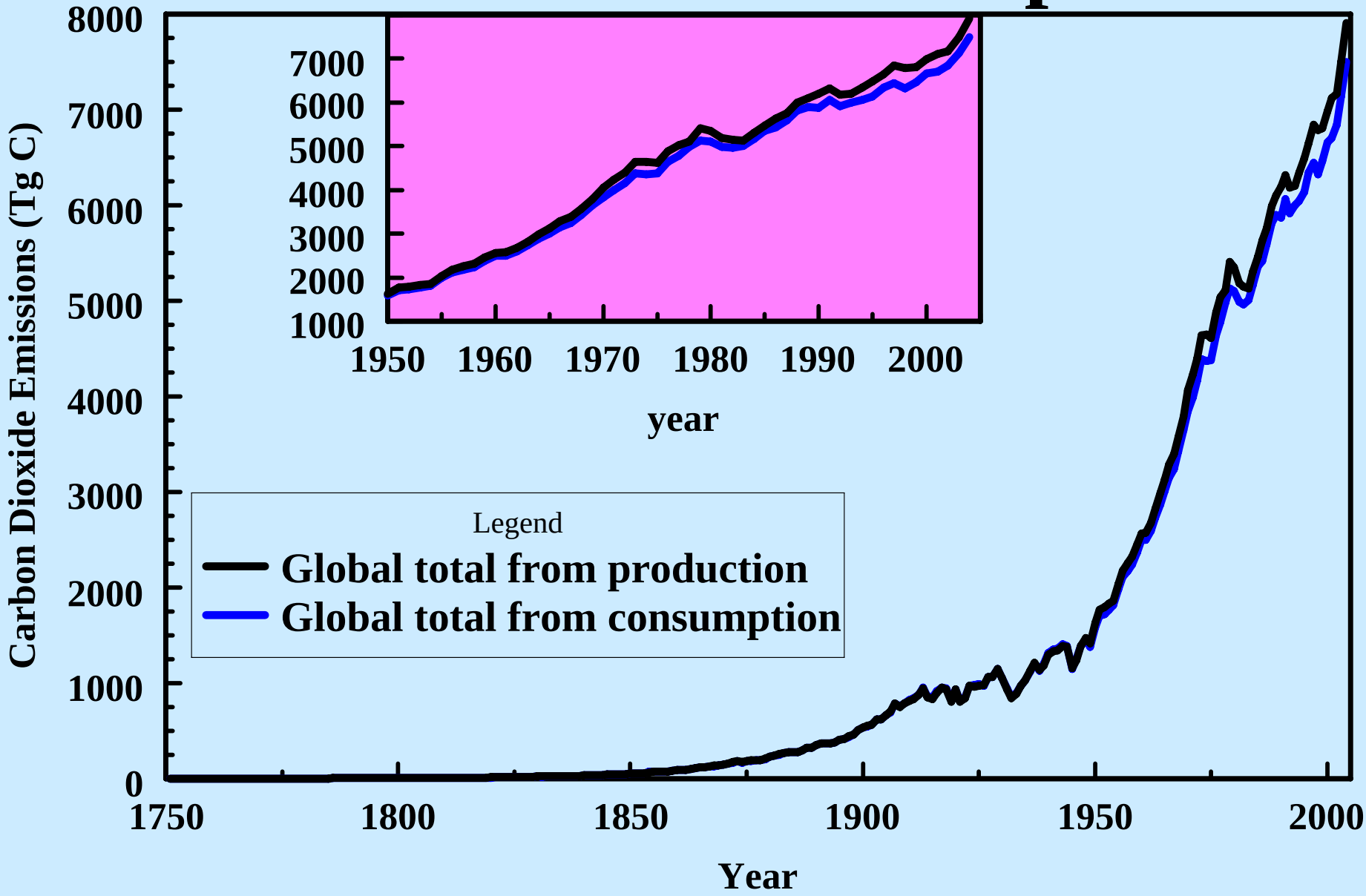
Production vs. Consumption



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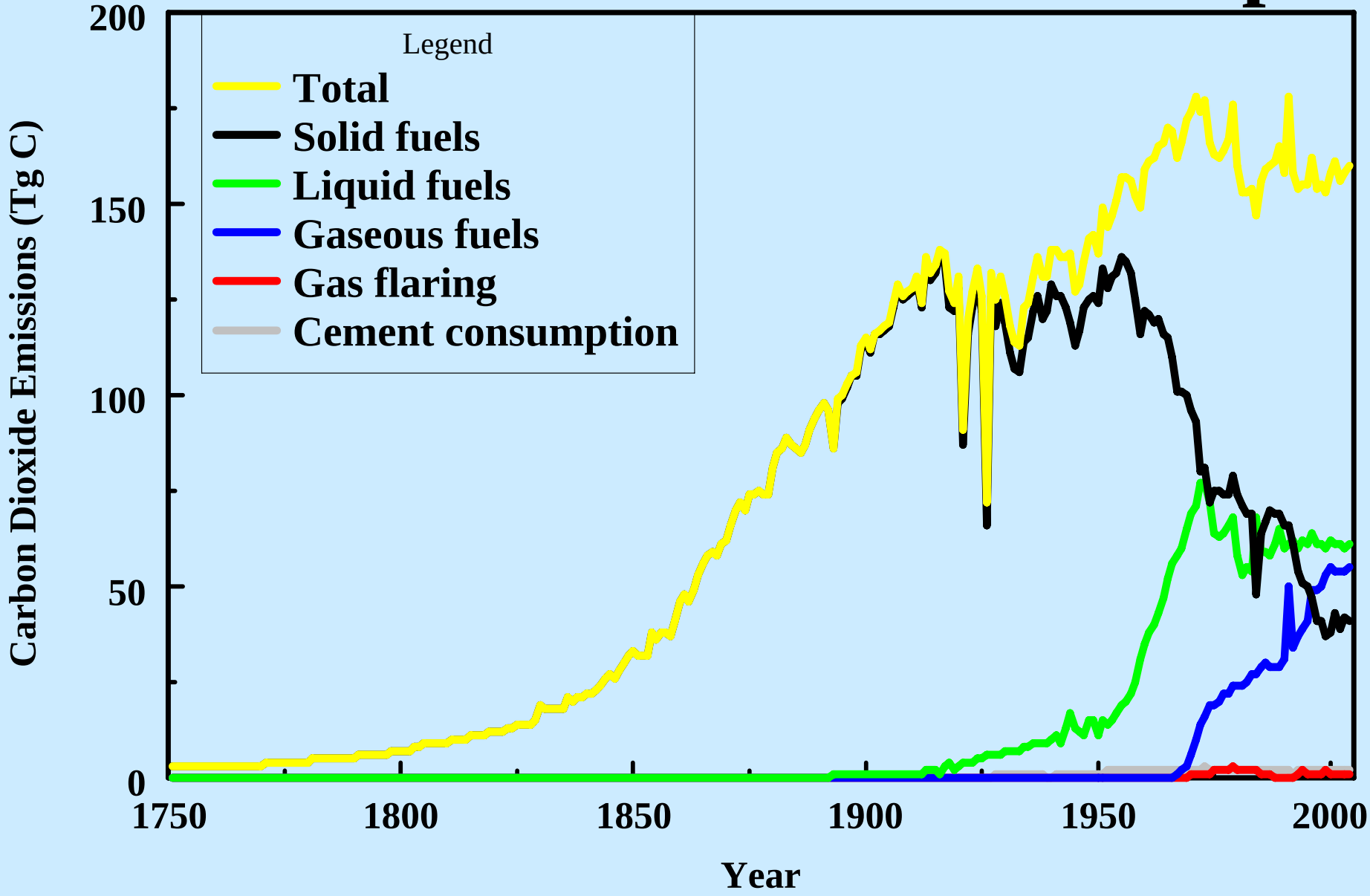
National Emissions – U.K. Example



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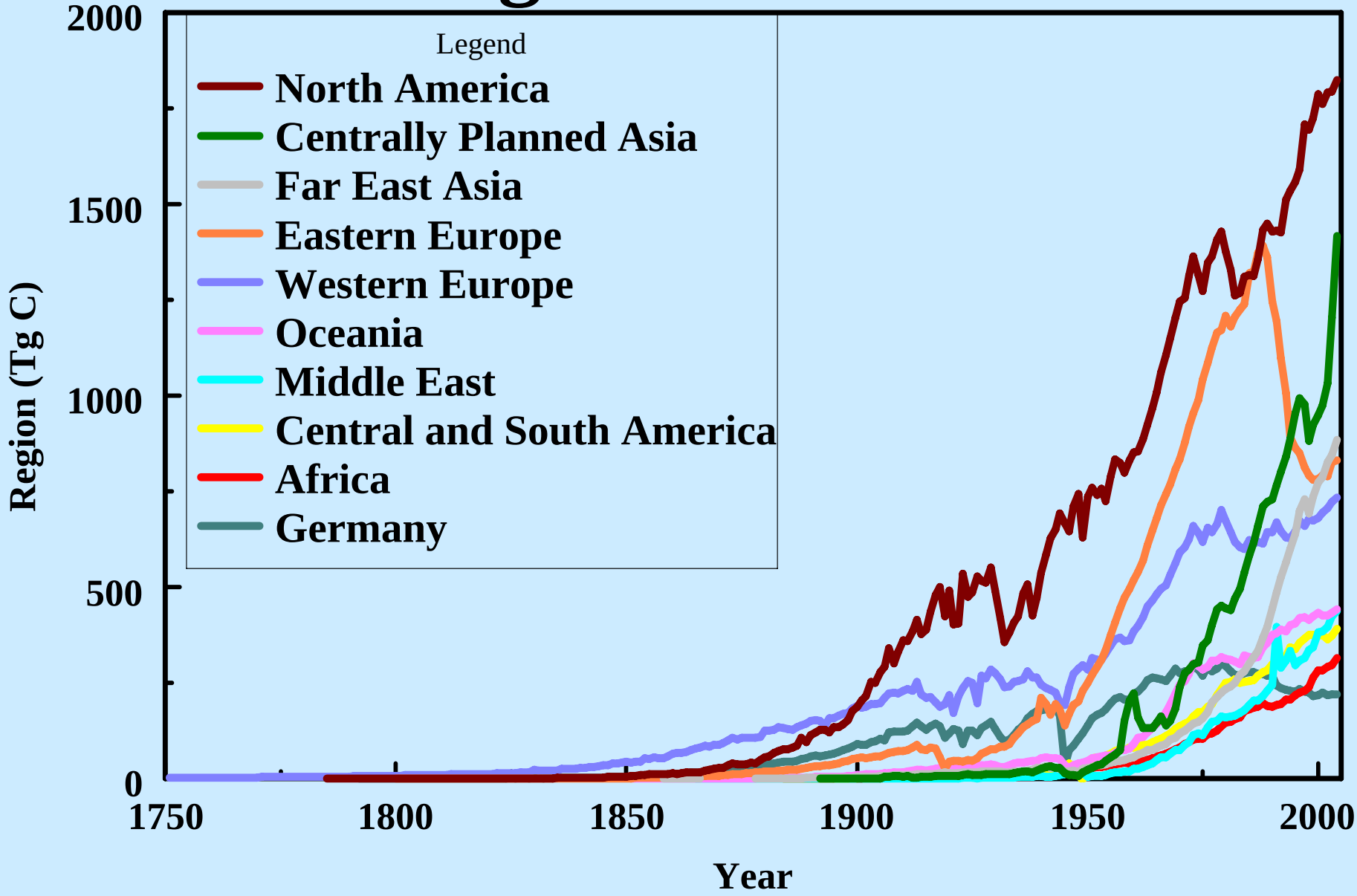
Regional Totals



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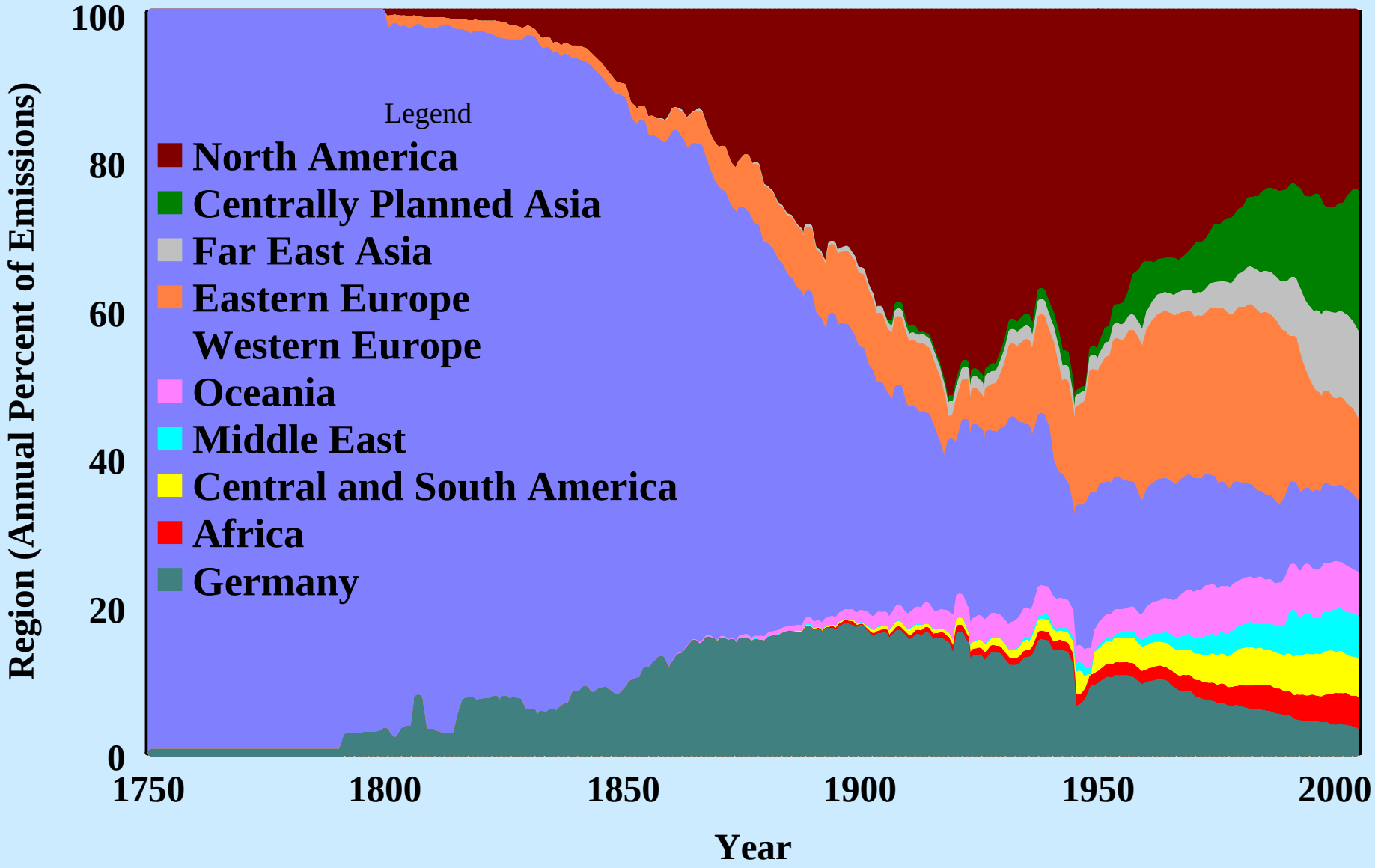
Regional Totals



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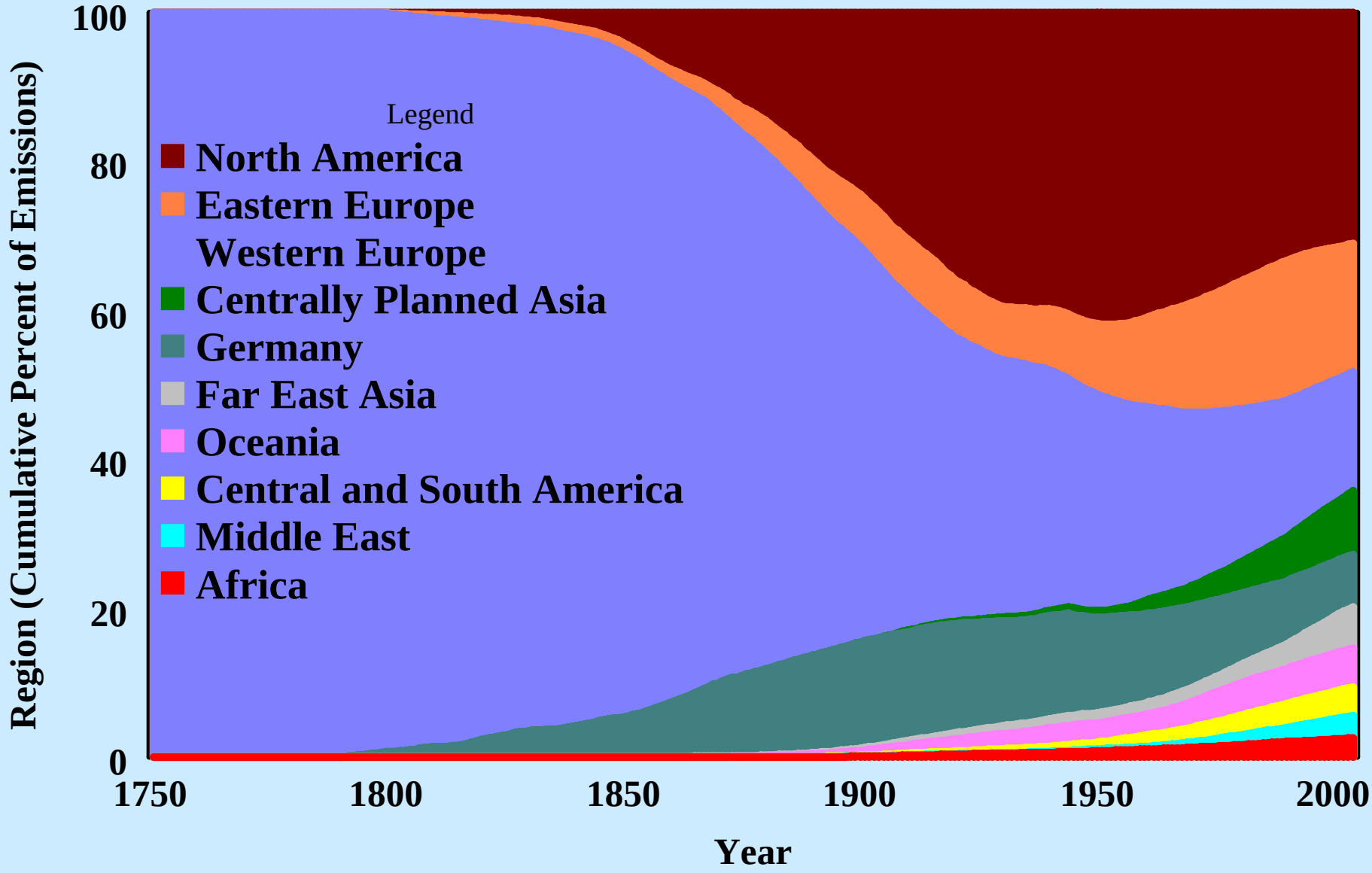

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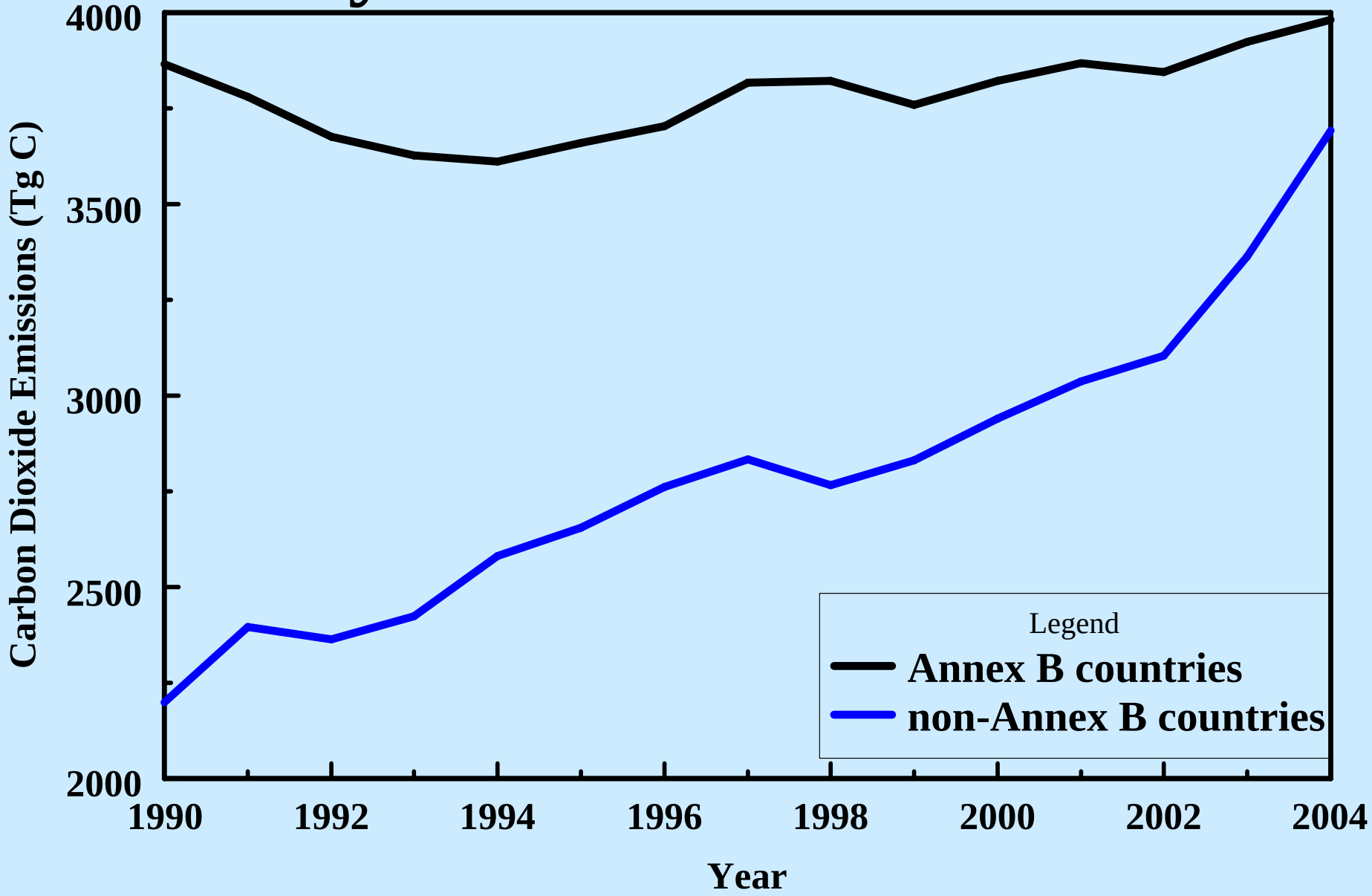
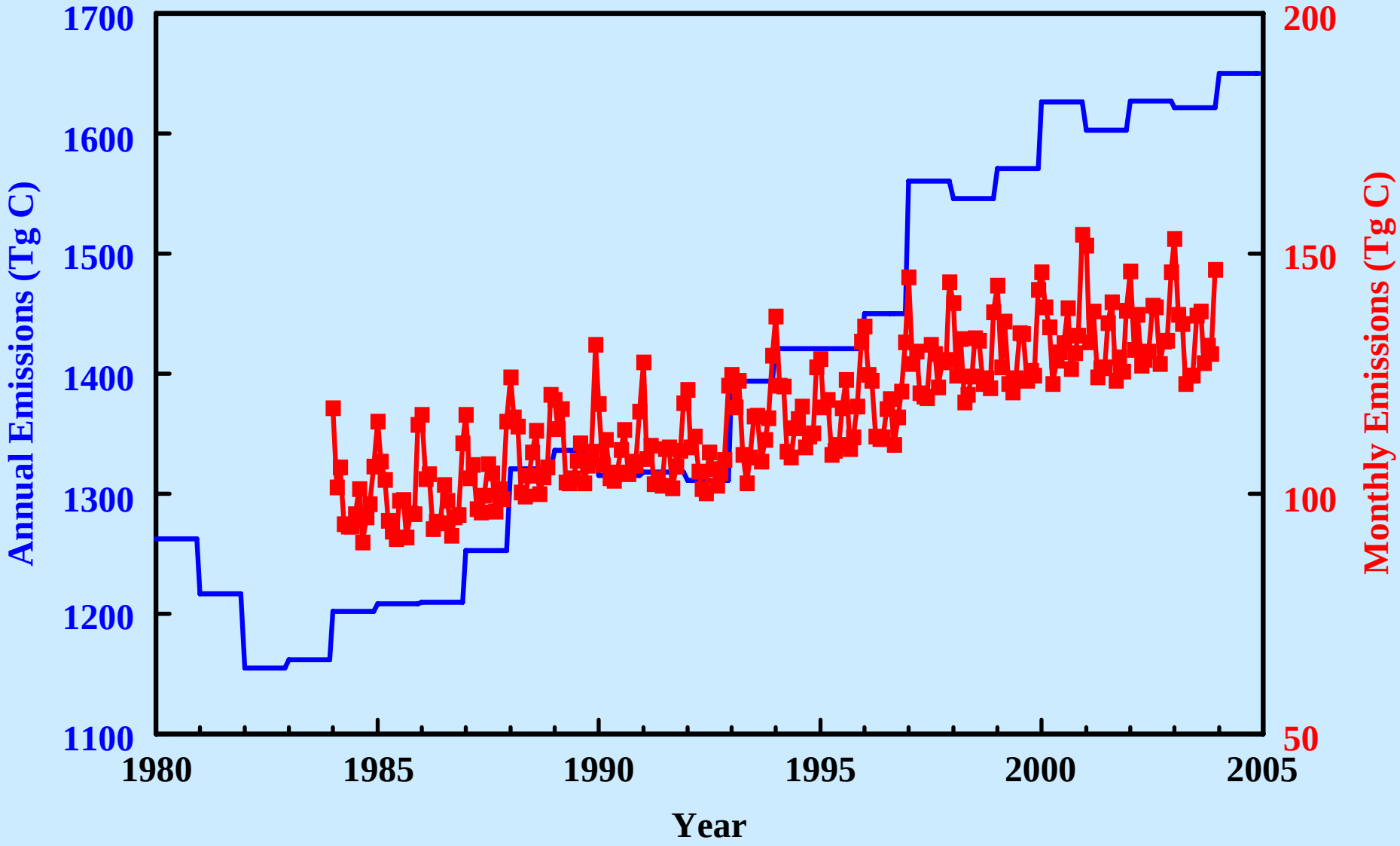
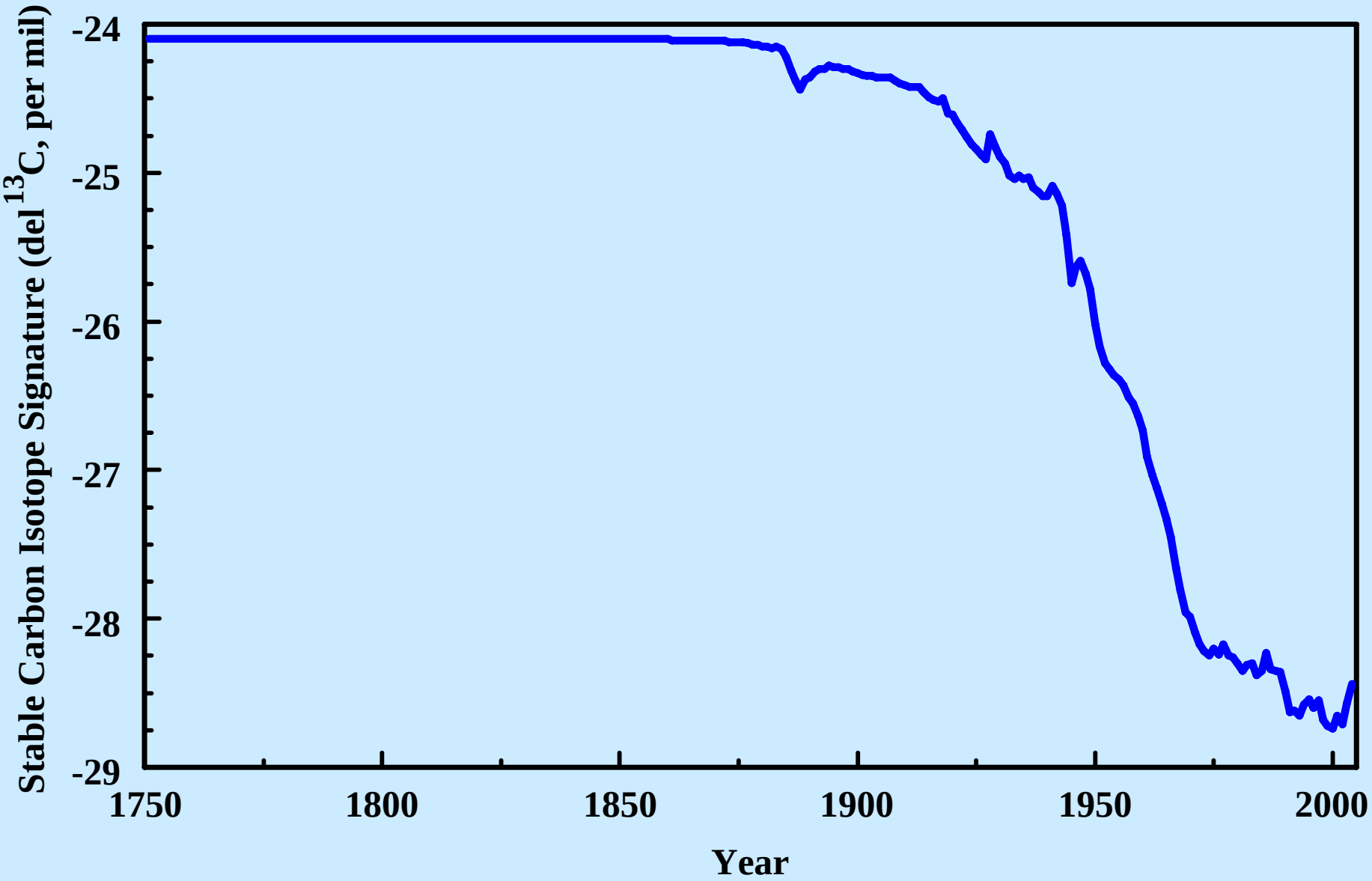
Kyoto Protocol Totals



Monthly Emission Estimates



Stable Carbon Isotope Signatures



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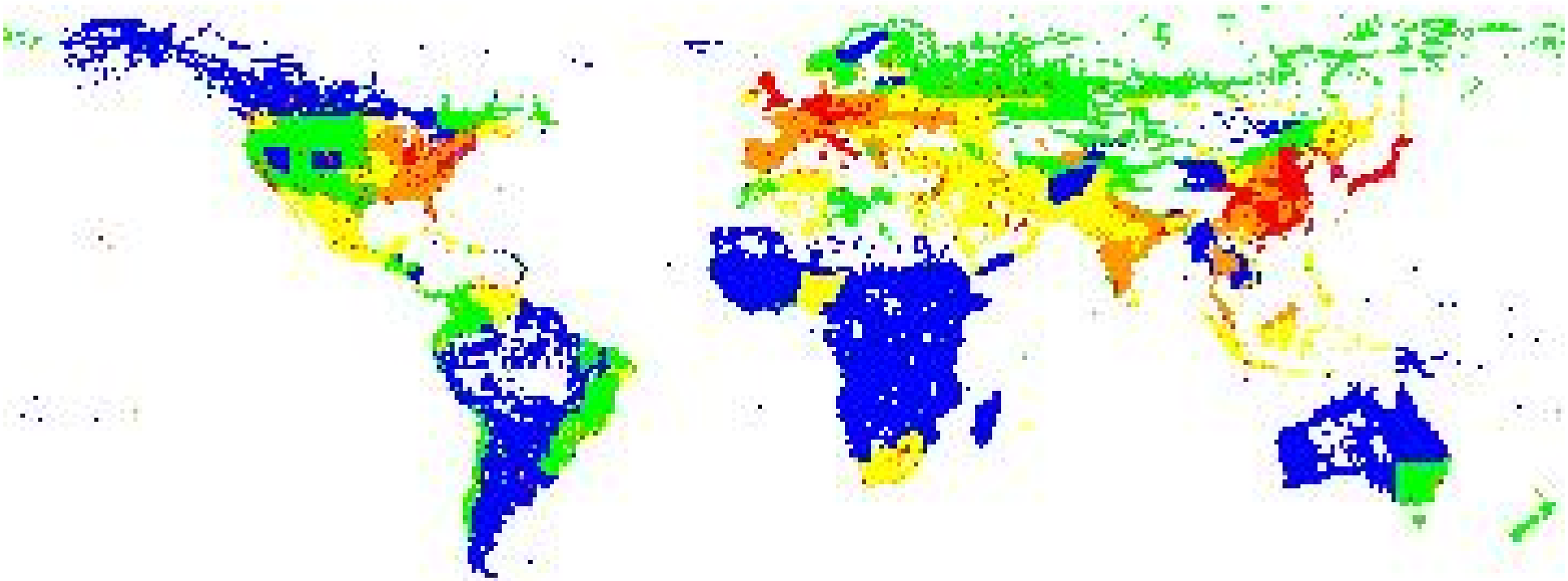
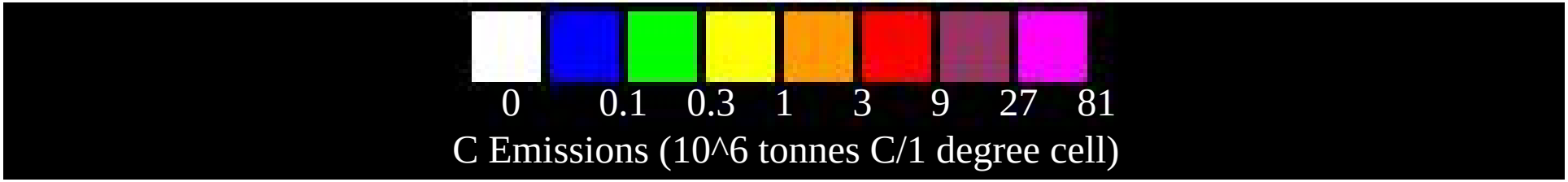
One Degree Mapping



2004 Total = 7910 x 10^6 tonnes C



Conclusions

1.Data being discussed here are already being used for climate change purposes.

- whether we are ready for it or not

- more than 6000 downloads of data in March 2008 alone

2. This data often does not exist in isolation, but is the result of a data gathering process.

- we have the responsibility to produce the best data possible that our resources will allow

3. Our respective roles in this process would be enhanced through better collaboration and cooperation.

- “best” practices have been developed and their adoption could strengthen existing efforts

CDIAC is particularly interested in opportunities to collaborate with those in this room via many avenues including:

1. Comparisons of national data with similar data reported in the CDIAC carbon dioixde emissions data set.

2. Incorporation of national data of finer temporal scales (i.e., less than annual) or finer spatial scales (i.e., less than national) into existing or planned data products.

3. Incorporation of stable carbon isotope (del 13 C) data into existing or planned data products.

4. National and/or regional carbon dioixde emission studies.

5. Areas of common interest that you have identified and I have not mentioned.

Please see me at the meeting or contact me after the meeting

Robert Andres

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Supplementary Slides

Basic Calculation

**carbon dioxide emitted = fuel consumed *
fraction of that fuel actually combusted
* carbon content of that fuel**

Cement

$$CaCO_3 \xrightarrow{\triangle} CaO + CO_2$$

Apparent Consumption

apparent consumption = production + imports - exports
- changes in stocks - bunker fuels
- production of non-fuel products