

| <b>Guidance notes:</b>                             |  |                  |  |  |
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| No.  | Question   | Options          | Guidance notes   | Response   |
| <b>Description</b>                                 |  |                  |  |  |
| 1.1a   | 1.1 Author<br>Intellectual Property Right holder   |                  | Provide name and address   | Pacific Northwest National Laboratory (PNNL)   |
| 1.2a   | 1.2 Dataset<br>Title   |                  | Provide a long (up to 120 characters) and short version (less than 32 characters) of the title.  | Historical Anthropogenic Sulfur Dioxide Emissions  |
| 1.2b   | Description  |                  | Provide 200-500 word description, highlighting the key distinguishing features of the dataset. This text will be used in the DDC entry.  | This data set provides annual estimates of anthropogenic global and regional sulfur dioxide emissions spanning the period 1850–2005 using a bottom-up mass balance method, calibrated to country-level inventory data. Emissions by source category (coal, petroleum, and biomass combustion, smelting, fuel processing, and other processes) are available for 142 countries and regions.   |
| <b>Authority</b>                                   |  |                  |  |  |
| 2.1a   | 2.1 Use by the IPCC<br>Has the dataset been used in an IPCC Assessment or Special Report, e.g., in a figure or table or discussed in text? | Yes              | List report name(s), table/figure/page number(s)   | IPCC Special Report on Emission Scenarios.2000. IPCC3<br><a href="http://www.ipcc.ch/ipccreports/sres/emission/index.php?idp=82">http://www.ipcc.ch/ipccreports/sres/emission/index.php?idp=82</a>   |
| 2.1b   | Is dataset used in any other IPCC-related documents or materials?  | not known        | List document name(s), table/figure/page number(s)   |  |
| 2.2a   | 2.2 Documentation<br>Is the dataset documented in detail in a peer-reviewed journal article or as a peer-reviewed dataset?                 | Yes              | Provide full citation and list Thomson-Reuters impact factor (or other standard influence factors) for journal if available.   | Smith, Steven J. E. Conception, R. Andres, J. Lurz. (2004). Historical Sulfur Dioxide Emissions: 1850–2000: Methods and Results. Pacific Northwest National Laboratory Report, PNNL-14537. Smith, Steven J. J van Aardenne, Z Klimont, R J Andres, A Volke, and S Defgado Arias. (2011). Anthropogenic Sulfur Dioxide Emissions: 1850–2005. Atmospheric Chemistry and Physics, 11:1101–1116. |
| 2.2b   | Is the dataset documented in detail in a peer-reviewed book chapter, report or technical document?   | not known        | Provide full citation. List type of peer review if known; list type of book, report, or document, e.g., if part of a series; provide evidence of credibility of authors or publisher (e.g., UN organization) |  |
| 2.2c   | Is the dataset documented in detail in a non-peer-reviewed document, web site, or other resource?  | Yes              | Provide citation or links. Describe quality control or other review processes used (e.g., crowd sourcing); provide evidence of credibility of authors or publisher (e.g., UN organization)                   | <a href="http://sedac.ciesin.columbia.edu/data/set/haso2-anthro-sulfur-dioxide-emissions-1850-2005-v2-86/metadata">http://sedac.ciesin.columbia.edu/data/set/haso2-anthro-sulfur-dioxide-emissions-1850-2005-v2-86/metadata</a>  |
| 2.2d   | Has there been significant discussion of the dataset in the scientific literature?   | not known        | Provide citations to criticisms and responses where relevant.  |  |
| 2.2e   | Are the uncertainties associated with the data documented.   | not known        | Provide link(s) or reference(s) and indicate what sort of uncertainty information is provided?   |  |
| 2.3a   | 2.3 Lineage<br>Is the dataset produced by or under the direction of a national or international body or group?                             | Yes/no/not known | List scientific body or group  |  |
| <b>Significance Relative to the IPCC Community</b> |  |                  |  |  |
| 3.1a   | 3.1 Interest in the data<br>Has an IPCC Working Group or the TFI used or expressed an intention of using this data?                        | not known        | Indicate which group(s) and/or other body. Provide reference and quote relative passage.   |  |
| 3.1b   | Have DDC users expressed interest in these data?   | not known        | Indicate numbers and/or types of users. Provide user metrics or examples of queries.   |  |

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| 3.1c   | Are there strong reasons for considering the data relevant to the DDC user community?                                     | not known        | Give reasons, backed by references. References from gray literature should have accompanying justification, as for IPCC reports.  |
| 3.2  | <b>Uniqueness</b>   |                  |   |
| 3.2  | Are other datasets available with the same or overlapping variables?  | not known        | Indicate other datasets and degree of overlap; provide links.   |
| <b>Stability of Data and Data Provider</b>   |   |                  |   |
| <b>4.1 Curation</b>                          |   |                  |   |
| 4.1a   | Does the provider have a published data policy?   | not known        | Provide link or citation  |
| 4.1b   | Does the provider have a succession plan for this dataset?  | not known        | List organization(s) with long-term responsibility for the dataset (e.g., government agency, library, archive); provide a link to the plan or other documentation of the agreement  |
| 4.1c   | Is there an explicit funding model for the dataset or data provider?  | not known        | Indicate type (e.g., subscription-based, government-supported, submitter fees) and give link.   |
| <b>Quality Control</b>                       |   |                  |   |
| <b>5.1 Meta-data and quality control</b>     |   |                  |   |
| 5.1a   | Does detailed meta-data exist for this data, in accordance with relevant national or international meta-data standards    | Yes              | Indicate relevant standards (e.g., NASA's Directory Interchange Format) and provide a link to the metadata.<br><br><a href="http://sedac.ciesin.columbia.edu/data/set/haso2-anthro-sulfur-dioxide-emissions-1850-2005-v2-86/metadata">http://sedac.ciesin.columbia.edu/data/set/haso2-anthro-sulfur-dioxide-emissions-1850-2005-v2-86/metadata</a>                                |
| 5.1b   | Is there a stated quality assurance process or procedure for the dataset?   | not known        | Indicate if relevant quality assurance standards are met (e.g., ISO9000) and give links.<br><br><a href="http://sedac.ciesin.columbia.edu/data/set/haso2-anthro-sulfur-dioxide-emissions-1850-2005-v2-86/metadata#Data_Quality_Information">http://sedac.ciesin.columbia.edu/data/set/haso2-anthro-sulfur-dioxide-emissions-1850-2005-v2-86/metadata#Data_Quality_Information</a> |
| 5.1c   | Is there a regular validation or calibration process or procedure for the data?   | not known        | Indicate frequency and/or most recent date and give links   |
| 5.1d   | Is technical/usage guidance available?  | not known        | Give links  |
| <b>5.2 Data updates and version control</b>  |   |                  |   |
| 5.2a   | Is the data subject to updates?   | not known        | List frequency  |
| 5.2b   | Is there a clear version control process and tracking of data provenance?   | not known        | Describe version control and data provenance procedures   |
| 5.2c   | Are previous versions of the dataset accessible?  | not known        | List previous versions  |
| <b>Accessibility</b>                         |   |                  |   |
| <b>6.1 Access requirements</b>               |   |                  |   |
| 6.1a   | Are the data available on-line for download?  | Yes              | Give links<br><br><a href="http://sedac.ciesin.columbia.edu/data/set/haso2-anthro-sulfur-dioxide-emissions-1850-2005-v2-86/data-download.xls">http://sedac.ciesin.columbia.edu/data/set/haso2-anthro-sulfur-dioxide-emissions-1850-2005-v2-86/data-download.xls</a>   |
| 6.1b   | Are data made available in one or more standard (preferably open) formats?  | Yes              | List the formats available (at least one standard format is required);  |
| 6.1c   | Are there restrictions (beyond user registration and acceptance of terms of use) on data use, re-dissemination, or reuse? | No               | If applicable, specify the type of restrictions and give relevant links   |
| 6.1d   | Is the data available for free or for a charge?   | Free             | If applicable, give link to price structure   |
| <b>6.2 Additional information</b>            |   |                  |   |
| 6.2a   | Is user registration required or requested?   | neither          | Give relevant links;  |
| 6.2b   | Is attribution required or requested?   | requested        | Give relevant links;<br><br><a href="http://sedac.ciesin.columbia.edu/citations">http://sedac.ciesin.columbia.edu/citations</a>   |
| 6.2c   | Are versions of the data available through open interfaces (e.g., OGC Web Services, REST, SOAP)?                          | not known        | List interfaces and give links for specifications   |
| 6.2d   | Are levels of service (e.g., bandwidth, up time) adequate?  | not known        | Give links, e.g., to up time metrics  |
| 6.2e   | Is user support available (e.g., help desk, frequently asked questions)?  | not known        | List user support services and links  |
| 6.2f   | Is documentation available in English?  | Yes              | Give links<br><br><a href="http://sedac.ciesin.columbia.edu/data/set/haso2-anthro-sulfur-dioxide-emissions-1850-2005-v2-86/docs">http://sedac.ciesin.columbia.edu/data/set/haso2-anthro-sulfur-dioxide-emissions-1850-2005-v2-86/docs</a>   |
| 6.2g   | Is documentation available in other languages   | Yes/no/not known | List languages (with links)   |
| 6.2h   | What is the spatial domain of the dataset   |                  | Specify bounding latitudes and longitudes<br><br><i>Global</i>  |
| Suggested improvements to this questionnaire |   |                  |   |
| Number                                       | Section/row   |                  |   |