



***Brazilian Experience From Pilot
Exercise on the Core Set of
Environment Statistics***

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- Team: about 20 people participated (IBGE and other institutions)
- Investment in time: 2 months
- Simple form to organize the work

Component 1: Environmental Conditions and Quality

Topic	Responsible	Number of Statistics	Gap Analysis	Availability of the Statistics Analysis	Observation
1.1.1. Atmosphere, climate and weather	Hellen Cano	27			
1.1.2. Hydrographic characteristics	José A. Scarcello	24			
1.1.3. Geological and geographic information	Sidney and team	19			
1.2.1. Soil characteristics	Sidney and team	14			
1.2.2. Land cover	Eloísa Domingues	2			
1.3.1. Biodiversity	Mauro and lone	15			
1.3.2. Ecosystems	Mauro	10			
1.3.3. Forests	Sidney and team	16			

Results

Summary of results of applying the Gap Analysis template (Section III)

Proportion of environment statistics by FDES components, for availability of statistics in Brazil and classification as a high priority at national level

Components	Approximate numbers of FDES Statistics	Availability of Statistics in Brazil (%)			Priority for National Data Collection (%)
		Yes		No	High Priority
		Identical	Similar		
1 - Environmental conditions and quality	187	58,3	18,2	23,5	36,9
2 - Environmental resources and their use	132	43,2	21,2	35,6	56,1
3 - Emissions, residuals and waste	50	50,0	24,0	26,0	68,0
4 - Extreme events and disasters	31	38,7	16,1	45,2	74,2
5 - Human habitats and environmental health	49	57,1	6,1	36,7	71,4
6 - Environment protection, management and engagement	49	26,5	24,5	49,0	28,6
Total	498	49,0	18,9	32,1	50,0

Summary of results of applying the Topic Level Assessment

Components	Number of Topics	Relevance of topics at the national level			Availability of statistics for this topic of the draft Core Set		Main reasons why statistics within this topic are not satisfactory (number of times they appear in the topics)				
		High	Average	Little	Satisfactory	Not satisfactory	Resource constraints	Methodological/ technical difficulty in collecting	Insufficient quality	Accessibility	Lack of institutional setup/coordination
1 - Environmental conditions and quality	13	9	2	2	3	10	7	8	1	3	1
2 - Environmental resources and their use	15	10	5	0	6	9	5	6	2	1	2
3 - Emissions, residuals and waste	8	7	0	1	3	5	1	3	2	1	3
4 - Extreme events and disasters	4	4	0	0	0	4	0	1	4	4	2
5 - Human habitats and environmental health	10	9	1	0	8	2	1	2	0	0	1
6 - Environment protection, management and engagement	11	5	6	0	2	9	2	5	1	0	4
Total	61	44	14	3	22	39	16	25	10	9	13

Other Difficulties in Data Collection (topic):

- Gaps in historical series (atmosphere, climate and weather)
- Available statistics do not cover the whole country (soil, forests, marine water quality)
- Lack of periodicity of updates (ecosystems, soil quality, noise)

Institutions responsible for collecting data on the topics

- National Statistics Office – 34% of the topics
- Ministry of Environment or equivalent institution – 43% of the topics
- Other Institutions - 51%

Data Sources to produce sustainable development indicators

- Information produced by IBGE (40%):

Demographic and Agricultural Census, PNAD, PNSB, PME, POF, AMS.

- Information produced by other institutions (60%):

- Public Institutions: MS, MMA, MCT, MME, IBAMA, INPE, Environmental State Offices, Municipal Offices and so on.

- Private Institutions: RENCTAS, INSTITUTO HORUS, SOS MATA ATLÂNTICA and so on.

Listing of any statistics missing from the draft Core Set

- Volume of aquifers
- Water quality of aquifers
- Volume of reservoir
- Number of vehicles using natural gas and biofuels
- Daily precipitation
- Maximum and minimum precipitation

Difficulties

- **Priority of each statistic for national data collection: subjective**

Criteria used to reduce the subjectivity: Availability, Environmental policy objectives and International/national requirements.

When completing 1 criterion: low priority

2 criteria: medium priority

3 criteria: high priority

- **Difficulty to understand some statistics**
- **We had little time to do the exercise (many statistics and many institutions involved in the production of statistics)**

Suggestions

- Add a glossary or methodological sheets (more detailed explanation of statistics).
- Remove the option 'no relevante' of item C (Topic Level Assessment) – 3 options.
- Produce a single questionnaire with all the important information for sets of statistics.

Example

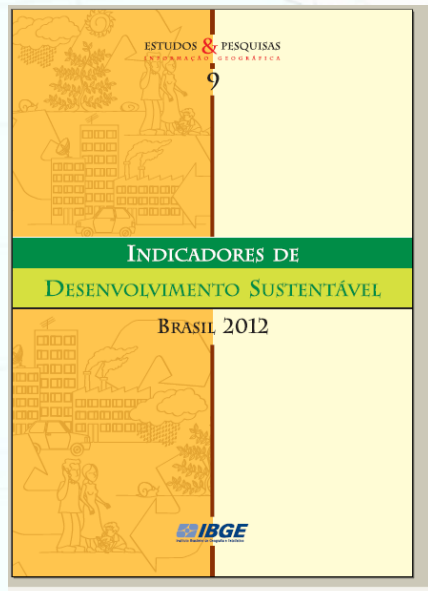
Component 3: Emissions, Residuals and Waste			Yes		No	Priority for National Data Collection (Low/Medium/High)	Availability of statistics		Main reasons why statistics are not satisfactory			Institutions responsible for collecting statistics
			Identical	Similar			Satisfactory	Not Satisfactory	Resource constraints	Methodological	...	
Topic 3.1.1: Emissions of greenhouse gases	a. Total emissions of direct greenhouse gases, by activity:	1. Carbon dioxide (CO₂)	x			H	x					MCTI
		2. Methane (CH₄)	x			H						
		3. <i>Nitrous oxide (N₂O)</i>	x			H						
		4. <i>Perfluorocarbons (PFCs)</i>	x			H						
		5. <i>Hydroflourocarbons (HFCs)</i>	x			H						
		6. <i>Sulphur hexafluoride (SF₆)</i>	x			H						
	b. Total emissions of indirect greenhouse gases, by activity:	1. Sulphur dioxide (SO₂)			x	L						
		2. Nitrogen oxides (NO_x)	x			H						
		3. <i>Non-Methane Volatile Organic Compounds (NM-VOCs)</i>	x			H						
		4. <i>Other</i>	x			H						
Topic 3.1.2: Consumption of ozone depleting substances	a. Consumption of ozone depleting substances (ODS), by substance:	1. Chlorofluorocarbons (CFCs)	x			H						
		2. Hydrochlorofluorocarbons (HCFCs)	x			H						
		3. <i>Bromofluorocarbons</i>	x			H						
		4. <i>Methyl chloroform</i>			x	H						
		5. <i>Carbon tetrachloride</i>	x			H						
		6. <i>Methyl bromide</i>	x			H						
		7. <i>Other</i>	x			H						

Challenges to Develop Environment Statistics in Brazil

- Institutional capacity building to organize a System of Environment Statistics
- Dispersion of data
- Standardization of data
- Accessibility
- Availability of time series
- Spatial scope

SUSTAINABLE DEVELOPMENT INDICATORS

- Commission on Sustainable Development (CSD/United Nations) - 'Blue Book'



Edition 2012

62 indicators – 16 themes

- Environmental Dimension – 6 themes – 20 indicators
- Social Dimension – 6 themes – 21 indicators
- Economic Dimension – 2 themes – 12 indicators
- Institutional Dimension – 2 themes – 9 indicators

17 Acesso a esgotamento sanitário

O indicador representa a parcela da população atendida por sistema de esgotamento sanitário.

Descrição: as variáveis utilizadas são a população total residente em domicílios particulares permanentes e a população dos domicílios com rede coletora e fossa séptica. O indicador se constitui na razão, expressa em percentual, entre as populações urbana e rural com acesso a esgotamento sanitário por rede coletora e fossa séptica e os totais das populações urbana e rural.

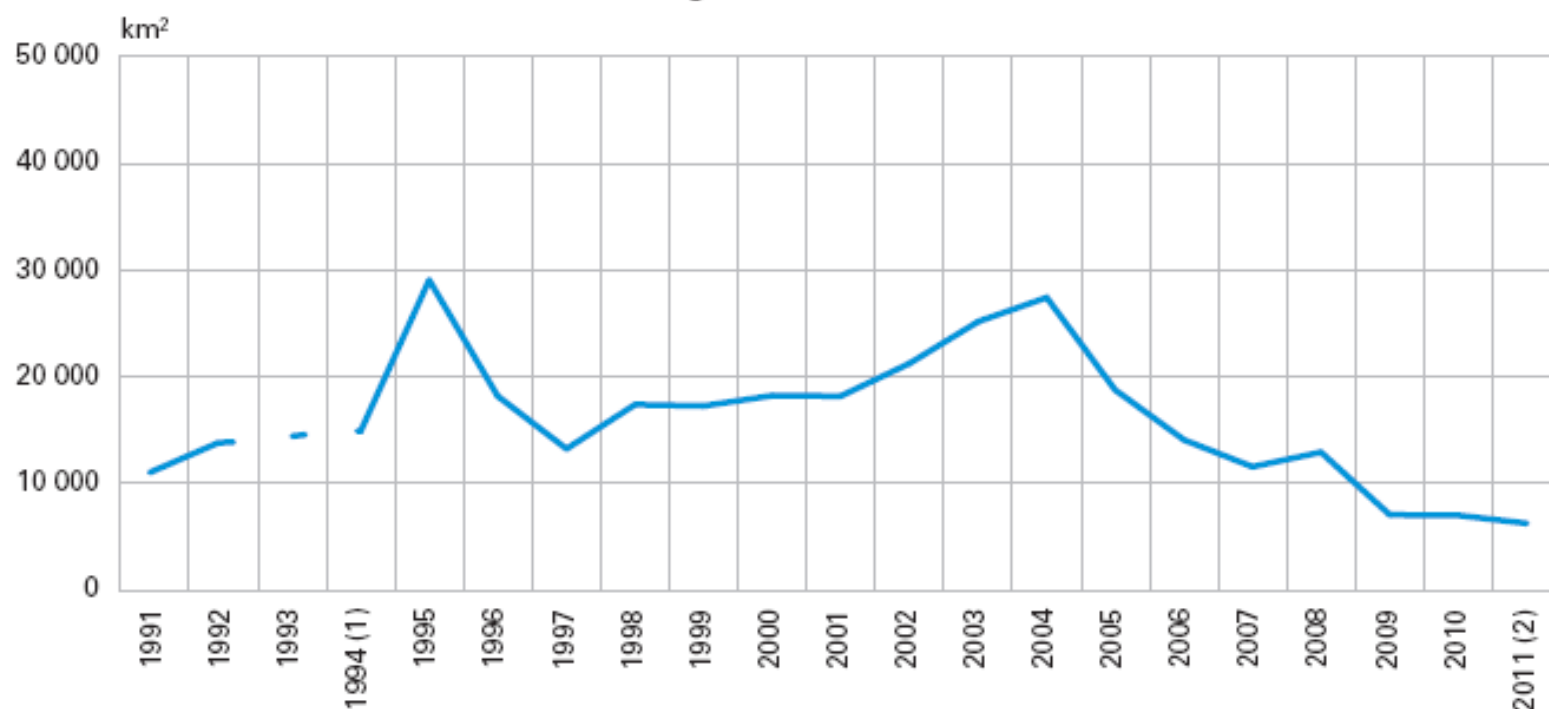
Fonte dos dados: a principal fonte utilizada foi a Pesquisa Nacional por Amostra de Domicílios - PNAD, do Instituto Brasileiro de Geografia e Estatística - IBGE.

Relevância para o desenvolvimento sustentável: a existência de esgotamento sanitário é fundamental na avaliação das condições de saúde da população, pois o acesso a este serviço é essencial para o controle e a redução de doenças. Trata-se de um indicador importante tanto para a caracterização da qualidade de vida da população residente em um território quanto para o acompanhamento das políticas públicas de saneamento ambiental.

Indicadores relacionados: qualidade de águas interiores; balneabilidade; população residente em áreas costeiras; acesso a sistema de abastecimento de água; tratamento de esgoto; rendimento domiciliar *per capita*; rendimento médio mensal; esperança de vida ao nascer; taxa de mortalidade infantil; doenças relacionadas ao saneamento ambiental inadequado; adequação de moradia; Produto Interno Bruto *per capita*; Conselhos Municipais de Meio Ambiente; Comitês de Bacias Hidrográficas; Agenda 21 Local; e articulações interinstitucionais dos municípios.

Annual gross deforestation rate in relation to the remnant forest area in Brazilian Amazon – 1991/2011

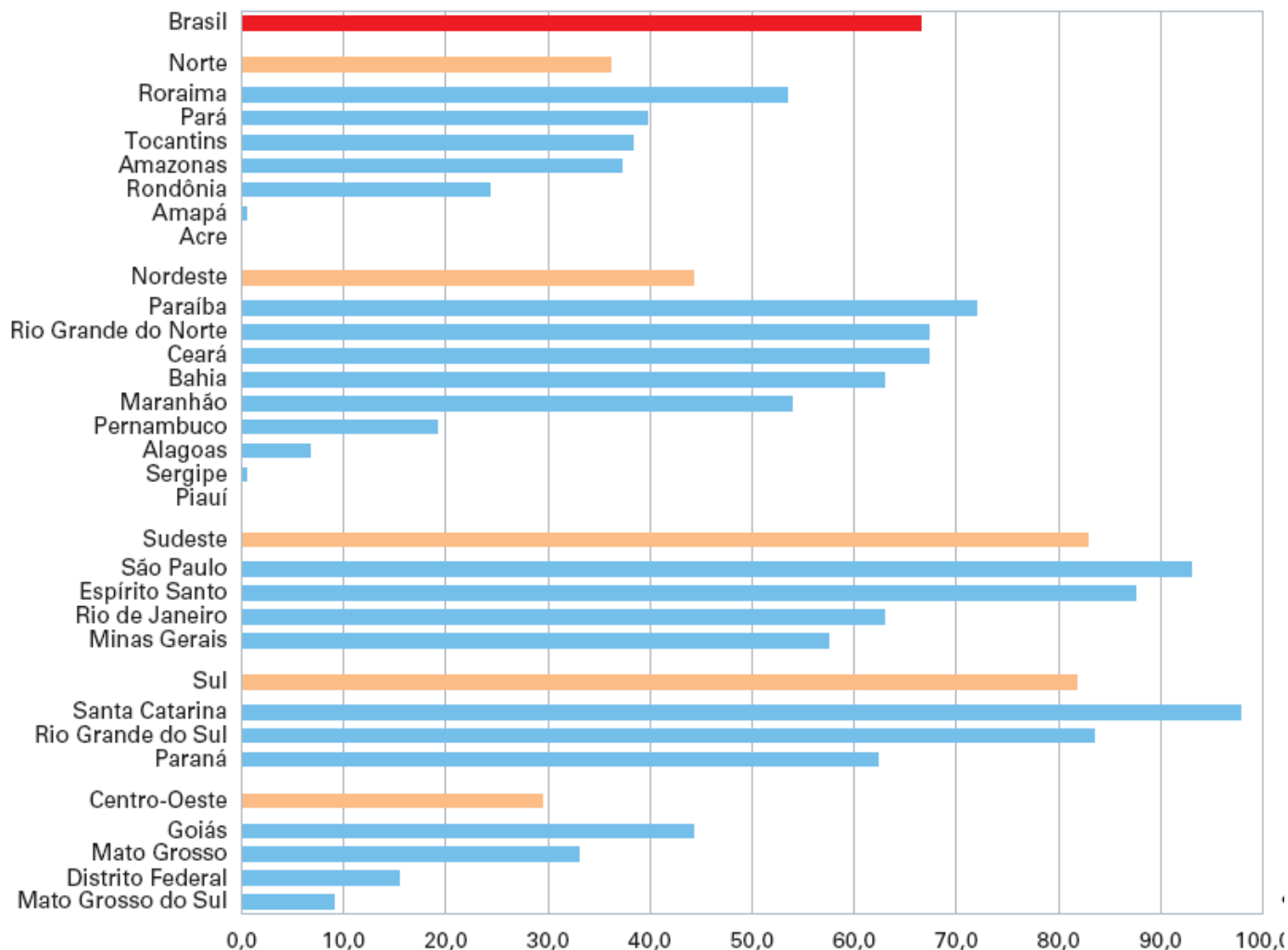
Gráfico 21 - Desflorestamento bruto anual na Amazônia Legal, em 01.08 - 1991/2011



Fonte: Projeto PRODES: monitoramento da floresta amazônica brasileira por satélite. São José dos Campos: Instituto Nacional de Pesquisas Espaciais - INPE, 2011. Disponível em: <<http://www.obt.inpe.br/prodes/index.html>>. Acesso em: jan. 2012.

(1) Dados referentes ao período entre agosto de 1992 a agosto de 1994 (taxa para 2 anos). (2) As taxas apresentadas são valores estimados baseados na análise de 97 das 214 imagens LANDSAT que cobrem a Amazônia Legal.

Gráfico 70 - Proporção do lixo coletado com destinação final adequada, segundo as Grandes Regiões e as Unidades da Federação - 2008



Solid waste
final disposal -
2008

Fonte: IBGE, Pesquisa Nacional de Saneamento Básico 2008.

Nota: Considera-se como destinação final adequada a disposição do lixo em aterros sanitários, o seu envio a estações de triagem, reciclagem e compostagem, e a sua incineração em equipamentos, segundo procedimentos próprios para este

Mapa 6 - Densidade de focos de calor - 2011

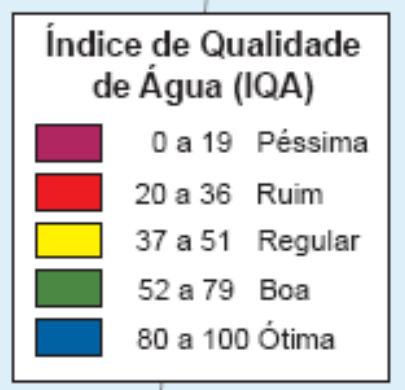
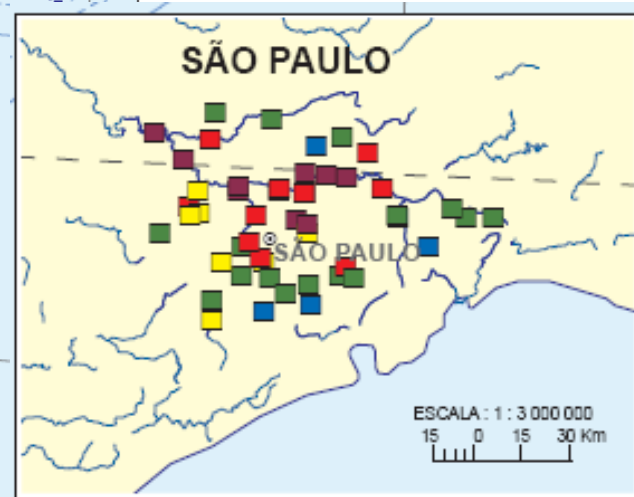
Hot spots density - 2011



Mapa 13 - Índice de Qualidade da Água (IQA) dos pontos de monitoramento em rios da Região Sudeste - 2009/2010

Water Quality

Water Quality Index (WQI)



Thank you for your attention!

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