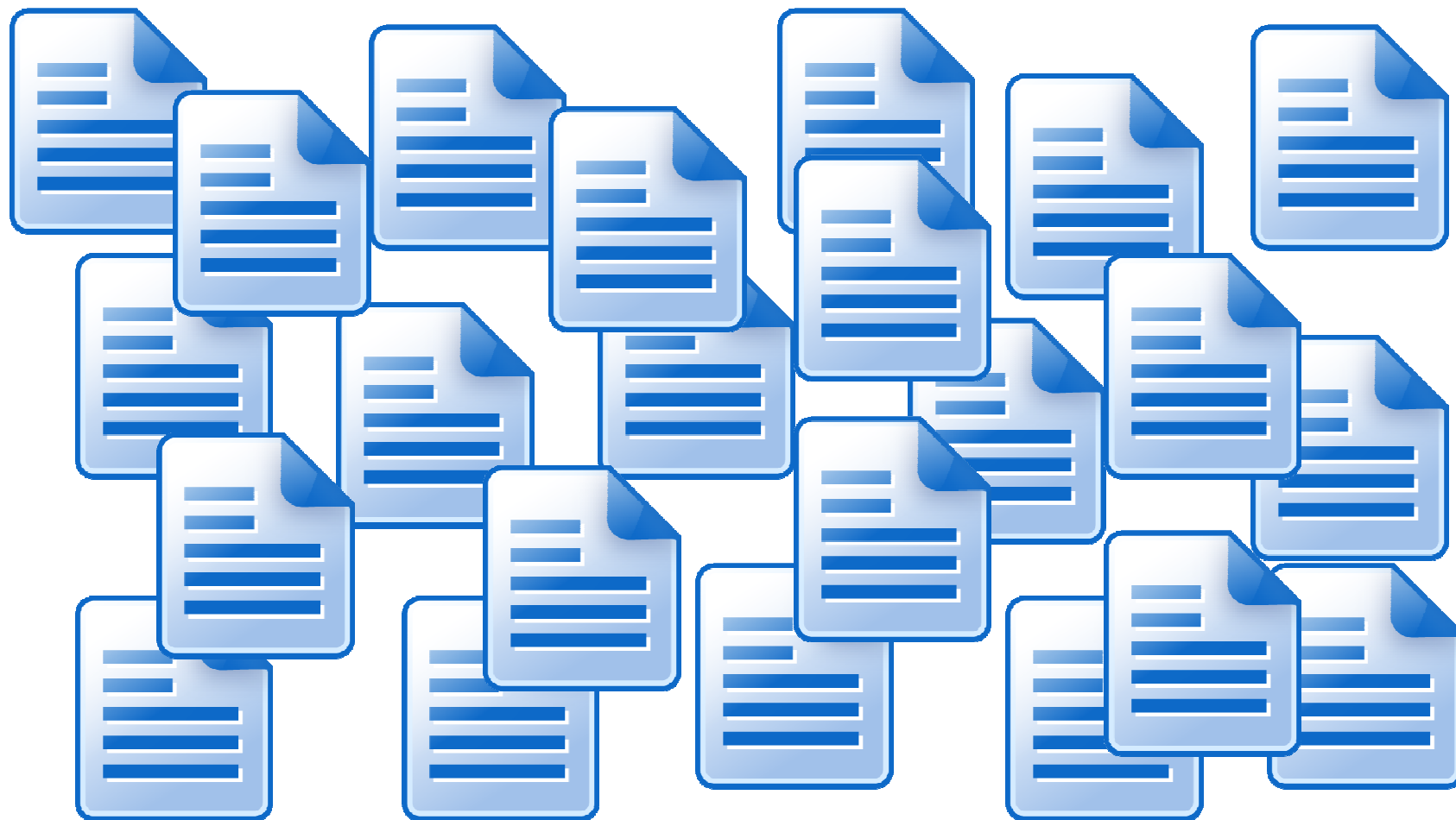


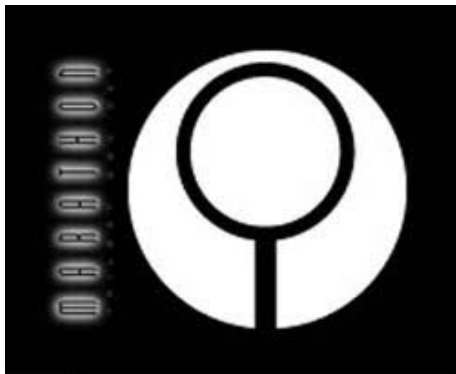
What is Linked Data?

Paul Murphy
ESDS International

What is the Web?



Web of Documents



Web of Documents

Did you mean?

1. The sport?
2. The town in Greece?
3. The computer game?
4. The chocolate bar?

Web of Documents



A screenshot of a Google search interface. On the left is the Google logo, a multi-colored wave. To its right is a search input box containing the text "Marathon". Below the logo is the word "Search" in red. Below the search box is the text "About 35,300,000 results (0.20 seconds)".

Linked Data

- Making data freely and openly available on the web
- Using unique names for things, so everything can be referenced
- Making links between data to give them context

Five Stars of Linked Open Data



Make your data available on the web (in whatever format)

Five Stars of Linked Open Data



Make it available as structured data

Five Stars of Linked Open Data



Use an open standard format

Five Stars of Linked Open Data



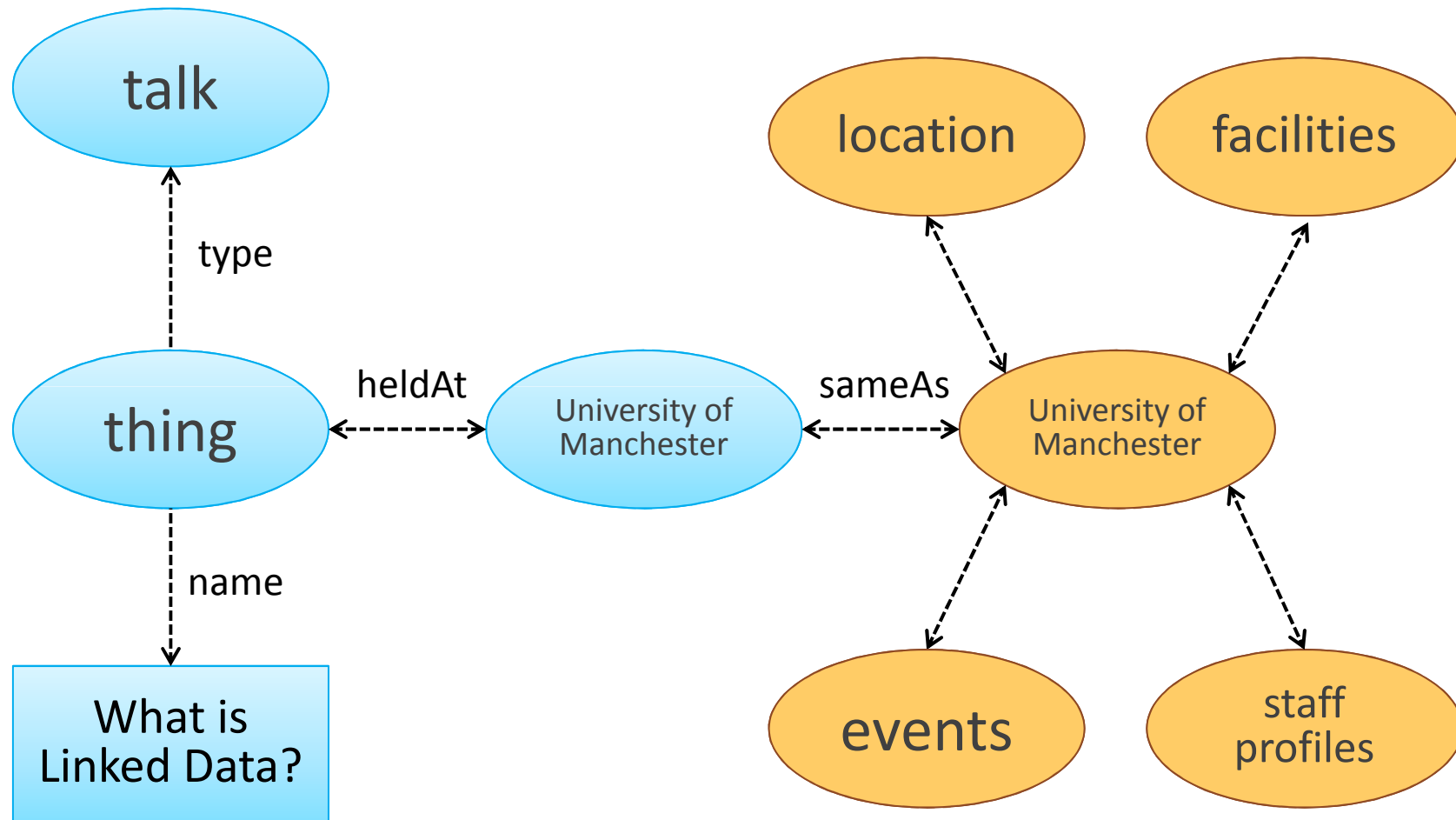
Use URIs to identify things, so that people can point to them

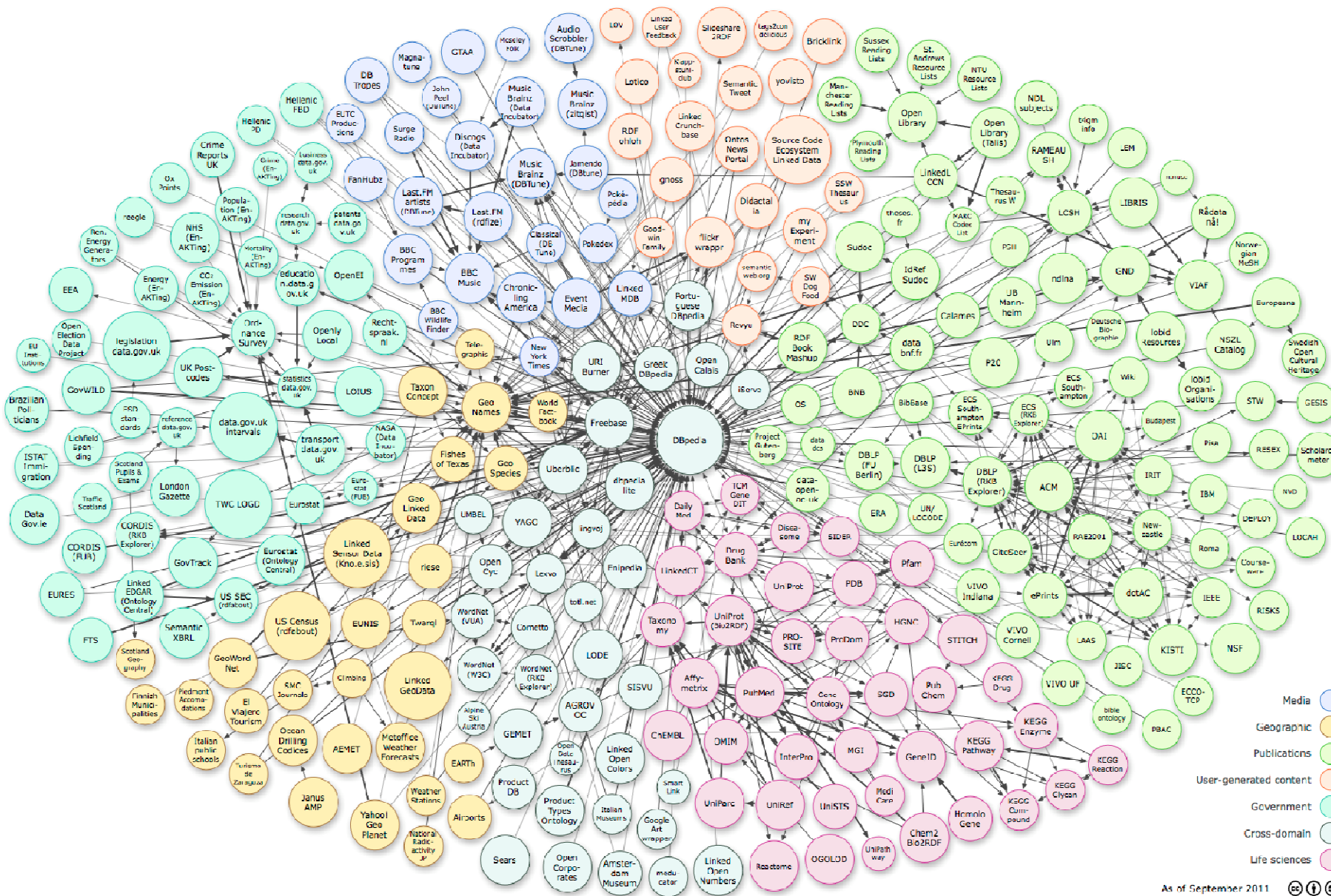
Five Stars of Linked Open Data



Link your data to other people's data to provide context

Linking Data



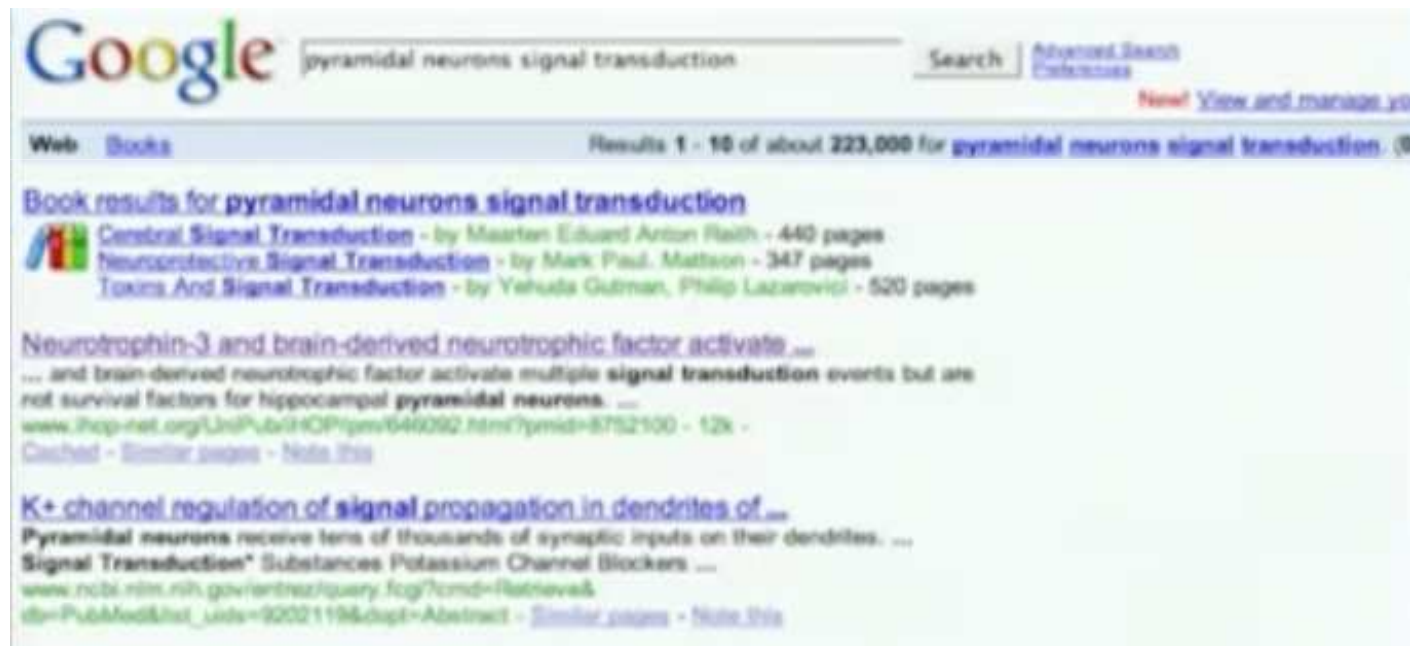


Linked Data in Research

“What proteins are involved in signal transduction and are related to pyramidal neurons?”

Linked Data in Research

Google: 223,000 hits, 0 results



Linked Data in Research

Linked Data: 32 hits, 32 results

DRD1, 1812	adenylate cyclase activation
ADRB2, 154	adenylate cyclase activation
ADRB2, 154	arrestin mediated desensitization of G-protein coupled receptor protein signaling pathway
DRD1IP, 50632	dopamine receptor signaling pathway
DRD1, 1812	dopamine receptor, adenylylase activating pathway
DRD2, 1813	dopamine receptor, adenylylase inhibiting pathway
GRM7, 2917	G-protein coupled receptor protein signaling pathway
GNCG, 2785	G-protein coupled receptor protein signaling pathway
GNCG, 55970	G-protein coupled receptor protein signaling pathway
DRD2, 1813	G-protein coupled receptor protein signaling pathway
ADRB2, 154	G-protein coupled receptor protein signaling pathway
CALM3, 808	G-protein coupled receptor protein signaling pathway
HTTGA, 3056	G-protein coupled receptor protein signaling pathway
DRD1, 1812	G-protein signaling, coupled to cyclic nucleotide second messenger
SS1R5, 6755	G-protein signaling, coupled to cyclic nucleotide second messenger
MTNRA, 4543	G-protein signaling, coupled to cyclic nucleotide second messenger
CHFG, 1269	G-protein signaling, coupled to cyclic nucleotide second messenger
HTR6, 3062	G-protein signaling, coupled to cyclic nucleotide second messenger
GRK2, 2898	glutamate signaling pathway
GRK4, 2902	glutamate signaling pathway
GRK2A, 2903	glutamate signaling pathway
GRK2B, 2904	glutamate signaling pathway
ADAM10, 102	integrin mediated signaling pathway
GRM7, 2917	negative regulation of adenylylase activity
LRP1, 4005	negative regulation of Wnt receptor signaling pathway
ADAM10, 102	Notch receptor processing
ASCL1, 429	Notch signaling pathway
HTTGA, 3056	serotonin receptor signaling pathway
ADRB2, 154	transmembrane receptor protein tyrosine kinase activation (dimerization)
PTPRG, 5700	transmembrane receptor protein tyrosine kinase signaling pathway
EPHA4, 2043	transmembrane receptor protein tyrosine kinase signaling pathway

Linked Data in Research

HM Government Log in or sign up


data.gov.uk BETA
Opening up government

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Search international datasets
New data releases
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Linked data:
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Data visualisation

Accessing Linked Data

Linked Data describes a method of structuring and publishing data so that it can be interlinked and therefore more useful.

It combines several standard web technologies that together allow datasets to be structured in a way that makes them understandable by machines and linkable to other data sources.

ESDS International has made the World Bank World Development Indicators dataset available as Linked Data.

Further reading: [Linked Open Data: The Essentials](#) by Florian Bauer and Martin Kaltenböck.





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Case studies wanted

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Teaching and Learning

[ESDS International e-learning materials](#)



Accessing the data

Use the dropdown lists below to download Resource Description Framework (RDF) versions of the World Development Indicators data. Each RDF series file gives all the observations for that series, for all available years and for all available countries and country groups.

Download codelist

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Download series

Select a series to download...

