

2014–2015 Compilation

On Think Tanks

Data visualisation competition



Jeff Knezovich, Editor



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This book was designed for digital publication and edited by Jeff Knezovich, Director of Quaternary Consulting, for On Think Tanks (<http://www.onthinktanks.org>). Print editions are also available.

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Finally, much appreciation to Andrej Nosko and Goran Buldioski at the Think Tank Fund for believing in and supporting this initiative, and to Nika Aleksejeva from Infogr.am for her support and enthusiasm. And finally, thanks to Enrique Mendizabal and Eva Cardoso at On Think Tanks for getting the project off the ground.



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Preface

The [On Think Tanks Data Visualisation Competition](#) was back for the 2014-15 season.

Building on the success of our first competition in 2013-14, for which [the compilation is still available](#), we made several changes to the competition, how it is run and some of the additional resources we built in to the competition.

The overall objectives for the competition remained the same:

- First, we wanted to **inspire** by collecting a number of great visualisations from think tanks that have had real impact in the world.
- Second, we wanted to **strengthen capacity** by sharing resources, tools, and expert feedback on submitted visualisations.
- And last but not least, we wanted to **encourage** participation through real cash prizes. The prize for each round was US\$1500 plus an Infogr.am Pro subscription. Each round also had US\$500 for a runner-up.

To achieve these aims, we worked to rebuild the website. This involved building out our [resources section](#) to include reviews of some of the current platforms available to help build data visualisations along with detailed 'how to' guides for specific programmes. These are included in [Section 4 of this compilation](#).

And the competition itself changed in a few important ways!

1. **This year's competition was open to any think tank anywhere in the world!** We felt strongly that the entries received last year, limited to think tanks only from low- and middle-income countries, could hold their own with the world's best. So, we did away with geographic restrictions.
2. **We targeted the rounds:** While we felt that all the entries in the 2013-14 competition stood up to international scrutiny, we did think that some of the static visualisations got lost among the snazzy, high-tech, interactive ones. We are adamant that data visualisation is about finding appropriate formats to convey information and that sometimes all that requires is putting pen to paper. As such, we divided it so that the first round was open only to static visualisations and the second to interactive visualisations. We're also adamant that data visualisations should have a clear purpose behind their development. So, the third round was open to any type of visualisation, but the prize was for the best use of a data visualisation as part of a communication strategy.
3. **We brought on more partners:** The 2013-14 competition was generously sponsored by the Open Society Foundations' Think Tank Fund and hosted by On Think Tanks. This time, we've also brought Infogr.am on board as a judge, prize sponsor and resource partner.

Round 1

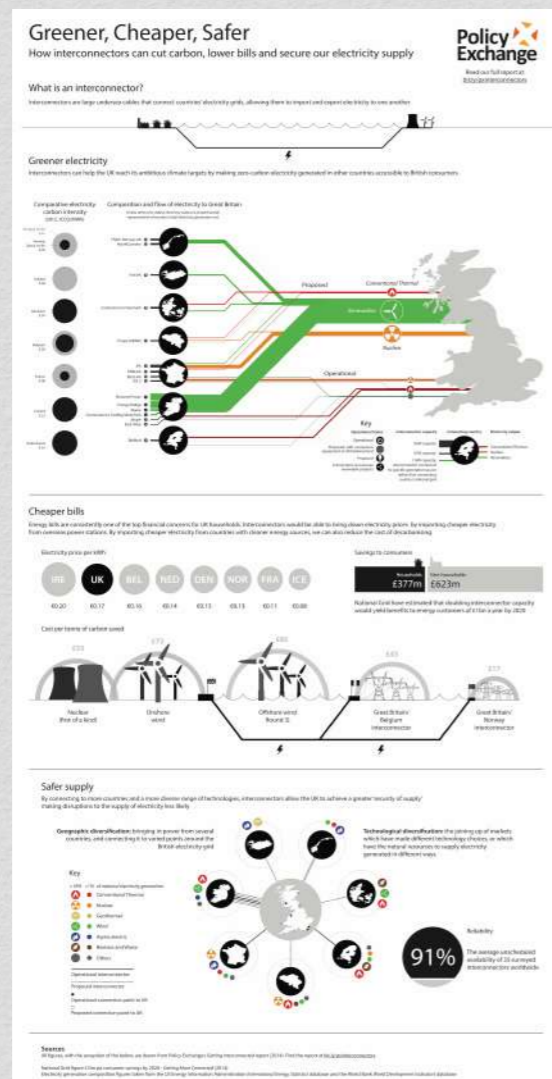
Static visualisations

Round 1 took place in September and October 2014. It was open to static visualisations only. The aim was to focus this round of the competition on design and not just technology.

Round 1 Entrants

1. **Greener, cheaper, safer: How interconnectors can cut carbon, lower bills and secure our electricity supply**
2. **Increasing urbanisation and per capita GDDP**
3. **Don't limit HER possibilities!**
4. **Supporting durable solutions to urban, post-disaster displacement**
5. **Identity Crisis: The Israeli ID System**
6. **Flooding in the Piura river basin**
7. **Pull power: Attractions and detractions in the time zone of the twenty-first century**
8. **Challenges of the health care system in Uzbekistan: How to address growing expenditures and demand?**
9. **Indian states' performance in protecting people below poverty line from catastrophic healthcare expenditure**
10. **Civil Service Staff Numbers, 2009 Q1 to 2014 Q2**
11. **Legalising restrictions of the freedom of the press**
12. **The reality of illegal mining in Amazon countries**
13. **The great resource price shock**
14. **Effective ways to reduce corruption in the health sector**
15. **EC progress report in numbers**
16. **Osborne's budget 2014: Personal tax allowance**

Greener, cheaper, safer: How interconnectors can cut carbon, lower bills and secure our electricity supply



Click to enlarge

Creator:

Matthew Smith

Organisation and country:

[Policy Exchange](#), United Kingdom

Description:

This infographic is a revamp of the one originally created for our [Getting Interconnected](#) report, which advocated the deployment of more interconnectors and made proposals for the removal of obstacles to their deployment. A number of shortcomings of the original (map) format have been removed – most notably the previous adherence to a geographical format which overly emphasised location. As with the London Underground map, strict geographical accuracy was deemed to be less important than other information, in this case depicting how clean the electricity being transmitted and the quantities involved.

The objective of the infographic is to highlight the win-win-win nature of deploying more interconnector cables – that we can import greener electricity, at lower cost and increasing the security of our energy supply at the same time. Although the primary targets are policymakers and media outlets, it is designed to be understandable for all audiences.

Don't limit HER possibilities!



Click to enlarge

Creators:

Eric Barrett, Nino Macharashvili, Ia Ninoshvili, Mariam Kobuladze, Jason Addie, Irakli Chumburidze

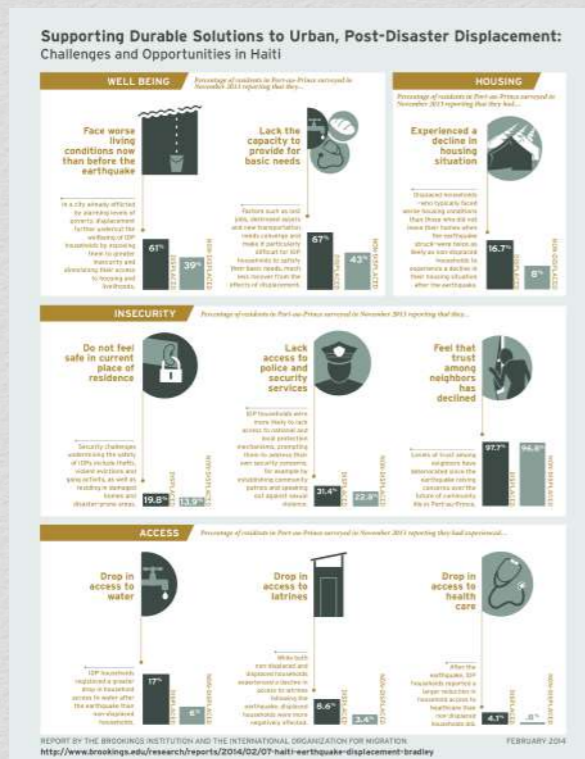
Organisation and country:

[JumpStart Georgia](#), Georgia

Description:

While girls score equally as well as boys on Georgian exit exams in science, technology, engineering and mathematics (STEM) subjects, they receive less support, are consistently less confident and ultimately make up only 16% of university students in information technology. At the same time, STEM employers are finding it difficult to recruit enough skilled employees.

Supporting durable solutions to urban, post-disaster displacement



Click to enlarge

Creators:

Marcia Underwood, Jessica Pavone, Kevin Hawkins

Organisation and country:

[The Brookings Institution](http://www.brookings.edu), United States of America

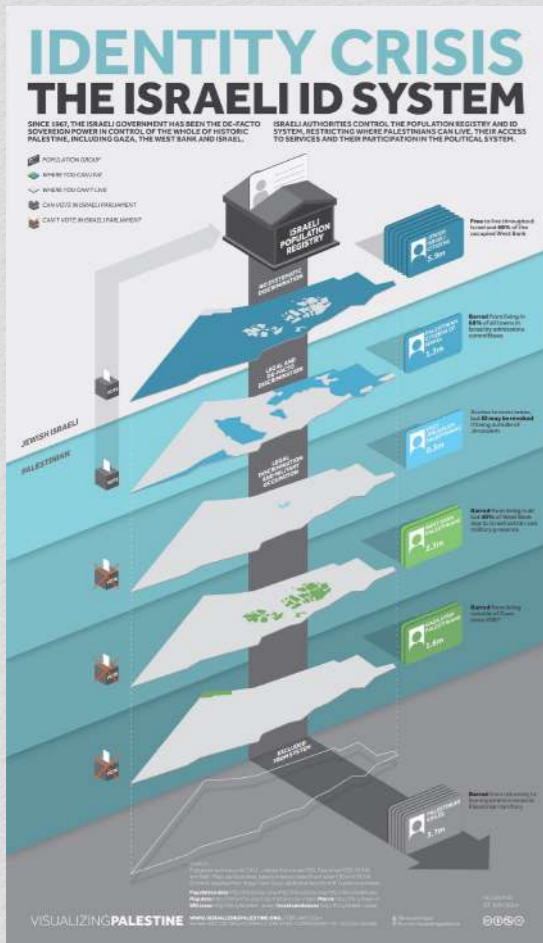
Description:

The study, Supporting Durable Solutions to Urban, Post-Disaster Displacement: Challenges and Opportunities in Haiti, examines the question of durable solutions to displacement in Haiti four years after the devastating earthquake. This graphic highlights the key findings from the study, which draws on the results of focus groups in camps and communities, site visits, in-depth interviews and a survey of 2,576 households (outside camps) in Port-au-Prince.

The graphic was developed as a companion to the report: Supporting Durable Solutions to Urban, Post-Disaster Displacement: Challenges and Opportunities in Haiti.

The objective of the graphic was to, succinctly, visually summarise the report findings regarding the difficult situation many individuals are still facing, even several years since the earthquake struck, in order to encourage policies that address these challenges. The target audience is broadly the foreign policy, humanitarian affairs and global development community generally, and individuals involved in global IDP (internally displaced persons) work specifically. The graphic has been used on our website, and printed graphics were used at a related event.

Identity crisis: The Israeli ID system



Click to enlarge

Creators:

Joumana Al Jabri, Ahmad Barclay, Conor McNally, Ramzi Jaber

Organisation and country:

[Visualizing Impact](#), Lebanon

Description:

The mainstream media portray Israel and Palestine as two distinct entities in conflict, governed by two separate authorities. In reality, the Israeli Ministry of the Interior controls the entire population of Israel, Jerusalem, the West Bank and the Gaza Strip through its determination of identity (ID) status. The five different ID statuses

enforce a hierarchy of rights within this territory while excluding refugees entirely. The ID system underpins a number of institutionalised policies and practices of discrimination, including the 2003 Israeli Citizenship and Entry Law, which currently threatens to separate 16,000 Palestinian spouses and families and deprives them of rights such as residency, health care, family unification, education and freedom of movement. The UN has condemned the law as racially discriminatory.

Visualizing Palestine, a project by Visualizing Impact, developed its 'Identity Crisis' visual to raise awareness in the run up to the Knesset's 2014 vote on the Entry Law. Released in Arabic, English and Hebrew, the visual particularly targets rights defenders in Israel, Palestine and internationally. It aims to generate awareness about the deeper inequalities that underscore the Palestinian-Israeli issue. 'Identity Crisis' was published on Nakba Day, the 66th anniversary of the displacement of 750,000 Palestinians and the destruction of over 500 Palestinian villages. It was disseminated through social and traditional media, reaching over 60,000 viewers on Facebook alone. Mic republished it in a feature and it has also been used in offline advocacy and educational efforts.

Flooding in the Piura river basin



Click to enlarge

Description:

This visualisation is targeted at practitioners and leaders, authorities and the general public (through the media). It explains the problem of flooding in Piura but also puts such events into historical context.

It is designed to be a quick way to get an overview of a lot of information to support decision-making about floods in the region.

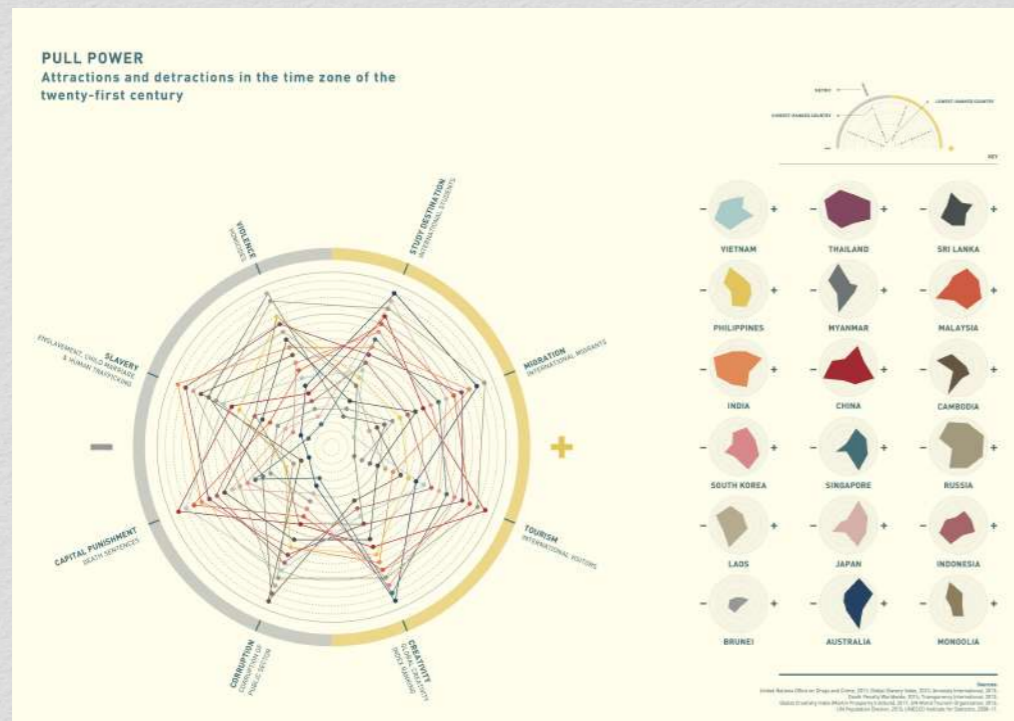
Creators:

Francis Salas, Giannina Solari, Doris Mejia

Organisation and country:

[Soluciones Prácticas - Practical Action](#), Peru

Pull power: Attractions and detractions in the time zone of the twenty-first century



Click to enlarge

Creators:

Madeleine King, Gordon Flake, Elena Douglas, Milly Main, Tom Harper, Caitlin Perry

Organisation and country:

[Perth USAsia Centre](#), Australia

Description:

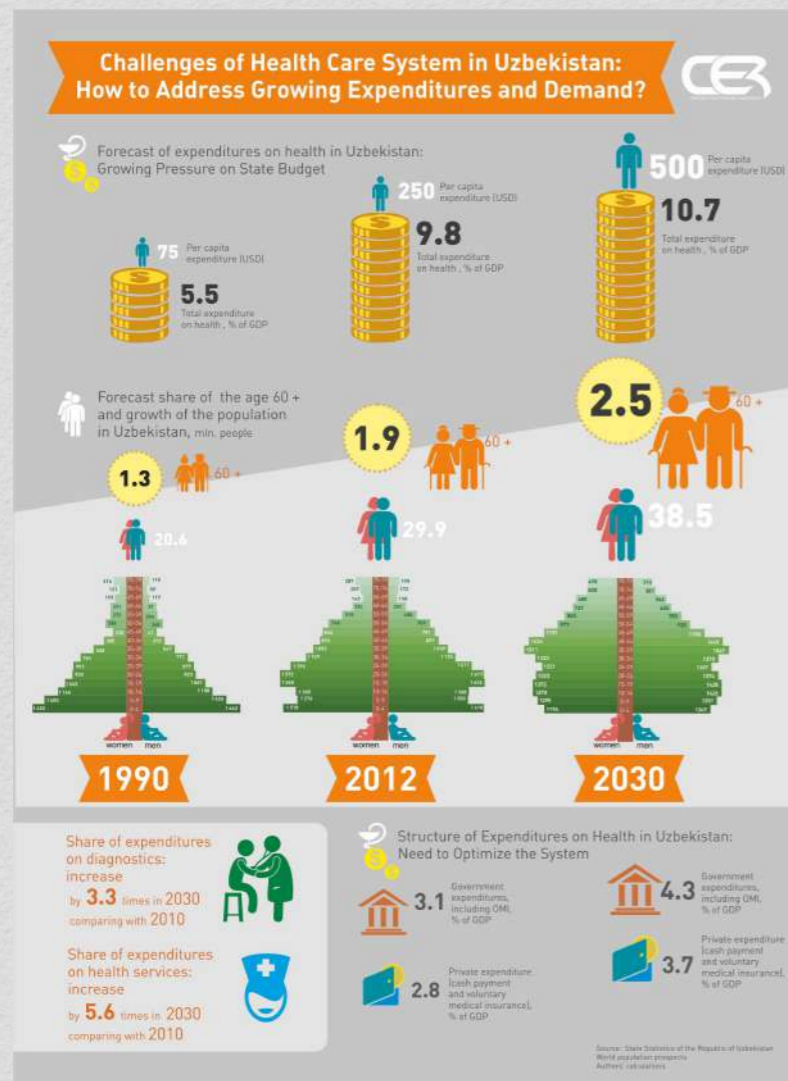
Knowledge Society developed this infographic for the Perth USAsia Centre with designers TOMD and Setsquare Studio. It charts the desirability of 18 Indo-Pacific countries located in the four-hour time window we call 'the Zone'. Sixty per cent of the world's population and the nations that promise the greatest economic growth in the twenty-first century inhabit this region.

The diagram maps positive and negative factors – attractions and detractions. The positive side of the ring comprises three concrete measures of attractiveness: international students, international tourists and permanent migrants – and creativity used as a proxy for a fourth, liveability. The negative side of the ring comprises four measures universally recognised as undesirable: homicide, slavery, corruption and capital punishment.

Each country in the Zone is ranked according to these eight measures. The result is a map of the desirability of nations; dots for each country connect to form a shape. On the right, each country's mini-map replicates this shape. Peruse these mini-maps for a collective impression of each country's pulling power. A left-weighted shape means a country is less desirable, and vice versa.

This graphic was distributed at the 2014 In the Zone conference at the University of Western Australia, a forum for business, policymakers and researchers.

Challenges of the health care system in Uzbekistan: How to address growing expenditures and demand?



Click to enlarge

Creators:

Ekaterina Ustinenko, Zafar Berdinazarov, Umidjon Abdullajonov

Organisation and country:

[Center for Economic Research \(CER\)](#), Uzbekistan

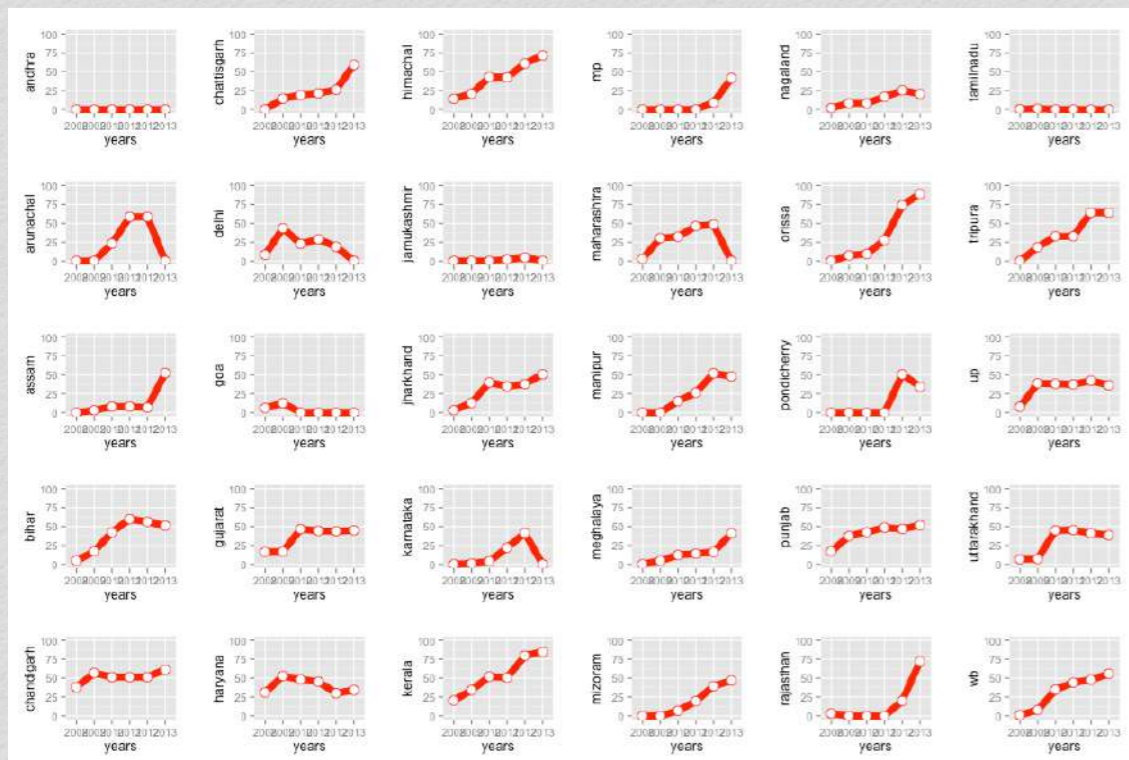
Description:

This infographic was developed for joint research of CER and United Nations Development Programme (UNDP): 'Uzbekistan Towards 2030: A New Social Protection Model for a Changing Economy and Society'.

The data show how health care system expenditures and demand in Uzbekistan will change through 2030, especially with the ageing population.

The target audiences are government ministries and agencies, and local and international institutes, including UN agencies in Uzbekistan. The infographic was widely used for Development Dialogues held by CER, for different roundtables and meetings with local and international experts. The result was a number of discussions in the health care sector among government ministries and agencies.

Indian states' performance in protecting people below poverty line from catastrophic healthcare expenditure



Click to enlarge

Creator:

Prashanth N S, Tanya Seshadri

Organisation and country:

[Institute of Public Health Bangalore](#), India

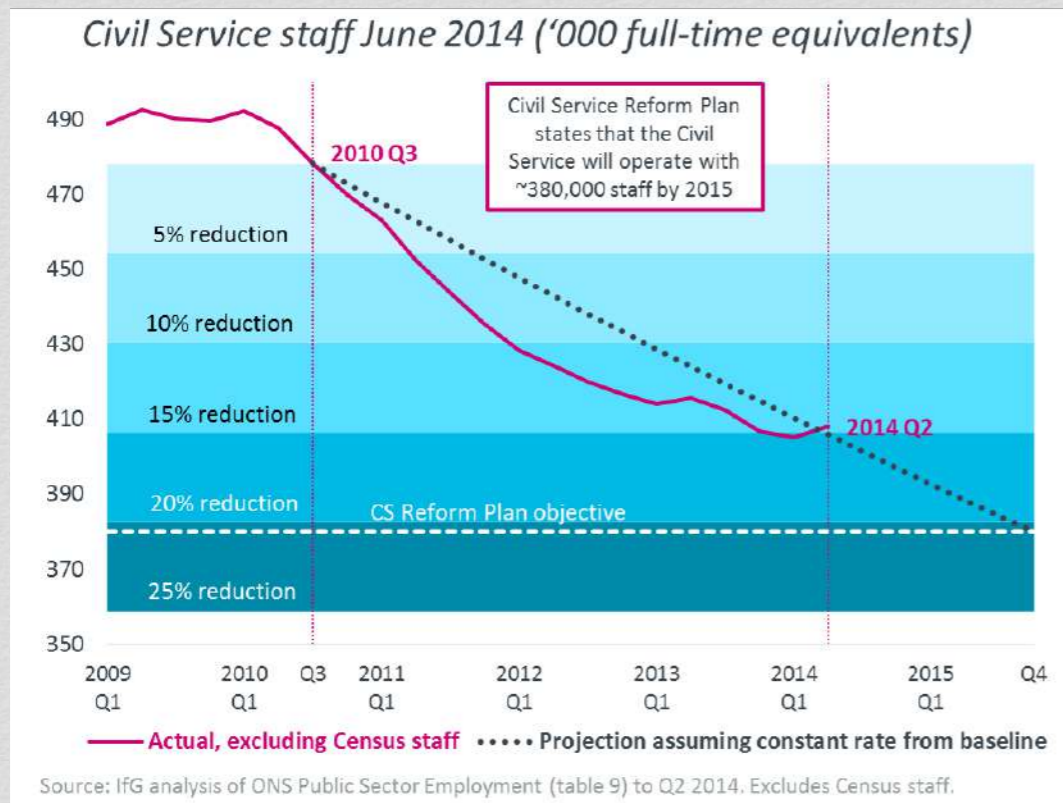
Description:

This data visualisation shows the extent of coverage of people below poverty line in one of India's landmark social protection schemes called "Rashtriya Swasthya Bima Yojana" (in English, National Health Insurance Scheme). The visualisation shows how the various Indian states improved the coverage of their poorest populations under the scheme.

The scheme targets national level policymakers and hopes to convince them on the need for better local adaptation and contextualisation of the scheme to suit particular needs of people in a very diverse country like India. Local differences in governance and several cultural factors at the district level (there are 600-odd districts in India!) determine some of these differences.

This data visualisation is also special because there is very little 'public data culture' in most government departments in India; hence the data used in this visualisation had to be based on data obtained under India's freedom of information legislation called Right to Information Act. Over time, along with several other inputs from later research publications, the RSBY scheme is in the process of being improved for better state and district level adaptation/contextualisation.

UK civil service staff numbers, 2009 Q1 to 2014 Q2



Click to enlarge

Creators:

Gavin Freeguard, Petr Bouchal, Robyn Munro, Emily Andrews, Julian McCrae

Organisation and country:

[Institute for Government](#), United Kingdom

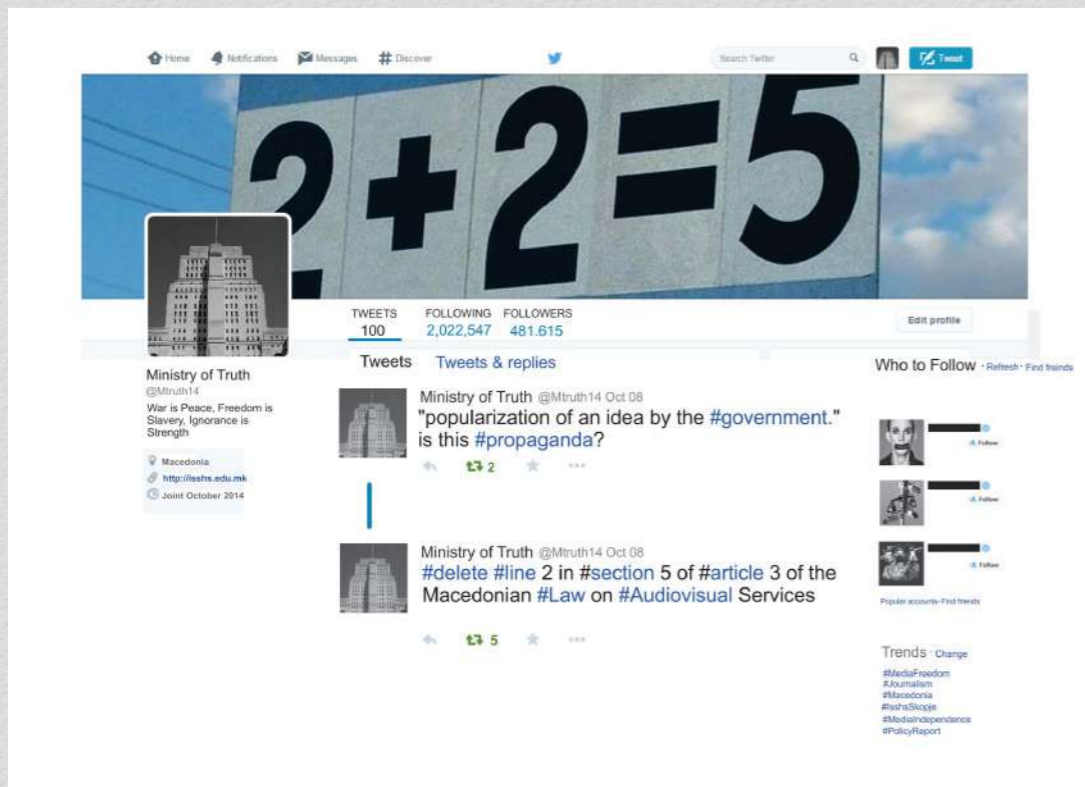
Description:

This visualisation is part of the [Institute for Government's Whitehall Monitor project](#). Whitehall Monitor aims to chart government – literally – providing a data-driven view of what government in the UK looks like.

The visualisation shows the fall in civil service staff numbers since the 2010 Spending Review, and how this fall compares with the government's target for reducing the size of the civil service. It forms part of a blogpost which uses seven charts and explanatory text to show what the civil service looks like and how it has changed. We publish new blogposts every quarter, when the latest data is published by the Office for National Statistics.

The target audiences are civil servants and politicians in Whitehall and Westminster, as well as members of the public and those interested in how British government works. The image (and others from the blogpost) have been shared, and helped others understand the changes to the Civil Service since 2010.

Legalising restrictions of the freedom of the press



Click to enlarge

Creators:

Risto Aleksovski, Ana Blazeva

Organisation and country:

[Institute of Social Sciences and Humanities](#), Macedonia

Description:

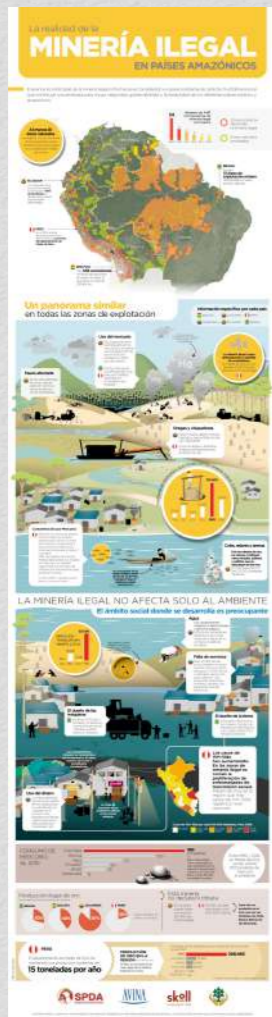
Advocacy-centred visualisation is part of the wider communication strategy of the Institute of Social Sciences and Humanities – Skopje (ISSHS). This visualisation aims to raise awareness related to the problem of the unrelenting deterioration of the freedom of expression in the Republic of Macedonia.

The visualisation we are presenting is one of a publicly advocated recommendation contained in the policy report [Legalizing Restrictions of the Freedom of the Press](#), produced by a team of ISSHS researchers. It consists of an image which is in fact a snapshot of the campaign carried out on Twitter under the profile named "Ministry of Truth" (inspired by George Orwell's *1984*).

The target audience consists of local and international civil society organisations, activists, national and EU institutions; the relevant institutional stakeholders as well as the local representatives of the international organisations are addressed with direct tweets.

In short, we have submitted a visualised message rather than visualised data extracted from an actual advocacy campaign carried out on Twitter and other social media.

The reality of illegal mining in Amazonian countries



Click to enlarge

Creators:

Jimmy Carrillo Saavedra,
Carmen Heck

Organisation and country:

[Sociedad Peruana de Derecho Ambiental \(SPDA - Peruvian Society for Environmental Development\)](#), Peru

Description:

This infographic summarises some of the most important results from six research projects around the expansion of illegal mining. Those studies were made in Bolivia, Brazil, Colombia, Ecuador, Peru and Venezuela. The studies demonstrate the serious threat that these activities pose to the health of the Amazonian population and to areas specifically dedicated to the conservation of biodiversity.

The elements analysed across the six countries are: the expansion of illegal mining activities in protected natural areas, the uncontrolled use of harmful chemicals (mercury and cyanide) with serious implications for the health of the population, and increasing instances of child labour, forced labour, trafficking and exploitation.

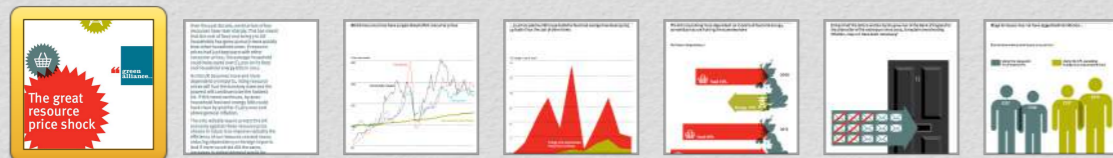
Also, the infographic visualises the economic activity generated by this movement, expressed in the percentage of illegal gold production as part of the national production of each country.

The studies were conducted in the framework of the alliance between SPDA, Avina and Skoll, to add to the understanding of potential methods for addressing such a complex reality in the following years.

The great resource price shock



Click to open slide show, Or view online at: <http://bit.ly/1z98fJz>



Creators:

Julian Morgan, Dustin Benton, Matthew Spencer, Karen Crane

Organisation and country:

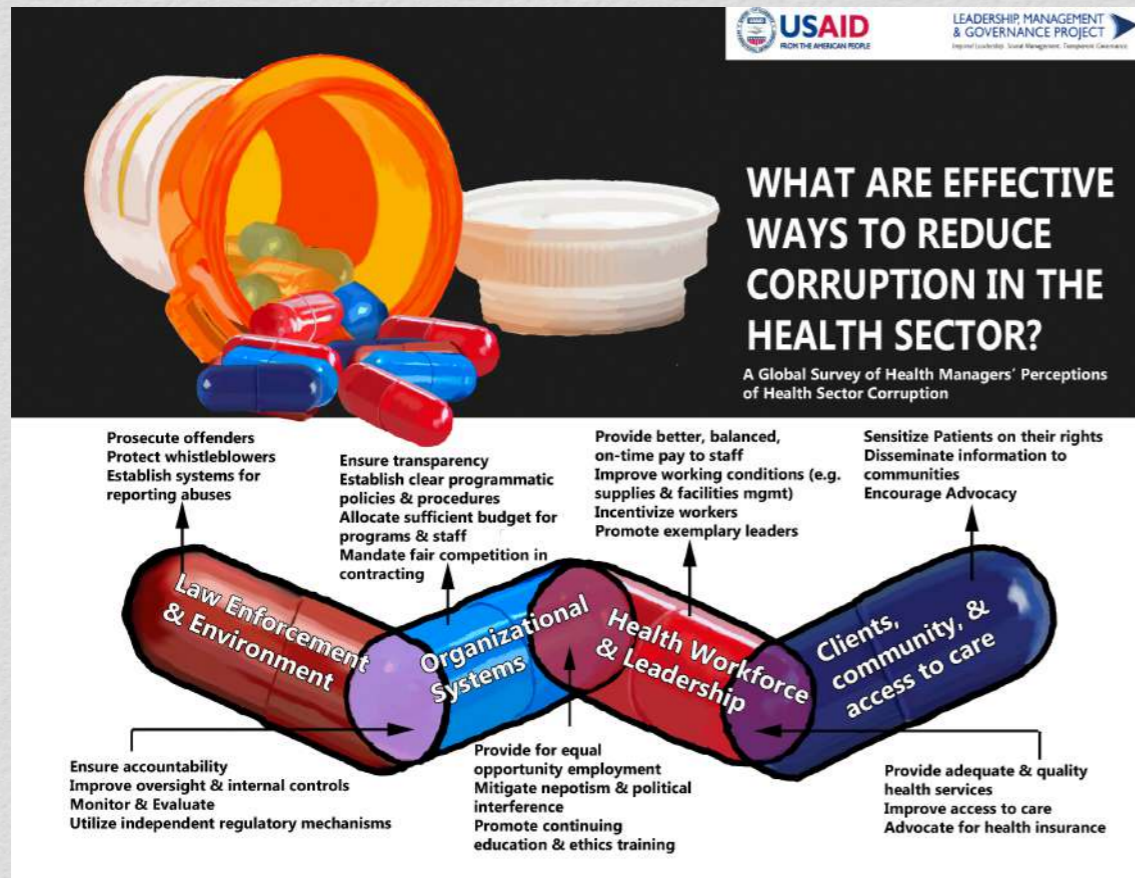
[Green Alliance](#), United Kingdom

Description:

The project, supported by the Esmée Fairbairn Foundation, was designed to create public debate around the opportunity for green growth, and the economic risk of unsustainable use of resources. The infographic was one output resulting from a major analysis of the economic impact of resource price shocks. It charted the rise in global resource prices over the past decade, the impact on UK consumer prices, the monetary policy of the Bank of England, real wages and the cost of living – a phenomenon we named 'The Great Resource Price Shock'.

The infographic was designed to provide quick visual access to the main messages. It received substantial coverage, including a full page piece in the economics section of *The Guardian* print edition ('[UK price rise exposes failure to prepare for food and fuel shocks](#)', 3 March 2014). It was commented on by the target audience of economists, decision makers and policy experts in government, business, environmental and academic communities, with the images retweeted widely on Twitter.

Effective ways to reduce corruption in the health sector



Click to enlarge

Creators:

Meghan Guida, Neville Barbour

Organisation and country:

[Management Sciences for Health](#), United States of America

Description:

This data visualisation was created to illustrate a level-based analytical framework for our project, developed by conducting a qualitative analysis of survey responses about health leaders' and managers' perceptions of corruption in the health sector. Respondents provided many examples of effective ways to reduce corruption at each level and across levels, so we sought to capture the intersections and overlaps throughout. We see it as a kind of ecological framework: there are individuals working within systems, which function within a higher political environment.

Our analysis was selected for presentation at the third Health Systems Research Symposium in Cape Town, South Africa. We wanted an eye-catching, colorful visualisation that would capture the attention of the policy makers, practitioners and academics in attendance. We shared an abbreviated version of the visualisation during our presentation and created flyers that were distributed at the session.

The visualisation sparked discussion about variations in the definition of corruption, the importance of considering the cultural context in which corruption occurs, the need for further research and the analytical framework itself. We have also [shared the visualisation on our project blog](#). It has proven to be a great visual tool to draw attention to a critical issue.

EC progress report in numbers



Click to enlarge

Creator:

Berat Thaqi, Lea Nimani, Lyra Xharra Loxha

Organisation and country:

[Institute for Advanced Studies - GAP \(InstitutiGAP\)](#), Kosovo

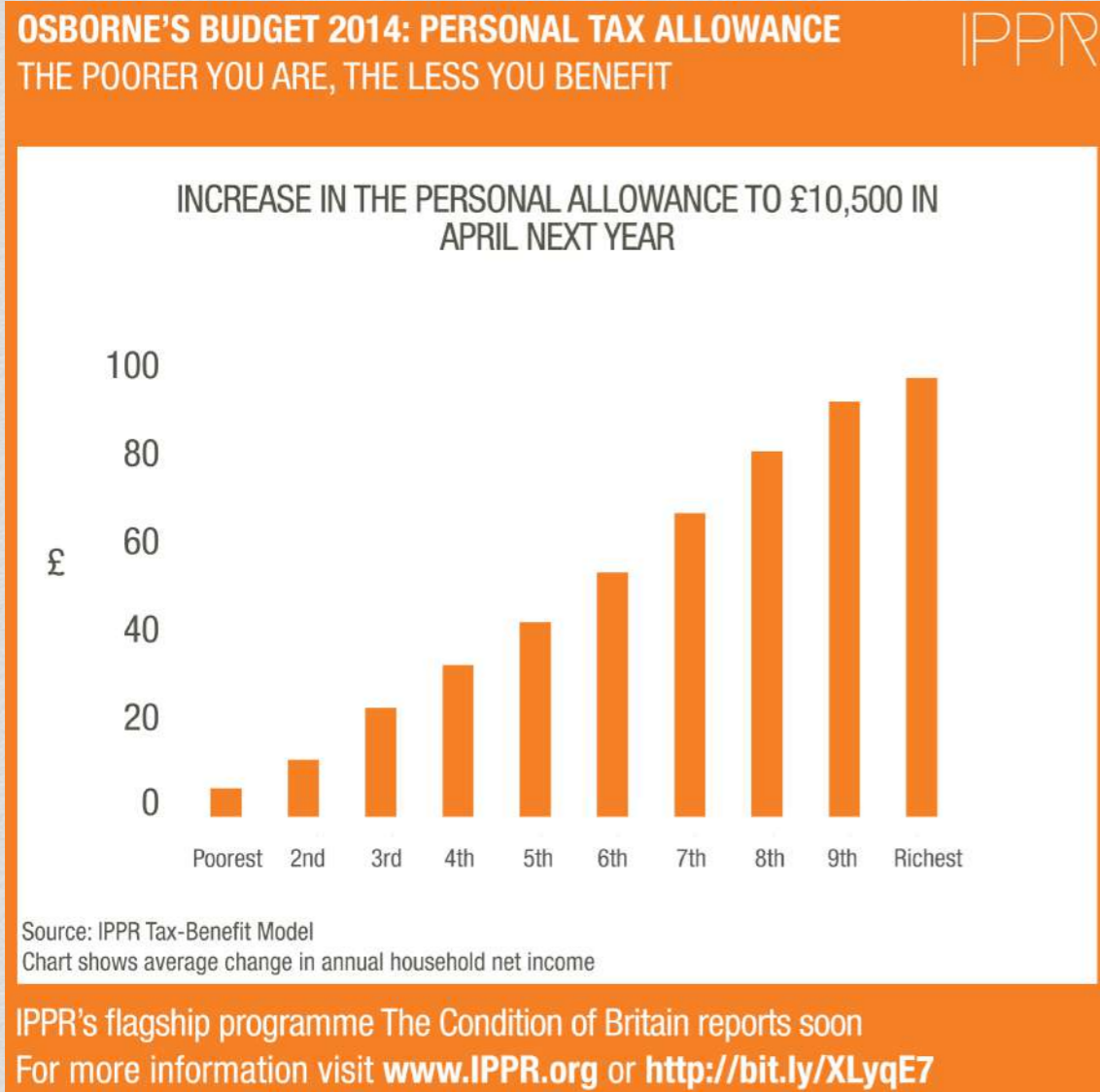
Description:

The [European Commission progress report](#) is one of the most important documents for countries like Kosovo, that are working toward European Union (EU) integration. But, because of the technical and carefully crafted language, the progress reports are also one of the most misunderstood and misinterpreted documents in these countries. Each year that the progress report is published for Kosovo, the Government emphasises its positive elements, whereas the political parties, civil society and the media tackle the challenges mentioned in the report.

In order to present a more accurate view of the Progress Report contents, GAP Institute has visualised the 64 pages of the report in one single page.

The infographic, which was published just a few days after the report was published, has been widely disseminated through social media in Kosovo. GAP aims to build upon this method for future reports.

Osborne's budget 2014: Personal tax allowance



Click to enlarge

Creators:

Richard Darlington, Sofie Jenkinson

Organisation and country:

[IPPR](http://www.IPPR.org), United Kingdom

Description:

The data visualisation shows the results of IPPR's tax-benefit model analysis on the impact of the UK Budget 2014's rise in the Personal Tax Allowance. It was re-tweeted 190 times (and another 95 times) just 30 minutes before the Chancellor's Budget speech.

Winners and commentary

Winner



Runner up



Commentary

In the first round of the 2014–15 On Think Tanks Data Visualisation Competition, we limited entries only to static visualisations. Static visualisations could be anything from a simple bar chart to a multi-part infographic that combines a number of data points to tell a cohesive story.

Data visualisations are not popular at the moment because they are new – just ask Florence Nightingale, who created the coxcomb diagram during the Crimean War to help make her case that infections were causing more deaths than the war itself. What is new is the explosion of tools that help us to manage large data sets and the complementary tools to help visualise data, such as Infogr.am.

In that context, it might seem strange to ask for a competition of static visualisations. But representing data accurately and in a way that tells a compelling story is its own skill. What's more, it's a skill that doesn't require users to be able to manipulate the data themselves. Rather, it requires good 'old-fashioned' design. That's what we seek to honour with this first round of the competition this year.

Our diverse panel of judges reviewed the top six data visualisations as determined by the public vote. Although we would normally look only at the top five, the public vote was so close be-

tween the fifth and sixth entries that we decided it made sense to consider the top six.

After we fixed a minor technical glitch in our review mechanism, the judges were able to come to a clear agreement on the winner and the runner up for this round. So without further ado, the winner of Round 1 and of the US\$1500 prize is...

Don't limit HER possibilities! from JumpStart Georgia.

There are two surprising things about this visualisation that make it so compelling: one is the manner of telling. The judges really appreciated the use of photography woven into the visualisation. It helps to round out a story that has strong foundations in the data.

As one judge put it:

'Combining photos and charts livens up the visualisation and creates much more "personalised" effect, drawing the viewership into the issue. I've also appreciated how the visualisation draws reader into the story, which unrolls as one scrolls.'

Indeed that is the other surprise in the visualisation: the stark reality of differential achievement between boys and girls in the STEM (Science, Technology, Engineering and Maths) subjects in the Eurasian country of Georgia.

While the visualisation does draw out the implications in terms of Georgian firms not finding suitably skilled workers, the judges did feel that a policy recommendation or implication could have been more specifically teased out. As it stands, the audience is mainly parents, to ensure they continue to support their daughters in these areas. That hits on a key cultural point, but doesn't necessarily pass muster as a policy recommendation.

Another judge noted that, when it comes to the first set of data actually visualised, 'the title for the first section would more appropriately be "girls and boys both score about the same on tests", which is the point of the chart. This would help better to set the scene of the story.'

But despite this minor feedback, the strong design aesthetic and the compelling story made it the overall winner. Well done, JumpStart!

We also announced one runner up from the round, with a cash prize of US\$500. This time it went to:

The reality of illegal mining in Amazonian countries by the Peruvian Society for Environmental Development (SPDA).

The judges were in strong agreement that, even if it didn't win first place, this visualisation on illegal mining activities across countries in the Amazon should be recognised as an excellent

example of what static visualisations can be when done right. As one judge noted:

'I love the design overall. It does a great job at combining a number of different ways of conveying information, while still telling a story. It sets the scene with the map, it includes pictures, it includes charts, and it really highlights the problem in Peru as compared to its neighbouring countries. I also really like that it takes a technical or environmental issue and draws out clear social implications.;

Similar to the winning visualisation, several of the judges felt the policy recommendation was unclear. One suggested that: 'Very few data visualisations go beyond presenting the data in compelling form. If the organisation involved engages in policy advocacy, it should find ways to weave in its demands and highlight evidence-informed policy actions that are needed.'

There was also some confusion among the non-Spanish speaking judges about what exactly the map was trying to convey, though some were particularly impressed that: 'I am not a Spanish language speaker but I fully understood the storyline, the data being presented.'

So again, congratulations!

The On Think Tanks interview with Eric Barrett



We caught up with the winner of the first round of the On Think Tanks Data Visualisation competition about the inspiration and experience creating the winning piece.

Don't limit HER possibilities, a static visualisation by Eric Barrett at JumpStart Georgia, won the judges over with its original use of photography and creative manner of telling the story about science, technology, engineering and maths (STEM) education for girls in Georgia. We wanted to unpack Eric's motivation for the graphic, the origins behind its unusual style and some of the challenges they faced during the process.

OTT: The style of your infographic is fairly unusual. Why did you decide to use photographs as well as graphics? What was your inspiration?

EB: The inclusion of photography was a team decision, but was proposed by our designer who is also a photographer.

The idea stemmed from our discussion about how infographics are abstract and we didn't want to portray, at least in this infographic, a woman as an abstract vector graphic. We wanted to show her as a real tangible individual that our target audience could relate to.

We do a bit of photography for our projects, such as our [Toast to Georgian Women](#) graphic and for us this was the next logical step.

OTT: Do you think that this issue with girls and STEM education is a particular problem for Georgia? What prompted you to want to tackle this?

EB: It is a problem everywhere, but each society must develop a communications strategy, or advocacy programme, to try and improve gender bias in education in a way that works locally. We were prompted to tackle this story because it is an issue that few discuss and know about.

Few people in Georgia believe that the inequality exists and most see society in terms of gender roles and don't understand why education shouldn't support their view.

Over half our staff are women, but that is unique for a tech organisation anywhere, let alone Georgia. We feel we are sensitised to this and realise this is a social issue. Women and men are socialised into their biased views of role-based employment

and life activities. Our infographic is one small effort to reduce gender-based inequality in Georgia and beyond.

OTT: How big a team did it take to create the finished output, and how long?

EB: Our team comprises 10 members, but four worked on that project, with our entire staff's feedback. We completed it in one week.

OTT: And do you think that using photographs rather than graphic design made the process easier or harder?

EB: It was more difficult, but necessary. It added another element to the workflow, which was photo production. Was it worth it? Yes. We often stick to the standard infographic workflow (if such a thing exists), but when time and flexibility permit, we use alternative approaches that more carefully take into account the audience.

OTT: Who were you hoping to influence with this infographic – did you have a specific measure of success?

EB: We were hoping to use data to target women to show them that they are just as capable as anyone else to work in STEM and that there was money in it if they chose to go into those sectors. We only used page views to measure reach, unfortunately.

OTT: One of the comments from our judges is that the graphic could have done more to target policy makers. What has the response to it been, and is there something you might do differently if you did it again?

EB: We were telling a news story, not leading, per se, an advocacy campaign. The Millennium Challenge Account Georgia, the organisation that conducted some of the research for the infographic, did not do any interesting communications beyond the boring report they wrote.

They approached us after they saw our infographic, but there was no follow through. We see that a lot and agree with the judges; there was so much more they ought to have done for a better advocacy strategy.

OTT: What programme (or programmes) do you use to design your infographics? Why do you prefer these programmes?

EB: For our static infographics we mostly draw using pencil and paper, use spreadsheets (LibreOffice, Google), R Project, or QGIS for geography/maps based graphics. We also like to use TileMill, and Adobe CS (unfortunately, the professional standard). We once used (well, I did) Inkscape to develop the infographics. We also use vector graphic libraries and sketch our own illustrations when we need to. For interactive stuff, it really depends. D3js, of course and sometimes Highcharts. Again,

‘Who is really going to read a 300-page report or even a 30-page report? Seriously, I think many NGOs and think tanks write for themselves, not for their audiences.’

sometimes we do it from scratch.

OTT: JumpStart has produced quite a number of static visualisations. Why have you chosen to focus on creating this type of communication output? What key lessons have you learnt through their production?

EB: The answer to this

question is lengthy. In short, we started with infographics because we wanted to challenge the status quo in Georgia. Too many organisations are lazy and don't take their target audience into account. They just throw out content and say: ‘Here, read this’.

We see a growing trend worldwide that audiences want more, and as content producers we should oblige.

From an advocacy perspective, it just makes sense. Who is really going to read a 300-page report or even a 30-page report? Seriously, I think many NGOs and think tanks write for

themselves, not for their audiences. And donors seem to be okay with that, though we see that changing.

Infographics are just one media format among many. Photography, interactive media, animated infographics, videography, street performance, etc., are all viable solutions to communications problems if they fit the bill. The point is to keep focused on the goal and ask: ‘Is what I am doing really meeting my goals?’ If engagement is the goal, or network saturation, then you have to explore and even sometimes experiment with different approaches, media and technologies to achieve your goals.

However, the message should always be simple, even if the amount of work to make it that way is not. We have done complicated visuals and they just don't work like simpler ones do. I don't mean that you need to dumb it down, I just mean keep the message simple.

Management is key. These projects are creative and they have to be managed so they don't get out of control, off budget and over deadline. The hardest thing I have ever done and am doing is managing these technical, creative projects and ensuring my staff are still happy and excited, our partners are happy, and that we are all happy with the cost. Each project is different and there is no cookie cutter approach, but there are workflows that facilitate a better outcome.

Round 2

Visualisations

For the second round of the 2014-15 competition, which was open in November and December 2014, we focused on interactive visualisations. It was designed to let the technology shine, with visualisations running the gamut from simple interactivity through 'mousing-over' to more complex visualisations driven by user input.

Round 2 Entrants

1. **Adult obesity in the United States**
2. **Lowy Institute 2014 polling interactive**
3. **Reading national signatures in urbanisation–income space**
4. **The complexity of governance**
5. **Visualising the past, present and future of carbon emissions**
6. **Reformers: Restraining evil debt**
7. **Think-Act-Impact video animation: Environmental impact assessment and strategic environmental assessment in Serbia**
8. **Pathways to the future we want**

9. **Survey of progress in international economic governance**
10. **Visualisation of the DEREK index**
11. **Be informed and choose: Candidates for regional and municipal elections 2014**
12. **Demystifying data: A visualisation based on the IPPF/Guttmacher report**
13. **Statistics mapping interactive atlas**

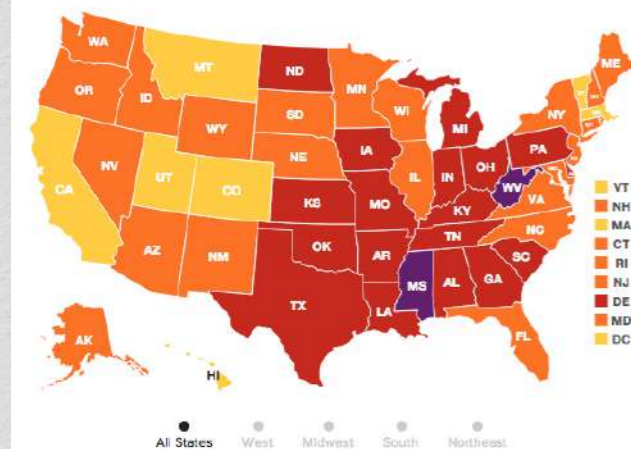
Adult obesity in the United States

Adult Obesity Rate by State, 2013

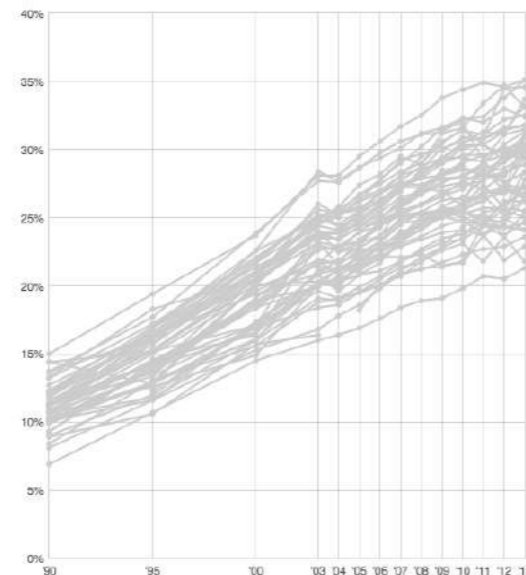
Select years with the slider to see historical data. Hover over states for more information. Click a state to lock the selection. Click again to unlock.

Percent of obese adults (Body Mass Index of 30+)

0 - 9.9% 10 - 14.9% 15 - 19.9% 20 - 24.9% 25 - 29.9% 30 - 34.9% 35%+



Adult obesity rates, 1990 to 2013



Click for interactive version (Internet connection required), or visit on-line at: <http://bit.ly/1DUbBWp>

Creators:

Jeff Stanger, CDI Lab, Pim Linders/Data Focus, Burness Communications

Organisation and country:

[The Robert Wood Johnson Foundation](#) and the [Trust for America's Health](#), United States of America

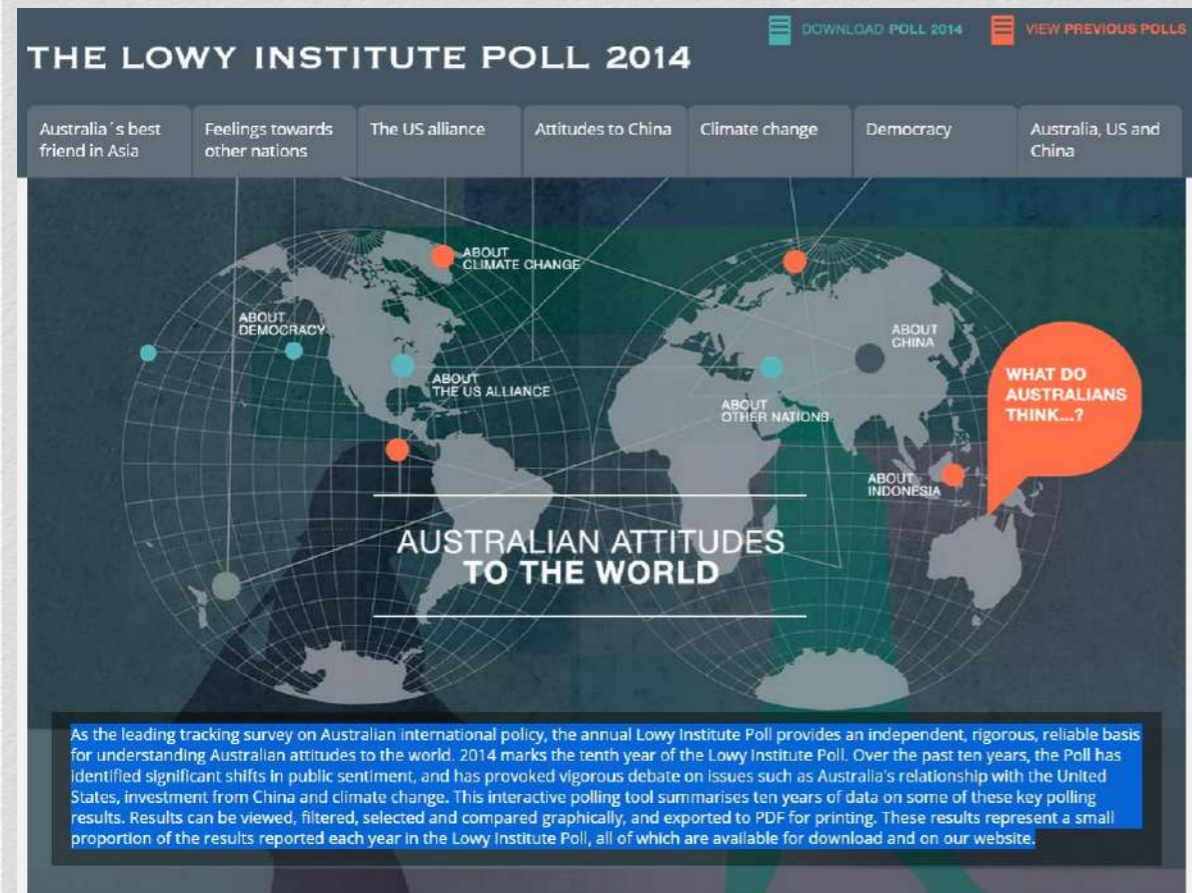
Description:

Adult Obesity in the United States tracks the rise in obesity rates since 1990 using data from the U.S. Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System. The interactive visualisation is the centerpiece of the annual State of Obesity report co-produced by the Washington, DC-based Trust for America's Health and the Princeton, New Jersey-based Robert Wood Johnson Foundation.

The report and accompanying interactive are the authoritative annual statement on obesity rates in the United States. The visualisation presents adult obesity rates from each U.S. state and the District of Columbia over 25 years, clearly illuminating the rapid rise of obesity over time using a line graph, dynamic table, and map that is zoomable by isolating particular geographic regions.

The audiences for the piece are journalists, policymakers and the engaged public. The visualisation has been accessed nearly 50,000 times since its launch in early September and has been a primary driver of extensive media coverage about the obesity issue as well as social media conversation at [#stateofobesity](#).

Lowy Institute 2014 polling interactive



Click for interactive version (Internet connection required), or visit online at: <http://bit.ly/1FgOFgx>

Creators:

Stephanie Dunstan, Alex Oliver, Nirupam Gupta with Lekki Maze (Glider Creative)

Organisation and country:

[Lowy Institute for International Policy](http://www.lowyinstitute.com.au), Australia

Description:

As the leading tracking survey on Australian international policy, the annual Lowy Institute Poll provides an independent, rigorous and reliable basis for understanding Australian attitudes to the world. 2014 marks the tenth year of the Lowy Institute Poll. Over the past 10 years, the Poll has identified significant shifts in public sentiment and has provoked vigorous debate on issues such as Australia's relationship with the United States, investment from China and climate change.

The Polling interactive was a special initiative of the Lowy Institute designed to bring to life a selection of the Poll's most striking and significant results over the last nine years. It allowed users to interact with the polling data through graphs that could be manipulated to compare and contrast specific data points. Results can be exported to PDF for printing. It also included brief analysis on overall trends in polling data.

The interactive was designed for use by the Lowy Institute's key audience groups – policy makers, the media, academics/students, corporates and the wider public.

The interactive has been a huge success. It has proven more popular than the 2014 Poll report, with over 17,500 unique views compared to 6,400 for the report. It is the fifth most popular page on the Lowy Institute website, bringing in over 5% of all traffic to our website.

Reading national signatures in urbanisation–income space

Reading national signatures in urbanisation–income space

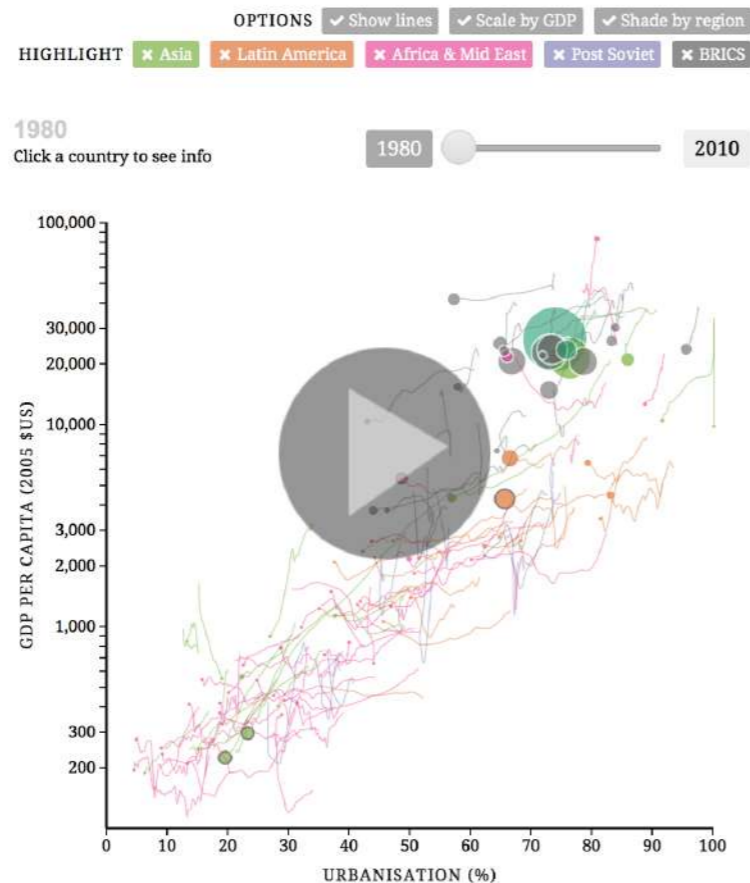
This interactive visualisation explores the relationship between urbanisation and national incomes since 1980. Click play to watch the introduction, or browse the options to explore.

ANIMATED INTRODUCTION



“If correlations and causalities linking urbanisation, economic growth and income can be discerned, and if regional differences in these be understood, then we will be a step closer to policies that would foster ‘agglomeration economies’, capturing the positives of urban living and addressing the negatives.”

Fairhead et al., 2014, Report of the ESRC Expert Advisory Group on International Development, Manchester Draft.



Click for interactive version (Internet connection required), or visit online at: <http://bit.ly/1CdK8tv>

Creators:

Gordon McGranahan, Anna Walnycki, Duncan Clark, Robin Houston

Organisation and country:

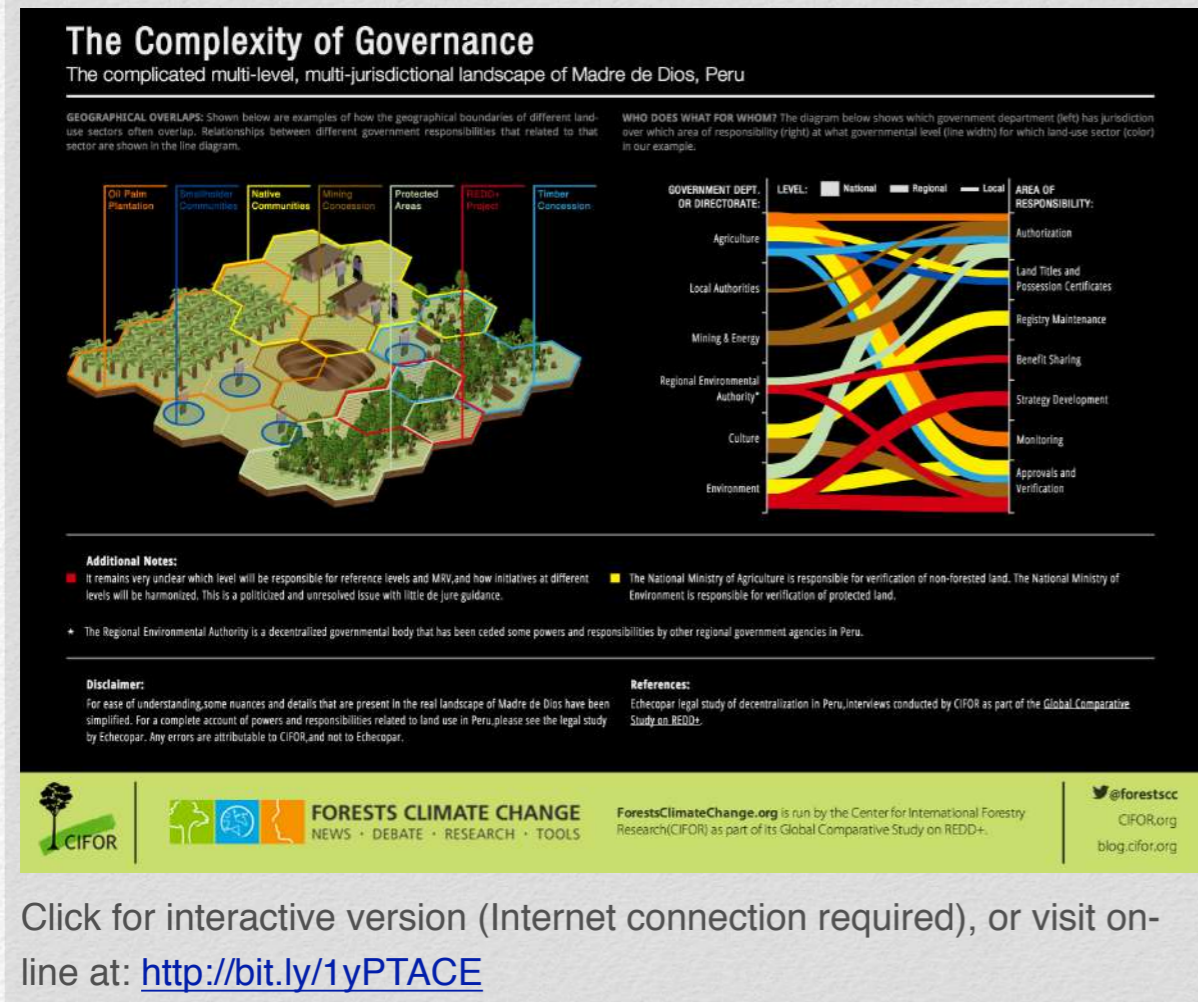
[International Institute of Environment and Development](#), United Kingdom

Description:

The visualisation, created in partnership with interactive data specialists Kiln, explores the complex and crucial relationship between income per capita and urbanisation. It combines a video-style "Talkie" introduction that tells the key stories with full interactive controls that allow users to explore the data at their own pace.

It was developed to bring a rich time-series dataset to life and to provide policy experts and interested members of the public alike with a more nuanced understanding of how the urbanisation–GNI relationship differs around the world – and in particular in the BRICS nations and their respective regions. The visualisation has been widely used in talks as well as being featured online, where it has generated a lot of interest.

The complexity of governance



Click for interactive version (Internet connection required), or visit on-line at: <http://bit.ly/1yPTACE>

Creators:

Jim O'Neill, Michelle Kovacevic, Ashwin Ravikumar, Regga Rantai

Organisation and country:

[Centre for International Forestry Research](http://www.cifor.org), Indonesia

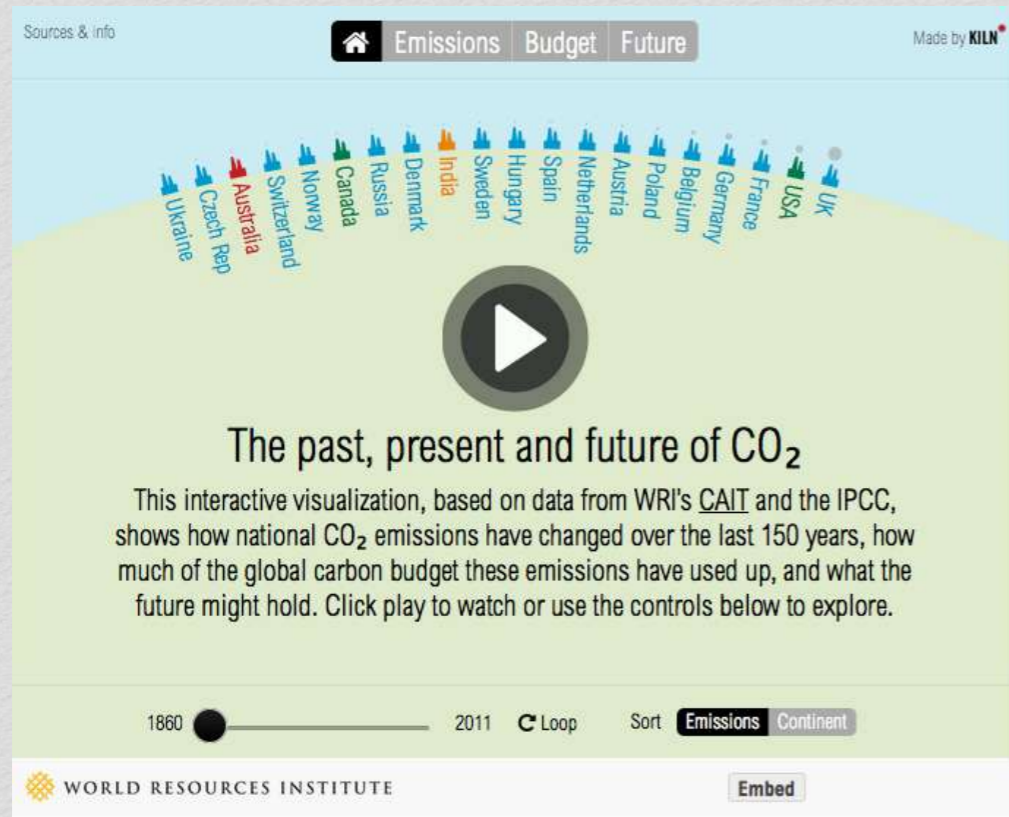
Description:

When infographic designer Jim O'Neill and writer Michelle Kovacevic met with CIFOR scientist Ashwin Ravikumar to talk about visualising the findings of a legal report on decentralisation in Peru, they discovered something interesting: buried inside the findings of the dry legal document, they found a much richer story about the very complexity that makes multilevel governance such a daunting topic for non-experts.

The team decided to link a stylised biophysical representation of the landscape with a Sankey-like line diagram of the related governance space. The graphic's dense first glance rewards further investigation by the user, with the interactive functionality providing a simplifying lens through which to filter the variables. This highlights the intense complexity faced by actors when overlapping geographical land-use definitions combine with a multilevel web of governmental responsibilities, but allows genuine understanding of who-does-what.

In the month since it was published, the infographic has had over 1,000 page views and has just been translated into Spanish. In addition to its primary purpose, the infographic is also proving to be a powerful learning and teaching tool for scientists and policy negotiators wishing to illustrate the complex nature of landscapes and landscapes approaches.

Visualising the past, present and future of carbon emissions



Click for interactive version (Internet connection required), or visit on-line at: <http://bit.ly/1GieZfJ>

Creators:

Bill Dugan, Johannes Friederich, Duncan Clark, Robin Houston, Kelly Levin, Jennifer Morgan, Thomas Damassa

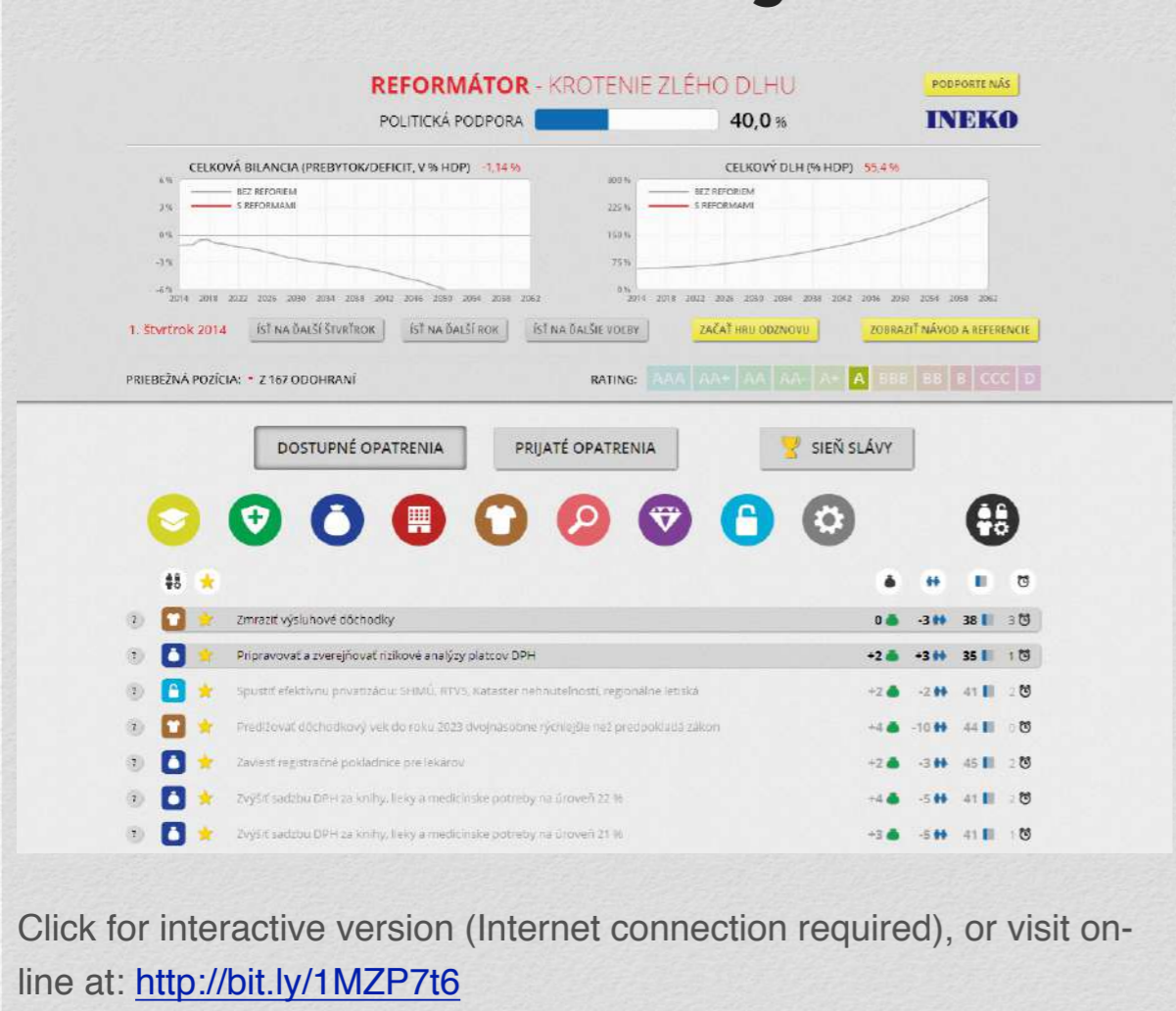
Organisation and country:

[World Resources Institute](http://www.wri.org/), United States of America

Description:

This interactive visualisation, based on data from WRI's Climate Analysis Indicators Tool (CAIT) and the Intergovernmental Panel on Climate Change (IPCC), shows how national CO₂ emissions have changed over the last 150 years, how much of the global carbon budget these emissions have used up, and what the future might hold. Featured on *The Guardian's* homepage, it had about 35,000 views in one day.

Reformers: Restraining evil debt



Creators:

Peter Goliaš, Eugen Jurzyca, Peter Klátik, Matej Tunega

Organisation and country:

[Institute for Economic and Social Reforms](http://www.ineko.sk), Slovakia

Description:

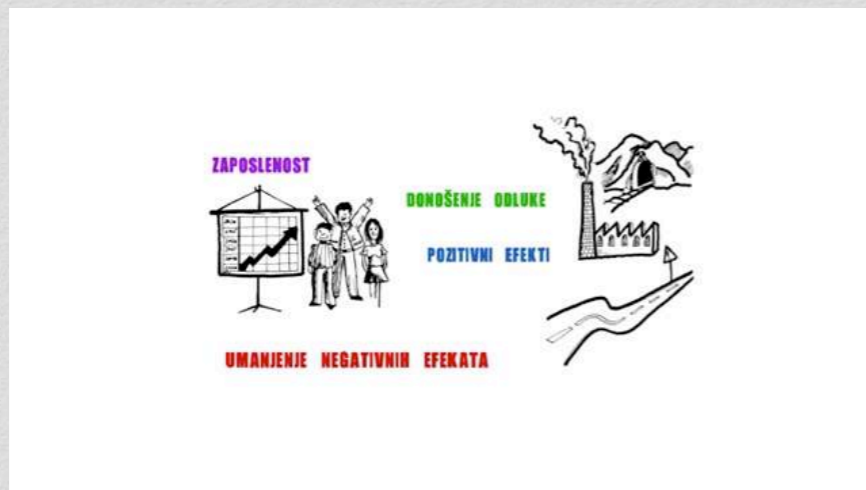
The idea is a reaction to concerns about growing public debt in Slovakia. Mainly due to demographic changes, Slovakia's public debt is expected to rise without any change in policies and without accounting for the negative effects of an unsustainable debt mounting to 269% of GDP by 2063. The potential public financial crisis may threaten democracy, reverse the integration process, strengthen extremists and deepen poverty.

Politicians are often reluctant to adopt good but unpopular measures to curb the debt. To change this, we think it crucial that the public understand these threats and support the right measures, and that politicians be responsible and not just populists.

This interactive computer game shows the necessity as well as the alternatives for the reduction of public debt in Slovakia. The player in a simulated economy, over next 50 years, can choose quarter-after-quarter one from a pre-defined set of measures and see their impact on public debt, and political popularity of the government. The simulation is based on official Ageing Working Group (AWG) forecasts for the next 50 years for Slovakia.

We have chosen a fun way – a computer game – to attract the public and especially the young generation. It is possible to use the game for entertainment as well as for education at schools.

Think-Act-Impact video animation: Environmental impact assessment and strategic environmental assessment in Serbia



Click to view video (no Internet required), or view online at: <http://bit.ly/1FwgYKC>. An English transcript is available online at: <http://bit.ly/1y9BsZW>

Creators:

Stefan Sipka, Nebojsa Lazarevic

Organisation and country:

[European Policy Center in Belgrade \(Centar za evropske politike - CEP\)](#), Serbia

Description:

This animation was developed for the project, 'Think-Act-Impact: Ensuring Improved Implementation of EU Directives on Environmental Impact Assessment (EIA) in Serbia'.

This animation primarily has the wider public as its target audience. The purpose of this animation is to explain in generally comprehensible language and through visualisations what the EIA is, and most importantly why it is important for citizens to take part in this procedure. It consists of 10 slides and starts from concrete associations of a particular development project (factory, road, mine) and progressively leads the views towards more abstract and institutional issues, like the role of the public.

So far it has been published online on official sites of the organisations implementing the project, on YouTube and by presenting the animation at public events, e.g. workshops.

As the animation was published at the end of September, it is still too early to draw conclusions of its overall impact. At this point it has 163 views on YouTube. However the real number is higher than 200 because it was also shown offline during workshops (organised as additional project activities), as well as to other interested persons.

The project "Think-Act-Impact" is financially supported by the Royal Norwegian Embassy in Belgrade.

Pathways to the future we want



Click for interactive version (Internet connection required), or visit on-line at: <http://bit.ly/1GZQMtO>

Creators:

Tatiana Oliveira, Lais Ramalho, Vitor Hugo Anastacio, Jonathan Fernandes

Organisation and country:

[Brazilian Center for International Relations – CEBRI](#), Brazil

Description:

Since 2010, CEBRI and the Konrad Adenauer Foundation have promoted debate on the sustainable development agenda from the specific point of view of international relations. We have carried out several joint projects. [Pathways to the future we want](#) is the most recent.

Information is a key aspect to advance the debate on sustainable development. We have produced an interactive and participatory platform that gives an overview of the history of the multi-lateral process concerning sustainable development. With our timeline, the public can engage in a 'journey' and get to know the main topics of our debate and also dive into specific contents, exploring them in depth, in an easy and intuitive way.

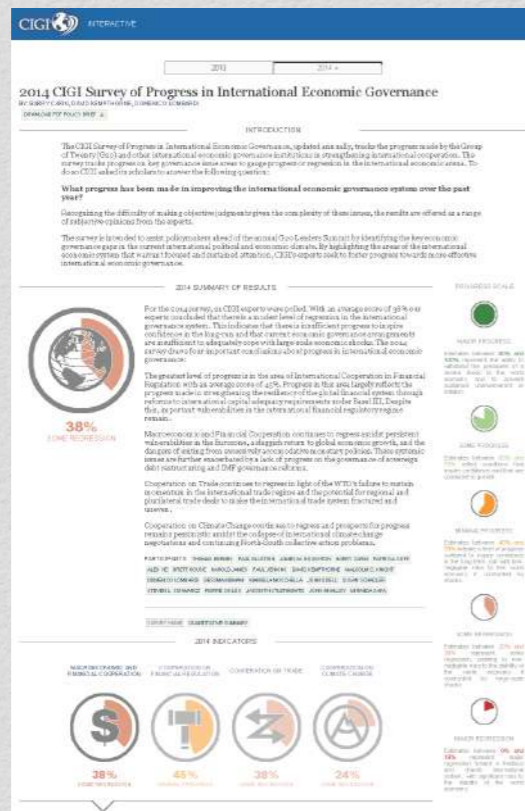
This platform was designed to serve as a database to civil society representatives (students, businessmen, NGOs, social movements) and policymakers. The platform was recently launched, so we believe it is too soon to claim impact, but we expect it to become a reference for sustainable development agenda studies in Brazil very soon.

How to use the website



Click to play. Internet connection not needed.

Survey of progress in international economic governance



Click image to enlarge. View the interactive website at: <http://bit.ly/1y9DF7x>. Internet connection required.

Creators:

Som Tsoi, Caroline Simpson

Organisation and country:

[Centre for International Governance Innovation \(CIGI\)](http://www.cigi.org), Canada

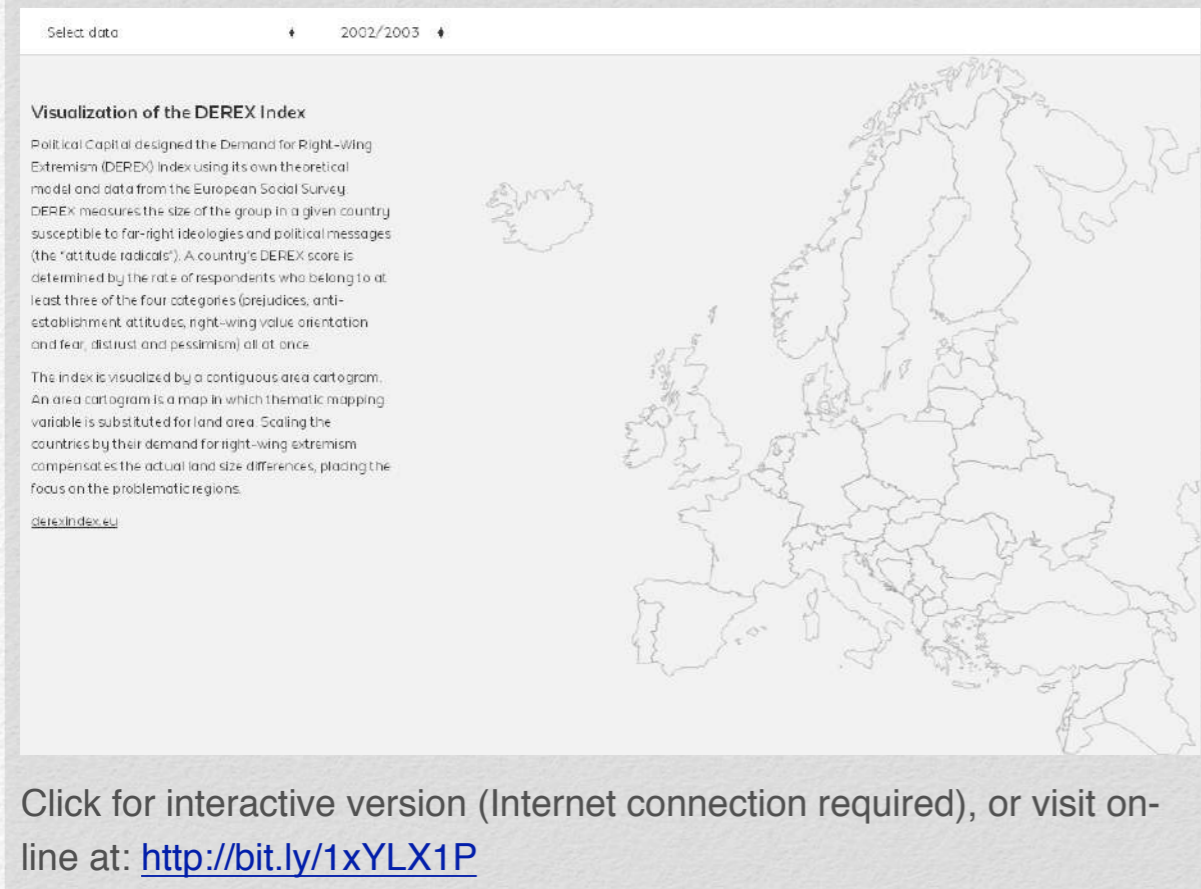
Description:

This data visualisation is an interactive webpage created in support of the 2014 CIGI Survey on Global Economic Governance, which tracks annual progress made by the Group of Twenty (G20) and other international economic governance institutions in strengthening international cooperation. The visualisation aims to show overall economic progress in four key areas through a colour coded scale and pie chart visualisation – making heavy qualitative analysis quickly digestible. The rankings/responses of each participating expert are also available, allowing users to review results collectively or on an individual basis.

Given the niche subject of the data represented, the visualisation is aimed at global governance scholars and policy makers, although it has relevance for a wider user base with interest in global economic affairs. The interactive page was a key element in CIGI's G20 communication efforts in November 2014, with a feature on the CIGIonline.org homepage and serving as the landing page for a related policy brief, podcast, and several op-eds that ran in leading national newspapers.

The data were previously represented in a static policy brief form. For 2014, the interactive webpage received nearly six times the page views than the related policy brief, with 86% of sessions coming from new users in 109 countries – extending CIGI's research and branding to a new, global audience.

Visualisation of the DEREX index



Creators:

Csaba Molnár, Jonathan Ravasz, Péter Krekó

Organisation and country:

[Political Capital](#), Hungary

Description:

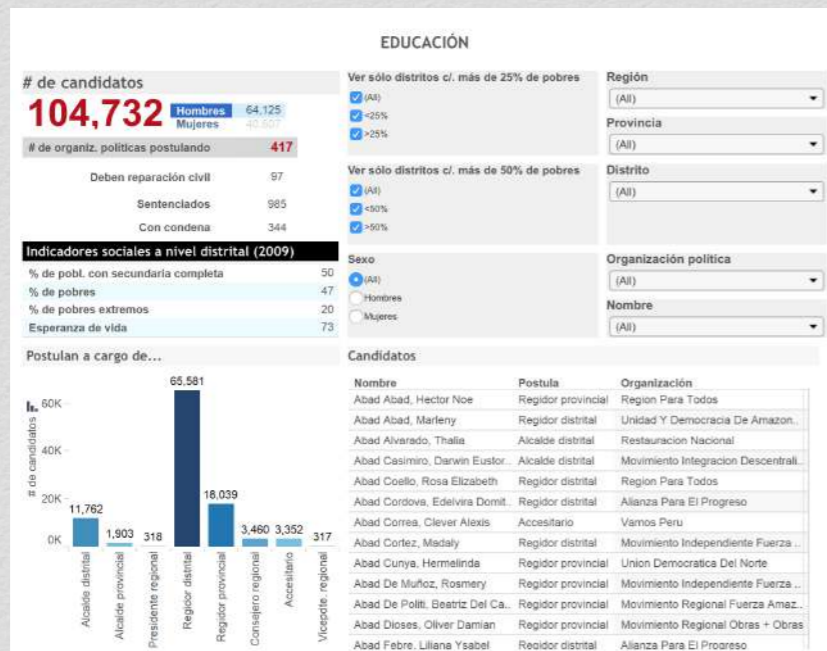
This interactive map was developed to visualise the Demand for Right-Wing Extremism Index (DEREX). German sociologist Ralf Dahrendorf said it takes six months to replace a political system, six years to transform an economic system, and 60 years to change a society. Political Capital's DEREX index makes it possible to track changes in social phenomena that threaten to radicalise a society.

DEREX measures the size of the group in a given country susceptible to far-right ideologies and political messages (the 'attitude radicals').

The goal of the visualisation is to guide the user through the data by processing it into a cartographic environment. The map invites the user to iterate through the years of the research data, allowing them to study the tendencies, not just by geographic location, but also over time. The data are both depicted visually and numerically. This makes it accessible to a wide range of audiences: from data journalists to decision-makers, from researchers to school students.

The index is visualised by a contiguous area cartogram. An area cartogram is a map in which a thematic mapping variable is substituted for land area. Scaling the countries by their demand for right-wing extremism compensates the actual land size differences, placing the focus on the problematic regions.

Be informed and choose: Candidates for regional and municipal elections 2014



Click to enlarge image. Or visit interactive visualisation at: <http://tabsoft.co/1NPi7id> (Internet connection required)

Creators:

Wilson Hernandez B., Julio Avellaneda, Gabriel Chavez Tafur

Organisation and country:

[CIAD - Centro de Investigación Aplicada al Desarrollo \(Centre for Applied Development Research\)](#), Peru

Description:

In Peru, the common election dilemma (whom should I choose?) is heightened by two information asymmetries: voters unaware of candidates' profiles and candidates unfamiliar with the needs of their locality. This results in candidates' proposals unmatched with their locality's needs, and voters led by candidates' personal marketing instead of by their ideas.

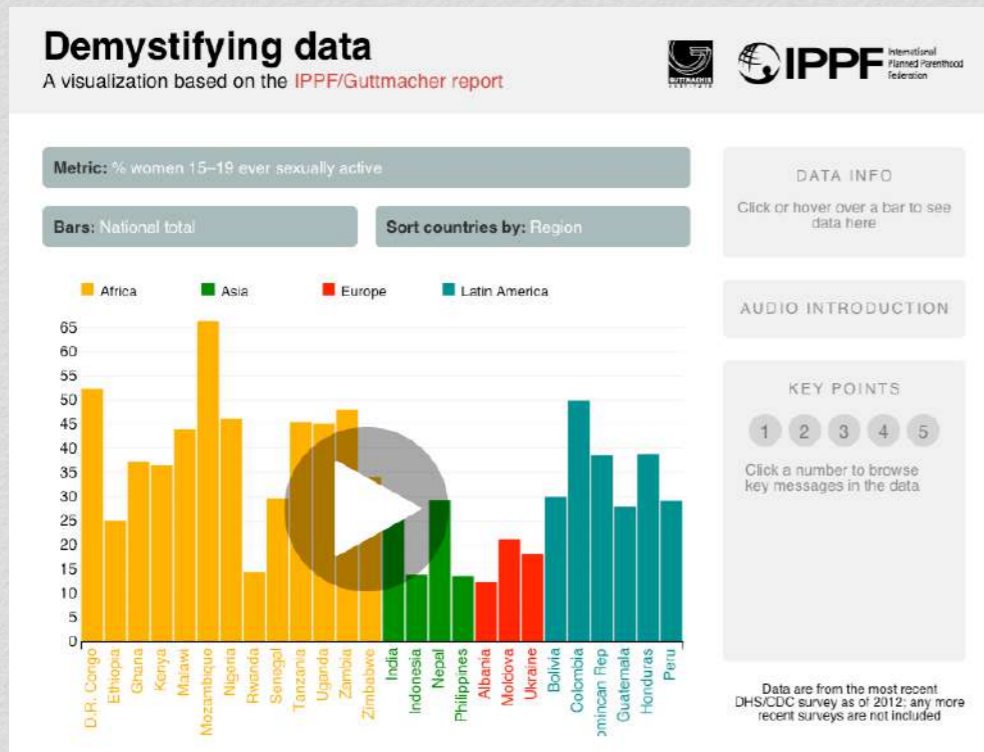
CIAD addressed this with two complementary data visualisations: 'Get informed and choose' and the 'District Social Needs Index'.

Candidates' résumés were uploaded on the electoral authority's website and Anonymous-Peru published this information in database format, which we used for this project.

The objective of the visualisation was to promote an informed vote among the 15 million voters in Peru through the presentation of the educational, political and judicial (sentences) profiles of the 104,000 candidates at the regional, provincial and district levels in the country. The data can be filtered by political organisation, geographic scope, education and income.

The data visualisation had a second objective: to measure the gender quota compliance and to identify gender disparities.

Demystifying data: A visualisation based on the IPPF/Guttmacher report



Click for interactive version (Internet connection required), or visit online at: <http://bit.ly/1c1QZRu>

Creators:

Tia Jeewa

Organisation and country:

[The International Planned Parenthood Federation](http://www.ippf.org)

Description:

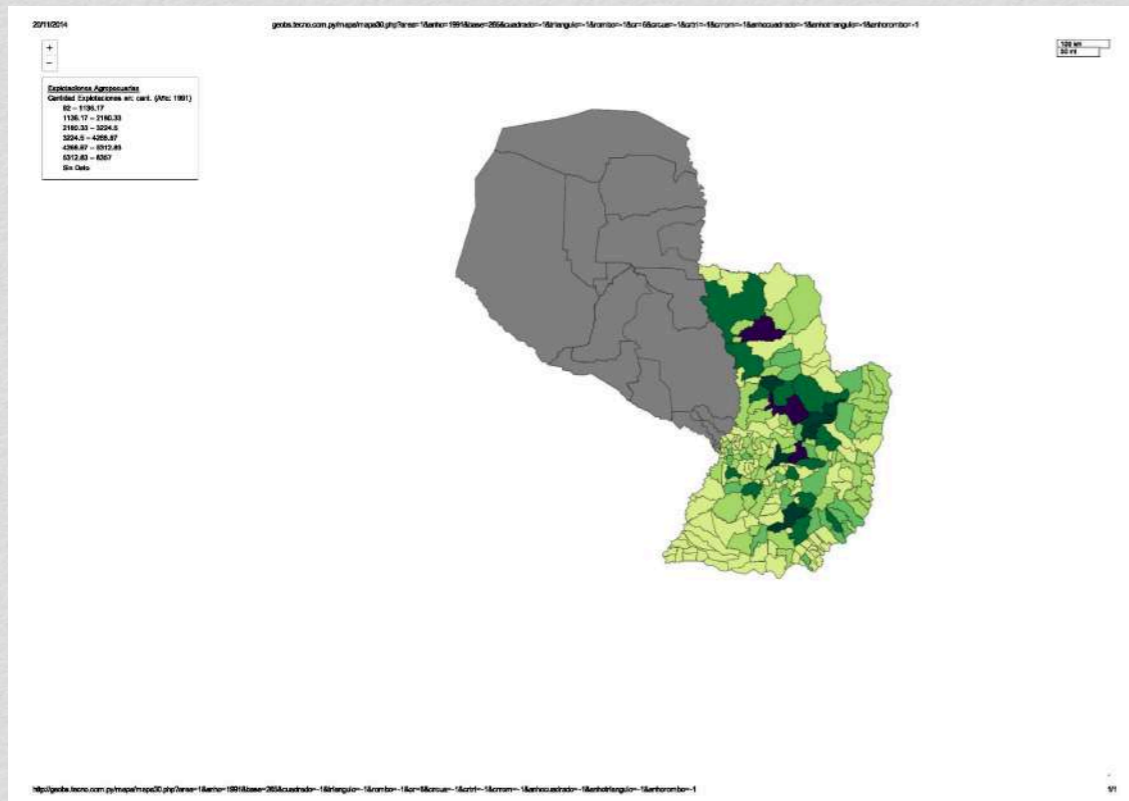
The 'Demystifying Data visualisation tool' is intended to help inform advocacy work around adolescent sexual and reproductive health issues, including increasing funding and improving access to information and services.

It compiles data from national surveys in 30 countries and offers a snapshot of the current challenges that young people face when trying to access Sexual and Reproductive Health (SRH) services. The tool highlights in particular the need for comprehensive sexuality education to empower thousands of young people around the world.

In many countries, girls' and young women's access to contraception and other sexual reproductive health services is limited. This can lead to unwanted pregnancy, sexually transmitted infections (STI) and unsafe abortions. Unmarried women and young girls are often denied sexual and reproductive health services even when vulnerable to violence and sexual abuse.

Investing in girls' empowerment through comprehensive sexuality education and access to youth-friendly sexual and reproductive health services will contribute to end the cycle of violence.

Statistics mapping interactive atlas



Click the image to enlarge. The interactive version of this visualisation is no longer available.

Description:

The visualisation is a mapping tool that fetches statistical data from a local database and maps social indicators onto a district-level or department-level map of Paraguay. Current implementation includes agriculture- and education-related data from institutional investigations and national statistics surveys. The tool allows selection of district or department-level map selection, then choice between 38 education-related indicators and 35 agriculture-related ones. 2015 development plans will include economy, poverty and social participation data.

Creators:

Rodolfo Elías

Organisation and country:

[Desarrollo, Participación y Ciudadanía](#), Paraguay

Winners and commentary

Winner

The past, present and future of CO₂

This interactive visualization, based on data from WRI's [CAIT](#) and the IPCC, shows how national CO₂ emissions have changed over the last 150 years, how much of the carbon budget these emissions have used up, and what the implications are for the world to watch or use the controls below to explore.

Runner up

Demystifying data

A visualization based on the [IPPF/Guttmacher report](#)

Metric: % women 15–19 ever sexually active

Bars: National total

Sort countries by: Region

Legend: Africa (Yellow), Asia (Green), Europe (Red), Latin America (Teal)

Winner

DATA INFO
Click or hover over a bar to see data here

AUDIO INTRODUCTION

KEY POINTS
1 2 3 4 5
Click a number to browse key messages in the data

Commentary

For the second round of the 2014–15 On Think Tanks Data Visualisation Competition, we limited entries only to interactive visualisations.

Interactive visualisations can run the gamut from simple actions like mousing over items to display more information. Or by clicking on a bubble, it could 'explode' sub-categories. Or an interactive visualisation could change based on user input, such as we saw in a number of tax planning visualisations in the 2013–14 version of the competition. Or, indeed, they could take a combination of approaches.

And in this round we saw a number of examples that did just that. Some relied on tools like Tableau and Infogr.am to give their visualisations interactivity. Others did more bespoke coding, relying on JavaScript libraries like D3.js to bring their visuals to life.

These various approaches were voted on by the public and narrowed down to the top five entries, which our diverse panel of judges has now reviewed.

So without further ado, the winner of Round 2 and of the US\$1500 prize is...

The past, present and future of CO₂ by World Resources Institute in the United States.

The timing of this visualisation couldn't have been better – it was sent in just as the Conference of the Parties (COP20) on climate change kicked off in Lima, Peru. That discussion was all about agreeing what data should be collected. This visualisation begins to show us why it's an argument worth having – ensuring that the right data is available to tell a compelling story is exactly what this visualisation benefits from.

The judges were, all in all, impressed with the visual. As one judge put it:

‘It's very clear. It makes great use of: very robust datasets, historically comprehensive data, simple but effective scenarios, well rendered and easy to understand graphics, regional dimensions (it's easy to see how Asia is emitting over time compared to Europe) and more. It has a very clear voice over. The policy implication is a no-brainer and is well communicated. All in all, excellent!’

The use of the animation to guide a viewer through the content was also welcomed by the judges and seen as quite innovative.

The only down side to that was that some judges felt there could have been a little more interactivity. As it stood, there are only a few buttons that help to navigate positioning in the anima-

tion. Buttons that helped to pause the story and explore the data would be on our wish list for next time. And another judge suggested there should be options provided to download the data.

Our congratulations to WRI and the Kiln team for this job well done. We hope it went down a bit better at COP20 than the Greenpeace stunt!

As for the winner of our \$500 runner-up prize?

Demystifying data from the International Planned Parenthood Foundation.

The judges really appreciated the combination of the various elements in this one visualisation that really make it a whole:

‘I like how they combined a data visualisation, with a data visualisation generation tool, with a brief tutorial on how to use it. It also provides key messages which can clearly help their target audiences.’

It's a great example of how to take the pedestrian bar chart and make it a lot more user friendly. But never satisfied, the judges had their own features they'd love to see: a way to download charts once they're made by the user, and a more powerful sort function (right now if looking at the more desegregated data around income and location it only sorts by the top number).

Several judges did highlight that having the five key messages embedded in the visualisation really strengthened it.

So, well done to our winners and to all of those who submitted visualisations for this round. Be on the look out in January for the last round of this year's competition, which looks at **best use of a data visualisation as part of a communication strategy.**

The On Think Tanks interview with Bill Dugan

We caught up with the winner of the second round of the On Think Tanks Data Visualisation competition about their inspiration and experience creating the winning piece.

[Visualising the past, present and future of carbon emissions](#), an interactive visualisation by Bill Dugan at the World Resources Institute, USA, is an innovative concept that had big impact.

We spoke to Bill about his team's inspiration for the graphic and his advice for anyone else looking to use interactive visuals to tell a story.

OTT: What was the inspiration for your interactive graphic? Did you consider doing a static graphic at any point or was this always the concept?

BD: This was always the concept. WRI began an initiative called Information Into Action two years ago, with the purpose of reaching a wider audience with more timely information. We actually hired the vendor (Kiln) first, before we knew what the project was going to be! Then we held an internal competition within WRI to have each program develop an idea pitch. We worked with them to develop the materials, language and approach, and then we let Kiln decide which project they found the most promising.

OTT: The data used obviously dates back a very long time. Was it easy to access this data? How did you go about getting the future projections?

BD: WRI has been doing climate analysis for years, and the infographic is an extension of the findings from our Climate Analysis Indicators Tool, along with additional data sourced from the University of Oxford by our friends at Kiln.

OTT: The graphic was very well received, with 35,000 views in one day on the Guardian. Were you expecting it to be so popular, and have you seen much of a response from policy makers?

BD: We hoped it would be popular, and were frankly very surprised and happy it got so much visibility!

‘We actually hired the vendor (Kiln) first, before we knew what the project was going to be! Then we held an internal competition within WRI to have each program develop an idea pitch.’

OTT: *The graphic design in the visualisation is relatively simple. Was this an intentional decision?*

BD: Yes. Working with the vendor, we wanted to keep the design secondary and supplemental to the data and the story itself. They did a great job of developing the look and feel of the piece, and we worked collaboratively to reach the final solution.

OTT: *I can see from your website that your data visualisations are usually static graphics. Why did you decide that this was a good project to use interactivity?*

BD: Actually, we do quite a lot of interactive visualisations. Most of them are map-based, and are usually user-driven. They generally allow users to find information on their own. This interactive piece was a new approach for us – narrated and self-playing, although the user can pause it and interact with it at any time. Because we were showing data over a long timeline, we knew an interactive would be perfect for telling that story.

OTT: *Has the success of this graphic inspired you to make more interactive infographics?*

BD: Definitely. I'm pushing the organisation to fund and build more visualisations around the research we're doing.

OTT: *What would you say are the pros and cons of using an interactive model as opposed to a static graphic?*

BD: The pros are that storytelling is more compelling, especially with a narrated voiceover. The cons are the amount of planning, preparation and building we need to do to make one of these, which means it's hard to build something quickly and timely unless there's a long-term plan in place.

OTT: *If you could give one piece of advice to another think tank or organisation hoping to do something similar, what would it be?*

BD: Develop your story and concept carefully – don't rush it. Make sure your overall voice is conversational.

Round 3

Visualisations

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The third round was in search of the best use of data visualisation as part of communication strategy. It was open to new entries as well as visualisations from the first two rounds. In total there were 17, three of which were new to the competition.

Round 3 Entrants

1. **Ecos de México**
2. **UK Government departments by grade composition, 2010 and 2014**
3. **Media council redraws the radio market**
4. **The complexity of governance**
5. **Think-Act-Impact video animation**
6. **Adult obesity in the United States**
7. **Identity crisis: The Israeli ID system**
8. **Challenges of health care system in Uzbekistan: How to address growing expenditures and demand?**
9. **Legalising restrictions of the freedom of the press**
10. **The reality of illegal mining in Amazonian countries**
11. **Supporting durable solutions to urban, post-disaster displacement**
12. **Flooding in the Piura river basin**
13. **Don't limit HER possibilities!**
14. **Lowy Institute 2014 polling interactive**
15. **Pull power: Attractions and detractions in the time zone of the twenty-first century**
16. **Indian states' performance in protecting people below poverty line from catastrophic healthcare expenditure**
17. **The great resource price shock**

Ecos de México



Click image to enlarge.

Creators:

José Luis Chicoma, Maricar-men Medina-Mora

Organisation and country:

[Ethos Public Policy Lab](#), Mexico

Description:

Through a monthly infographic, using stars to rate the image of Mexico similar to a book or movie review, *Ecos de México* takes a look at the international media's perception of the country. News and articles from newspapers, magazines and online news sites from around the world are monitored to analyse the perspective of Mexico. The main objective is to raise awareness among the general public about the external image of the country. We tend to read our national press, but most of the media in Mexico has limited information due to conflicts of interest; most of the news related to insecurity and corruption scandals is released by international press, not in the national media. Therefore, it's important to examine different perspectives, and our goal with *Ecos de México* is to highlight what the world is saying about Mexico, both positive and negative.

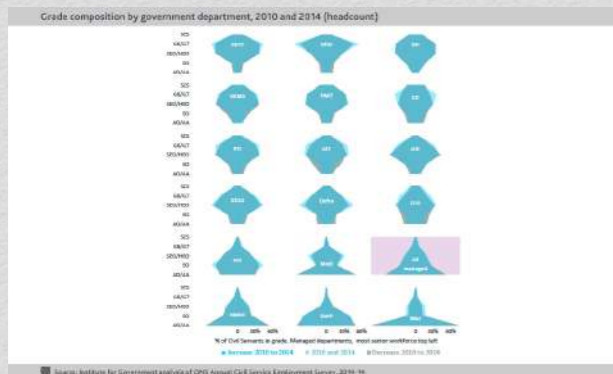
Communications strategy:

The overarching communication objective is to inform and to generate a different perspective in the Mexican population by providing a plural and objective vision of the country's current issues from an external point of view. A star-based classification, similar to that which is used for books, films, hotels or restaurants, is adapted to show how positive or negative the perspective of the news piece or article is. *Ecos de Mexico* is published on our website, as well as on an online newspaper called *Arena Publica*. Along with the infographic, a summary of the articles and news that were analysed is published online, as well as an opinion article written by the Ethos team. By portraying the most relevant news or articles in a few sentences and with an innovative and fresh image, each month we attract more readers and expand a distinct outlook of Mexico.

Uptake and impact:

Ecos de México generates interest in the international perspective of the country, the innovative infographic attracts numerous people and it is vastly commented on and constantly retweeted and shared on social media. Since it's published on our website, it generates more traffic and more viewers not only to the infographic but also to other of our publications and analysis. Moreover, newspapers and online news sites often use the articles from *Ecos de México*.

UK Government departments by grade composition, 2010 and 2014



Click image to enlarge.

Description:

This visualisation shows the composition of different UK government departments by grade – from most senior (SCS, or Senior Civil Service) to most junior (AA and AO, Administrative Assistants and Administrative Officers). It shows some departments (DECC, DFID, Health, DCMS, HMT, Cabinet Office) have a high percentage of staff in senior grades, while others have staff concentrated in the more junior, administrative grades.

Creators:

Gavin Freeguard, Petr Bouchal, Robyn Munro, Caragh Nimmo, Emily Andrews, Julian McCrae, Andrew Murphy, IfG communications team

Organisation and country:

[Institute for Government](#) (IFG), UK

It is just one of more than 120 visualisations we developed for Whitehall Monitor 2014, our annual report showing the size, shape and performance of government in the UK. As well as an annual report, we publish more frequent blogposts (and tweets) when government data is released. The original version of this visualisation was first published in this way.

Our target audiences are people working in government departments, politicians in government and opposition, journalists, civil society groups, the open data community and anyone interested in what government in the UK looks like and how it works. We see our role as taking the data published by government and turning it into meaningful information through graphics and analysis. This visualisation – on a potentially dry subject – has been retweeted over 100 times and drove lots of traffic to our project and to the supporting blogpost. It was our second most-read blogpost of the year after our government reshuffle live-blog, where we published real-time charts.

Communication strategy:

This visualisation is part of a much wider communication strategy for our Whitehall Monitor project. Whitehall Monitor aims to improve the way government uses and publishes data, improve the way government data are used by others and turn the data published by (and about) government into something meaningful and useful. We want to give our audiences a better

sense of what resources government has, how it uses those resources (and how well), and what impact government has on the real world.

The whole Whitehall Monitor project also forms part of the IFG's wider objective which is to improve the effectiveness of government. By better understanding what government looks like, how it operates and how successfully it performs through data analysis and presentation, we can get a much better handle on how effective government is, which departments are performing well (and are therefore examples to others), where improvements can be made and then to communicate all this to our audiences.

Whitehall Monitor consists of a number of different products:

- The annual report, a narrative-driven compilation which gives both a snapshot of government, how things have changed, what challenges the next UK government will face and an assessment of government transparency.
- Blogposts, giving topical analysis when data is published.
- Live-blogs, such as live-blogging the 2014 government reshuffle in charts which we were updating as announcements were made.
- Tweets, from the IFG and from team members, which allow people to get a sense of topline messages as well as driving them to our deeper analysis.

- Subject repository pages, which link to the appropriate annual report chapter, latest blogposts and all of the underlying data for our analysis (allowing others to reuse it and ensuring our own work is transparent).
- Oral presentations, such as our Whitehall Monitor 2014 launch, a version of which we have also presented to the Cabinet Office's Open Data User Group.

Uptake and impact:

The particular visualisation on departmental grades certainly drove more traffic to our website, and introduced a lot of people to Whitehall Monitor as a project.

A number of our products also allow us to link to other aspects of Institute for Government work – notably the reshuffle live-blog, where we referred to press notices, other posts and other reports about reshuffles. More people are reading our work – through a variety of channels – than when we published Whitehall Monitor bulletins as PDFs.

From both statistics and feedback, we know that people within our target audiences are reading and using the work. For example, Full Fact have used our data to accompany one of their stories; a number of government organisations are using our visuals in their own presentations; and our work has led to corrections and changes in the way government data are published.

Media council redraws the radio market



Click image to enlarge.

Creators:

Krisztina Nagy, Attila Mong, Gábor Polyák, Ágnes Urbán, Erik Uszkiewicz

Organisation and country:

[Mertek Media Monitor](#), Hungary

Description:

Mertek Media Monitor has been analysing the Hungarian media authority's tendering practices since 2011, when new media legislation in Hungary came into force. The analysis is based on the calls for tenders, decisions and other documents published on the authority's website. Mertek records the most important features of the Media Council's activities and assesses the impact of the tender processes on the media market.

Our analysis investigates how far the authority's radio frequency distribution is

capable of ensuring media pluralism and diverse information, and how far prevailing tender practices mesh with the requirement of efficiently managing the state's frequency resources.

The target audience includes citizens who are interested in media policy and press freedom. The long reports and studies are typically read by small segment of experts, but the infographics can reach everybody who recognises the importance of free and independent media as a basic precondition of democracy. It can reach a broader audience than the written reports. The infographic was included in several conference presentations and university lectures, and it went viral in social media.

Communication strategy:

Mertek Media Monitor is a watchdog that relies on legal, journalistic, economic and sociological expertise to understand the media policy processes, as well as the social risks they imply, and conveys its take on these issues to a wide audience.

In its analyses Mertek examines the impact of the new media laws on the authorities' practice and – as part of a considerably broader set of media policy-related instruments – it also looks at how they influence journalistic work, media content, media market processes or even media consumption patterns.

For Mertek Media Monitor, it's important to circulate the results of its activity to a wide audience. To do this, we are present in the biggest newspapers, radio stations and websites.

Next to the complex and multi-dimensional reports, we produce shorter blogposts for better and easier understanding. Our blog

proved to be popular among readers. We launched our newsletter in English, which was received by foreign journalists working in Hungary and embassies as well. Periodically we also send a Hungarian newsletter, and we also use the social media tools (Facebook, YouTube for recording events and Twitter).

We have been organising some successful international conferences, workshops and 'Freedom of the Press' cafés, each devoted to a timely topic as the regulatory concept evolves. It is our hope that the Freedom of the Press Café will become an important forum for shaping Hungary's vision of media regulation and media policy in the future.

In cooperation with the University of Pécs we organise the Mertek Media Festival each year in order to reach the younger generation. These events are widely covered by local and national media outlets.

Mertek Media Monitor is constantly present in the technical and non-technical fora of the domestic and international public, thus promoting the effectiveness of freedom of the press and maintaining publicity that complies with the principles of democracy.

Infographics seem to be one of the best ways to explain tendencies and troubles in connection with the Hungarian media environment. In order to enhance the presentation of our research reports, we supplied them, where applicable, with infographics, which can be particularly useful with online dissemination.

That's one of the reasons why we are a partner in a data visualisation program run by K-Monitor, an anticorruption NGO, and supported by EEA Norway Grant. Our important communication objectives and partners are the embassies and international organisations. We are regular participants of discussions with these institutions. In our communication, we have to put more emphasis on brief summaries which can be readily used by news agencies as press release.

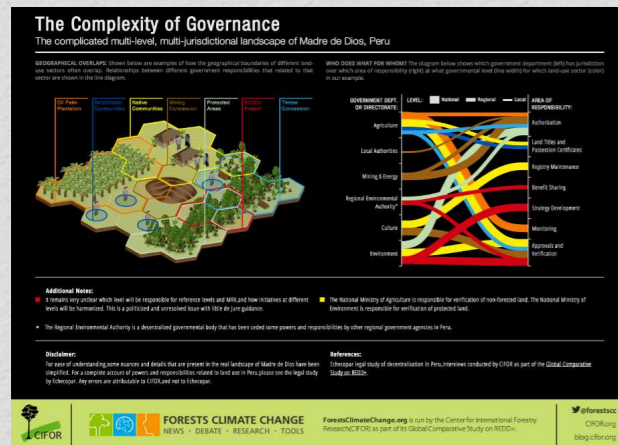
Uptake and impact:

The infographics are published on the website and distributed on Facebook. They are also used as illustrations in conference presentations and some elements of the infographics appeared on the cover of a book, published by Mertek in 2014.

The infographics are very popular on Facebook; these posts are intensely liked and shared. Their main objective is to draw the attention of the audience to our text-based reports, and to emphasise the main findings of our research.

Our reports are mainly professional texts, and even if we try to avoid jargon in them, with infographics we can publish our results to a much broader public. Our infographics explain complex media policy issues with some precise delineation. Infographics are important elements to fulfill our mission, to make visible and understandable the abuses in media politics.

The complexity of governance



Click for interactive version (Internet connection required), or visit online at: <http://bit.ly/1yPTACE>

Creators:

Jim O'Neill, Michelle Kovacevic, Ashwin Ravikumar, Regga Rantai

Organisation and country:

[Centre for International Forestry Research \(CIFOR\)](#), Indonesia

Description:

See [Round 2 entry for full description](#).

Communication strategy:

The goal of the Forests Climate Change (FCC) information hub – run by CIFOR – is to foster links between researchers and policy makers, private sector actors and local people to guide and inform climate change decision-making and policy. To achieve this, FCC empowers its audience with understandable, timely and scientifically accurate information. The development of this infographic, its Spanish language version and accompanying article are a perfect case-study for FCC's approach.

The Echecopar legal study of decentralisation in Peru contains some dense and powerful information about land-use governance, a hot topic at the then-upcoming COP20. But the document is understandably difficult for a lay-person to follow.

In the midst of preparing a feature article about the findings of the report, the FCC found that the density of information would best be served by producing a complementary infographic to serve as both a visual explanation, and a web- and share-friendly tool to drive traffic. Creating an interactive infographic had an added bonus of being able to present potentially politically sensitive findings in a way that allows readers to draw their own conclusions, avoiding having to explicitly state them.

A timely release date one month prior to the COP20 in Peru gives it even greater significance with regards to FCC's strategy. While the package is Peru focused, much of the positive feedback received has focused on the similarity with other contexts, highlighting its broader relevance.

Uptake and impact:

In the month since it was published, the infographic has had over 1000 page views and has just been translated into Spanish. In addition to its primary purpose, the infographic is also proving to be a powerful learning and teaching tool for scientists and policy negotiators wishing to illustrate the complex nature of landscapes and landscapes approaches.

Think-Act-Impact video animation: Environmental impact assessment and strategic environmental as- sessment in Serbia



For viewing information, see Round 2 entry.

Creators:

Stefan Sipka, Nebojsa Lazarevic

Organisation and country:

[European Policy Center in Belgrade \(Centar za evrposke politike - CEP\)](#), Serbia

Description:

See [Round 2 entry](#) for full description.

Communication strategy:

In addition to the animation, one 26-minute TV show was also published (accessible on the CEP website), and a second TV show is under preparation. The goal of these video materials (animation and TV shows) is to depict the most important aspects of the EIA concerning institutions and public participation. That is achieved while presenting results of the project, 'Think-Act-Impact', as it included research whose results were useful to apply in the TV show and animation and contributed to increased public participation in the EIA process.

Uptake and impact:

Due to the fact that both the TV show and animation were published only recently and that the entire project is ongoing, it is still early to draw conclusions of the communication impact of the published materials. Besides video materials, other communication activities consisted of publishing online reports and communicating the results of project activities at public events.

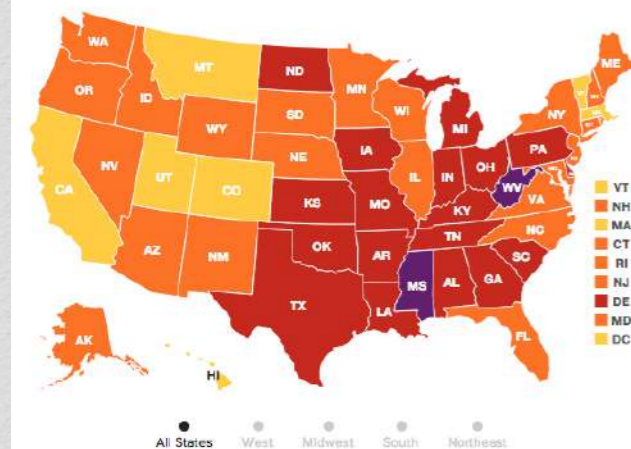
Adult obesity in the United States

Adult Obesity Rate by State, 2013

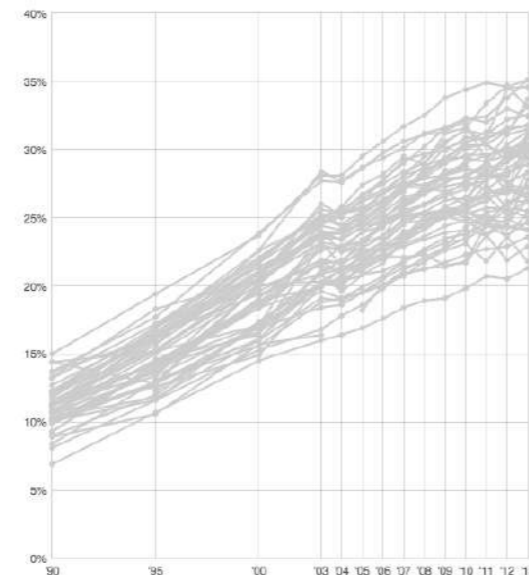
Select years with the slider to see historical data. Hover over states for more information. Click a state to lock the selection. Click again to unlock.

Percent of obese adults (Body Mass Index of 30+)

0 - 9.9% 10 - 14.9% 15 - 19.9% 20 - 24.9% 25 - 29.9% 30 - 34.9% 35%+



Adult obesity rates, 1990 to 2013



1990 - 2006 2007 2008 2009 2010 2011 2012 2013

Click for interactive version (Internet connection required), or visit on-line at: <http://bit.ly/1DUbBWp>

Creators:

Jeff Stanger, CDI Lab, Pim Linders/Data Focus, Burness Communications

Organisation and country:

[The Robert Wood Johnson Foundation](#) and the [Trust for America's Health](#), USA

Description:

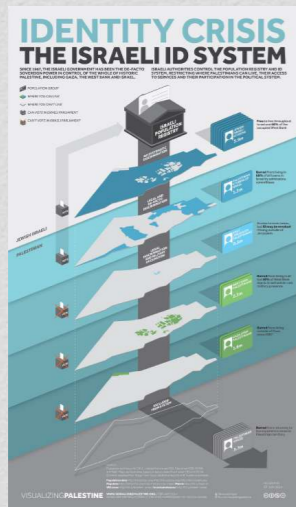
See [entry in Round 2](#) for full description.

Communication strategy:

As indicated in the main description, this visualisation is part of a much broader research agenda and communication campaign around the obesity issue in the United States. The campaign involves paid media, promoted social media posts, social media outreach, mainstream media cultivation and coverage, webinars and U.S. Capitol release events.

The main adult obesity interactive visualisation is part of a much deeper obesity "microsite" entitled State of Obesity. The microsite contains additional interactive visualisations and data-driven pages on a range of related topics, state-by-state profiles, policy analysis and recommendations, and more.

Identity crisis: The Israeli ID system



Click to enlarge

Creators:

Joumana Al Jabri, Ahmad Barclay, Conor McNally, Ramzi Jaber

Organisation and country:

[Visualizing Impact](#), Lebanon

Description:

Read full description in [Round 1 entry](#).

Communication strategy:

Through numerous exploratory conversations, the Visualizing Palestine (VP) project team learned that even highly engaged individuals who are informed on a wide range of facets of the Palestinian experience are unaware of the identification (ID) system. They are often shocked to learn that Palestinians must make decisions about who they can date or what bus they can ride based on the ID they carry. The existing media narrative of

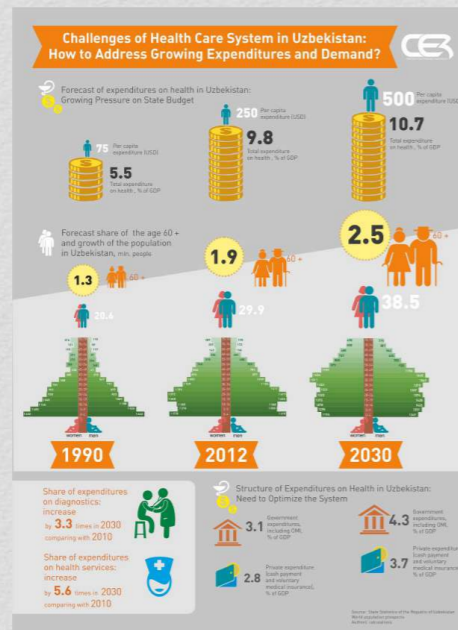
the Palestinian–Israeli issue does not capture the every day limitations imposed on Palestinians through policies and practices of institutionalised discrimination.

VP’s mission is to promote a factual, rights-based narrative of the Palestinian–Israeli issue and to support communities in their educational and mobilising efforts. The ‘Identity Crisis’ visual belongs to an ongoing VP campaign titled ‘Segregated by Color’.

The campaign’s core communication objective is to shed light on the state of Palestinian civil rights under Israeli control, and particularly the role of the ID system in separating families, fracturing communities, and disenfranchising people. The infographic allowed our target audiences to understand both the complex geography of Palestinian civil rights and the institutional mechanisms that overlay and reinforce this geography.

The process of developing the visual drew together a coalition of human rights professionals and creatives that contributed in campaign research, ideation, and dissemination. The 2003 Citizenship and Entry Law highlighted in the campaign will be up for renewal again in Spring of 2015, and the Segregated By Color campaign will continue to work to highlight the need for equality.

Challenges of the health care system in Uzbekistan: How to address growing expenditures and demand?



Click to enlarge

Creators:

Ekaterina Ustinenko, Zafar Berdinazarov, Umidjon Abdullajonov

Organisation and country:

[Center for Economic Research \(CER\)](#), Uzbekistan

Description:

The full description of the visualisation is available in the [Round 1 entry](#).

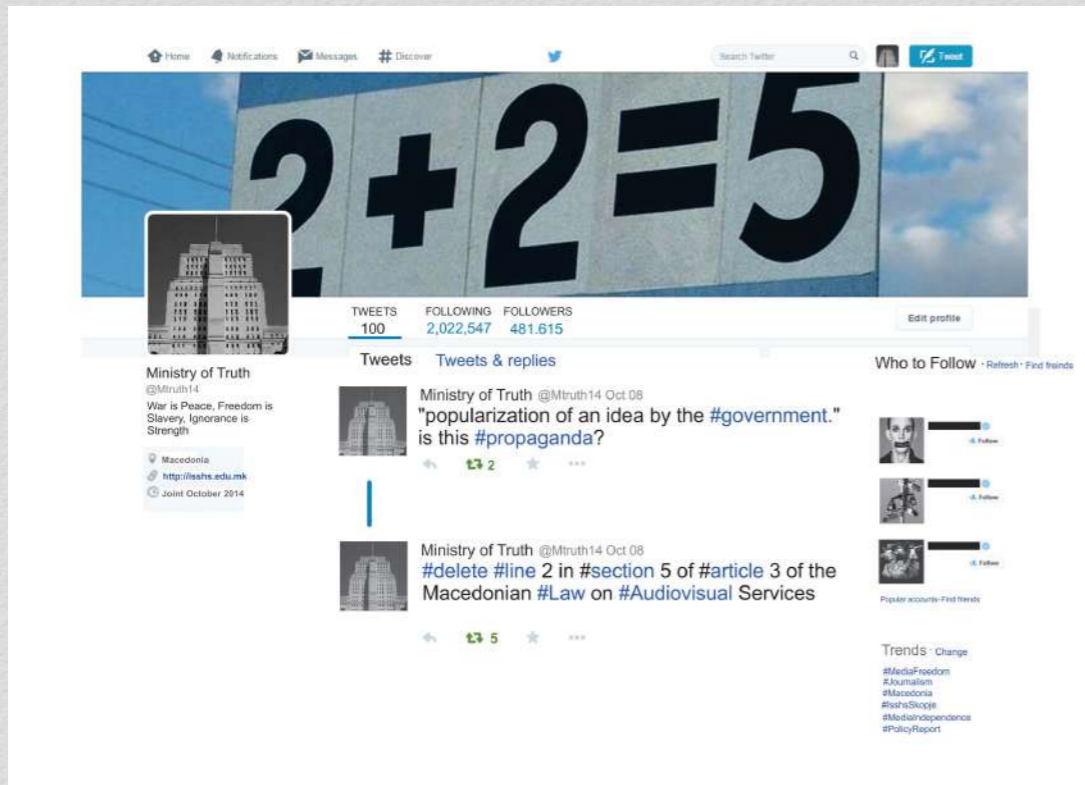
Communication strategy:

Both research on "Uzbekistan Towards 2030: A New Social Protection Model for a Changing Economy and Society" and infographic "Challenges of Health Care System in Uzbekistan: How to Address Growing Expenditures and Demand?" were widely distributed to recipients of the CER dissemination list, which includes representatives of UN agencies (worldwide), World Bank, Asian Development Bank, and different international and regional think tanks, research institutes and other independent experts.

Also, these two documents were sent to mass media and participants of Development Dialogue, which included representatives of international organisations and diplomatic missions in Uzbekistan.

The objective of dissemination was to inform the audience with the latest actual research, which would have a great impact on development and social transformation of Uzbekistan. Also, both documents were sent as application for participation in different international workshops, including Second ADB-Asian Think Tank Development Forum 2014.

Legalising restrictions of the freedom of the press



Click to enlarge

Creators:

Risto Aleksovski, Ana Blazeva

Organisation and country:

[Institute of Social Sciences and Humanities](#), Macedonia

Description:

Full description available in [Round 1 entry](#).

Communication strategy:

This visualisation is part of the wider communication strategy of the Institute of social sciences and humanities – Skopje (ISSHS) aiming to raise awareness related to the problem of ceaseless deterioration of the freedom of expression in the Republic of Macedonia.

It is accompanying the policy report, 'Legalising Restrictions of the Freedom of the Press', produced by a team of ISSHS researchers. The recommendations are visualised as separate tweets shared on Twitter and other social networks.

By using the recognisable Twitter visual language and symbolic of Orwell's *1984* we encourage discussion and question the contemporary policy mechanisms implemented by the government.

The reality of illegal mining in Amazonian countries



Click to enlarge

Creators:

Jimmy Carrillo Saavedra, Carmen Heck

Organisation and country:

[Sociedad Peruana de Derecho Ambiental \(SPDA - Peruvian Society for Environmental Development\)](#), Peru

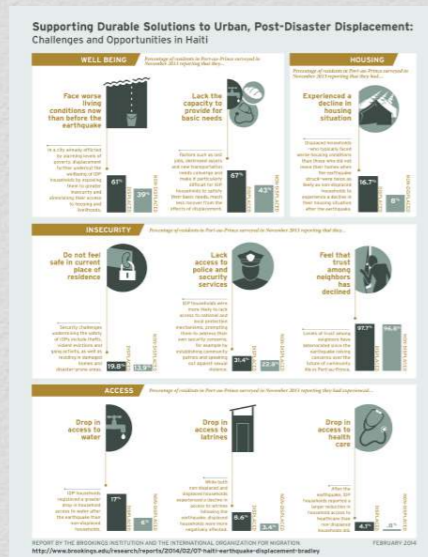
Description:

Full description available in [Round 1 entry](#).

Communication strategy:

This infographic is part of a larger research that analyses the state of illegal mining in Bolivia, Brazil, Colombia, Ecuador, Peru and Venezuela. The infographic was part of an outreach strategy, which also included the presentation of a book with the investigations. Also included a media and a social networks strategy to spread and generate debate on this topic.

Supporting durable solutions to urban, post-disaster displacement



Click to enlarge

Creators:

Marcia Underwood, Jessica Pavone, Kevin Hawkins

Organisation and country:

[The Brookings Institution](#), United States of America

Description:

See full description in [Round 1 entry](#).

Communication strategy:

This visualisation was part of a broader integrated communications strategy to:

- examine the question of durable solutions to displacement in Port-au-Prince;
- recognise the challenges faced in Haiti; and
- provide the key findings of the report to domestic and international policymakers, media and those intimately involved with humanitarian efforts in Haiti and beyond.

The visualisation was promoted/communicated via several different channels and platforms:

- report landing page with data visualisation highlighted prominently
- separate interactive landing page
- event
- blog post
- media and policymaker outreach
- digital outreach, including email and social media (Twitter, Facebook). This including using the #DurableSolutions for the report, blog post, and event in order to engage our target audience in conversation.

Flooding in the Piura river basin



Click to enlarge

Creators:

Francis Salas, Giannina Solari, Doris Mejia

Organisation and country:

[Soluciones Prácticas - Practical Action](#), Peru

Description:

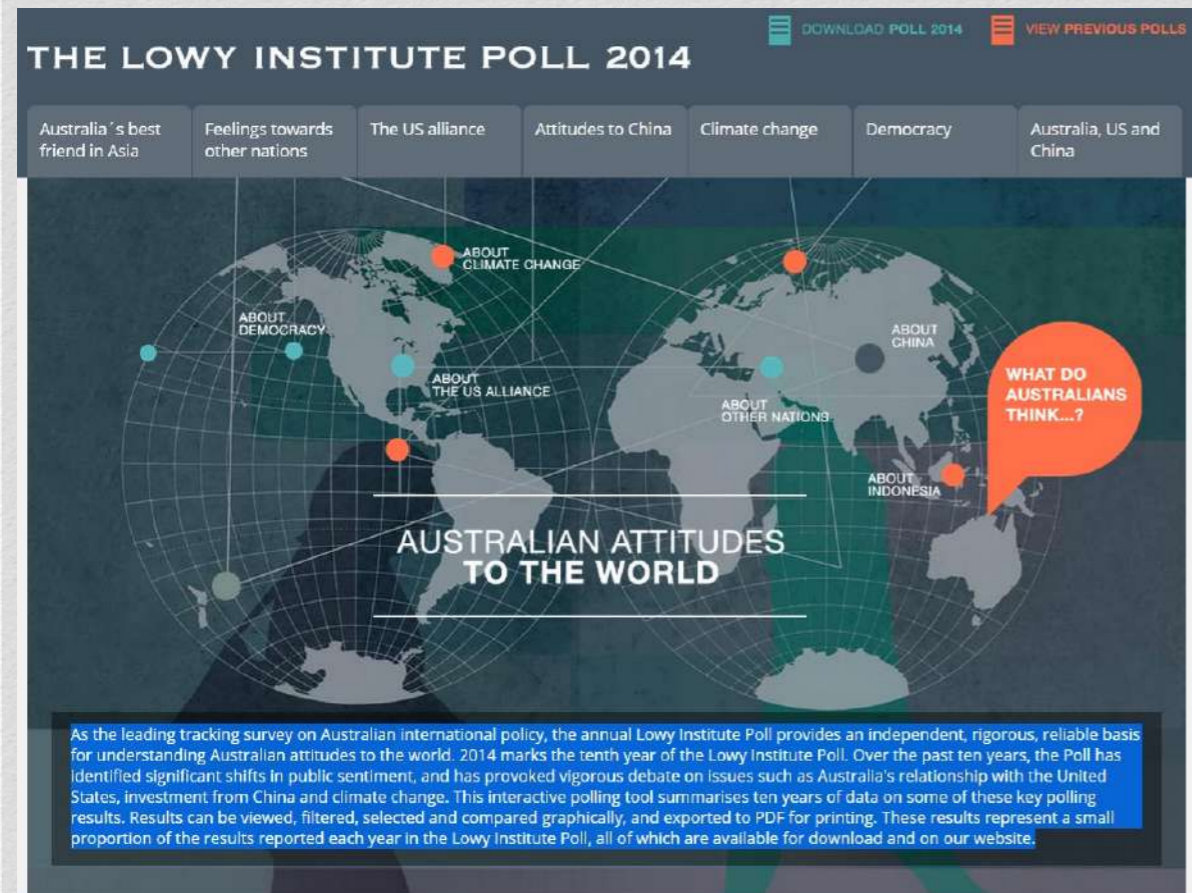
Full description available in [Round 1 entry](#).

Communication strategy:

Create and deliver the most comprehensive information system on floods for Latin America.

- **Activity 1:** Produce state-of-the-arts information on floods in Peru and Latin America.
- **Activity 2:** Build the biggest repository of information on flooding in Latin America.
- **Activity 3:** Production of knowledge objects. For existing technologies to reduce risk of floods in Latin America and best practice.
- **Activity 4:** Promotion and distribution of information. Promote the website through different communication channels such as listservs, social networks, newsletters, radio programs and newspapers at local, national and international level (prioritised Latin countries).

Lowy Institute 2014 polling interactive



Click for interactive version (Internet connection required), or visit on-line at: <http://bit.ly/1FgOFgx>

Creators:

Stephanie Dunstan, Alex Oliver, Nirupam Gupta with Lekki Maze (Glider Creative)

Organisation and country:

[Lowy Institute for International Policy](#), Australia

Description:

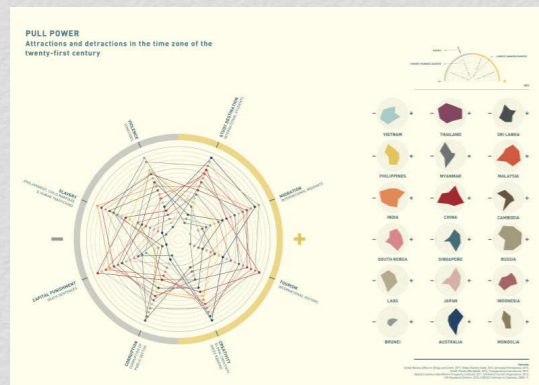
Full description available in [Round 2 entry](#).

Communication strategy:

The interactive was a significant step in improving the Institute's ability to communicate data-rich research content in a meaningful way for our stakeholders. It was timed for launch with the Poll report, and promoted as a key 'value added' product for users.

This included a press release, launch event, promotion via Twitter (#LowyPoll2014) including use of Google Adwords, Facebook Advertising and LinkedIn Sponsored Updates. Throughout the year, as different Poll results are discussed in the media, the Institute has continued to promote the interactive via social media accounts.

Pull power: Attractions and detractions in the time zone of the twenty-first century



Click to enlarge

Creators:

Madeleine King, Gordon Flake, Elena Douglas, Milly Main, Tom Harper, Caitlin Perry

Organisation and country:

[Perth USAsia Centre](#), Australia

Description:

Read the description in [Round 1 entry](#).

Communication strategy:

This graphic was distributed at the 2014 In the Zone conference at the University of Western Australia, a forum for business, policymakers and researchers, and disseminated online by the Perth USAsia Centre and the University.

It features in a master report, Smart Power: A new narrative of prosperity, persuasion and projection in the Zone, which analyses eighteen countries in the Indo-Pacific region (the four-hour

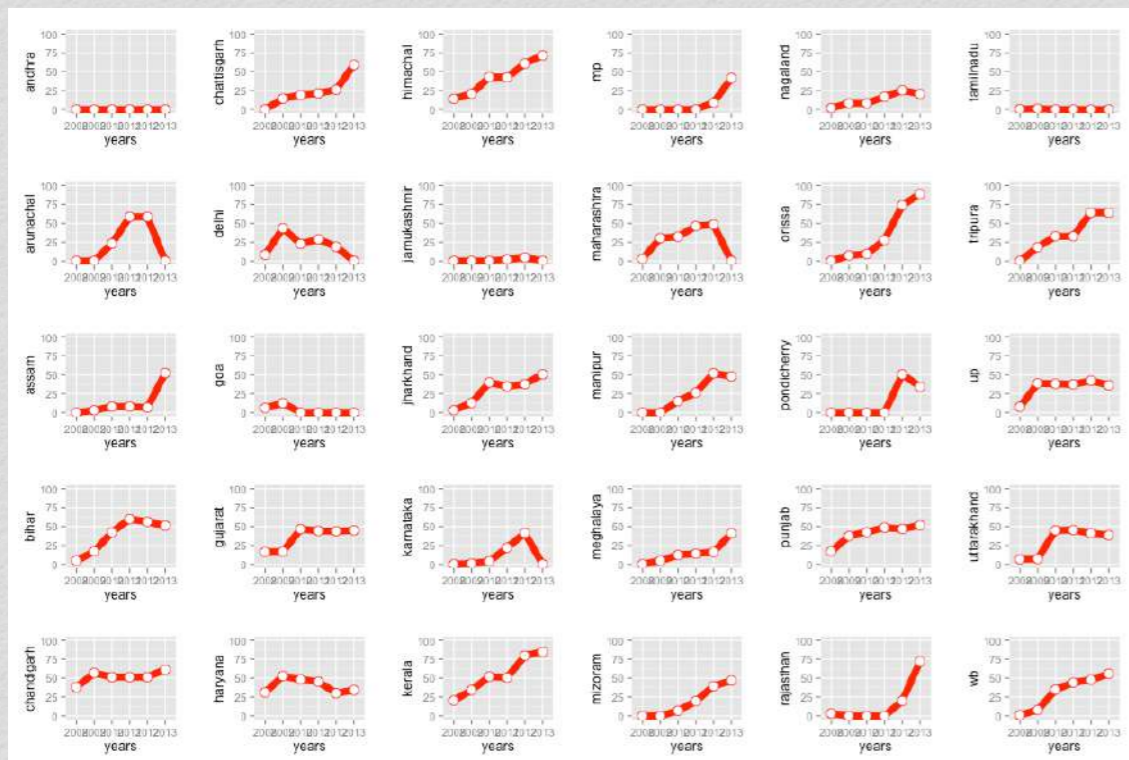
time window we call 'The Zone') using Joseph Nye's Smart Power framework.

Smart Power recognises that economic power – gross domestic product, trade and foreign investment – is not the only measure of power that mature nations should address. Nor is military power. Both must be considered. Cultural power – education in all its dimensions and the cross-cultural empathy nurtured by artists, designers, performers and sportspeople – is also crucial to national strength.

In thirteen data stories, Smart Power contrasts the size and clout of these countries' economies and militaries and examines various cultural measures (including education, language and film production).

This data story, Pull Power, illustrates the capacity of a country to attract tourists, students and migrants – people who have 'voted with their feet'. Countries with higher levels of hard and soft power tend to receive more of these 'votes', and hence have higher pulling power. Pull Power, as part of the Smart Power report, is intended to aid governments and businesses to better understand the new contours of power and prosperity that define the modern world and to make better-informed, and ultimately wiser, decisions.

Indian states' performance in protecting people below poverty line from catastrophic healthcare expenditure



Click to enlarge

Creator:

Prashanth N S, Tanya Seshadri

Organisation and country:

[Institute of Public Health Bangalore](#), India

Description:

Full description available in [Round 1 entry](#).

Communication strategy:

This data visualisation was a part of a broad personal objective of information/data activism, wherein I have been using publicly obtained information (through the exercise of the freedom of information legislation) and disseminating them for driving "action".

In addition, this was also shared with several state-level and national-level policymakers. It was also disseminated through several research reports about this scheme. Along with similar other campaigns for better public dissemination of information and greater public discourse, this visualisation helped improve the discussion on improving public availability of data in India. See, for example, this editorial I wrote in a national newspaper, titled [Counting system losing Count](#).

The great resource price shock



See full visual in Round 1 entry.

Creators:

Julian Morgan, Dustin Benton, Matthew Spencer, Karen Crane

Organisation and country:

[Green Alliance](#), United Kingdom

Description:

See full description in [Round 1 entry](#).

Communication strategy:

The communications strategy was to create a new frame of economic thinking, connecting cost of living rise to fluctuations in resource prices. The infographic was one output resulting from an economic analysis of what we called 'The Great Resource Price Shock'.

The infographic gave quick visual access to the main messages behind this, and it was released with an evidence based policy

insight. The analysis (described above) discussed possible policy responses and argued that the evidence strongly pointed to the need for careful resource stewardship.

Impact and uptake:

It received substantial coverage, including a full-page piece in the economics section of *The Guardian* (described above) and the infographics were retweeted widely on Twitter.

A short Prezi video featuring the infographic also describes the reasons for the phenomenon. This was recommended to others by economist Professor Mariana Mazzucato.

Our piece on the Huffington Post, asking why economists don't pay more attention to rising resource prices, was also picked up on social media, which led to an exchange with Yvo de Boer (former executive secretary of the United Nations Framework Convention on Climate Change) on the extent to which economists and corporations pay attention to resources.

The data visualisation created a clear focus and distillation for the messages and helped to effectively illustrate and give the sense that an economic shock had taken place. It has since been central to further discussions with the political parties, with a strong narrative around resource security particularly being developed by the Conservative party.

Commentary

The process for choosing winners for this third and final round of the 2014–15 On Think Tanks Data Visualisation Competition has been a complicated one. As we explained in a previous post, we didn't hold a public vote for this round because we felt it required a bit deeper reflection than a quick click could afford.

The judging process

In total we had 17 strong entries in this round. Of those, three were new and had only submitted to this round. But 14 also participated in a previous round. At the time of submission, those entrants were given the option to also participate in the third round; and those who did were asked to give more information about their respective communication strategies. But those who applied exclusively for the third round tended to give more information, which made it difficult to judge all seventeen entries fairly.

We asked our six judges, therefore, to consider all 17 entries, rather than narrowing it down to a top five in the public vote. Specifically, we asked the judges to consider the following questions:

- Are there are clear communication objectives articulated for the overarching campaign?

- Does the data visualisation play a distinct role in that communication strategy (i.e. is there a clear purpose behind the visualisation distinct from other outputs)?
- Does the data visualisation appear to be an effective way of reaching the target audience described in the communication strategy?
- Has the overall communication strategy been successful and are there clearly defined measures of success?

Key concerns

Overall, the judges came up with mixed responses to these questions, and no single entry came out wildly ahead of any of the others, though a few did distinguish themselves from the pack.

This is for a number of reasons, as the judges discussed following the inconclusive ranking.

1. This round wasn't about choosing the best visualisation — that was what the first two rounds were for. This round was designed to find examples of unique and instrumental uses of data visualisation as part of a broader communication strategy. As it stood, this was difficult to judge as the information provided was inconsistent. This is a useful lesson for future contests, and if we were to do it

again, we would target the questions better and ensure they were all in place from the beginning.

2. It could also be that we were expecting too much from the entries. Some of the judges come from organisations that articulate clear written communication plans and strategies, which informed the design of this round (if you haven't seen [ODI's how to write a communication strategy](#) before, it's worth a look!). But it's possible that other organisations around the world do not operate in such a manner. And even if they do, there may have been an unwillingness to publicly share communication strategies, or entrants may not have understood that this was desired from the judges (see the point on asking the right questions, above!).
3. Potentially of most concern is that, because data visualisations are still a relatively new approach for many think tanks, the technical and aesthetic process of development is simply relegating strategic thinking about a visualisation's utility. Whether or not this is the case, we do encourage those developing data visualisations to invest equally in answering the 'why' – the purpose of the visualisation – and not to get overly bogged down in the technical aspect of producing a visualisation.

And the winners are...

Instead of awarding a winner and runner up, as we have done for our previous rounds this year, we've decided to take a slightly different approach with this round. We have settled on four runners up, each of which is entitled to a US\$500 prize, and no first place winner.

Without further ado, the four runners up, in no particular order, are:

- **Ecos de México from Ethos Public Policy Lab in Mexico**
- **UK Government departments by grade composition, 2010 and 2014 from the Institute for Government in the UK**
- **Identity crisis: The Israeli ID system by Visualizing Impact in Lebanon**
- **Don't limit HER possibilities! from JumpStart Georgia**

Judges' analysis

The judges felt that each of these four visualisations merited recognition in different ways.

'**Ecos de México**', for example, is not a particularly complicated data visualisation, but it's a useful way of quickly communicating a lot of information and also seems to play a key role in

a wider communication strategy. The visual is not an end in itself; rather, it is designed to encourage visits to the Ethos website and to support clicks through to the original articles that it attempts to summarise.

For **'UK government departments by grade composition'**, it was quite clear that this one visual is only a small part of a much broader launch of the Whitehall Monitor project. But the visualisation helps to draw in a particular audience. Though one judge did query whether it would reach a very broad audience, noting: 'It's good for technical analysis and as an output from a statistical package, but it lacks a bit of creativity of what could be done with it, and only a technically educated audience would understand it'.

'Identity crisis', on the other hand, was an interesting example of where the visualisation WAS the communication strategy, as they explain in one of their introductory videos. In this case, it was about taking a very complex topic and representing it in a clear way to raise awareness.

And finally, **'Don't limit HER possibilities!'** was a winner in Round 1. At that time, one of the judge's comments was: 'As it stands, the audience is mainly parents [in Georgia] and ensuring they continue to support their daughters in these areas. That hits on a key cultural point, but doesn't necessarily pass muster as a policy recommendation.' But as part of a wider

communication strategy to encourage participation in their coding classes, it seems more purposeful.

Resources

In addition to the competition itself, we invested in building up overviews and reviews of various online tools to support data visualisation. We also developed a number of 'how to' guides that combine video and textual lessons on different aspects of data visualisation: from data scraping, to data cleaning and final visualisation.

How tos

1. **How to... Import live data with Google Drive Spreadsheets**
2. **How to... capture and structure data from websites using Import.io**
3. **How to... merge and tidy data with Excel**
4. **How to... summarise data with PivotTables in Excel**
5. **How to... map data using Google Fusion Tables**
6. **How to... animate a map to see changes over time using CartoDB**
7. **How to... create interactive dashboards with Tableau Public**

How to... Import live data with Google Drive Spreadsheets

By Jeff Knezovich

As part of the 2014–15 On Think Tanks Data Visualisation Competition, we're producing a number of 'how tos' to better support think tanks to develop their visualisations. The plan is to have the how tos cover the range of skills and techniques required to effectively visualise data: from data collection, to data cleaning and finally to data visualisation.

This how to is part of the section on data collection.

We will look at how to use [Google Drive Spreadsheets](#) to import live data from the web. I should note that this function is available in newer versions of Excel as well, though it operates slightly differently.

But why bother?

The sky is the limit here, but a few reasons to import data in this way are:

- It automatically updates when you re-open the spreadsheet. That makes it particularly good for information that is in flux, evolving or frequently changed.

- The live data can also automatically update the results of functions, equations and visuals.

Don't believe me? Check out this example that uses a similar function, IMPORTRSS, to map recent website updates to social shares.

With justifications out of the way, here's how to actually do it.

In the first in our how to series, we take a quick look at importing live data from the web into a Google Drive Spreadsheet. This is a function that is also available in the most current edition of Microsoft Excel.

How to... Import live data with Google Drive Spreadsheets



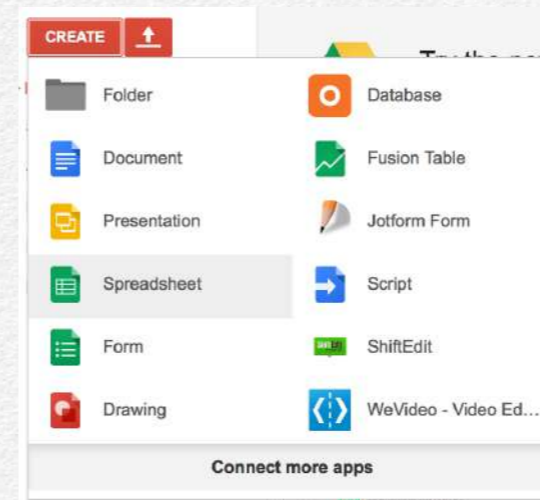
Click to view video (no Internet required), or view online at: <http://bit.ly/1IDkQgl>

Step 1: Find a website with a relevant table or list

Many government and international organisations have websites full of data. And while a lot of it is locked away in PDFs (don't worry, that's a how to we've got coming up), some still make the data available in HTML, either as a table or as a list.

Because of its desire to be as accessible as possible around the globe, Wikipedia articles often still use HTML tables, and might be a good jumping off point in a data search.

For this how to, we have gone to the [Centers for Disease Control and Prevention \(CDC\) webpage tracking outbreaks of the Ebola virus since its discovery](#). I've chosen this example because this function is more relevant when using data that will be updated with some frequency. Given the close scrutiny of the recent Ebola outbreak in Western Africa, we can expect that these numbers will be changed as new information becomes available.



Step 2: Create a new Google Drive Spreadsheet

A Google account is required to use Google Drive (formerly Google Docs), but accounts are available free of monetary charge for most users.

Once an account is created, simply select the red button on the top-left corner of the screen that says new, and in the dropdown menu, select 'Spreadsheet'.

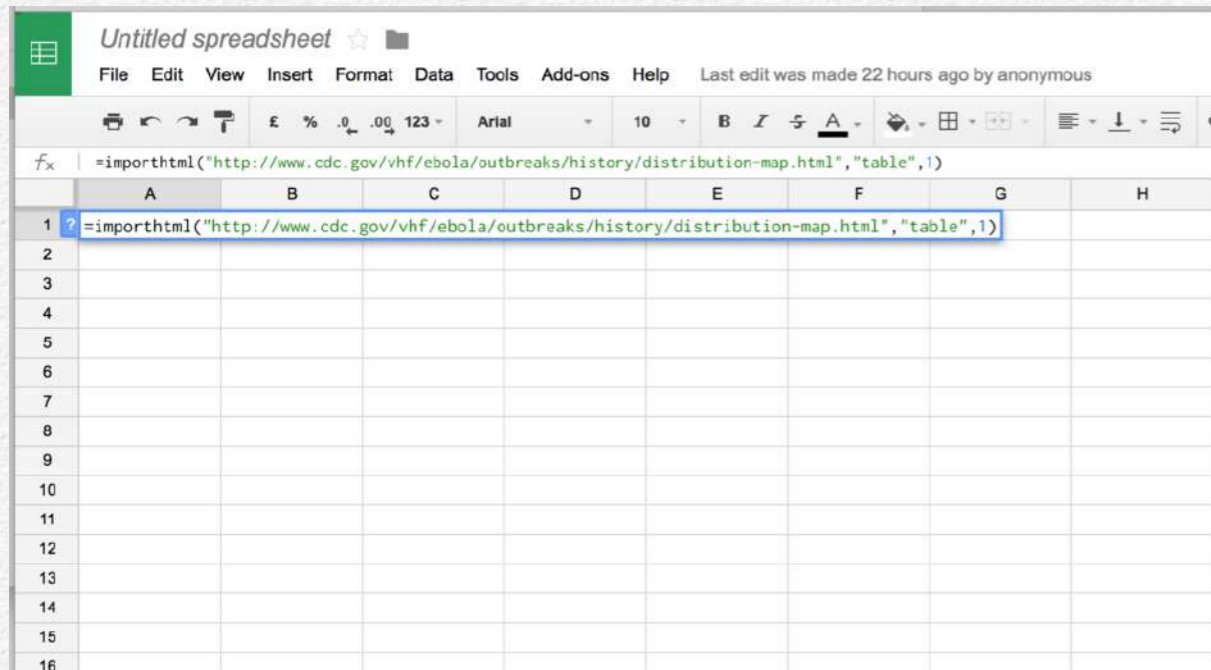
Step 3: Enter a new formula using IMPORTHTML

In a new cell, enter the following generic formula:

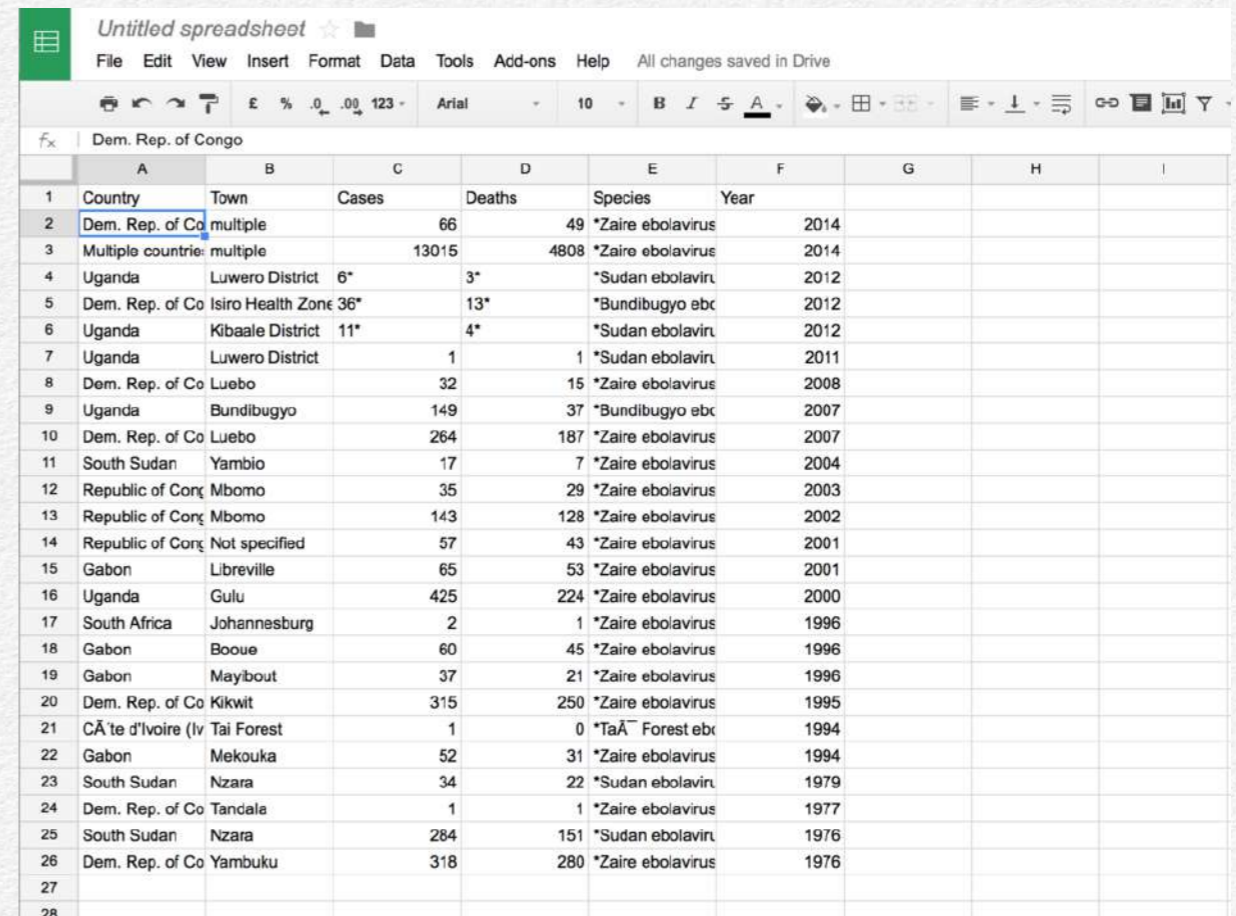
`=IMPORTHTML("[URL]", "[table or list]", [number of table on webpage])`

In the example in the video with the CDC website, the actual formula therefore becomes:

`=IMPORTHTML("http://www.cdc.gov/vhf/ebola/outbreaks/history/distribution-map.html", "table", 1)`



After entering the formula and hitting the return or enter key, Google Drive will likely give a note that it's loading. And within a few moments the table will appear.

A screenshot of a Google Spreadsheet showing a table of Ebola outbreak data. The table has columns for Country, Town, Cases, Deaths, Species, and Year. The data is as follows:

Country	Town	Cases	Deaths	Species	Year	
Dem. Rep. of Co	multiple	66	49	*Zaire ebolavirus	2014	
Multiple countries	multiple	13015	4808	*Zaire ebolavirus	2014	
Uganda	Luwero District	6*	3*	*Sudan ebolavir	2012	
Dem. Rep. of Co	Isiro Health Zone	36*	13*	*Bundibugyo ebc	2012	
Uganda	Kibaale District	11*	4*	*Sudan ebolavir	2012	
Uganda	Luwero District		1	*Sudan ebolavir	2011	
Dem. Rep. of Co	Luebo		32	15	*Zaire ebolavirus	2008
Uganda	Bundibugyo		149	37	*Bundibugyo ebc	2007
Dem. Rep. of Co	Luebo		264	187	*Zaire ebolavirus	2007
South Sudan	Yambio		17	7	*Zaire ebolavirus	2004
Republic of Cong	Mbomo		35	29	*Zaire ebolavirus	2003
Republic of Cong	Mbomo		143	128	*Zaire ebolavirus	2002
Republic of Cong	Not specified		57	43	*Zaire ebolavirus	2001
Gabon	Libreville		65	53	*Zaire ebolavirus	2001
Uganda	Gulu		425	224	*Zaire ebolavirus	2000
South Africa	Johannesburg		2	1	*Zaire ebolavirus	1996
Gabon	Booue		60	45	*Zaire ebolavirus	1996
Gabon	Mayibout		37	21	*Zaire ebolavirus	1996
Dem. Rep. of Co	Kikwit		315	250	*Zaire ebolavirus	1995
CÃte d'Ivoire (Iv	Tai Forest		1	0	*TaÃ Forest ebc	1994
Gabon	Mekouka		52	31	*Zaire ebolavirus	1994
South Sudan	Nzara		34	22	*Sudan ebolavir	1979
Dem. Rep. of Co	Tandala		1	1	*Zaire ebolavirus	1977
South Sudan	Nzara		284	151	*Sudan ebolavir	1976
Dem. Rep. of Co	Yambuku		318	280	*Zaire ebolavirus	1976

Tips and tricks

This is a very easy tutorial to begin with. But there can still be some trip-ups in executing it properly. Here are a few tips and tricks:

- Although we're pulling in a table using the IMPORTHTML function, it's worth noting that there are a number of similar

functions that might also be useful; in particular IMPORTXML and IMPORTRSS can help to pull information from a website's news feed.

- Be sure to put the URL between quotation marks. Same goes for the word "table" or the word "list" after the first comma.
- The example we use pulls in a table, but Google Drive Spreadsheets can equally pull in a list, whether it is unordered (i.e., bullets) or ordered (i.e., numbered).
- The number after the second comma indicates which table to pull from the website. Unfortunately, there is no way of knowing for sure which table that might be without a bit of trial and error. Even something that appears to be the only table on the page might not be – in some websites navigation menus are still done through tables. So start with the number 1, and if it's not the desired table, try 2, etc.

How to... capture and structure data from websites using Import.io

By Jeff Knezovich

This is our second tdatavis how to, focusing on new methods for data capture and collection. We will be exploring one aspect of [Import.io](#), which is a massively powerful free piece of software that can help to scrape information from websites.

Before continuing, we should have a quick word about copyright. When using other people's data and when scraping information from the web, there are a number of relevant copyright laws worth keeping in mind. Here are three different scenarios that might apply:

- **Creative Commons:** If you're using an open data set, it's worth verifying the license by which it is released to the public. Often, open datasets are made available using a Creative Commons license. There may be some restrictions on how information released under this license can be used. For example, it is common to require 'attribution', or a note of the source of the data in the resulting product.
- **Government data:** Most material published by the US government, for example, is non-copyrightable and available for

both personal and commercial use. Other governments may have different applicable laws and regulations.

- **Research use of copyrighted data:** Where data remains under copyright, there may be circumstances, such as for private research purposes, where copying and storing that data may still be acceptable. For example, in June 2014, the UK issued a new Text and Data Mining exception to its copyright law that allows download for non-commercial research. It was this exception that allowed a space for the development of Import.io.

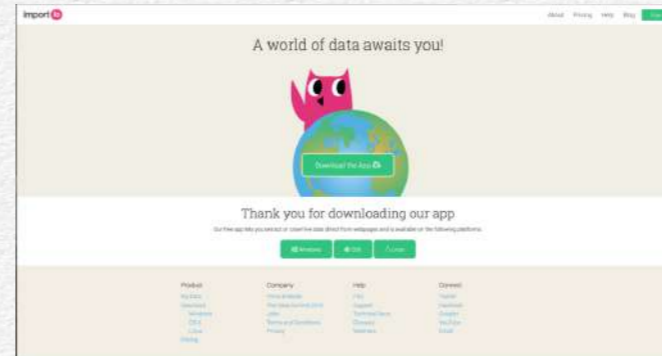
Before publishing any information gained through the methods described below, it's worth checking relevant copyright laws in the appropriate jurisdiction.

How to... capture and structure data from websites using Import.io



Click to view video (no Internet required), or view online at: <http://bit.ly/1EnlQmo>

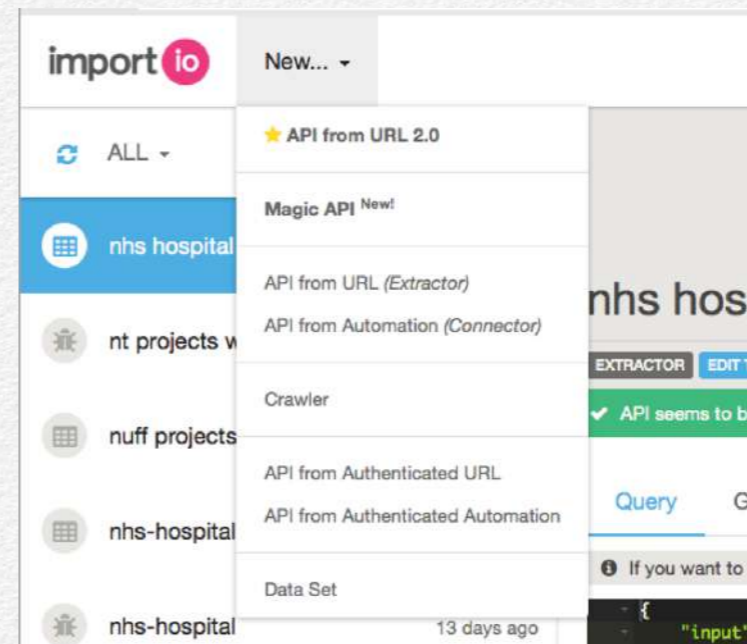
Step 1: Install Import.io and register for an account.



Luckily, this first step is incredibly straightforward. Just visit the Import.io website download page and select the appropriate version for your operating system.

After installation, open the programme and create an account. It is possible to log in using other social media accounts (like Facebook), or you can create a new account using an appropriate email address.

Step 2: Create a new 'API from URL (Extractor)' and navigate to desired website



This option can be found in the 'New' menu at the top-right corner of the screen.

Once prompted, enter the URL for the website you're interested in scraping data from.

The tracer example we're using today

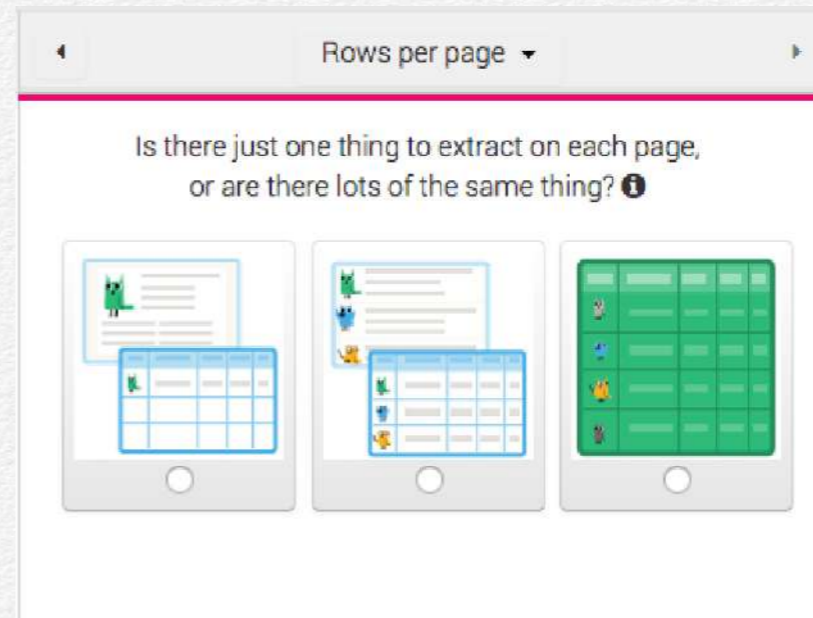
comes from the UK's National Health Service. As of last week, they offer a new [myNHS service that provides a range of information about each of the hospitals operating in England](#). There is a lot of potential to better visualise this data and to make it more accessible to the public, which is why we're using it as a tracer example.

The one important thing to note here is that it currently displays a limited number of hospitals per page by default. Therefore, at the end of the URL we've changed the very last bit from "&PageSize=10" to "&PageSize=600". This ensures that we only have to scrape one page instead of setting up a site crawl or more complex extractor.

Once you've navigated to the page, click the bright pink 'I'm there' button at the bottom-right side of the screen.

You will then need to select the button in the same place that says 'Detect optimal settings'. This will disable unnecessary scripting on the page and make the extraction more efficient. In some cases, this might remove the information that needs capturing. In that case, simply indicate that the data is not still in the browser. Otherwise, as is the case in our example, select 'Yes'.

Step 3: Select the 'multiple' import type



The next prompt will ask you to select the type of page from which the data is being extracted. In this case we will select the middle icon which is a 'multiple' page, as we have 501 rows on the

page. If each hospital had its own page, we would have selected single (we also would have created a crawler rather than a one-off extractor).

We could possibly also select the Table extractor, but at the time of writing this was still a Beta version and not as accurate as using the 'multiple' select.

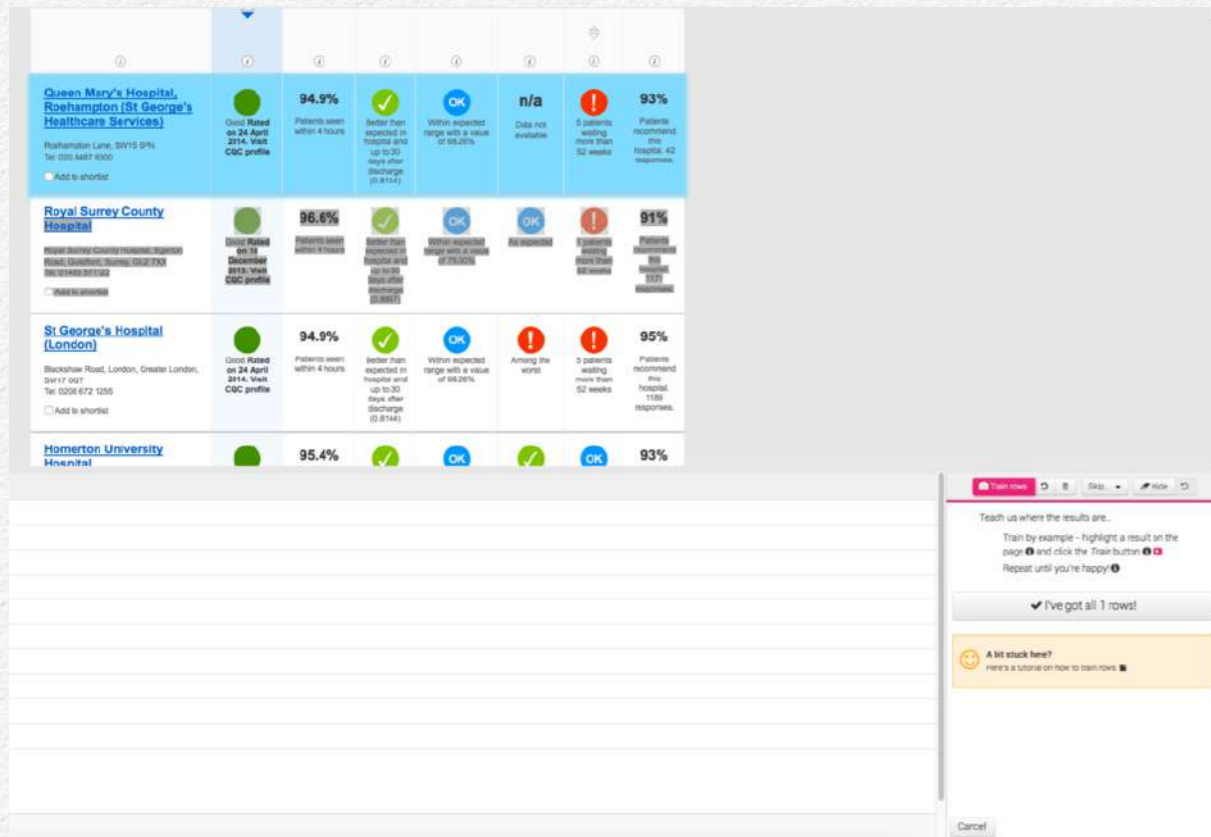
Step 4: Train rows

After clicking the multiple button, highlight the first row of data (not the row with headers) and then click the pink 'Train rows' button on the bottom right of the screen. The first row will be highlighted in blue.

In order to create a pattern, Import.io needs to know what the second row of data is before continuing. Highlight the second row and once again select the 'Train rows' button.

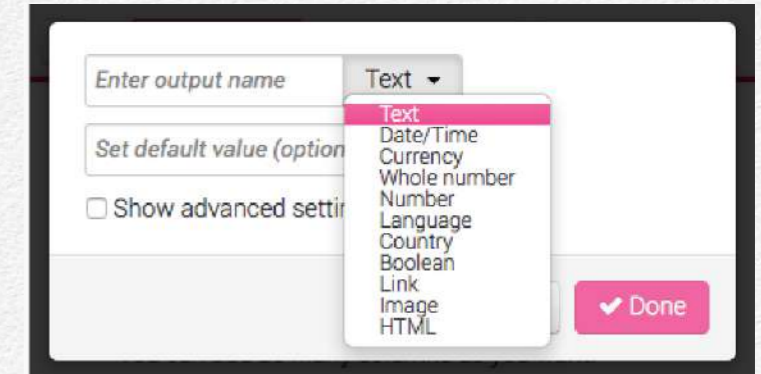
At this point the page should be full of alternating light and dark blue selections over the 501 individual rows.

Finalise your selection by clicking the button, again in the bottom-right corner, 'I've got all X rows!'.



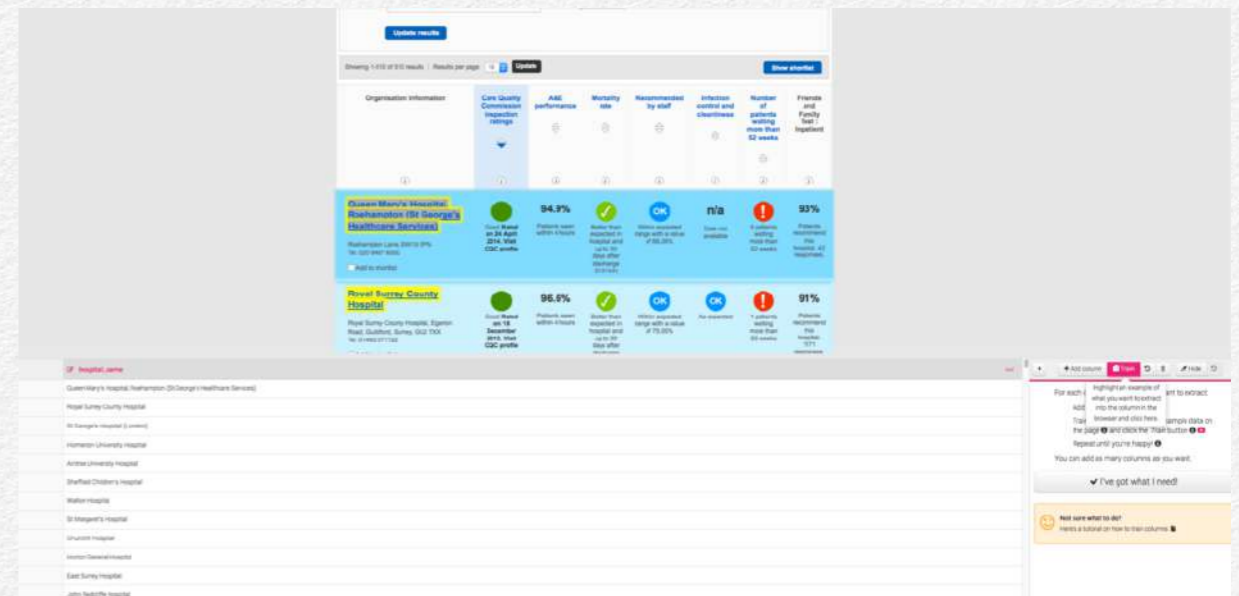
Step 5: Train columns

Training columns is what gives proper structure to your data and is what makes Import.io so powerful.



Start by adding a column. Enter a variable name and then select the type of content you'll be putting in that column. Text is the default. In our example we could create a variable for hospital_name, which would be an appropriate text variable.

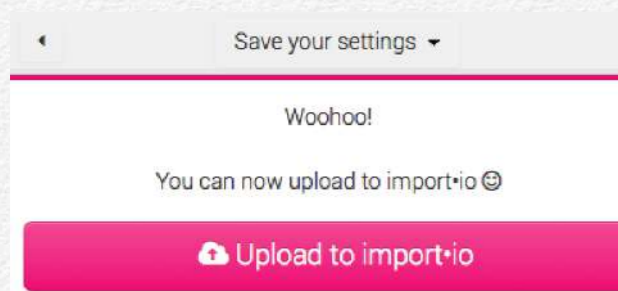
Select the relevant text and then select the 'Train' button, similar to Step 4 above. You'll note that in most cases the correct information will then be added into the appropriate column at the



bottom of the page. In more complicated cases, it may be necessary to select and train using more than one row.

Other types of column data that we can pull from this sample set include: date (such as the date when the most recent hospital inspection was carried out), which is set by noting the format in which the extractor should expect the data, e.g. dd MMMM yyyy for a date written as 23 November 2014; link (which pulls the link URL, not just the name of the link); number (save the percentages as numbers rather than text by selecting the numbers only); and images.

Step 6: Save, finish training, and upload to Import.io



Once you have selected all the data you want to pull out and put them in the appropriate type of column, select 'I've got what I need'.

As all of our results are on one page, select 'I'm done training'.

Finish the process by uploading to Import.io and giving the extractor an appropriate name.

Once it is uploaded you can click through to 'show your data'.

Step 7: Download data or link to live Google Spreadsheet

In the data view of your new extractor, click the button second



from the left at the top of the screen to view options for saving the data. Normally this will be done as a CSV (a comma-separated file that can easily be imported into Excel).

Alternatively, if you'd like a live connection with data that might constantly be updated, it is also possible to link the data to a live Google Spreadsheet. Find out more on how to do this from Import.io directly.

How to... merge and tidy data with Excel

By Jeff Knezovich

When I was at university, I had a student job in the Office for Institutional Research. It was a data-heavy job, and I was lucky enough to have a boss that took the time to show me a thing or two about Excel. One of those things was the VLOOKUP function.

It's probably one of the most practical things I learned at university!

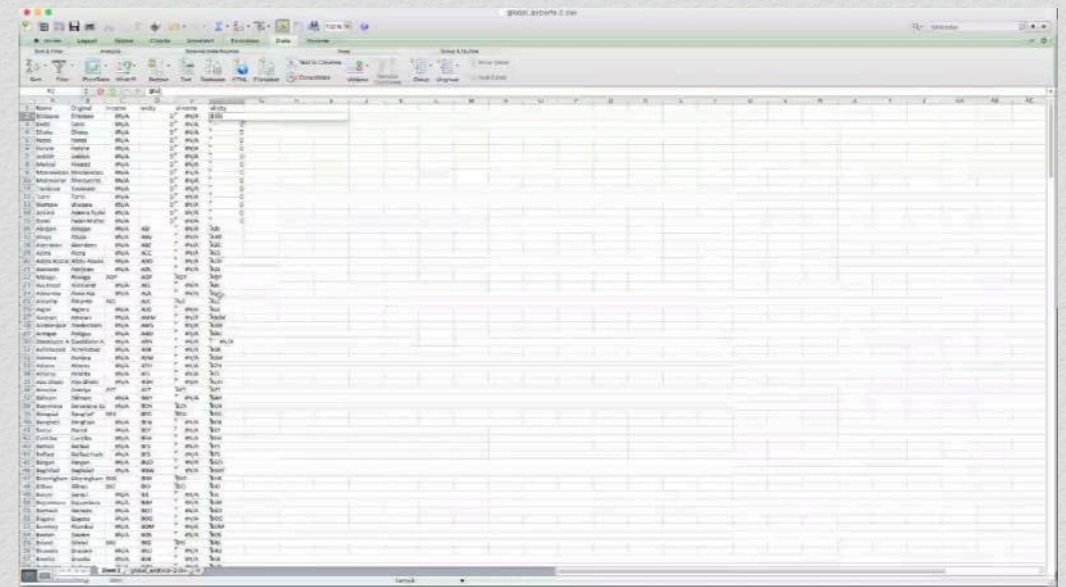
The VLOOKUP function is a straightforward way to merge data in Excel. I use it daily to combine two different datasets when a simple copy and paste just won't do. The most common reason for that is different numbers of rows (entries) between the two datasets we're working to combine. For example one dataset might be a list of people and their job title, the other might be a list of phone calls, with the same person dialled more than once. In that case we could use VLOOKUP to append the list of phone calls with the job title of everyone who is called.

So let's get to it. In this case, we're going to walk through a real life example. In 2013, thanks to a Freedom of Information request, the UK government published all of the [flight information for the UK Department of International Development for 2011](#).

Less helpfully, they released it with a lot of non-standard names of where the flights originated and ended up. What we want to do is to combine the information they have in that data release (i.e., on pounds spent per flight, on airline and on class) with information we already have on where airports are.

Luckily we don't have to create that list of all airports in the world. A mostly [updated list of global airports is available on Data Hub](#), a site that allows users to share data sets. You can follow along after downloading both of these data sets.

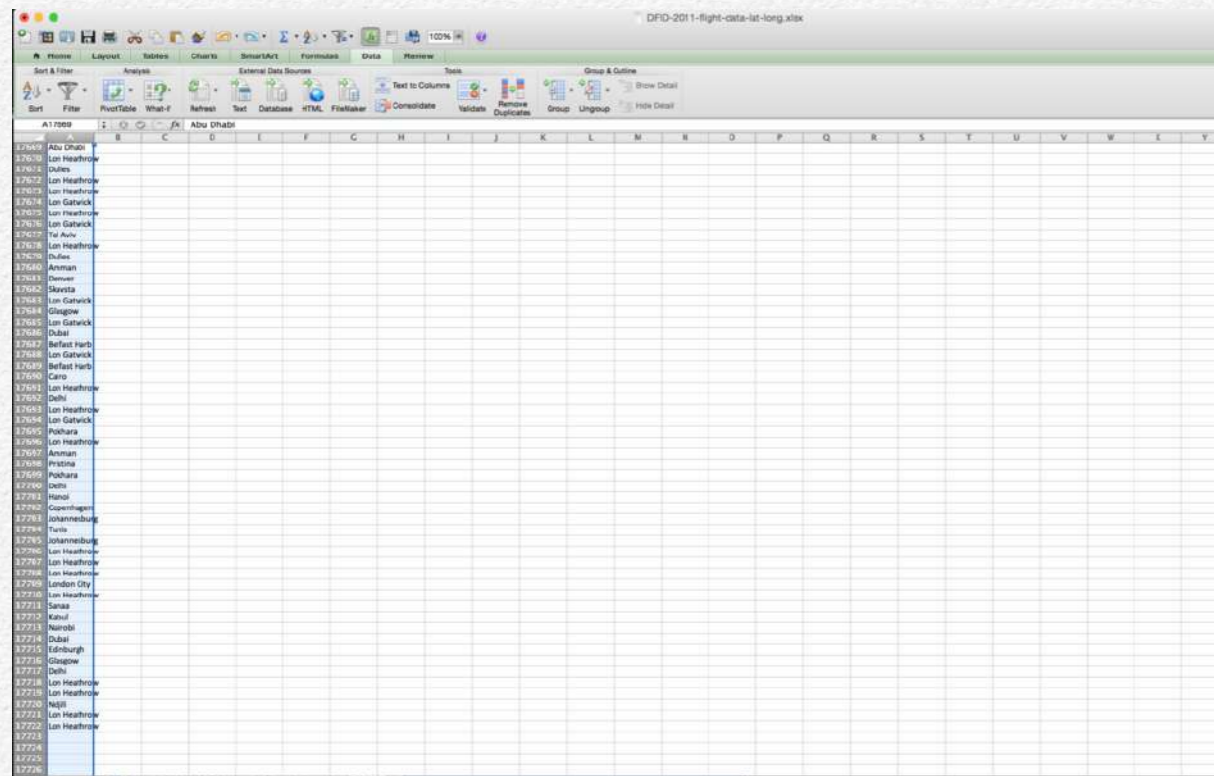
How to... merge and tidy data with Excel



Click to view video (no Internet required), or view online at: <http://bit.ly/1z6q6kj>

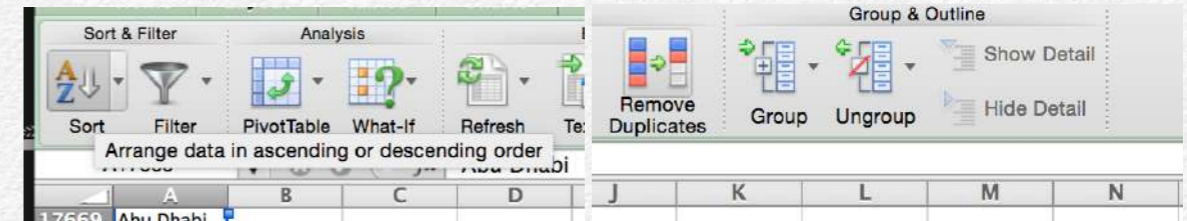
Step 1: Get a list of unique departure and destination names using the 'de-duplicate' feature

There are thousands of flights by DFID staff in 2011, but only about 300 or so departure or destination locations. In order to merge our data, the first thing we need to find is that list of locations.



I'm going to start by opening a new sheet in the workbook and copying both columns D and E ('Departure Airport' and 'Destination Airport') into a single column, one below the other, on the same sheet. It gives us about 17000 entries.

I'm going to select the column and then sort it from A-Z, just to confirm there are a lot of duplicates (this step is optional).



And then, also in the Data tab, I will select the 'Remove Duplicates' button, and then approve it to de-duplicate column A only. It notes that there are only 303 unique items after de-duplication.



Step 2: Open global airports data, paste the list of locations and create VLOOKUP fields

Open up the Global Airports data, create a new sheet and copy and paste our list of 303 airport names. It's not necessary to work from this spreadsheet, but I like to keep things contained within single workbooks.

In cell B1, insert an '=' followed by VLOOKUP. A helpful box that explains the formula might pop up:

	A	B	C	D	E	F	G
1	Aberdeen	=VLOOKUP()					
2	Abidjan	VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])					
3	Abu Dhabi						
4	Abuja		B3				
5	Accra						

The VLOOKUP (or vertical lookup) function basically takes a value that you want to look up, searches within a particular table 'array' (a table of data) and returns the value that is in whatever column of the array you want. Its companion function is HLOOKUP, which will search horizontally and look up a number in a given row.

	A	B	C	D	E	F	G	H	I	J
1	name	city	country	iata_faa	iaco	latitude	longitude	altitude	zone	dst
2	Goroka	Goroka	Papua New Guinea	GKA	AYGA	-6.081689	145.391881	5282	10	U
3	Madang	Madang	Papua New Guinea	MAG	AYMD	-5.207083	145.7887	20	10	U
4	Mount Hagen	Mount Hagen	Papua New Guinea	HGU	AYMH	-5.826789	144.295861	5388	10	U
5	Nadzab	Nadzab	Papua New Guinea	LAE	AYNZ	-6.569828	146.726242	239	10	U
6	Port Moresby	Port Moresby	Papua New Guinea	POM	AYPY	-9.443383	147.22005	146	10	U
7	Wewak Intl	Wewak	Papua New Guinea	WWK	AYWK	-3.583828	143.669186	19	10	U
8	Narsarsuaq	Narsarsuaq	Greenland	UAK	BGBW	61.160517	-45.425978	112	-3	E
9	Nuuk	Godthaab	Greenland	GOH	BGGH	64.190922	-51.678064	283	-3	E
10	Sondre Ström	Søndrestrøm	Greenland	SFJ	BGSF	67.016969	-50.689325	165	-3	E
11	Thule Air Base	Thule	Greenland	THU	BGTL	76.531203	-68.703161	251	-4	E
12	Akureyri	Akureyri	Iceland	AEY	BIAR	65.659994	-18.072703	6	0	N
13	Egilsstaðir	Egilsstaðir	Iceland	EGS	BIEG	65.283333	-14.401389	76	0	N
14	Hornafjörður	Höfn	Iceland	HFN	BIHN	64.295556	-15.227222	24	0	N
15	Húsavík	Húsavík	Iceland	HZK	BIHU	65.952328	-17.425978	48	0	N
16	Ísafjörður	Ísafjörður	Iceland	IFJ	BIIS	66.058056	-23.135278	8	0	N

In this case we will look up the value A1 (which is DFID's name for an airport) in the table array containing columns A through D (column A is our airport name, column B is the airport city, column C is the airport country and column D is the IATA code) in the other sheet in our workbook called Global Airports, and we

want the three-letter IATA code, which is found in column 4. So our function looks like:

=VLOOKUP(A2,'global_airports.csv'!A:D,4,FALSE)

The 'FALSE' after the last comma indicates that we want to find an exact match, and not just a close match. I will double click the square in the bottom-righthand corner of the cell to fill down the entire series.

But I also want to check to see if it matches the city. The VLOOKUP function will only match a value with the left-most column in the table array. So to find the IATA code from the city, our function in cell A3 would be:

=VLOOKUP(A2,'global_airports.csv'!B:D,3,FALSE)

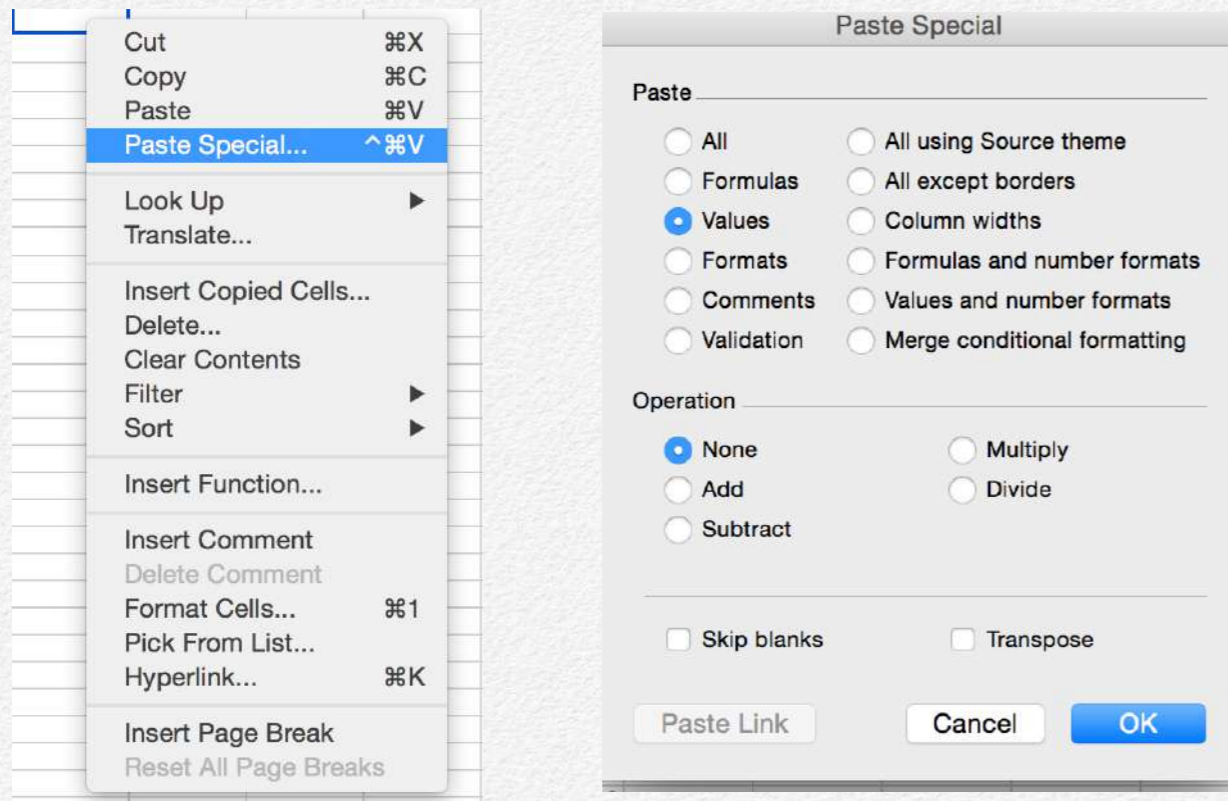
You'll note that the array now starts from column B and not A, and only looks up the third column, not the fourth.

To fill these two formulae down the series, I select both of them and double-click the square in the bottom-righthand side of the right cell.

Abidjan	Abidjan	#N/A	ABJ
Abuja	Abuja	#N/A	ABV
Aberdeen	Aberdeen	#N/A	ABZ
Accra	Accra	#N/A	ACC
Addis Ababa	Addis Ababa	#N/A	ADD
Adelaide	Adelaide	#N/A	ADL
Malaga	Malaga	AGP	AGP
Auckland	Auckland	#N/A	AKL

Step 3: Copy and paste the values

These VLOOKUP values are now dynamic, and if something in the worksheet changes, they might break. So I always select and copy these values and paste special, paste as values.



Step 4: Further tidying

This has got a number of the cells filled, but not all. In order to finish I take the following approaches:

1. Duplicate the 'name' column (one will be associated with the airports dataset, one with the DFID dataset). Try editing

names like 'Baltimore MD' to simply 'Baltimore' in one column and see if the VLOOKUP now finds it.

2. For some airports we get a value of '0' rather than '#NA'. That's because the cell it has found is blank (rather than not having found the cell), so we can try inserting the IACO code instead.
3. When in doubt, just Google '[place] airport' and the three-digit code usually comes up on the home screen. Copy and paste that into a spreadsheet.

It's also worth noting that, if you're using the city as the lookup value, we need to be careful. Big cities may have more than one airport, and the lookup will pull whichever one it finds first.

Step 5: Repeat VLOOKUPs to add in latitude, longitude, city, country columns and merge back with DFID data

After I got all of the airport codes, I used those as the basis for a VLOOKUP to pull all latitude, longitude, city and country data into our spreadsheet as well. Finally, I used the VLOOKUP code back in our DFID flights spreadsheet to look up departure and destination information. I then copied, and pasted as values, that information and deleted the formulae.

I have made this [final version of this spreadsheet available on Google Sheets for download to check your work.](#)

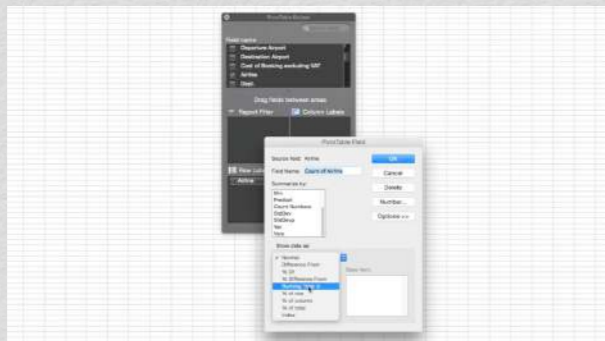
How to... summarise data with Pivot-Tables in Excel

By Jeff Knezovich

In a previous how to video, we learned how to clean and tidy data in Excel using functions like VLOOKUP. In this how to, we will look at how to summarise that data to answer specific questions using the PivotTable utility in Excel.

In that previous how to, we were working with a set of data released by the UK government on all flights taken by staff of the UK Department for International Development in 2011. The original data released under a Freedom of Information request

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didn't have the results in a very standard (and therefore, useful) format. But we tidied them by linking the data to an international standard for airport codes, IATA. By linking those two datasets, we now have information about what countries were flown to as well as exact geographic latitude and longitude for the airports. The tidied spreadsheet is available as a Google Spreadsheet for download.

Now that we have the raw data, we might have a number of questions, like:

- What country did DFID staff fly to most frequently in 2011?
- What percentage of flights are on British Airways?
- How much did the average economy class flight between London and Dubai cost DFID staff in 2011 compared to the cost of the average business class flight?

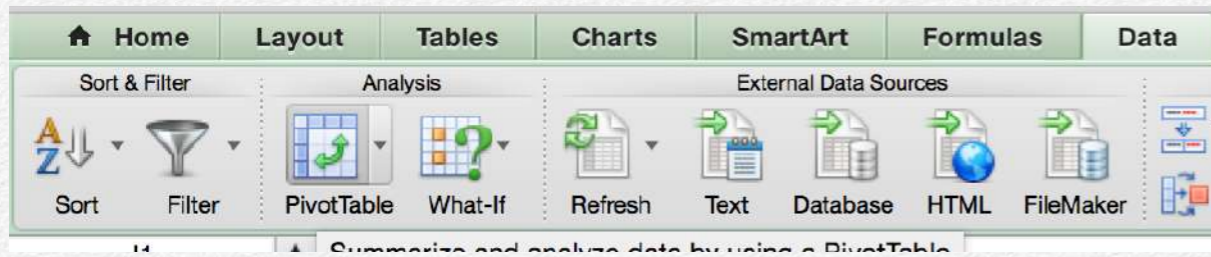
For simple datasets, we could maybe count or use the sort feature to quickly sum up our data. But this dataset contains 8,860 rows – too much for simple methods like that. Luckily, PivotTables can help us to answer these questions quickly. Find out how in the video and tutorial below.

Step 1: Insert a PivotTable

First of all, select the whole dataset. This can be done by pressing the square in the top-left corner of the spreadsheet, or by selecting each of the columns of data while holding down shift.

Then create a PivotTable. For a Mac, this option is in the 'Data' tab. On a PC, this option is available under the 'Insert' tab.

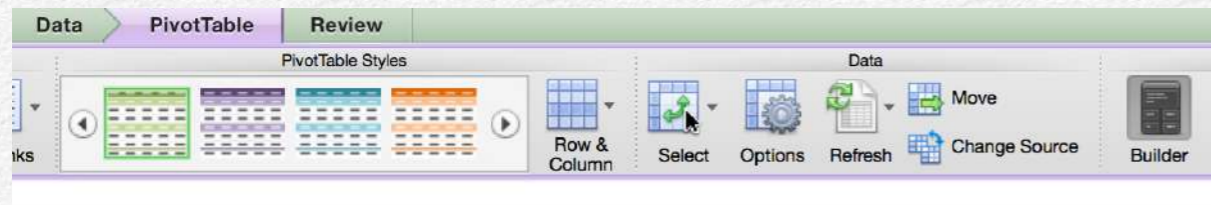
This will create a new sheet with a blank PivotTable.



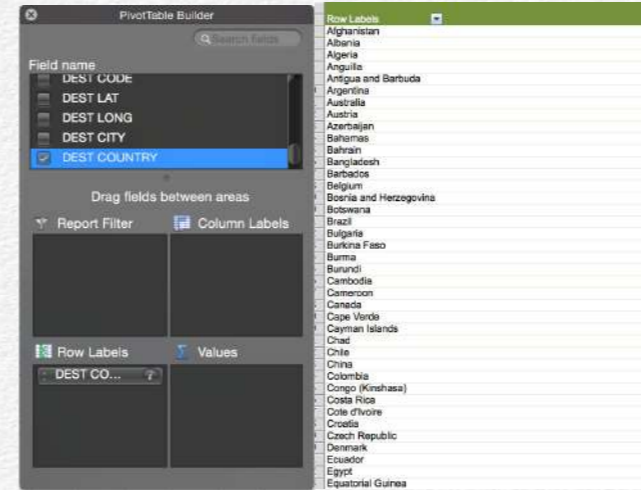
Step 2: Use PivotTable creator to summarise data

Our first question is pretty straightforward: What country did DFID staff fly to most frequently in 2011? To find the answer to this question, we need to create a table that has all of the 'destination countries' in one column, and the count of all the visits in another.

To create this table, we use the PivotTable builder tool. If this hasn't automatically popped up, you can open it under the PivotTable tab.



In this case, we want to drag the 'Destination country' label to the 'ROW LABELS' box in the bottom-left corner. A list of all the



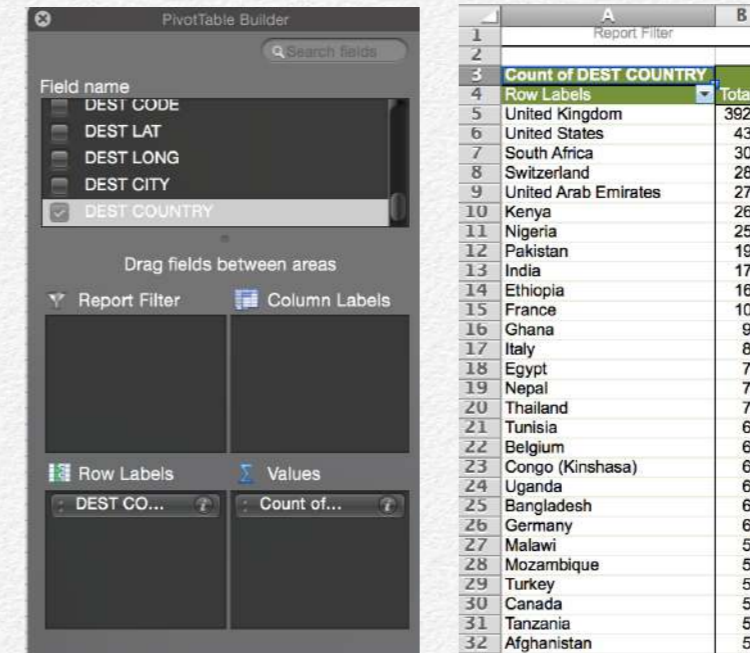
countries DFID staff flew to in 2011 now appears.

But we also want to know the count of how many times DFID went to each of these countries. So, again, we draft the 'Destination country' label, but this time

we place it in the 'VALUE' box in the bottom-right corner.

The counts of the number of times each of these countries appears in the dataset are now listed.

Our dataset is in alphabetical order, so we need to select the value count for the first row (in this case, '52' in the Afghanistan and click the 'sort Z-A' button (as demonstrated in the previous how to).



We discover that the country that DFID staff flew to most frequently in 2011 was the United Kingdom itself, nearly 4000 times!

At first glance, this might seem counter-intuitive. Shouldn't DFID staff be flying out of the country? Well, DFID has a good number of staff working across the world, and it makes sense that they might occasionally need to come back to the UK for meetings, etc.

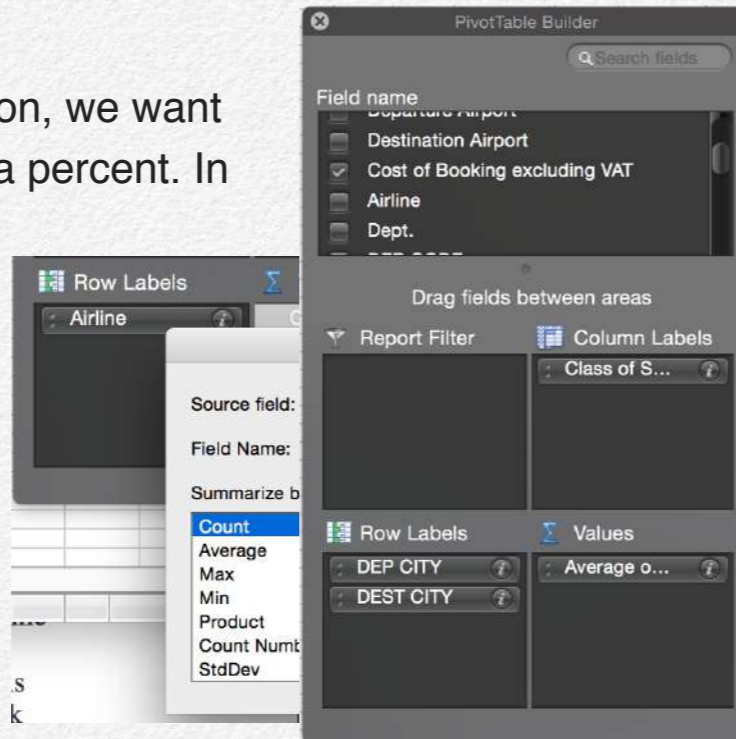
Step 3: Change what the value displays

Our second question is a little bit trickier: what percentage of flights are on British Airways?

The setup for this table is similar to the last question. We clear the table, and then drag 'Airline' into the 'ROW LABELS' box. And then we drag the same label into the 'VALUE' box. Automatically a PivotTable will be created with the number of flights on each airline.

To fully answer our question, we want to change that count into a percent. In the VALUE box, you may notice that there is a little 'i' button on the right of 'Airline' label. Click it and a new box should appear.

When it does, you'll note that we can select



count, average, sum etc. We still want the count, but we want the percentage that count is for each row of the total count. To do this we need to click the options button.

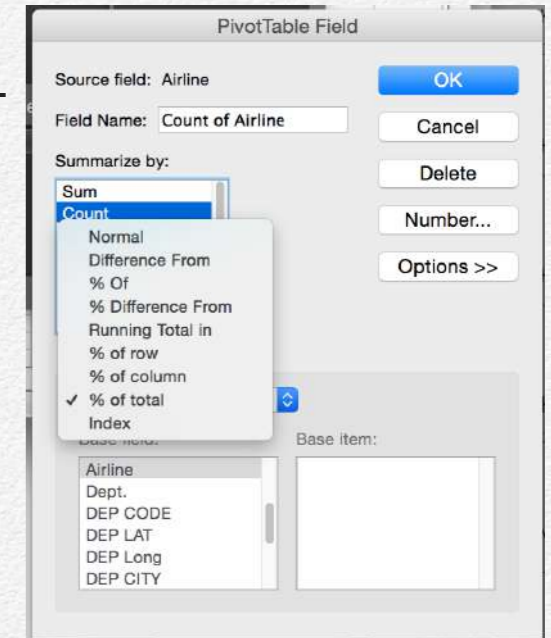
In the dropdown menu 'Show data as:', select '% of total' and then select ok.

We now have a PivotTable of all airlines. If we scroll down to British Airways, we see that 32% of all DFID staff flights in 2011 were on British Airways.

Step 4: Change row, column and value displays

Our final question is on the tough side, if only because there are so many elements to it: How much did the average economy class flight between London and Dubai cost DFID staff in 2011 compared to the cost of the average business class flight?

To do this we start by dragging the 'Departure city' label to the 'ROW LABEL' box. This lists out all of the departure cities, but we only want one: London. By clicking the box on the table that says 'Row labels', we can filter it and select only London.





We can then add in a destination airport, *also* as a 'ROW LABEL', but this time under the 'pill' for 'Departure city'. This will result in a list of all the destinations flown from London.

Part of the question asks about class of service. We'll drag that into the 'COLUMN LABEL' box in the top-right corner. Various columns like 'Business', 'Economy' and 'First' now appear.

The question looks at average cost. We can drag in the 'Cost of booking excluding VAT' label into the VALUES box. And similar to last time, we press the 'i' button, and select 'average' instead of 'count' and select OK.

We now have a table with all the information we need. If we scroll down to Dubai, we see that the average business class flight in 2011 between London and Dubai cost DFID £1458.66, while the average economy class flight cost £444.19, and while we're here, the average economy plus flight cost £889.80.

On its own that doesn't tell us too much (we would expect business class to be more expensive), but it might be helpful when comparing year on year to see how prices are changing.

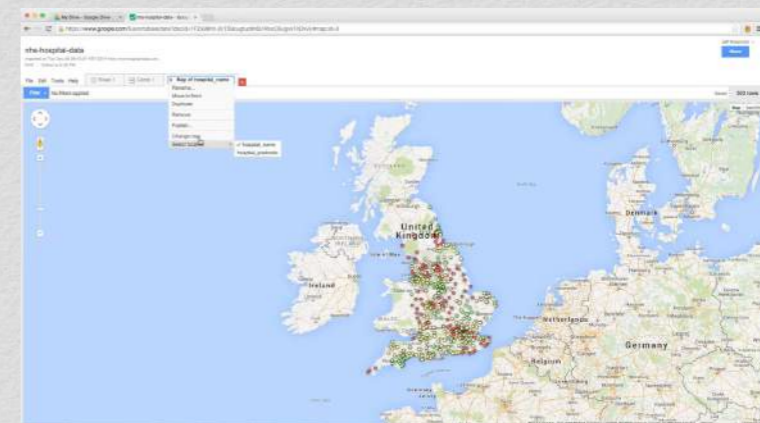
How to... map data using Google Fusion Tables

By Jeff Knezovich

[In a previous how to](#), we explained how to capture live data from the web using Import.io. In this how to we want to show you what we can actually do with that data.

We decided to make an interactive map with different coloured pins. Using Care Quality Commission data on hospital performance in England, we will create a map of which hospitals the staff who work there actually recommend attending.

How to... map data using Google Fusion Tables

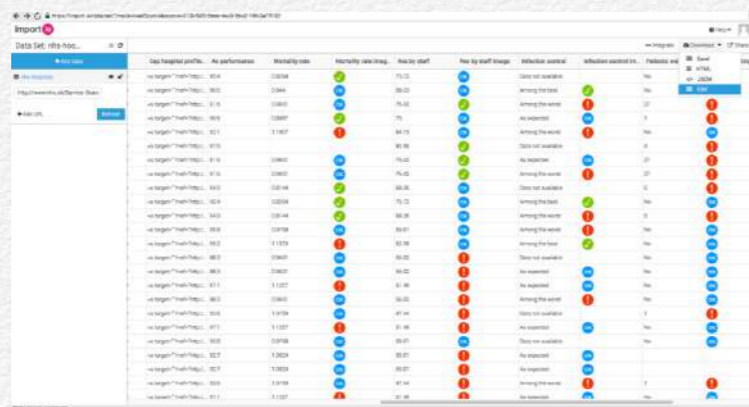


Click to view video (no Internet required), or view online at: <http://bit.ly/1D8hzkl>

Step 1: Export data from Import.io

There are a few ways to link structured data in Import.io to other programmes, especially keeping it a live link. But, to keep things simple, we're going to download the data instead.

To do so, in the upper right-hand corner, select download, and then click CSV. Alternatively, if you'd prefer to use it in Excel you can download it as an XLS file directly.



Top hospital profile	No. performance	Workload	Monthly score	Recs to staff	Recs by staff image	Selection method	Selection method no.	Feedback and
us-hospital-profile-101	10000	10000	10000	10000	10000	10000	10000	10000
us-hospital-profile-102	10000	10000	10000	10000	10000	10000	10000	10000
us-hospital-profile-103	10000	10000	10000	10000	10000	10000	10000	10000
us-hospital-profile-104	10000	10000	10000	10000	10000	10000	10000	10000
us-hospital-profile-105	10000	10000	10000	10000	10000	10000	10000	10000
us-hospital-profile-106	10000	10000	10000	10000	10000	10000	10000	10000
us-hospital-profile-107	10000	10000	10000	10000	10000	10000	10000	10000
us-hospital-profile-108	10000	10000	10000	10000	10000	10000	10000	10000
us-hospital-profile-109	10000	10000	10000	10000	10000	10000	10000	10000
us-hospital-profile-110	10000	10000	10000	10000	10000	10000	10000	10000

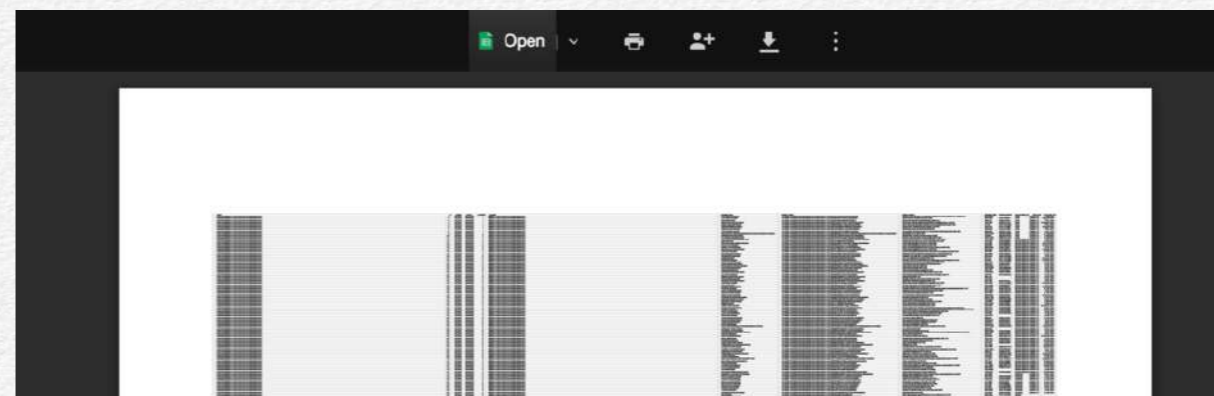
Step 2: Import data into Google Drive Spreadsheets



In Google Drive select the upload button from the top left of the screen, find the saved data and upload it.

We don't want it as a CSV file though; we want to use it as a live Google Spreadsheet. So at the top of the page, select 'Open'. This will automatically create a new Spreadsheet.

If you haven't followed along the previous how to and would like to copy the data into your own Google Spreadsheet, [you can access the data here](#).



Step 3: Add a column that indicates the right pin/marker

[Google Fusion Tables](#) allow a number of different pins on their maps. We want four different ones in our map – a red one for under-performing hospitals, a yellow or amber one for ok hospitals, a green one for hospitals that are performing well, and grey one for hospitals where we don't have the information.

That means we need to introduce a column that labels the pins correctly. We can base it off of the image names provided in column x 'rec_by_staff_image/_source'. You can see that there are three images used: one has an 'ok', another has a 'tick' and the final one has an 'exclamation'. We're going to create a formula that associates the correct pin with each of those. Effectively the correct associations are:



'OK' with 'small_yellow'

'tick' with 'small_green'

'exclamation' with 'small_red'

[blank] with 'measle_grey'

As it's empty, I've entered the following formula in cell Z2:

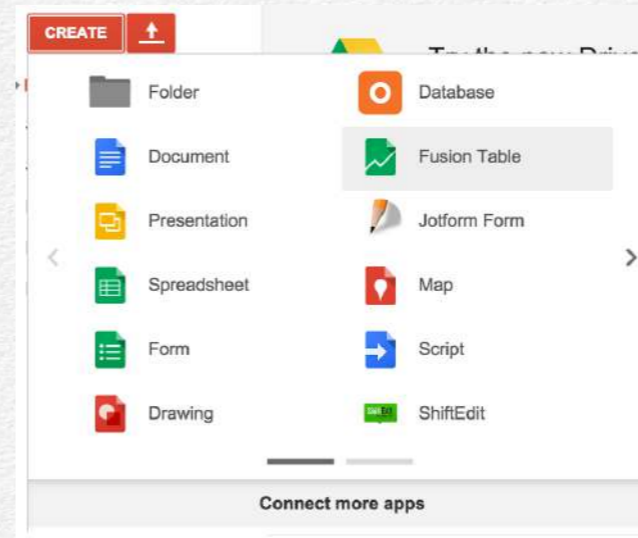
```
=IF(ISNUMBER(FIND("ok", X2)),
"small_yellow", IF(ISNUMBER(FIND("tick", X2)),
"small_green", IF(ISNUMBER(FIND("exclamation", X2)), "small_red", "measle_grey"))))
```

What this is effectively saying is along the lines of: 'check this cell to see if it contains the term "ok", and if so, in this cell write "small_yellow", if not check to see if it contains the word "tick", etc'.

To fill down the entire column, simply double click the bottom-right corner of the cell.

Step 4: Create a new Fusion Table

If you haven't already installed Fusion Tables in your Google Drive, you may need to do that first. Simply go the to [Google Fusion Tables homepage](#) while logged into your Google account

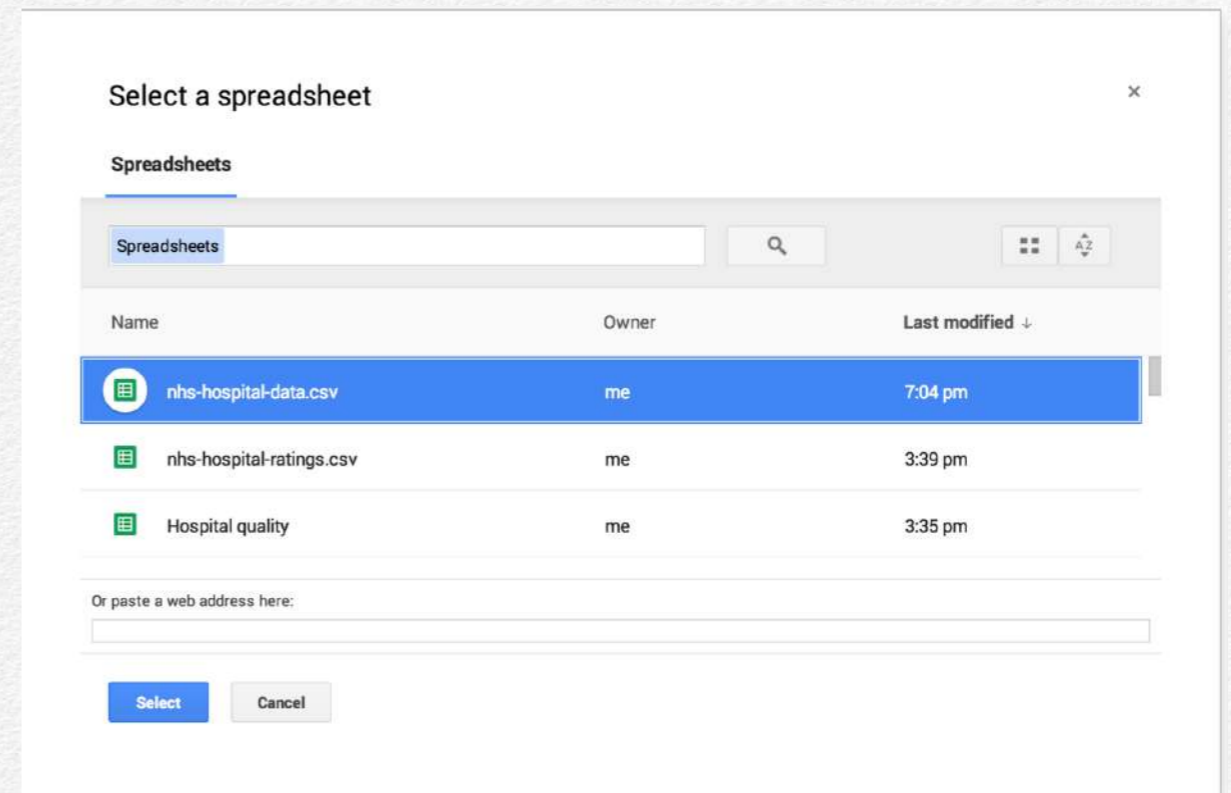


and select 'Get the Drive App'.

Back in Google Drive, instead of selecting the upload button, select 'create' and then Fusion Table.

Fusion Tables will then ask where to import data from. As we've been using Google

Drive we'll select Google Spreadsheet and then select the correct dataset.



Fusion Tables automatically detects that we have column names in our first row, so just select next on the following page.

Finally, before creating the table it will ask you to give the file an appropriate name, check whether to allow download of the data, and to credit the initial data source, in this case the NHS. Select 'Finish' and the new Fusion Table will appear.

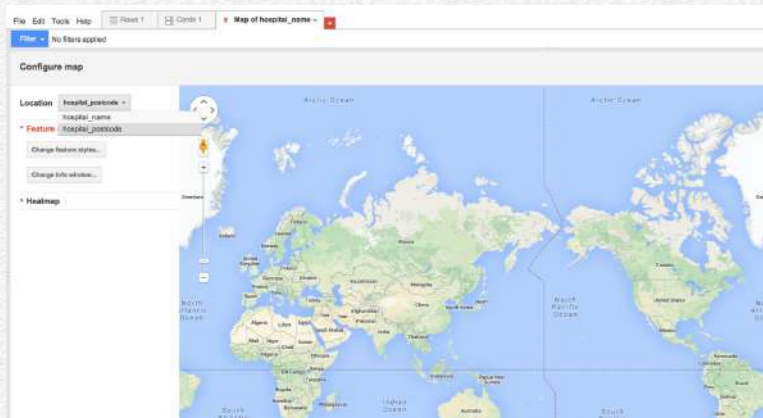
Step 5: Geocode data based on postcode

Two of the columns are already highlighted in yellow by Fusion Tables: hospital name and hospital post code. That is because these are the columns Google can use to geo-reference the data.

The easiest way to do this is to flip to the map tab that has automatically been generated. It will start geocoding data based on hospital name. But the postcode in England gives an exact spot, so it's much better to pause this first attempt at geocoding by name (which might get a number of ambiguous places) and

then select hospital_postcode in the 'Location' drop-down menu on the left.

It may take some time to georeference all 502 hospitals, but



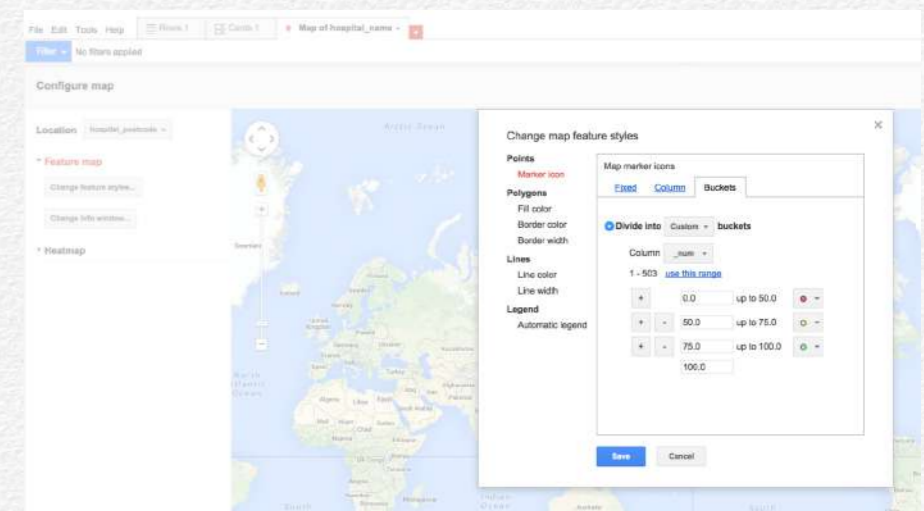
when it's done a map of England should appear with a number of red markers where each of the hospitals is.

Step 6: Change the colour of the pins to indicate whether staff recommend individual hospitals

There are two potential ways to change the colour of the pins. The first is by creating 'buckets' based on the percent of staff indicating that they recommend the hospital. Let's try that first.

Select the 'Change feature style' button on the left side of the screen. Then under 'marker icon' select buckets.

We'll create three buckets based on the column 'rec_by_staff'. If less than 50% of the staff would recommend a hospital, we'll give it a red



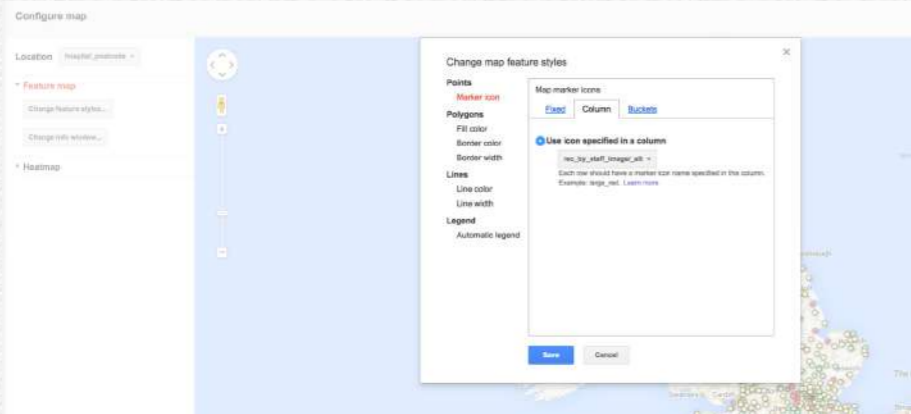


marker. If it's between 50%–75% of staff that recommend a hospital, we'll give it a yellow marker, and if it's above 75% we'll give it a

green marker. Select save and the map with different colours should now appear.

However, the methodology used by the NHS doesn't quite give us so well defined break points (probably because of sample sizes at various hospitals). Also, this erroneously takes hospitals where we have no data and lumps them in with under-performing hospitals.

So it's better to use the images that they've used as a guide on how well a hospital is doing.



Since we've already created a column that gives the right icon name based on those images, we'll

change the style again but instead of buckets, we'll use 'Column' and select the radio button 'Use icon specified in a column' and select the column 'rec_by_staff_image/_alt' from the dropdown menu. It results in a slightly different map, as below.

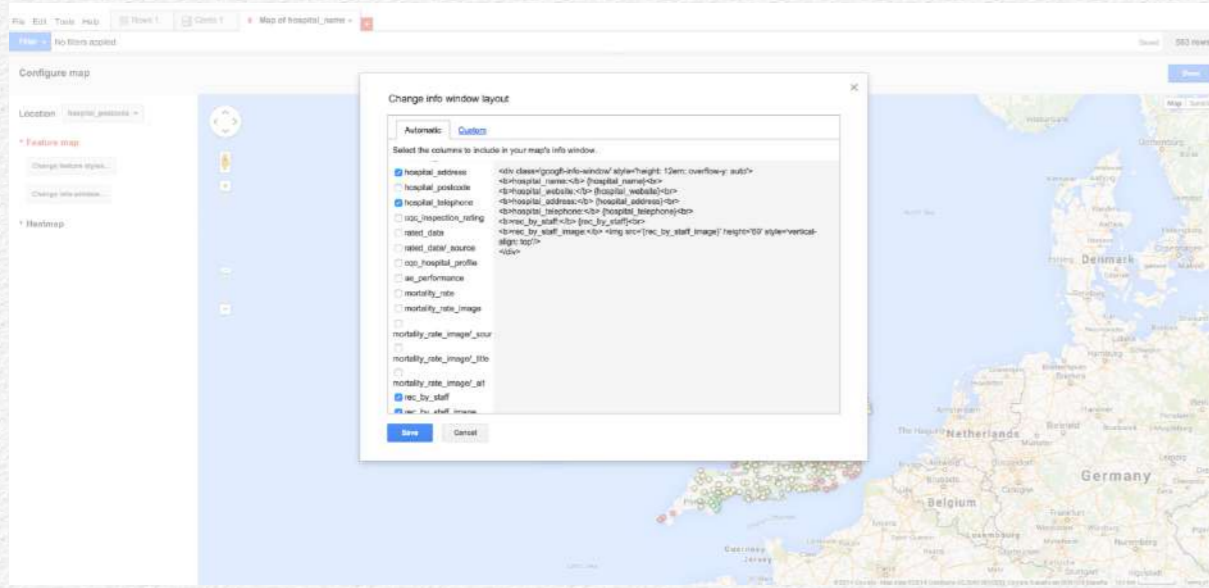


Step 7: Edit the information box

The map is a nice way to get an overview of how the various hospitals are performing. But if we want more information on how individual hospitals are doing, we can click on the button and an information window appears. Unfortunately, at the moment it's a bunch of gobbledygook (technical term). So let's clean it up!

Select the 'Change info window' button on the left of the screen. Start by selecting some of the relevant variables to display. In this case we want: Hospital website (which contains its name), the hospital address, the hospital phone number, the percent of

staff that recommend the hospital, and the image of how well it's doing.



That looks alright, but it's still a bit clunky. Let's flip over to the custom tab and customise the look a bit.

I've ended up with the following code, which you can cut and paste directly.

```
<div class='googft-info-window' style='height: 15em; overflow-y: auto'>
```

```
<h3>{hospital_website}</h3>
```

```
<div style="width:60px; float:left; margin:5px;"><img src='{rec_by_staff_image}' height='60' style='vertical-align: middle' /></div><div style="float:right"><b>Hospital address:</b> {hospital_address}<br><b>Hospital telephone:</b> {hospital_telephone}<br><b>Percent of staff who recommend hospital:</b> {rec_by_staff}%<br></div>
```

```
<div style="float:right"><b>Hospital address:</b> {hospital_address}<br>
```

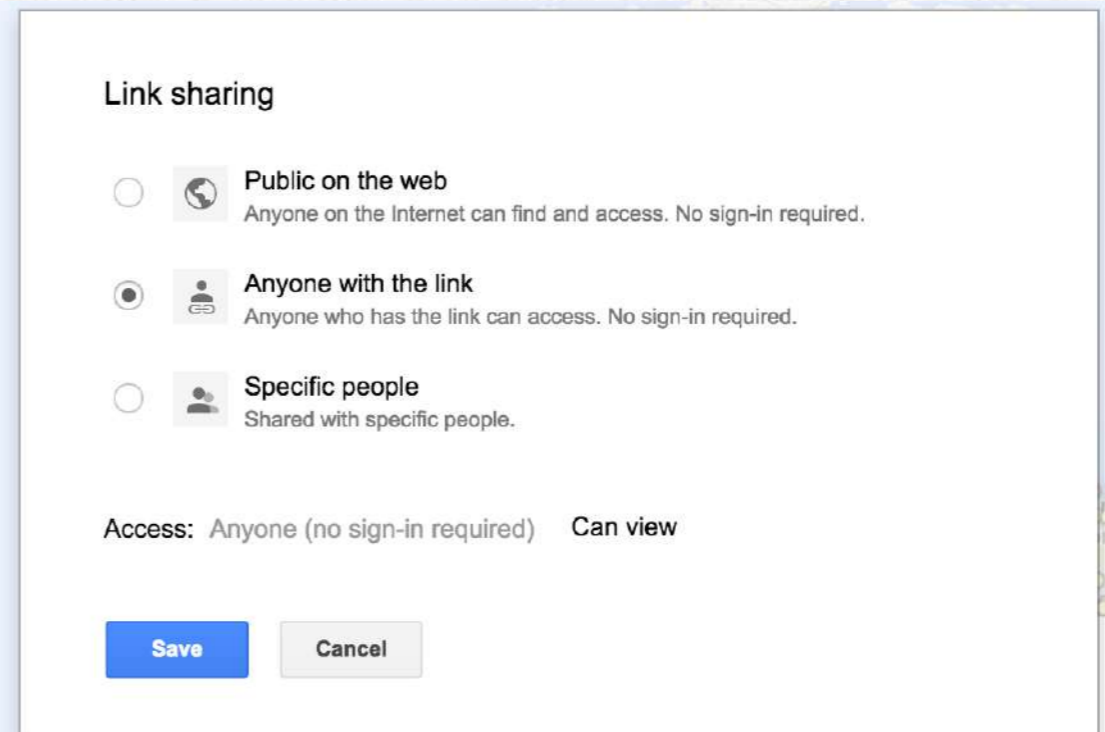
```
<b>Hospital telephone:</b> {hospital_telephone}<br>
```

```
<b>Percent of staff who recommend hospital:</b> {rec_by_staff}%<br></div>
```

```
</div>
```

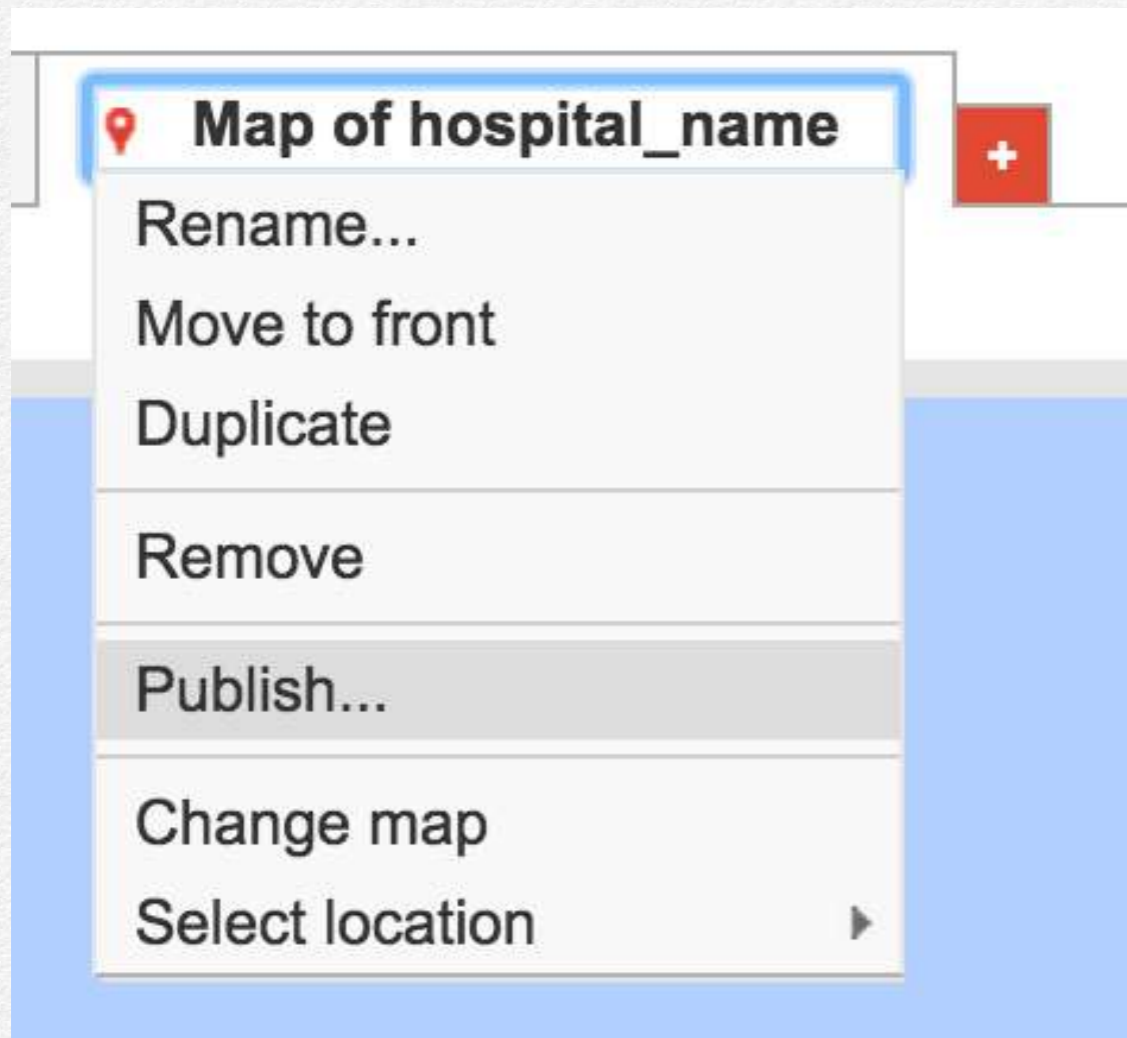
Step 8: Publish the map!

One of the great things about working with Google Fusion Tables is that you can publish directly to the web.



First you'll need to edit the privacy of the entire workbook. Go to File > Share and a new window should pop up. Under the privacy settings, select the 'Change' link and select the radio button: 'Anyone with link'. Save changes.

In the map menu, now select 'Publish'.



The first thing to do is to specify a correct size. It is then possible to share the link, or to embed the visualisation in an iFrame or using javascript.

How to...animate a map to see changes over time using CartoDB

By Jeff Knezovich

We've already seen one of the ways that [we can develop maps using Google FusionTables](#). But that method gives us points on a map that don't change over time.

However, sometimes we have data that also have chronological information associated with them. The DFID travel dataset is one such example. One way to visualise that data would be to display all the places DFID staff have travelled each day of the year. This can be done using an online mapping software called CartoDB and its 'Torque' function.

How to...animate a map to see changes over time using CartoDB

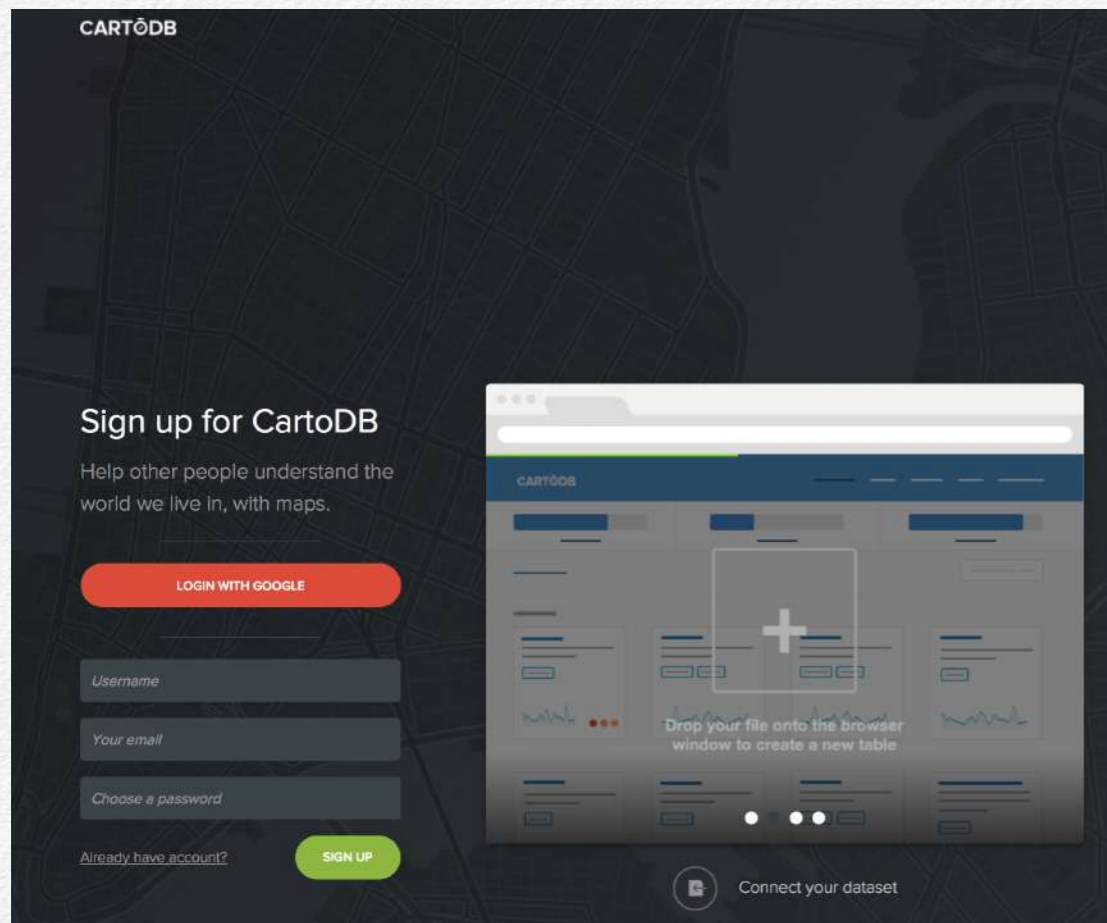


Click to view video (no Internet required), or view online at: <http://bit.ly/1DVA2Vg>

CartoDB is a really powerful mapping tool that has a free version with a number of limits (on data storage, and that all information is public, for example). Monthly paid subscriptions are not cheap, but are certainly worth exploring if you do a lot of mapping. It will likely come out as cheaper than many of the other mapping (GIS) software that is available, making it a solution to explore further!

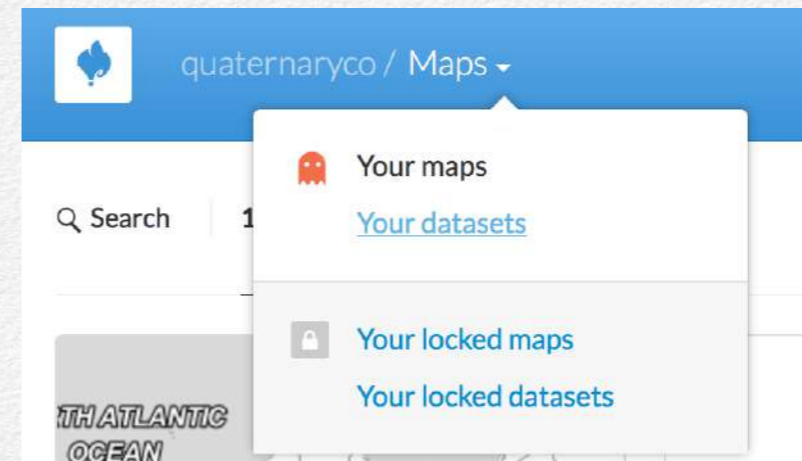
Step 1: Setup CartoDB account

If you don't already have an account, the first step is to sign up.



Step 2: Upload dataset

Once logged in, we'll then need to navigate to the dataset part of our dashboard.

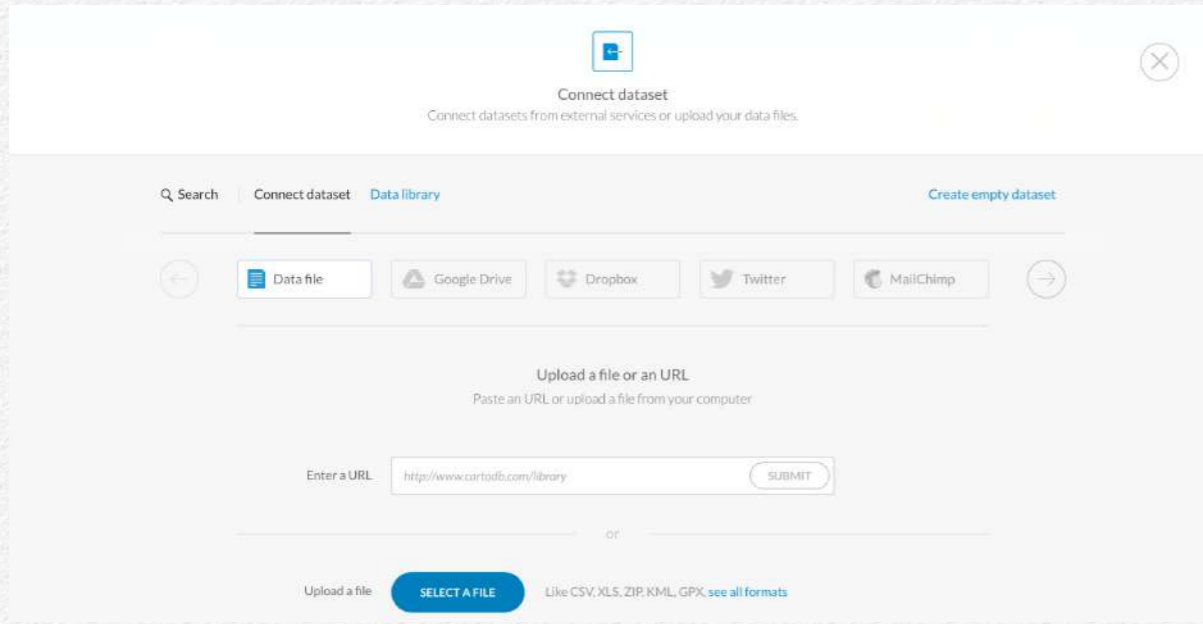


Once there, we want to 'connect to' (well, upload in our case) a new dataset. Click the green button at the top-right corner that says 'new dataset'.

You'll notice that there are a number of options for how to connect to datasets. To maintain live links (i.e., to data that will be constantly updated in Google Drive Spreadsheets), a paid account is required. Therefore, we are going to upload an Excel file.

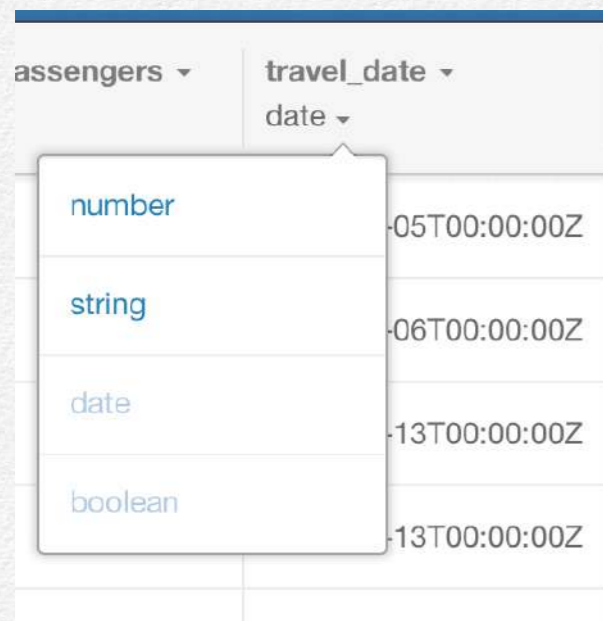
The file we're working with is available to download as a Google Spreadsheet. Do note that in order for this to work correctly, you may need to make sure that the date field is displaying correctly (i.e., as a date and not as a raw number). Once you download the spreadsheet and are working in Excel, it is possible to change the format type for that column to a date type.

In CartoDB, click the blue 'select a file' button, navigate to the file and upload. At the bottom of the screen, then select the



green 'Connect dataset' button. A status bar should appear as the information is processed. After a successful upload, you will be automatically redirected to the dataset on CartoDB.

Step 3: Ensure columns are correctly coded



When uploaded, CartoDB guesses what kind of information is in each field. For example, it will identify a name as a 'string' (i.e., text), or a number or a date.

In this case, it's particularly important in this example that our 'travel_date' field is considered to be a date. If it's not, select

the identifier under the 'travel_date' label and a dropdown menu will appear. Simply select date.

Step 4: Georeference our data

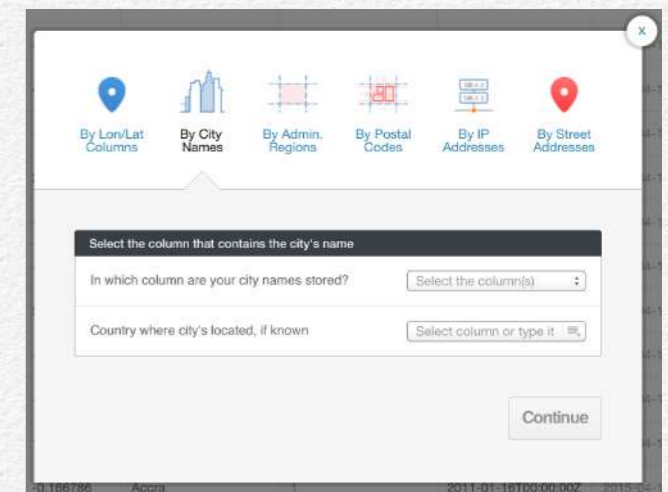
In order to map the data, it needs to be georeferenced. We already have some geographical data in our dataset: both the latitude and longitude of the departure and destination airports.

But CartoDB is a powerful tool that can help to georeference data in a number of different ways.

We want to map the destination city of travel for all DFID staff across 2011. To do this, we want to georeference based on the column 'dest_city'.

There are a few ways to do this, but the easiest way is to select the 'Edit' dropdown menu at the top-right corner and select 'Georeference'. A dialogue box will pop up with a number of georeferencing options. Instead of georeferencing by latitude and longitude, we're going to select the second option to georeference 'by city names'.

Two dropdown menus appear. We'll select 'dest_city' in the city name menu, and



'dest_country' in the country menu. The country column isn't necessary, but it will help CartoDB avoid confusion between two cities with the same name, e.g., London in Ontario, Canada, and London in the UK.

Select continue twice, and your data will be automatically geo-referenced.

Step 5: Create a torque map



We now have all the data we need. So switch from data view to map view using the button at the top-middle of the screen.

Open the right-side toolbar by clicking on the number one. We want to change the map type, so make sure that you're under the 'wizard' tab by clicking the button that looks like a paint-brush.

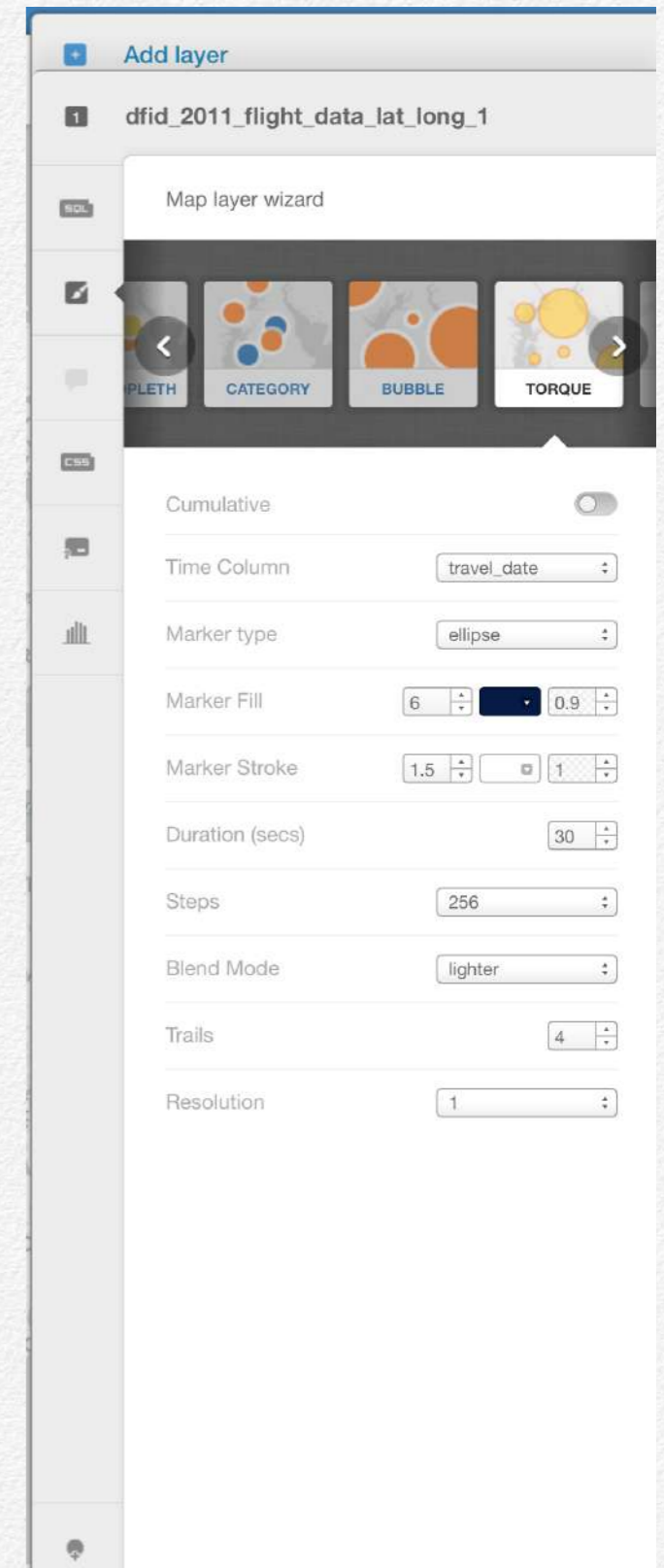
We'll then select our desired map type: in this case, 'torque'. You'll see that the map automatically starts moving.

We then need to make sure all of the settings are as we desire. First, make sure that in the 'Time column' dropdown menu, 'trav-

el_date' is selected. You may notice that in the bottom-right of the map, it changes from sequential numbers to now show the dates of travel.

We can change the marker type between rectangles and ellipses. In this case, I prefer keeping the markers on the map as small circles. We can further change the colours of those circles (here I've changed to navy, DFID's brand colour).

The other settings are more important. 'Duration' changes how long the overall visualisation will last in seconds. The default is 30 seconds. That seems about right for this visual, but if you want to slow it down, try it at 60 seconds.



'Steps' is how many different individual maps it creates to get through all of the data. It would be great if we had the option of 365 (for one map a day), but the closest option is 256, so let's choose that one.

The other interesting one is 'trails'. After a point initially appears on a map, this indicates how many steps it should take before it fades out and completely disappears. In this case, I've bumped it up from two to four, otherwise I find it disappears very quickly.

Finally, I've changed the resolution to 1 from 2. This means that if there were two cities nearby, it might have only shown one dot. But I want to see Kampala versus Nairobi, for example, so let's make it the highest resolution.

The last thing you could do is turn on the cumulative tab so that the dots don't disappear. I'm keeping it off for this visual.

Step 6: Publish and share the map

At the top-right corner of the page is the option to then publish and share the map. It's possible to [link to the visualisation](#), embed it as an iframe or get some javascript code.

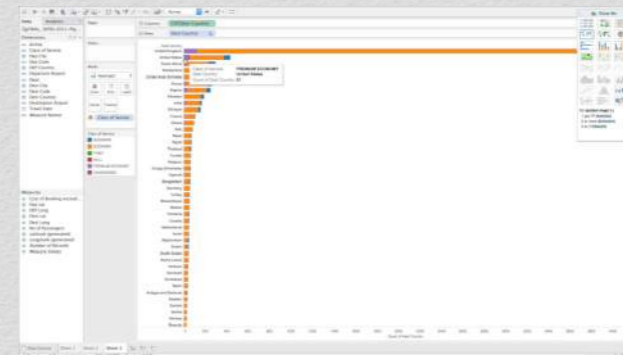
How to... create interactive dashboards with Tableau Public

By Jeff Knezovich

For our visualisations, our how tos have mainly focused on maps. But we know visualisation goes much beyond that. There are various types of charts that might be useful when it comes to visualising data.

And one of the strengths of using a programme like Tableau Public is that it can pull various visualisations together into a single interactive dashboard. This how to will explain how that can work, using our DFID 2011 flight data.

How to... create interactive dashboards with Tableau Public

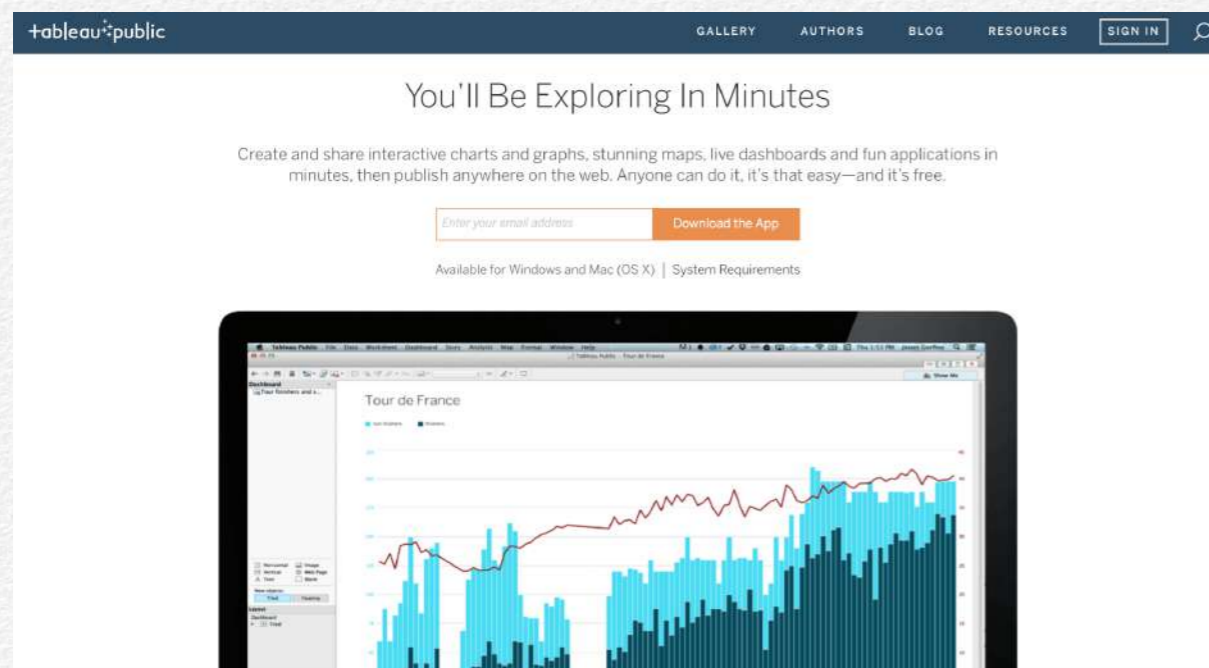


Click to view video (no Internet required), or view online at: <http://bit.ly/1IEE05K>

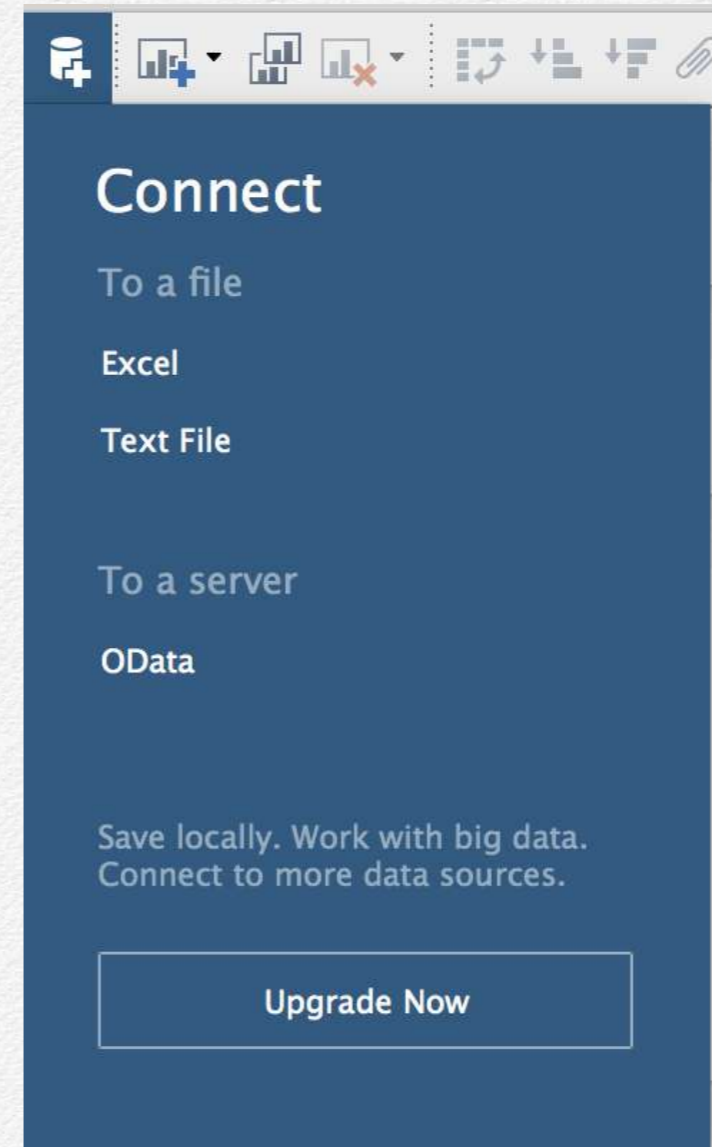
Step 1: Download and install Tableau Public and create an account

If you haven't done so already, download and install Tableau Public on your computer. As part of that process, and in order to save and share your visualisations, you will also need to create an account. You'll be required to enter your email address to download the programme.

It's worth noting that, if you have already installed Tableau Public but haven't updated it in a while, at the beginning of April 2015, Tableau 9 was introduced. It might, therefore, be worth installing the most current version.



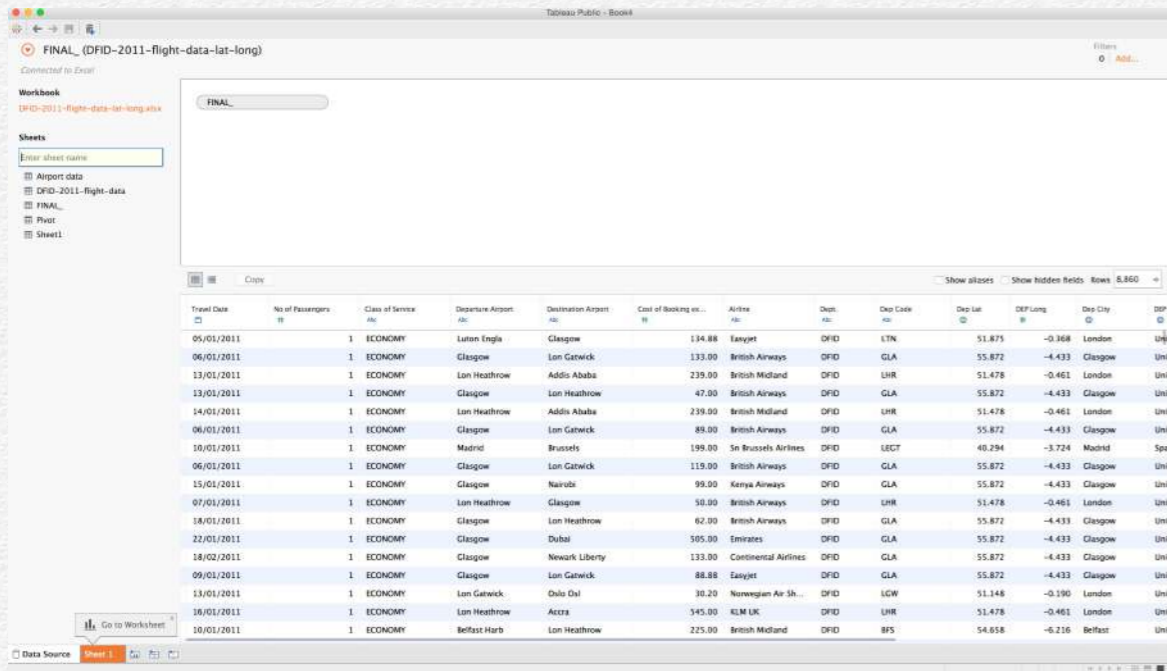
Step 2: Connect data source



After opening the programme, the first thing you'll need to do is to connect to data. Click the icon that looks like a battery (I think it's supposed to represent a server stack, but your guess is as good as mine) with a plus sign on the bottom. A dropdown menu will appear. In Tableau Public, you can only connect to offline data sources, like an Excel spreadsheet. With the paid version, it is possible to connect to dynamic data.

In this case, we'll work with an Excel spreadsheet. We're using the same data as before: DFID flights in 2011, which is available to download as a Google Spreadsheet.

Once we select the appropriate sheet, click the worksheet tab in the bottom-left corner to start exploring your data!



Step 3: Move 'pills' to rows and columns to develop new charts and tables

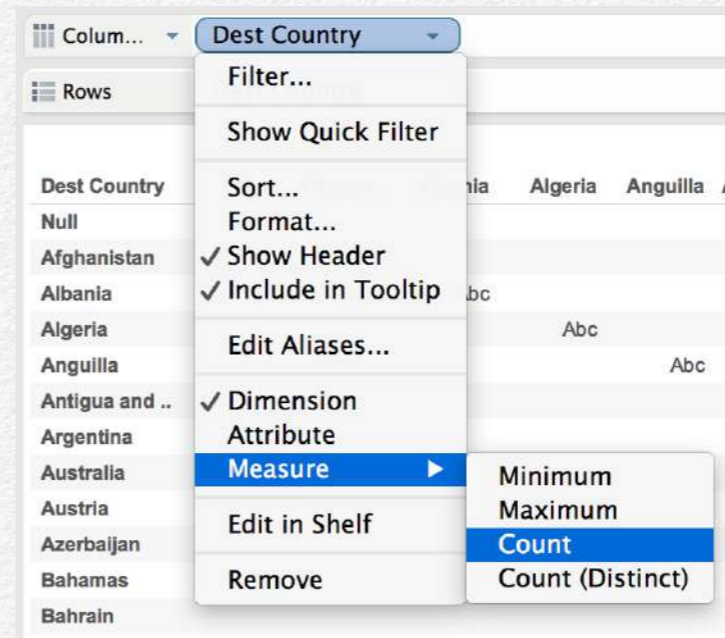
The first thing we might like to visualise is the number of times DFID staff travelled to various countries in 2011. We already know this from PivotTables, but this is only going to be one part of our dashboard.

The thing to know about Tableau is that it's designed to be a 'drag and drop' interface. Different measures and dimensions in the left sidebar can be dragged directly into columns or rows, and can also be used to change colours or sizes. When they

are dragged into these fields, they take the shape of a stretched oval, which is why they are known as 'pills'.

Let's start by dragging our dimension 'Dest Country' into the rows. It creates a table automatically that is not dissimilar to a PivotTable. To get a count of the number of visits to each of these countries, we can drag the same measure, 'Dest Country', into the columns field. It creates a table that we don't want.

But never fear! That's because it's treating it as a 'dimension' (i.e., discrete categories, like Afghanistan and Bangladesh) rather than as a measure. If we click the 'Dest Country' pill in the column field, a dropdown menu appears and we can change it to a count of the measures.

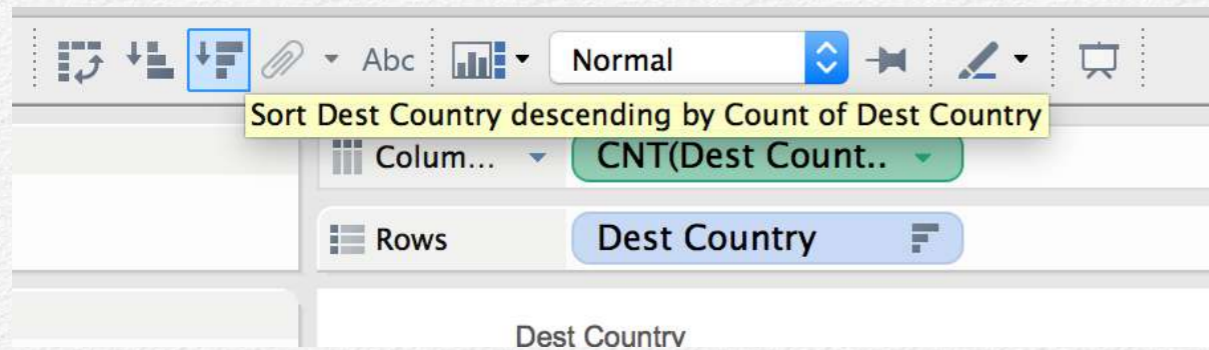


This will create a bar chart, which we can sort descending by clicking on the 'Sort descending' button on the row of buttons on top of the page.

You'll also notice that in the 'Show me' menu there are a number of different types of charts available. By clicking

the one in the top-left corner, we get a table, which is how I will

leave this for now, as we just want an overview in the dashboard we're going to create.



Step 4: Create a sheet that can act as a filter

One of the nice things about the dashboards is that individual sheets will be able to interact. One of the ways this is possible is through filtering.



Because this dataset contains a lot of information about countries, we can map the countries and

then use that as a filter in the dashboard.

To do this, drag the 'Dest Country' dimension into the columns field. Select the filled map icon in the 'Show me' dropdown.

We can then use this to create a choropleth, or heat, map. For example, maybe we want to know which country costs the most on average to travel to.

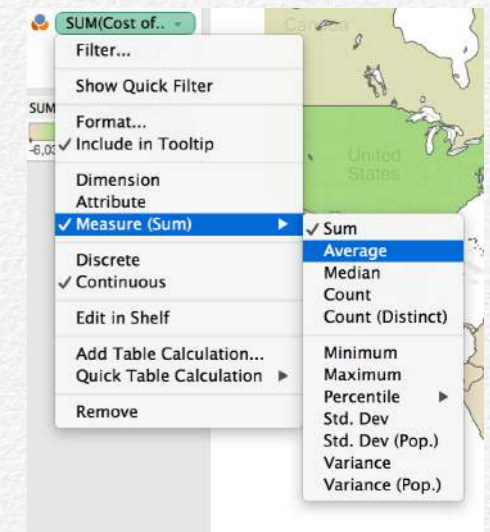


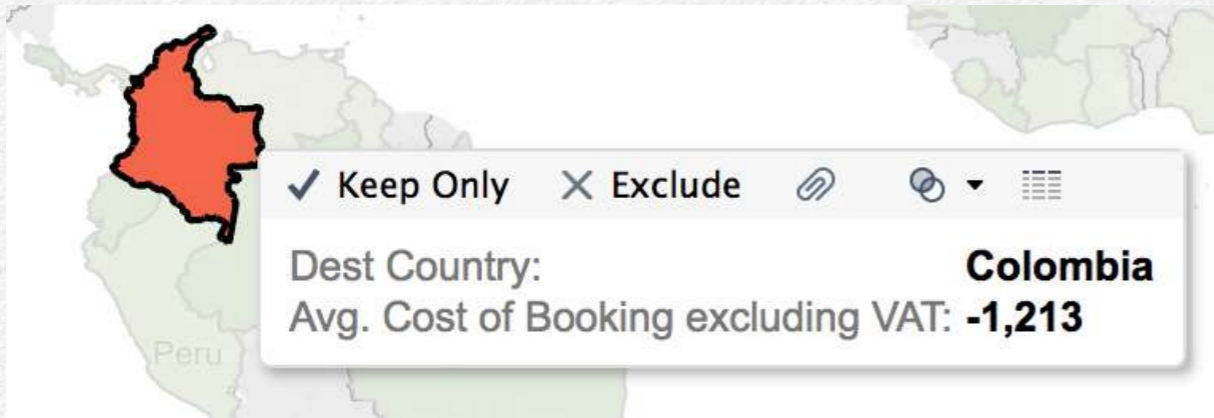
If we drag the measure 'Cost of Booking...' onto the 'Color' shelf, the map changes colour to reflect how much DFID spent on travelling to each country.

But this is the total spend. It might make more sense to change it for visualisation purposes to the average spent per country. To do this, we select the 'Sum(Cost of Booking) pill' and in the dropdown menu we change it from sum to average.

The result is a map that shows Mali as one of the most expensive places to get to.

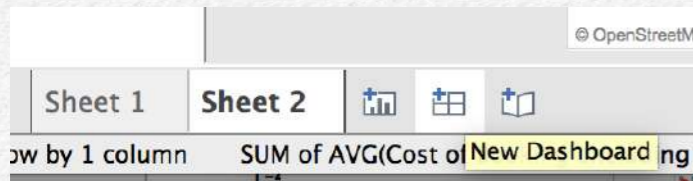
There is some oddity in the data. It appears that someone refunded a trip to Colombia, and maybe that happened across financial years. So let's exclude that. Simply click on Colombia and then select 'Exclude' to tidy up the map.





Step 5: Create an interactive dashboard

At the bottom of the sheet, instead of creating a new sheet, select the button for creating a new dashboard.



You'll see that instead of individual variables in the left sidebar of a dashboard, we have the

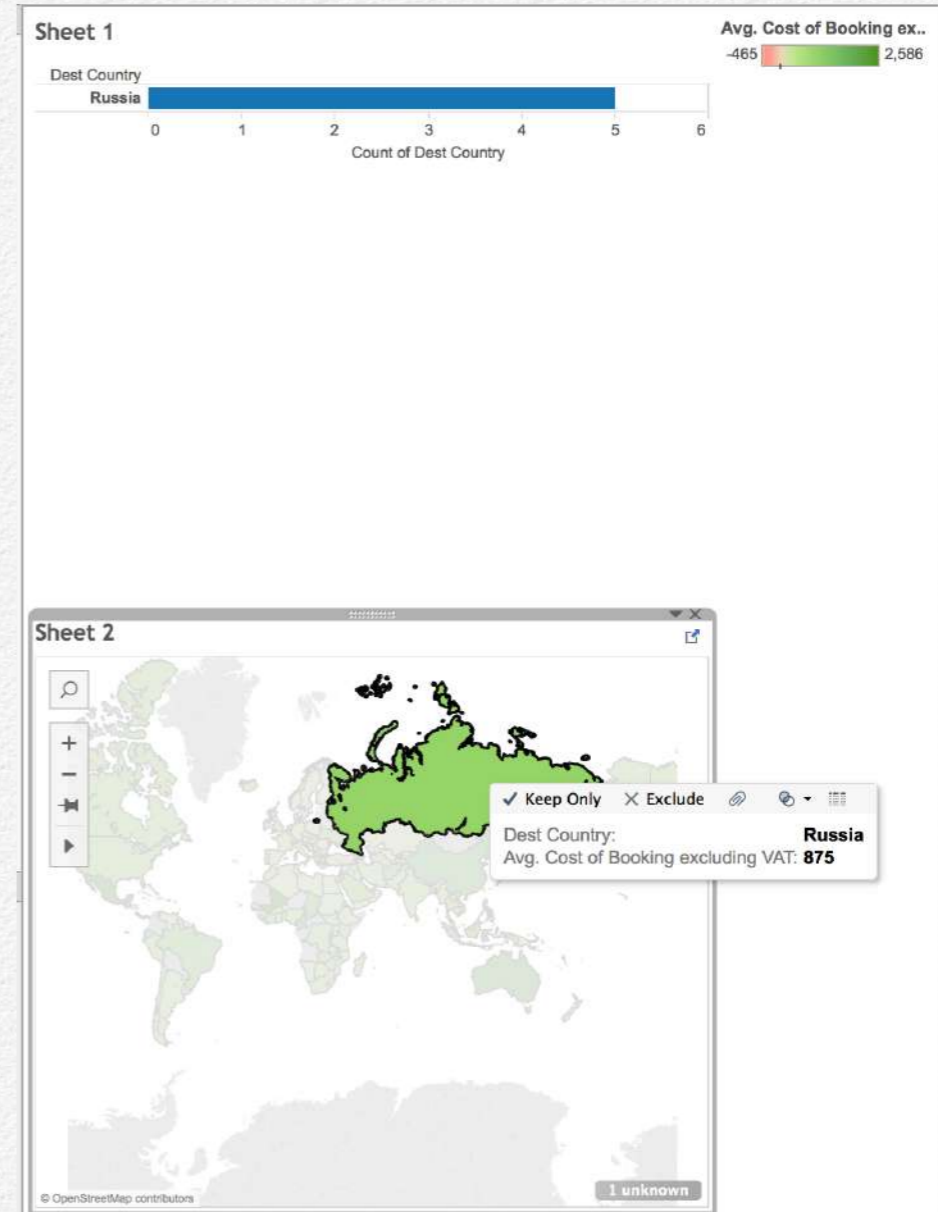
sheets. Let's simply drag sheet one onto the page and then sheet two below it.

Then, select 'Sheet 2' and a grey border will appear. Select the little down arrow on the top-right corner and a dropdown menu will appear. Select 'Use as filter'.



select a country, it changes the chart at the top to display only that country.

As it stands, it's not the prettiest of dashboards. But with a bit of tidying and adding some more dimensions, it has the potential!



On Think Tanks is a blog and a collection of projects bringing independent ideas and advice to think tanks around the world to help them to do their jobs better. We work in low-, middle-, and high-income countries alike with the hope that stronger think tanks contribute to stronger societies. Founded by Enrique Mendizabal, we have a growing team of experts – all of whom have cut their teeth working in think tanks in various parts of the world. We work on and support think tanks on a range of topics including: think tank communication, management, finance, strategic direction, and research.

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