Data Reuse from Government & Research: observations from experience

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The DCC is supported by Jisc & FP7

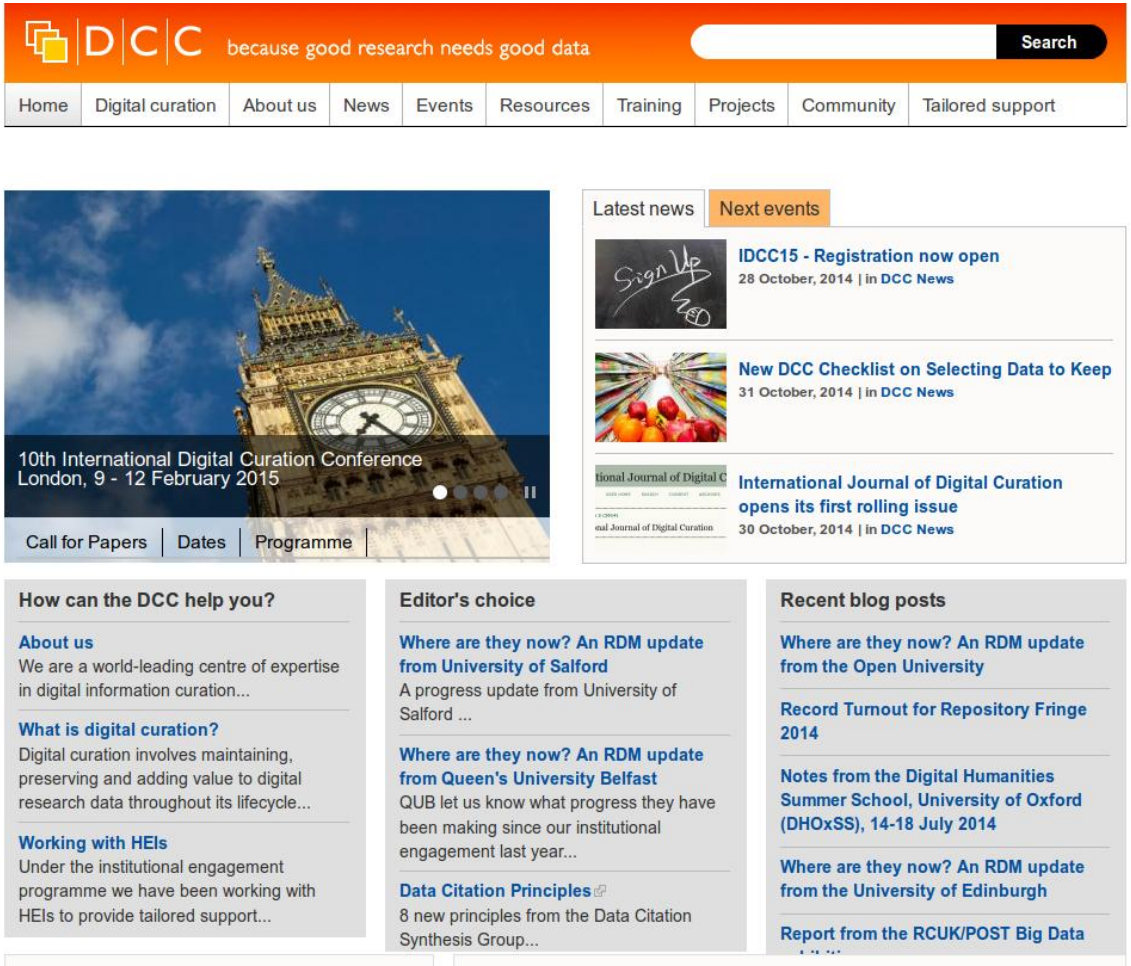
because good research needs good data

Me – some background

- Currently – director of Digital Curation Centre
  - Focus on digital curation of research materials

My home – the DCC

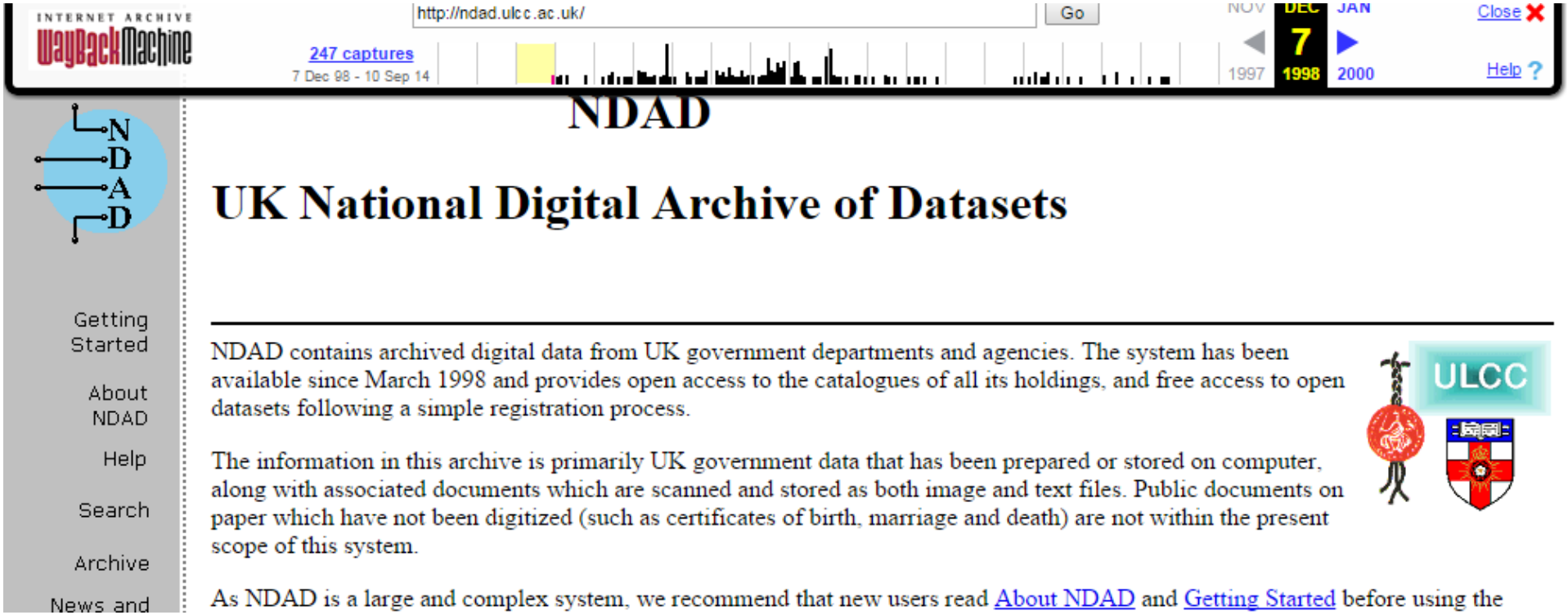
- Mission – to increase capability and capacity for research data services in UK institutions
- Not just a UK problem – an international one
- Training, shared services, guidance, policy, standards, futures



Me – some background

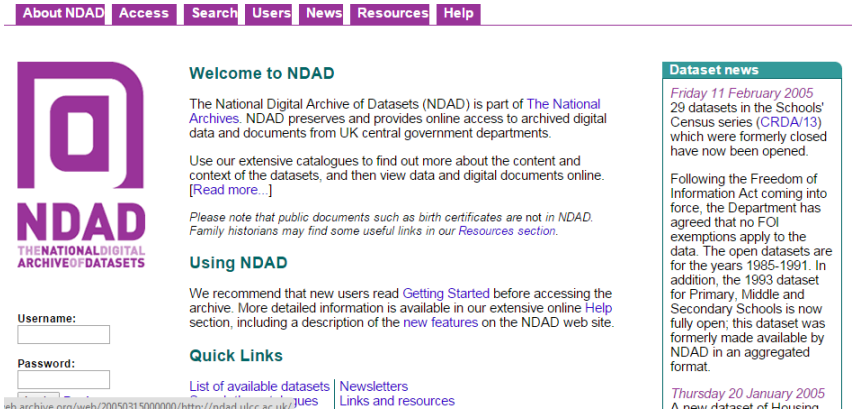
- Currently – director of Digital Curation Centre
  - Focus on digital curation of research materials
- Initially – software/systems in clinical research
  - Frequently rescuing old data
- 1997-2010 Head of ULCC Digital Archives Group
  - First online access to archived government datasets by a national archive

NDAD – National Digital Archive of Datasets



NDAD – National Digital Archive of Datasets

- Archivists & data specialists, liaising directly with government departments & contractors
- Documentation, software critical
- Data as a record – not as ‘truth’



An aside – purpose, context of a data archive is important

- PSI – “this is the data we have now” (may be incomplete; subject to change)
- National Archive – “this is the data the government used” (may be inaccurate; will not change)
- Research publication – “this is the data we used for this paper” (may be wrong; should not change)
- Data bank – “This is the best data available now” (may be old; should change)

Full of interest!

B	C	D	E	F	G	H	I	J	K	L
1281	8203	2	HARTLEPOOLS WATER COMPANY	8104	1	60	1	1	4	T
1281	8303	1	HARTLEPOOLS WATER COMPANY	8204	1	60	1	1	4	T
1281	8403	1	HARTLEPOOLS WATER COMPANY	8304	1	60	1	1	4	T
1281	8503	1	HARTLEPOOLS WATER COMPANY	8404	1	60	1	1	4	T
1281	8603	1	HARTLEPOOLS WATER COMPANY	8504	1	60	1	1	4	T
1521	8112	2	WREXHAM AND EAST DENBIGHSHIRE WATER COMP	8101	1	60	1	1	3	T
1521	8212	1	WREXHAM AND EAST DENBIGHSHIRE WATER CO	8201	1	60	1	1	3	T
1521	8312	1	WREXHAM AND EAST DENRIGHSHIRE WATER CO	8301	1	60	1	1	3	T
1521	8412	1	WREXHAM AND EAST DENBIGHSHIRE WATER CO.	8401	1	60	1	1	3	T
1521	8512	1	WREXHAM AND EAST DENBIGHSHIRE WATER CO	8501	1	60	1	1	3	T
1581	8109	2	MID-SUSSEX WATER COMPANY	8010	1	60	1	1	2	T
1581	8109	4	MID-SUSSEX WATER COMPANY	8010	1	60	1	1	2	T
1581	8209	1	MID-SUSSEX WATER COMPANY	8110	1	60	1	1	2	T
1581	8403	1	MID-SUSSEX WATER COMPANY	8210	1	60	1	1	4	T
1581	8503	1	MID-SUSSEX WATER COMPANY	8404	1	60	1	1	4	T
1581	8503	4	MID-SUSSEX WATER COMPANY	8404	1	60	1	1	4	T
1581	8603	1	MID-SUSSEX WATER COMPANY	8504	1	60	1	1	4	T
1781	8203	2	LEE VALLEY WATER COMPANY	8104	1	60	1	1	4	T
1781	8303	1	LEE VALLEY WATER COMPANY	8204	1	60	1	1	4	T
1781	8403	1	LEE VALLEY WATER COMPANY	8304	1	60	1	1	4	T
1781	8503	1	LEE VALLEY WATER COMPANY	8404	1	60	1	1	4	T
1781	8603	1	LEE VALLEY WATER COMPANY	8504	1	60	1	1	4	T
1891	8112	2	MERSEY DOCKS & HARBOUR COMPANY	8101	1	70	1	1	3	T
1891	8212	1	MERSEY DOCKS & HARBOUR COMPANY	8201	1	70	1	1	3	T
1891	8312	1	MERSEY DOCKS AND HARBOUR COMPANY	8301	1	70	1	1	3	T

The Company Accounts Database

Excuses not to share – much the same

- "People will ask questions"
  - So use a data centre or repository
- "It will be misinterpreted"
  - Stuff happens. Also, openness encourages correction
- "It's not interesting"
  - Let others be the judge – your noise is my signal
- "I might get another paper out of it"
  - Up to a point. We might get more research out of it
- "I don't have permission"
  - A real problem. But solvable at senior level
- "It's too bad/complicated" –see above
- "It's not a priority"
  - Unfortunately, funders are making it so. But if you looked at the evidence, it would be your priority as well

See e.g. Carly Strasser's blog:
http://datapub.cdlib.org/2013/04/24/closed-data-excuses-excuses/

Research Data vs Government Data

- Collected by those who will use it (often)
- Often used just once (if at all)
- Expensive to create
- Hard to find
- Poorly documented
- Easily lost
- Often connected to publication
- Little regulatory framework

- Collected by those who will use it (often)
- Often used continuously
- Expensive to create
- Hard to find
- Poorly documented
- Easily lost
- Rarely connected to publication
- Significant regulatory framework

Types of government data

- Collected to support an administrative or regulatory function
- Collected to answer a specific research question
  - Collection, analysis often contracted out
- Created as a reference source
  - Administrative & research functions

What we got

Department	Series	NDAD ref	PRO ref
Agricultural Departments	Agricultural and Horticultural Census	CRDA/4	MAF 408 MAF 410
	Coast Protection Survey of England	CRDA/10	MAF 406
	Internal Drainage Board Database	CRDA/9	MAF 407
British Railways Board	British Rail Electronically Archived Documents	CRDA/37	AN 186
Countryside Agencies	Survey of Rural Services	CRDA/30	D 16 D 10
Department of Culture, Media and Sport	National Lottery Awards Database	CRDA/39	PF 1
Department of Trade and Industry	Oil and Gas Directorate, North Sea Geographical Information System	CRDA/26	EG 17
Education Departments	Grant Maintained Schools Database	CRDA/36	ED 278
	Learning Partnerships	CRDA/53	NV 4
	Learning and Training at Work	CRDA/52	NV 3
	Register of Educational Establishments	CRDA/47	NV 2
	Schools' Census (Form 7)	CRDA/13	ED 267
Environment Departments	Countryside Information System	CRDA/46	AT 73
Forestry Commission	National Inventory of Woodland and Trees	CRDA/3	F 45
Health Departments	1994 General Household Survey: Follow-up Survey of the Health of People aged 65 and over	CRDA/28	JA 6
	AIDS Advertising Evaluation	CRDA/35	BN 97
	Anatomy Office - Anatomy dataset	CRDA/21	JA 3
	ies on Starting Infant School	CRDA/33	BN 94

REFERENCE DATA **ADMIN DATA** **ONE-OFF DATA**

What we got…

	AIDS Advertising Evaluation	CRDA/35	BN 97
	Anatomy Office - Anatomy dataset	CRDA/21	JA 3
	Children's Difficulties on Starting Infant School	CRDA/33	BN 94
	Children in care	CRDA/38	BN 98
	Elderly and their Medicines	CRDA/34	BN 96
	Public Health Common Dataset	CRDA/24	JA 5
	Reasons for Retirement	CRDA/27	BN 93
	Survey of Abortion Patients for the Committee on the Working of the Abortion Act	CRDA/32	BN 95
HM Customs and Excise	Beer Duty	CRDA/19	CUST 134
Home Office	British Crime Survey	CRDA/2	HO 400
Lord Chancellor's Department	Judge Advocate General's Office Case Index System	CRDA/23	LCO60
	Judicial Statistics	CRDA/8	LE 1
	Presentations under the Public Records Act 1958, s.3(6)	CRDA/59	PRO 72
Metropolitan Police	Crime Statistics System (ME)	CRDA/1	MEPO 36 MEPO 37
Museum and Galleries Commission	Digest of Museum Statistics (DOMUS)	CRDA/12	EB 6
Nature Conservation Departments	Ancient Woodland Inventory	CRDA/43	FT 43
	British Bats	CRDA/17	FT 40
Social Security Departments	Earnings Top-up Scheme	CRDA/48	NB5
Statistical Departments	Historic Mortality Data Files	CRDA/20	RG 69
	Primary Births	CRDA/5	RG 71
Transport Departments	Survey of Heavy Goods Vehicles	CRDA/14	LM 1
Welsh Office	Coastal Survey - Wales	CRDA/6	BD 80
	Survey of Contaminated Land in Wales	CRDA/15	BD 83

Potential reuse

- By other parts of government – or other governments
- By journalists
- By the public
- By historians
- In academic and commercial research
- In education

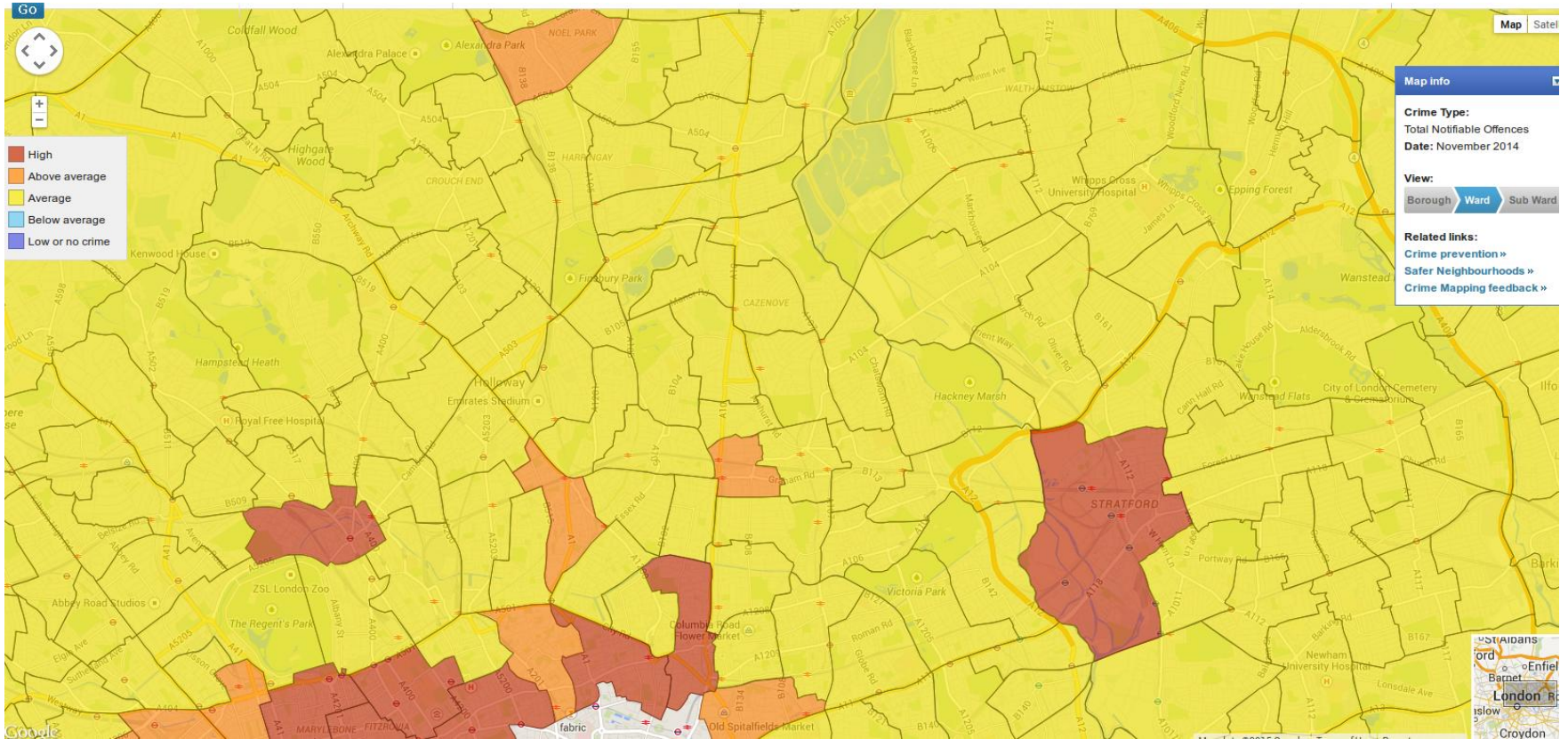
Potential gains from research data sharing

- Research quality
  - How close can we get to the truth?
- Research speed
  - How quickly can we get to the truth?
- Research finance
  - How much does the truth cost?

- Improving one or more of these is of interest to all actors:
- Researchers as data creators
- Researchers as data reusers
- Research institutions
- Funders – hence government and society

The story of Metropolitan Police Data

- Crime information is accessible to all on the web – from a system called CRIS

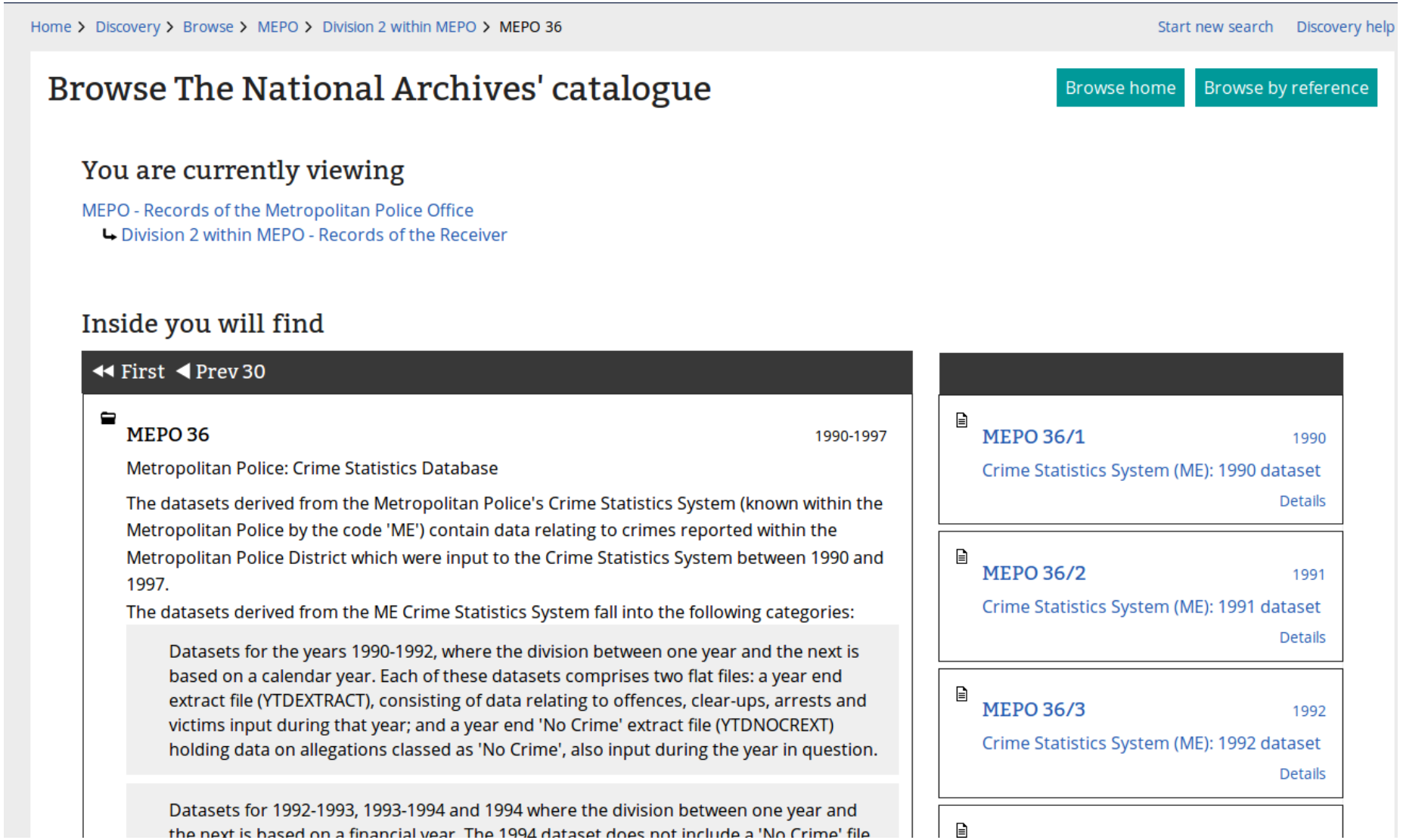


If you don't like pictures, you can have numbers

		Violence Against The Person			Sexual Offences			Robbery			Burglary			
		Murder	Wounding/GBH	Assault With Injury	Rape	Other Sexual	Total	Personal Property	Business Property	Total	Burglary in A Dwelling	Burglary in Other Buildings	Total	Theft/Taking Of Motor Vehicle
FY 12/13	Barking &	1	190	1403	118	140	**258**	619	48	**667**	1835	705	**2540**	808
FY 12/13	Barnet	1	159	1269	100	200	**300**	1001	72	**1073**	3438	1368	**4806**	699
FY 12/13	Bexley	0	109	1023	43	135	**178**	205	37	**242**	997	686	**1683**	477
FY 12/13	Brent	4	301	1975	122	257	**379**	1369	85	**1454**	2800	906	**3706**	580
FY 12/13	Bromley	2	157	1364	76	163	**239**	523	67	**590**	2064	1229	**3293**	762
FY 12/13	Camden	4	245	1601	90	241	**331**	994	70	**1064**	1483	1445	**2928**	592
FY 12/13	Croydon	5	345	2371	178	296	**474**	1877	155	**2032**	2908	1214	**4122**	922
FY 12/13	Ealing	5	291	2291	112	263	**375**	1100	85	**1185**	2895	1031	**3926**	842
FY 12/13	Enfield	3	197	1502	109	197	**306**	946	137	**1083**	2688	1054	**3742**	805
FY 12/13	Greenwich	5	268	1824	88	243	**331**	494	56	**550**	1466	802	**2268**	603
					136	241	**377**	1171	61	**1232**	1436	1118	**2554**	686
					85	177	**262**	656	40	**696**	1115	600	**1715**	529
					116	244	**360**	979	70	**1049**	2314	836	**3150**	871
					58	144	**202**	619	25	**644**	1877	614	**2491**	259
					57	126	**183**	350	51	**401**	2102	653	**2755**	873
					3	26	**29**	3	1	**4**	0	4	**4**	36
					89	187	**276**	741	47	**788**	2200	893	**3093**	522
					94	232	**326**	642	37	**679**	2116	846	**2962**	522
					88	205	**293**	1094	69	**1163**	1266	1056	**2322**	618
					63	142	**205**	618	21	**639**	1011	741	**1752**	472
					59	104	**163**	201	16	**217**	848	533	**1381**	131
					170	320	**490**	2431	191	**2622**	2577	1174	**3751**	926
					132	286	**418**	1226	108	**1334**	2460	922	**3382**	833
					54	126	**180**	501	43	**544**	1288	708	**1996**	361
					168	222	**390**	2151	109	**2260**	1983	1043	**3026**	1069

Now vs 1997

- CRDA/1 (now MEPO 36) – first dataset acquired by NDAD
- From retired system ME – predecessor to CRIS
- An administrative system – documenting workload
- E.g. records time of crime, time reported to police and date entered into system


Home > Discovery > Browse > MEPO > Division 2 within MEPO > MEPO 36
Start new search
Discovery help
Browse The National Archives' catalogue
Browse home
Browse by reference
You are currently viewing
MEPO - Records of the Metropolitan Police Office
Division 2 within MEPO - Records of the Receiver
Inside you will find
First
Prev 30
MEPO 36
1990-1997
Metropolitan Police: Crime Statistics Database
The datasets derived from the Metropolitan Police's Crime Statistics System (known within the Metropolitan Police by the code 'ME') contain data relating to crimes reported within the Metropolitan Police District which were input to the Crime Statistics System between 1990 and 1997.
The datasets derived from the ME Crime Statistics System fall into the following categories:
Datasets for the years 1990-1992, where the division between one year and the next is based on a calendar year. Each of these datasets comprises two flat files: a year end extract file (YTDEXTRACT), consisting of data relating to offences, clear-ups, arrests and victims input during that year; and a year end 'No Crime' extract file (YTDNOCREXT) holding data on allegations classed as 'No Crime', also input during the year in question.
Datasets for 1992-1993, 1993-1994 and 1994 where the division between one year and
MEPO 36/1
1990
Crime Statistics System (ME): 1990 dataset
Details
MEPO 36/2
1991
Crime Statistics System (ME): 1991 dataset
Details
MEPO 36/3
1992
Crime Statistics System (ME): 1992 dataset
Details

Interpretation could be harder…

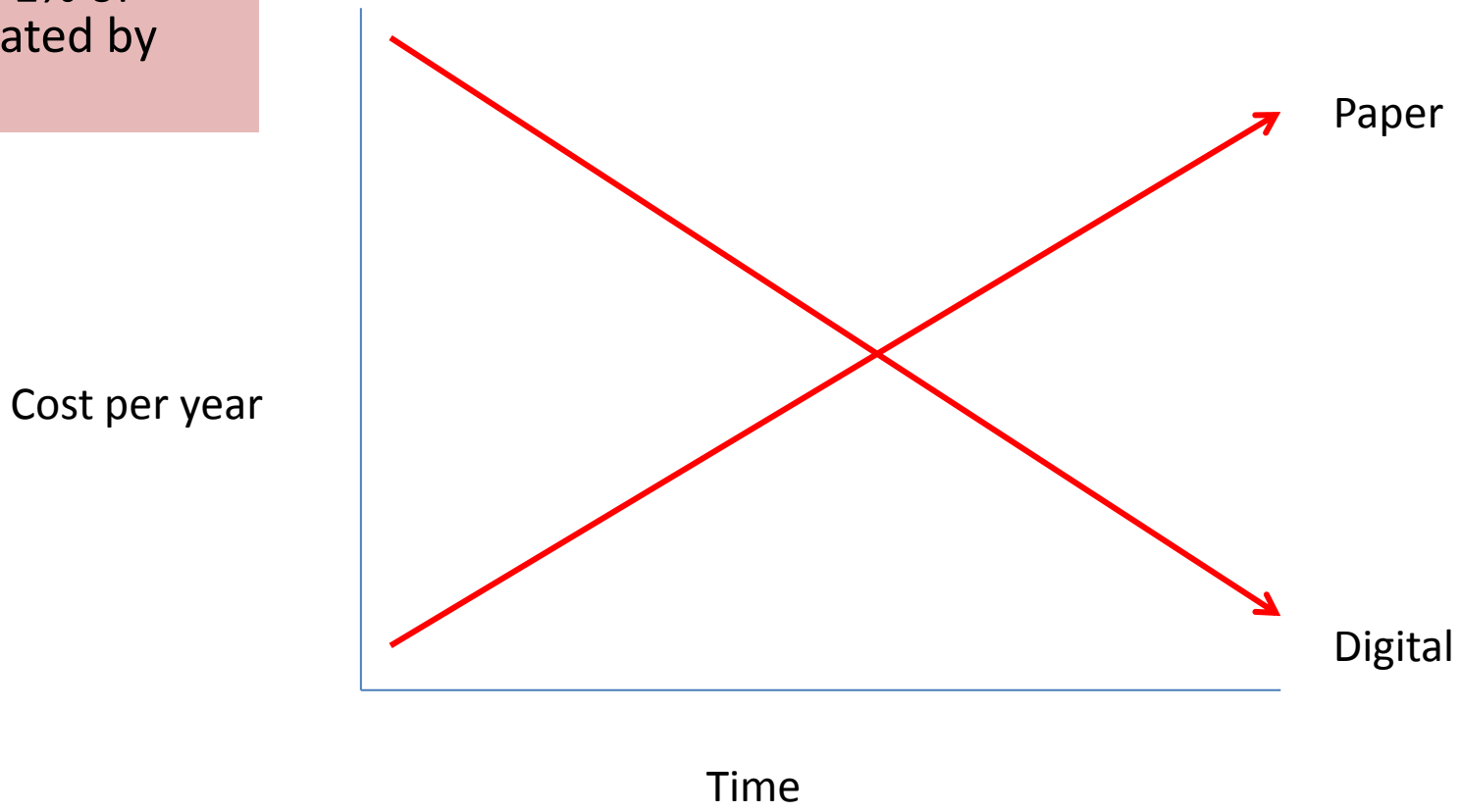
Field name:	Offence-Subdivision-Code
Data type:	Fixed Length String (length 2)
Original description:	*The identifying code for an MPD-SUBDIVISION*
Further descriptive information:	The identifying code for the Metropolitan Police Subdivision (station) where the offence was reported. Station codes of 2 alpha chars; also 'C1' & 'C6' for CO branches (see Offence-Division-Code) The Subdivision is equivalent to an individual police station within a Division (except for the codes C1 and C6 which represent New Scotland Yard branches). The interpretation of the codes for values in this field is based on the codes for Metropolitan Police Stations given in the *Police and Constabulary Almanac 1990: Official Register* (Henley-on-Thames: R. Hazell and Company, 1990), pp. 34-36., and on the List of Station Codes (CRDA/1/DD/3/3 and CRDA/1/DD/3/4) and the Specification of Borough Tables (CRDA/1/DD/3/5) supplied by the Metropolitan Police (see the Dataset Documentation Catalogue).
Missing value(s):	One or more spaces or zeroes
Attributes:	
Constraints:	[As specified by **Encoding**]
Encoding:	This field may only take one of the 160 pre-defined values listed

Legislative context

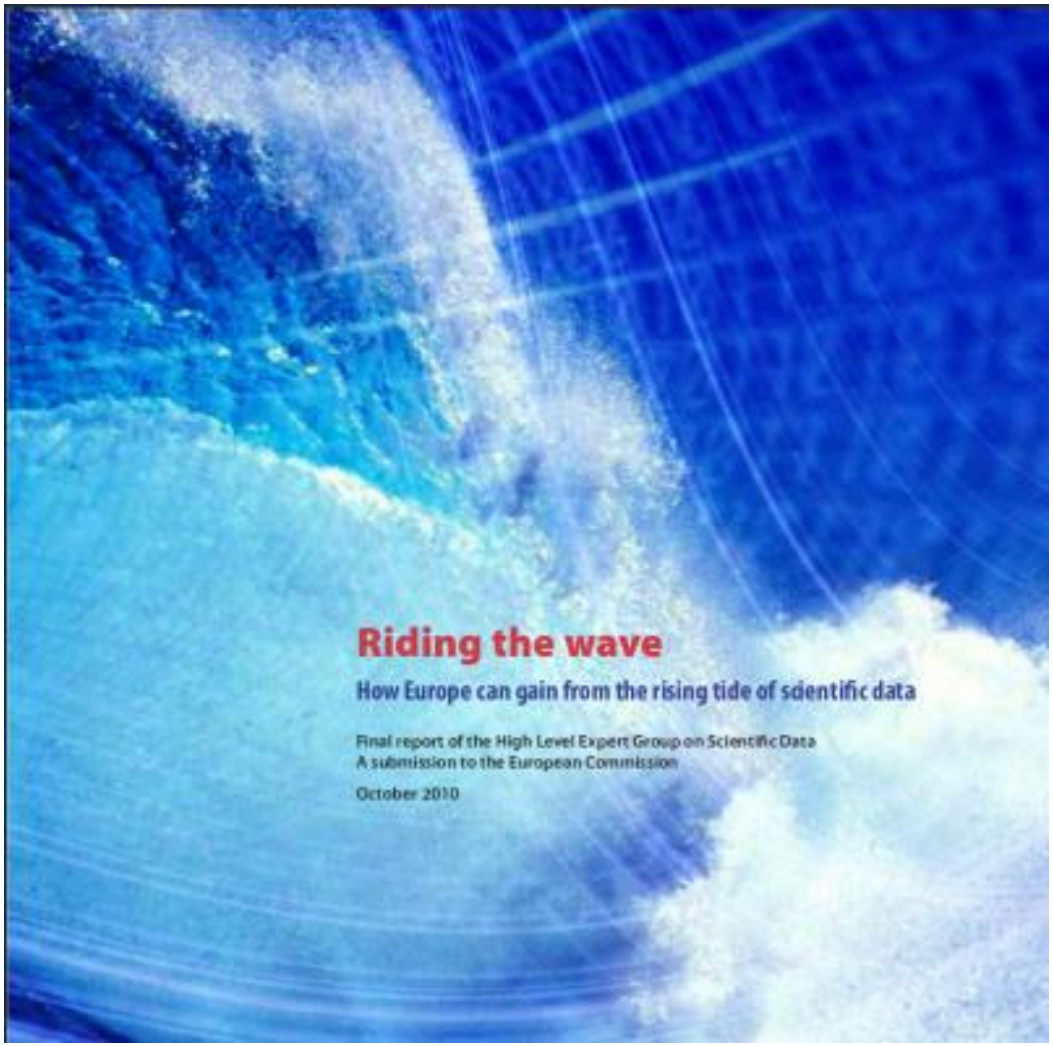
- No Freedom Of Information Act
- No PSI regulations
- Crown Copyright rigorously enforced
- Data Protection Act in force
- Yet – we got & made available the whole thing
- One record per reported crime – 8 years of detailed information for London

We thought selection was getting easier

National Archives keeps about 1% of paper generated by government



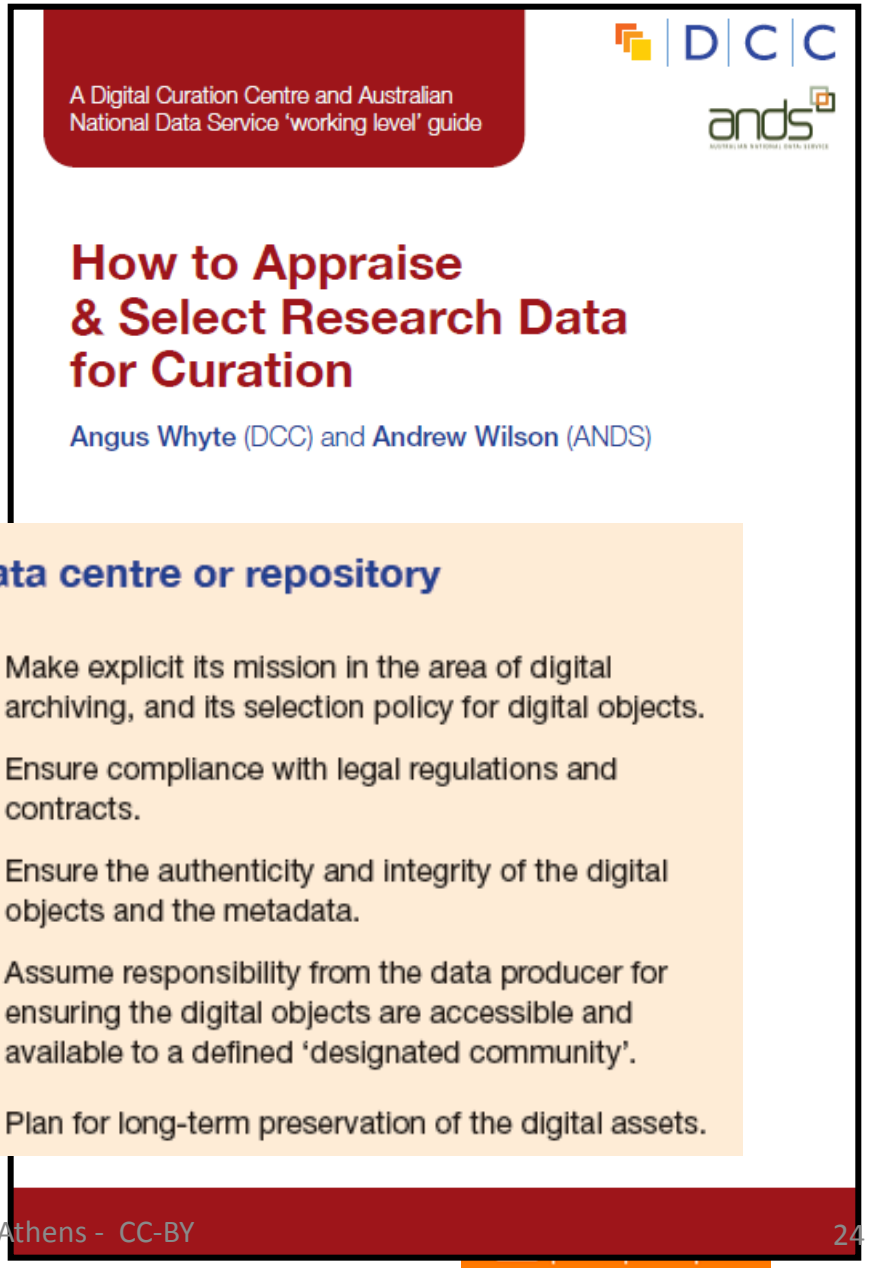
The Data Deluge is upon us



Sensor's ability to produce data outstrips IT's ability to process it

What data to keep

Roles and Responsibilities



Researcher ('data creator')

- Provide enough information for others to assess the research data's scientific and scholarly quality and compliance with disciplinary or ethical norms.
- Provide relevant information for the repository to identify who will use the data and how i.e. the 'designated community', and any specific access requirements or constraints.
- Provide the research data in formats recommended by the data repository.
- Provide the metadata requested by the repository.

Data centre or repository

- Make explicit its mission in the area of digital archiving, and its selection policy for digital objects.
- Ensure compliance with legal regulations and contracts.
- Ensure the authenticity and integrity of the digital objects and the metadata.
- Assume responsibility from the data producer for ensuring the digital objects are accessible and available to a defined 'designated community'.
- Plan for long-term preservation of the digital assets.

IDCC15 – London, Feb 9-12 2015

The 10th International Digital Curation Conference

http://www.dcc.ac.uk/events/idcc15

Some conclusions

- There are many parallels between PSI & research data
- There are a few differences to remember also
- Some data can cross back and forth between the domains
- So – best not to keep the conversations separate

Thanks for your attention

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