Google Analytics Part II:
What it is, and what it is not

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OneNOAA Science Seminar Series • NOS Communications Seminar Series
NOS Web Developer Seminar Series

Google Analytics (GA): Does what?

"All I want is the numbers"

- ○ Even a data junkie does not care how many snowflakes fell yesterday in Silver Spring, Maryland
- ○ Raw data is only useful if it helps to answer questions:
  - Were schools delayed or canceled?
  - Were roads plowed?
  - Was 2 inches a new record? An apocalyptic disaster?

What is important

- ○ Trends over periods of time
- ○ Response to new versus older services
- ○ Where did visitors come from?
- ○ What search terms brought visitors to site?

Unit of measurement: the Visit

GA: OK, what the heck is a visit?

What is a visit

- Google's definition:
  - https://support.google.com/analytics/answer/2731565?hl=en
- "A visit is a group of interactions that take place on your website within a given time frame. For example a single visit can contain multiple pageviews, events, social interactions, custom variables, and ecommerce transactions."

GA: OK, what the heck is a visit? (cont.)

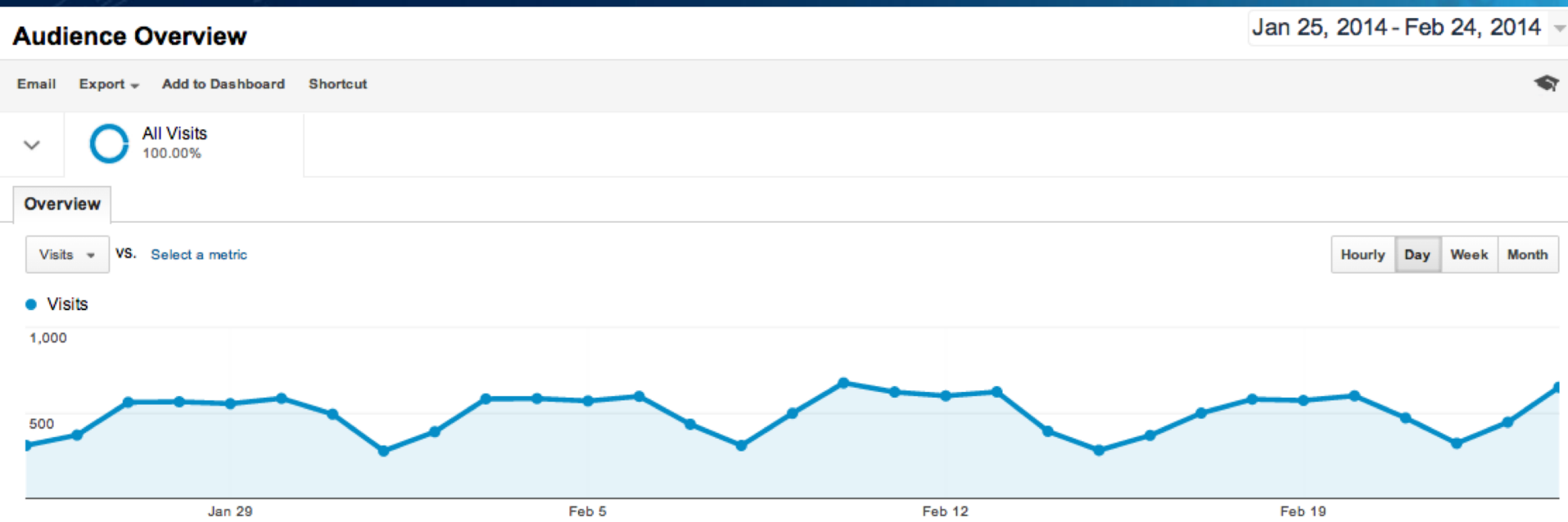Visits: so simple even a long page can describe it!

Sorta.

Image of Google Analytics definition of visit

GA trends: Default
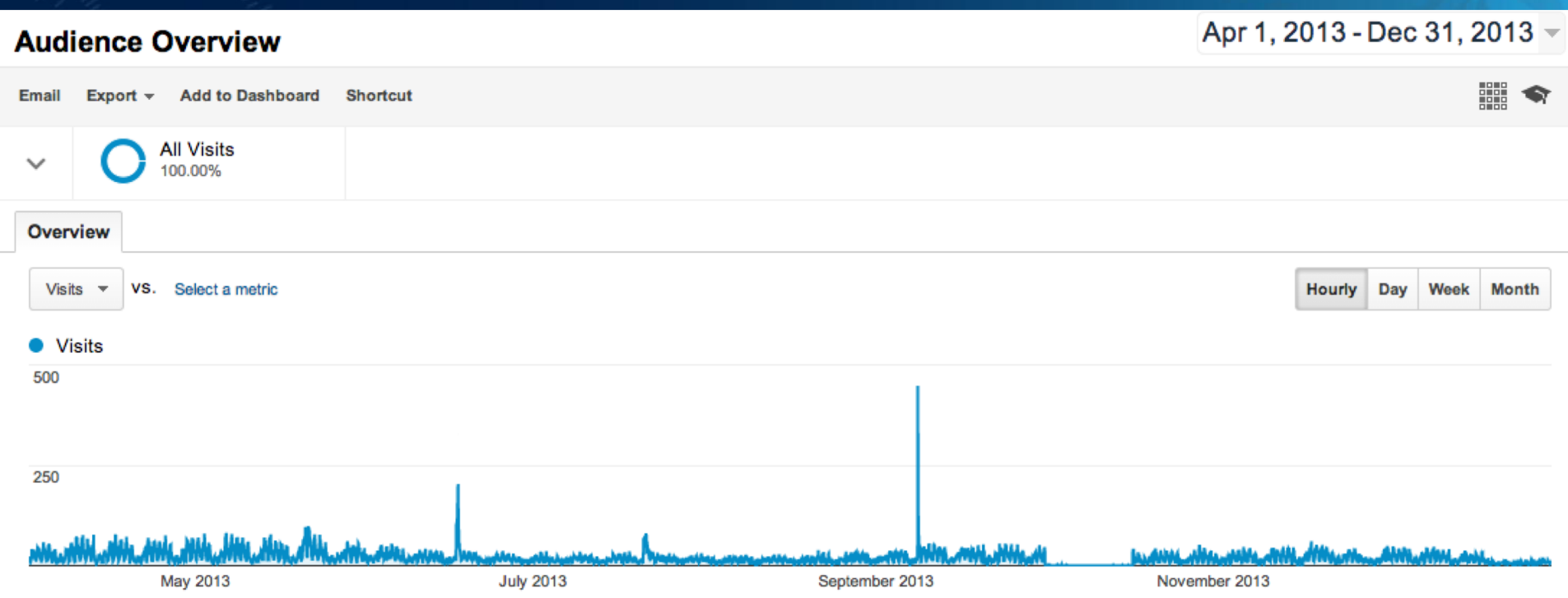
celebrating200years.noaa.gov

- Default view is last 30 days, by day
- Unit of measure: Visits [Study question: *what is a visit?*]

GA trends: Hours

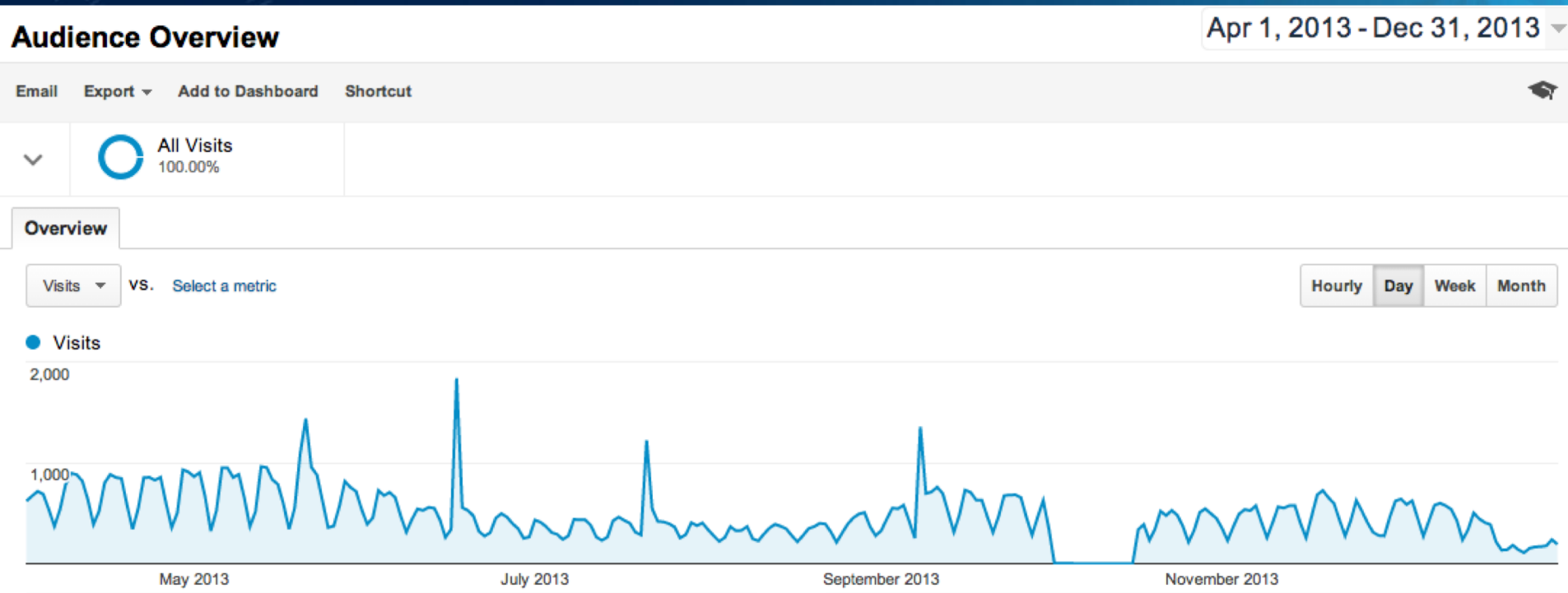**celebrating200years.noaa.gov**

- Can change by selecting new time period
- Visits, April 1, 2013 to December 31, 2013, by hour

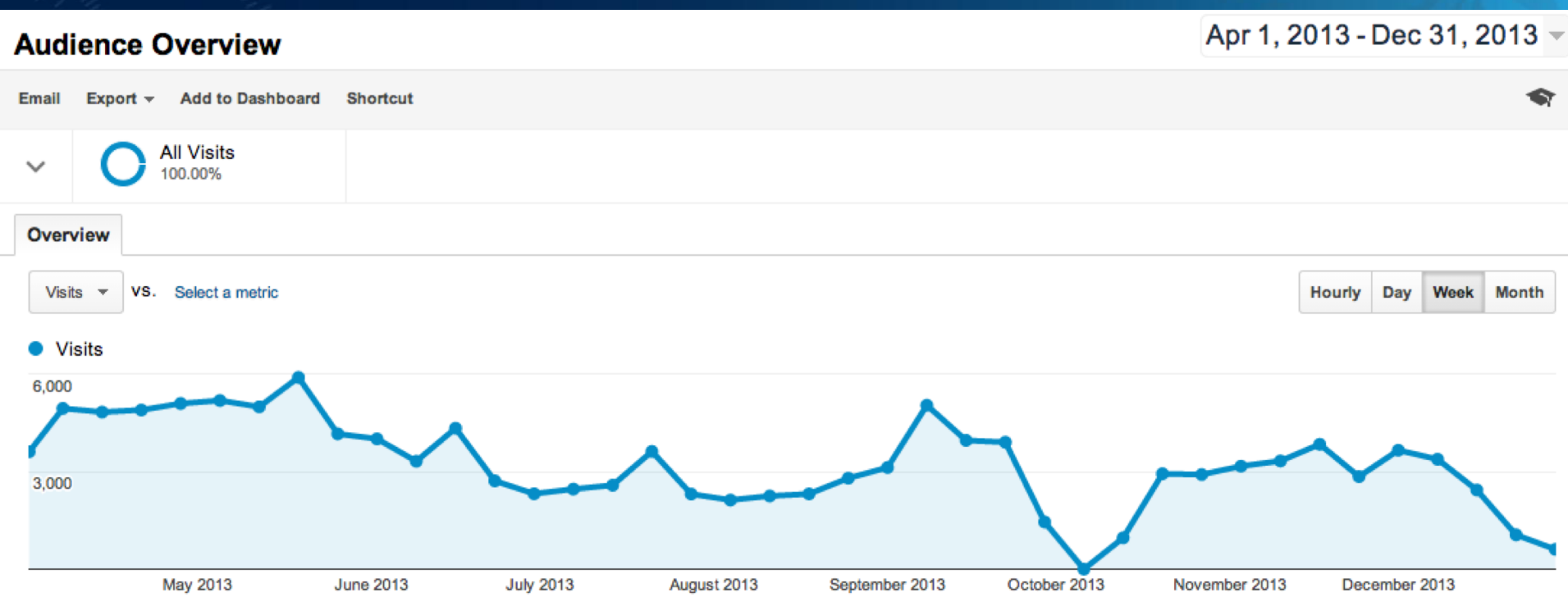# GA trends: Days

celebrating200years.noaa.gov

- Visits, April 1, 2013 to December 31, 2013, by day

GA trends: Weeks

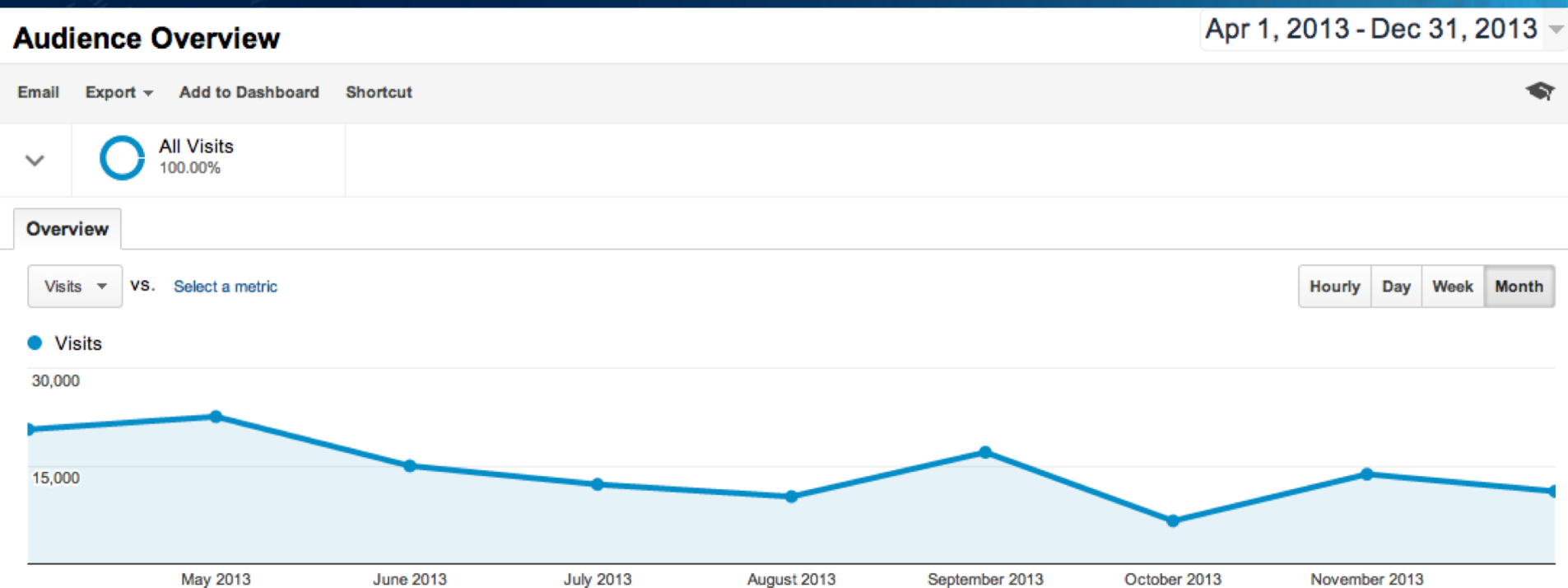celebrating200years.noaa.gov

- Visits, April 1, 2013 to December 31, 2013, by week

GA trends: Months

celebrating200years.noaa.gov

- Visits, April 1, 2013 to December 31, 2013, by month

GA trends: GSA government wide

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- Visits, April 1, 2013 to December 31, 2013, by month
- Note sampling: "based on . . . 0.02% of visits"

Log-based metrics

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- Visits, April 1, 2013 to December 31, 2013, by month

How has traffic varied from month to month?

Date ?	Pages ?	Hits ?	Errors ?	GigaBytes ?	Visits ?	Visits ?
January 2013	49,029	648,527	2,977	131.4G	90,466	▬▬▬
February 2013	67,653	618,943	4,716	55.7G	151,695	▬▬▬▬▬
March 2013	96,519	787,092	6,962	87.7G	218,770	▬▬▬▬▬▬▬
April 2013	87,675	790,675	7,979	71.9G	216,019	▬▬▬▬▬▬▬
May 2013	88,965	1,011,907	12,026	88.3G	374,464	▬▬▬▬▬▬▬▬▬▬▬▬
June 2013	74,460	866,780	7,751	80.7G	353,290	▬▬▬▬▬▬▬▬▬▬▬
July 2013	67,160	546,194	5,576	75.3G	203,891	▬▬▬▬▬▬
August 2013	66,260	520,345	7,091	64.9G	201,052	▬▬▬▬▬▬
September 2013	72,455	768,105	8,095	89.3G	230,649	▬▬▬▬▬▬▬
October 2013	81,256	552,665	7,807	42.0G	220,461	▬▬▬▬▬▬▬
November 2013	77,464	617,404	17,242	66.3G	195,566	▬▬▬▬▬▬
December 2013	92,631	555,701	54,206	61.9G	209,357	▬▬▬▬▬▬

Comparing the numbers: Visits

	GSA GA	Site-specific GA	Log-based
April	23,173	20,595	216,019
May	46,346	22,563	374,464
June	0	15,010	353,290
July	4,635	12,172	203,891
August	4,635	10,307	201,052
September	18,538	17,096	230,649
October	0	6,578	220,461
November	18,538	13,742	195,566
December	13,904	11,118	209,357

Metrics: why the differences

## How server log-based metrics work

- User requests object (*page, graphic, binary object*)
- Server records request, records response, records failed requests
- Records lots of things other than visits

Visitor requests page from NOAA

NOAA Web Server

NOAA returns page.

NOAA web server logs visit information.
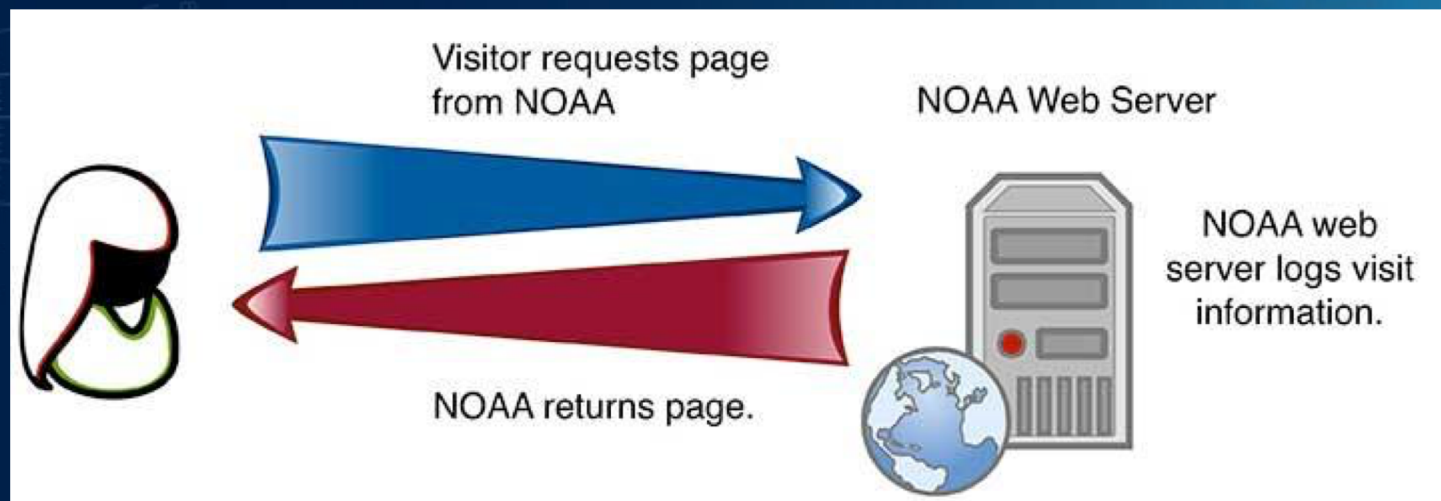
Metrics: why the differences (cont.)

How Google Analytics metrics work

- User requests page (only works with pages)
  - Page must have properly defined Google Analytics code
- Code sends information to Google
- Google Analytics is a *view* of *Google's* information on *successful Google Analytics transactions*
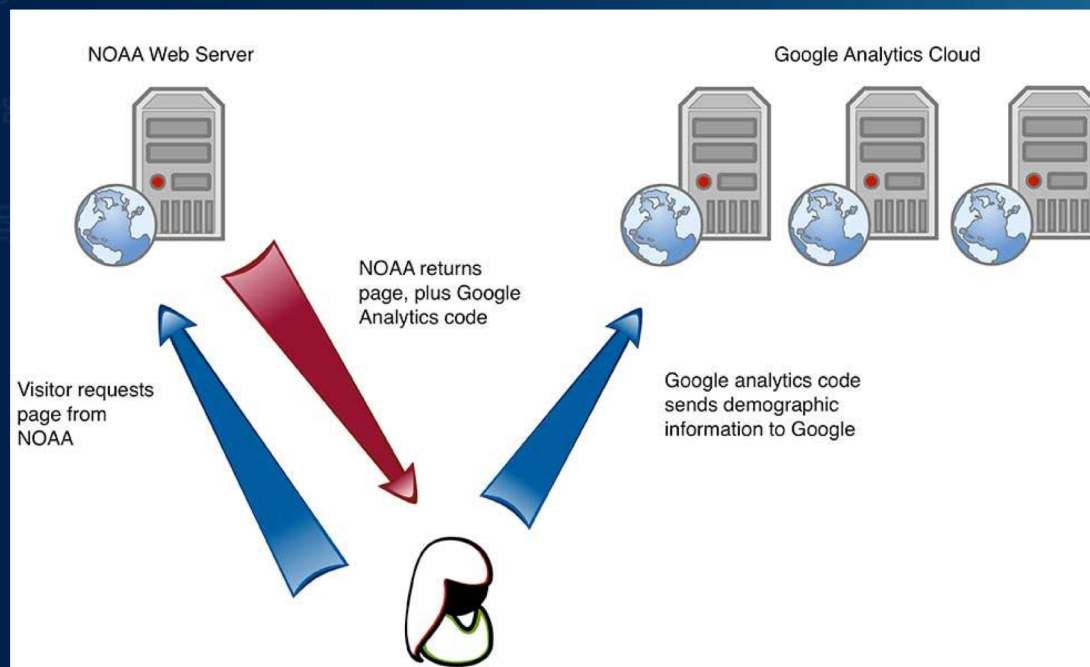
Kinds of reports from logs

Log reports available from Summary 3.0

Time	Referrers	Content	Visitors	Visits	Problems
Hourly	Domains	Pages	Countries	Entry Point	Bad Links
Daily	Referrers	Downloads	Visitors	Exit Point	Failed Refers
Weekly	Search Engines	Graphics	Browsers	1 Page Visits	Gaps in Service
Monthly	Search Words	Other Requests	Computers	Steps	Hijacking
Quarterly	Search Phrases	All Requests	Robots	X per Y	Failed Requests
Yearly	To/From	by Directory	Auth Users	Recent	Explanations
Cyclic Totals		by Type		Duration	Reloads
				View Time	

General	Bandwidth	Paths	Custom	Details	
Overview	Peak	by Source	Ref. Domains	Log Fields	
Program Status	by Request	by Destination		Local Search	
Servers	by Directory	Paths		Domains	
	by Type			CGI	
	Transfers				

Kinds of reports from Google Analytics

(Compared to Summary 3.0)

Time	Referrers	Content	Visitors	Visits	Problems
Hourly	Domains	Pages	Countries	Entry Point	Bad Links
Daily	Referrers	Downloads	Visitors	Exit Point	Failed Referer
Weekly	Search Engines	Graphics	Browsers	1 Page Visits	Gaps in Service
Monthly	Search Words	Other Requests	Computers	Stops	Blocking
Quarterly	Search Phrases	All Requests	Robots	X per Y	Failed Requests
Yearly	To/From	In Directory	Auth Users	Recent	Explanations
Cyclic Totals		In Tree		Duration	Reloads
				View Time	

General	Bandwidth	Paths	Custom	Details	
Overview	Peak	In Source	Ref. Domains	Log Fields	
Program Status	In Request	In Destination		Local Search	
Servers	In Directory	Paths		Domains	
	In Tree			CGI	
	Transfers				

So is Google Analytics Bad????

Not best tool for developers, sysadmins
- Incomplete view of traffic
- No downloads, PDFs, images, video, binary files
- No view of errors

Very useful for communicators (and developers, sysadmins)
- Trends over periods of time
- Response to new versus older services
- Where did visitors come from?
- What search terms brought visitors to site?
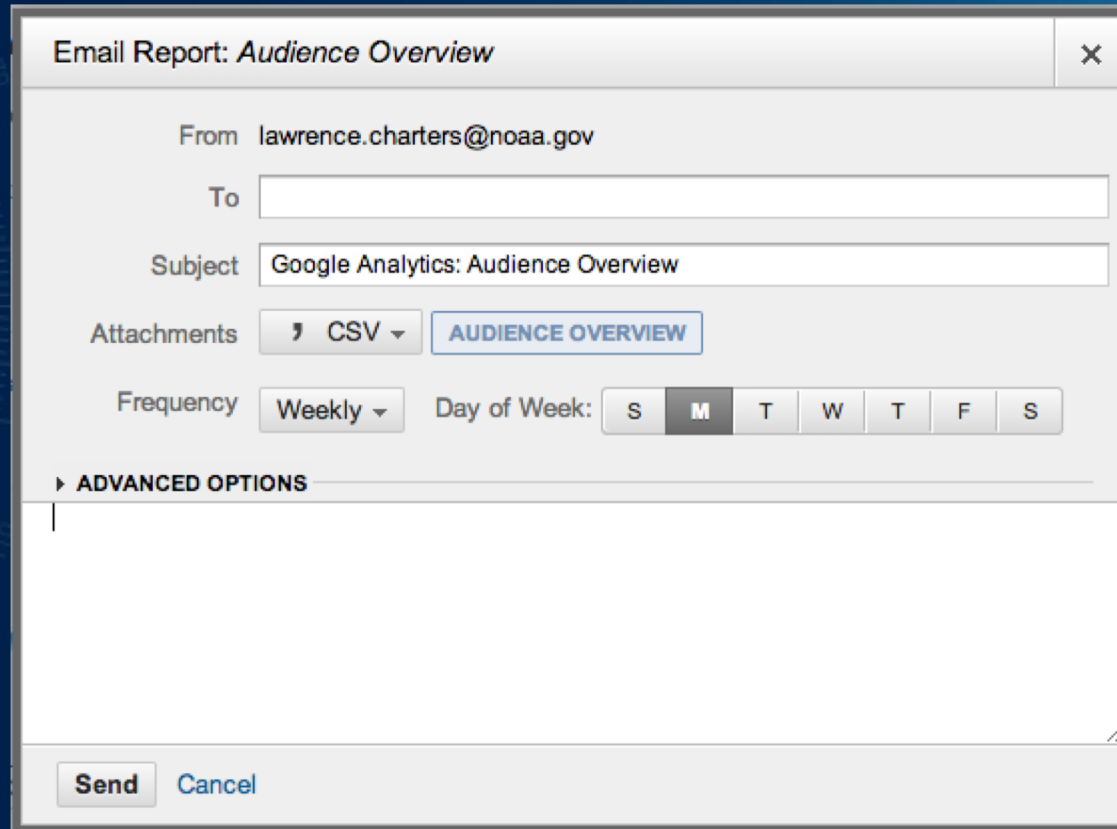
Remember the metric
- "A visit is a group of interactions that take place on your website within a given time frame. For example a single visit can contain multiple pageviews, events, social interactions, custom variables, and ecommerce transactions."

Tip: export reports

Online reports are good, but so are artifacts

- GA can be set up to periodically email you (or others) reports

Tip: export reports (cont.)

Reports can be in a variety of formats

Further reading

Further reading

- Blog entry: "Limits of Google Analytics, https://webdeveloper.nos.noaa.gov/2013/04/09/limits-of-google-analytics/

- "Periodic Table of Google Analytics" [infographic], http://www.jeffalytics.com/google-analytics-guide/

- Google has lots of videos, blog entries, period email messages, etc., on Google Analytics