

Bellingcat's Online Investigation Toolkit



Welcome to Bellingcat's freely available online open source investigation toolkit. You can follow our work on via our [website](#), [Twitter](#) and [Facebook](#). (We also provide three to five day open source investigation workshops.) This is version 5.1 (March 9, 2020). The list includes satellite and mapping services, tools for verifying photos and videos, websites to archive web pages, and much more. The list is long, and may seem daunting. There are guides at the end of the document, highlighting the methods and use of these tools in further detail. We also provide tailored digital forensics workshops. **Feel free to suggest tools** via email (christiaantriebert@bellingcat.com) or Twitter ([@trbrtc](#)). To view an outline of the document, click "View" and then "Show document outline". There's also one below. The "OSINT Landscape" — a condensed version of the online investigation toolkit below — can be download in high resolution [here](#).

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1 — Maps, Satellites & Streetview

Name	Description	Pros	Cons	Link
Check out this handy flow chart for finding and acquiring satellite imagery.				
Airbus Geostore	Platform to get a preview of their imagery and order images.			intelligence-airbusds.com/geostore
Baidu Maps	Baidu's mapping service offering satellite imagery, street maps, and streetview ("Panorama" - zh:百度全景).			map.baidu.com
Bing Maps	Bing's mapping service offering satellite imagery and street maps.	More recent and higher resolution imagery than Google, e.g. in Afghanistan and Iraq.	Difficult to check the date of the imagery.	bing.com/maps
converting coordinates	Convert geographic coordinates between different notation styles.			synnatschke.de/geo-tools/coordinate-converter.php UTM grid zones dmap.co.uk/utmworld.htm
Copernicus	The site for the European Space Agency and for images from Copernicus' six Sentinel satellites.	Better resolution than Landsat. See explanation from the website GISGeography on how to download free images.		scihub.copernicus.eu
Descartes Labs	A commercial service that collects data daily from public and commercial imagery providers.	Will help journalists. "We do not charge for these requests, only ask that they are credited." (via GIJN)		descarteslabs.com
DigitalGlobe	Satellite imagery vendor.	Preview available via the catalogue, search tool very easy to use.	\$	discover.digitalglobe.com
DualMaps	Combines Google's road maps, aerial view, and street view in one embeddable tool.			data.mashedworld.com/dualmaps/map.htm
EarthExplorer	From the US Geological Service. Provides mainly US images. Gives access to Landsat satellite data as well as NASA's Land Data Products and Services. The USGS Global Visualization Viewer (GloVis) provides remote sensing data. The USGS archive contains a complete and well-maintained collection of NASA Landsat data.			earthexplorer.usgs.gov
EOS Landviewer		EOS Landviewer provides free services for up to 10 images. More images and analysis are available to journalists at a discount. Contact: Artem Seredyuk artem.seredyuk@eosda.com . EOS is in the process of developing a service		eos.com/landviewer

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		provisionally called EOS Media that will be providing free images and analysis of major natural disasters.		
ESA Earth Online	Consolidates European Space Agency's earth observation data on topics such as temperature, agriculture, and ice sheets.			earth.esa.int/web/guest/eoli
ESA SNAP	ESA SNAP is a free remote sensing program created by the European Space Agency, it lets you perform various enhancements and manipulations to remotely sensed data.			step.esa.int/main/toolboxes/snap
find2places	Allows querying Google Maps API for two specific places in precise distance from each other within given radius. Useful for geolocating photos and videos.		It's a script, no user-friendly interface.	github.com/musafir-py/find2places
Geograph	Georeferenced images.			geograph.org
GeoNames	Database of location names.	A wide variety of different spellings in various languages. Draws upon many sources, including NGA's Geonames .		geonames.org
GeoVisual Search	Search engine that lets users visually query images for similar geographic features. The platform from Descartes Labs is built on satellite imagery from Landsat, the National Agriculture Imagery Program (NAIP), and PlanetScope. Description of how to use it.			search.descarteslabs.com/?layer=naip_v2_rgb_2014-2015#lat=39.2322531&lng=-100.8544921&skipTut=true&zoom=5
Google Earth Pro		Add a Bing Maps satellite imagery layer . Historical imagery.		[software] Training guides here .
Google Earth Engine	Open-access satellite imagery and analytical framework	Virtually any satellite imagery collected from NASA, NOAA, USGS, etc. is available.	Moderate and coarse resolution imagery rather than high-resolution commercial imagery; Learning curve with Javascript	earthengine.google.com/
Google Maps	Google's mapping service offering satellite imagery, street maps, and streetview.	Many 3D modelled places in Americas, Australia, Europe, N Africa, and SE Asia. Probably the easiest-to-navigate mapping service of all.	No historical satellite imagery, but historic Streetview images available in many places.	maps.google.com
Google Photos (formerly Panoramio)	Geotagged photos.		R.I.P. Panoramio.	
HERE WeGo		More recent satellite imagery than Google in e.g. Iraq.		wego.here.com

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IndustryAbout	Maps per country showing industrial plants, e.g. power, hydroelectric, nuclear, coal, oil refineries, etc.	Specifically to industrial plants.	Only mapped per country.	industryabout.com/country-territories-3
Map checking	Calculate the amount of people that are standing in the selected Google Maps area.			mapchecking.com
Mapillary	Crowdsourced street-level photos.	A useful addition to Google Streetview.	Little to no coverage in countries like Syria, Iraq, etc.	mapillary.com
Mapotic	Map making app useful for communities, easy to make categories and attributes.			mapotic.com
NASA EarthData	WorldView allows visualization of near real-time imagery from NASA.	A wide array of satellite and aerial images; broad search criteria; and other mapping and visualization tools such as FIRMS for fires. Access to more than a dozen NASA data centres and associated satellite data products. NASA Earth Observations: More than 50 datasets on atmosphere, land, ocean, energy, environment and more.		earthdata.nasa.gov
Old Maps Online	Find old maps through numerous databases all around the world.	Easy-to-use, similar browsing as the DigitalGlobe catalogue.		oldmapsonline.org
OpenStreetCam				openstreetcam.org
OpenStreetMap				openstreetmap.org
overpass-turbo				overpass-turbo.eu
QGIS	Open source GIS programme. Here's a guide how to use it.	Has many user add-ons. A recent update(QGIS 3.0) allows for users to create 3D landscapes using LiDAR data.		qgis.org
Radiant Earth	A non-profit group that helps the global development community discover, explore and analyze satellite, drone and aerial imagery archives.	Radiant Earth is working with Code of Africa, among others. Apply to gain assistance via their website. Or contact Radiant Earth.		radiant.earth
Resource Watch	A nonprofit platform, still in beta, that provides hundreds of data sets on the state of the planet's resources and citizens. It is sponsored by the World Resources Institute and other organizations.	Resource Watch data are free and users can download data.		resourcewatch.org
Satellites.pro	Combines different satellite services	Includes web based Apple Maps satellite view, great for seeing countries like Afghanistan.		satellites.pro

Sentinel Hub Playground	A user-friendly place for Sentinel 2/Landsat images.	Updated every 5-10 days with new imagery, dependent on cloud cover. Ability to explore a variety of GIS variables eg NDVI or NDWO. The EO Browser facilitates time-lapse reviews.	Generally low resolution of 10m/px.	apps.sentinel-hub.com/sentinel-playground
Tencent Maps	Tencent Maps (formerly SOSO Maps) is a desktop and web mapping service application and technology provided by Chinese company Tencent, offering satellite imagery, street maps, street view (coverage) and historical view perspectives, as well as functions such as a route planner for traveling by foot, car, or with public transportation. Android and iOS versions are available.			map.qq.com
Topotijdreis.nl	Over 200 years of maps and topography from the Netherlands.			topotijdreis.nl
what3words	Entire world divided into 3m by 3m squares, and each square is given a 3 word address. For example, the what3words address for Nelson's column in trafalgar square is: cube.soccer.these.	This website is especially useful when referring to remote locations and when you are unable to write down a lengthy sentence of exact coordinates.		map.what3words.com
Wikimapia	Crowdsourced information related to geographic locations.	Possibility to switch between Google/Bing/OSM. Massive amount of UCG information.	Can be laggy, and need to refresh page after a view searches. Lost Google API.	wikimapia.org
Yandex Maps				yandex.com/maps

2 — Location Based Searches

Name	Description	Pros	Cons	Link
Animaps	Created custom animated maps.	Useful for timeline recording for investigations	Not secure, and not well developed.	http://www.animaps.com
Echosec	Geo-based searches.	Twitter, VKontakte, Foursquare	\$ (doesn't list Facebook, genuine Instagram)	echosec.net
Custom Satellite View Tools	Link to allow search as well as auto-populate multimap links for address searching	Quick, easy		inteltechniques.com/osint/maps.html
GeoGig	Users are able to import raw geospatial data (currently from Shapefiles, PostGIS or SpatiaLite) into a repository where every change to the data is tracked. These changes	Well Developed.	If you're not Linux/Github/Programming savvy, you will be doing a lot of reading from the manual.	geogig.org

	can be viewed in a history, reverted to older versions, branched in to sandboxed areas, merged back in, and pushed to remote repositories.			
GeoNames	The GeoNames geographical database covers all countries and contains over eleven million place names that are available for download free of charge	Extremely useful in Geo Tagging, documentation, and data collection.		geonames.org
Esri	powerful mapping and analytics software	Robust and full featured	Requires a level of account setup and configurations that may make some to forget it.	esri.com
Follow Your World	track your points of interest and manage your email subscription settings here.	Simple, easy to use, dashboard for tracking.		followyourworld.appspot.com/
Liveuamap	Interactive live map of conflict news.	Variety of countries available: Afghanistan , Iraq, Syria , U.S., Ukraine , Venezuela, etc.		liveuamap.com
Photo-Map.RU	Geotagged VKontakte posts.	VKontakte		photo-map.ru
SnRadar	Geotagged VKontakte posts.	VKontakte		snradar.azurewebsites.net/search
Twitter	Insert in search box: geocode:[coordinates],[radius-km], for example: geocode:36.222285,43.998233,2km (only works with km, so 500m = 0.5km)	There's a tool for it too.	Easy to fake.	
WarWire	Geo-based searches.	Twitter, VKontakte, Instagram	\$ (but does list Instagram)	warwire.net
YouTube	Geo-based searches		Unclear whether it shows where it was uploaded, from which server, or only filters on keywords (e.g. "Paris" in title shows up in Paris).	youtube.github.io/geo-search-tool/search.html

3 — Image & Video Verification

Name	Description	Pros	Cons	Link	Guides
ExifTool	Read, write, remove, and manipulate metadata for a vast number of file types. Note: no	Floss, Cross-platform and very easy to integrate into scripts.	Yet to encounter any (Have only used on GNU/Linux).	https://www.sno.phy.queensu.ca/~phil/exiftool/	See forum and FAQ on linked page

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	GUI				
ExifPurge	EXIF Purge is a small portable application to remove EXIF metadata from multiple images at once. With the click of a button you can remove the camera, location and other technical information from a batch of photos which is embedded by the camera or the photo editing software.			exifpurge.com	
Foca	Extracts metadata.	Windows-based, open sourced 2017.	No native Linux support. (needs wine installed within Linux)	elevenpaths.com/labstools/foca/index.html	NullByte
FotoForensics	Image forensics tool.	Simple, web-based.	Public access, information not private.	fotoforensics.com	
GooFile	Extract metadata.	Simple to use.	Doesn't work well outside Kali	tools.kali.org/information-gathering/goofile	Ascii cinema
Image Forensics	Web-based image forensics tool.	Can easily identify fake or doctored images	Public access, information not private.	29a.ch/photo-forensics/#level-sweep	
InVID	Verification plugin to help journalists verify images and videos. Contextual data, Metadata, reverse search (Google, Yandex, Baidu), image forensic, Magnifier)			invid-project.eu (plugins for Chrome , Firefox (Windows , Mac OS X , Linux))	https://www.youtube.com/watch?v=nmgbFODPiBY
Irfanview	Extract metadata.	Windows-based	No native Linux support	irfanview.com	
Jeffrey's Image Metadata Viewer	Extract metadata, online.	Only requires a web browser.	Public access, information not private.	exif.regex.info/exif.cgi	
Reveal Image Verification Assistant	Forensic providing eight filters to detect still images alterations.	Web-based image tool. Also available within InVID verification plugin.		http://reveal-mklab.iti.gr/reveal/index.html	Documented with examples and explanations of the different filters. Developed in Reveal project.
reverse image search	Locates similar images on the internet	Easy, simple and works!	Recommended plugin: RevEye, which searches Google, Yandex, Baidu and Bing.	tineye.com	
SpiderPig	Extract metadata.	Command line interface and scriptable.	Requires dependencies and knowledge of web technologies.	github.com/hatlord/Spiderpig	
Splunk	Extract metadata.	Report grade analysis and presentation.	Not simple to setup and deploy.	blog.sweepatic.com/metadata-hackers-best-friend	Sweepatic.com

VGG Image Classification (VIC) Engine	The VGG Image Classification (VIC) Engine is an open source project developed at the Visual Geometry Group and released under the BSD-2 clause. VIC is a web application that serves as a web engine to perform image classification queries over an user-defined image dataset. It is based on the original application created by VGG to perform visual searchers over a large dataset of images from BBC News.			robots.ox.ac.uk/~vgg/software/vic/	
VGG Face Finder (VFF) Engine	Visual Geometry Group and released under the BSD-2 clause. VFF is a web application that serves as a web engine to perform searches for faces over an user-defined image dataset. It is based on the original application created by VGG to perform visual searchers over a large dataset of images from BBC News.			robots.ox.ac.uk/~vgg/software/vff/	
VGG Image Search Engine (VISE)	This standalone application can be used to do a reverse image search on a large collection of images.			robots.ox.ac.uk/~vgg/software/vise	

4 — Social Media

Facebook

Name	Description	Pros	Cons	Link
Graph.tips/beta	Automatically advanced searches for Facebook profiles.			graph.tips/beta
Who posted what?	Find posts on Facebook			whopostedwhat.com
IntelTechniques	Various tools for analyzing Facebook profiles and pages.			inteltechniques.com/menu.html
Facebook Intersect Search Tool	This tool is designed to provide a simple method to conduct Facebook intersect searches across multiple variables. Missing			osintcombine.com/facebook-intersect-search-tool

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	intersect options are due to Facebook limitations.			
Facebook Live Map	Live broadcasts around the world.			facebook.com/livemap
FBDOWN.net	Handy website to download public Facebook videos. Copy paste the URL of the video and download it in the available definition formats.			fbdown.net
peoplefindThor	Graph searches.			peoplefindthor.dk
Search Is Back!	Graph searches.			searchisback.com
Search Tool	Find accounts by name, email, screen name, and phone.			netbootcamp.org/facebook.html
StalkScan	Automatic advanced searches for your			stalkscan.com
Video Downloader Online	Download Facebook videos.			fbdown.net
Skopenow	Social Media Investigations - name, phone, email, username searches.			skopenow.com

Instagram

Name	Description	Pros	Cons	Link
Gramfly	View interactions and activity of Instagram users.	See likes/comments of public users.		gramfly.com
StoriesIG	Tool for downloading Instagram stories.			storiesig.com
Save Instagram Stories	Allows you to do a username search for stories already saved.			isdb.pw/save-instagram-stories.html

LinkedIn

Name	Description	Pros	Cons	Link
Socilab	Visualise and analyse your own LinkedIn network.			socilab.com
LinkedIn Overlay Remover	Removes the overlay that displays over a linkedin profile.			http://addons.mozilla.org/en-US/firefox/addon/linkedin-overlay-remover/

Reddit

Name	Description	Pros	Cons	Link
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F5Bot	Sends you an email when a keyword is mentioned on Reddit.			intoli.com/blog/f5bot/
Skype				
Name	Description	Pros	Cons	Link
Snapchat				
Name	Description	Pros	Cons	Link
Snap Map	Searchable map of geotagged snaps.	Here's how you can download them.		map.snapchat.com
Telegram				
Name	Description	Pros	Cons	Link
Telegago				
TGstat				tgstat.com
TikTok				
Name	Description	Pros	Cons	Link
TikTok Kapi	Search for by hashtag.			tiktokapi.ga
Twitter				
Name	Description	Pros	Cons	Link
botcheck				botcheck.me
Botometer				botometer.iuni.iu.edu
InVID verification plugin	InVID plugin provides a Twitter advanced search by time interval up to the minute.	Allows documenting use cases from the past without APIs and time limit. Allows searching for content within a user-defined time range after a breaking news.		InVID verification plugin
Onemilliontweetmap	Tweets map per locations up to 6 hours old, keyword search option.			onemilliontweetmap.com
Treeverse	Chrome extension to visualise Twitter conversations.			t.co/hGvska63Li
Tweetreach	Find reach of tweets.		Advanced search operators	tweetreach.com

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			available, same as Google advanced search.	
TwitterAudit	Check bots.			twitteraudit.com
Twittervideodownloader				twittervideodownloader.com
Twitter advanced search	Search by date, keywords, etc.			twitter.com/search-advanced
Twitter geobased search	geocode:[coordinates],[radius-km], for example: geocode:36.222285,43.998233,2km	There's a tool for it too.		
twint	Advanced Twitter scraping tool written in Python that doesn't use Twitter's API, allowing you to scrape a user's followers, following, Tweets and more while evading most API limitations.		Need to know Python.	github.com/twintproject/twint
Twlets	Download anyone's tweets, followers and likes in an Excel sheet.	Easy and quick to use, there's a Chrome extension too.	Goes up to 3,200 tweets, followers and likes.	twlets.com
quarter tweets	Geobased Twitter search.			qtrtweets.com/twitter
t	command-line power tool for Twitter (it is an open source command line script written in Ruby)	Highly flexible, can be put in Bash scripts to automate Twitter activity and searches Deeper search through REST API Output spreadsheets/CSV Fast performance for bulk operations	Set-up might be technical for some (ask if you want help)	github.com/sferik/t

YouTube

Name	Description	Pros	Cons	Link
Amnesty YouTube Dataviewer	Reverse image (video still) search and exact uploading time. Here's an Advanced Guide on Verifying Video Content .		Searches for a number of stills, not each frame is included (thus results may be left out). InVID plugin is probably better at this stage.	amnestyusa.org/sites/default/custom-scripts/citizenevidence
Geo Search Tool	Search for YouTube videos based on location.			youtube.github.io/geo-search-tool/search.html
YouTube Geofind	YouTube Geofind; three different search functions, location, topic, and channel.			mattw.io/youtube-geofind/location
youtube-dl	Python tool to download from a variety of	Select video / audio formats, quality etc	Intellect needed (read: cli usage	http://rg3.github.io/yout

	sources.	Updated frequently to support parsing the relevant sources	only)	ube-dl/
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5 — Transportation

Air

Name	Description	Pros	Cons	Link
ADS-B Exchange Global Radar	Tracking flights.	Includes a number of military aircraft .		global.adsbexchange.com/VirtualRadar/desktop.html
ADS-B Historical Flight Viewer	Look up flight history of a specific aircraft as far back as two years. Search by ICAO (a.k.a. registration number).	Like FlightRadar24, but free		https://flight-data.adsbexchange.com/
AirNav RadarBox	Tracking flights, including private and military jets.			radarbox24.com
Federal Aviation Administration	Nationwide Plane Registry. Search by N-Number (a.k.a. callsign).	Comprehensive list of privately owned planes in the US		http://registry.faa.gov/aircraftinquiry/NNUM_inquiry.aspx
FlightAware				flightaware.com
FlightRadar24	Tracking (civilian) flights.		\$ to go back in 12-month archive.	flightradar24.com
Live ATC	Audio from air traffic control towers in the United States.	Aircraft have to identify themselves to ATC towers, so in cases where aircraft are trying to obscure their information from other sites, it might be another way to grab tail numbers or just generally track flights.	More complicated to use than e.g. FlightRadar24.	liveatc.net
OpenSky-Network				opensky-network.org
PlaneFinder				planefinder.net

Water

Equasis	Vessel ownership and identification records.	Lists historical information		equasis.org
FleetMon	Vessel position tracking, including a global vessel and port database. Tools for the shipping industry, Maritime News and a lively community of shipspotters.			fleetmon.com

Global Fishing Watch		Identification of “dark vessels”, and includes Indonesian VMS layer .		globalfishingwatch.org/map
MarineTraffic	An open, community-based project, providing (near) real-time information on the movements of ships and their locations in harbours and ports.			marinetraffic.com
VesselFinder				vesselfinder.com
Winward	Platform which combines maritime-related data.		\$\$\$	
Land				
Licence Plate Mania				.licenseplatemania.com
Trains	Full interactive maps of various railway networks in European countries.			Denmark , France , Germany , Netherlands , Poland
Misc				
WikiRoutes	Public transport database.			wikiroutes.info

6 — Date & Time

Name	Description	Pros	Cons	Link
SunCalc	Make an approximation of the time of the day using shadow direction.			suncalc.net / suncalc.org
Wolfram Alpha	Does a load of things, including weather forecasts per day and location.			wolframalpha.com

7 — WhoIs, IPs & Website Analysis

Name	Description	Pros	Cons	Link
Passive DNS	Collects, stores and analyses data from thousands of passive DNS collection sensors.	Complete unadulterated historical and current DNS information.	15 API calls day, 15 searches a day.	community.riskiq.com
Censys.io	Censys continually monitors every reachable server and device on the	A complete wealth of knowledge of internet connected devices.	None	censys.io

	Internet.			
DNS History ⁺¹	Collection of historical DNS information.	Free, simple and easy to use.	Sometimes limited in availability.	completedns.com
DNS Cyrillic check	Check if malicious or Cyrillic domains are registered	Free, simple and easy to use.		holdintegrity.com/checker
DNS Trails	The World's Largest Repository of historical DNS data	Free, simple and easy to use.		dnstrails.com
Geo IP Tool	Check your own IP, handy to check if your VPN is working,			geoiptool.com
Moz link explorer	Analyse the links of any website.		Only 10 free queries per month.	moz.com/link-explorer
OpenLinkProfiler	Analyse the links of any website.			openlinkprofiler.org
Shodan	Internet of things search engine.	Can find heaps of misconfigured network-connected devices.	Lives in the gray zone.	shodan.io
SpyOnWeb	Find out related websites via their tracking code.			spyonweb.com
WebCookies.org	A website security and privacy scanner that, among many other features (mostly focused on GDPR compliance) aggregates large amount of information about advertiser and analytics identifiers of scanned websites, as well as the /ads.txt files.	This data has been used to identify some of the websites posing as independent but really managed by RT/Sputnik.		webcookies.org
Whols	For domain name search and information.			whois.net or whois.icann.org

8 — People & Phone Numbers

Name	Description	Pros	Cons	Link
Peoplefastsearch		Mostly U.S.	Not so much outside U.S.	fastpeoplesearch.com
Pipl			\$ for upgrade	pipl.com
Namechk	Username and domain check website.	Easy to see on which platforms a single username has been used.	Many mis-matches.	namechk.com

Numberway	Numberway is an international directory of white pages and yellow pages phone books, and online directory enquiries. It's a free, independent and up-to-date guide to telephone directories on the web.			
Spokeo	Pop in a username, and it will try to find you all of their social media accounts.			spokeo.com
URLscan	This is a sandbox that allows you to scan a URL to check it's safe before properly visiting it.			urlscan.io

9 — Archiving & Downloading

Name	Description	Pros	Cons	Link
Archive.today	Archive any webpage.	Does archive Facebook and Instagram pages.	Privately owned, so what if the owner suddenly decides to take the archive offline?	archive.today
Arweave	Decentralized (blockchain) archiving.	Decentralized. Search the public archive via <i>site:arweave.net</i> (not .org)	\$ to archive, though 5 tokens for free.	arweave.org
DMCA	Search takedown notices			lumendatabase.org
Gruber	Slideshare downloader			grub.cballeenar.me
Hunch.ly	Research sidekick.	Automates the collection of all sites visited	\$	hunch.ly
Wayback Machine	Archives websites. Download an entire website from the Wayback Machine.		Does not always include images from web pages or multimedia content	github.com/hartator/wayback-machine-downloader
Wayback Machine for Github	Finds and searches when and who did what!	Easy terminal interface.		github.com/MadRabbit/git-wayback-machine
Gitrob	Reconnaissance tool for GitHub organizations	Easy, free and open source.		github.com/michenriksen/gitrob
Dumpster Diver	Tool to search for secrets in various file types.	Easy, free and open source.		github.com/securing/DumpsterDiver
TruffleHog	Searches through git repositories for high entropy strings and secrets, digging deep into commit history	Easy, free and open source.		github.com/dxa4481/truffleHog

Stone	A “research transparency” app that captures desktop research using screen capture and webcam commentaries..	Free, “twitch for journalists” Audio and video files can also be directly uploaded from	Beta	writeinstone.com
WITNESS	An activists guide to archiving videos.			archiving.witness.org/archive-guide/
Perma.cc	Archiving site meant for serious, academic research to preserve citations	Institutional backing (Harvard Library Innovation Lab)	Relatively new, unclear what their content moderation policy is	perma.cc

10 — Company Registries

Name	Description	Pros	Cons	Link
CYPRUS — cadastral map				eservices.dls.moi.gov.cy/#/national/geoportalmviewer
CYPRUS — offshore companies				efiling.drcor.mcit.gov.cy/DrcorPublic/SearchForm.aspx?sc=0&lang=EN
ESTONIA	Search companies and individuals in Estonia.			teatmik.ee/en/personlegal/14144085-A-sicvault-OÜ
EUROPEAN UNION	In Europe, business registers offer a range of services, which vary from one Member State to another. This is a curated list per country.			e-justice.europa.eu/content_business_registers_in_member_states-106-en.do
FRANCE — Societe	Search companies and individuals in France.			societe.com
ICIJ Offshore Leaks Database	Find out who’s behind more than 785,000 offshore companies, foundations and trusts from the Panama Papers, the Offshore Leaks, the Bahamas Leaks and the Paradise Papers investigations.			offshoreleaks.icij.org/
OCCRP Investigative Dashboard	Search 178 million public records and leaks from 236 sources on company and individual names.			data.occrp.org
OpenCorporates	Database of companies in the world.			opencorporates.com
PORTUGAL — Portal da Justiça	Search companies and individuals in Portugal.			publicacoes.mj.pt/DetailPublicacao.aspx

RUSSIA —	Search companies and individuals in Russia.			egrul.nalog.ru
SWITZERLAND — Zefix	Search companies and individuals in Switzerland.			zefix.ch/en/search/entity/welcome
SWITZERLAND — offshore companies				ti.chregister.ch/cr-portal/suche/suche.xhtml
UNITED KINGDOM — Companies House	Search companies and individuals in the United Kingdom and Gibraltar.			beta.companieshouse.gov.uk

11 — Data Visualisation

Name	Description	Pros	Cons	Link
DataBasic.io	Web tools for beginners that introduce concepts of working with data			databasic.io/en
DataWrapper	Easy to use chart and mapping tool			datawrapper.de
Google Fusion Tables				fusiontables.google.com
Maptia				maptia.com
Visual investigative scenarios				vis.occrp.org
RAWGraphs	Free web tool to quickly visualize your data			app.rawgraphs.io
Open Desktop Semantic Search		Searches unstructured data well		opensemanticsearch.org/doc/desktop_search
TrustServista	Online story verification and visualisation tool			www.trustservista.com
Neo4j	Graph Platform			neo4j.com

12 — Online Security & Privacy

Name	Description	Pros	Cons	Link
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Two Factor Auth (2FA)	Check for every digital service you use whether you have enabled two-factor authentication (2FA)			twofactorauth.org
HTTPS Everywhere	A browser add-on to force any visited sites to serve data over HTTPS (to help prevent man-in-the-middle attacks).			eff.org/https-everywhere
Panopticklick	A profiling tool which provides a measure of how easy your particular browser instance is to identify. (i.e. How much do you stand out from the crowd.) Can be used in conjunction with https://browserleaks.com/ , which gives a very detailed breakdown of what your browser makes available to the outside world.			panopticklick.eff.org
Privacy Badger	A browser add-on to prevent browser tracking/cookies.			eff.org/privacybadger
SEARCH ENGINES WHICH PROTECT PRIVACY	DuckDuckGo, StartPage, Qwant			duckduckgo.com , startpage.com , qwant.com
Security in a Box	Security in a box guide advice on how to use social media and mobile phones more safely. The Tool Guides offer step-by-step instructions to help you install, configure and use some essential digital security software and services			securityinabox.org/en
Security Planner (CitizenLab)	Answer a few simple questions to get personalized online safety recommendations. It's confidential - no personal information is stored and CitizenLab won't access any of your online accounts.			securityplanner.org
Surveillance Self-Defense	Tips and methodologies for safe(r) online communications.			ssd.eff.org
Tech Solidarity	Basic Security Guide, do and don'ts for basic security when using a laptop and/or mobile device. Here's a guide: techsolidarity.org/resources/basic_security.htm .			techsolidarity.org

13 — Finding Experts

Name	Description	Pros	Cons	Link
Expertise Finder	Search engine for journalists to find experts (currently only academics in USA and Canada), contact information on page, no login, 30k experts listed			http://expertisefinder.com/
Expert Guide	Academics open to media in Australia:		Australia only.	http://www.expertguide.com.au/
Help a Reporter Out	Post a query and experts reply, mainly the USA and Canada, quality of replies is hit or miss			https://www.helpareporter.com/
She Source	Female experts, mainly USA.			http://www.womensmediacenter.com/she-source/
Speakezee	Academics and those with PhDs, mainly UK:			https://www.speakezee.org
Expert File	A mix of experts, mainly USA and Canada:			https://expertfile.com

14 — Miscellaneous

Name	Description	Pros	Cons	Link
BlockExplorer	Following a bitcoin trail or following a bitcoin account?			https://blockexplorer.com
Check	Collaborative fact-checking. User guide , Bellingcat's Check team .			checkmedia.org
Document Redaction	Useful for removing potentially harmful content in Pdfs before viewing, like traceback.			github.com/firstlookmedia/pdf-redact-tools
Etherscan	Tracking transactions & finding a cryptowallet each based on the ETH blockchain.			etherscan.io
Google Search Operators	Such as searching for a specific filetype (e.g. PDF) or on a specific website. Here's powersearchingwithgoogle.com .			googleguide.com/advanced_operators_reference.html

Insecam	Network live IP video cameras directory.			insecam.org/en/
LittleSis	Database of who-knows-who at the heights of business and government.			littlesis.org
Lumen	Collects and analyses legal complaints and requests for removal of online materials, helping Internet users to know their rights and understand the law. This data enables us to study the prevalence of legal threats and let Internet users see the source of content removals.			lumendatabase.org
Maltego	Interactive data mining tool that renders directed graphs for link analysis.	Used in online investigations for finding relationships between pieces of information from various sources located on the Internet.	There is a free version but full version costs \$	https://www.maltego.com/
Montage	For collaborative working.			montage.storyful.com
Malicious URL Tester	Testing unknown URLs.			safeweb.norton.com
OpenCorporates	Database of companies in the world.			opencorporates.com
TimelineJS by Knight Lab	Make an interactive timeline of events.			timeline.knightlab.com
Visual timeline creator		Free and easy to use		time.graphics/editor
Unknown Hash ID	On investigation, if you come across a hash but don't know what it is (and warrants further investigation) this will identify the type.			onlinehashcrack.com/hash-identification.php
Visual Investigative Scenarios (VIS)				vis.occrp.org
Zoopla	Search for a property with the UK's leading resource. Browse houses and flats for sale and to rent, and find estate agents in any area.			zoopla.co.uk

15 — Guides & Handbooks

American Press Institute Fact-Checking Resources

americanpressinstitute.org/training-tools/fact-checking-resource

h1>bellingcat

Bellingcat	The resources section on the website includes a large amount of guides on a variety of topics, including geolocation, using satellite imagery, and so on.	www.bellingcat.com/category/resources/how-tos
First Draft News	Lots of resources on the website, including many guides, some of which have been written by Bellingcat members, including “ How to Get Started in Online Investigations ”.	firstdraftnews.com/resources
FLASH Environment Assessment Tool (UNOCHA)	For identifying harmful substances and their effect on the environment after industry has been destroyed.	docs.unocha.org/sites/dms/Documents/FEAT_Version_1.1.pdf
Itrace (Conflict Armament Research)	lots of information on different kinds of munitions and weapons presented graphically on a map format.	itrace.conflictarm.com
Poynter	Fact-checking how-to guides, and a fact-checkers code of principles.	factcheckingday.com/#how-to , poynter.org/fact-checkers-code-of-principles
Verification Handbook	PDF in many languages.	verificationhandbook.com
The Washington Post	Fact-checker guide.	washingtonpost.com/news/fact-checker
WITNESS	Video as evidence, a guide to verifying eyewitness videos.	library.witness.org/product/video-as-evidence-verifying-eyewitness-video/

UNSORTED / TO CHECK → ADD:

On FindClone <https://www.the-village.ru/village/city/ustory/363323-deanon>

<https://hoaxy.iuni.iu.edu/#query=bellingcrap&sort=mixed&type=Twitter>

- People search
 - [Aggregated list of over 200 people search and data broker sites, reverse phone lookups, and other search tools with opt-out links.](#)
 - publicrecords.searchsystems.net
 - cemetery.canadagenweb.org/search.html

<https://challenge.burnerapp.com/>

- <https://socialbearing.com/> - lots of Twitter statistics (mostly useful or comparative materials/reports).

DNS tools https://docs.google.com/spreadsheets/d/18U1qcaPaqIF8ERVLI-g5Or3gUbv0qP_-JUtc0pbEs0E/edit#gid=0

<https://socialblade.com/> -- It's a YouTube/Twitch/Instagram/Twitter stats and analytics tool. It's useful because it caches details from accounts that might have subsequently been deleted. (e.g. I recently managed to find details/stats of a YouTube account associated with a cryptocurrency scam, but which had been deleted.)

Sources per Country				
Iraq				
Name	Description	Pros	Cons	Links
Provinces of the so-called Islamic State				umap.openstreetmap.fr
Syria				
Name	Description	Pros	Cons	Links
Maps				lib.utexas.edu/maps/syria.html

Opposition media	See this excellent list compiled by Noor Nahas of multimedia sources from Syrian opposition groups,			reddit.com
Provinces of the so-called Islamic State,				umap.openstreetmap.fr

Landgrid

I did not see much in the tool list regarding physical addresses. You can verify land ownership and see who owns the land at an address in the US as most counties have parcel data available in a map. This is kind of troublesome though because there are many thousand counties in the US and you'd have to search each one individually to find their parcel map if it exists. <https://landgrid.com/us/> <https://landgrid.com/us/pa/dauphin/susquehanna#b=none>

The Landgrid map uses data from aggregated sources of open parcel data. In the link above I am zoomed into an area of Dauphin County PA, if you zoom in further and select a property you can see ownership names and much more. The official data link for this zoomed area can be found by searching "dauphin county pa parcel map" in google (<https://gis.dauphincounty.org/>).