



geoconnected



GEOSPATIAL CAREER PROFILES



Welcome to Geoconnected's Career Profiles

Hi, I'm Kate!
Director at Geoconnected

Geoconnected is here to help you explore the exciting world of geospatial careers from mapping and data analysis to environmental planning and more. Our geospatial career profiles show that careers don't always follow a straight line, and that's part of the fun.

Whether you're picking subjects, thinking about university, or just curious about what's out there, geoconnected can help you discover where your interests could take you.

I want to thank my geoconnected guardians who have supported me from day one, and to everyone worldwide that has contributed to the career profiles. It is unfiltered and represents an honest account of those working in geoscience careers.

I hope you enjoy taking a read. Is there something you would like to see? Let me know, email kate@geoconnected.co.uk

Careers don't have to follow a straight line – and that's what makes them exciting!

Drones: Tools That Take Careers Further

Drones aren't just for flying, they're powerful, low-cost, and mobile tools used across many areas of geoscience. Learning how to pilot drones gives you versatile skills that can be applied anywhere in the geospatial world. From mapping and surveying to environmental monitoring and disaster response, drones help professionals collect data, create 3D models, and capture the world from new perspectives. Lightweight and easy to carry into the field, they're transforming how we explore, understand, and protect our planet.



Limosaero - developed a solar powered fixed wing drone capable of flying for 8 hours with zero emissions.

There work also includes:

Remote Sensing

We offer custom UAV data collection and analysis support. Whether you want to collect RGB, multispectral, or thermal imagery - or maybe something completely different - we look forward to new challenges.

Atmospheric Monitoring

We provide aerial gas sensing, data collection and analysis services covering numerous industries: greenhouse gases leaks including methane; meteorological data; ammonia sensing for safety and environmental protection; and others.

We are developing tools for aerial measurements of greenhouse gas fluxes, and for monitoring, reporting and verification of carbon credits, securing protections for sensitive habitats and supporting the transition to net-zero.

Check out their work here: <https://www.limosaero.co.uk/>

Enjoyed flying drones - wondering what else you can do with them? Here's a few roles using drone tech.



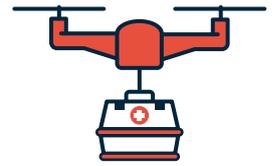
Photography, Film & TV



Drones Mapping



Drone Transportation



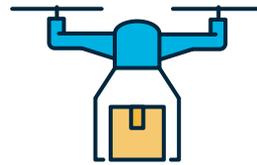
Healthcare



Drones Surveying



Search & Rescue



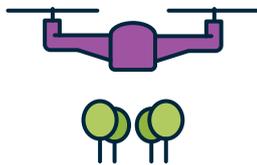
Delivery/Fulfillment



Agriculture



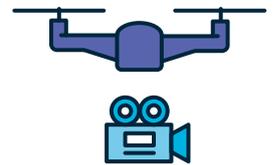
Wildlife Tracking



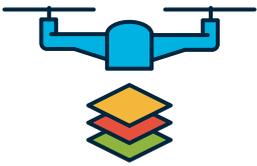
Forestry



Researcher



Drone Journalism



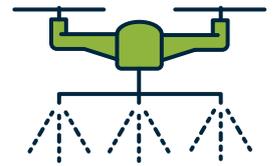
GIS Mapping & Analytics



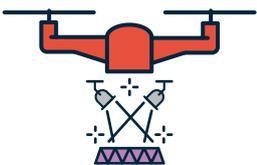
Data Analysis



Logistics



Aerial Weed Spraying



Swarm Artist



Theatre Choreographer



Police Drone Operator



Insurance



Real Estate



Construction



Building Inspection



Mining



Roof & Solar Inspection



Energy Inspection



Bridge Inspection

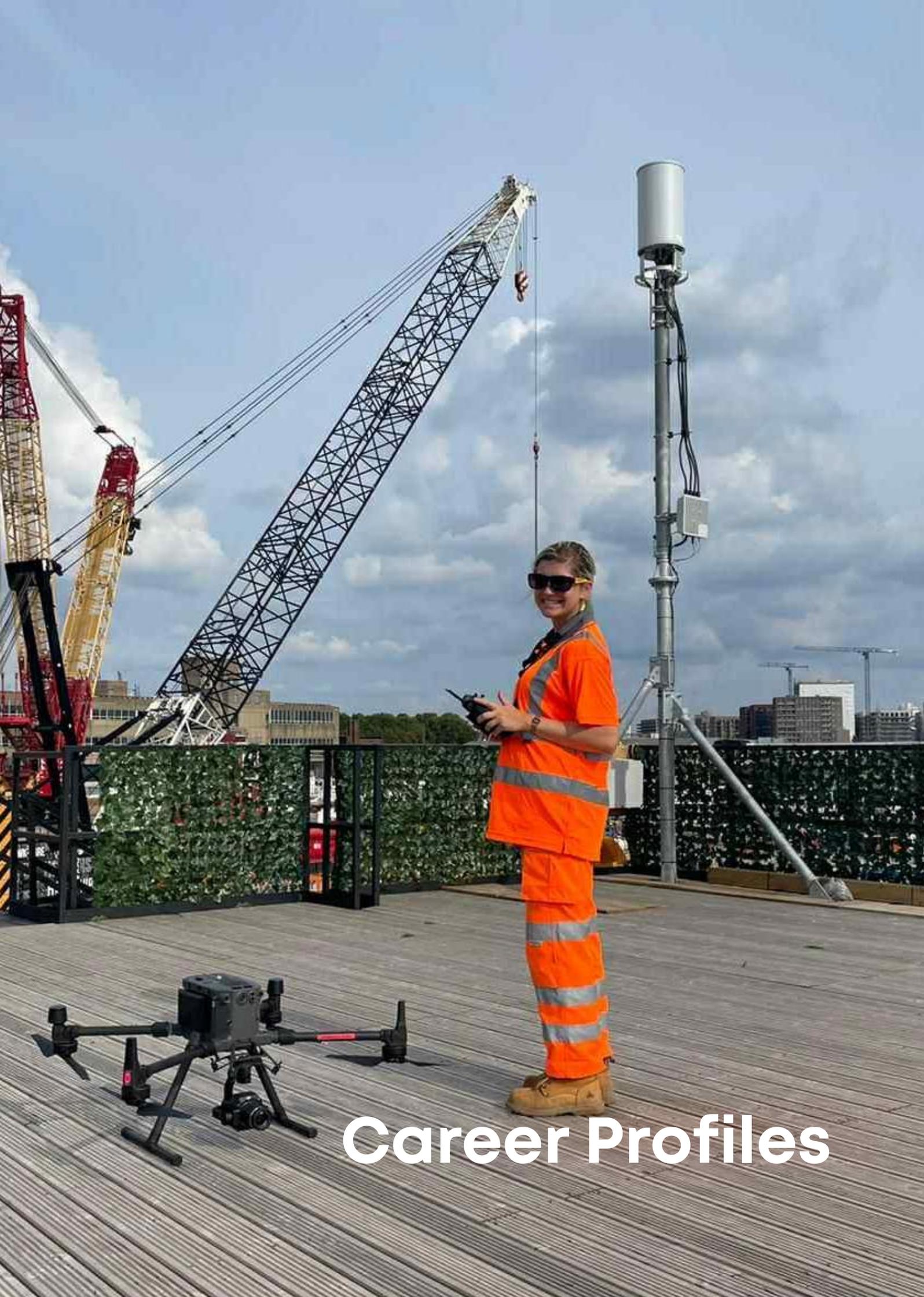


Stockpile Assessment



3D digital model using
LiDAR and drone imagery
for capture, and processed
using photogrammetry
software

Aerial Surveying



Career Profiles



Geoconnected Guardian

Dr Karen Joyce

Associate Professor of Remote Sensing



Geoconnected Guardian

Dr Karen Joyce, Associate Professor of Remote Sensing

I'm a scientist, educator, academic, and co-founder — passionate about proving that science isn't just lab coats and test tubes. It's everywhere. And there's a version of it for everyone.

For over 25 years, I've built a diverse career at the intersection of geospatial science and real-world impact. From mapping coral reefs on the Great Barrier Reef for my PhD, to deploying mapping solutions as a Geomatic Engineering Officer in the Australian Army, I've applied Earth observation to some of the planet's most pressing challenges.

Today, I'm an Associate Professor of Remote Sensing at James Cook University in Cairns, still closely connected to the Great Barrier Reef and the ecosystems of northern Australia.

But my work doesn't stop at the university gates.

I'm the Co-founder and Education Director of She Maps, where we've inspired thousands of students and teachers around the world to see themselves in STEM using drones and geospatial tech as our gateway to inclusion and impact.



I'm also the Co-founder and Product Lead of GeoNadir, a global platform for collaborating with drone and Earth observation data. GeoNadir helps scientists, conservationists, and land managers store, manage, and analyze EO data to protect Earth's most vulnerable ecosystems. Rooted in FAIR data principles; findable, accessible, interoperable, and reusable, we believe that open science is good science.



Whether it's from space, the air, or the ground, I'm driven to help people see our planet more clearly — and act to protect it.



Diana

GIS coordinator



I would recommend the geospatial field to any young person who has an interest in the idea of how location and data can interconnect to provide useful information to organizations, especially since the geospatial products created can become helpful visual tools for any organization to use everyday in their work.

WHAT DOES YOUR ROLE INVOLVE

I help GIS users with their GIS projects and tasks that they may have questions on.

Coordinate GIS meetings/events and send out informational emails on a regular basis to the GIS users that I help, and be a web administrator for all of their GIS accounts as well.

Build custom made geoprocessing tools and scripts using Python in order to potentially automate some of my GIS users' projects.

Serve as a mentor to my GIS users as well as train others on the GIS software, ArcGIS Pro, and Esri's other online GIS products as well.

MORE ABOUT MY ROLE

My day to day can include web administrator duties for my GIS users' many accounts such as Portal and AGOL. I consult with different workgroups in regards to their GIS projects and come up with a gameplan on how to help them, coordinate upcoming meetings for my GIS users, send frequent emails to my GIS user mailing list to keep them updated of anything related to GIS.

I continue work on different Python scripts for potential customized geoprocessing tools, act as a liaison between my GIS users and GIS upper management, train and document on specific GIS workflows, etc.

As you can tell, being a GIS Coordinator can include a variety of tasks and work to do, which is one of the reasons I enjoy my job so much! There is never one day that is exactly the same and I enjoy the variety of work that comes with it!

HOW DID YOU GET WHERE YOU ARE TODAY?

I went to the University of Minnesota-Twin Cities where I earned my Bachelor's in Science in Geography within the GIS track and with a minor in Leadership as well. This degree program helped solidify my understanding of what GIS entailed and helped expose me to the variety of work I could become involved in since GIS is and can be very versatile in many fields such as maintenance field operations, water resources, utilities, natural resources, etc.

I worked as an intern/student worker throughout my collegiate career, starting my intern journey my senior year of high school. These multiple geospatial internship programs helped me to learn on the job while studying the field I was interested in at the same time and thus apply what I was learning in my classes to real world work.

Finally, by networking with as many people as possible in the geospatial field, engineering field, and technical fields as well. Building a network is very important because it allows you to connect with people who are already working in the field you're interested in and they can serve as mentors or as future references as well by putting in the effort to strengthen the connections.

CAREER PROGRESSION

Interned during college at MnDOT and Ramsey County, which opened doors

First roles: Esri Solutions Engineering intern, then GIS Specialist I at the City of Saint Paul

Now: GIS Coordinator at MnDOT, building on that foundation

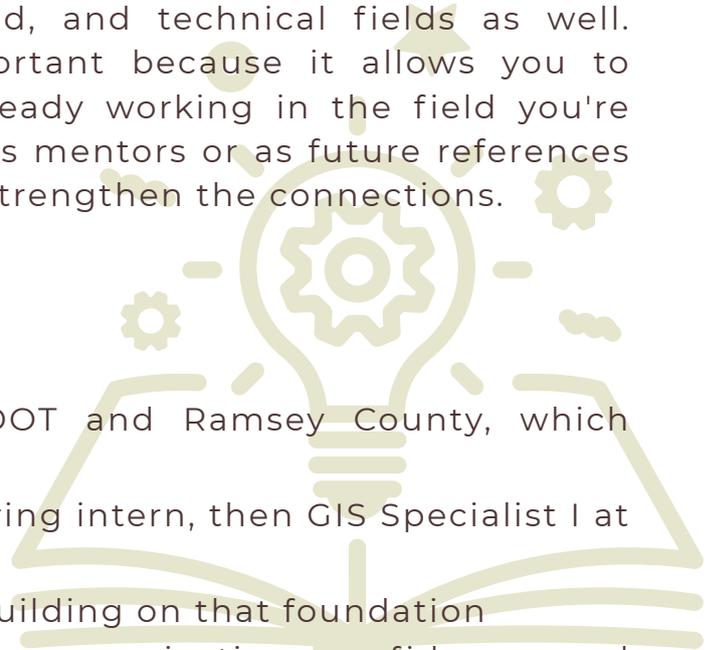
Leadership minor strengthened communication, confidence, and team guidance

Daily impact: support GIS users, share updates, document workflows, host check-ins

Next steps could be supervisor, manager, or director — for now I'm happy making a difference in Minnesota's transportation

SALARY POTENTIAL

In the UK, a GIS Coordinator salary can range from £32,000-£40,000 for experienced coordinators or team leaders, and can exceed £50,000 for senior positions like Project Managers, depending on experience, qualifications, and sector.



WHERE CAN I WORK?

You can work as a GIS Coordinator in a variety of industries and employers such as:

- Geoscience/ Geospatial Career Profiles for Schools
- Local, state, and federal government organizations
- Environmental & Natural Resources
- Utilities
- Urban Planning & Development
- Agriculture (for example: Minnesota Department of Agriculture)
- Public Health (for example: Minnesota Department of Health)

“ — The coolest thing about my job is

The coolest thing about my job is having the opportunity to help my GIS users every day. Being able to help people is what I most appreciate about this job since it is exciting seeing my GIS users excelling and going above and beyond in their geospatial work. Whether it is helping them on one of their GIS projects, setting up their GIS accounts, emailing them GIS related information and software updates, setting up meetings with my GIS users to discuss important GIS topics, documenting GIS workflows, etc. Everyday is different and I get to learn something new everyday on the job as well!

Using agriculture drones to control alien invasive vegetation in the Outeniqua Mountains in South Africa.

A herbicide with a binding agent was sprayed onto the trees (Australian Black Wattle) that have infested the region. Alien plants increase fire risk while destroying biodiversity by out competing the native vegetation. They also change the soil pH and therefore no native vegetation will grow underneath or near them which inevitably causes soil erosion as well. Our native wildlife do not eat alien invasive plants either so it really does cause a huge amount of damage to the environment.



Conservation

Zara

Chief UAS Pilot



Zara

Chief UAS Pilot



WHAT DOES YOUR ROLE INVOLVE

- Ensuring we are compliant with drone regulations
- Producing RAMS documents for new jobs
- Flying drones on various sites to capture the client's intended data
- Maintaining our equipment so its current and repairing where needed

MORE ABOUT MY ROLE

Weekly I can be WFH, on a live client site, or in one of our office locations. I join meetings about planning drone jobs (logistics, access, airspace permissions, any obstacles to highlight), I focus on new rules that come in from the CAA which affect our day-to-day drone operations so its important we stay on top of those new regulations in order to operate legally. I also get to engage in different survey events/meet ups where you are mixed in with other drone operators talking about certain topics in the industry and how we can take ideas or how others tackle issues with completing site works or handing over data quick enough.

SALARY POTENTIAL

Entry level (surveying apprenticeship/graduate) = £16,000 - £22,000

Emerging roles which include surveying with UAV experience

Intermediate level £30,000+

Senior Level Drone Operations £45,000+

HOW DID YOU GET WHERE YOU ARE TODAY?

By saying YES to things and giving it a go!

I said yes to going with the careers lady at my school on a trip to a railway surveying company (just to get out of school really!) and that's where I saw a presentation about 3D data and models of train stations and they mentioned drones and laser scanners being methods of capturing the data which got me hooked.

I then asked for work experience which led me to doing a 2-year degree apprenticeship course in Geospatial Technology at Dudley College. This enabled me to grasp the basics of land surveying which helped me move on in my career, as drone flying isn't just about the physical part (many people can learn to fly a drone) but it takes a deeper understanding to know what is useful and what is a waste of time when flying on site in the survey world.

Because of all this experience, I have ended up as a Chief UAS Pilot at a leading surveying company in the UK at the age of 24. You have to carve your own path, even if you don't think its possible.

For example, my job after the railway was into a land surveying company where I became their drone pilot for all UK offices. They did not have any job posts that were relevant to me on their website. This didn't stop me from trying with them as I submitted my CV through their website which was just a portal to request a survey - NOT a space to apply for a job!

By thinking outside of the box and describing my wants and my skills in the section where you would request what kind of survey you want, I was contacted and offered an interview and then I was with that company for almost 2 years.

Had I just seen that there was no job offerings on the website and decided I wouldn't try, I am almost certain I would not be in the position I am in today.



CAREER PROGRESSION

As I have been on site since 2019, I'd love to be in a comfortable position when I decide to have a child - so I need to be less on site and more office/WFH based.

To do this I am progressing down the route of drone compliance and managing the team across aspects such as their hours are compliant, the kit is up to date, their own progression trajectories and keeping us updated when new technology comes out.

WHERE CAN I WORK?

Plowman Craven, Survey Solutions, Dudley College as the apprenticeship provider (contact them to see what companies have done the course already)

Companies that offer survey solutions and incorporate drone technology.



“ — THE COOLEST THING ABOUT MY JOB IS

No site is the same and you're able to access super cool spots like rooftops in London where you get amazing views!

ADVICE FROM ZARA

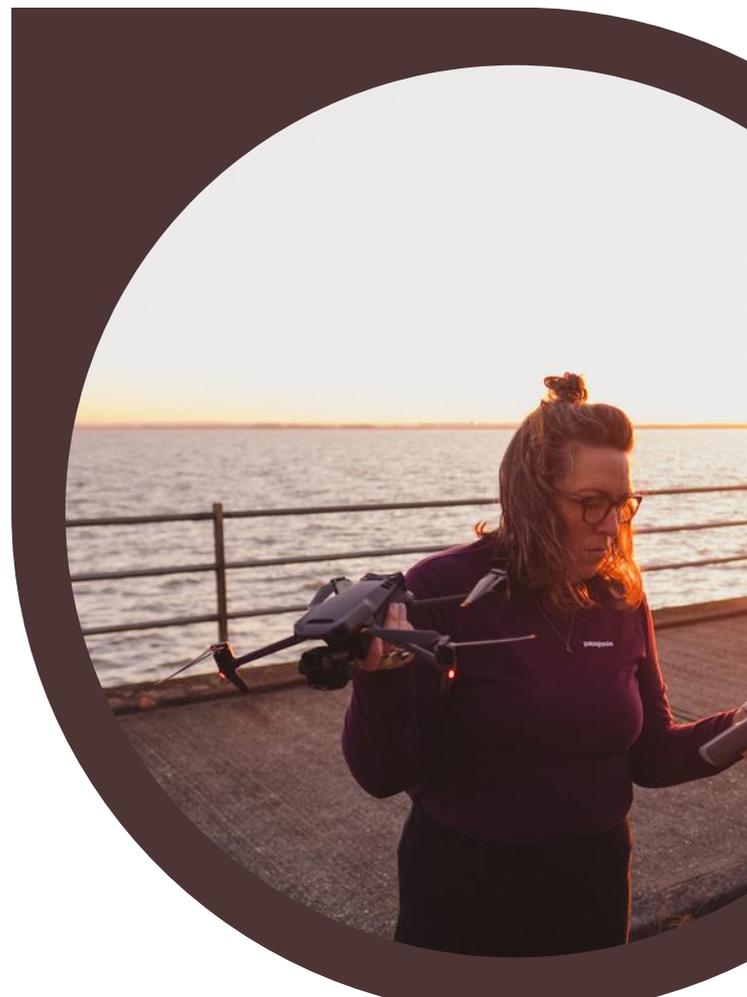
Make sure you revise the basics so that when issues occur on site, you're able to troubleshoot with ease!





Geoconnected Guardian

Rebecca Douglas -Visual Storyteller



Geoconnected Guardian

Rebecca Douglas - Visual storyteller, photographer, filmmaker, drone pilot, ocean advocate and President of the Board of Trustees for Whale Wise.

Rebecca Douglas

“

My neurodivergent brain is the reason I see the world the way I do. It's the reason I do this work.

Hardwired for curiosity, nothing delivers dopamine quite like the awe of fleeting, liminal moments. The thrill of a tangent, the pursuit of epic light, the magnetic pull of stepping into the unknown at wild edges.

I am a liminal being, balancing the alchemy ADHD and autism brings. Two networks compete in my brain - curiosity and focus - fire simultaneously.

Through photography, videography, drone, writing, and speaking, I illuminate the messages and messengers of the natural world. Creating visual and narrative stories that ignite curiosity wonder and awe, and spark awakened action.

Her academic background in Geography and Marine Resource Management, sixth-sense connection to nature, and innate ability to tell human-centred stories uniquely position her as a sought-after artist and visual storyteller.

Rebecca's work has been exhibited internationally, including Hold Still, a landmark portraiture project by the National Portrait Gallery in London, where one of her images is now part of the gallery's permanent digital archive.

An ocean advocate and President of the Board of Trustees for Whale Wise, Rebecca has created visual stories that amplify nature's messages and messengers.





Jenna
War Crimes
Investigator



Jenna

War Crimes Investigator

WHAT DOES YOUR ROLE INVOLVE

- Investigate the internet and social media for evidence
- Analyse digital evidence
- Geolocate photos and videos
- Analyse satellite imagery for evidence or to help confirm other details

MORE ABOUT MY ROLE

Depending on who I work for my work changes. When I was at the United Nations, I focused on the war in Myanmar. I analysed a lot of photos and videos to figure out who the perpetrators were, who the victims were, what crime was committed, when it happened, and where it happened. This helped us figure out who the perpetrators were and if we could bring a legal case against them for committing international crimes.

When I work with NGOs, sometimes I help them figure out who the perpetrators are, figure out what crimes they've committed, figure out where a video came from and if it is real, or find other evidence to help with a case.

I also work with governments and train people to do this work, especially on how to interpret satellite imagery and how to use it as evidence. I give presentations and go on podcasts and talk about this kind of work and how important satellite imagery is and that it needs to be more accessible.

We were taught how to investigate social media, geolocate photos and videos, and analyse satellite imagery for human rights investigations. This is where I discovered I could combine my love of science (earth science and tech like satellite imagery) with human rights and war crimes investigations. Ultimately, I turned a hobby into a career where I get to help people.

HOW DID YOU GET WHERE YOU ARE TODAY?

I would spend hours and hours and hours staring at Google Earth exploring the world when I was younger. I also loved maps, atlases, and anything where I could learn about the rest of the world.

In my undergraduate program, I fell in love with human rights and realised I really liked doing research.

In my post-graduate LLM program, I took a clinic course through the Human Rights Centre at the University of Essex. The program was called, Amnesty International's Digital Verification Corps.

CAREER PROGRESSION

When I worked for an NGO, I was just an analyst like everyone else, collecting evidence and analysing it. When I went to the UN, I helped build an entire open source investigation unit from scratch and helped my supervisor run it, I was her second in command. I helped manage 4 associate analysts, interns, and Fellows, after only having a few years' experience and no supervisory experience.

I've since gone back to working with NGOs. At one NGO, OSINT For Ukraine, I was just promoted to Team Leader of the Child Crimes Taskforce, where I manage 2-3 investigators.

At another NGO, Global Weekly, which focuses on geopolitics and intelligence using open source (OSINT) techniques, I am the desk manager for the Middle East and North Africa, as well as Western Europe and Other Regions. Here, I manage 8 analysts but can also do my own investigations.

SALARY POTENTIAL

Entry level £22,000+

Intermediate £55,000+

Expert/ Senior role £74,000+

I am apart of many professional associations such as the International Bar Association, the American Society for International Law where I was elected to be an Executive Committee Officer for the Lieber Society on the Law of Armed Conflict, OSMOSIS (Open Source/OSINT), and Women in Geo+. I also mentor students and early career professionals. Most recently, I was chosen for a pilot program by the International and Ukrainian Bar Associations to mentor a Ukrainian prosecutor.

In the future, I would like to work at the International Criminal Court or another organization that does investigations. I would like to do more work on the ground in other countries, like when I went to Ukraine last year. Although I love what I do, I miss working with people and traveling to different countries.

WHERE CAN I WORK?

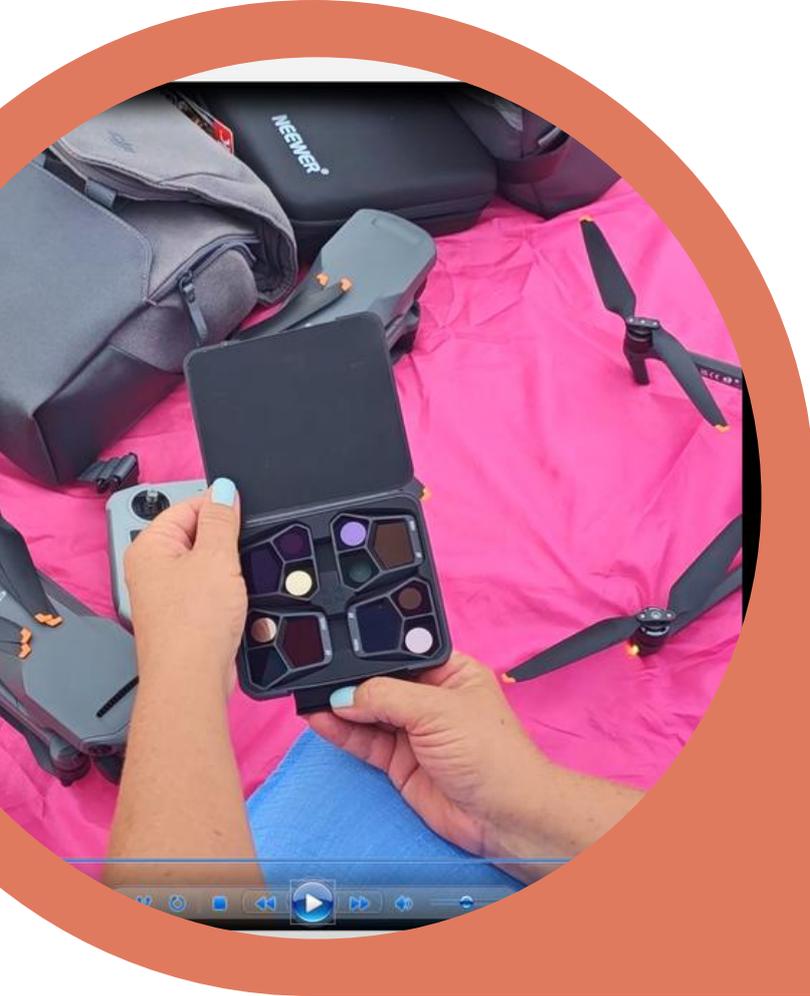
- United Nations,
- International Criminal Court,
- European Union,
- The European Court of Human Rights,
- Europol/Interpol,
- Amnesty International,
- Human Rights Watch,
- The Centre for Information Resilience,
- Human rights and humanitarian NGOs,
- Private intelligence companies,
- Local/national law enforcement, and government.

“ — THE COOLEST THING ABOUT MY JOB IS

I get paid to look at social media all day! I also get paid to play with Google Earth, Copernicus (formerly Sentinel Hub), Planet (satellite imagery company), OpenStreetMaps, Mapillary (alternate to Google street view), and a ton of other websites and programs that have maps and satellite imagery!

My job is very hard; it's not all fun. I must find out all the awful things that have happened to people. The thing that keeps me going is knowing I'm helping someone achieve justice. Even if they don't end up having their own legal case, at least victims know that someone cares about what happened to them.

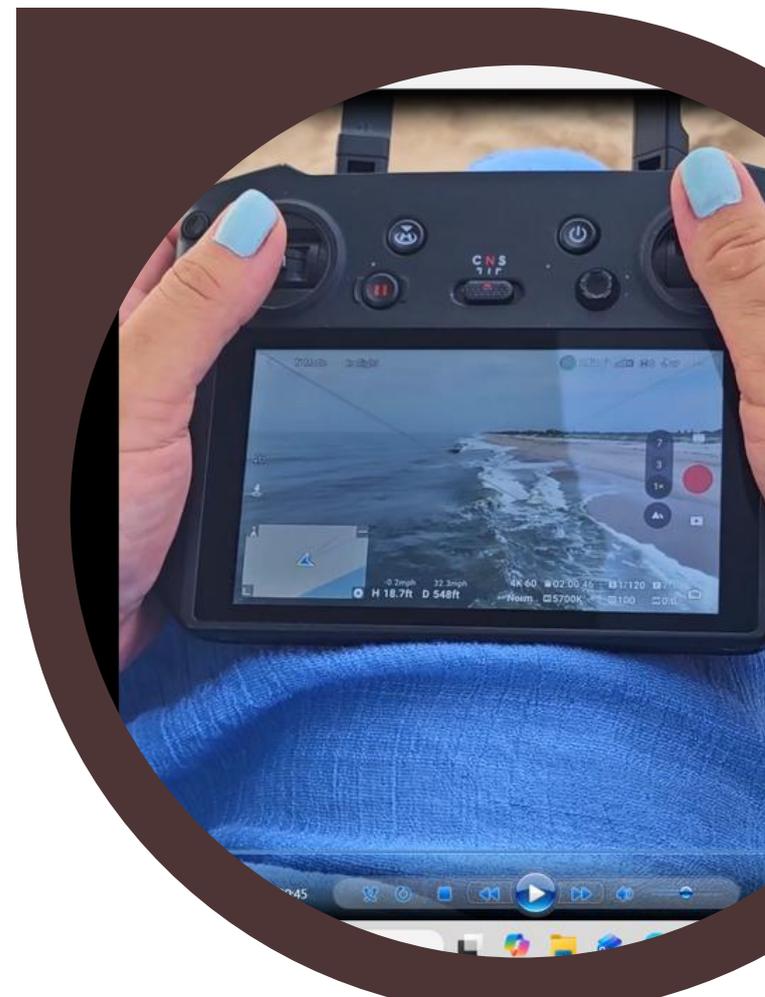
— ”



Joanna L S
Hamptons
Drone Art, LLC
Fine art drone photography

Geoconnected Guardian

Joanna Steidle Hamptons Drone Art



Geoconnected Guardian

Joanna Steidle

Joanna L Steidle is an international award-winning drone pilot and artist based in the Hamptons on Long Island, New York. As owner of Hamptons Drone Art, LLC, she specializes in fine art drone photography, videography and FPV flights. Safety and compliance are of the utmost importance to her, and she mentors and teaches those that share her passion. She has had the honor working with numerous organizations, including National Geographic, BBC, Smithsonian Magazine, The Nature Conservancy, US Veteran Affairs, and most major news outlets.

She started off flying small non automated drones in 2015 and fell in love with flight immediately. Then, quickly graduated to a camera drone and found the new perspective of her home vicinity captivating. She has a deep love of the ocean, our lands and considers Mother Nature as her spiritual guide.

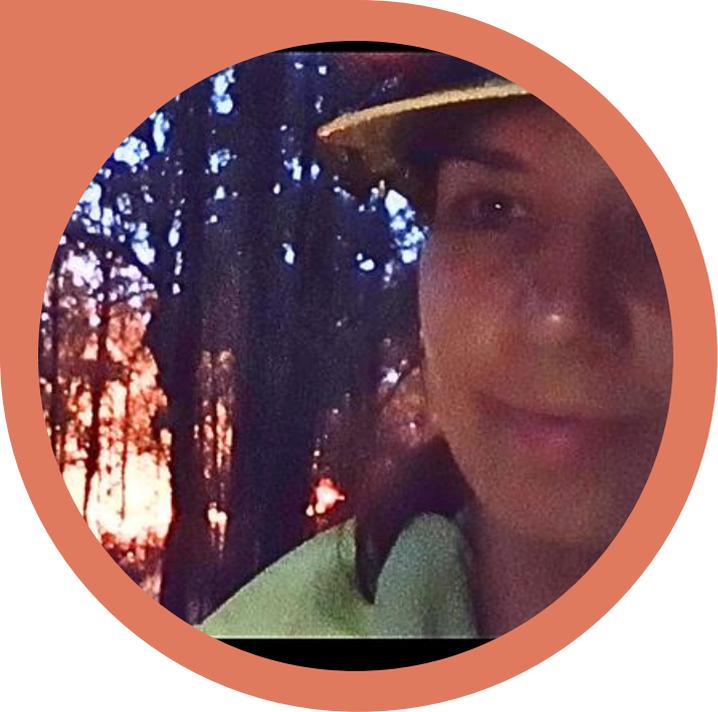
Honored as a “International Aerial Photographer of the Year 2025, she continues to open gateways to the worldwide drone art market. With a style all her own she continues to progress highlighting the beauty of this world and our oceans. She currently is the only female DJI Creator in the USA.

“
Capturing the natural beauty, wildlife and interesting moments in time has been a passion since I first took flight, and my hope is that my story & photos inspire others to love our ocean and lands.

Giving back is very important to me, and I spend a fair amount of time w teaching, consulting, mentoring women, and supporting non-profits.

Head to Joanna’s website to check out her amazing drone art.

<https://joannasteidle.com/>



Caroline

Spatial Analyst for Natural Resources and Land-use (Forestry)

WHAT DOES YOUR ROLE INVOLVE

- A lot of coding
- Fieldwork in remote areas
- Firefighting
- Research and Innovation
- A lot of communication

MORE ABOUT MY ROLE

My work does include a lot of maths (statistics), scientific project design, reading and coding.

It also includes a lot of communication across all people involved in the forestry sector. I am in remote areas for fieldwork to validate models or to collect data.

During fire season, my skills are needed to monitor and predict wildfire movements, yet I am also out fighting fires directly. My work informed decision makers at national level. Good and well informed decisions require

HOW DID YOU GET WHERE YOU ARE TODAY?

MSc in Biology, focus on ecology and remote sensing

Travelling, internships in other countries, with universities and NGOs

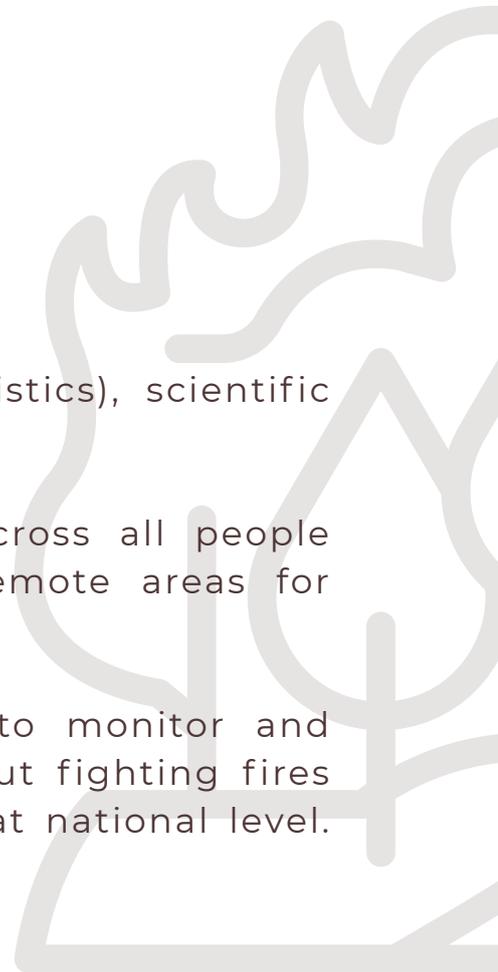
Internship ending in a job offer for a government role

Salary Potential

£ Entry level 40k

££ Intermediate 60k

££ Expert/ Senior role 85k



CAREER PROGRESSION

The role I ended up in (government) was specifically designed for me, as a result of my performance during an internship. As my skills progressed, I asked for a salary increase in written form, every year.

I was involved with the royal Commission on Wildfires in Australia. Career progression then might be team lead.

I have also applied for project owner roles in the private sector (satellite companies specialised in wildfire detection)

I have had job offers as technical lead for large biodiesel projects

WHERE CAN I WORK?

- NGOs
- Government (forestry, resource management, R&D, EPA, emergency sector)
- Government associated (UN, ESA, NASA, universities, emergency sector)
- Private sector (All land-use, agriculture forestry, satellite service providers, communication, carbon offsets)

“ — THE COOLEST THING ABOUT MY JOB IS

It is versatile and I hardly ever get bored. I get to go out into amazing nature and then I get to think in depths back in the office on solving research and operational questions.

I get to see the world at such different scales – from the tiniest living things (e.g. bacterial or even viral diseases) to the ‘eye in the sky’ – satellites in our orbit.

— ”



A MESSAGE FROM CAROLINE TO YOUNG WOMEN ENTERING THE GEOSPATIAL SECTOR

You belong. It is hard to start out in a field that is traditionally a male dominated sector. Don't ever let anyone ever tell you, that you don't belong or that you aren't good enough. If you make a mistake, it is not evidence of you not being good at your job, it is the natural part of innovation (and being human).

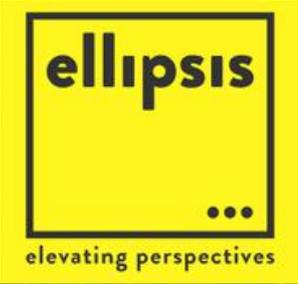
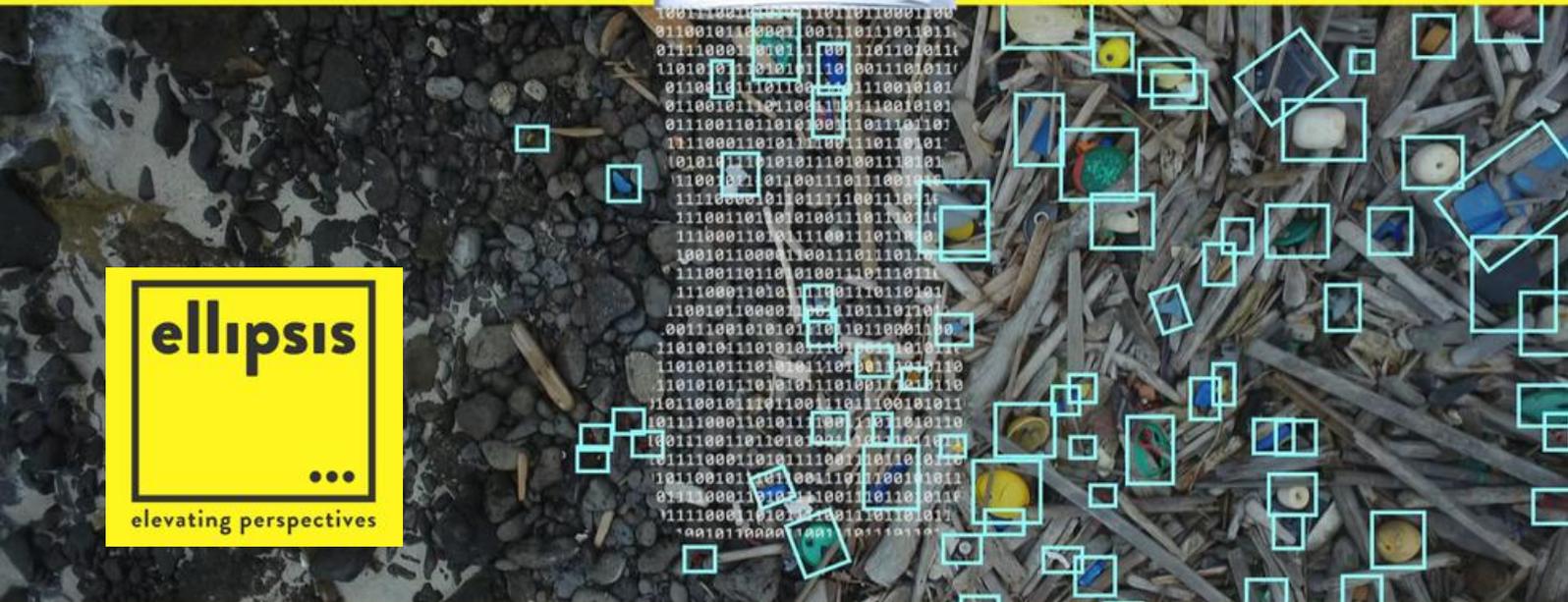
Network and connect! Good relationships and allies can be the bedrock on which a good career is built on. Sometimes it is hard to get a job if all you do is apply for job adds.

Instead, think about where you want to go, and then introduce yourself. Ask for internships. It's a great way of letting people get to know you, and you getting to know them.

If an environment does not treat you right, it is okay to leave. Your safety and mental health are more important.



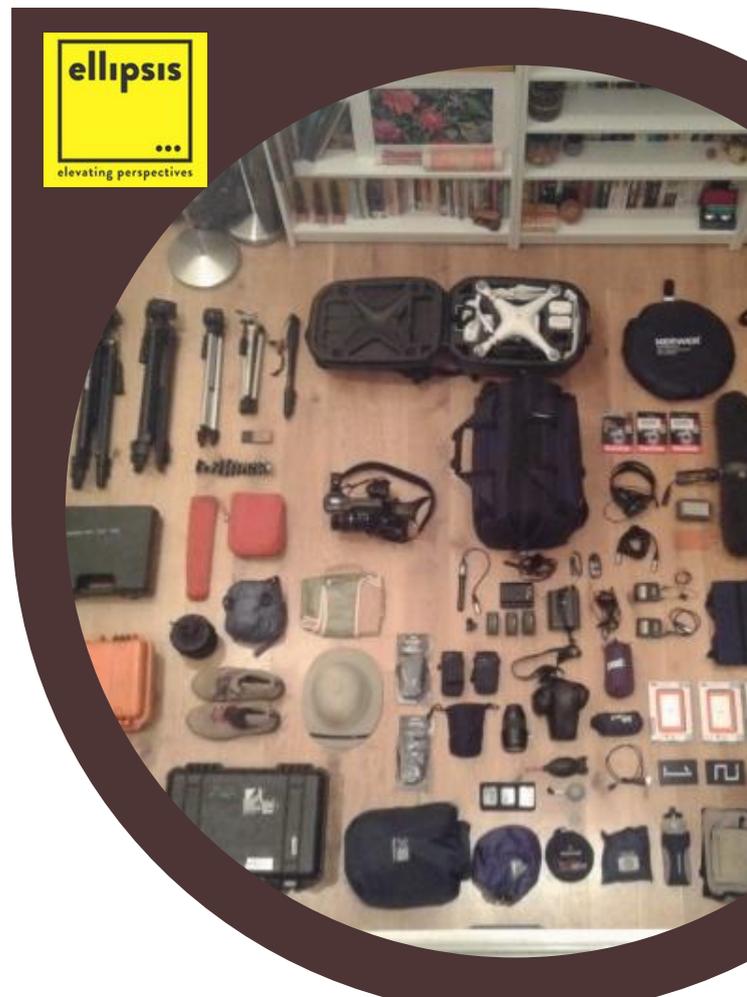
Environmental mapping





Geoconnected Guardian

Ellie MacKay - Ellipsis Earth



Geoconnected Guardian

Ellie MacKay - Ellipsis Earth

#filmmaker #presenter #dronegirl #sciencenerd

Ellie is currently working between the UK and US as a freelance documentary filmmaker and drone pilot.

Most recently she lived in Borneo as an educator and conservationist, working with indigenous communities alongside agricultural industry representatives looking towards sustainable solutions for biodiversity management.

She is an experienced educator and communicator, has taught internationally, and has a background in conservation, science academia and journalism.

Ellie studied Natural Sciences at Pembroke College, Cambridge, specialising in Geological Sciences (Evolutionary Paleobiology). She has also recently completed postgraduate study in Science Communication at Imperial College London, specialising in Science Documentary for TV and Radio.

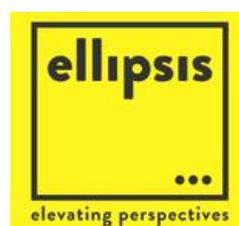
Ellie's first Feature Documentary, *Fragmented*, has won numerous awards and has premiered in 12 countries to date. Ellie's interest in audio and radio had led her to producing several pieces of audio work.

Ellie has most recently been working as Mission Director and Drone Pilot for *The Plastic Tide* - a revolutionary project using drone technology to map plastic pollution on UK coastlines.

Ellie is an experienced, fully qualified drone pilot for film and stills, specialising in extreme environment filming - from jungles, oceans and coastlines to polar regions.

Ellipsis Earth was founded in 2019 by Cambridge and Imperial scientist, award-winning filmmaker and extreme environment drone pilot, Ellie Mackay. Her vision is to create an integrated ecosystem for environmental change, through independent global research, disruptive education, exploration and creative media, all underpinned by Ellipsis' unique system for mapping the world's environmental impact.

Take a look at Ellie's work here:
<https://www.ellipsis.earth/>



**ELLIE L. H.
MACKAY**



Khalid

Chief Scientist

WHAT DOES YOUR ROLE INVOLVE

As Chief Scientist at Sensat, I get to turn the real world into data, and that data into intelligence.

- Dream up new ways to make computers understand cities, complex infrastructure environments and the planet itself.
- Experiment with geospatial AI to teach machines how to see, think, and reason about the world in 3D.
- Work with brilliant software engineers to turn wild ideas into real software and tools that shape how the built environment is designed and managed.
- Push the boundaries of what's possible in digital twins and data intelligence

MORE ABOUT MY ROLE

No two days are ever the same as Chief Scientist at Sensat. Being Chief Scientist at Sensat means I get to explore how technology can help us understand and reshape the world around us. My days are a mix of science, creativity, and collaboration.

One moment I might be experimenting with AI models that interpret drone or satellite data; the next, I'm working with our engineers to turn those experiments into real products that help construction and infrastructure teams make smarter decisions.



The fun part? Seeing something go from a crazy idea on a whiteboard to a working prototype that actually works. I have had days in the past when I started work in an open field watching my team fly drones or drive cars with lasers, to map the world in 3D, and then in the afternoon I am with my engineering team to process that data through AI to turn them in to high detailed 3D maps.

The tricky part? Innovation and crazy ideas don't always behave. Experiments fail, data misbehaves, and ideas that look great in theory can crumble when they meet reality. But that's also the thrill, every challenge pushes us closer to something groundbreaking. Success is as much fun as are failures.

The best part is that we get to dream ideas and test them on a weekly basis. Most days, my work feels like equal parts scientist, explorer, and storyteller, using technology to turn the messy, physical world into something digital and 3D, and I get to talk on YouTube interviews about it.

If you love solving puzzles, thinking in 3D, and working with technology that feels a bit like science fiction, this is a career that never stops being exciting.

HOW DID YOU GET WHERE YOU ARE TODAY?

My journey started with a love for maps, 3D games, and robots. Particularly the robots in space, called Satellites. I love Space, its cool. During my PhD in Satellite Remote Sensing and AI, where I was predicting hurricanes, I spent a lot of time building my own drones — they were dangerously stupid, but when they flew, it felt like magic. That hands-on curiosity shaped how I approach technology: always learning by doing.

I spent about 15 years as an academic, exploring the frontiers of geospatial AI. It was fascinating, but research in universities can move slowly, projects often take years. I craved a faster pace, so I joined an AI startup in Austin, Texas, where ideas turned into prototypes in weeks, not years.

In 2017, I joined Sensat, a company that used drones to capture the world in 3D and uses AI to make sense of it. It felt like everything I loved, maps, machines, and intelligence finally came together. Every day since has been a mix of fun, challenge, and discovery.

My biggest inspiration came from a book called *Simulacra and Simulation* by Jean Baudrillard, which explores that contemporary society has replaced all reality and meaning with symbols and signs, and that human experience is a simulation of reality.

That idea sparked a lifelong obsession: building a digital simulation of our environment so we can experiment, plan, and create in the digital world, like *SimCity* and *GTA*, without breaking the real one. This book was also the inspiration for my favourite movie called *Matrix*.

CAREER PROGRESSION

Looking ahead, my ambition is to keep pushing the boundaries of geospatial intelligence. I want to create simulations of our environment that let us plan, test, and understand the world digitally before acting in reality. I also want this technology to be simple to use, requiring no expertise. I love turning science fiction concepts into reality.

My journey started as a research student, then lecturer in academia, before transitioning into the commercial world as a geospatial data scientist. Alongside my primary career in data science, I have always built things out of curiosity, such as drones, swarms, and flight algorithms, just to keep learning and experimenting.

The most risky yet rewarding step was joining a small startup, *Sensat*, as their Chief Scientist. I quickly realised that in a small company, research is only part of the job; sometimes I had to capture the data myself, process it, and build the software to visualise it. My vision remains to create a true simulation environment at *Sensat*.

SALARY POTENTIAL

As an academic, I was earning £20K in the early 2000s to £45K in 2015.

However, in the commercial world:

Entry level can get you: £28,000 – £40,000 Typical for junior data scientists, GIS analysts, or graduate roles in geospatial technology.

Intermediate Level will get you: £40,000 – £70,000 For those with a few years of experience, handling projects independently, or contributing to AI and spatial analytics initiatives.

Expert / Senior role: £70,000 – £150,000+ For senior data scientists, geospatial leads, or Chief Scientist-type roles. This includes managing teams, leading research strategy, and delivering high-impact projects. Salaries can vary depending on company size, location, and specialisation. In small startups, senior roles can also include equity or other benefits, reflecting the growth potential and risk.

Careers rarely show linear progression. Sometimes you have to wear many hats to achieve your personal and professional goals in life. One thing is for certain, if you love what you do, you will never get tired of doing too much.

Over time, I was also given the role of Head of Data, managing a fleet of drones and cars equipped with lasers to capture the world in high-resolution 3D. This was an incredible opportunity to test and explore cool and cutting-edge geospatial technology. Now, I lead Sensat's research strategy and head Sensat Labs, our innovation team. At Sensat, I lead a product called Orion, a geospatial AI that can search for anything in drone and satellite imagery, combining my love for data, AI, and turning ideas into tangible, impactful tools.

WHERE CAN I WORK?

- Geospatial Startups: Sensat, Niantic Spatial, Xoogle, LGND, Atlas AI,
- Deep Tech Companies: Google Deepmind, Meta, Nvidia
- GIS and Spatial Analytics companies: ESRI, Carto, Mapbox, Idox Geospatial, SparkGeo
- National mapping and geospatial data services. Ordnance Survey, BGS, USGS
- Space Agencies: NASA, ESA, and UK Space Agency for Earth observation and remote sensing projects.
- Satellite companies – Such as Planet Labs, Airbus Defence and Space, and Maxar (now Vantor).



Check out Khalid's chat here:

**Spatial Scientist
Khalid: Geospatial
Data, Digital Twin
Technology,
Satellites, Big Data,
AI & Value**



THE COOLEST THING ABOUT MY JOB IS

The coolest thing in my role has to be playing around with 3D worlds like video games, but they represent reality. We get to see the data come from drone, planes and satellites. I have the power to control satellites and on demand get data from them. It still blows my mind that I can do that.

Also, my team is cool, we make sure we have fun while we are satisfying our curiosity for technology. We have played around with cars with laser to map cities, meta glasses to capture videos and turn them in to 3D models using AI and turn satellite images to super realistic 3D models.

...and I have the best job title in the world. I am THE Chief Scientist of Sensat.



ADVICE FROM KHALID

The most important thing for you is curiosity. Never stop experimenting, it teaches you a lot. Don't be afraid to build things that might fail; failure is where you learn fastest.

Curiosity is what drives science forward. It's not just about knowing facts or learning tools, it's about asking "what if?" and "why?" at every step. Being curious means embracing the unknown. Learn the basics of programming and software engineering, geospatial, AI, and remote sensing, but also explore creativity, design, and how people interact with data. The best geospatial scientists can combine technical skill with imagination.

But most importantly, HAVE FUN!!! never settle for less than fun. Its tough to be a young, buzzing scientist, remember its a journey that you are on, it will have many twists and turns.

Experience it like an exciting road trip, you have no idea what you are going to find but it will be memorable.





Drone and Traffic Surveys



Geoconnected Guardian

Stacey Dix Kestrel Surveys



Stacey

Owner of Kestrel Surveys and Experienced Drone Pilot



WHAT DOES YOUR ROLE INVOLVE

- Running the business day-to-day – marketing, accounts, invoicing, everything!
- Quoting and organising all types of traffic surveys, not just drone work
- Planning drone operations – checking regulations, flight paths and permissions
- Travelling to sites across the UK – often starting at 6am and flying drones in all weather!

MORE ABOUT MY ROLE

People think I fly drones all day – but actually, drone flying is only about 30% of what I do. I had to learn everything about business: sales, finance, marketing, quoting... things I never pictured myself doing.

I struggled with imposter syndrome at first – I didn't feel "technical enough" or "business-minded enough". But over time, I realised that everyone is figuring it out as they go. Confidence grows the more you do.

My drone isn't my job – it's my tool. My real skill is collecting and understanding traffic data.

HOW DID YOU GET WHERE YOU ARE TODAY?

I actually studied Media Studies, which has nothing to do with what I do now! After some personal changes in my life, I took on some casual work counting cars on the roadside. It wasn't glamorous, but it got me into the world of traffic data.

Over seven years, I worked my way up and eventually trained to fly drones as part of the job.

When COVID hit, I was made redundant. It was scary... but it pushed me to start Kestrel Surveys, and five years later I'm running a successful company doing things I never imagined – especially as a female drone pilot in a very male-dominated industry.

Geoconnected Guardian

Stacey Dix - Kestrel Surveys

Stacey Dix is the founder of Kestrel Surveys. She has over 12 years of experience in traffic data collection and gained her PFCO qualification in 2018. Since then, she has been operating as a CAA-approved drone pilot.

Stacey is one of few individuals in the UK who has experience in using a tethering system which allows the drone to fly non-stop for hours on end (weather permitting!)

In addition, Stacey has experience in filming construction site developments and providing progress updates to clients. She also has the skills to provide land mapping and 3D modelling to UK developers.

Check out Stacey and her teams work here:

<https://kestrelsurveys.co.uk/>



Drone And Traffic Surveys

A Provider Of Choice For Planning Consultants,
Architects And Developers In The UK

CAREER PROGRESSION

Working with drones opens so many doors:

- 3D mapping & modelling
- Thermal inspections
- Utility inspections (wind turbines, pylons, rail)
- Transport planning and data analysis (common for Geography graduates)

My own ambition is to grow my company and eventually employ female drone pilots — because right now, there are very few of us!

WHERE CAN I WORK?

In traffic and drone surveying:

- Kestrel Surveys (my company – currently one of the only UK firms specialising in drone-based traffic data)
- Other traffic data companies – just search “Traffic Survey Companies UK”
- In transport planning & data:
- Transport planning consultancies (Google “Transport Planning Consultants” – there are many!)



THE COOLEST THING ABOUT MY JOB IS

The flexibility and freedom. I don't do strict 9–5. Some days I'm up at 4am, other days I take time off midweek. I love being outdoors, especially in summer, flying over places most people never get to see from the air.

WHAT I WISH I COULD TELL MY YOUNGER SELF AT 17 YEARS OLD

Be more confident. Don't wait to be asked — put yourself forward. I missed out on things because I stayed quiet, while others (who weren't always better!) spoke up. You are probably more capable than you think. And remember — everyone is winging it more than they let on.



SALARY POTENTIAL

Entry level £ 15-20,000

intermediate/ emerging level £ 25-30,000

experienced level £ 35,000+

Katya

GIS Technician



WHAT DOES YOUR ROLE INVOLVE

- Produce maps using GIS software to communicate environmental, 'on-the-ground' information.
- Support field work efforts through efficient use of survey forms and data collection techniques.
- Liaise with community members and partner organizations to provide technical support.
- Develop and facilitate GIS training webinars for community members.

MORE ABOUT MY ROLE

My main task is to create, analyse, and maintain spatial data and geodatabases using GIS and spreadsheet software. The data is produced or collected by technicians, like myself, from open-source data hubs or out on the field from surveying the land.

Additionally, I prepare technical reports for my colleagues to support their research and environmental collaborations with community members.

SALARY POTENTIAL

Paid-Internship ~£20,300 (\$38,000 CAD)

Entry level~£22,400 (\$42,000 CAD)

HOW DID YOU GET WHERE YOU ARE TODAY?

As a child, I've always been interested in atlases and globes that instilled an unconscious passion for geography and maps.

In high school (grades 9 through 12 in the Canadian system), I was lucky enough to take an elective course on Earth Sciences that taught me everything from coordinate systems to soil layers to wind patterns.

Afterwards, I went into university to pursue Environmental Geography and Earth Sciences where I learned all about GIS technologies and the importance of geography from the physical to human aspects of the world.

CAREER PROGRESSION

After university, I applied for an internship (supported by a federal government program to hire youth in environmental sciences) with my current organization. Once my internship was up, the organization

WHERE CAN I WORK?

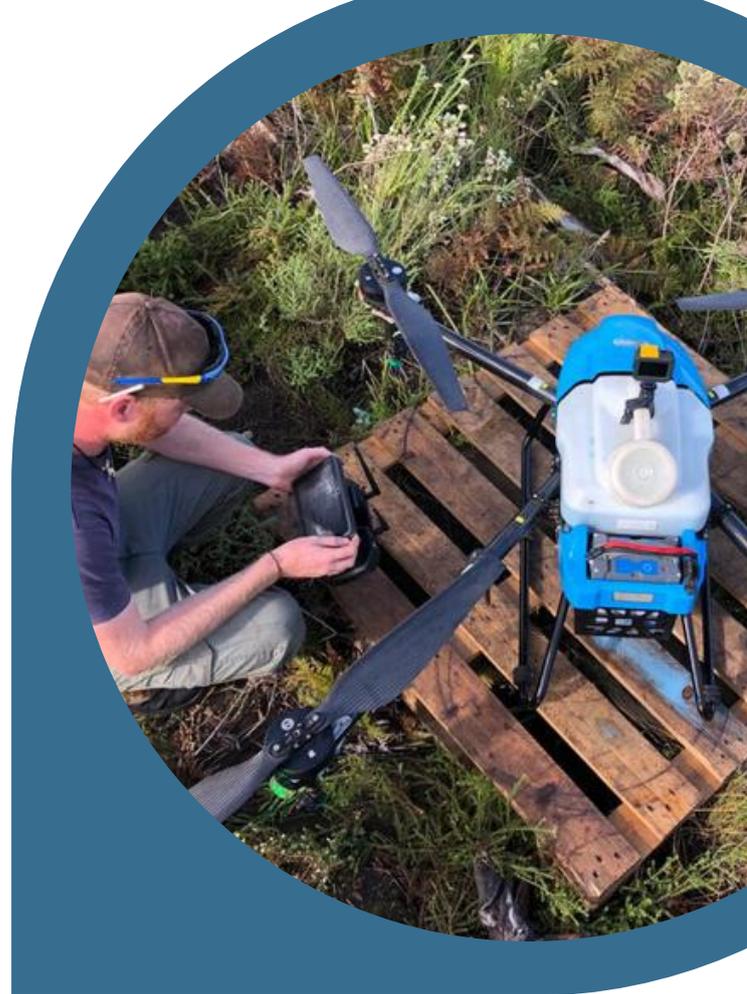
Public service (local governments, national governments, ministerial), land surveying organisations, geomatics and engineering firms (GeoVerra, GHD, Canacre, Stantec, AECOM), ecological consulting firms (Dougan Ecology), local environmental non-profits, organizations that run park or wilderness programming.

“ THE COOLEST THING ABOUT MY JOB IS

By maintaining our internal geodatabase, my role directly supports Canada's international reporting on protected and conserved areas under the UN Convention on Biological Diversity.

ADVICE FROM KATYA

There's lots of ways to incorporate maps, orienteering, and navigation into your daily life! Go geo-caching, make a scavenger hunt, learn to use a hand-held compass – all those skills will develop your geospatial knowledge



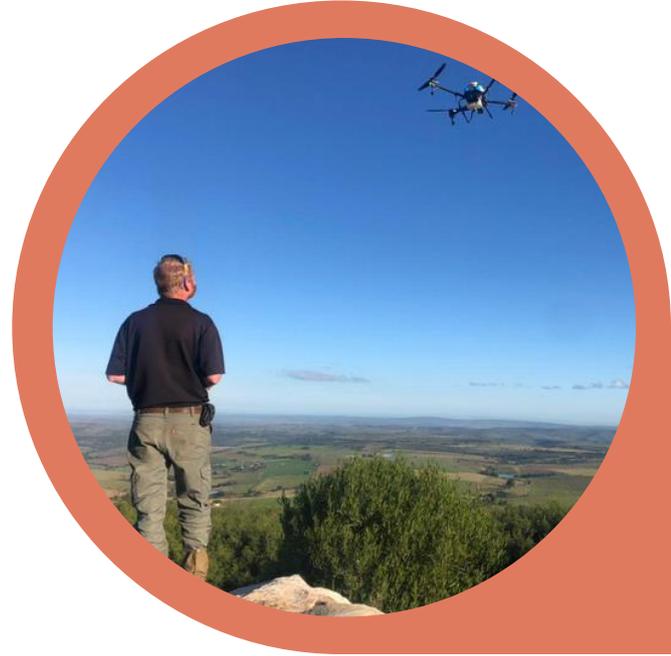
Geoconnected Guardian

Sean Hill GeoWing



Sean

Drone Pilot, GIS analyst, Drone data GIS analysis training



WHAT DOES YOUR ROLE INVOLVE

- Drone piloting specific to data capture for photogrammetry
- Drone surveying for mining and conservation
- Geographic Information Systems (GIS) analysis of drone data for mining and conservation purposes (cut and fill volume analysis of stockpiles and mine pits, monitoring of forests and estuaries etc)
- GIS methodology development for conservation data analysis specific to drone data
- Open source photogrammetry and GIS training for drone pilots, conservationists, farmers and drone service providers globally

MORE ABOUT YOUR ROLE

The fun parts: Mission planning and drone flight execution, generating maps and models and building custom data analysis pipelines for map and model analysis. Providing real world solutions from drone data, optimising workflows through tech and providing a cutting edge solution for conservation and environmental monitoring

The tricky bits: Coming up with the right solution for GIS workflows can be challenging at times but I really enjoy the challenge, keeps the old cerebral gears turning!

Building training courses that provide people with the skills to provide powerful GIS outputs from drone data in highly customisable ways to help with their project specific needs is also part of my day to day. The true power of drones and photogrammetry lies in the data analysis done in GIS.

High resolution maps and models are nice, but the tangible, quantified data that can be used for real work project management is super potent. With regards to conservation applications, drones allow us to watch the earth breath in real time. We can detect subtle changes in the environment very quickly, prior to this technology, we could not do that and often missed the subtleties, often only seeing problems when it is to late.

HOW DID YOU GET WHERE YOU ARE TODAY?

I studied Game Ranch Management at University and went on to manage Big 5 game reserves in South Africa where my role was to manage the veld to ensure the health of wildlife big and small.

This required me to conduct extensive vegetation surveys which took weeks to capture the data, weeks to compile it all and then finally generate reports.

Other tasks included game capture using helicopters, anti-poaching and infrastructure maintenance (no I did not drive around in a jeep with tourists showing them animals at fancy lodges!!).

While living in Australia working on fruit farms during a career sabbatical in 2017, I bought a drone to take pictures of my holiday (a DJI Spark). It was only in 2019 after winning a seat at a drone workshop back in South Africa did I discover the world of drone photogrammetry.

I immediately started thinking about the applications of the technology for conservation. I could not afford the expensive photogrammetry software available so found open-source solutions and so began a massive learning curve.

I taught myself how to capture data correctly for specific projects, how to process the data correctly and the biggest learning curve, how to use open-source GIS properly (I am still learning new things and done think that will ever stop).

I now train people the techniques I have learned and methods I have designed over the years at GeoWing Academy.

SALARY POTENTIAL

Being my own boss, it can vary ;)

GEOWING
ACADEMY



CAREER PROGRESSION

I run my own show and that is immensely satisfying! I am constantly doing my own research into how drones can be used for conservation applications.

I have started my own research project using drones and photogrammetry to understand the Cape Dune Mole Rat habits and home range detections.

Amazing that we can study subterranean creatures using an off the shelf RGB drone and some GIS know how. I am mapping their home ranges by monitoring their surface activity and it is working surprisingly well, there is even the potential to count how many mole rats are in an area.

See the video here <https://youtu.be/4TUFQYVhXvM?si=ahNqLMLZLZlamEA0>

I want to upskill as many people in the use of drones for conservation applications as possible.

WHERE CAN I WORK?

- Government
- Local Government
- Private sector

“ ———THE COOLEST THING ABOUT MY JOB IS

Everything about it, I love flying, problem solving, being in the bush with tech, watching mother nature breath like never before finding new applications for drone and GIS applications in wildlife and training people how to use this incredible technology

If you would like to find out more check out my website, it will have everything you need to know about GeoWing Academy Drone GIS training: www.geowingacademy.com It's designed for young and old :)



Using agriculture drones to control alien invasive vegetation in the Outeniqua Mountains in South Africa.



David

Operations and Technical Director

WHAT DOES YOUR ROLE INVOLVE

- Managing data capture operations
- Quality checking output data (before its sent to clients)
- Health &S Safety/ Risk assessments
- Researching future technologies (hardware and software) to make operation better

MORE ABOUT YOUR ROLE

Day can be varied.

Yes, sometimes lots of Teams meetings with clients, but also drone flying and data processing

Could be using software like ArcGIS Pro or specialist photogrammetry software

HOW DID YOU GET WHERE YOU ARE TODAY?

- Degree
- Interest in technology (including UAVs drones)
- Ability to understand geospatial data

CAREER PROGRESSION

My career has changed lots from being a geography teacher, to schools consultant and author to running a drone and data capture company. Key was the geography part and a keen interest in technology and GIS.

WHERE CAN I WORK?

- ESRI
- Drone companies
- Building survey companies
- Asset management companies

SALARY POTENTIAL

Entry level £20-25,000

Intermediate £35,000+

Expert/ Senior role £60,000

“ — THE COOLEST THING ABOUT MY JOB IS

Spending time outside in some interesting places - like airside at airports near the runway!

ADVICE FROM DAVID

Geospatial data is king and adds value to lots of organisations, but they probably don't understand it or "get it".

— ”



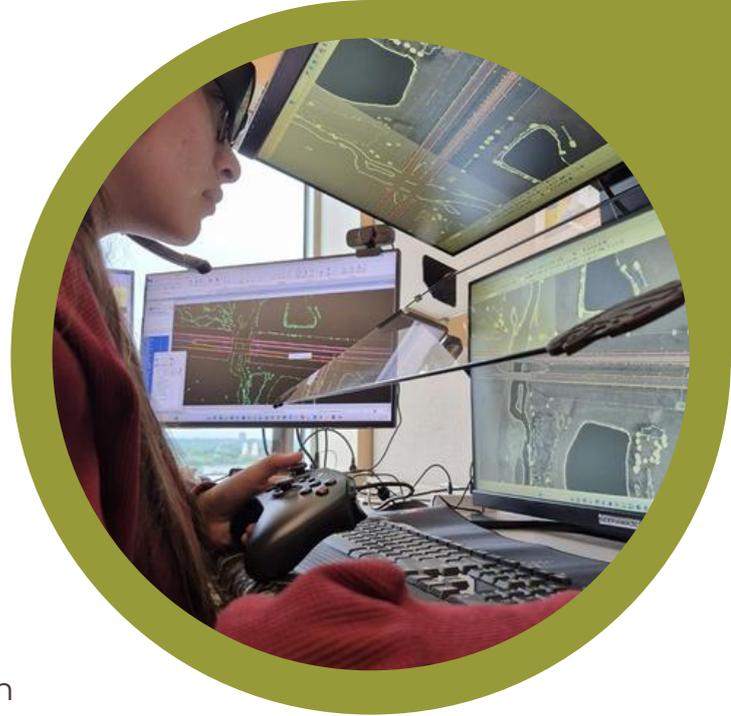


Sandra

Photogrammetric
Technician

Sandra

Photogrammetric Technician



WHAT DOES YOUR ROLE INVOLVE

Focused on geospatial data analysis through photogrammetry and mapping software.

Using advanced tools and multi-monitor workflows, I transform aerial imagery into accurate, usable data for transportation and infrastructure projects.

- Analyzing aerial imagery to create accurate maps and 3D models.
- Processing LiDAR and photogrammetric data for transportation projects.
- Ensuring spatial accuracy to support road design, construction, and safety improvements.
- Collaborating with engineers, surveyors, and GIS specialists to deliver geospatial products for public use.

MORE ABOUT MY ROLE

Day to day, I work with aerial photographs, drones, and LiDAR data to turn images into precise measurements.

My maps and models help engineers design safer, more efficient roads and infrastructure.

A big part of my job is problem-solving — making sure the data is accurate, reliable, and useful for decision-making.

HOW DID YOU GET WHERE YOU ARE TODAY?

- Joining the Phoenix Internship Program in high school, which gave me hands-on experience in STEM and transportation research.
- Pursuing my passion for STEM and geospatial science through continued learning and exploration of mapping technologies.
- Being inspired by mentors and opportunities in the geospatial field, which led me to a full-time role at MnDOT.

CAREER PROGRESSION

From Photogrammetric Technician, I could progress into senior geospatial analyst roles, project management, or even leadership in transportation planning. There are also opportunities to specialize in areas like remote sensing, GIS development, or drone operations.

WHERE CAN I WORK?

- Government agencies (like MnDOT and various other Department of Transportation agencies in the country too)
- Geospatial companies (ESRI, Hexagon, Fugro)
- Local councils and city planning departments
- Engineering and environmental consulting firms

“ — THE COOLEST THING ABOUT MY JOB IS

I get to transform simple aerial photos into powerful 3D models and maps that directly impact people's lives — from safer roads to better city planning. It feels amazing to see the real-world impact of my work on my community.

SANDRA SHARES

I'm also passionate about inspiring the next generation of women in STEM. As a Latina in the geospatial field, I want young students to see that people like them belong in this industry.

My identical twin sister also works in geospatial, which makes the journey even more special — it's proof that representation matters, and you really can turn your curiosity into a career.

SALARY POTENTIAL

Salaries for photogrammetric technicians in the UK vary based on experience, location, and the specific industry.

Entry-Level £29,000 – £33,000

Mid-Level £40,000 – £50,000

Senior-Level £56,000 – £65,000



Jeff

Director



WHAT DOES YOUR ROLE INVOLVE

- Interacting with clients to demonstrate the potential use of drones and how Field Tech Survey can help to enhance their projects.
- Providing ongoing training for employees to ensure they are informed about the latest legislation and regulations.
- Overseeing project operations, as it's my responsibility to take full accountability for all projects we undertake.
- Approving the design data for Field Tech Survey.

MORE ABOUT MY ROLE

Week by week, I coordinate my colleagues based on priorities to ensure we meet client deadlines.

I collaborate with my team on deliverables, such as producing surveys and spatial information, my role is to guarantee their work is precise and aligns with client expectations.

I participate in meetings with stakeholders, clients, and project designers responsible for Construction Design and Management. My goal is to provide effective solutions.

The most enjoyable aspects involve getting on-site with drones and designing practical, buildable solutions for clients. I showcase these using Orthomosaics, images captured by drones that are stitched together to create detailed maps. It feels like being an architect overseeing the construction of my design, but it happens much more frequently!

HOW DID YOU GET WHERE YOU ARE TODAY?

My background is in construction, and I'm still active in the sector.

- I first started using a DJI Mini drone as a hobby and quickly saw the benefits of using photos and videos to show contractors where excavations should take place.
- Creating a video of an entire linear project made it easy to pause at the point of interest, take a screenshot, drop it into Paint, and add a quick note to highlight what was needed.
- From there, I moved on to a DJI M30T (which has a thermal sensor), mainly for its weather capabilities and it helped with my initial lack of understanding about mapping. Despite that, it became a vital tool for pre- and post-construction inspections.
- It also proved invaluable during crisis events with Scottish and Southern Electricity Networks in the storms of 2025-2026, allowing us to fly over overhead lines, pinpoint damage on maps, and help fault teams plan access, routes, equipment, and replacements—speeding up repairs and restoring electricity sooner.
- Later, I transitioned to the DJI M350RTK with P1 (Photogrammetry) and L2 (Lidar), and through collaboration with Matt Carr, a colleague, who was then teaching at Newcastle University. His extensive GIS knowledge was a huge asset, and he has since joined the FTS team full-time.

CAREER PROGRESSION

As a company, we aim to achieve ISO accreditation, establishing ourselves as a responsible supplier that meets our clients' expectations.

Additionally, as business owner I will invest in the development of my employees through training courses and enhancing their skills.

My ambition is to expand our client base; currently, we are focused on SSE (a Scottish Energy company) and the electricity sector, but we also seek to engage with organizations such as the Forestry Commission, police departments, and estates.

WHERE CAN I WORK?

Field Tech Survey! 😊

“

THE COOLEST THING ABOUT MY JOB IS

Having contractors pull onto the site with our Field Tech Survey drawings and orthomosaics ready to discuss the project.

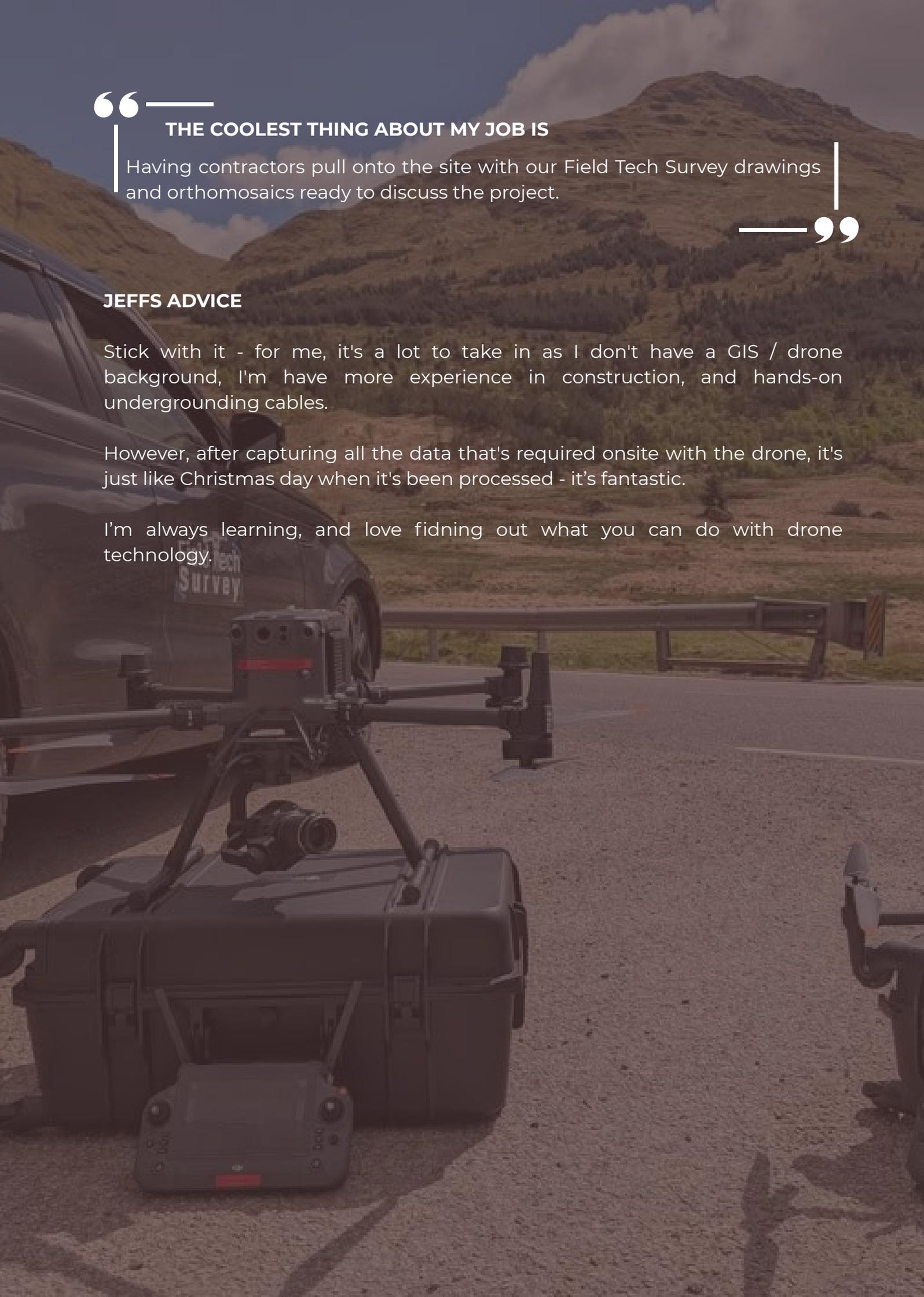
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JEFFS ADVICE

Stick with it - for me, it's a lot to take in as I don't have a GIS / drone background, I'm have more experience in construction, and hands-on undergrounding cables.

However, after capturing all the data that's required onsite with the drone, it's just like Christmas day when it's been processed - it's fantastic.

I'm always learning, and love fidning out what you can do with drone technology.



This section is all about you,
what does your future journey
look like?



It's ok not to know, sometimes you just need time
to work it all out.

“*The best way to predict your future is to create it.*”
Abraham Lincoln

My career profile

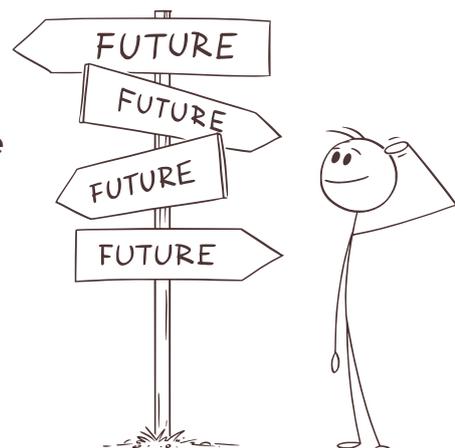
What does your future look like? Here's a few questions to help you to visualise what your future might look like based on your preferences now.

- Are you an outdoors type?
- Do you want to work outside, or inside - lab or office based?
- Perhaps you would like a mix of the two?
- Do you enjoy studying, or are you keen to get started on your new career?
- Do you have subjects or roles in mind to study or work in, but can't decide which one is the right one?
- Create a list, and then weigh up the pros and cons, include:
 - potential job prospects - what can you do at the end of your studying
 - proximity to friends and family
 - proximity to an area you enjoy visiting
 - does it have access to travel
 - access to extra-curricular clubs you enjoy, like sport or music
 - what does it cost to live there
 - can you get funding for the course, or is it paid apprenticeship
- Location, location, location!
 - Include where you would like to study, or work - there's no point moving somewhere in the UK or overseas, to study or train if you don't like the area.
- Think about where you would like to be in 5 years' time, you will be _____ yrs old. Did you go to Uni or decide on an apprenticeship?
- What do you want that to look like? Try to visualise your future self.

Try to build up a picture of your future self, who you want to be, and make sure to include what's important to you.

Then you can work out how to get there.

If you don't know where you want to go, you can't plan the route!



Take note.....

Write down your thoughts and ideas here.

Find Your Ikigai

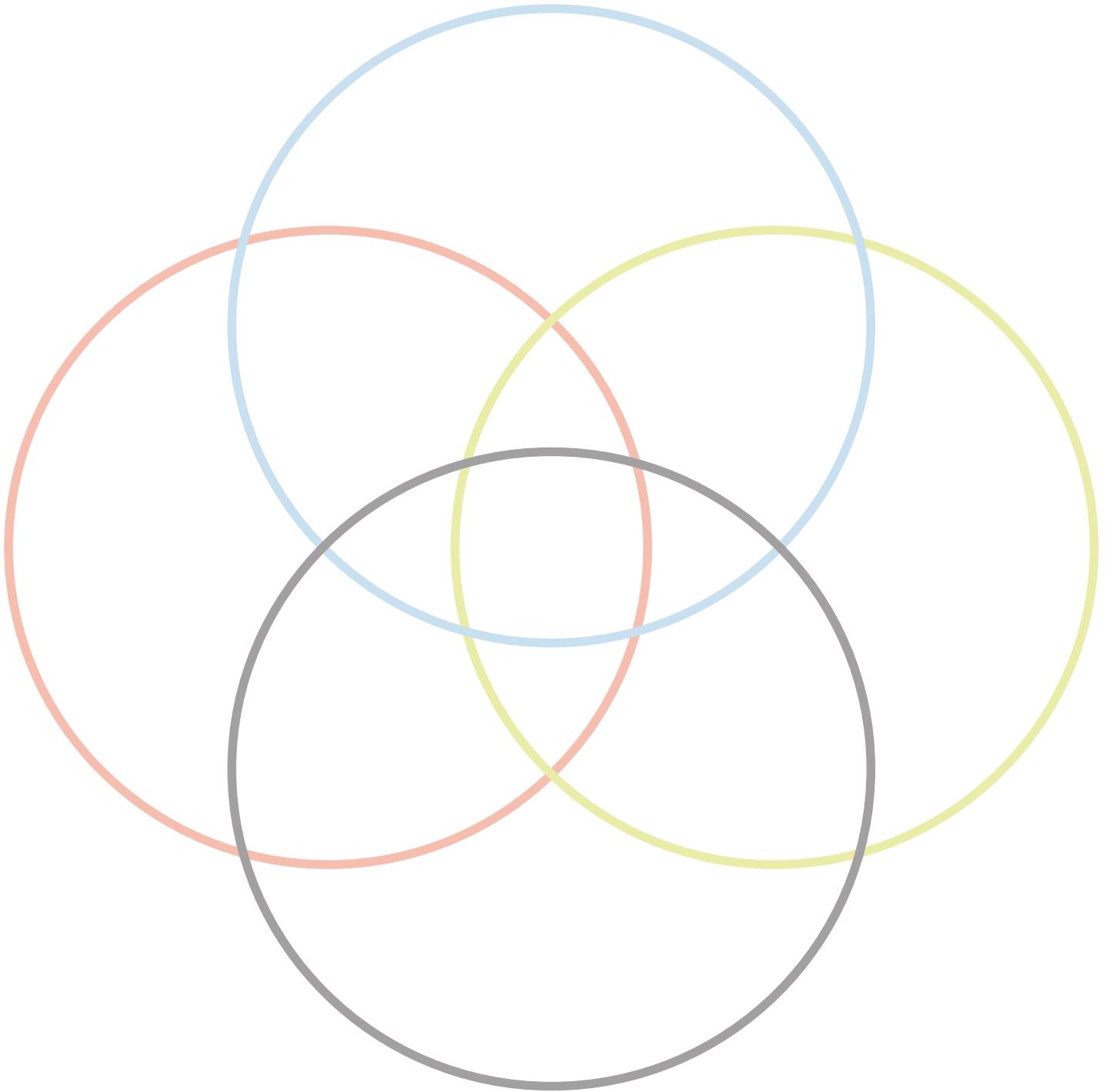
Ever heard of Ikigai? It's a Japanese idea that helps you find the sweet spot where what you love, what you're good at, what the world needs, and what you can be paid for all come together.

Make a cuppa and take some time to think about each area of Ikigai, now flip the page and create your own.



Activity

Now create your own Ikigai! Think about your skills, passions, and what the world needs — then see where they intersect. Your career path can be unique — just like you!



Resources to explore

The Royal Geographical Society

<https://www.rgs.org/choose-geography>

United Nations Map Learning Hub

<https://mappers.un.org/learning/index.php?>

National Centre for Earth Observation

<https://www.nceo.ac.uk/training/open-access-courses/>

Humanitarian Open Street Map Team

<https://learning.hotosm.org/courses>

What's Next?

<https://www.whatcareerlive.co.uk/>

Civil Aviation Authority

<https://careers.caa.co.uk/go/Career-Programmes/3745001/>

Women in Geospatial

<https://womeningeospatial.org/>



geoconnected

LET'S GO EXPLORING

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