

Weather data scientist

A weather data scientist develops and evaluates analytical methods for forecast information. This is different from issuing an operational aviation forecast, and it is not necessarily airport employment. The primary historical example combines weather-forecast verification with IT support; the undergraduate land-modelling placement is a supporting comparison only, not evidence of an aviation-assigned post.

Other titles to compare: Meteorological data scientist, Environmental machine-learning scientist. Titles alone do not establish equivalent duties.

What the role does

- Evaluate forecast data and model performance.
- Check analytical assumptions and limitations.
- Collaborate with scientists and software specialists.
- Document results so others can understand and reproduce the work.

Where the work happens

Research, forecasting-support and computing teams. The examples are UK posts: an archived combined IT/forecast-data role and a closed undergraduate placement.

Supporting employer context

Met Office • United Kingdom • Machine Learning Data Scientist for Land Modelling Industrial Placement 2026

Closed vacancy historical example • Checked 2026-10-27 [EMP1]

Category	What this employer states
Essential in this source	Undergraduate STEM study, scientific programming and understanding of machine learning or computational methods. Problem-solving, willingness to learn environmental applications and clear teamwork/communication.
Desirable in this source	Python is described as ideal within the programming criterion, not mandatory.
Other stated conditions	Fixed-term undergraduate placement; UK work eligibility and security conditions are also stated.

Supporting environmental-model example only; it does not meet this project's aviation/weather-forecast role gate.

Employer example 2

Weatherquest • United Kingdom • IT Engineer and Data Scientist - summer 2020

Archived source historical example • Checked 2026-10-27 [EMP2]

Category	What this employer states
Essential in this source	Computing degree or equivalent experience; Linux, Python/Bash and scientific-software capability. Scientific data-format knowledge, communication, deadline management and out-of-hours cover.
Desirable in this source	GIS, numerical-weather-model experimentation and web development.
Other stated conditions	UK work eligibility; historical summer-2020 recruitment, not current hiring.

Specific weather-forecast data role, not specifically assigned to an airport or aviation customer. Archived historical requirement example only.

PREPARE AND VERIFY

Separate requirements from preparation

Occupational guidance, not a licensing rule: BLS describes typical data-science education. It does not establish a personal aviation licence. An employer assigning operational forecasting duties would need to check those duties' separate qualification and competence requirements. [REG1]

Two UK employer examples with different scopes: The Weatherquest role combines forecast-data work with IT support. The Met Office example is undergraduate land modelling. Neither establishes a universal degree requirement or authority to issue aviation forecasts. [EMP1, EMP2]

Still to verify: The specific forecast-data example is historical (2020), not a current vacancy and not explicitly aviation-assigned. A current primary aviation-weather data-science employer example remains a gap. A current SkySight aviation-weather advert on EGU lacks verified employer-site linkage and is not counted.

Explore a realistic entry route

- Build foundations in statistics, programming and scientific reasoning. Compare study routes by the opportunities to validate results and explain assumptions, not only by the software packages taught.
- Decide whether research methods, data engineering, model evaluation or decision-support products interest you. Read the duties: a title alone will not show how the work is divided.
- Compare combined IT/data roles, industrial placements and research posts separately. A job may include routine service support as well as analysis; check the duty split rather than assuming every data-science position is exclusively machine-learning research.
- Check dataset permissions and provenance. Historical data can support a learning portfolio, but an experimental model is not an approved aviation weather service.

Build evidence of your skills

- Create a reproducible notebook using an openly licensed historical or synthetic dataset. Include a data dictionary, missing-value checks and a clearly stated question. Keep the exercise separate from live aviation decisions.
- Compare a simple baseline with a more complicated method. Explain what improved, what did not and how you avoided judging performance on the same data used to fit the method. An honest limitation is stronger evidence than an unsupported accuracy claim.
- Write a short non-technical summary of your project. Distinguish a statistical relationship from a causal claim and identify who should review the result before anyone uses it in a consequential setting.
- Keep an honest contribution log for collaborative or AI-assisted work; identify what you understand and can explain.

Prepare for an interview

Reflection prompts only, not questions claimed to be used by an employer.

- Prepare a genuine example of discovering a data-quality problem or revising a conclusion after testing it. Explain your reasoning in language suitable for both a scientist and a non-specialist.
- Ask about mentoring, code review, model evaluation and the boundary between research and operational products. Clarify whether meteorological domain training is provided and whether the post includes forecasting responsibilities.

Investigate possible next roles

Possible directions include scientific software, model verification, research, data engineering or environmental analytics. Operational forecasting is a distinct competence pathway and should not be assumed from a data-science title.

Sources and scope

[EMP1] [Met Office Machine Learning Data Scientist for Land Modelling Industrial Placement 2026](#)

Closed vacancy historical example. United Kingdom. Checked 2026-10-27.

[EMP2] [Weatherquest IT Engineer and Data Scientist - summer 2020](#)

Archived source historical example. United Kingdom. Checked 2026-10-27.

[REG1] [US Bureau of Labor Statistics Data Scientists - Occupational Outlook Handbook](#)

Broad occupational guidance on data analysis and typical educational preparation. Not a UK hiring rule, aviation licence or guarantee of a particular qualification being accepted. Checked 2026-10-27.

Educational requirements guide, not operational instructions, professional approval or an employment guarantee. Verify current requirements with the relevant authority and employer. Examples are selective and date-specific. Check the full current vacancy and competent authority before choosing paid training or assessing eligibility. No personal medical, nationality or immigration assessment is made here. No job guarantee.