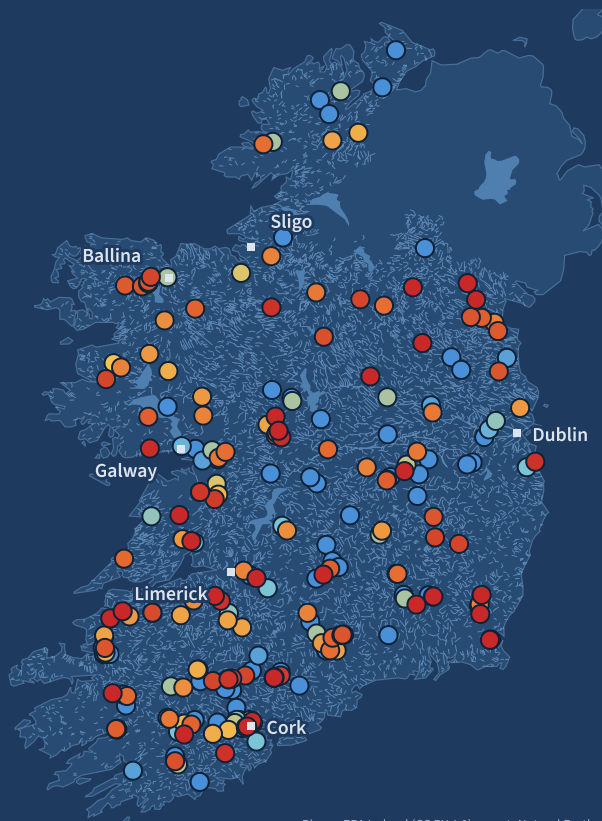


Know the evening before which rivers will pass 20 °C

Tomorrow's maximum water temperature, and the next three days, on the OPW stations that transmit. For the Warm Water Protocol, river by river.



Rivers: EPA Ireland (CC BY 4.0) · coast: Natural Earth

Days with the water at or above 20 °C, June to mid-September 2026, as measured by the OPW probes at 232 of the stations used in our validation.



0.38 °C

median error on tomorrow's maximum water temperature

8 in 10

days at or above 20 °C announced the evening before

251

OPW stations, summers 2025-2026, with the weather forecast actually issued

Tomorrow’s maximum, corrected every evening by the probe

Under the Warm Water Protocol, salmonid angling stops when the water reaches 20 °C, and precautions start at 18 °C. Closures have already been needed on the Moy, at Galway and on the Corrib. Deciding them means knowing, the day before, which rivers will get there.

ThermoFluvia models river water temperature with a neural network trained on 655 French probes, then fine-tuned on Irish OPW probes. For each station it is calibrated on the station’s own past summers. Every evening it takes the weather forecast for the next three days and corrects itself with the maximum the probe has just measured. The result is the expected daily maximum for tomorrow, the day after and the third day.



Error on the daily maximum (°C)	Tomorrow	Day 2	Day 3
ThermoFluvia	0.38	0.49	0.56
Taking today’s value for the next days	0.57	0.86	1.07

Median error across 251 OPW stations, summers 2025-2026 (1 June to 15 September), with the weather forecast actually issued each evening (GFS), on summers the model never saw.

8 in 10

days at or above 20 °C are announced the evening before (80 %), with fewer than one false alert in six (15 %).

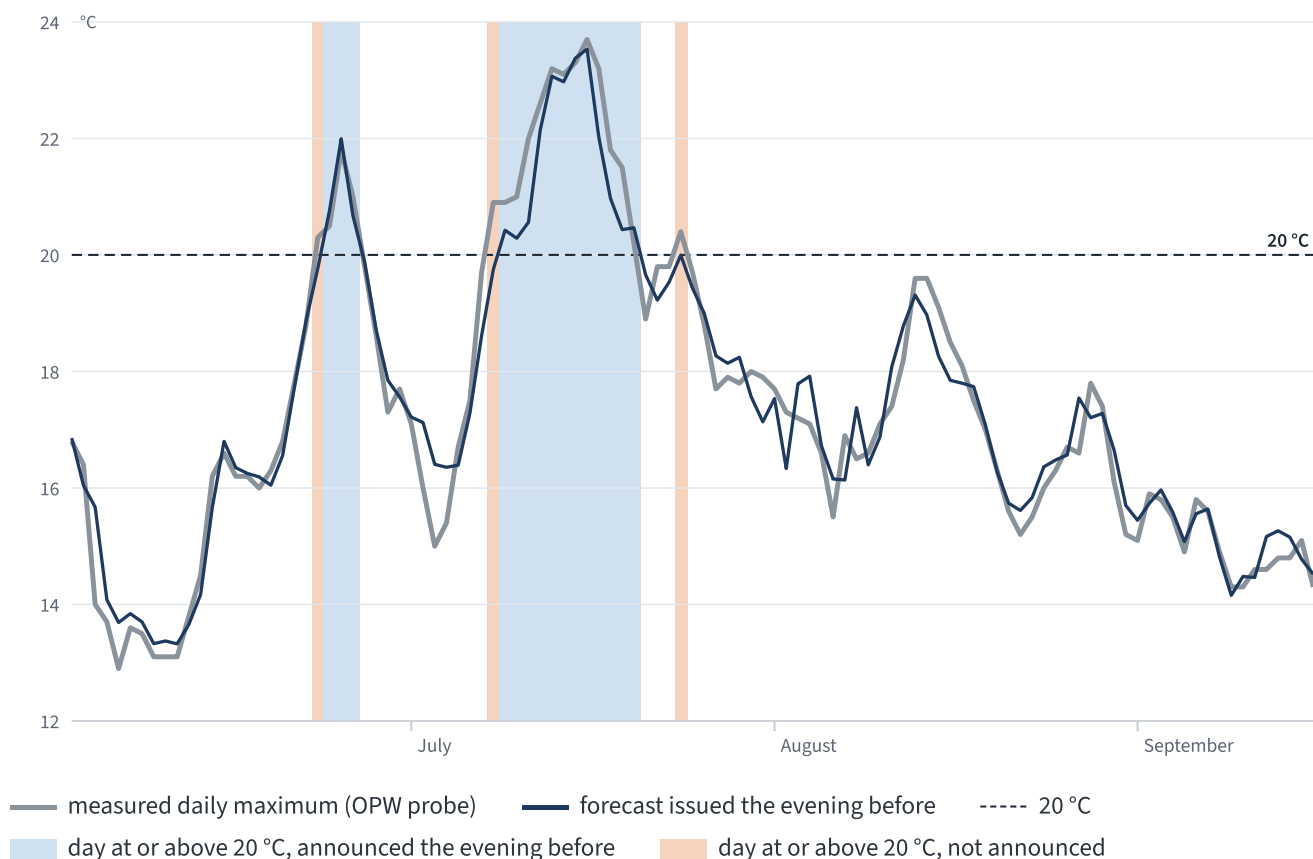
0.46 °C

error on the hottest days of each station (its warmest tenth), forecast the evening before.

The forecasts can be published for anglers and for fishery managers, station by station, as soon as the probe has reported.

The Moy at Cloonacannana, summer 2026

Each evening of summer 2026 we issued the forecast for the next day, as the service does. The grey line is the maximum the OPW probe then measured, the dark line the forecast made the evening before. The station was chosen by a rule written before any curve was drawn: a salmon river, an error close to the median of the 251 stations, and the test summer with the most days above 20 °C.



15 of 18

days above 20 °C were announced the evening before, with no false alert. Average error over the summer: 0.42 °C, against 0.38 °C for the median station.

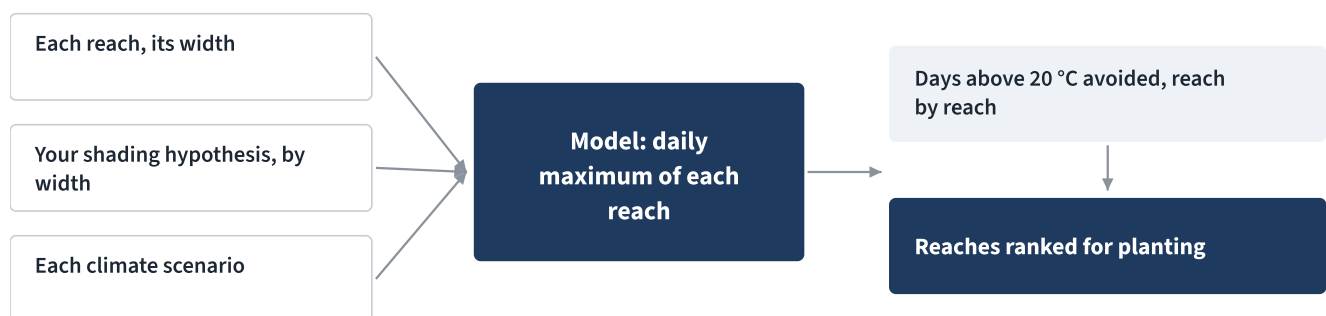
Projections and planting

Days above 20 °C by 2050 and 2100

Using weather alone, with no measurement on the river, our model counted **4,895 days** above 20 °C across 253 OPW stations over summers 2025 and 2026, for **4,852 days** actually measured: 0.9 % apart. Applied to climate pathways, it gives river by river the number of days above thresholds expected by 2050 and 2100 under each scenario.

Where shade will matter most

Ireland is lightly wooded and many of its rivers have no shade. Planting takes years to pay off, so it should go where it will remove the most days above 20 °C. ThermoFluvia ranks reaches by the number of days above 20 °C that shade would avoid, under each climate scenario and for a shading effect that you choose. That effect depends on the width of the stream and is applied to the daily maximum: you set it from your own measurements or from the literature, and the ranking follows.



The ranking is a method, not a promise of effect: its result depends on the hypothesis you set, and it can be rerun with another.

Where there is no OPW probe. A few spot readings are enough to calibrate the model on a site: with six summer readings, the hourly summer temperature is reconstructed at 0.65 °C (median error on 253 OPW probes, readings simulated from the probes).

Your probe records, checked and completed

Gaps filled. A three-week gap in a summer record is filled to within 0.5 °C at any hour, against 1.0 °C when joining the two ends of the gap (median, 253 OPW stations, gaps simulated in summer records).

Records checked. Sudden offsets of 3 °C or more are flagged in 95 to 100 % of cases, usually the same day, with about one false alarm every two summer files. A logger left out of the water for three days is flagged in 95 % of cases. Slow drift and silting are not detected: a thermometer reading at each visit remains necessary.

Run on 2,191 OPW summer files, the check raises points to review on about half of them; a tenth of the stations carry over a third of these points, often summers where the logger swings with the air temperature, a possible sign of shallow or exposed placement.

Method and limits

- **Validation.** Every figure in this document was measured on summers 2025 and 2026, which the model never saw. For each station, the network was fine-tuned on OPW probes of other catchments, the station was calibrated on its own earlier summers only, and the evening correction was learned on other stations.
- **Two summers.** The test covers two summers, one of them hot. Around 4,800 station-days at or above 20 °C support the threshold figures.
- **The OPW probes are the judge.** Their data are provisional and the probes sit in stilling wells. No independent thermometer was used in Ireland.
- **Simulated readings.** The reconstruction with six readings uses readings drawn from the probes, with measurement noise, not field readings.
- **Lakes.** Stations under the influence of a lake are less well served. Stations directly below the large lakes were left out of the test.
- **Daily forecasts, not probabilities.** We give the expected daily maximum and the days announced above 20 °C; we do not display a day-by-day probability of exceeding 20 °C.

Who we are

ThermoFluvia is a service of Fishing Booking, a fishing booking platform. In 2026, its pilot year, it was used by the angling federations of the Var and the Rhône in France.

ThermoFluvia is also offered in France, to river syndicates and angling federations: thermofluvia.fr

Book a demonstration

On your own stations, with summer 2026 forecast day by day, and the reaches of a catchment ranked for planting.

contact@thermofluvia.fr

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