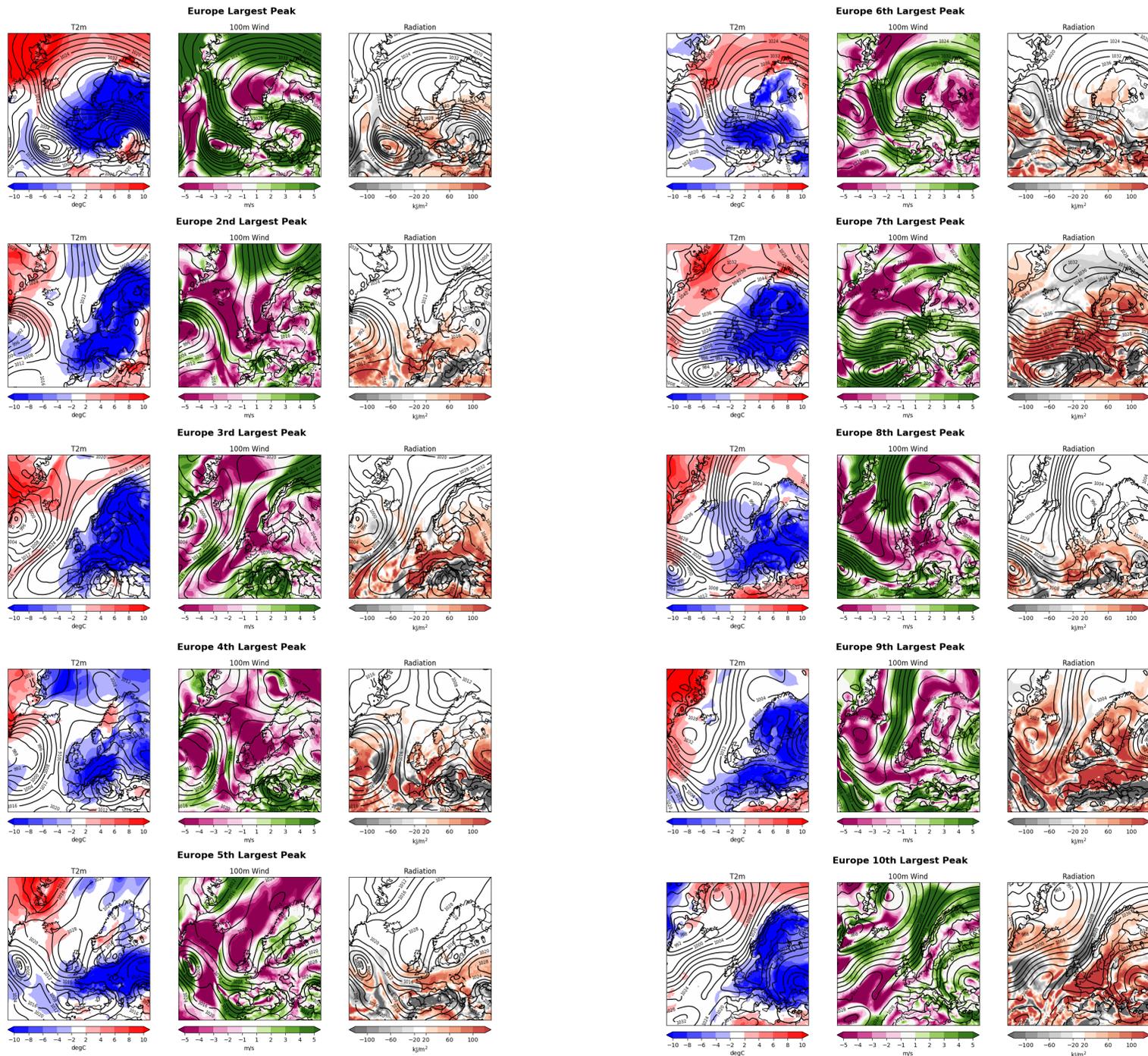
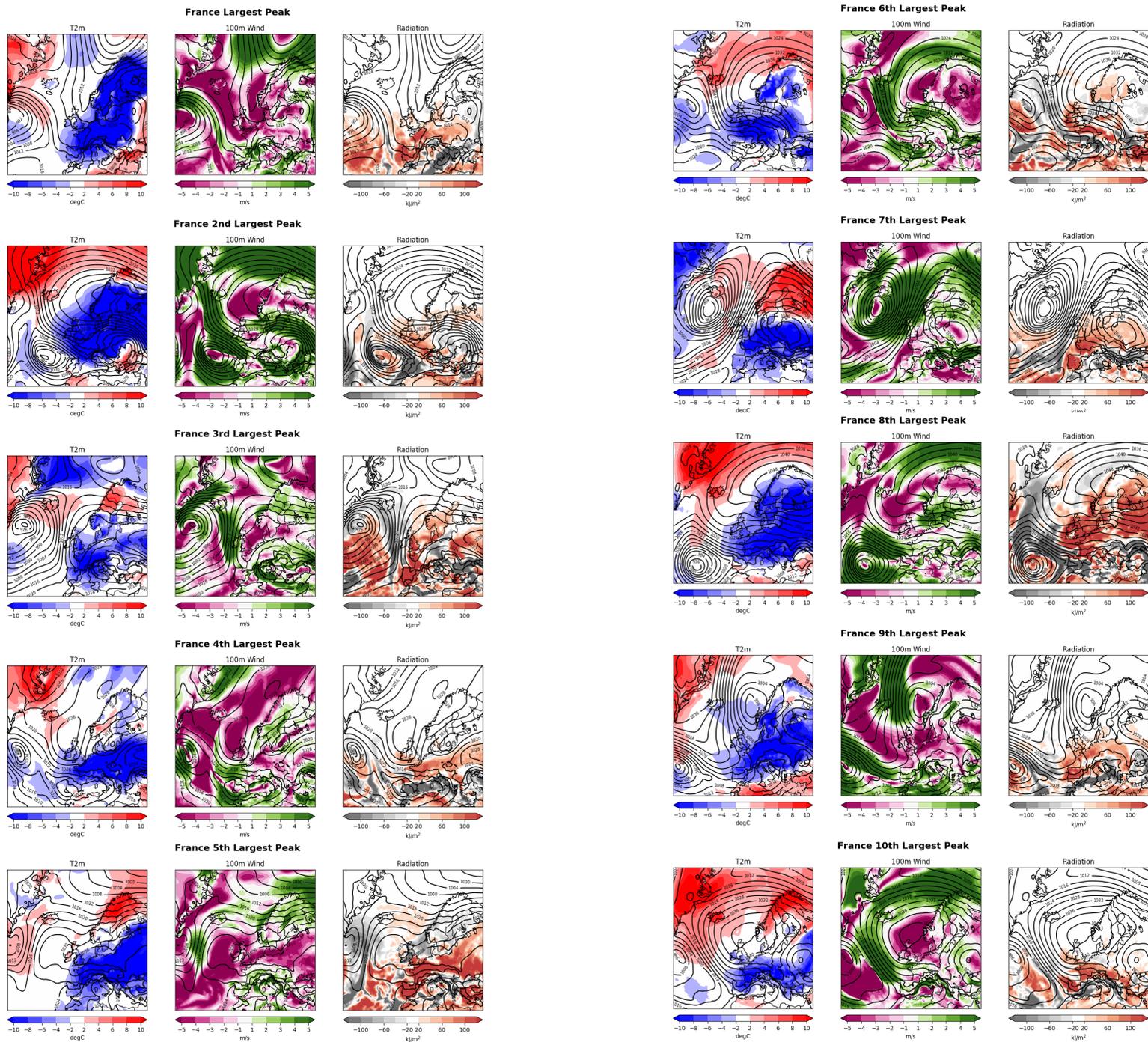


| Europe | | France | | Germany | | UK | | Italy | | Spain | | Sweden | | Romania | |
|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|-------------------|-----------------|------------------|-----------------|------------------|
| Demand | DNR | Demand | DNR | Demand | DNR |
| 12 Jan87 | 8 Jan 85 | 8 Jan 85 | 16 Jan 85 | 13 Jan87 | 7 Jan 95 | 12 Jan87 | 27 Dec 95 | 4 Aug17 | 4 Aug 17 | 10 Aug12 | 15 Feb 83 | 10 Jan87 | 7 Jan 87 | 13 Jan85 | 13 Jan 85 |
| 8 Jan 85 | 2 Jan 97 | 12 Jan87 | 12 Jan 87 | 7 Jan 85 | 20 Jan 87 | 10 Jan82 | 20 Dec 10 | 21 Jul15 | 21 Jul 15 | 20 Jul95 | 9 Jan 09 | 9 Feb85 | 8 Feb 85 | 24 Jan06 | 14 Jan 80 |
| 3 Feb12 | 17 Jan 87 | 10 Feb86 | 10 Feb 86 | 1 Jan 97 | 19 Jan 85 | 28 Dec95 | 10 Dec 81 | 27 Jul83 | 27 Jul 83 | 4 Aug03 | 2 Jan 89 | 28 Jan99 | 28 Jan 99 | 31 Jan87 | 31 Jan 87 |
| 9 Feb86 | 9 Feb 86 | 29 Dec96 | 29 Dec 96 | 6 Feb12 | 1 Jan 90 | 20 Dec10 | 21 Feb 86 | 13 Aug03 | 13 Aug03 | 7 Jul 15 | 12 Jan 85 | 4 Feb12 | 4 Feb 12 | 25 Jan10 | 26 Dec 02 |
| 29 Dec96 | 4 Feb 12 | 11 Feb12 | 11 Feb 12 | 9 Feb86 | 14 Dec 87 | 8 Jan 10 | 8 Jan 10 | 29 Jul05 | 29 Jul 05 | 4 Aug17 | (10 Aug12) | 5 Jan 03 | 14 Dec 89 | 2 Feb12 | 8 Jan 15 |
| 7 Feb91 | 30 Dec 92 | 7 Feb91 | 3 Jan 93 | 19 Dec09 | 6 Jan 97 | 28 Feb18 | 23 Nov93 | 28 Jul13 | 28 Jul 13 | 17 Jun17 | 11 Jan 92 | 9 Feb80 | 4 Jan 03 | 28 Dec96 | 26 Jan 10 |
| 28 Feb18 | 7 Jan 10 | 3 Jan 93 | 7 Feb 91 | 6 Feb91 | 20 Dec 07 | 29 Dec85 | 31 Dec 08 | 16 Jul10 | 16 Jul 10 | 24 Jul04 | 8 Dec 13 | 14 Dec89 | 9 Feb 80 | 1 Feb91 | 20 Jan 16 |
| 19 Dec09 | 12 Dec 12 | 27 Feb18 | 19 Dec 09 | 9 Jan 03 | 4 Feb 12 | 12 Feb85 | 31 Jan 87 | 9 Aug99 | 22 Aug12 | 20 Aug11 | 15 Jan 03 | 20 Dec81 | 6 Jan 16 | 14 Jan80 | 28 Feb 86 |
| 1 Mar05 | 21 Feb 81 | 19 Dec09 | 12 Jan 03 | 10 Jan82 | 8 Jan 03 | 2 Jan 80 | 12 Jan 82 | 22 Aug11 | 1 Jul 12 | 27 Jun12 | 15 Jan 91 | 7 Jan 16 | 5 Jan 81 | 19 Feb85 | 25 Dec 98 |
| 19 Feb85 | 29 Jan 98 | 15 Dec01 | 7 Jan 09 | 13 Feb85 | 19 Dec 09 | 22 Feb86 | 30 Dec 03 | 22 Aug12 | 19 Jul 07 | 10 Jul06 | 22 Dec 90 | 31 Dec01 | 26 Jan 84 | 26 Dec02 | 10 Feb 05 |
| | | | | | | | | | | | (1 Jan 84) | | | | |

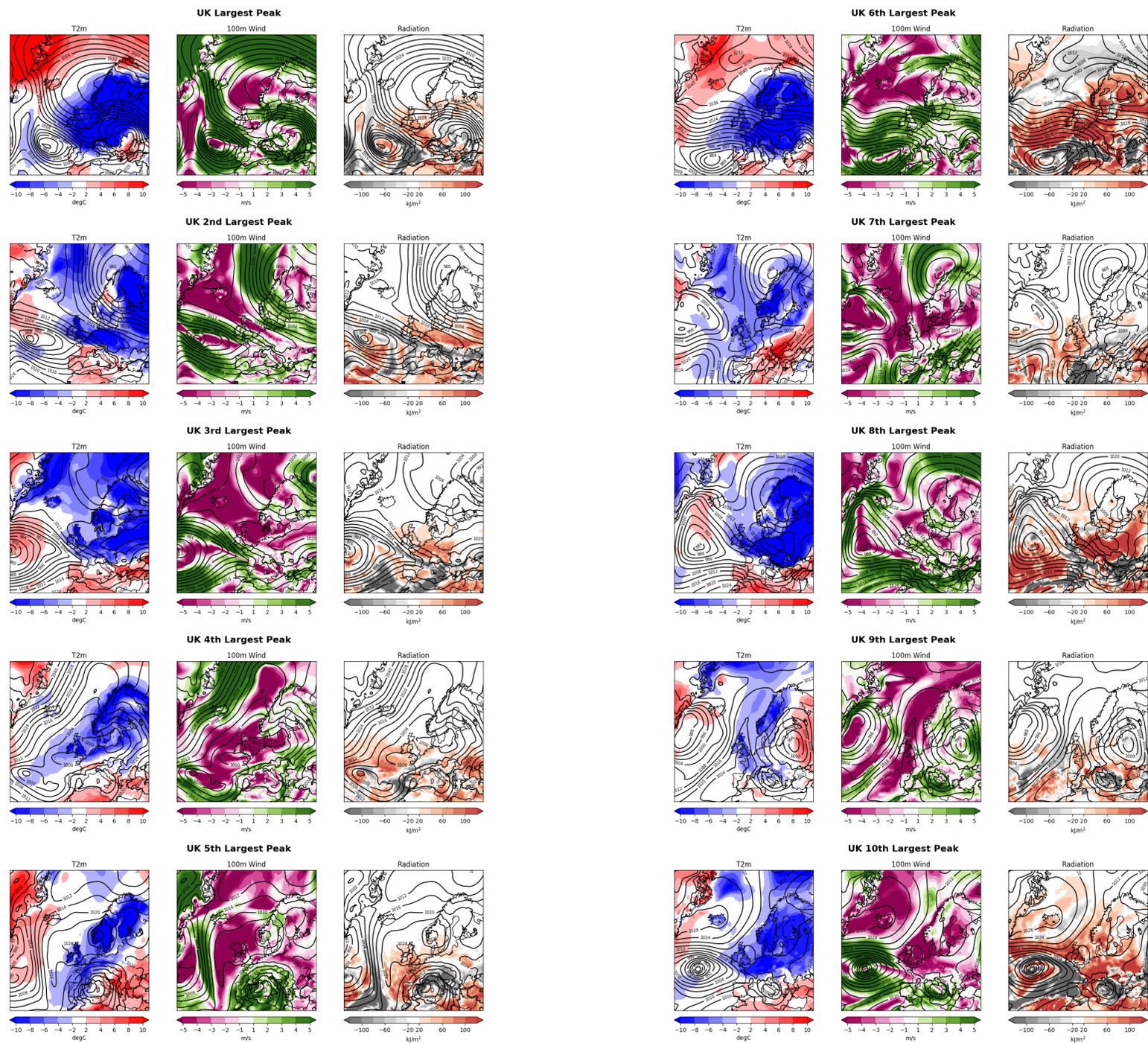
Table S1: Details of the peak demand events for Europe and six case study countries, chosen for their geographical diversity. Bold events are when demand peak and peak demand-net-renewables (DNR) occur during the same meteorological event. Red events are when peak demand and peak DNR occur on exactly the same day.



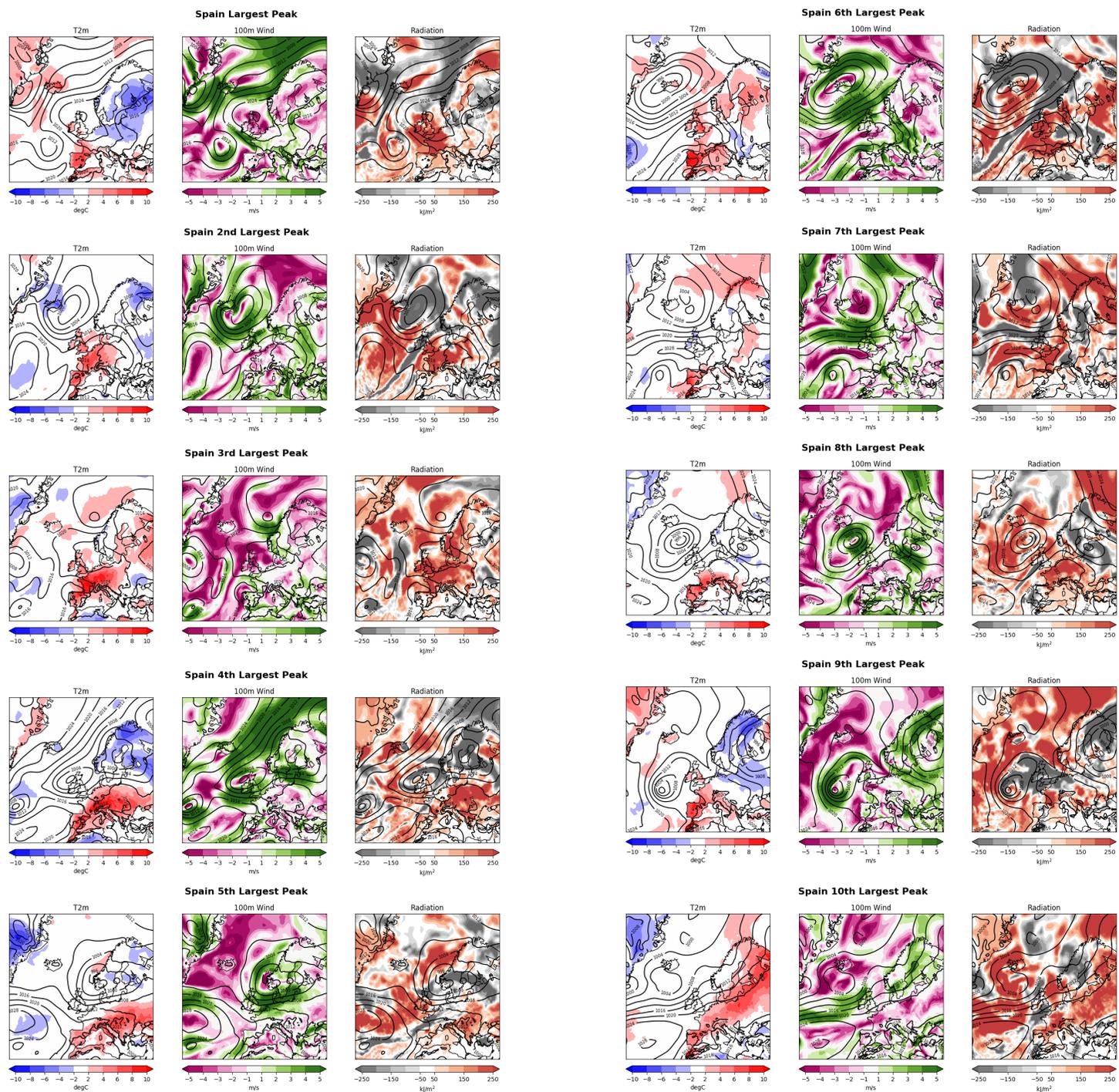
Supplementary Figure 1: Meteorological anomalies during the top 10 European peak demand events (dates given in Supplementary Table 1). Subplots show (left) 2m temperature (middle) 100m wind speed (right) surface solar radiation.



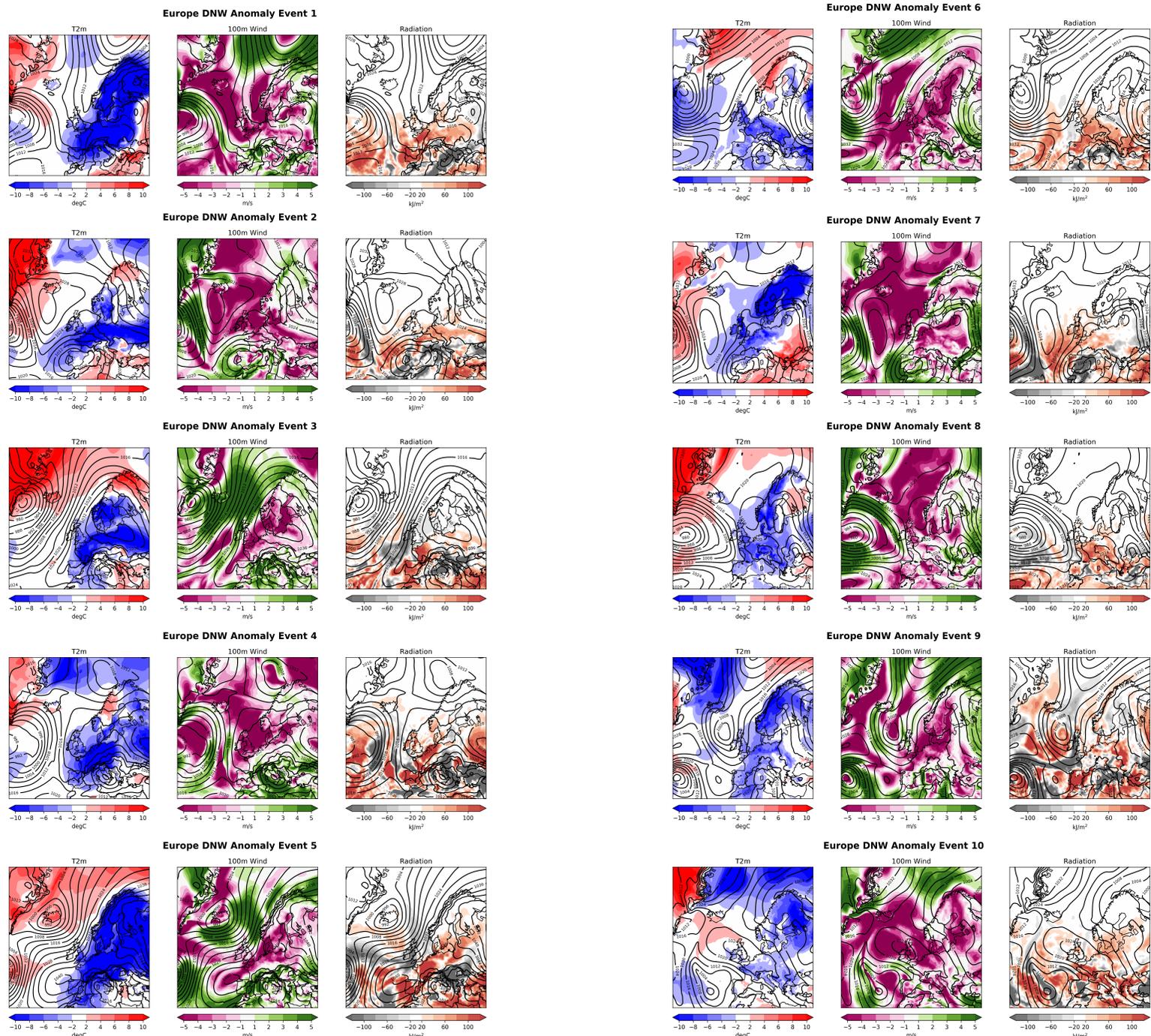
Supplementary Figure 2: Meteorological anomalies during the top 10 peak demand events for France (dates given in Supplementary Table 1. Subplots show (left) 2m temperature (middle) 100m wind speed (right) surface solar radiation.



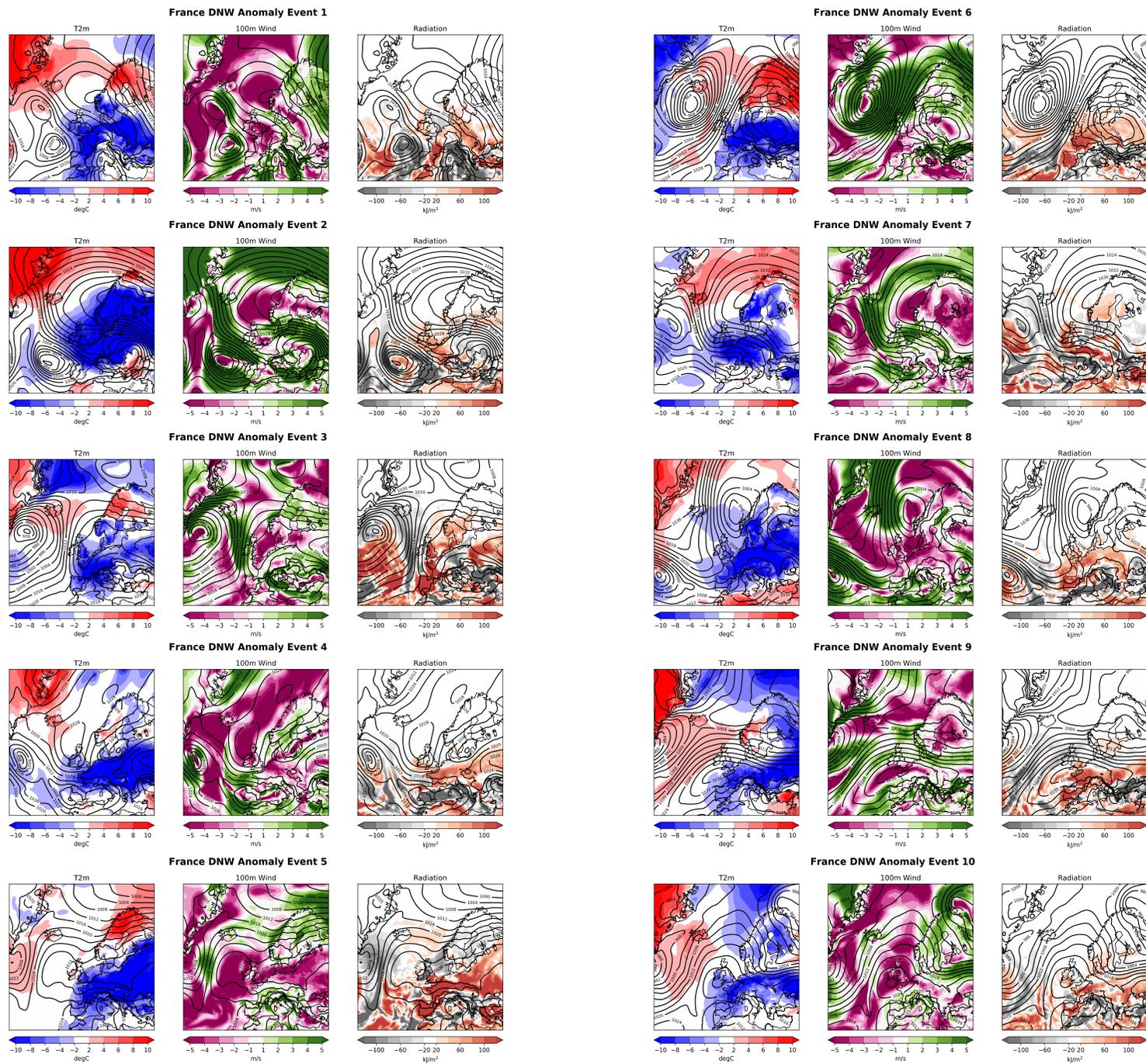
Supplementary Figure 3: Meteorological anomalies during the top 10 peak demand events for the United Kingdom (dates given in Supplementary Table 1. Subplots show (left) 2m temperature (middle) 100m wind speed (right) surface solar radiation.



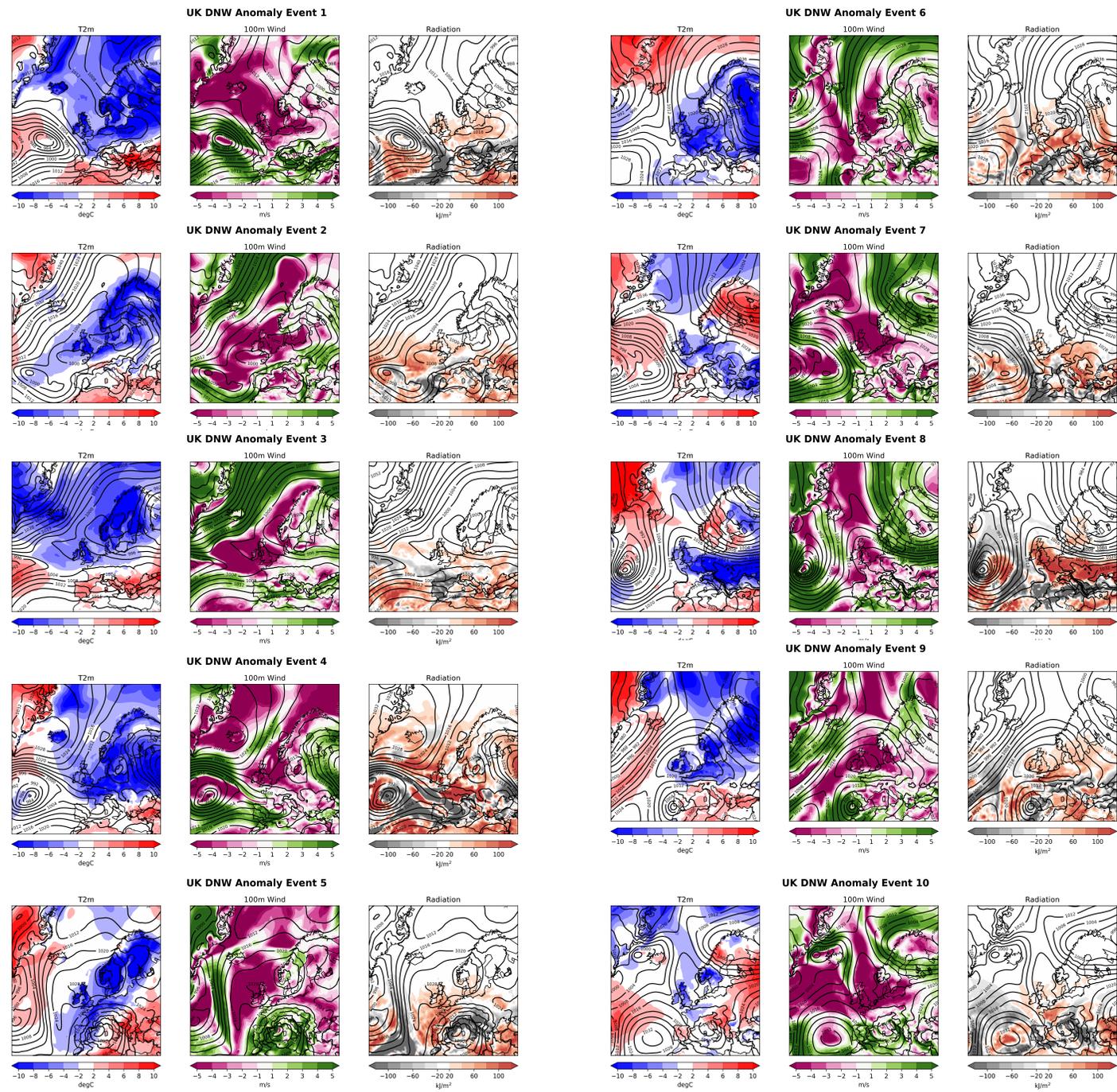
Supplementary Figure 4: Meteorological anomalies during the top 10 peak demand events for Spain (dates given in Supplementary Table 1). Subplots show (left) 2m temperature (middle) 100m wind speed (right) surface solar radiation.



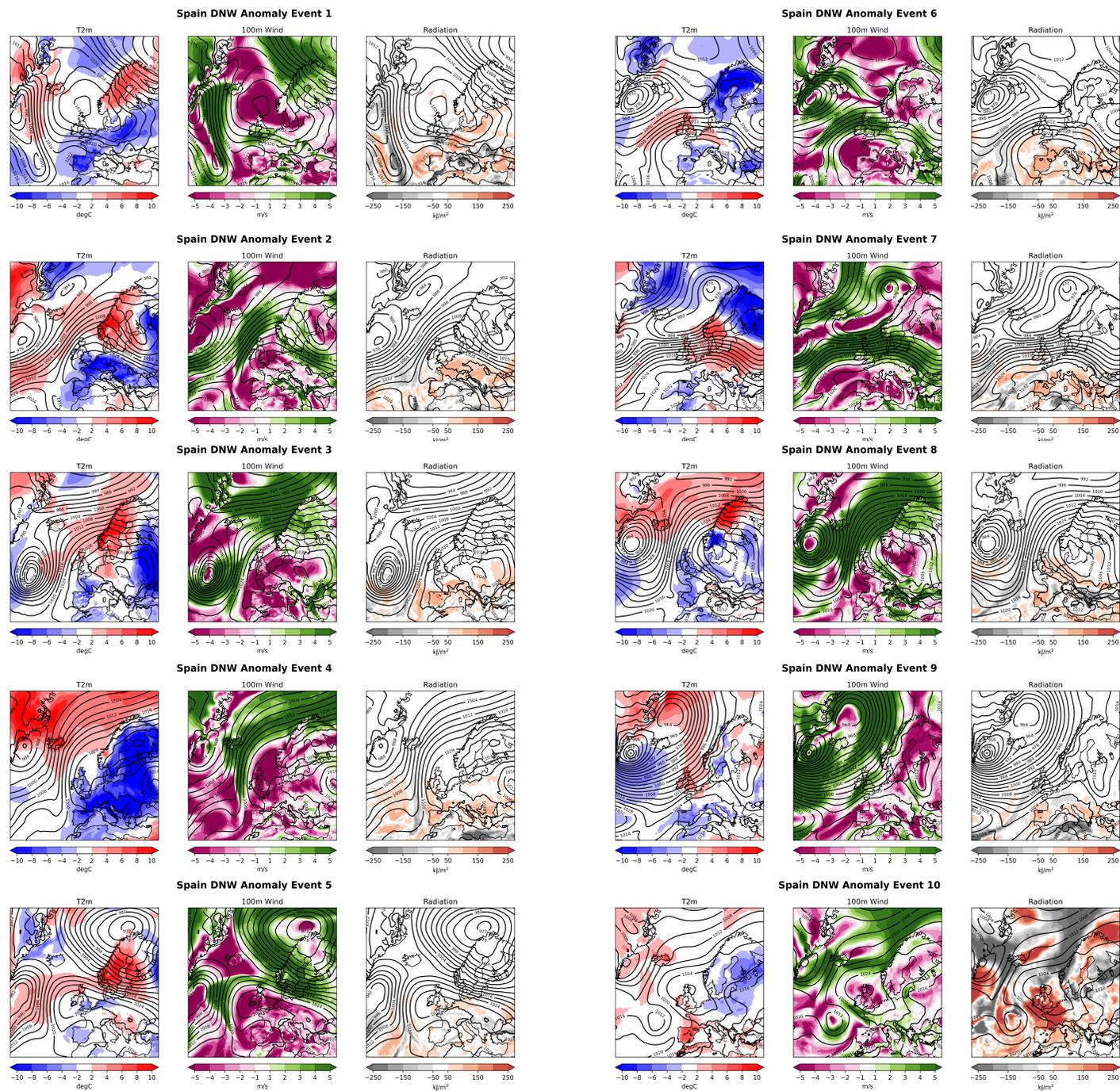
Supplementary Figure 5: Meteorological anomalies during the top 10 European peak demand-net-wind events (dates given in Supplementary Table 1. Subplots show (left) 2m temperature (middle) 100m wind speed (right) surface solar radiation.



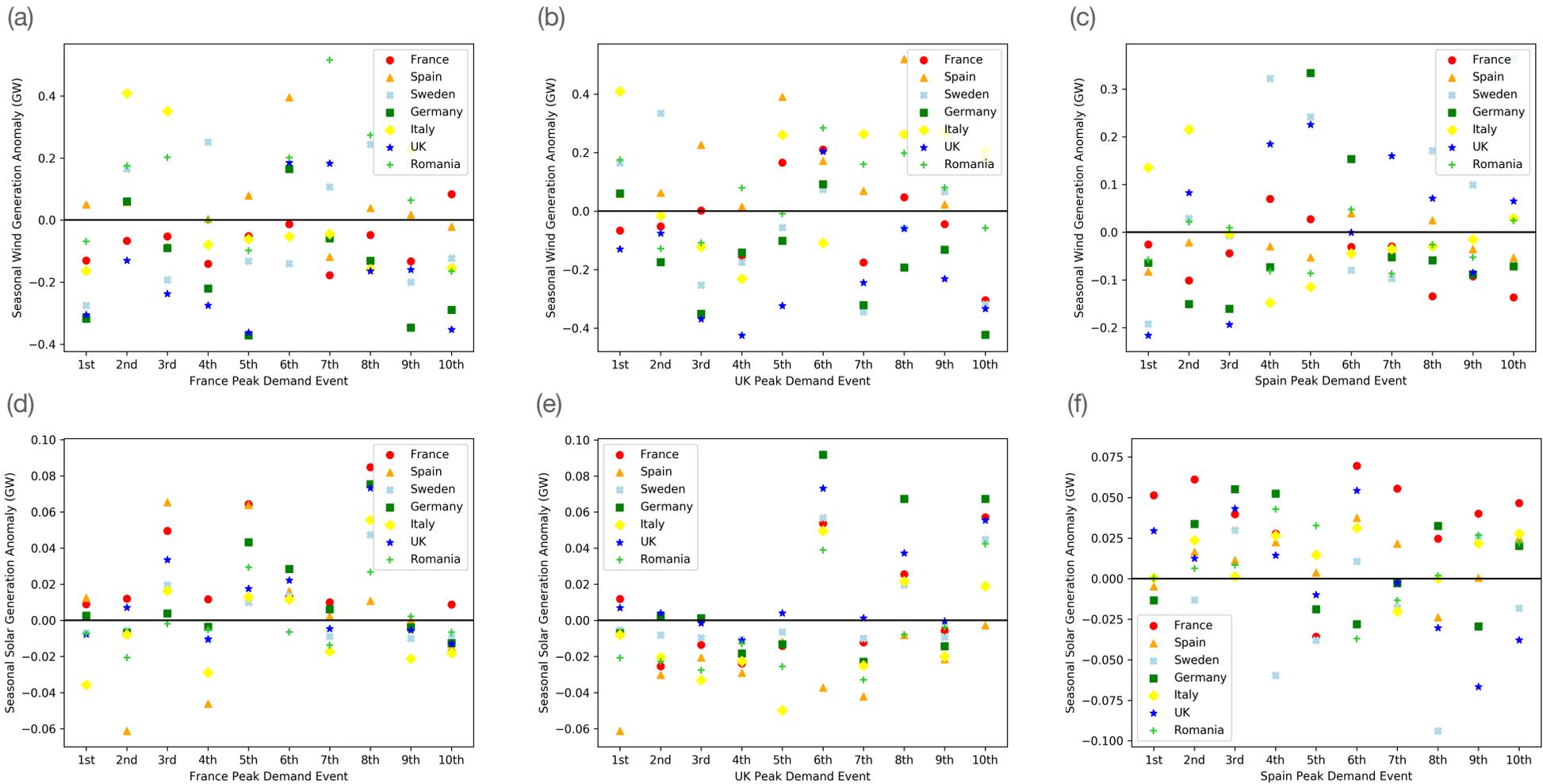
Supplementary Figure 6: Meteorological anomalies during the top 10 peak demand-net-wind events for France (dates given in Supplementary Table 1). Subplots show (left) 2m temperature (middle) 100m wind speed (right) surface solar radiation.



Supplementary Figure 7: Meteorological anomalies during the top 10 peak demand-net-wind events for the United Kingdom (dates given in Supplementary Table 1). Subplots show (left) 2m temperature (middle) 100m wind speed (right) surface solar radiation.



Supplementary Figure 8: Meteorological anomalies during the top 10 peak demand-net-wind events for Spain (dates given in Supplementary Table 1). Subplots show (left) 2m temperature (middle) 100m wind speed (right) surface solar radiation.



Supplementary Figure 9: Normalised Power anomalies during the top 10 peak demand-net-wind events for (a and d) France (b and e) United Kingdom (c and f) Spain. Note the different y-axis for Spain compared to France and the United Kingdom for both wind power (a-c) and solar power (d-f).