

TABLE S1. Geographical coordinates and altitude of the 12 weather stations used in this study for heat requirements estimation. Adjustments to stations were done to account for differences between station and vineyard elevations. HNMS is the Hellenic National Meteorological Service.

Weather station (winegrape region)	Latitude (decimal degrees)	Longitude (decimal degrees)	Elevation (m, a.s.l.)	Adjustments (\pm 0.6/100 m)	Origin
Alexandroupoli (Maronia)	40.85	25.93	2	no adjustments	HNMS
Drama (Adriani)	41.15	24.15	104	no adjustments	Weather station inside the vineyard
Heraklio (Peza)	35.33	25.18	39	adjustments made	HNMS
Kavala (Kokkinochori)	40.98	24.61	5	no adjustments	HNMS
Limnos	39.91	25.23	3	no adjustments	HNMS
Pyrgos	37.66	21.30	13	no adjustments	HNMS
Rodos (Ebonas)	36.40	28.08	11	adjustments made	HNMS
Samos	37.68	26.90	6	adjustments made	HNMS
Thessaloniki (Chalkidiki)	40.51	22.96	8	adjustments made	HNMS
Trikala_Imathias (Naoussa)	40.58	22.55	6	adjustments made	HNMS
Tripoli (Mantinia)	37.51	22.40	651	no adjustments	HNMS
Nemea	37.80	22.70	290	no adjustments	Meteo

TABLE S2. Summary of Global Climate / Regional Climate Model chains (GCM / RCM) used in this study over the 2041 – 2065 (future period 1: FP1) and 2071 – 2095 (future period 2: FP2) future periods

GCM	RCM	RCP (future period)
CNRM-CERFACS-CNRM-CM5	CLMcom-CCLM4-8-17	historical (1981 – 2005) rcp45 (2041 – 2065) rcp85 (2071 – 2095)
CNRM-CERFACS-CNRM-CM5	CNRM-ALADIN53	historical (1981 – 2005) rcp45 (2041 – 2065) rcp85 (2071 – 2095)
CNRM-CERFACS-CNRM-CM5	SMHI-RCA4	historical (1981 – 2005) rcp45 (2041 – 2065) rcp85 (2071 – 2095)
ICHEC-EC-EARTH	KNMI-RACMO22E	historical (1981 – 2005) rcp45 (2041 – 2065) rcp85 (2071 – 2095)
IPSL-IPSL-CM5A-MR	IPSL-INNERIS-WRF331F	historical (1981 – 2005) rcp45 (2041 – 2065) rcp85 (2071 – 2095)
IPSL-IPSL-CM5A-MR	SMHI-RCA4	historical (1981 – 2005) rcp45 (2041 – 2065) rcp85 (2071 – 2095)
MOHC-HadGEM2-ES	CLMcom-CCLM4-8-17	historical (1981 – 2005) rcp45 (2041 – 2065) rcp85 (2071 – 2095)
MOHC-HadGEM2-ES	SMHI-RCA4	historical (1981 – 2005) rcp45 (2041 – 2065) rcp85 (2071 – 2095)
MPI-M-MPI-ESM-LR	CLMcom-CCLM4-8-17	historical (1981 – 2005) rcp45 (2041 – 2065) rcp85 (2071 – 2095)
MPI-M-MPI-ESM-LR	MPI-CSC-REMO2009	historical (1981 – 2005) rcp45 (2041 – 2065) rcp85 (2071 – 2095)

GCM: Global Climate Model, RCM: Regional Climate Model, RCP: Representative Concentration Pathway

TABLE S3. Growing degree days (GDD) variety-mean, maximum and minimum values for the 29 varieties studied. GDD calculated with a base temperature of 10°C (see text for further details).

Variety	meanGDD	maxGDD	minGDD
Muscat blanc ^{E,W,b}	1425	1526	1240
Sylvaner ^{E,W,b}	1489	1643	1376
Sauvignon blanc ^{E,W,b}	1524	1726	1331
Chardonnay ^{E,W,b}	1538	1850	1331
Malagouzia ^{E,W,a}	1541	1656	1468
Traminer ^{E,W,b}	1583	1719	1460
Liatiko ^{E,R,a}	1590	1734	1481
Malvasía Aromática ^{E,W,b}	1592	1773	1465
Riesling ^{E,W,b}	1617	1772	1472
Muscat of Alexandria ^{M,W,b}	1680	1813	1568
Vilana ^{M,W,a}	1695	1877	1528
Merlot ^{M,R,b}	1705	1857	1519
Athiri ^{M,W,a}	1722	1795	1611
Moschofilero ^{M,W,a}	1738	1876	1577
Plyto ^{M,W,a}	1745	1831	1597
Sangiovese ^{M,R,b}	1772	1900	1568
Vidiano ^{M,W,a}	1775	2016	1628
Assyrtiko ^{M,W,a}	1783	2076	1517
Syrah ^{M,R,b}	1801	2067	1586
Cabernet-Sauvignon ^{L,R,b}	1872	2001	1737
Kotsifali ^{L,R,a}	1881	2074	1716
Agiorgitiko ^{L,R,a}	1883	2019	1750
Limnio ^{L,R,a}	1895	2098	1753
Mandilari ^{L,R,a}	1915	2074	1819
Nebbiolo ^{L,R,b}	1919	2101	1590
Roditis ^{L,R,a}	1986	2157	1843
Daphni ^{L,W,a}	1999	2119	1822
Mavrodaphni ^{L,R,a}	2011	2178	1852
Xinomavro ^{L,R,a}	2069	2241	1907

Each variety has superscript letters indicating indigenous (a) and international varieties (b); early (E), mid (M) and late (L) season varieties; and red (R), white (W) varieties.