

Table S1. All S-2 passes for Rossmore and Stradone used in the study. Dates in bold are those used in the validation with in situ VSM sensors.

Year	Rossmore Dates (DD/MM)	Stradone Dates (DD/MM)
2015		29/09
2017	01/01, 20/06, 08/09, 07/11	01/01, 20/06, 07/11, 27/12
2018	10/02, 21/04, 06/05, 16/05, 25/06, 30/06, 10/07, 18/10, 28/10, 07/12, 12/12	06/01, 20/02, 25/02, 21/04, 10/07
2019	16/01, 07/03, 18/09	10/02, 18/09, 28/10
2020	20/02, 01/03, 06/03, 15/04, 12/10	25/04, 27/09, 06/11
2021	25/01, 01/03, 26/03, 10/04, 25/04, 05/05, 29/06, 19/07, 07/09, 21/11, 26/11	16/03, 25/04, 29/06, 28/08, 07/09, 21/11
2022	16/03, 26/03, 31/03	14/02, 01/03, 21/03, 26/03, 20/04, 10/05

Table S2. Vegetation indices from reflectance, R , in S-2 optical bands.

Vegetation index	Equation
Normalised Difference Vegetation Index (NDVI)	$\frac{R_8 - R_4}{R_8 + R_4}$
Enhanced Vegetation Index (EVI)	$\frac{2.5(R_8 - R_4)}{R_8 + 6R_4 - 7.5R_2 + 1}$
Modified Soil Adjusted Vegetation Index (MSAVI)	$0.5\{2R_8 + 1 - [(2R_8 + 1)^2 - 8(R_8 - R_4)]^{0.5}\}$
Normalised Difference Red Edge Index (NDREI)	$\frac{R_8 - R_5}{R_8 + R_5}$