**Appendix 1. Summary of Indices used within this study.**

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| --- | --- | --- | --- |
| Index | Full name | Equation | Reference |
| ARI | Anthocyanin Reflectance Index | (1/R550) – (1/R700) | Gitelson et al. (2001) |
| BGI1 | Blue green pigment index | R400/R550 | Zarco-Tejada et al. (2005) |
| BGI2 | Blue green pigment index | R450/R550 | Zarco-Tejada et al. (2005) |
| BRI1 | Blue red pigment index | R400/R690 | Zarco-Tejada et al. (2005) |
| BRI2 | Blue red pigment index | R450/R690 | Zarco-Tejada et al. (2005) |
| CARI | Chlorophyll absorption ratio index | (R700 – R670) – (0.2 x (R700 – R550)) | Kim et al. (1994) |
| CI | Colouration index | (R800 – R550)/R800 | Liu and Moore (1990) |
| CRI1 | Carotenoid Reflectance Index | (1/R510) – (1/R550) | Gitelson et al. (2002b) |
| CRI2 | Carotenoid Reflectance Index 2 | (1/R510) – (1/R700) | Gitelson et al. (2002b) |
| CTR1 | Carter Index 1 | R695/R420 | Carter (1994) |
| CTR2 | Carter Index 2 | R695/R760 | Carter (1994) |
| CTR3 | Carter Index 3 | R605/R760 | Carter (1994) |
| CTR4 | Carter Index 4 | R710/R760 | Carter (1994) |
| CTR5 | Carter Index 5 | R695/R670 | Carter (1994) |
| CUR | Curvature index | (R675 x R690)/R6832 | Zarco-Tejada et al. (2001) |
| Datt99 | Datt, 99 | (R850 – R710)/(R850 – R680) | Datt (1999) |
| Datt1 | Maccioni, 2001 | (R780 – R710)/(R780 – R680) | Maccioni et al. (2001) |
| DVI | Difference vegetation index | R800 – R680 | Jordan (1969) |
| EVI | Enhanced vegetation index | 2.5 x ((R800 – R670)/(R800 – (6 x R670) – (7.5 x R475) + 1)) | Huete et al. (1997) |
| GI | Greenness index | R554/R677 | Zarco-Tejada et al. (2005) |
| GM1 | Gitelson and Merzlyak, 94 | R750/R705 | Gitelson and Merzlyak (1994) |
| GM2 | Gitelson and Merzlyak, 94 | R750/R555 | Gitelson and Merzlyak (1994) |
| GM3 | Gitelson and Merzlyak, 97 | R750/R550 | Gitelson and Merzlyak (1997) |
| GM4 | Gitelson and Merzlyak, 97 | R750/R700 | Gitelson and Merzlyak (1997) |
| GNDVI | Green Normalised Difference VI | (R780 – R550)/(R780 + R550) | Gitelson et al. (1996) |
| GRG | Gitelson ratio green | (R800/R550) – 1 | Gitelson et al. (2003) |
| HNDVI2 | Hyperspectral normalised difference VI | (R827 – R668)/(R827 + R668) | Oppelt and Mauser (2004) |
| LIC1 | Lichtenthaler Index 1 | (R800 – R680)/(R800 + R680) | Lichtenthaler et al. (1996) |
| LIC2 | Lichtenthaler Index 2 | R440/R690 | Lichtenthaler et al. (1996) |
| LIC3 | Lichtenthaler Index 3 | R440/R740 | Lichtenthaler et al. (1996) |
| Macc01 | Macc 01 | (R780 – R710)/(R780 - R680) | Maccioni et al. (2001) |
| MCARI | Modified chlorophyll absorption ratio index | ((R700 – R670) – 0.2 x (R700 – R550)) x (R700/ R670) | Daughtry et al. (2000) |
| MCARI1 | Mod. Chlorophyll absorption ratio index 1 | 1.2 x (2.5 x (R800 - R670) – 1.3 x (R800 – R550)) | Haboudane et al. (2004) |
| MCARI2 | Mod. Chlorophyll absorption ratio index 2 | 1.5 x (2.5 x (R800 – R670) – 1.3 x (R800 – R550))  ((2 x R800 + 1)2) – (6 x R800 – 5 x (R6700.5))0.5 – 0.5 | Haboudane et al. (2004) |
| MCARI3 | Revised MCARI | ((R750 – R705) – 0.2 x (R750 – R550)) x (R750/ R705) | Wu et al. (2008) |
| McM\_94 | McMurtrey, 1994 | R700/R670 | McMurtrey Iii et al. (1994) |
| mND | Modified normalised difference | (R750 – R445)/(R750 + R705 – 2 x R445) | Sims and Gamon (2002) |
| mNDVI | Modified NDVI | (R750 – R705)/(R750 + R705) | Gitelson and Merzlyak (1994) |
| mNDVI1 | Modified NDVI | (R755 – R745)/(R755 + R745) | Mutanga and Skidmore (2004) |
| mNDVI8 | Modified NDVI | (R755 – R730)/(R755 + R730) | Mutanga and Skidmore (2004) |
| mNDVIre | Modified NDVI red edge | (R750 – R705)/(R750+ R705 – 2 x R445) | Sims and Gamon (2002) |
| mSAVI | Modified Soil Adjusted VI | 0.5 x (2 x R800 + 1 – (((2 x R800 + 1)2 – 8 x (R800 – R670))0.5)) | Qi et al. (1994) |
| mSR | Modified Simple Ratio | ((R800/R670) – 1)/((R800/R670 + 1)0.5) | Chen (1996) |

**Appendix 1. Summary of Indices used within this study (cntd).**

|  |  |  |  |
| --- | --- | --- | --- |
| Index | Full name | Equation | Reference |
| mRESRI | Modified Red Edge Simple Ratio | (R750 – R445)/(R705 – R445) | Sims and Gamon (2002) |
| MTCI | MERIS terrestrial chlorophyll index | (R754 – R709)/(R709 – R681) | Dash and Curran (2004) |
| mTVI1 | Modified Triangular VI 1 | 1.5 x (1.2 x (R712 – R550) – 2.1 x (R670 – R550)) | Guan and Liu (2009) |
| mTVI2 | Modified Triangular VI 2 | 1.5 x (1.2 x (R800 – R550) – 2.5 x (R670 – R550))  (((2 x R800 + 1)2) – ((6 x R800) – 5 x (R6700.5))0.5) – 0.5 | Haboudane et al. (2004) |
| NDVI | Normalised difference vegetation index | (R800 – R670)/(R800 + R670) | Rouse Jr et al. (1974) |
| NDVI2 | Normalised difference vegetation index 2 | (R800 – R680)/(R800 + R680) | Rouse Jr et al. (1974) |
| NDVI3 | Normalised difference vegetation index 3 | (R831 – R667)/(R831 + R667) | Merton (1998) |
| NDVI4 | Normalised difference vegetation index 4 | (R774 – R667)/(R774 + R667) | Zarco-Tejada et al. (1999) |
| NPCI | Normalised pigment chlorophyll ratio index | (R680 – R430)/(R680 + R430) | Peñuelas et al. (1994) |
| NPQI | Normalised phaeophytinization index | (R415 – R435)/(R415 + R435) | Barnes et al. (1992) |
| OSAVI | Optimised soil adjusted VI | 1.16 x (R800 – R670)/(R800 + R670 + 0.16) | Rondeaux et al. (1996) |
| rOSAVI | Revised OSAVI | 1.16 x (R750 – R705)/(R750 + R705 + 0.16) | Wu et al. (2008) |
| PRI | Photochemical Reflectance Index | (R531 - R570)/ (R531 + R570) | Gamon et al. (1992) |
| PSND\_680 | Pigment specific normalised difference 680 | (R800 – R680)/(R800 + R680) | Blackburn (1998) |
| PSND\_635 | Pigment specific normalised difference 635 | (R800 – R635)/(R800 + R635) | Blackburn (1998) |
| PSSR\_A | Pigment specific simple ratio Chl a | R800/R680 | Blackburn (1998) |
| PSSR\_B | Pigment specific simple ratio Chl b | R800/R635 | Blackburn (1998) |
| RDVI | Renormalised difference VI | (NDVI2 x DVI)0.5 | Roujean and Breon (1995) |
| RENDVI | Normalised difference VI – red edge | (R750 – R705)/(R750 + R705) | Gitelson and Merzlyak (1994) |
| RGI | Red Green Ratio Index | R690/R550 | Zarco-Tejada et al. (2005) |
| Rre | Reflectance at the inflection point | (R670 + R780)/2 | Croft et al. (2014) |
| RR | Reciprocal reflectance | 1/R700 | Gitelson et al. (1999) |
| SIPI [680] | Structure insensitive pigment index [680] | (R800 – R445)/(R800 – R680) | Penuelas et al. (1995a) |
| SIPI [705] | Structure insensitive pigment index [705] | (R800 – R445)/(R800 + R705) | Penuelas et al. (1995a) |
| SR | Simple ratio | R774/R677 | Chen (1996) |
| SR VI | Simple ratio VI | R800/R670 | Jordan (1969) |
| SR VIb | Simple ratio VI [750, 550] | R750/R550 | Gitelson and Merzlyak (1997) |
| SRPI | Simple ratio pigment index | R430/R680 | Penuelas et al. (1995a) |
| TCARI | Transformed chlorophyll absorption ratio index | 3 x ((R700 – R670) – 0.2 x (R700 – R550) x (R700/R670)) | Haboudane et al. (2002) |
| RTCARI | Revised Transformed chlorophyll absorption index | 3 x ((R750 – R705) – 0.2 x (R750 – R550) x (R750/R705)) | Wu et al. (2008) |
| TVI | Triangular VI | 0.5 x (120 x (R750 – R550) – 200 x (R670 – R550)) | Broge and Leblanc (2001) |
| VI | Vegetation Index | (R700 – R670)/(R700 + R670) | Gitelson et al. (2002a) |
| VOG1 | Vogelmann index | R740/R720 | Vogelmann et al. (1993) |
| VOG2 | Vogelmann index | (R734 – R747)/(R715 + R726) | Vogelmann et al. (1993) |
| VOG3 | Vogelmann index | (R734 – R747)/(R715 + R720) | Vogelmann et al. (1993) |
| ZM | Zarco and Miller | R750/R710 | Zarco-Tejada et al. (2001) |
| MCARI\_OSAVI | Ratio of MCARI to OSAVI | MCARI/OSAVI |  |
| MCARI3\_rOSAVI | Ratio of rMCARI/rOSAVI | rMCARI/rOSAVI | Wu et al. (2008) |
| RTCARI\_ROSAVI | Ratio of revised TCARI to revised OSAVI | RTCARI/ROSAVI | Wu et al. (2008) |
| TCARI\_OSAVI | Ratio of TCARI to OSAVI | TCARI/OSAVI |  |