

Article

Impact of Relative Sea-Level Rise on Low-Lying Coastal Areas of Catalonia, NW Mediterranean, Spain

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Supplementary Materials

Table S1. Projected surface (Ha) under the TDA and CA for different SLR scenarios at 2050 and 2100 in the GR.

| Habitat Type | Current Surface (Ha) | TDA | | | | | | CA | | | | |
|--------------------|----------------------|--------------------|------|--------|--------|------|--------------------|------|--------|--------|------|--|
| | | 2050 | | | 2100 | | | 2050 | | | 2100 | |
| | | RCP 4.5 RCP 8.5 | H+ | RCP4.5 | RCP8.5 | H+ | RCP 4.5 RCP 8.5 | H+ | RCP4.5 | RCP8.5 | H+ | |
| Urban | 1025 | 1018 | 1013 | 1010 | 991 | 507 | 1018 | 1015 | 1012 | 992 | 507 | |
| Barren | 73 | 72 | 71 | 70 | 67 | 45 | 134 | 216 | 309 | 457 | 399 | |
| Salt mine | - | - | - | - | - | - | - | - | - | - | - | |
| Cropland | 5435 | 5433 | 5420 | 5411 | 5372 | 4248 | 5349 | 5230 | 5109 | 4889 | 3217 | |
| Grassland | 564 | 557 | 550 | 537 | 525 | 345 | 557 | 541 | 536 | 517 | 330 | |
| Temperate forest | 275 | 273 | 271 | 269 | 264 | 194 | 268 | 264 | 262 | 257 | 180 | |
| Coastal vegetation | 38 | 36 | 34 | 32 | 28 | 9 | 45 | 75 | 84 | 108 | 695 | |
| Wetlands | 792 | 738 | 687 | 595 | 488 | 66 | 767 | 737 | 720 | 563 | 234 | |
| Beach and dunes | 126 | 101 | 78 | 65 | 46 | 7 | 121 | 101 | 91 | 74 | 36 | |
| Coastal lagoons | 74 | 66 | 66 | 29 | 19 | 3 | 114 | 165 | 205 | 448 | 2601 | |

Note: the final surface for coastal vegetation and wetland areas under the CA will be the sum of current not-affected area and the new converted areas to halophyte vegetation and transitional wetlands, respectively.

Table S2. Projected surface (Ha) under the TDA and CA for different SLR scenarios at 2050 and 2100 in the LD.

| Habitat type | current surface (Ha) | TDA | | | | | | CA | | | | |
|--------------------|----------------------|--------------------|------|--------|--------|------|--------------------|------|--------|--------|------|--|
| | | 2050 | | | 2100 | | | 2050 | | | 2100 | |
| | | RCP 4.5 RCP 8.5 | H+ | RCP4.5 | RCP8.5 | H+ | RCP 4.5 RCP 8.5 | H+ | RCP4.5 | RCP8.5 | H+ | |
| Urban | 1508 | 1506 | 1503 | 1503 | 1498 | 1370 | 1507 | 1504 | 1503 | 1499 | 1370 | |
| Barren | 343 | 342 | 342 | 342 | 339 | 296 | 369 | 425 | 473 | 603 | 436 | |
| Salt mine | - | - | - | - | - | - | - | - | - | - | - | |
| Cropland | 1114 | 1114 | 1114 | 1114 | 1111 | 415 | 1085 | 1025 | 971 | 821 | 162 | |
| Grassland | 474 | 470 | 467 | 465 | 453 | 293 | 466 | 459 | 450 | 437 | 259 | |
| Temperate forest | 231 | 230 | 229 | 227 | 223 | 104 | 230 | 226 | 223 | 211 | 80 | |
| Coastal vegetation | 53 | 53 | 53 | 52 | 52 | 25 | 39 | 33 | 40 | 50 | 147 | |
| Wetlands | 256 | 254 | 248 | 236 | 214 | 33 | 258 | 254 | 246 | 230 | 175 | |
| Beach and dunes | 113 | 102 | 90 | 84 | 72 | 19 | 101 | 85 | 78 | 61 | 18 | |
| Coastal lagoons | 77 | 53 | 51 | 41 | 32 | 6 | 79 | 90 | 101 | 142 | 1303 | |

Note: the final surface for coastal vegetation and wetland areas under the CA will be the sum of current not-affected area and the new converted areas to halophyte vegetation and transitional wetlands, respectively.

Table S3. Projected surface (Ha) under the TDA and CA for different SLR scenarios at 2050 and 2100 in the ED.

| Habitat type | current surface (Ha) | TDA | | | | | | CA | | | | |
|--------------------|----------------------|--------------------|--------|--------|--------|------|--------------------|--------|--------|--------|--------|--|
| | | 2050 | | | 2100 | | | 2050 | | | 2100 | |
| | | RCP 4.5 RCP 8.5 | H+ | RCP4.5 | RCP8.5 | H+ | RCP 4.5 RCP 8.5 | H+ | RCP4.5 | RCP8.5 | H+ | |
| Urban | 2333 | 2275 | 2033 | 1942 | 1769 | 1093 | 2298 | 2082 | 1953 | 1769 | 1093 | |
| Barren | 350 | 331 | 309 | 229 | 276 | 145 | 337 | 316 | 302 | 276 | 145 | |
| Salt mine | 90 | 29 | 16 | 13 | 8 | 0 | 29 | 16 | 13 | 8 | 0 | |
| Cropland | 22,695 | 21,724 | 16,983 | 14,909 | 11,713 | 3610 | 20,566 | 15,050 | 13,361 | 10,972 | 3207 | |
| Grassland | 271 | 257 | 226 | 216 | 191 | 111 | 247 | 219 | 211 | 183 | 112 | |
| Temperate forest | 56 | 53 | 41 | 37 | 31 | 14 | 44 | 38 | 36 | 28 | 14 | |
| Coastal vegetation | 871 | 561 | 390 | 330 | 248 | 18 | 2,106 | 3,205 | 2,016 | 988 | 413 | |
| Wetlands | 1198 | 712 | 421 | 325 | 84 | 5 | 1499 | 1537 | 1535 | 940 | 308 | |
| Beach and dunes | 1878 | 1014 | 481 | 357 | 203 | 36 | 1618 | 1416 | 1341 | 1207 | 799 | |
| Coastal lagoons | 2711 | 1018 | 329 | 250 | 142 | 12 | 3508 | 8146 | 11,148 | 15,325 | 24,649 | |

Note: the final surface for coastal vegetation and wetland areas under the CA will be the sum of current not-affected area and the new converted areas to halophyte vegetation and transitional wetlands, respectively.