**SUPPLEMENTARY MATERIALS (APPENDICES)**

Table S1 shows the seasonal variation of rainfall, NDVI and EVI of year 2010 for the fifteen forest reserves under study. It is observed that there is a general increase in the mean values of vegetation indices as we move from Winter to Autumn and this confirms that the more the rainfall during the preceding season the more the greenness of vegetation during the following season.

Table S1:Seasonal variation of year 2010

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Forest** **Reserves** | WINTER | SPRING | SUMMER | AUTUMN |
| Rainfall | NDVI | EVI | Rainfall | NDVI | EVI | Rainfall | NDVI | EVI | Rainfall | NDVI | EVI |
|
| Agoi | 59 | 0.552 | 0.35 | 165.1 | 0.548 | 0.444 | 475.8 | 0.329 | 0.295 | 341.8 | 0.575 | 0.437 |
| Oban Group | 59 | 0.601 | 0.376 | 165.1 | 0.569 | 0.443 | 475.8 | 0.279 | 0.248 | 341.8 | 0.514 | 0.371 |
| Ekinta River | 59 | 0.549 | 0.362 | 165.1 | 0.498 | 0.399 | 475.8 | 0.246 | 0.237 | 341.8 | 0.507 | 0.376 |
| Obieze-Isu | 59 | 0.526 | 0.358 | 165.1 | 0.457 | 0.367 | 475.8 | 0.246 | 0.229 | 341.8 | 0.413 | 0.32 |
| Uwet Odot | 59 | 0.587 | 0.37 | 165.1 | 0.5807 | 0.449 | 475.8 | 0.299 | 0.248 | 341.8 | 0.506 | 0.371 |
| Lower Enyong | 59 | 0.529 | 0.366 | 165.1 | 0.594 | 0.445 | 475.8 | 0.327 | 0.235 | 341.8 | 0.485 | 0.294 |
| Achara Ihe | 59 | 0.58 | 0.401 | 165.1 | 0.545 | 0.437 | 475.8 | 0.256 | 0.243 | 341.8 | 0.559 | 0.426 |
| Umon Ndealichi | 59 | 0.565 | 0.361 | 165.1 | 0.561 | 0.44 | 475.8 | 0.361 | 0.299 | 341.8 | 0.507 | 0.38 |
| Ikom | 12.5 | 0.526 | 0.345 | 196.8 | 0.597 | 0.51 | 297.5 | 0.369 | 0.322 | 253.6 | 0.604 | 0.517 |
| Afi River | 12.5 | 0.566 | 0.37 | 196.8 | 0.573 | 0.442 | 297.5 | 0.373 | 0.316 | 253.6 | 0.646 | 0.41 |
| Ikrigon | 12.5 | 0.413 | 0.236 | 196.8 | 0.469 | 0.317 | 297.5 | 0.365 | 0.342 | 253.6 | 0.491 | 0.352 |
| Yache | 0 | 0.394 | 0.232 | 204 | 0.446 | 0.294 | 317.6 | 0.294 | 0.26 | 288.1 | 0.523 | 0.373 |
| Gabu | 0 | 0.375 | 0.201 | 204 | 0.411 | 0.293 | 317.6 | 0.357 | 0.301 | 288.1 | 0.475 | 0.349 |
| CRN | 12.5 | 0.608 | 0.359 | 196.8 | 0.533 | 0.44 | 297.6 | 0.451 | 0.382 | 253.6 | 0.629 | 0.441 |
| CRS | 12.5 | 0.561 | 0.351 | 196.8 | 0.546 | 0.428 | 297.5 | 0.275 | 0.256 | 253.6 | 0.52 | 0.369 |
|   | CRS = Cross River South | CRN = Cross River North |

Table S2 shows the seasonal variation of rainfall, NDVI and EVI of year 2014 for the fifteen forest reserves under study. It is observed that there is a general increase in the mean values of vegetation indices as we move from Winter to Autumn and this confirms that the more the rainfall during the preceding season the more the greenness of vegetation during the following season.

Table S2: Seasonal variation of year 2014

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Forest Reserves** | WINTER | SPRING | SUMMER | AUTUMN |
| Rainfall | NDVI | EVI | Rainfall | NDVI | EVI | Rainfall | NDVI | EVI | Rainfall | NDVI | EVI |
|
| Agoi | **35.2** | **0.611** | **0.411** | **311.9** | **0.6** | **0.444** | **455** | **0.388** | **0.318** | **296.1** | **0.615** | **0.432** |
| Oban Group | **35.2** | **0.589** | **0.39** | **311.9** | **0.576** | **0.43** | **455** | **0.358** | **0.293** | **296.1** | **0.458** | **0.315** |
| Ekinta River | **35.2** | **0.542** | **0.365** | **311.9** | **0.544** | **0.432** | **455** | **0.315** | **0.269** | **296.1** | **0.473** | **0.35** |
| Obieze-Isu | **35.2** | **0.611** | **0.408** | **311.9** | **0.535** | **0.414** | **455** | **0.54** | **0.389** | **296.1** | **0.485** | **0.324** |
| Uwet Odot | **35.2** | **0.618** | **0.406** | **311.9** | **0.601** | **0.444** | **455** | **0.477** | **0.369** | **296.1** | **0.481** | **0.333** |
| Lower Enyong | **35.2** | **0.616** | **0.407** | **311.9** | **0.675** | **0.451** | **455** | **0.434** | **0.304** | **296.1** | **0.455** | **0.277** |
| Achara Ihe | **35.2** | **0.556** | **0.382** | **311.9** | **0.66** | **0.445** | **455** | **0.461** | **0.365** | **296.1** | **0.587** | **0.417** |
| Umon Ndealichi | **35.2** | **0.61** | **0.403** | **311.9** | **0.587** | **0.431** | **455** | **0.485** | **0.365** | **296.1** | **0.53** | **0.384** |
| Ikom | **7.8** | **0.601** | **0.399** | **209.8** | **0.662** | **0.477** | **291.6** | **0.568** | **0.496** | **269.4** | **0.638** | **0.481** |
| Afi River | **7.8** | **0.543** | **0.336** | **209.8** | **0.578** | **0.424** | **291.6** | **0.425** | **0.312** | **269.4** | **0.471** | **0.32** |
| Ikrigon | **7.8** | **0.42** | **0.245** | **209.8** | **0.47** | **0.332** | **291.6** | **0.4** | **0.308** | **269.4** | **0.627** | **0.395** |
| Yache | **1.7** | **0.392** | **0.235** | **175.9** | **0.479** | **0.32** | **238.8** | **0.367** | **0.307** | **262.9** | **0.494** | **0.308** |
| Gabu | **1.7** | **0.374** | **0.194** | **175.9** | **0.491** | **0.308** | **238.8** | **0.384** | **0.321** | **262.9** | **0.58** | **0.351** |
| CRN | **7.8** | **0.577** | **0.389** | **209.8** | **0.713** | **0.482** | **291.6** | **0.503** | **0.389** | **269.4** | **0.557** | **0.39** |
| CRS | **7.8** | **0.572** | **0.372** | **209.8** | **0.607** | **0.447** | **291.6** | **0.453** | **0.351** | **269.4** | **0.56** | **0.354** |
|   | CRN = Cross River North | CRS = Cross River North |

Table S3 shows the seasonal variation of rainfall, NDVI and EVI of year 2018 for the fifteen forest reserves under study. It is observed that there is a general increase in the mean values of vegetation indices as we move from Winter to Autumn and this confirms that the more the rainfall during the preceding season the more the greenness of vegetation during the following season.

Table S3: Seasonal variation of year 2018

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Forest Reserves** | WINTER | SPRING | SUMMER | AUTUMN |
| Rainfall | NDVI | EVI | Rainfall | NDVI | EVI | Rainfall | NDVI | EVI | Rainfall | NDVI | EVI |
|
| Agoi | 53.7 | 0.526 | 0.303 | 183.5 | 0.594 | 0.387 | 473.5 | 0.459 | 0.343 | 312.6 | 0.582 | 0.404 |
| Oban Group | 53.7 | 0.556 | 0.313 | 183.5 | 0.615 | 0.402 | 473.5 | 0.431 | 0.287 | 312.6 | 0.544 | 0.352 |
| Ekinta River | 53.7 | 0.486 | 0.309 | 183.5 | 0.621 | 0.411 | 473.5 | 0.471 | 0.324 | 312.6 | 0.664 | 0.466 |
| Obieze-Isu | 53.7 | 0.489 | 0.275 | 183.5 | 0.587 | 0.411 | 473.5 | 0.452 | 0.317 | 312.6 | 0.518 | 0.314 |
| Uwet Odot | 53.7 | 0.557 | 0.306 | 183.5 | 0.599 | 0.397 | 473.5 | 0.532 | 0.339 | 312.6 | 0.578 | 0.375 |
| Lower Enyong | 53.7 | 0.473 | 0.271 | 183.5 | 0.584 | 0.387 | 473.5 | 0.459 | 0.295 | 312.6 | 0.644 | 0.306 |
| Achara Ihe | 53.7 | 0.496 | 0.315 | 183.5 | 0.507 | 0.322 | 473.5 | 0.565 | 0.422 | 312.6 | 0.623 | 0.416 |
| Umon Ndealichi | 53.7 | 0.559 | 0.321 | 183.5 | 0.629 | 0.403 | 473.5 | 0.498 | 0.334 | 312.6 | 0.573 | 0.394 |
| Ikom | 44.3 | 0.596 | 0.373 | 145.2 | 0.640 | 0.487 | 407.2 | 0.524 | 0.416 | 347.8 | 0.653 | 0.474 |
| Afi River | 44.3 | 0.584 | 0.363 | 145.2 | 0.588 | 0.401 | 407.2 | 0.370 | 0.253 | 347.8 | 0.577 | 0.379 |
| Ikrigon | 44.3 | 0.420 | 0.220 | 145.2 | 0.481 | 0.319 | 407.2 | 0.417 | 0.310 | 347.8 | 0.581 | 0.376 |
| Yache | 22.9 | 0.395 | 0.229 | 115.8 | 0.376 | 0.246 | 250.4 | 0.400 | 0.290 | 287.8 | 0.560 | 0.379 |
| Gabu | 22.9 | 0.362 | 0.194 | 115.8 | 0.387 | 0.241 | 250.4 | 0.423 | 0.300 | 287.8 | 0.577 | 0.372 |
| CRN | 44.3 | 0.576 | 0.346 | 145.2 | 0.637 | 0.449 | 407.2 | 0.497 | 0.343 | 347.8 | 0.703 | 0.496 |
| CRS | 44.3 | 0.549 | 0.317 | 145.2 | 0.581 | 0.385 | 407.2 | 0.473 | 0.330 | 347.8 | 0.632 | 0.414 |
|   | CRN = Cross River North | CRS = Cross River North |