Name  
Date  
Math 214

**Lab 05**

Wetlands Ecological Succession Model – Fill in the elements of the transition matrix from the Week 2 Checkpoint Exercise

What are the dominant eigenvalue and associated normalized eigenvector for the transition matrix above? – From Week 2 Checkpoint Exercise

|  |  |
| --- | --- |
| **Dominant Eigenvalue** | **Normalized Eigenvector (for Dominant Eigenvalue)** |
|  |  |

What proportion of the wetlands are in each state every 10 decades? – From Week 2 Checkpoint Exercise

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| 0 |  |  |  |
| 10 |  |  |  |
| 20 |  |  |  |
| 30 |  |  |  |
| 40 |  |  |  |
| 50 |  |  |  |
| 60 |  |  |  |
| 70 |  |  |  |
| 80 |  |  |  |
| 90 |  |  |  |
| 100 |  |  |  |

Results from model simulations where the rate at which always submerged wetlands become seasonally submerged is sampled from the uniform distribution.

Fill in the landscape structure at the end of 100 decades for each of your three simulations.

|  |  |  |  |
| --- | --- | --- | --- |
| Simulation |  |  |  |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |

*Place image A here.*

Results from model simulations where the rate at which always dry wetlands become seasonally submerged is sampled from the normal distribution.

Fill in the landscape structure at the end of 100 decades for each of your three simulations.

|  |  |  |  |
| --- | --- | --- | --- |
| Simulation |  |  |  |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |

*Place image B here.*

*Describe the difference between the simulations with one stochastic parameter versus two stochastic parameters.*