

Finding the *Desirability Coefficients*

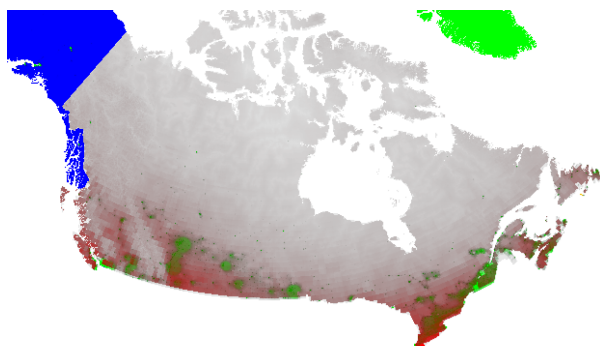
April 23, 2014

AKM Khaled Ahsan Talukder

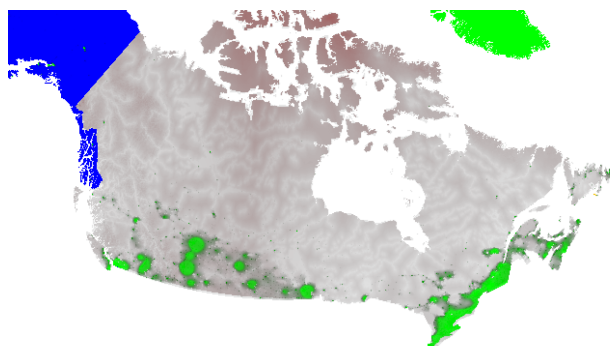
Hi, I am done with the revised EC runs, here I have done these modifications –

- Find desirability coefficient within the range of $[-1.0, 1.0]$
- Smooth the population map before normalization.
- Normalize total desirability before fitness computation.
- Do Evolution-Strategy (ES) instead of generic EC.

Now the coefficient values are more meaningful, ES is way much faster than the EC. But if I normalize the total desirability before fitness computation, the resultant coefficient values poorly reflects the population distribution. Please see the below figures –

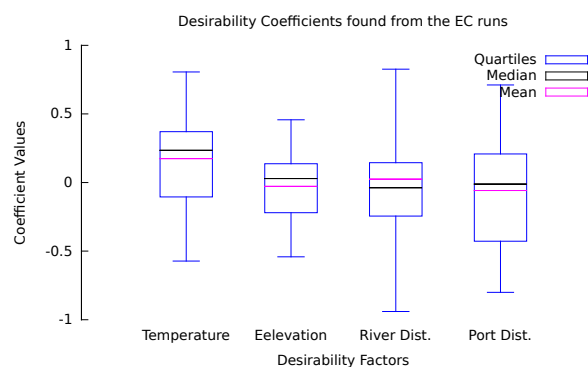


(a) Without Normalization Before Fitness Calculation

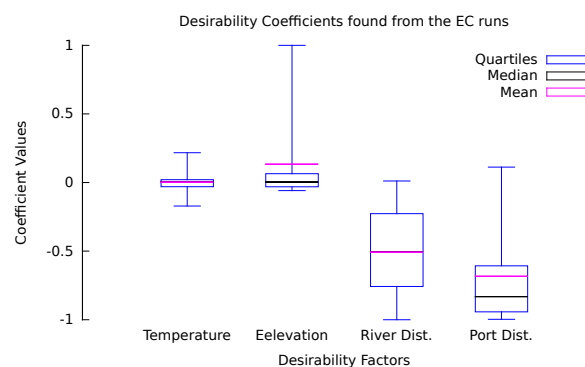


(b) Normalization Before Fitness Calculation

The statistics from the ES results are also different –



(c) Without Normalization Before Fitness Calculation



(d) Normalization Before Fitness Calculation