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## **Assessing Local Vulnerability to Climate Change in Agriculture for Tocantins, Brazil**

Santiago Guerrero Escobar  
[sguerrero@banxico.org.mx](mailto:sguerrero@banxico.org.mx)  
Banco de México.

Miriam Juarez Torres  
[mjuarez@banxico.org.mx](mailto:mjuarez@banxico.org.mx)  
Banco de México.

Adán L. Martinez Cruz  
[adan.martinezcruz@gmail.com](mailto:adan.martinezcruz@gmail.com)  
Food and Agriculture Organization

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Authors: Santiago Guerrero Escobar  
Miriam Juárez Torres  
Adrian Martínez

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Miriam Juárez Torres  
Adrian Martínez



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**Objective**  
To develop a reliable indicator of local vulnerability that captures the dynamics and the effects of mobility and compensating across time and location. This indicator will allow identifying more vulnerable citizens and places, facilitating to some degree readiness as well as developing better strategies to respond to natural disasters.

**Medicobiology**

This seminar examines the pathobiology of cancer (1) and the estimates a food effects model in the context of measures how climate variation (growing degree-days, CO<sub>2</sub>) and environmental pollutants (Pesticides) influence agricultural systems (2) using information on geographic, geomorphological, socio-economic and temporal characteristics of the system.

$$Y_{it} = \alpha_0 Proc_{it} + \alpha_1 GDD_{it} + \gamma'Z_i + \eta'F_t + \theta X_{it} + \beta_1 Proc_{it-1}X_{it} + \beta_2 GDD_{it-1}X_{it} + d_i^t/a + e_{it}$$

We define a set of outcome variables that represent a system to define a final utilization of final outcome (2007).

Equation (1) is  $Pr_1 dS$  (2)

It is a frequently mistaken of clients who are anxious to change their life or work situation that they will find the right job or situation at once and be happy.

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$$S.C. = f \left( \frac{\text{Average rate}}{\text{Rate used by } N \text{ users}} \right) = f \left( \frac{\text{Rate}_{\text{avg}}}{\text{Rate}_{\text{used}} \times N} \right) \quad (2)$$

The  $\Delta$  captures the system response to changes in treatment, where  $\Delta \text{EPP}_{it}$  is the estimated response of yield to disease  $i$ , near the observed field in a given system (county) and year  $\text{year}$  represents the point of infection for a given system (county) and year. The  $\Delta$  is the difference between the estimated response to a given system before and after the agricultural sector becomes "diseased".

Value-at-risk measure is defined as the expected value of the ratio of the contents sensitivity to a given threshold.

$$\text{New Expected Value}[S] = \int \left( \frac{\text{New } S_i}{\sum_{i=1}^n \text{New } S_i} \right) P_i \, dS \quad (3)$$

It is projected that Climate Change will affect Tourism by decreasing the average daily precipitation during wet season and increasing the intensity and frequency of temperatures, affecting the growth degree days for the region. This research is funded by the Joint Fund (JF01-2007-2008).

The sources used for this study were: NOAA for climate data, Meteorological Algorithms, Possible Meteorological for yield (PME) for the climate data, and the National Oceanic and Atmospheric Administration (NOAA) for the climate data. Climate data were obtained from the Climate Research Unit (CRU) at the University of East Anglia.

Sensitivity to Streamer Indicator<sup>a</sup>[illegible]

Component	Value
1. Average number	0.277
2. Average	0.274
3. Average	0.277

[illegible]

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[illegible]

13. Area C in Figure 1	0.117
14. Total	0.174
Transfer Average	0.128

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### Case of Study



Sendoff to Stress Indicator®

	Prevalence	ESOP <sup>a</sup>	Mortality	Survival
All cases	0.05	0.15	3,247	3,247
1. Overall	0.05	0.15	3,247	3,247
2. 1st 20% of Deaths	0.05	0.09	3,188	3,188
3. 2nd 20% of Deaths	0.05	0.10	3,229	3,229
4. 3rd 20% of Deaths	0.05	0.10	3,229	3,229
5. 4th 20% of Deaths	0.05	0.17	3,288	3,288
6. 5th 20% of Deaths	0.05	0.27	3,357	3,357
7. 1st 20% of ESOPs	0.06	0.10	3,288	3,288
8. 2nd 20% of ESOPs	0.06	0.10	3,288	3,288
9. 3rd 20% of ESOPs	0.06	0.10	3,288	3,288
10. 4th 20% of ESOPs	0.06	0.10	3,288	3,288
11. 5th 20% of ESOPs	0.06	0.10	3,288	3,288
12. 1st 20% of Deaths and ESOPs	0.06	0.10	3,288	3,288
13. 2nd 20% of Deaths and ESOPs	0.06	0.10	3,288	3,288
14. 3rd 20% of Deaths and ESOPs	0.06	0.10	3,288	3,288
15. 4th 20% of Deaths and ESOPs	0.06	0.10	3,288	3,288
16. 5th 20% of Deaths and ESOPs	0.06	0.10	3,288	3,288
17. Overall	0.05	0.15	3,247	3,247
18. Overall	0.05	0.15	3,247	3,247

a. Percentages are calculated on the basis of the total number of patients who were alive at the time of the study.



Contributors

• **Individuals** are likely to attribute change to **specific individuals**. The results will change according to who has been involved.

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