

Accepted Manuscript

Modeling the Importation and Local Transmission of Vector-Borne Diseases in Florida: The Case of Zika Outbreak in 2016

Jing Chen, John C. Beier, Robert Stephen Cantrell, Chris Cosner, Douglas O. Fuller, Yongtao Guan, Guoyan Zhang, Shigui Ruan

PII: S0022-5193(18)30350-3
DOI: [10.1016/j.jtbi.2018.07.026](https://doi.org/10.1016/j.jtbi.2018.07.026)
Reference: YJTBI 9551



To appear in: *Journal of Theoretical Biology*

Received date: 29 November 2017
Revised date: 16 July 2018
Accepted date: 22 July 2018

Please cite this article as: Jing Chen, John C. Beier, Robert Stephen Cantrell, Chris Cosner, Douglas O. Fuller, Yongtao Guan, Guoyan Zhang, Shigui Ruan, Modeling the Importation and Local Transmission of Vector-Borne Diseases in Florida: The Case of Zika Outbreak in 2016, *Journal of Theoretical Biology* (2018), doi: [10.1016/j.jtbi.2018.07.026](https://doi.org/10.1016/j.jtbi.2018.07.026)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Highlights

- Propose a deterministic model to describe the importation and local transmission of vector-borne diseases in Florida
- Consider the transmission of viruses between mosquitoes and humans
- Analyze the basic properties of the model with importation terms
- Use the model to mimic the introduction and local outbreak of Zika in Florida in 2016
- Show the existence of a backward bifurcation in the model without importation
- Discuss some effective control and prevention measures

ACCEPTED MANUSCRIPT

Download English Version:

<https://daneshyari.com/en/article/8876527>

Download Persian Version:

<https://daneshyari.com/article/8876527>

[Daneshyari.com](https://daneshyari.com)