

Risa Palm
Toby Bolsen

Housing Market Response to Sea-Level Rise in Florida

Coastal Research Library

Volume 37

Series Editor

Charles W. Finkl, Department of Geosciences, Florida Atlantic University, Boca Raton, FL, USA

The aim of this book series is to disseminate information to the coastal research community. The Series covers all aspects of coastal research including but not limited to relevant aspects of geological sciences, biology (incl. ecology and coastal marine ecosystems), geomorphology (physical geography), climate, littoral oceanography, coastal hydraulics, environmental (resource) management, engineering, and remote sensing. Policy, coastal law, and relevant issues such as conflict resolution and risk management would also be covered by the Series. The scope of the Series is broad and with a unique cross-disciplinary nature. The Series would tend to focus on topics that are of current interest and which carry some import as opposed to traditional titles that are esoteric and non-controversial.

Monographs as well as contributed volumes are welcomed.

Charles W. Finkl, Coastal Education & Research Foundation, USA Email:
cfinkl@cerf-jcr.com

More information about this series at <http://www.springer.com/series/8795>

Risa Palm • Toby Bolsen

Housing Market Response to Sea-Level Rise in Florida



Springer

Risa Palm
Urban Studies Institute
Georgia State University
Atlanta, GA, USA

Toby Bolsen
Political Science Department
Georgia State University
Atlanta, GA, USA

ISSN 2211-0577

Coastal Research Library

ISBN 978-3-030-88434-5

<https://doi.org/10.1007/978-3-030-88435-2>

ISSN 2211-0585 (electronic)

ISBN 978-3-030-88435-2 (eBook)

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2022

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

To Eliot, Emma, Justin, and Katelyn

Acknowledgments

The authors would like to thank Georgia State University for providing funding to support graduate student assistants and the costs of acquiring survey responses. We thank Justin Kingsland, December Weir, and Chelsea Johnson for their help in data collection, cleaning, analysis, text editing, and the creation of several of the figures in this book. We appreciate Laura Villo's assistance in handling the Amazon gift cards for the real estate agent participants. We thank Jeremy Craig for his careful review of the manuscript and his suggested changes. We thank the First Street Foundation for permission to use images from Flood Factor. We are grateful for the helpful suggestions from several colleagues including Donald Reitzes, Jan Nijman, Ann-Margaret Esnard, Nancy Marlin, and David Greenland. Jeremy Kopkas provided both editorial advice and prepared the manuscript following the publisher's guidelines for electronic submission. Of course, any errors should be attributed to the authors.

Contents

1	Introduction	1
	References	5
2	The Development of Vulnerable Real Estate in South Florida	7
2.1	A Legacy of Vulnerability	10
2.2	Do Florida Residents Perceive Their Homes as Vulnerable to the Impacts of Climate Change?	14
2.3	Resolving the Conflict: A Survey of Real Estate Agents	15
	References	17
3	House Price Trends in Coastal US Cities	21
3.1	The Coast as an Amenity in the Pricing of Houses	22
3.2	Flood Insurance as an Additional Cost in Coastal or Riverine Flood-Prone Areas	23
3.3	Flood Insurance in Florida	25
3.4	Does the Cost of Flood Insurance Influence Home Buyer Behavior or House Prices?	28
3.5	Summary	33
	References	34
4	Effective Communication About Climate Change and Sea-Level Rise	39
4.1	Beliefs About Climate Change and Sea-Level Rise	40
4.2	How the Concept of Climate Change Became Polarized	42
4.3	Using Visual Imagery to Convey Risks of Sea-Level Rise	43
4.4	The Addition of Visual Imagery About Flood Hazards to realtor.com	45
4.5	Summary	46
	References	47

5	The Role of the Real Estate Agent	53
5.1	The Real Estate Sales Profession	54
5.2	Real Estate Agents in Florida	56
5.3	How Real Estate Agents Influence the Search for a New Home	57
5.4	The Duty to Disclose by the Seller and the Real Estate Agent	59
5.5	Are Florida Homebuyers Concerned with Flood Risk?	60
5.6	Summary	62
	References	63
6	Methodology: Survey of South Florida Realtors	67
6.1	Respondent Characteristics	70
6.2	Submarket Differences	71
6.3	Summary	72
	References	73
7	Information About Sea-Level Rise and Its Effects on Home Search Behavior	75
7.1	Information Available to Homebuyers About Flood Risk	76
7.1.1	Familiarity with the Area: Most Homebuyers Are Local	76
7.1.2	Information from Federal and Local Government	77
7.1.3	Elevation Certificate in the Process of Purchasing Flood Insurance	77
7.1.4	Information from the Real Estate Industry	80
7.2	Response of Buyers and Sellers	82
7.3	Realtor® Support for the New Website	82
7.4	Do Prospective Buyers Avoid Seeking Property in Low-Lying Coastal Areas?	83
7.5	Do Investors Differ from Owner-Occupiers?	86
7.6	Do Buyers of Less Expensive Houses Avoid Low Elevation Property More Frequently?	88
7.7	Real Estate Agent Characteristics and Opinions About Buyer Behavior and Flood Factor	88
7.8	Summary	90
	References	92
8	The Housing Market in Coastal South Florida from the Perspective of the Real Estate Agent	95
8.1	Has the Threat of Sea-Level Rise Affected Florida House Prices?	96
8.2	Do Lenders Consider Flood-Risk in Their Home Mortgage Decisions?	97
8.3	Do Appraisers Consider Elevation or Susceptibility to Flooding in Their Assessment of Value?	99

8.4	What Do Real Estate Agents Predict for the Next 5–10 Years?	101
8.5	In Their Words	103
8.6	Impact of Demographic, Locational and Attitudinal Characteristics on Responses	108
8.7	Summary	111
	References	112
9	Four Communities: Vulnerable by Design	115
9.1	Apollo Beach	116
9.2	Cape Coral	119
9.3	Hollywood	120
9.4	Punta Gorda	123
9.5	Summary	124
	References	126
10	Implications of Housing Market Response to Sea-Level Rise in South Florida	129
10.1	Key Findings	130
10.2	Looking to the Future	132
	References	136
	Appendices	139
	Appendix 1: Questionnaire	139
	Appendix 2: Survey Experiment	145
	Appendix 3: Predictors of Views About SLR and Climate Change	147

List of Figures

Fig. 1.1	Florida beach. (Source: iStock photo)	2
Fig. 2.1	Henry Plant's Tampa Bay Hotel. (Source: Flickr Creative Commons)	8
Fig. 2.2	Opa-Locka City Hall built in 1926. (Source: Creative Commons Attribution-Share Alike 4.0 International. https://commons.wikimedia.org/wiki/File:City_Hall_(Opa-Locka,_Florida)_1.jpg)	11
Fig. 2.3	Aladdin City, Florida. (Source: Clarke Historical Library, Central Michigan University, https://commons.wikimedia.org/wiki/File:Aladdin_City_Flordia_Land_Boom.jpg)	11
Fig. 2.4	Advertisement for Golden Gate Estates, Florida. (Source: Unknown author, Public domain, via Wikimedia Commons, https://commons.wikimedia.org/wiki/File:Golden_Gate_Estates,_Florida_-_Real_Estate_Sales_Brochure_Front.jpg)	13
Fig. 2.5	Housing submarkets in the real estate agent survey	17
Fig. 4.1	Projected flooding in Cape Coral, Florida. Area colored in purple would have 3 or more feet of floodwater. (Source: Flood risk data is provided by Flood Factor®, a product of First Street Foundation®)	46
Fig. 6.1	Experience, residency and sales volume	70
Fig. 6.2	Political identification by submarket	72
Fig. 7.1	Pinellas County storm surge. (Source: Pinellascounty.org) The depth of floodwaters for the house indicated with the red dot is shown in the picture above, along with information about evacuation from that location	78
Fig. 7.2	Elevation certificate required for Flood Insurance. (Source: FEMA.gov)	79

Fig. 7.3	Detail from FloodIQ.com link in 2018. (Source: Flood risk data is provided by Flood Factor [®] , a product of First Street Foundation [®])	80
Fig. 7.4	Are buyers avoiding low-elevation coastal property?	84
Fig. 8.1	Are house prices for “at risk” properties “falling or not rising as rapidly”?	96
Fig. 8.2	Are Mortgage loans affected?	97
Fig. 8.3	Does elevation impact appraised value?	101
Fig. 8.4	Properties listed for sale in April 2021 at prices of \$5 million or more	102
Fig. 8.5	Impact of flooding on property market over next 5–10 years for full sample	103
Fig. 8.6	Future effect of flooding by submarket	104
Fig. 8.7	Example of an elevated dwelling. (Source: FEMA, Coastal Construction Manual)	111
Fig. 9.1	Properties at a 1% risk of flooding in 30 years. Areas shaded in purple represent 3 or more feet of flooding. (Source: Flood risk data is provided by Flood Factor [®] , a product of First Street Foundation [®])	117
Fig. 9.2	Apollo Beach	118
Fig. 9.3	Cape Coral	121
Fig. 9.4	Hollywood, Florida	122
Fig. 9.5	Punta Gorda	125
Fig. 9.6	Real estate agent responses from four vulnerable communities ...	126
Fig. 10.1	Projections of rising sea-levels compared to historical trends. (Source: Southeast Florida Climate Compact)	133
Fig. A.1	Response to flood factor by treatment	146

List of Tables

Table 3.1	January 2021 FEMA flood insurance rates for Special Flood Hazard Zones	27
Table 5.1	Real estate agent rankings of the relative importance of neighborhood characteristics for homebuyers	61
Table 7.1	Realtor® support for NAR’s decision and likelihood will recommend to others	82
Table 7.2	Submarket responses to avoiding low-elevation coastal property	85
Table 7.3	Investors, second homebuyers, and owner-occupiers with respect to avoiding low elevation coastal property	87
Table 7.4	Avoiding low elevation property by submarket and property use by buyer	87
Table 7.5	Real estate agents’ Characteristics and Beliefs about Buyer Behavior and Flood Factor	91
Table 8.1	Real estate agents’ characteristics and beliefs about house prices falling, lender response and appraiser response to Property at risk of flooding	109
Table 9.1	Apollo Beach	119
Table 9.2	Cape Coral	120
Table 9.3	Hollywood Florida	123
Table 9.4	Punta Gorda	124
Table A.1	Difference in support for NAS decision and likelihood of recommending between control vs. treatment	146
Table A.2	Predictors of response to “sea-level scale”	148

About the Authors

Risa Palm is the author of 14 books and monographs as well as numerous scholarly articles and invited book chapters. Among her previous books are textbooks for introductory human geography courses (*An Invitation to Geography*, McGraw-Hill, 2 editions), upper division courses in American cities (*Geography of American Cities*, Oxford University Press), and natural hazards (*Natural Hazards: An Integrative Framework for Research and Planning*, Johns Hopkins University Press). She has also published three monographs on earthquake hazards with Westview Press (now part of Harper Collins) including *Earthquake Insurance: A longitudinal study*, *Earthquake Insurance in California: Environmental policy and Individual Decision-Making*, and *Illusions of Safety: Culture and Earthquake Hazard Response in the US and Japan*, and another monograph on earthquake hazards with The University of Chicago Press Geography Research Papers (*After a California Earthquake: Attitude and Behavior Change*). She has received research honors from the American Association of Geographers and served as president of this association.

Toby Bolsen is the author of over 40 scholarly articles and book chapters. His research focuses on the study of political behavior, public opinion formation, political communication, experimental methods, and US energy and climate policy. He has published research in numerous high-impact journals such as the *American Journal of Political Science*, *Political Behavior*, *Public Opinion Quarterly*, *Journal of Communication*, *Political Communication*, *Climatic Change*, *Science Communication*, *Energy Policy*, *Environmental Communication*, and many other outlets. He has received several best paper awards for published work presented at academic conferences.

Chapter 1

Introduction



Abstract Despite its vulnerability to flooding associated with sea-level rise, coastal South Florida continues to attract large numbers of new residents each day. Information about flood insurance requirements and flood-risk is widely available, but our 2018 survey found that coastal residents seemed relatively unconcerned about the future value of their homes. At the same time, some econometric studies have found that proximity to the coast may have a negative impact on both demand and sales price of coastal housing. Clearly, the south Florida coast is both an amenity and increasingly a hazard. Two other factors potentially impacted the market as of 2020. First, as of the summer of 2020, detailed, property-level information was made available about flood risk to prospective homebuyers on the website of the National Association of Realtors®. Second, the price and availability of flood insurance came into greater focus as there was serious discussion of revising the price structure of federal flood insurance for properties at substantial risk. To gain a perspective on the impacts of increased attention to the hazard of sea-level rise on the residential property market, we administered a survey in the fall of 2020 to 680 licensed Florida estate brokers and sales associates. We asked the real estate agents to describe what they observed in working with prospective south Florida homebuyers, and their assessment of local housing market trends. The analysis of their views has important implications for understanding how the risks of climate change and sea-level rise are reflected in the housing market both now and in the near-term future.

Keywords Real estate agents · Sea-level rise · Flood risk · Florida

Florida real estate. What image does this term suggest? Is it life on the beach with palm trees swaying and summer weather all year round (Fig. 1.1)? Is it the view of the ocean from a condominium window or the feel of pleasant breezes while walking along an oceanfront boardwalk? Is a Florida home on the coast one of your dreams?

Or do you think about the hurricanes that threaten Florida every summer and fall? Or the photos of the streets of Miami on a sunny day flooded by tidal waters? Or the summer days when the heat and humidity seem unbearable? Or do you think about



Fig. 1.1 Florida beach. (Source: iStock photo)

the days when slick salespersons sold swampland to hapless buyers from out-of-state?

This book is about the south Florida residential real estate market and its vulnerability to sea-level rise resulting from climate change. We will explore real estate agent opinions on how prospective homebuyers assess the risk of flooding, and whether they observe that house prices are stagnant or falling in coastal areas vulnerable to flooding. And we will report on their conclusions after working with prospective homebuyers as to whether coastal south Florida is a good place to find a home or, alternatively, a risky investment in a place that will eventually be submerged by rising seas.

The question of how sea-level rise is affecting the south Florida property market is an urgent one: the residential real estate market is one of the pillars of Florida's economy, accounting for 22% of the Florida gross domestic product or over \$240 billion annually (Woetzel et al. 2020). If prices fall precipitously, households might be unable to obtain mortgage financing or affordable insurance. A decline in property values would mean losses of local property tax revenues, with concomitant deterioration of support for regional infrastructure and education. At the national and international level, a rapid decline in the value of coastal Florida property would have a jarring and cascading effect throughout the insurance and secondary mortgage markets as well as the variety of entities that have financial stakes in banking and real estate in Florida (Nicholson et al. 2018; Taylor 2020; Taylor and Weinkle 2020).

Precise estimates of the scale and timing of sea-level rise for the Florida coast, or indeed any location, remain elusive (Hinkel et al. 2019; Kopp et al. 2019).