
Flood Insurance in a Changing World

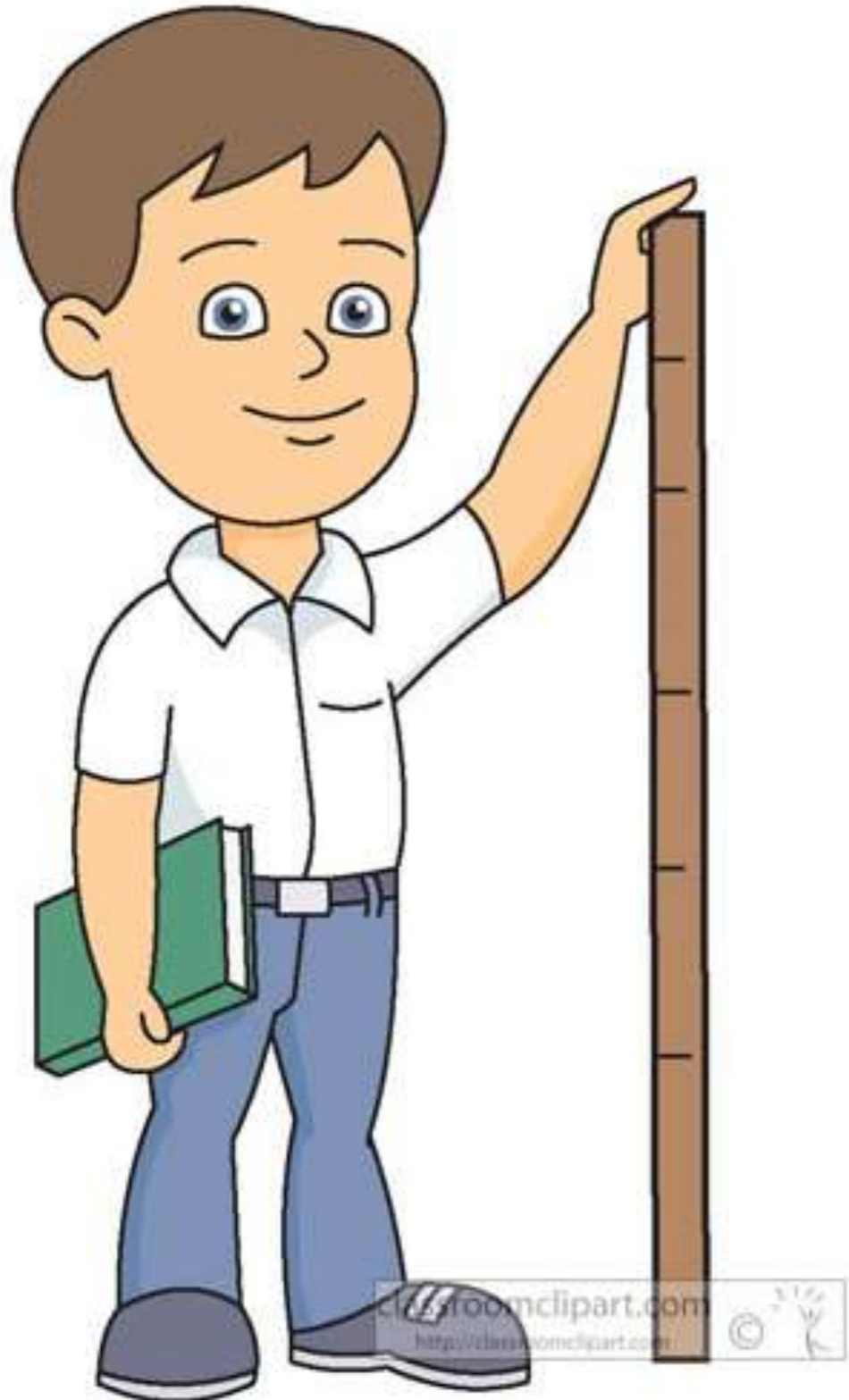


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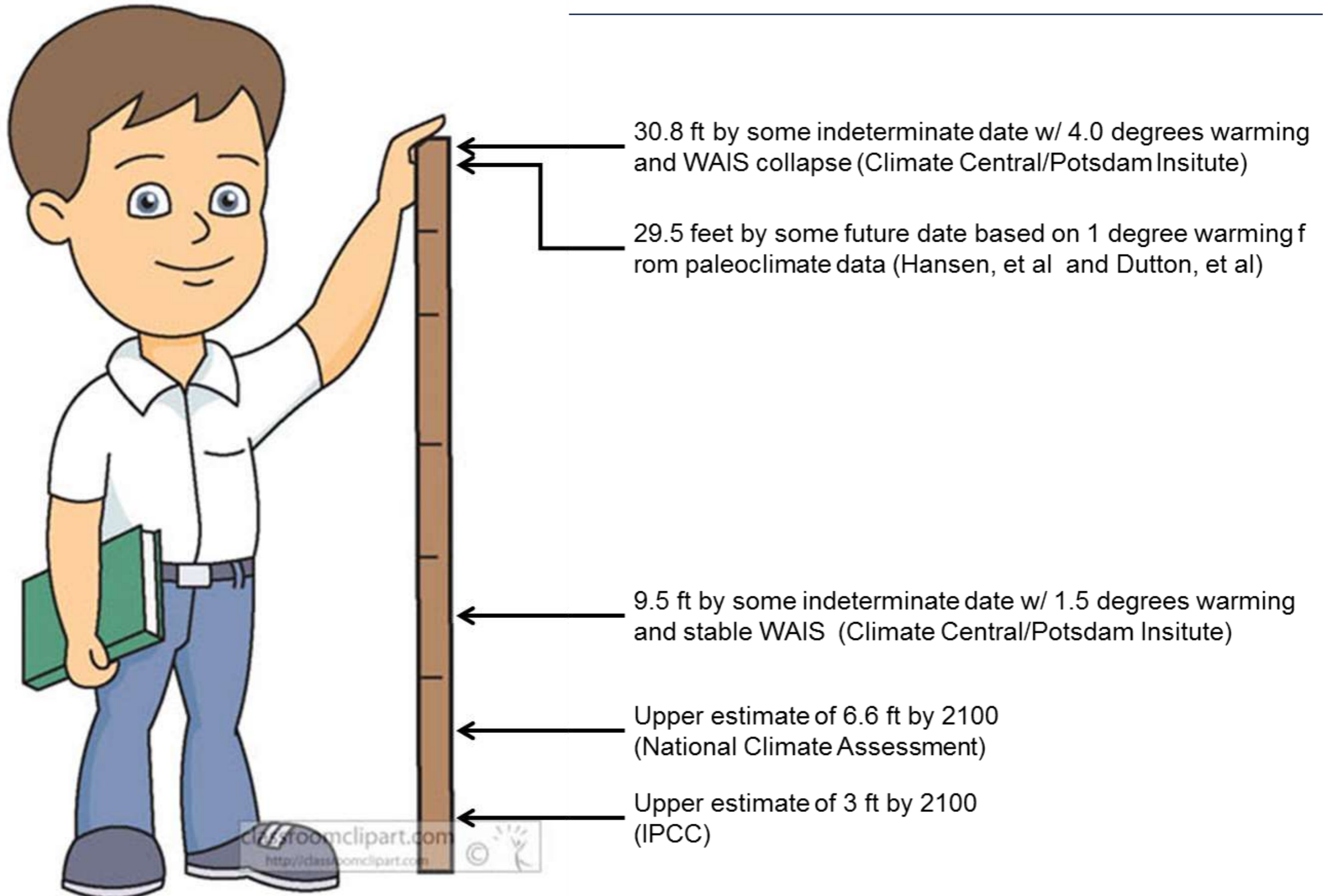
Rising Flood Risks add to flood insurance problems

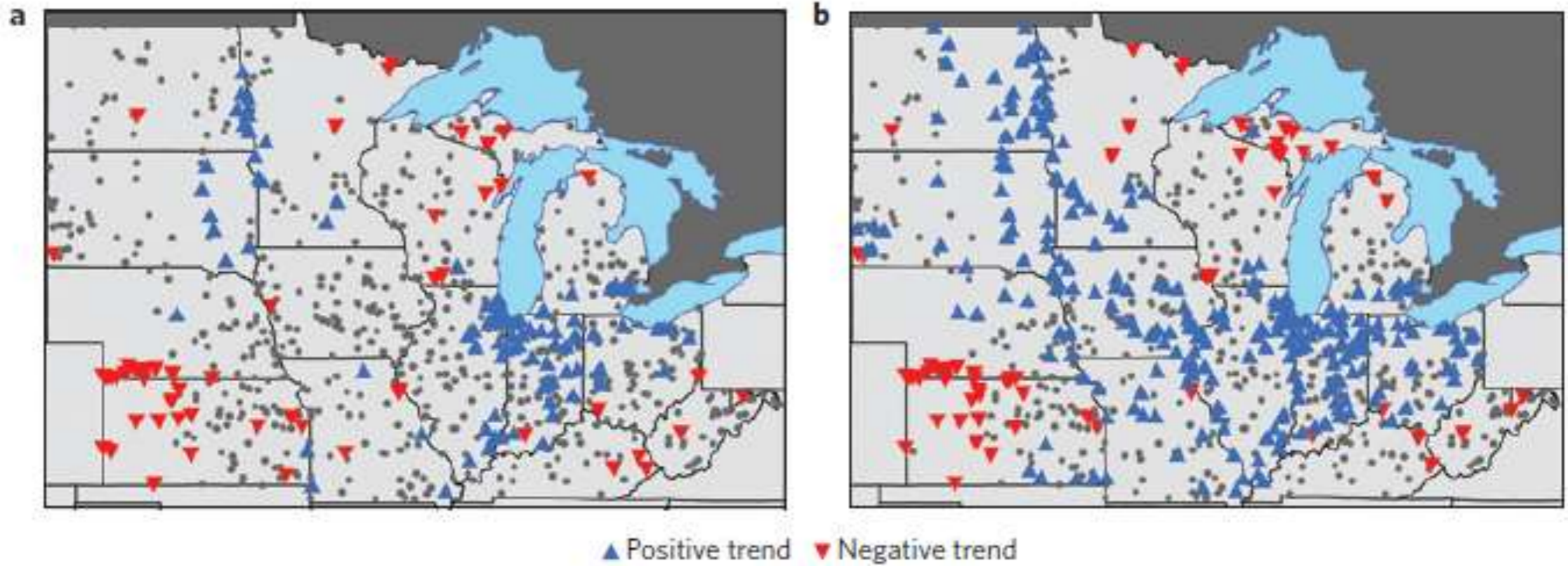
- Post-disaster aid program - not a pre-disaster risk management program
- Prolongs, rather than reduces, future flood risk
- Fails to incentivize people to move out of floodplains.
- Fails to dis-incentivize people from moving into floodplains.
- Based on false assumption:
yesterday's flood risk = today's flood risk = tomorrow's flood risk

Sea Level Rise – How high will it go?



Sea Level Rise – How high will it go?

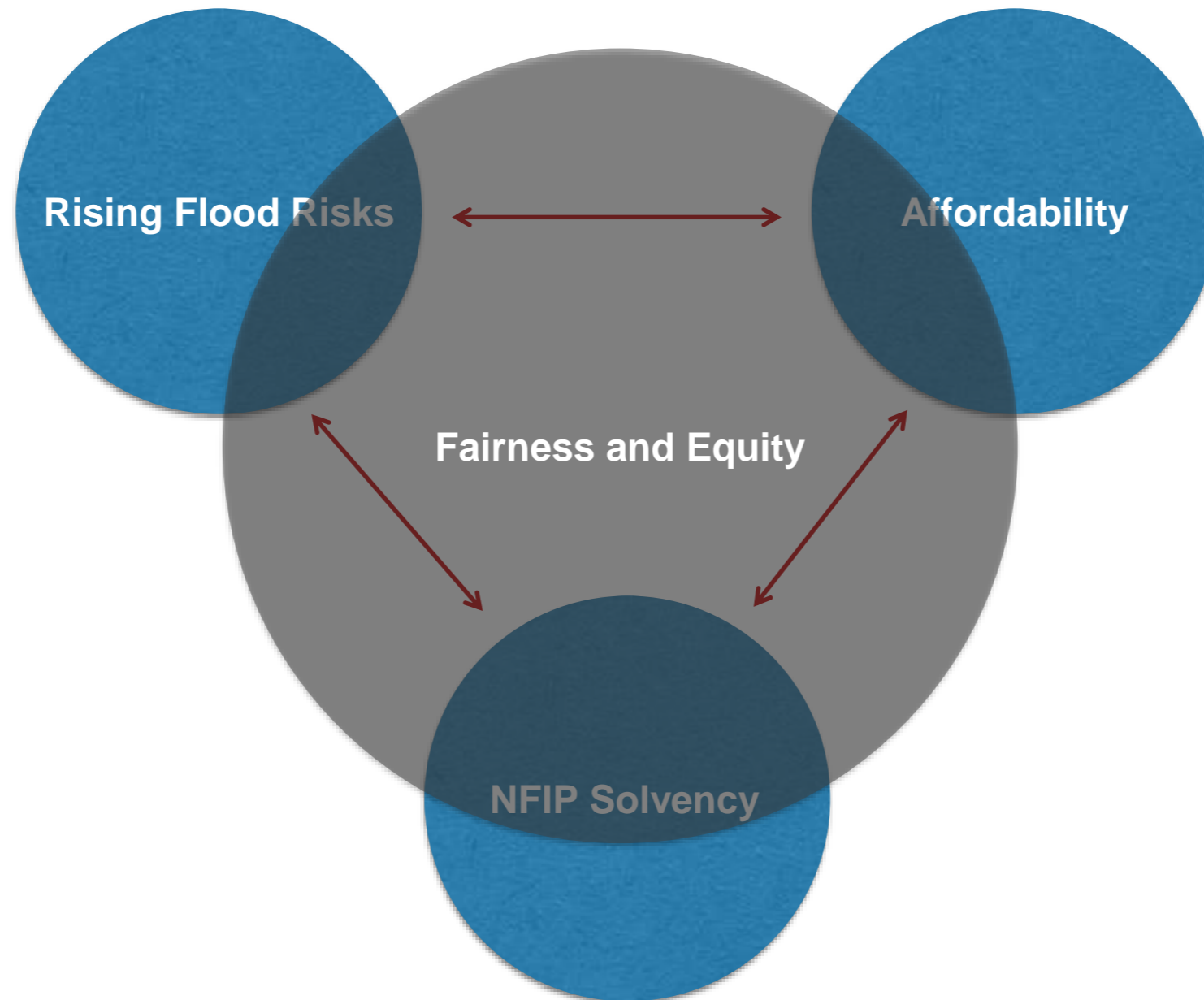




Observed changes in flood (a) magnitude and (b) frequency

Taken from *Nature Climate Change*, DOI: 10.1038/NCLIMATE2516

Competing Tensions in Flood Insurance Reform



NRDC's Climate Smart Flood Insurance Reforms
a.k.a. - Discounts for Buyouts Proposal

Long-term
Reduction in
Flood Risk
& Damages

Person Stays in
Home in
Near-Term
Affordable
Insurance

Buyout
Guarantee
Property Value



Property Owner

FEMA

Discounts for Buyouts Proposal - Eligibility

Low and middle income
property owners

Areas vulnerable to
sea level rise

Properties valued at
< \$250,000

Existing V-zones
(wave action)

Benefit-cost ratio > 1
when rising flood risks
factored in

Areas with high numbers
of repetitive loss
properties

Addressing Affordability and Long-Term Resiliency Through the National Flood Insurance Program

by Becky Hayat and Robert Moore

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Summary

Given projections of sea-level rise and extreme precipitation from climate change, the United States will experience more frequent and more severe flood events in coming years. National Flood Insurance Program (NFIP) policies, therefore, should be geared toward making relocation the easiest and most attractive option for property owners to pursue. The authors propose that property owners should agree in advance not to rebuild following floods that cause substantial damage and, instead, to accept a government buyout of their property and relocate. In exchange, they would receive a discount on their federal flood insurance coverage, a guarantee that their property would be purchased at its pre-disaster market value, and a faster buyout process. This model could be implemented as part of the NFIP, or alternatively by states, local governments, and conservation organizations through the purchase of conservation easements on flood-prone properties.

I. Introduction

During the 20th century, floods accounted for the largest number of lives lost and the most property damage in the United States when compared with other natural disasters.¹ Given the projections of sea-level rise and increased extreme precipitation events from climate change, the country will experience more frequent and more severe flood events in the coming years. According to a September 2013 report from the American Meteorological Society, global warming-induced sea-level rise is significantly reducing the time between major coastal flood events.² For example, a flood of the magnitude resulting from 2012's Hurricane (Superstorm) Sandy would have been considered a once-in-435-years event in 1950, but given the projected effects of climate change, by 2100, Sandy-scale flooding could occur every 20 years.³ Urban and riverine flooding is likewise expected to increase in frequency and severity as precipitation patterns change.

To make matters worse, the rising human and economic costs of flooding are exacerbated by the National Flood Insurance Program (NFIP),⁴ which provides subsidized flood insurance rates to property owners living in vulnerable areas, thereby perpetuating development and redevelopment in flood-prone areas. Ultimately, the nation needs to encourage property owners to move away from flood-prone areas and areas vulnerable to the future impacts of sea-level rise. NFIP policies, therefore, should increasingly be geared toward making relocation to higher and safer grounds the easiest and most attractive option for property owners to pursue, both before and after a flood occurs.

This Article proposes different ways in which the federal government, as well as state and local governments and nongovernmental organizations, can secure agreements from property owners to move away from areas that are already at high risk of flooding and will be at even greater risk as the climate warms, sea levels rise, and precipitation patterns change. Currently, efforts to purchase flood-prone properties largely occur after a flood has already damaged a person's home. Given the nation's increasing exposure to flooding, we should invest more in efforts to relocate

NRDC thanks the *Environmental Law Institute* and the *Environmental Law Reporter* for publishing our paper.

Paper is available at

www.elr.info or is.gd/OXpaim

1. U.S. GEOLOGICAL SURVEY (USGS), SIGNIFICANT FLOODS IN THE UNITED STATES DURING THE 20TH CENTURY: USGS MEASURES A CENTURY OF FLOODS (2000), available at <http://ks.water.usgs.gov/pubs/fact-sheets/fs.024-00.pdf>.
2. Thomas C. Peterson et al., *Explaining Extreme Events of 2012 From a Climate Perspective*, 94 AM. METEOROLOGICAL SOC'Y BULL. (Sept. 2013), available at <http://www.ametsoc.org/2012extremeeventsclimate.pdf>.
3. Tom Johnson, *Mapping Out Areas in New Jersey at Risk of Flooding as Sea Levels Rise*, N.J. SPOTLIGHT (Oct. 28, 2013), available at <http://www.njspotlight.com/stories/13/10/27/analysis-maps-out-flood-risks-in-nj-as-ocean-levels-rise/>.
4. The NFIP is administered by the Federal Emergency Management Agency (FEMA). The U.S. Congress established the NFIP in 1968 through the National Flood Insurance Act of 1968, Pub. L. No. 90-448, Title XIII, §§1301 et seq., 82 Stat. 476, 576 (1968).