

A MODEL FOR MANAGED RETREAT

As sea levels rise and extreme weather intensifies, protecting at risk communities and repeatedly rebuilding damaged homes may become untenable. Communities face a choice: wait until the next disaster strikes, or make considered decisions and plans today.

While “managed retreat” makes sense on paper as one option for reducing risk, it is complicated by a host of social, political and psychological factors. More than a million people have already relocated through managed retreat. Their experiences can be broken down into four scenarios, which can also help us think about how to manage retreat more effectively in the future.

RESIDENTS INITIATE RETREAT

RESIDENTS DO NOT INITIATE RETREAT

BROADER SOCIETY DOES NOT BENEFIT

SELF-RELIANCE



Residents call for retreat, but are not adequately supported by the government

EXAMPLE:
The coastal Alaskan villages of Newtok, Shishmaref and Kivalina have voted collectively to relocate away from flooding and erosion, but have been unable to secure sufficient federal government support due to high costs

HUNKERED DOWN



The government initiates retreat, and individuals do the best they can

EXAMPLE:
After a major tsunami, the Sri Lankan government prohibited rebuilding in the coastal zone, but poor execution and understanding led to some residents moving back, while others lacked permanent housing for months or years

BROADER SOCIETY BENEFITS

MUTUAL AGREEMENT



Residents initiate retreat, and the government supports their efforts

EXAMPLE:
The U.S. Federal Emergency Management Agency (FEMA) finances voluntary buyouts of high-risk properties after a natural disaster, and then returns purchased properties to open space

GREATER GOOD



The government initiates retreat with the aim of benefiting society at large

EXAMPLE:
A Dutch program bought out or paid to elevate homes, then lowered dykes around the community to create a floodplain for high river flows, thus protecting larger populations downstream

SOURCE:

“Managed retreat as a response to natural hazard risk,” *Nature Climate Change*, Published online March 27, 2017, DOI: 10.1038/NCLIMATE3252

FOR MORE INFORMATION:

rjordan@stanford.edu

PRODUCED BY: