

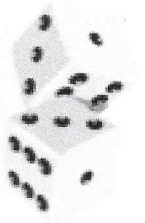


# 2

## Green Growth

Subtract 2!

Your community has embraced green growth, so resilience policies are easier and cheaper to pass and implement



3

**The Good**

K: Protected reservoirs

## Saltwater Intrusion

\_\_\_\_ Total

*Rising sea levels and high freshwater consumption have allowed saltwater into groundwater sources*

0: + 3 marbles

1: + 1 marble

**The Bad (+1 marble)**

L: Subsidize bottled water consumption

NOTES:



**4**

**Good**

**Conditions**

*Several years of fewer  
coastal extremes*

**Subtract 2!**

Your population is less  
vulnerable to extreme  
weather, and your  
government has saved  
resources to deal with future  
extremes



# 12



## Climate Literacy

Subtract 2!

Citizens make more informed decisions, helping to protect the community



# 5



## Storm Surge

Extreme severity: levees are breached, and damage to the city is great

### The Good

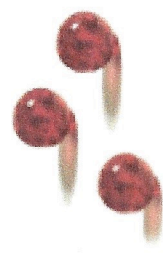
- A: Soft coastal barrier
- C: Green space
- D: Permeable streets
- E & F: Early warning and evacuation plan
- G: Resilient buildings
- I: Discourage coastal building
- J: Margins on drainage

\_\_\_\_ Total

- 0-1: + 5 marbles
- 2-3: + 4 marble
- 4-5: + 3 marbles
- 6-7: + 2 marbles

### The Bad (+1 marble)

- H: Allow coastal building



# 11

# 6

## Heat wave *Increased heat stroke*

### The Good

- A: Soft coastal barrier
- C: Green space
- E: Early warning

\_\_\_ Total

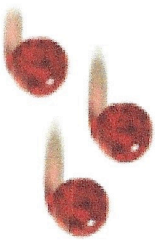
0-1: + 1 marble  
 2-3: + 0 marble

- ### The Good
- C: Green space
  - D: Permeable streets
  - J: Margins on drainage

\_\_\_ Total

0: + 3 marbles  
 1-2: + 2 marble  
 3: + 1 marbles

**Loss of Fisheries**  
*Runoff from more rain and mountain melting has created a dead zone, harming fisheries important to the economy*



# 10

### The Good

- A: Soft coastal barrier
- C: Green space
- D: Permeable streets
- E & F: Early warning and evacuation plan
- G: Resilient buildings
- I: Discourage coastal building
- J: Margins on drainage

\_\_\_\_ Total

- 0-1: + 5 marbles
- 2-3: + 4 marble
- 4-5: + 3 marbles
- 6-7: + 2 marbles

### The Bad (+1 marble)

- H: Allow coastal building

**Flooding**  
*Extreme; a result of rising sea levels combined with extreme rainfall*



# 7

### The Good

- A: Soft coastal barrier
- B: Hard coastal barrier
- C: Green space
- D: Permeable streets
- E: Early warning
- G: Resilient buildings
- I: Discourage coastal building
- J: Margins on drainage

\_\_\_\_ Total

- 0-2: + 3 marbles
- 3-5: + 2 marble
- 6-7: + 1 marbles
- 8: + 0 marbles

### The Bad (+1 marble)

- H: Allow coastal building

**Storm Surge**  
*Normal severity: levees not breached*



# 8

## Flooding

*Normal severity; a result of sea level rise combined with moderately heavy rainfall*

### The Good

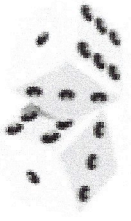
- A: Soft coastal barrier
- B: Hard coastal barrier
- C: Green space
- D: Permeable streets
- E: Early warning
- G: Resilient buildings
- I: Discourage coastal building
- J: Margins on drainage

\_\_\_ Total

- 0-2: + 2 marbles
- 3-5: + 1 marble
- 6-8: + 0 marbles

### The Bad (+1 marble)

- H: Allow coastal building



# 9

## Erosion

*A result of sea level rise combined with coastal storms; damages coastal property and businesses*

### The Good

- A: Soft coastal barrier

\_\_\_ Total

- 0: + 2 marbles
- 1: + 1 marble

### The Bad (+1 marble)

- B: Hard coastal barrier

# Beat the Uncertainty: Planning Climate- Resilient Cities

Adapted from an original activity by: Tarlise Townsend  
and Astrid Kause,  
In collaboration with Peg Steffen, NOAA National  
Ocean Service, Dinh Thai Hung, Thanh Ngo Duc, and  
Vinh Nguyen Le Ai, and Susan Fox at NOAA Office of  
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