Green Growth

Subtract 2!

Your community has embraced green growth, so resilience policies are easier and cheaper to pass and implement.
<table>
<thead>
<tr>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>into groundwater</td>
</tr>
<tr>
<td>Freshwater consumption</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Rising sea levels and high intrusion</td>
</tr>
<tr>
<td>Saltwater</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>K: Protected Reservoirs</td>
</tr>
<tr>
<td>The Good</td>
</tr>
</tbody>
</table>
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
The Good (1 marble)

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

Total

Storm Surge

Great damage to the city is breached, and extreme severity: levees

The community decision helping to protect citizens make more informed

Literacy

Climate

Subject 2!

12
Loss of Fisheries

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

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

Total

<table>
<thead>
<tr>
<th>Score</th>
<th>Marbles</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>+3</td>
</tr>
<tr>
<td>1-2</td>
<td>+2</td>
</tr>
<tr>
<td>3</td>
<td>+1</td>
</tr>
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</table>

Heat wave

Increased heat stroke

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

Total

<table>
<thead>
<tr>
<th>Score</th>
<th>Marbles</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>+1</td>
</tr>
<tr>
<td>2-3</td>
<td>+0</td>
</tr>
<tr>
<td>Condition</td>
<td>Marbles</td>
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<tr>
<td>-------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Storm Surge</td>
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</tr>
<tr>
<td>Normal Severe: Low</td>
<td>0</td>
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<tr>
<td>Normal Severe: Medium</td>
<td>2</td>
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<tr>
<td>Normal Severe: High</td>
<td>4</td>
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<tr>
<td>Extreme Severe: Low</td>
<td>6</td>
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<tr>
<td>Extreme Severe: Medium</td>
<td>7</td>
</tr>
<tr>
<td>Extreme Severe: High</td>
<td>9</td>
</tr>
</tbody>
</table>

**Total:** 30

---

**Flooding risk level:**
- A: Soft coastal barrier
- B: Hard coastal barrier
- C: Green space
- D: Permeable streets
- E: Early warning
- F: Disaster coastal evacuation plan

**High risk factors:**
- Rainfall combined with extreme: a result of extreme: rising sea levels

---

**The Good:**
- H: Allow coastal building
- I: Discourage coastal building
- J: Resilient buildings
- K: Early warning
- L: Green space
- M: Permeable streets
- N: Soft coastal barrier
- O: Hard coastal barrier
- P: Green space
- Q: Permeable streets
- R: Early warning
- S: Disaster coastal evacuation plan
- T: Allow coastal building

---

**Total:** 30
Flooding
Normal severity; a result of sea level rise combined with moderately heavy rainfall

□ 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

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

□ 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 Coastal Management