Tourism Timeline

2020
- Broad consensus on climate change
- Development of Voyager 1.0
- The epiphany of seeing the Earth's curvature leads to "Earth Without Borders" concept

2030
- Worsening climate change impacts mass populations
- Billionaire invests in larger Voyager 2.0 to accommodate more people
- Political will for global answers to global problems coalesces

2040
- Stratosphere hotel becomes technologically feasible
# Earth Observation Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Environmental Event</th>
<th>Social Change</th>
<th>Engineering Innovation</th>
<th>Character Event</th>
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</thead>
<tbody>
<tr>
<td>2017</td>
<td>Stationkeeping stratospheric balloons</td>
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<td></td>
<td>Global Earth observation balloon constellations</td>
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<td>2030</td>
<td>Transnational agreement on large-scale regulatory scheme for balloon-based overflight CO2 levels reach 500 ppm</td>
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<td>West Antarctic Ice Sheet collapses</td>
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<td>2040</td>
<td>Major volcano eruption in non-U.S. region proves efficacy of aerosol adaptation for CO2 rise and builds global public support</td>
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<td>Mass Deployment of aerosol countermeasures</td>
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<td>2050</td>
<td>Earth surface temp down by 2 °C</td>
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<td></td>
<td>CO2 levels reach 700 ppm</td>
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<td>Indian Monsoon failure</td>
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<tr>
<td>2060</td>
<td>Lucy born</td>
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<td>Ozone layer thinning as direct result of aerosols and CO2 levels reach 800 ppm</td>
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<td>Ocean acidification</td>
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<tr>
<td>2090</td>
<td>CO2 reaches 900 ppm</td>
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<td>Time of story</td>
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</table>
Communications and Disaster Response Timeline

- **2020**
  - Environmental Event: Commercialization of stratospheric tourism
  - Engineering Innovation: Ubiquitous communications and sensory systems operative

- **2025**
  - Social Change: First 52 °C degree day in Phoenix
  - Engineering Innovation: The power system is rid of mechanical breakers

- **2030**
  - Social Change: Autonomous vehicle sales reach 50% of total vehicle sales
  - Engineering Innovation: Single power grid integration
  - Environmental Event: Death of the phone/integration of communication systems

- **2035**
  - Social Change: Integration of emergency responders
  - Environmental Event: Phoenix-Tucson metro integration

- **2040**
  - Social Change: Regulation limits human-driven cars
Science and Weather Observation Timeline

**2017**
- Stratollite technical foundations solidified
- Stratollite becomes capable of long term, ultra-high altitude floats
- Antagonists: Technocrats organize to build elite coalition
- 5 Stratollites deployed long-term
- Temporary moratorium, policy catch-up “Look up not down”
- Noriko: Age 7 First looks through telescope
- Money for international access; data as a public resource; anti-Stratollitist grassroots; privacy violations
- The Great Meteroid Scare
- Scientists want it both ways, up and down
- Noriko: Age 23, Spies on ex-boyfriend, receives 1 year probation
- Noriko: Gets CTO promotion for foiling terrorist plot; probation continues
- Noriko: Age 30, becomes Army officer
- Antagonists: Launch blocking Stratollite
- Stratollite achieve operational coverage of 92% of the Americas

**2040**
- 20 Stratollites deployed long-term
- Noriko: Age 30, becomes Army officer