Albedo effect
When it melts, sea ice gives way to water, which is darker. This reduces the albedo (reflection coefficient of solar radiation off a surface), increasing radiative forcing: the Earth absorbs more energy.
Rise of extremism
Diverging worldviews and inequalities create tensions that lead to hatred.
Greenhouse effect of water vapour at the poles
At the poles, the atmosphere is very dry, whereas it is wetter closer to the equator, so latent heat is lower at the poles, leading them to heat up faster.
Warming of the poles
Heating is faster at the poles than on the equator. The temperature difference between them is decreasing.
Decrease of the pole-equator temperature gradient
The decrease of the temperature gradient between the poles and the equator impacts the formation of the polar jet stream.
Polar jet stream slowdown
The polar jet stream is an atmospheric current born from strong thermal contrasts. It could simultaneously grow weaker and move closer to the poles.
Coral bleaching
The rise in water temperature causes coral to bleach. Coral is a symbiosis between colonies of polyps and photosynthetic algae called zooxanthellae. Coral bleaching appears when these algae leave the coral, breaking the symbiosis. If this continues, the coral dies.
Coral reef depletion
Ocean acidification affects coral calcification, and thus reef growth.
Gasoline
Gasoline is a fossil energy resource.
Natural gas
Natural gas is a fossil energy resource.
Coal is a fossil energy resource.
Population increase

Figure 1: Global income deciles and associated lifestyle consumption emissions

Percentage of CO₂ emissions by world population

<table>
<thead>
<tr>
<th>World population arranged by income (deciles)</th>
<th>Richest 10%</th>
<th>49%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poorest 50%</td>
<td>2%</td>
<td></td>
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<tr>
<td></td>
<td>1.5%</td>
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<td>2.5%</td>
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<td>4%</td>
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<td>7%</td>
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<td>11%</td>
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<tr>
<td></td>
<td>19%</td>
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</tr>
</tbody>
</table>

Richest 10% responsible for almost half of total lifestyle consumption emissions

Poorest 50% responsible for only around 10% of total lifestyle consumption emissions

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Rising population and living standards cause an increase in energy consumption.
Economic growth
In order to sustain economic growth, we need more and more energy.
Concrete
The cement industry accounts for around 6% of global GHG emissions, half of which come from the combustion of fossil fuels in cement kilns and half from the calcination reaction that turns limestone into quicklime. Cement mixed with sand, aggregates and water is used to produce concrete, a key material for the construction of buildings and infrastructure.
Oceanic carbon sink saturation
Both the growing hole in the ozone layer and global warming induce variations in heat exchanges and temperature distribution, making winds stronger. Ocean currents are modified and more CO$_2$-rich waters from the ocean depths are brought to the surface. This limits the ocean's capacity to sequester atmospheric CO$_2$. 
Ocean Eutrophication

The Eutrophication Process

- Nutrients, primarily from agricultural and urban sources, are delivered by stormwater runoff and atmospheric deposition.
- Escape: Mobile animals sometimes move out of hypoxic areas.
- Mortality: Oxygen is consumed as organic matter decomposes, leaving slow-moving or attached animals to suffocate.
- Pycnocline layer blocks oxygen flow to bottom waters.
- Wind and waves oxygenate surface layer.
- Lighter, fresher, warmer surface layer.
- Heavier, saltier, cooler lower layer.

Organic material, from sources such as dead or dying algae and plankton, falls to the seafloor and decomposes.
Over-enrichment of water with nutrients such as nitrogen and phosphorus is one of the main causes of water quality degradation. The two most acute symptoms of eutrophication are hypoxia (or oxygen depletion) and harmful algal blooms.
Ocean deoxygenation
Global warming could decrease the solubility of oxygen in water, reducing the amount of oxygen introduced into the oceans from the atmosphere and surface waters. This increases ocean stratification. Retroactively, marine organisms have to breathe faster, using more oxygen.
Depletion of natural resources
By overexploiting the planet's natural resources, we are going to exhaust remaining stocks of:

- Gasoline
- Ores
- Metals
Livestock
Livestock production accounts for about 14.5% of our global greenhouse gas emissions and produces:

- 37% of methane emissions from human activities
- 65% of nitrous oxide emissions
Exploitation of sand resources
The construction industry is the principal consumer of the planet's sand resources, causing coastlines to retreat and salt water to seep into the water table, making arable land unsuitable for agriculture. This also causes loss of biodiversity and damage to buildings and infrastructure.
Conversion of land to urban use
Converting more and more land to urban uses leads to losses of agricultural lands and natural areas. It makes the ground impermeable, increasing vulnerability to flooding, and creates urban heat islands.
Electricity
Electricity generation can come from a variety of sources including coal and natural gas, which are fossil fuels. Burning them emits CO$_2$. 
Urban heat islands (UHIs) are urban microclimates where temperatures are higher due to building materials that store heat, a lack of water and vegetation (which usually cool the atmosphere thanks to the latent heat of the moisture released), and heat-releasing human activities.
Decrease in nutrient content
The increase in CO$_2$ in the atmosphere will reduce the nutritional qualities of certain cereals and legumes.
Pesticides increase agricultural yields in the short term. In the long term, on the other hand, land that has been treated with pesticides sees its agricultural yields fall.
Economic impacts
Declines in tourism and variations in the quality of local products will have economic repercussions, as will the deterioration of property due to climatic events.
Failure of winter resorts
The melting of the glaciers causes a deficit of snow in the mountains, which makes it difficult to ski!
Increased use of snow cannons
To make it possible to continue skiing, extra snow is added with snow cannons. These cannons draw on fresh water resources. To store water, we modify ecosystems. To transport it, we use energy resources.
Decrease in wine yields

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Changes of the average temperature will affect the physiology of the plant, the composition of the grape and the quality of the wines.
Cold spells
Modifications and instabilities of the polar jet stream bring cold waves from the poles to lower latitudes, resulting in short, sudden cold spells.
Gulf Stream modification

Warm surface flow

Cool subsurface flow

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The engine of the Gulf Stream is located in the North Atlantic Ocean, under the pack ice: as it freezes, the salt released densifies the water which sinks and drives the Gulf Stream. When the pack ice melts, it releases fresh water. Less salty and less dense, the water does not sink as much and the whole Gulf Stream is slowed down.
Accentuation of the El Niño effect
The common factor between monsoons in Asia, droughts in Australia and floods in South America is El Niño phenomenon. It has a major impact on the climate and could increase with global warming.
Coastal erosion
Rising water levels and the exploitation of sand resources for industrial purposes, as well as sea flooding, could amplify natural coastal erosion. This threatens seafront buildings and infrastructure.
Bacteria and viruses from melting permafrost
If the billions of bacteria and viruses buried in the permafrost (the frozen ground of Siberia and Alaska) wake up, their activity could have serious consequences, both on the intensity of global warming itself and on the health of humans and animals on the planet.
Air pollution
Human activities release into the atmosphere many unhealthy gases, such as NO$_x$ (not to be confused with N$_2$O).
Acid rain

Acidic gases (sulphur dioxide and nitrogen oxides released into atmosphere) are carried by the wind and dissolve in rainwater to form acid rain. Acid rain kills plantlife, pollutes rivers and streams, and erodes stonework.
Acid rain is rain that contains nitric acid and sulphuric acid. These molecules come from fossil fuel combustion (SO$_2$), transport (NO$_x$) and intensive agriculture (NH$_3$) and cause forest dieback, respiratory diseases and corrosion.
Material corrosion
Acid rain degrades building materials used for many historical monuments (limestone, marble).
Ozone depletion
The Ozone layer filters out some of the sun's ultraviolet rays. The hole in the ozone layer is the result of chemical reactions between chlorine gases (e.g. CFCs) and ozone ($O_3$). Following the 1987 Montreal Protocol, which gradually banned chlorine gases, the hole in the ozone layer is closing.
Increase in ocean volume
The expansion of water does not increase the quantity of water, but increases its volume.
Increase in ocean mass
Melting continental ice increases the amount of water in the ocean.
Construction
We are talking here about the construction of buildings and infrastructures, as an industrial sector, as opposed to their usage. This sector emits about 14% of the world's GHGs. These emissions come mainly from the materials used (concrete, metal, etc.).
Air transport
The aviation sector is responsible for 2 to 4% of global GHG emissions (depending on the accounting methodology used).
Road transport
Road traffic is responsible for 11% of global GHG emissions.
The digital sector alone emits more than 4% of the world's GHGs, 47% of which are due to consumer devices (smartphones, tablets, computers, etc.), 28% to network infrastructure and 25% to data centers.
Lighting
Lighting (public and site lighting) consumes energy and generates light pollution that has an impact on flora and fauna.
Use of concrete
To make concrete you need cement, sand and water.