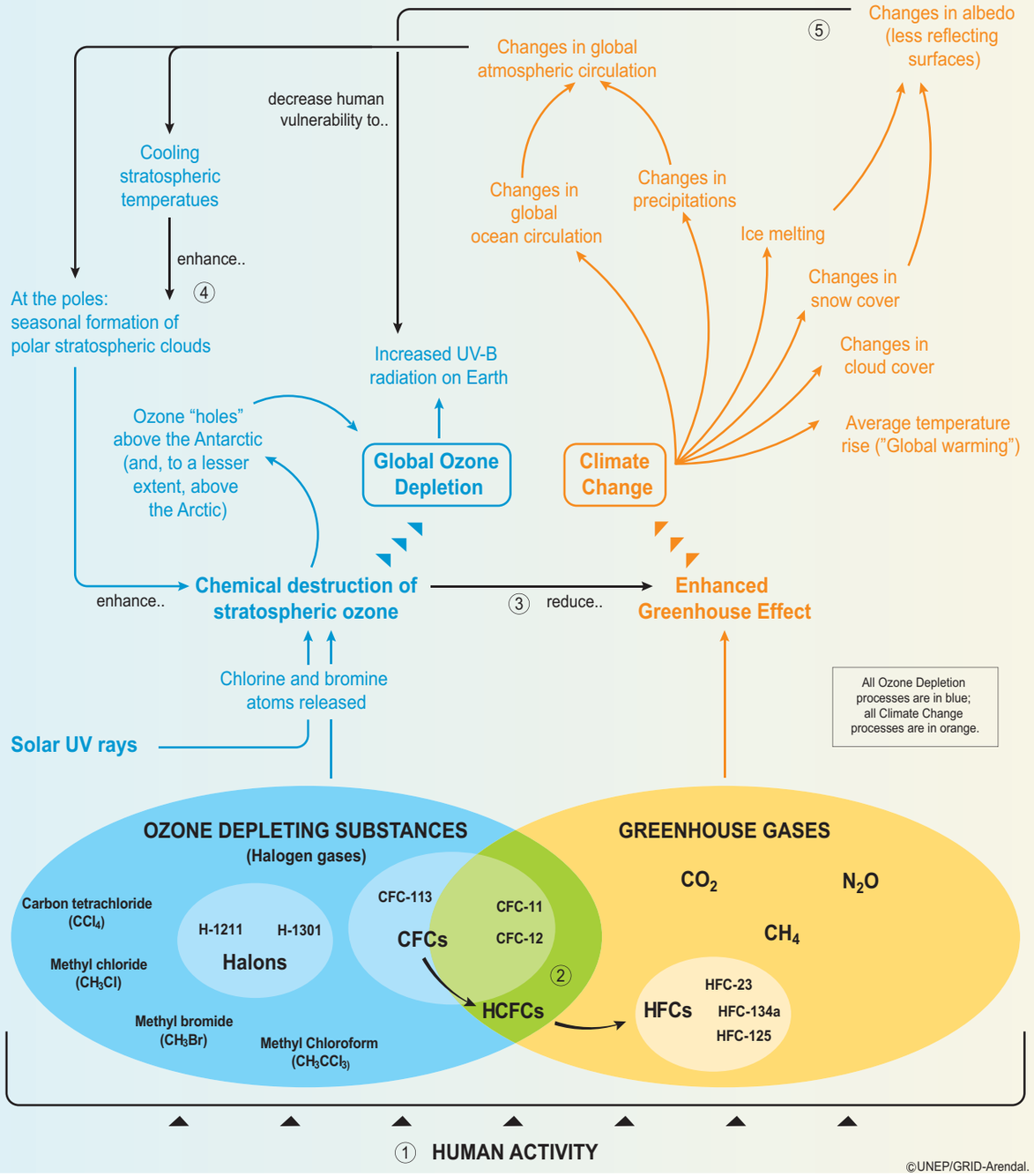
## OZONE DEPLETION AND CLIMATE CHANGE




©UNEP/GRID-Arendal.

Ozone depletion and climate change are two distinct problems but as they both modify global cycles, they cannot be totally separated. There are still many uncertainties concerning the relations between the two processes. Several links have been identified, in particular:

1. Both processes are due to human-induced emissions.
2. Many ozone depleting substances are also greenhouse gases, like CFC-11 and CFC12. HFCs, promoted to substitute CFCs, are sometimes stronger greenhouse gases than the CFCs they are replacing, but do not deplete the ozone layer. This fact is taken into account in the negociations and decisions in both the Montreal and the Kyoto Protocol.
3. Ozone itself is a greenhouse gas. Therefore, its destruction in the stratosphere indirectly helps to cool the climate, but only to a small extent.
4. The global change in atmospheric circulation could be the cause of the recently observed cooling of stratospheric temperature. These low temperatures drive the formation of polar stratospheric clouds above the poles in the winter, greatly enhancing chemical ozone destruction and the formation of the "hole".
5. Human vulnerability to UV-B radiation is related to the albedo.The global warming context reduces white surfaces that are more likely to harm us.