

Climate facts as a basis for policy decisions

Sea-level rise will have an impact on coastal cities in G20 states. It endangers the living space of hundreds of millions of people. Buildings and infrastructures worth trillions of US dollars are directly at risk. Current emissions will cause vast coastlines to sink in the long term. Urgency calls for the sober handling of facts. Irreversible changes in climate processes are already evident in all regions of the world. It is essential that all states take joint mitigation measures at the global level to limit the impacts of climate change. Cities, which have a great responsibility, are also called on. Existing cracks in Earth, our common home, must be filled now. To ensure continuous improvement of the basis for decisions, keeping up the momentum in the knowledge acquisition process, we need unconstrained science. In light of the above, we present the key facts on climate change:

- 1. Air at the earth's surface has already warmed considerably:** three record years in a row had not been registered since weather records began.
- 2. A clear upward trend has been apparent for decades:** since the 1960s, each decade has been warmer than the previous one.
- 3. The clustering of temperature records in recent years is highly unusual.**
- 4. Oceans have warmed considerably:** oceans have become 0.5°C warmer in the space of 35 years.
- 5. Most of the additional heat caused by global warming (93 per cent) is stored in our oceans.**
- 6. Sea levels are rising:** the rate of increase is currently 3.4 mm per year (± 0.4 mm).
- 7. Levels of carbon dioxide in the atmosphere are steadily increasing:** highest level of CO₂ for at least 800,000 years.
- 8. Oceans are acidifying:** ocean surface acidity has increased by around 30 per cent in 150 years.
- 9. Greenland is losing ice on a massive scale:** losses of 250 to 300 billion tons a year.
- 10. Glaciers and snow are disappearing:** four out of five mountain glaciers observed are losing ice mass.
- 11. Sea ice around the North Pole is continuously decreasing:** a record low in winter 2016/17.
- 12. Climate change is already considerable in Germany, too:** warming of 1.4°C since 1881.
- 13. Marked increase in heat events (DE):** increase in frequency and intensity of heat waves.
- 14. There is an increased risk of flooding. (DE):** critical weather situations occur considerably more frequently.
- 15. Severe thunderstorms are causing larger losses:** the number of loss-relevant events caused by natural perils around the globe has tripled, storm-related losses have already increased.
- 16. The sea level on the German coast is rising.** The North Sea and the Baltic Sea have risen by 10 to 20 centimetres in 100 years.
- 17. Plants and animals react to general warming (DE)**
- 18. Agriculture and forestry already clearly feel the impact of climate change (DE)**

For more information, please refer to the detailed press release.

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