Global Energy Policy Research | GEPR

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?? ? · Wednesday, August 7th, 2024



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???????????????Climate4you???????????4?”for”????????????????????????????Ole Humlum??????????????????????????????

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???????????????The State of the Climate???????????????????????????????????7??20?????????64???

SHORT SUMMARY OF OBSERVATIONS UNTIL JUNE 2024

1: Observed average annual global air temperature change last 30 years is about +0.016oC (UAH). If this change rate remains stable, additional average global air temperature increase by year 2100 will be about +1.2oC.

2: Tide gauges along coasts indicate a typical global sea level increase of about 1-2 mm/yr. Coastal sea level change rate last 100 year has essentially been stable, but with periodic variations. If change rate remains stable, global sea level at coasts will typically increase 8-16 cm by year 2100, although many locations in regions affected by glaciation 20,000 ago, will experience a relative sea level drop.

3: Since 2004 the global oceans above 1900 m depth on average have warmed about 0.037oC. The maximum warming (about 0.2oC, 0-100 m depth) mainly affects oceans near Equator, where the incoming solar radiation is at maximum.

4: Sources and sinks for CO2 are many. However, changes in atmospheric CO2 follow changes in global air temperature, and changes in global air temperature follow changes in ocean surface temperature.

5: There is no perceptible effect on atmospheric CO2 due to the COVID-related drop in GHG emissions 2020-2021, demonstrating that natural sinks and sources for atmospheric CO2 far outweigh human contributions. Therefore, any future reductions in the use of fossil fuels are unlikely to have any significant effect on the amount of atmospheric CO2.

2024?6???????????

1???30??????????????????????+0.016??UAH??????????????????2100????????????
????+1.2? ??????

2??????????????????????1?2mm/??????????????????100????????????????????????????
????????????????????????2100??????????8?16cm????????20,000????????????????????
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3?2004??????1900m????????????0.037??????????????????0.2????0?100m?????????
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4?CO2????????????????????????CO2??

5?2020?2021??COVID???GHG?????????????CO2??????????????????????CO2??????
??CO2?????????????
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??4?5??

4???CO2??????????????????????????????????CO2?????
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??1000??????????????????????
???1000??

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TV??

??CO2??????????????????????
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??????15??5??????????????????????
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??1000??????????????????????????

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??????????????????????????Pacific Decadal Oscillation?PDO??????????????????????Atlantic Meridional Overturning Circulation?AMOC??PDO????????????

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????CO2???????

?????????5??????????????????IPCC??????????????????????????????????2021?4????????????????????CO2????218.2 Gt-C/???????????CO2????215.0 Gt-C/??????3.2 Gt-C/???????????????2ppm?????????????????Gt-C/?????????????10^{9}???/????????

??????????CO2????8?9 Gt-C/??????????????????6.4 Gt-C/?????????????CO2????2.9%????????????5??????????????????

?CO2????2.9%???????????CO2???2020?2021??COVID?????????????????????????CO2???????????
??????????????????CO2??????????????????50??

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???????CO2???200 Gt-C/??????????????????????????????3?4 Gt-C/???

??????CO2?3.2 Gt-C/?????????CO2?6.4 Gt-C/??**????????**?????IPCC?????????????CO2?**???**???????????????????????????????????????

IPCC?????????????????CO2???????????????CO2??200???2021????????????

????????????????CO2??CO2????????????????????????????????????8/218.2?3.6%?????????????3.2×0.036?0.11 Gt-C/???????????????????2ppm??????0.07ppm??????????????????????????????????????

???IPCC??????????????????????????CO2???????????????????????????CO2??????(?2ppm???4?5 Gt-C)?????????????????

??????????CO2????????????????????????????????????CO2????????????????????????150???????CO2???100????????????????CO2????????????????????????????????CO2????????????????????????

???CO2??????????

????????4?????????????????CO2??CO2????????

????CO2???CO2????????????????????

?????????????CO2????????????????????1???

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???1998??2010??2016??2020??????????2023??

?????????????????????????????2022?2024??2022?1????????????????????????????????????

???10???????????

??22?1?????23???

??????????????1????3?????????????Polar Vortex??SSW????????SSW????2??1?????

??23?24???????3???SSW??

??????????????????

??CO2????
???????????CO2???????????

??CO2????????????????????????????????????
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