

??COP29????2035????1.3????1.3????Baku to Belem
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Posted in [??, ??](#) | [No Comments »](#)

8??????3????

?? ?? · Wednesday, September 3rd, 2025



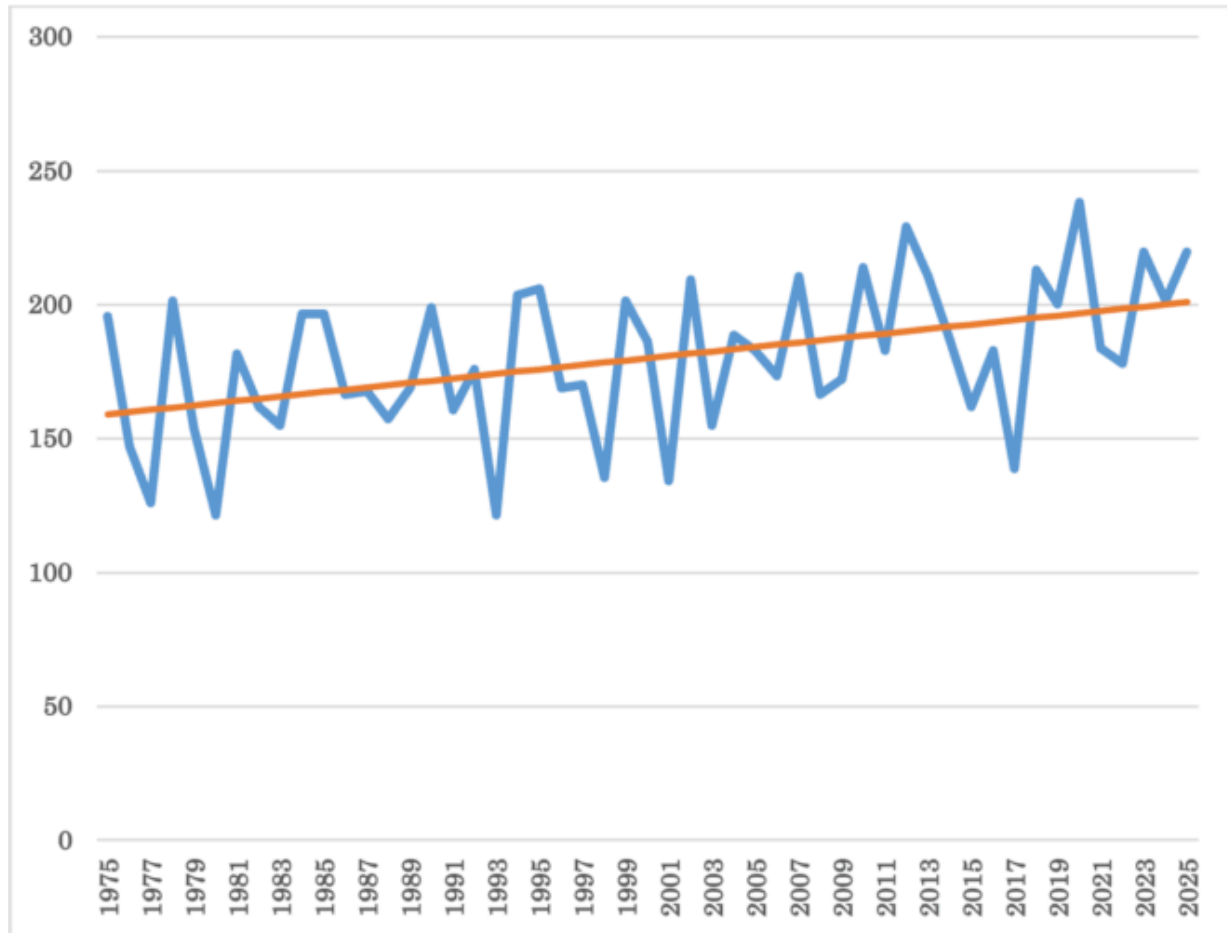
recep-bg/iStock

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Posted in [???, ?????](#) | [No Comments »](#)

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??? ?? · Tuesday, September 2nd, 2025



Astrid860/iStock

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(1) ブレード



(2) タワー

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2019?10?15????????????????



図-1 13号風車ブレード折損状態

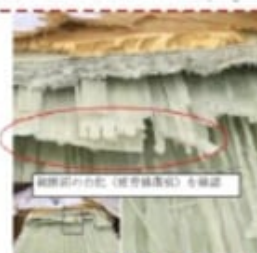


図-2 ブレード中間折損部の破断面



図-3 ブレード中間折損部の破断面（局部）

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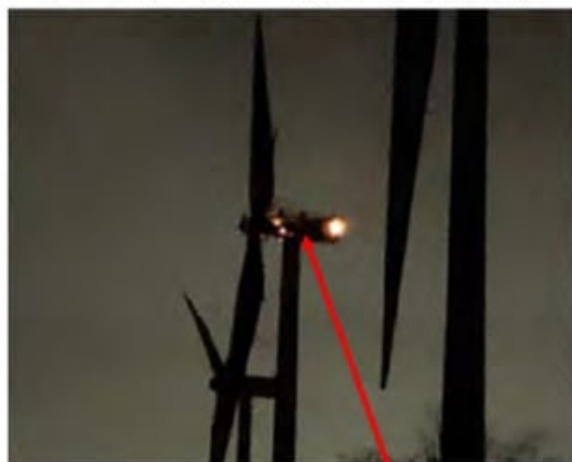
????????VESTAS?

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2020?12?20????????????????????

事故当日の状況
(2020年12月20日19時16分頃)



中央部についてはナセル外壁が消失し
内部機器の影が見えている

事故2日後の状況



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設備	項目	検査方法	検査内容	点検周期(年)
ブレード	表面	目視又は触手もしくは測定	ブレードの表面に損傷(グルコートはがれや外皮クラック)や被雷痕(すす)がないか目視などで確認する。損傷又は被雷痕が確認された場合は、触手などで確認する。	1

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Posted in [????????????](#), [???](#), [????????????](#) | No Comments »

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?? ?? · Sunday, August 31st, 2025

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CHENG FENG CHIANG/iStock

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Posted in ?????????, ??? | [No Comments »](#)

???3000????????????????????

?? ?? · Saturday, August 30th, 2025

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JA??????7????????????1??60kg????????2?5200????????1.6????????

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[illegible]

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[illegible]

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[illegible]

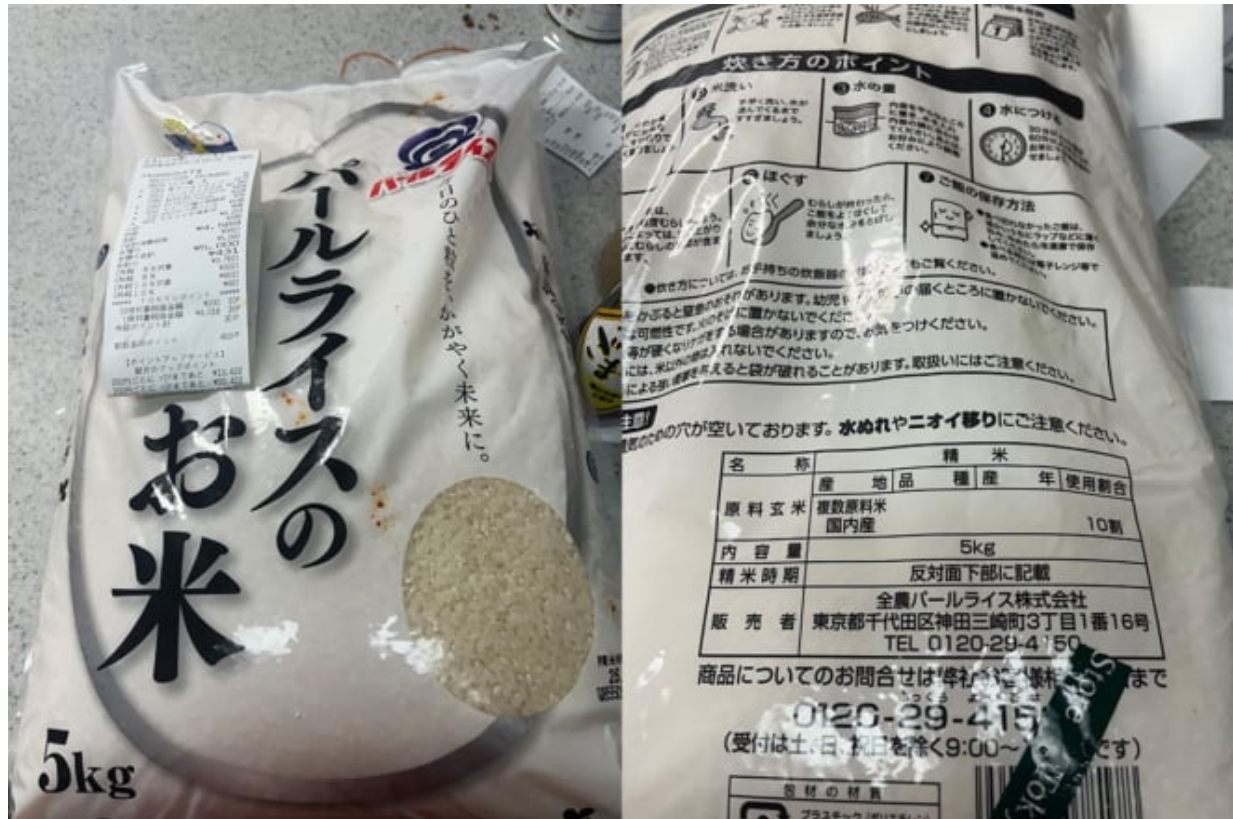
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 Fire????????????????????MC????????????????????

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Posted in ???, ?? | [No Comments »](#)

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?? ?? · Friday, August 29th, 2025



XH4D/iStock

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EU15% –

EU21EU15%

EU
ESG

Joint Statement on a United States-European Union Framework on an Agreement on Reciprocal, Fair, and Balanced Trade

2025821

19

5.
EU20287,500LNG

11.
CBAM
BAM

CBAMEU-ETSEU

ESG
CBAM
EU10%

2026GX-

ETS????????????CBAM????????????CBAM????????????????????????????GX-
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CSRD????SEC????????????
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Posted in ???, ????, ????? | No Comments »

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?? ?? · Thursday, August 28th, 2025



pedrosala/iStock

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FCOE????????

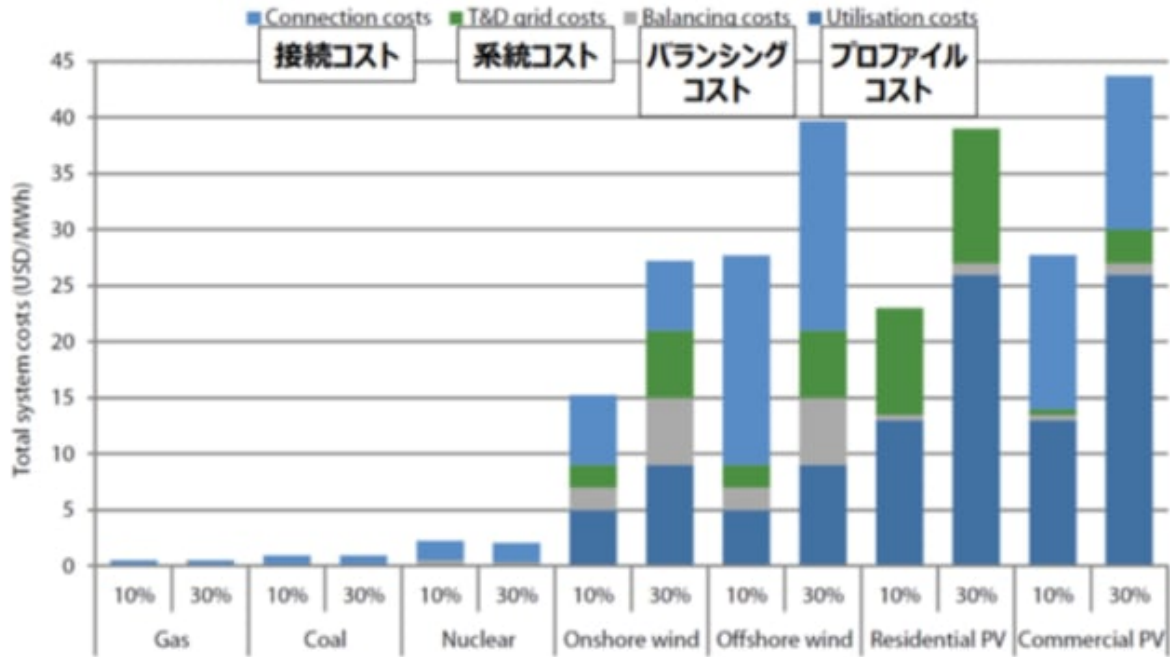
????????LCOE?Levelized Cost of Electricity????????LCOE????FCOE?Full Cost of Electricity????

電源	石炭火力	LNG 火力	原子力	石油火力	陸上風力	洋上風力	太陽光 (事業)	太陽光 (住宅)
発電コスト (¥/kWh)	13.6～22.4	10.7～14.3	11.7～	24.9～27.6	9.8～17.2	25.9	8.2～11.8	8.7～14.9
設備利用率稼働年数	70% 40 年	70% 40 年	70% 40 年	30% 40 年	25.4% 25 年	33.2% 25 年	17.2% 25 年	13.8% 25 年

????2030????????LCOE????

FCOE??F

COE??



????????10%??30%????????FCOE???

OECD, The Full Cost of Electricity Provision 2018

??FCOE????????????????????????????????????

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Posted in ??????????, ??? | [No Comments »](#)

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?? ?? · Wednesday, August 27th, 2025



SergeyChayko/iStock

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Fintech firm Aspiration Partners’ co-founder pleads guilty to defrauding investors

?????????????Aspiration Partners
Inc????????????????Jr.????????????????????????????????2?4800?????????
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Partners????????????????????2????????????????????1????????20????????????
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Partners?Inc.??1?4500?????????
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California ‘Anti-Poverty Activist’ And Dem Mega-Donor Pleads Guilty To Massive Carbon-Credit Scam

??Aspiration Partners
Inc.??

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?SDGs??????????

Posted in ???, ????, ????? | No Comments »

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?? ??? ? · Tuesday, August 26th, 2025

[illegible][illegible]

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Posted in [???, ??](#) | [No Comments »](#)

2024?11?9????????????????????????

??? ?? · Saturday, August 23rd, 2025



bgblue/iStock

2024?11?9?20?22????????36?5,300??
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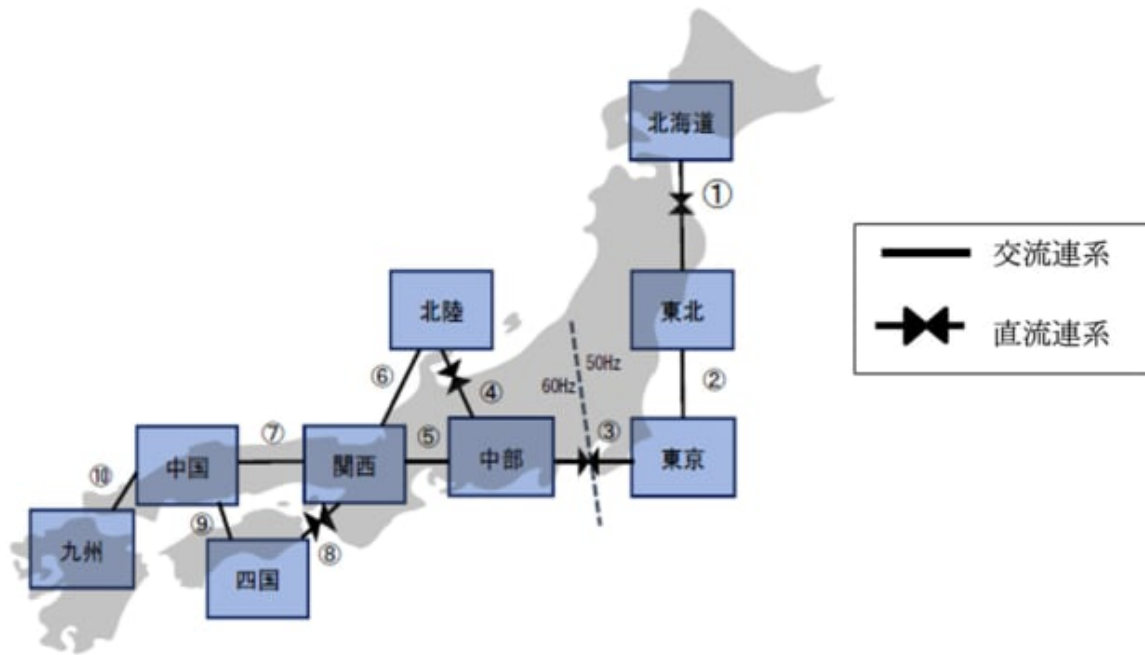
5????????????????????0.01Hz????????????????????????????Hz????MW????????
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本四連系線 〔瀬戸大橋に敷設の ケーブル区間〕

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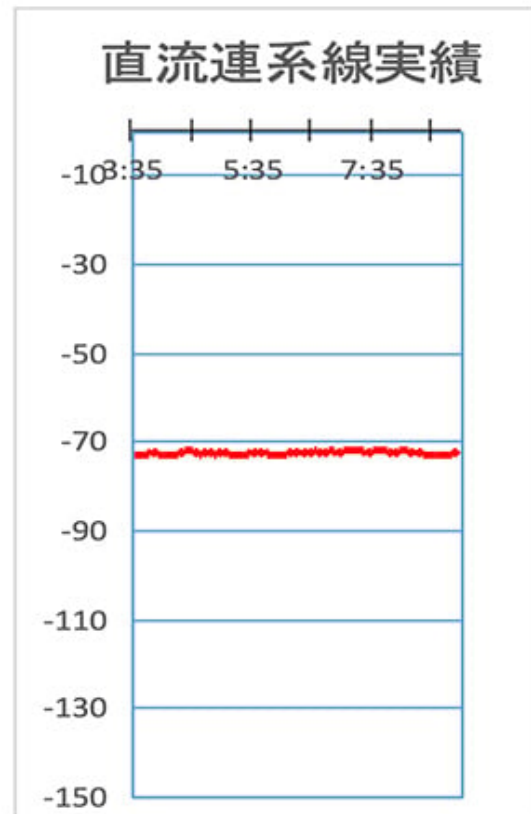
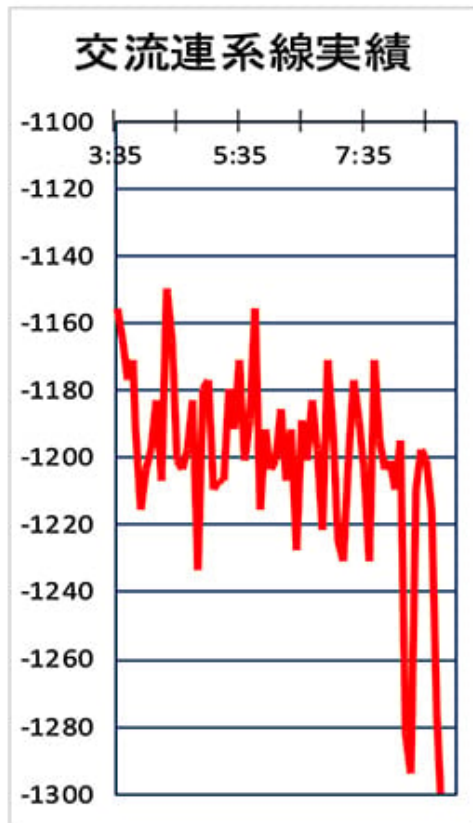
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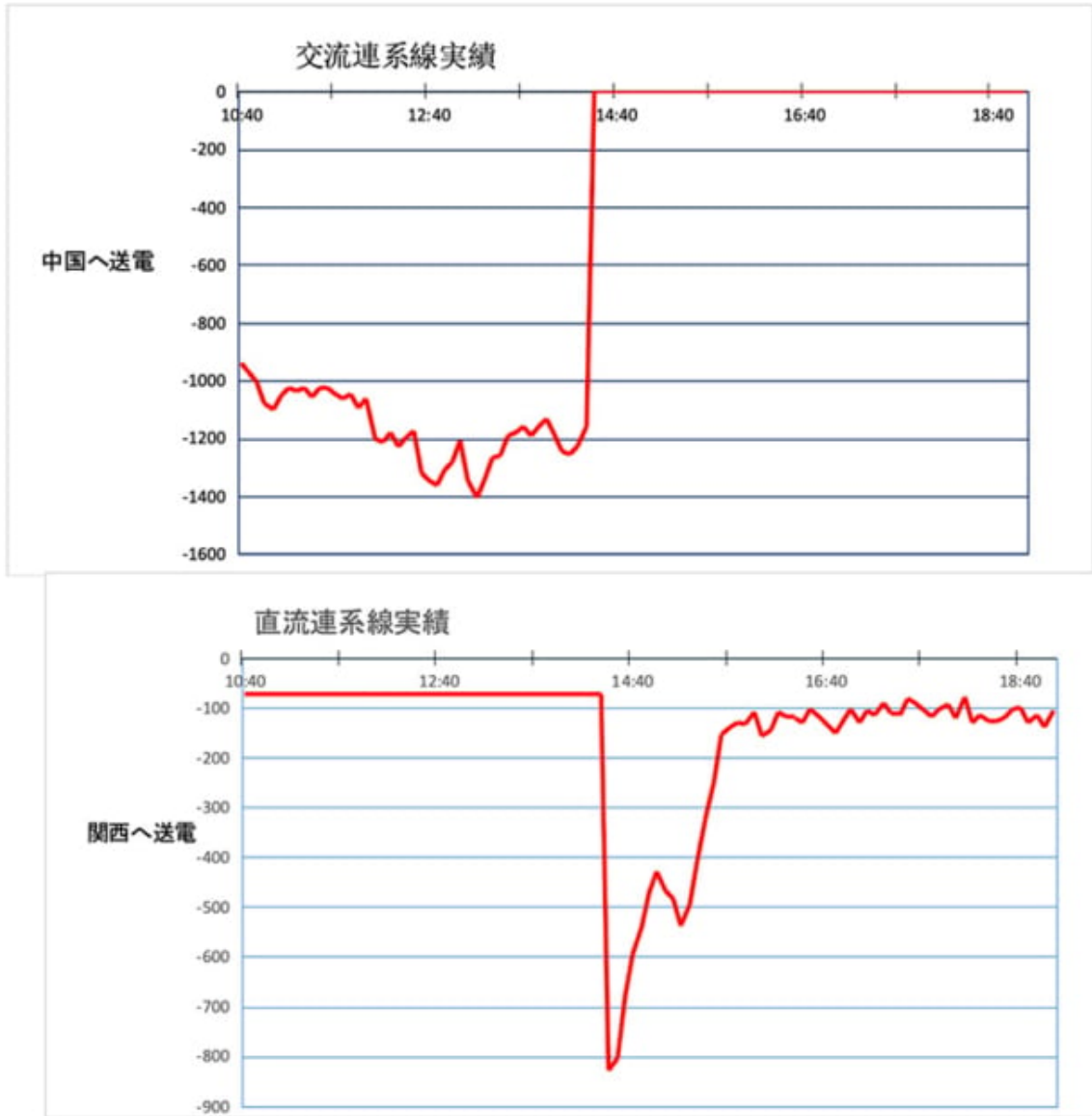
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 ?????????????????????EFC?Emergency Frequency Control????????????

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??EFC????????????????????????????

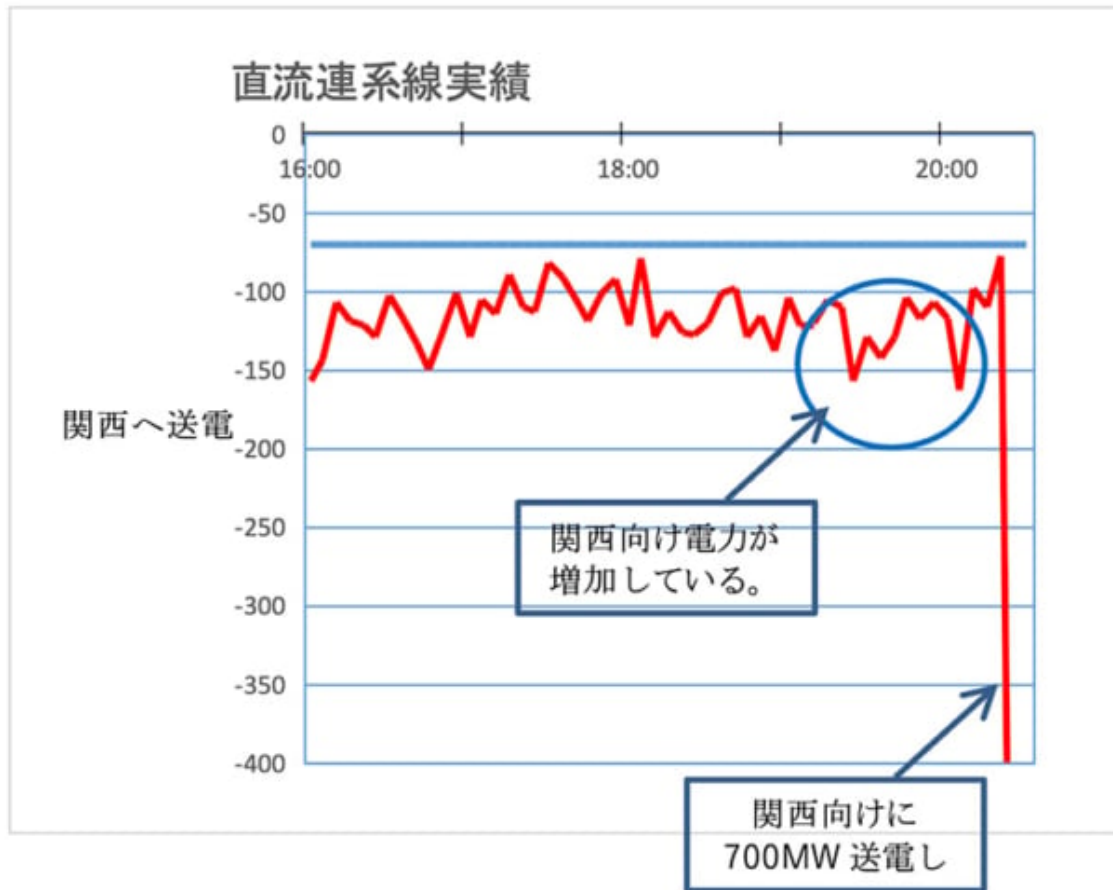
?4?11?9?14?21??14?21????????????????
 ?????????????15?30????????????????????????????EFC????????????????????????????????



?4?2024?11?9????????????????????

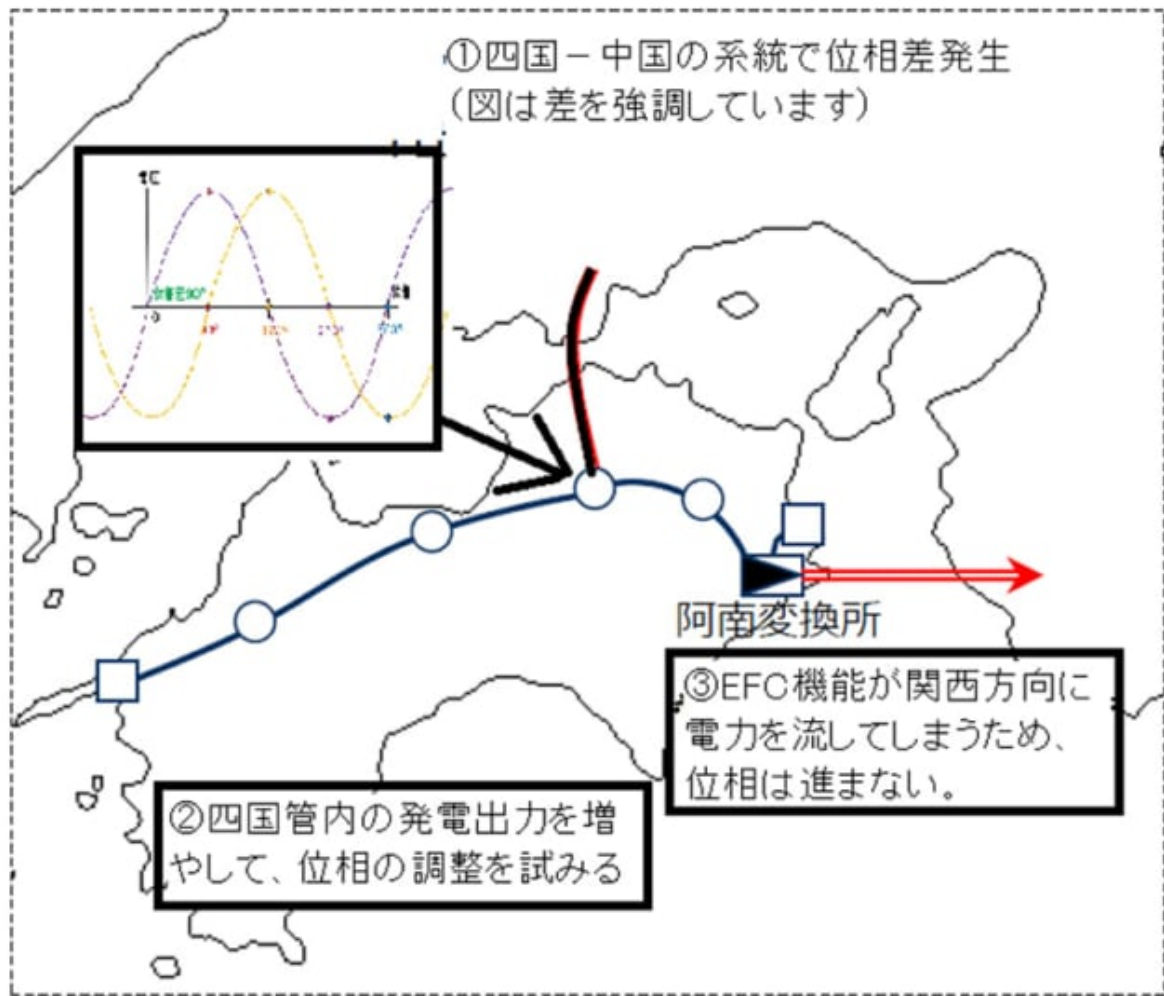
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Posted in [??????????, ???](#) | No Comments »

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?? ?? · Friday, August 22nd, 2025



yangna/iStock

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責任主体	法制度・概念	内容
事業者	民法 709 条「過失による不法行為」	設計・施工・環境配慮の不備 → 損害賠償
行政	国家賠償法「監督過失」、行政処分の違法性	安全審査や環境確認の怠慢 → 損害賠償や許可取消
制度の枠組み	地方条例、FIT 制度の取消・停止	自治体や制度面による抑止力発揮が可能に

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Posted in ??????????, ??? | [No Comments »](#)

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?? ?? · Thursday, August 21st, 2025



XH4D/iStock

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Wind turbines and solar panels ONLY generate electricity

Posted in ?????????, ?? | No Comments »

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?? ?? · Wednesday, August 20th, 2025



ewastudio/iStock

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2050????????????????????????????????2025?8?3? 5:00?

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気候変動の影響と適応策

**海岸侵食**

自然災害・沿岸域分野 | 沿岸

協力：東北大学大学院工学研究科

* 高波・高潮による災害に対する沿岸域の適応策（ハード・ソフト両面）については「自然災害・沿岸域分野 | 沿岸 | 高波・高潮」で扱う。ここでは、海岸侵食に対する砂浜保全方法や今後の適応策の考え方について扱う。

影響の要因

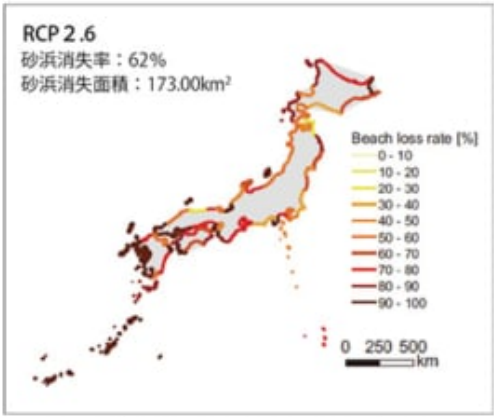
気候変動による海面水位の上昇や台風の強度増加に伴う荒天時の波高増加は、砂浜の形状や面積に影響を及ぼす。



現在の状況と将来予測

1980年代以降日本沿岸で海面水位の上昇が観測されているが、海岸侵食への影響については、その他の要因の影響も踏まえて明らかにする必要がある。

将来、気候変動による海面水位の上昇によって、海岸が侵食される可能性が高い。海面上昇に起因する日本の沿岸地帯における将来の砂浜消失率を予測した研究結果(Udo and Takeda 2017)では、21世紀末(2081～2100 年)までに、RCP2.6で62%、RCP4.5で71%減少する予測が示されている(右図参照)。



今世紀末(2081-2100年)の砂浜消失予測結果(RCP2.6)
出典：有働(2019)、Udo and Takeda(2017)

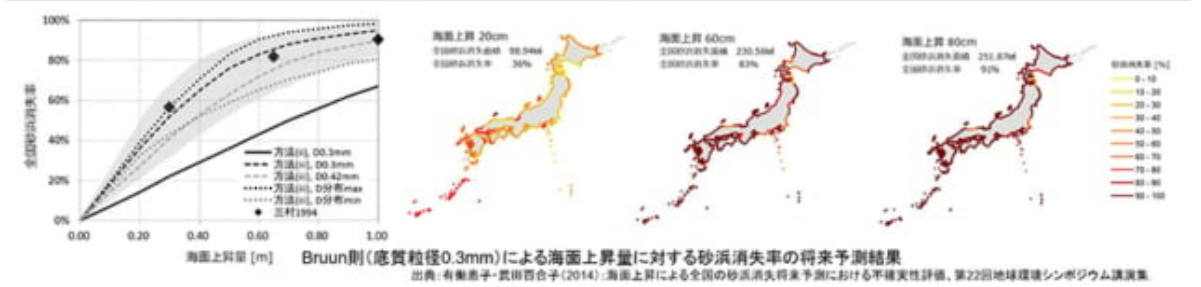
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????????????????62%????????????????????????????????????

気候変動による海浜(砂浜)への影響

出典：沿岸部(海岸)における気候変動の影響及び適応の方向性検討委員会 第2回資料

- 気候変動による影響により、海面水位の上昇、強い台風の増加に伴う波浪と高潮の増大の影響が予測される。これにより、海浜の減少が想定される。(再掲)
- 海岸保全施設前面の海浜の減少により、海岸保全施設に作用する波力や洗掘量が増大し、被災の可能性が大きくなる。(再掲)
- 有働・武田(2014)によれば、Bruun則による砂浜消失率の予測結果では、20cmの海面上昇で36%、60cmの海面上昇で83%、80cmの海面上昇で91%の砂浜が消失する。



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????Bruun??

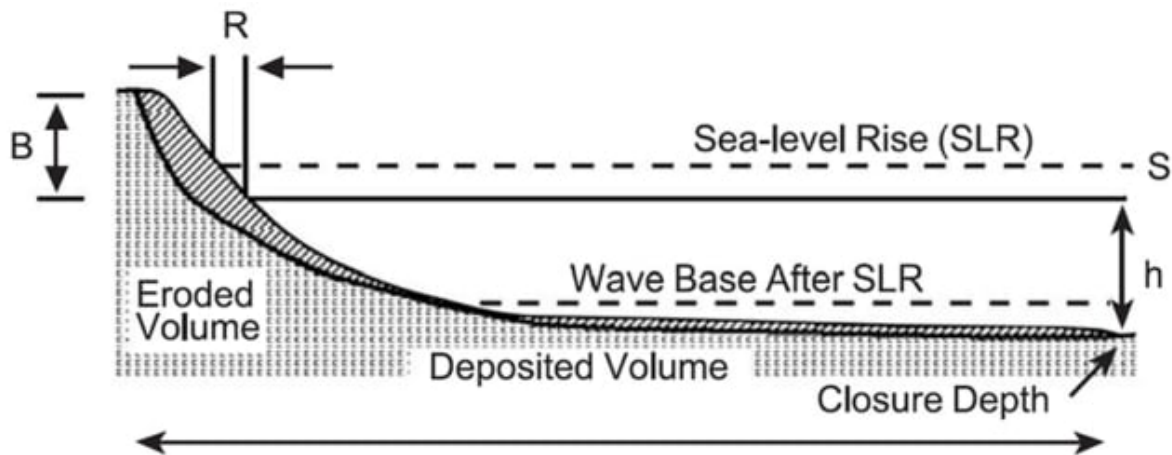


Fig. 1. The Bruun Rule of shoreline erosion.

3?Bruun???

Cooper, J. A. G., & Pilkey, O. H. (2004). Sea-level rise and shoreline retreat: time to abandon the Bruun Rule. *Global and Planetary Change*, 43(3–4), 157–171.

?????????????????????????????????????Bruun????????????????????20??????????3?????????

Sea-level rise and shoreline retreat: time to abandon the Bruun Rule

[illegible]

??????1????????????????????90?????572???????278?????????????????
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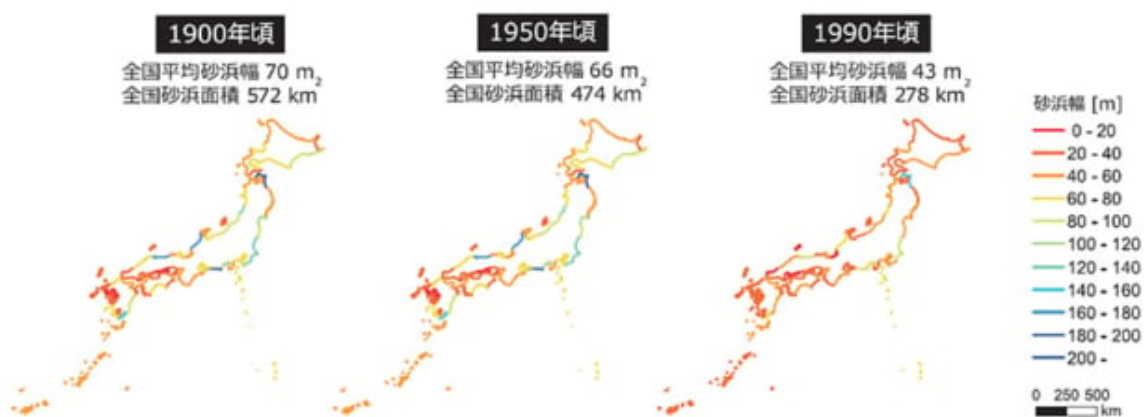


Fig. 1 Average beach widths at around 1900, 1950, and 1990 in 77 coastal zones in Japan.

?4???????

2019

????????????????????2??

?4?????????Brunn?????????3?Cooper?????????

????2??
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?????Bruun??1????????
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Posted in ???, ????? | No Comments »

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?? ?? · Tuesday, August 19th, 2025



FrankRamspott/iStock

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????2018??33????
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????2018??

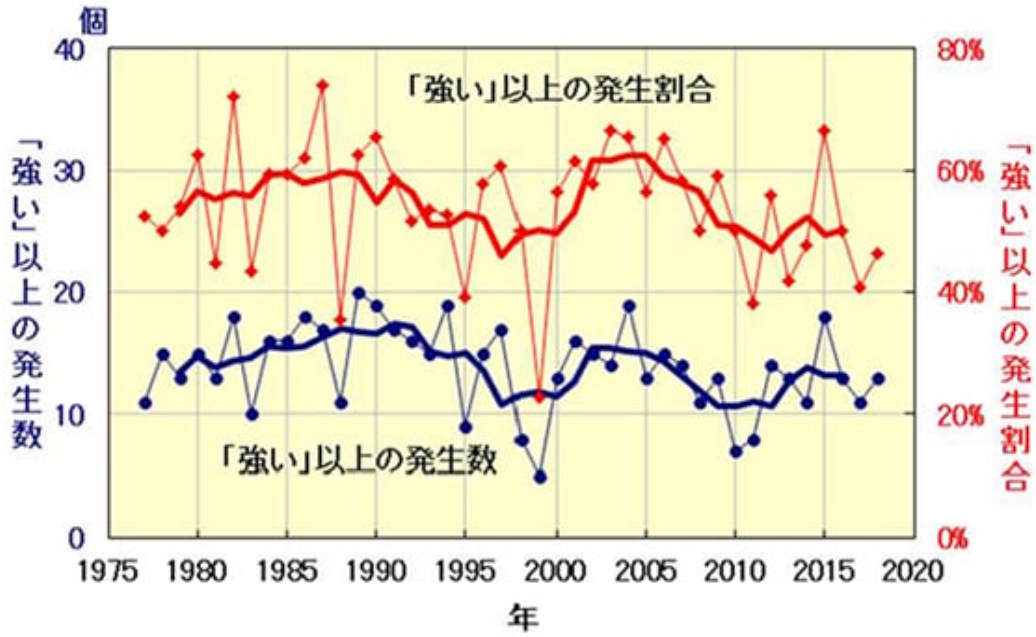


図 2.4-3 「強い」以上の勢力となった台風の発生数と全発生数に対する割合の経年変化

細い実線は、「強い」以上の勢力となった台風の発生数（青）と全台風に対する割合（赤）の経年変化。太い実線は、それぞれの5年移動平均。

????????????????2018??

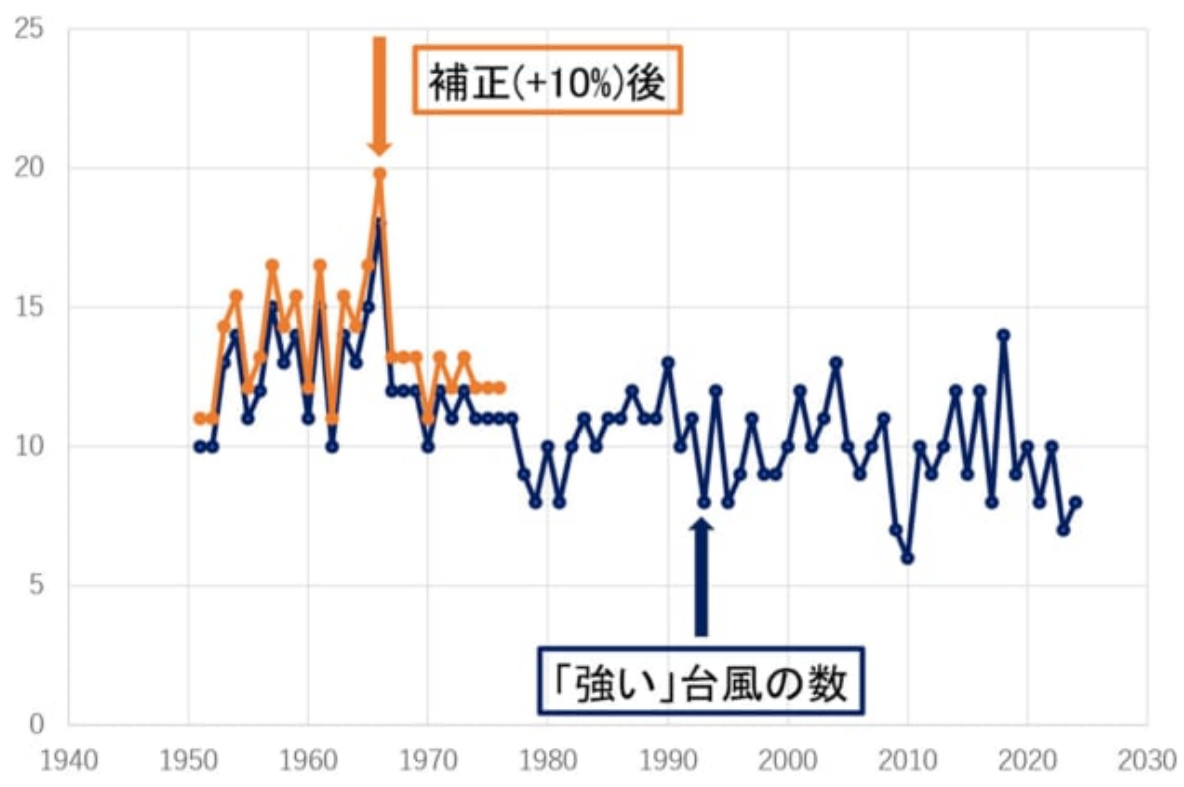
????????1977??

??1977????????

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???????HP????????33????????
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?????1950???1960????????1970????????

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????????1959????????????????

????????10????????ChatGPT????????

???????1951–76????33 m/s????
+5?12%???+10%????+15%????1974–87????
Atkinson–Holliday?1977????????????????????
??Knaff ???1974–1987???????????????? “systematic
underestimation of the MWS... during 1974–1987”????(AMS Meetings)

????????Ying ???JMA ?1977????JTWC
?2000???????????????? “The JMA data contain only the
central pressures prior to 1977, while the JTWC data have only the sustained
maximum wind before 2000.”??(J-STAGE) ???Song ???JTWC
????2–3?4–5????????(ResearchGate)

????????IBTrACS
???????? “though not all

storms are captured in earlier years”??

??Knapp
??(American Meteorological Society
Journals) ???Bai
??1957–87????????????????WPR????????????????????????????????(NOA
A Institutional Repository)

????????1974–87??WPR????????1977????????????????????????????????“??”????????
??%????????????20%????????????????—????????????????

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Posted in ???, ????? | No Comments »

??23??SBTi????????????????

?? ?? · Tuesday, August 19th, 2025



Zhanna Hapanovich/iStock

????????CDP?SBTi????????????????????

?????CDP?SBTi????????????



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SBTi??????1,500????????????????????????????????SBTi????SBT????????????
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Iowa AG leads letter questioning legality of net-zero carbon emissions standard

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SBTi??
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?SDGs????????

Posted in ???, ????, ????? | No Comments »

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?? ?? · Monday, August 18th, 2025



FGorgun/iStock

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

????????????????Climate Working Group, CWG????2025?7?23??????

????????????????A **Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate**??????

????????12? ?????????????????????????????

????????CWG????????????

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????????CWG????????CO2??
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1. ?????????????

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1.1 ???????

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CO2 40 ±15 20 1,000 75
±10 Ciais et al., 2013, pp.
472-473 CO2
CO2

50 50 CO2 1997?
2012 1990 5 CO2
CO2 2100 2105 Wigley,
1998 Lomborg 2016 0.1 2100 10

CO2

1.2

EPA 2009 CO2
202(a) EPA
09 EPA

(1) CO2 (2)

2 EPA
CO2 CO2

2022 CO2 10.5 EPA
2024 CO2 346 Energy Institute
2024 CO2 3.0
CO2 100 12
3 1979 2023
±15 CO2
CO2

GHG

1.3

CO2

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Posted in ???, ????? | No Comments »

??11????????????????

?? ?? · Sunday, August 17th, 2025



Khanchit Khirisutchalual/iStock

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- ?ESG????????????????????
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[illegible]

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[illegible]

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[illegible]

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2024?11????????????????????3??2030????????????

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??2025?5

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Texas Judge Greenlights Multi-State Lawsuit Accusing BlackRock, Vanguard, State Street of Using Climate Initiatives to Manipulate Energy Markets

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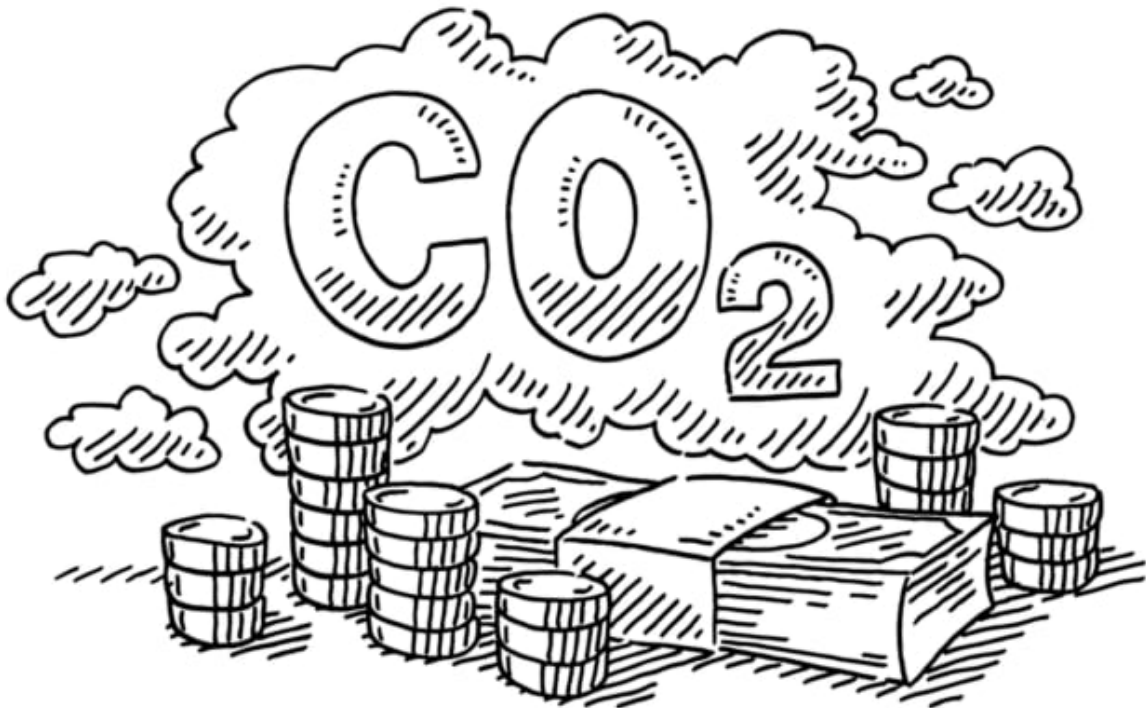


?SDGs????????

Posted in ???, ????, ????? | No Comments »

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

?? ?? · Saturday, August 16th, 2025



FrankRamspott/iStock

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????????????????????????Climate Working Group, CWG????2025?7?23? ??????

????????????????????????????????**A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate**?????

????11? ?????????????????????????

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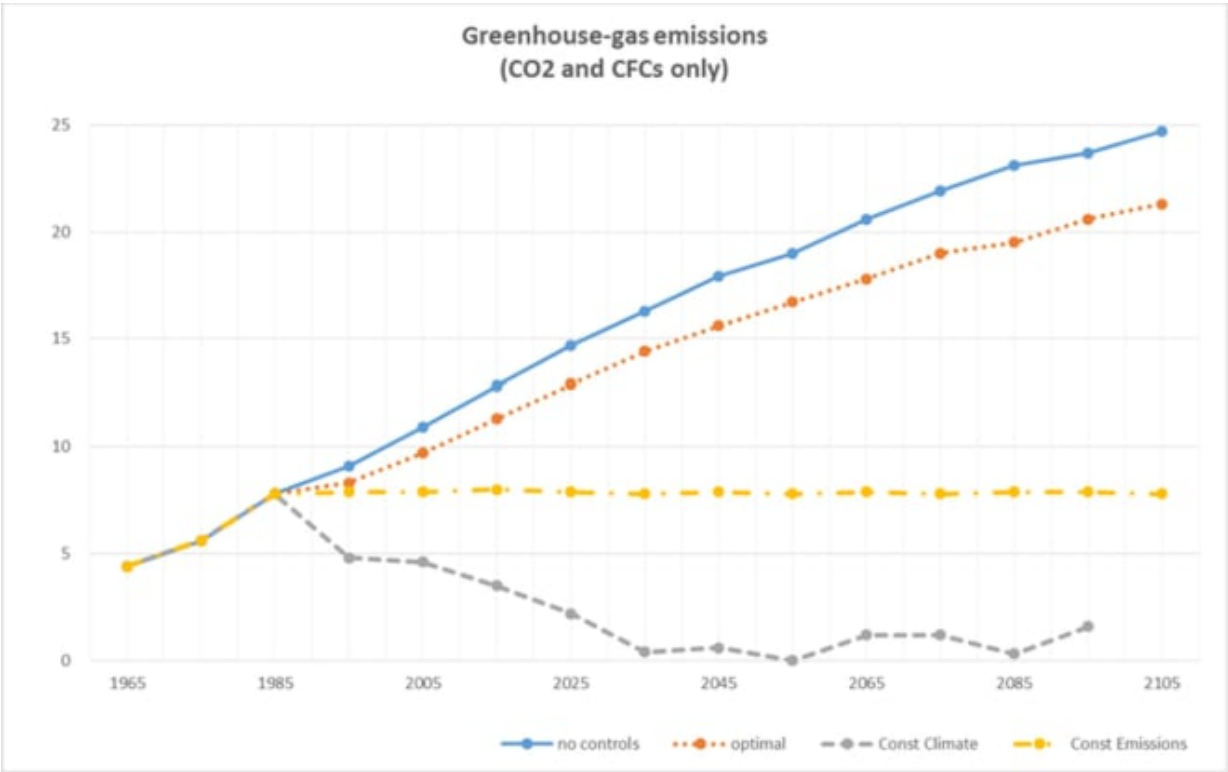
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CWG??

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

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climate????????

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????????Social Costs of Carbon,
SCC????????

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?SCC????????SCC????????SCC????
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SCC????????CWG????????CO2????
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????SCC????????CO2???190????CO2????
????SCC????????SCC????

????SCC????????ChatGPT????????

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SCC????????????????????CWG????????????CO2????????????????????????????????

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

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??SCC????????????????????

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????CWG?SCC????????????????????????????????????

SCC??Thoung,
2017??SCC????????????????????????????EU????????SCC????????????

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2017????SCC??

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Posted in ???, ????? | No Comments »

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?? ?? · Friday, August 15th, 2025



Ekaterina_Simonova/iStock

CO2

Climate Working Group, CWG2025723

A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate

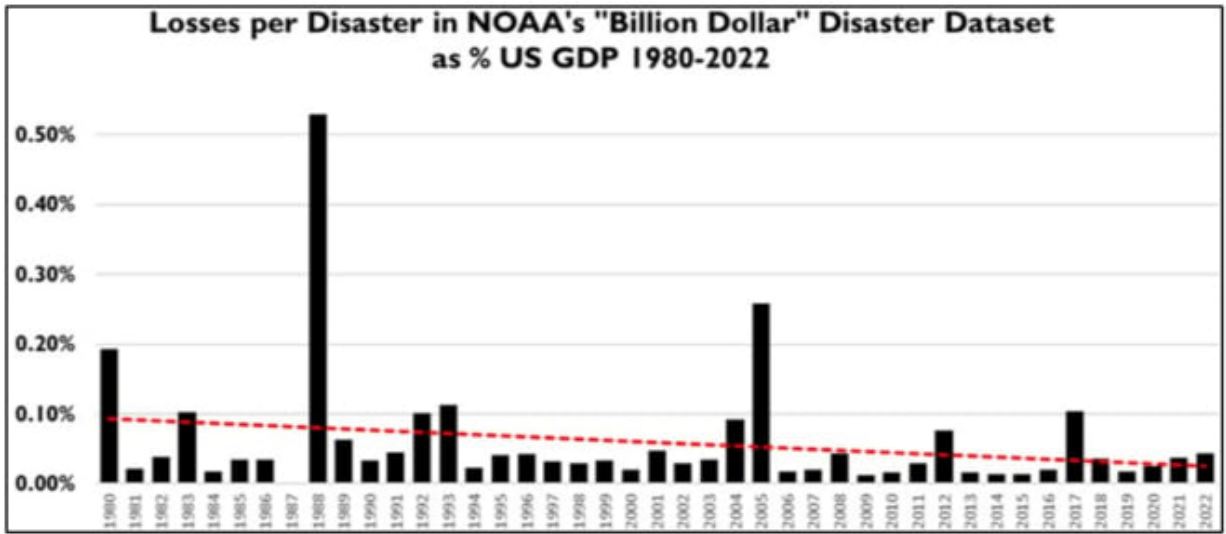
10

CWG

?

GDP

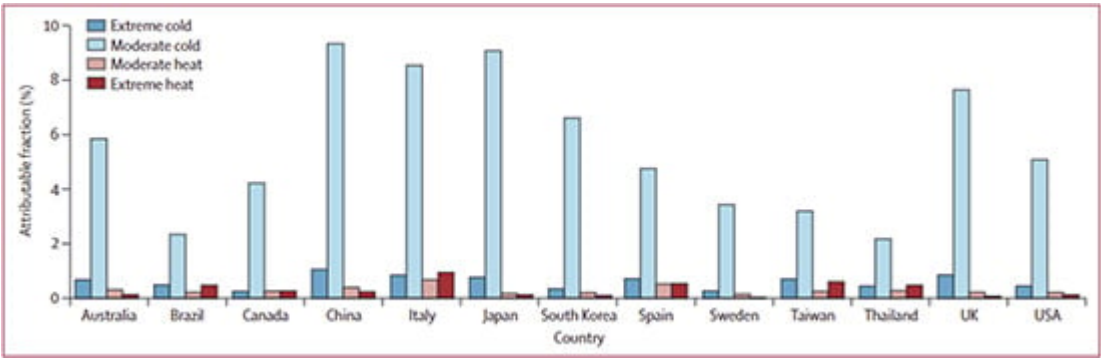
NOAA10“10”GDP10.120255NOAA1020237GDP19802022?



10.1NOAA1020237GDP19802022?
Pielke, Jr. 2024?

GDP

10.2 Gasparini et al. 2015 5.9 5.5 14



10.2 Gasparini et al. 2015

IPCC

IPCC AR6 A.2.5

CWG

2016 Barreca et al. 2016 1960 32 2.2 1960 0.3 85 1960 4 1 1960

Doremus 2022 5 1.2 0.5 30 0.5 Cong 2022

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Posted in ???, ????? | No Comments »

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

?? ?? · Thursday, August 14th, 2025



fotokostic/iStock

CO2

Climate Working Group, CWG 2025-23

A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate

9

CWG

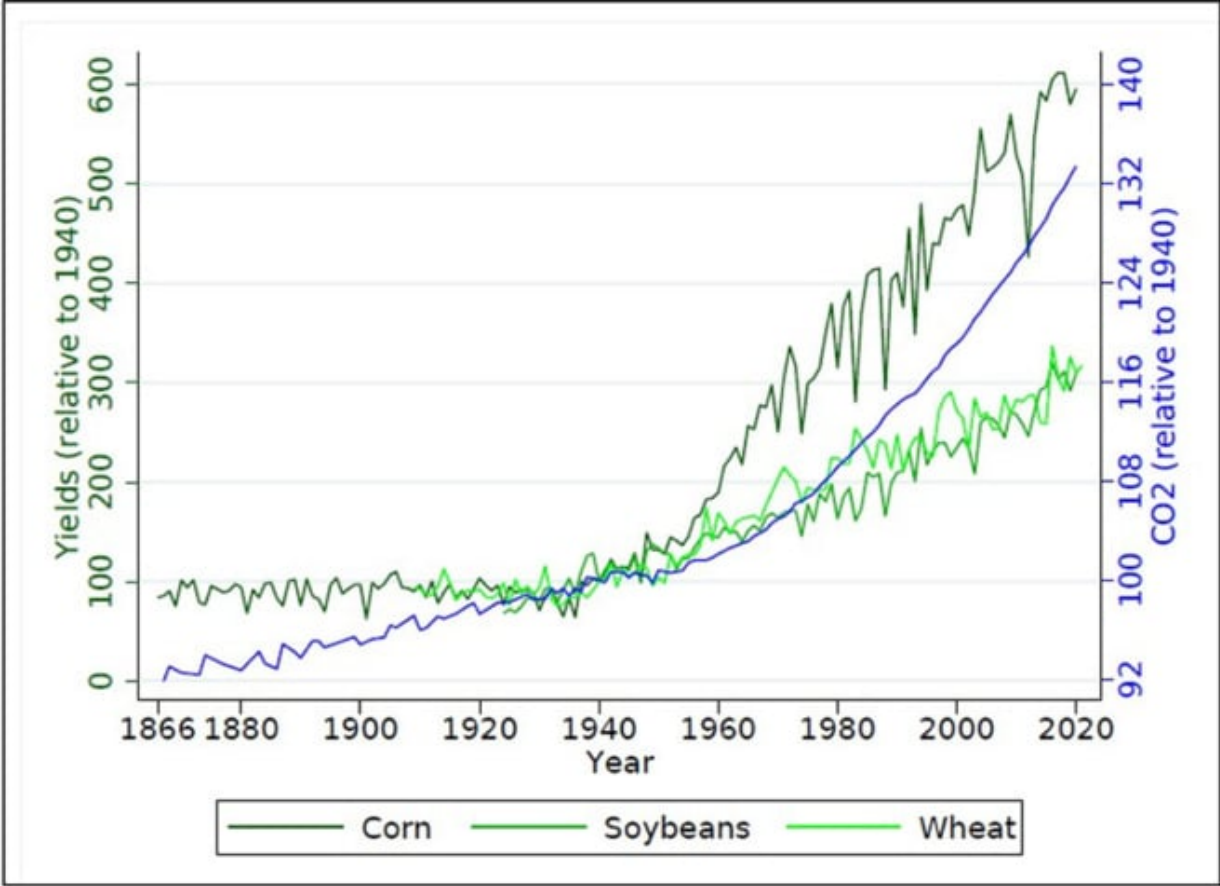
?

CO2 2

CO2 CO2

CO2 9.1 1940 100

CWG CO2



9.1??1940??100?????
???Taylor and Schlenker?2021?

2021????????????Taylor and Schlenker
2021????????????CO2??
??CO2??????1940????????????50????80????????????????????????CO2????????????
????????????CO2???1ppm????????????????0.5????0.6????0.8????????????

9.1????CO2???1940????33%????????????100ppm????????????????50%????60%????8
0%????????????????????????????????500%????200%????200%????????????????
???CO2????????????????????

??CO2????????????????????????5?
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???CO2??
????????????????????????CWG??????

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CO2??

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

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??? ?? · Tuesday, August 12th, 2025

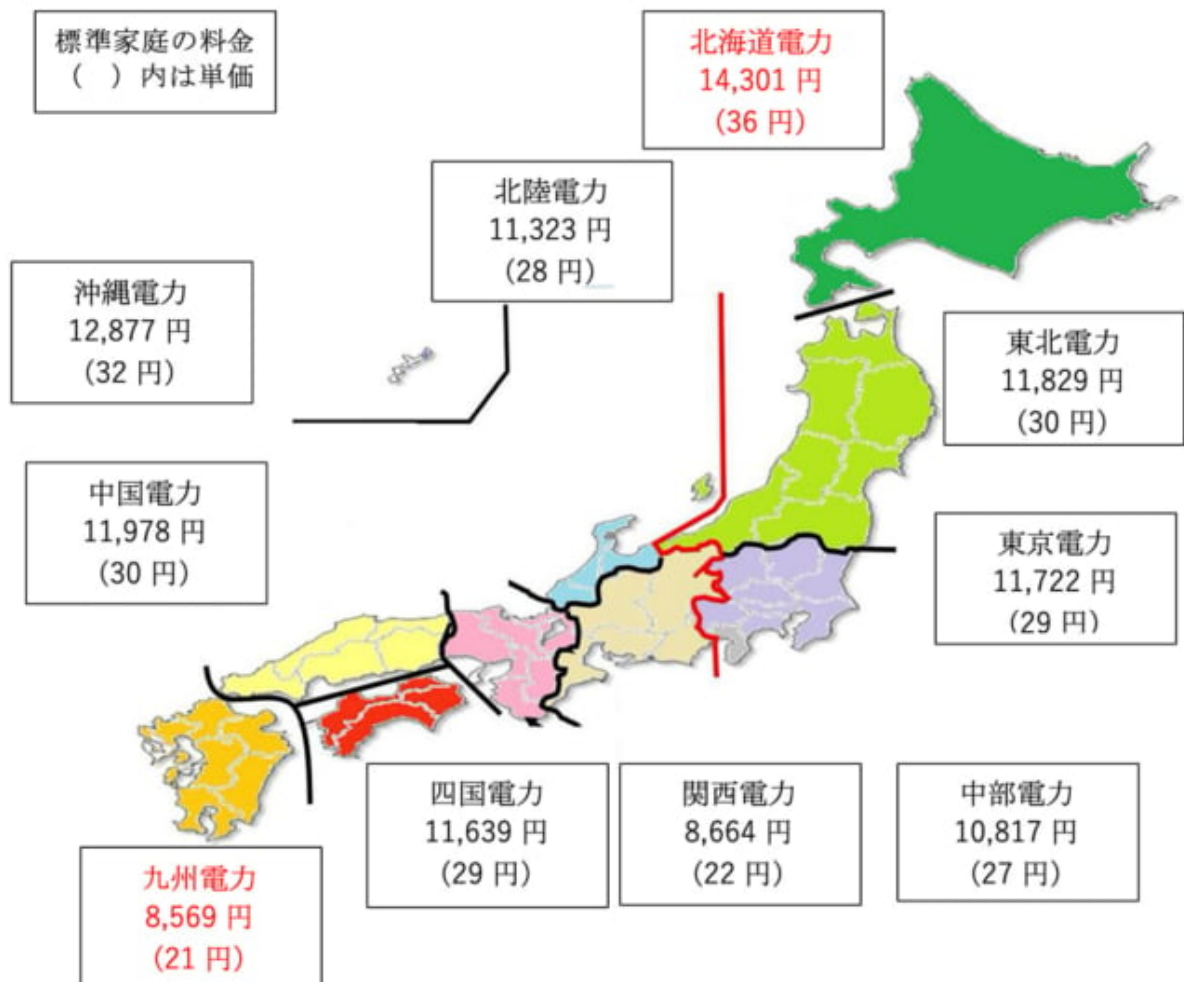


Mintr/iStock

2025?7?31????????????????????????????????3??
 ?????????????????2025?8????????????????????????????????3??

??

?1??2023?6??B??30A?400kWh????????????????????
 ???



2023年6月1日現在

1.7倍

2倍

6倍

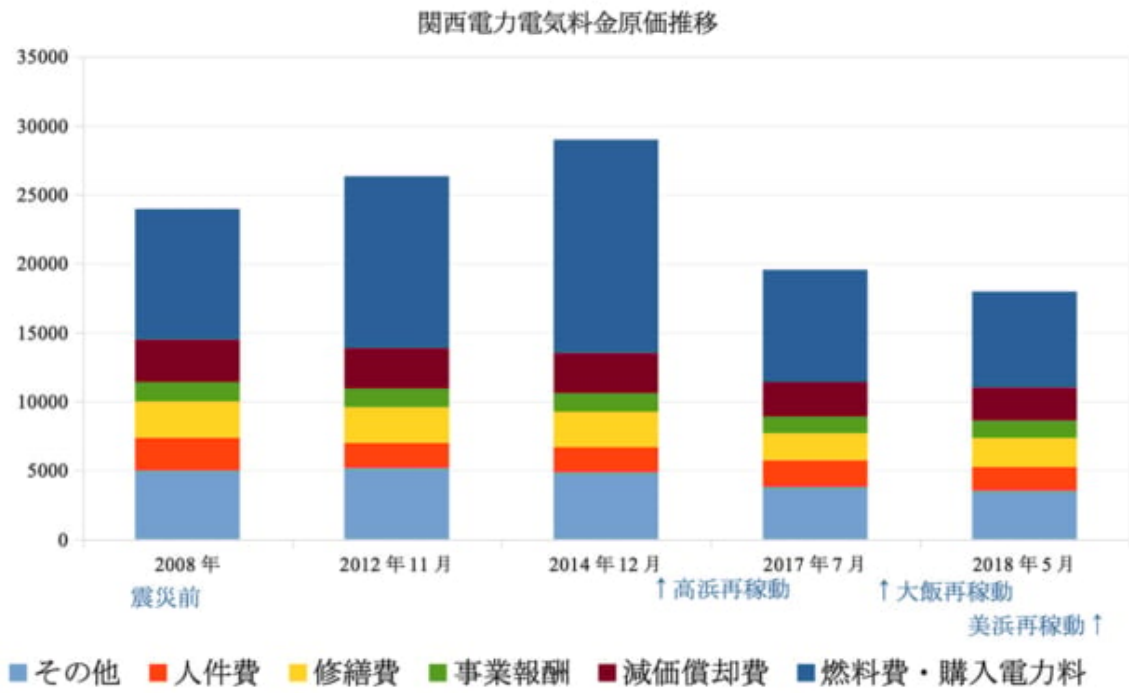
2014年

2017年

2014年

<https://agora-web.jp/archives/240815045338.html>

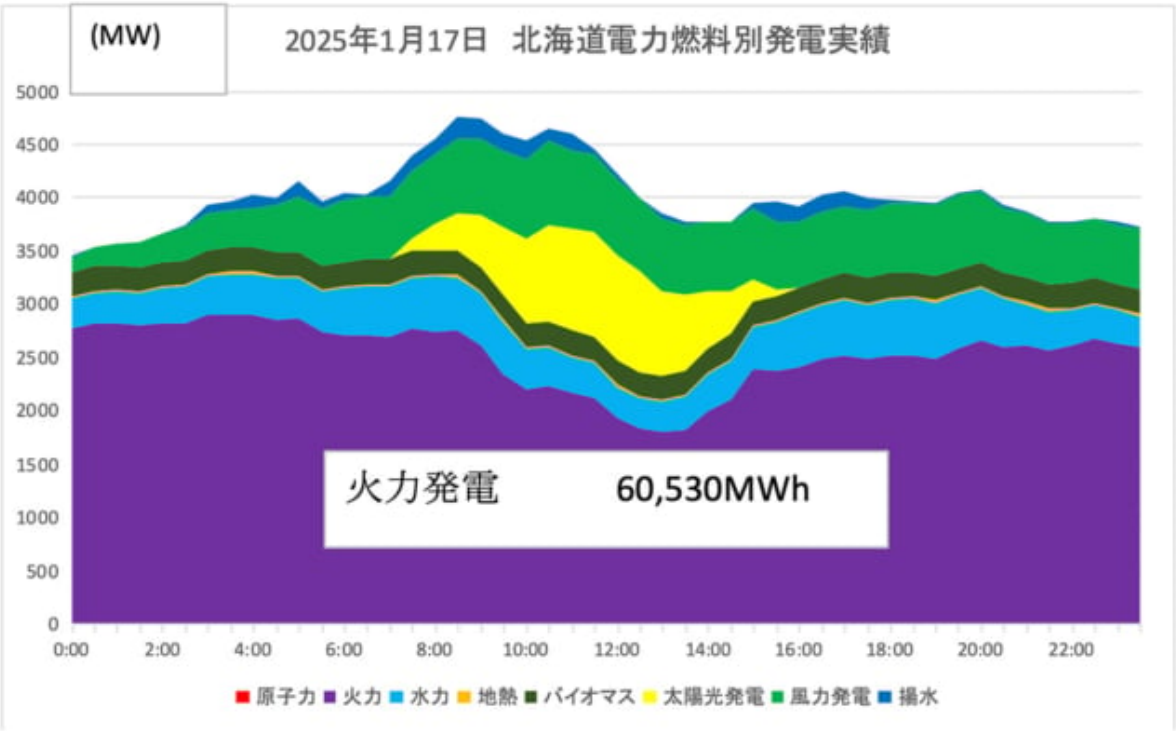
2014年



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????????????????????2025?1?17????????????????

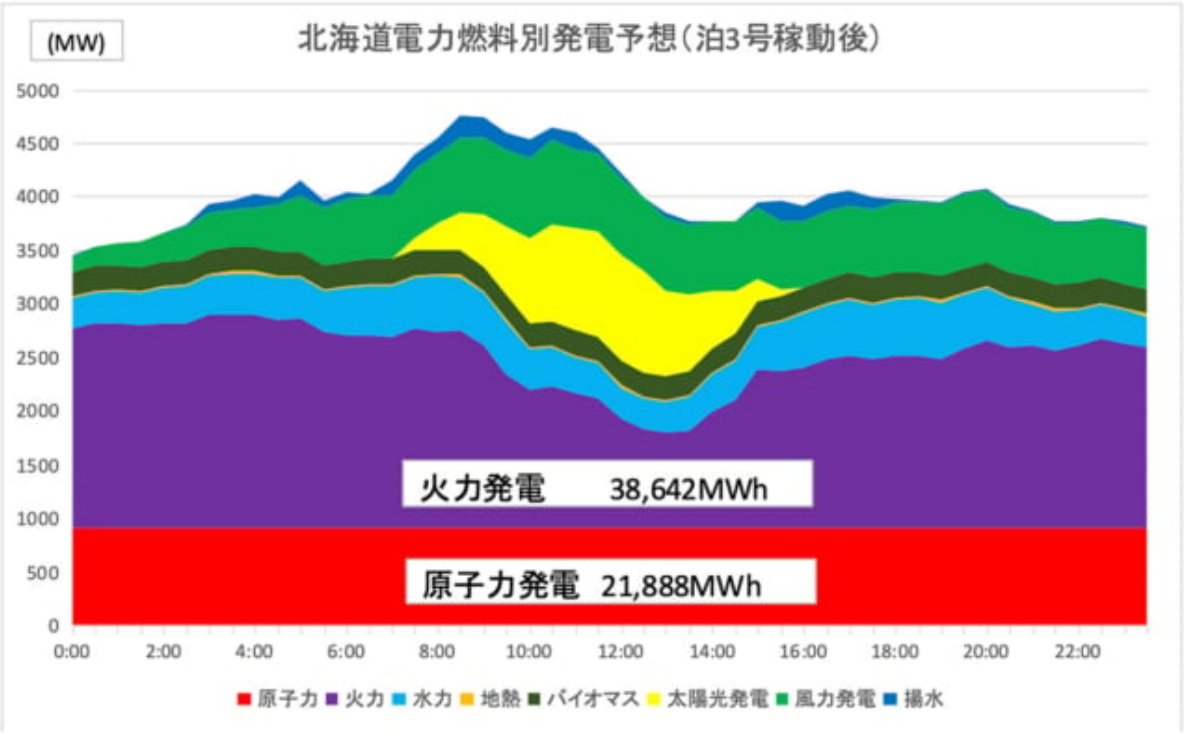
?3?1?17????????????????????60,530MWh??????



?3?2025?1?17????????????????

?4????????????????????60,530MWh??38,462MWh???

???????37????????????????????37??????????????



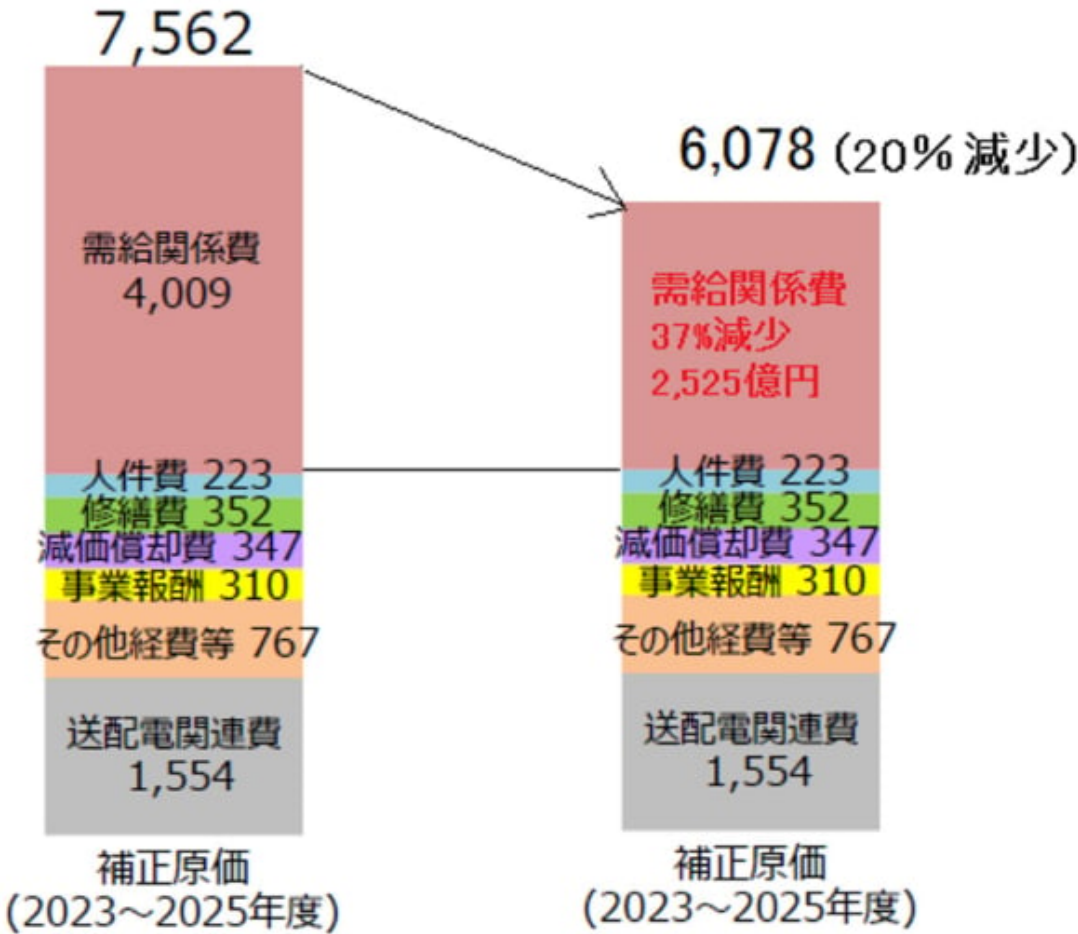
?4????????????????????????????

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?5??2023?5??4,009????????????????????
???37?????2,525????????????????

実際に申請した値

需給関係費を 37%減少
させた場合の総原価



5????????????????????????????????

37????????????????20????????????????????????????20????????????????

2022??

??15??20????????????

15????????????????????????3????????????????????????

15????????????B????????1????????????????2???

2????????????????

			現行料金		15%値下げ
従量電灯B	基本料金	10A	374円		317円
		15A	561円		476円
		20A	748円		635円
		30A	1,122円		953円
		40A	1,496円		1,271円
		50A	1,870円		1,589円
		60A	2,244円		1,907円
	電力量料金	120KWhまで	35円44銭		30円12銭
		120～280KWh	41円73銭		35円47銭
		280KWh超える	45円45銭		38円63銭
標準家庭の料金			14,301円		12,155円

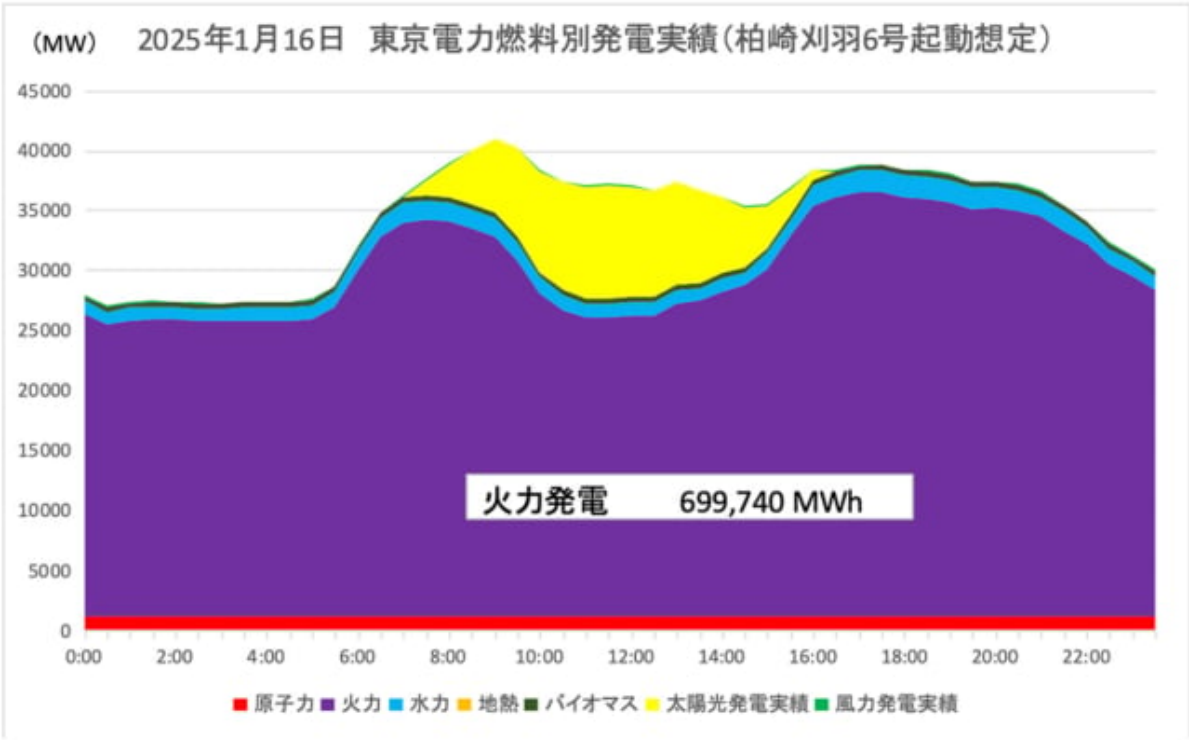
?1?15????????????????????

????????????????HTB?UHB?????????108??
??100??
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2025?8?4????????7??6????????????
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?6????????????????????????6??
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67116????????6????????????????

????????6????75????????3???1????

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6????75????15????

1????

3????

6????100kW????2????

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Posted in [????????](#), [???](#) | No Comments »

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

?? ?? · Tuesday, August 12th, 2025

A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate

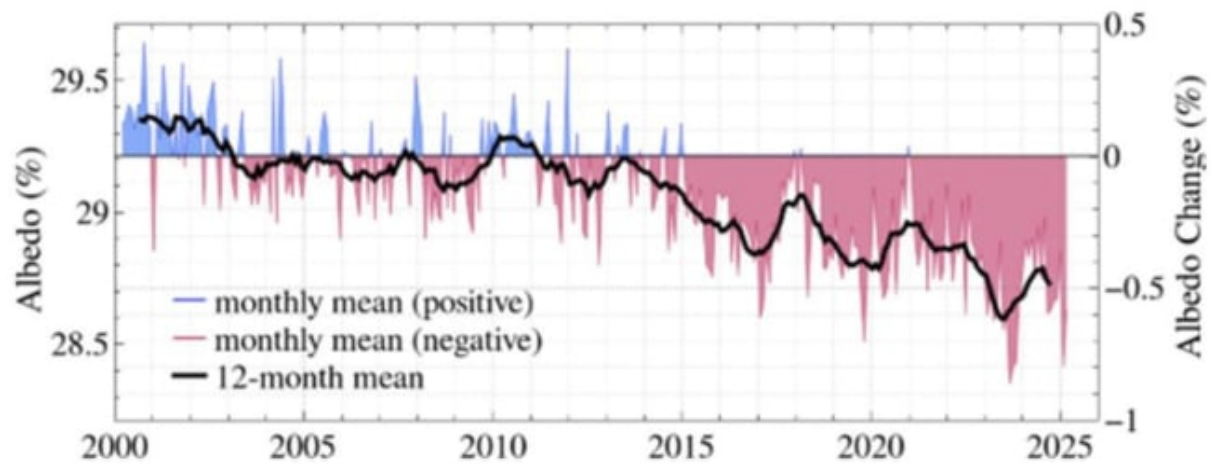
[illegible]

???IPCC?19????????????????1????????CO2????????????????????????????????
 ?????CWG??????

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

1950????????????????????????????????????20????????40????????????????????????McLean et
al., 2009; Tung and Zhou, 2013; Chylek et al., 2016; Scafetta, 2021??

2015 8.2 0.5%



8.2
Hansen?Karecha?2025?

12
ECS?
10

CWG?

IPCC? 8.1

6 8.1
IPCC?

Climatic Impact-driver Type	Climatic Impact-driver Category	Already Emerged in Historical Period
Heat and Cold	Mean air temperature	1
	Extreme heat	2
	Cold spell	4
	Frost	
Wet and Dry	Mean precipitation	
	River flood	
	Heavy precipitation and pluvial flood	
	Landslide	
	Aridity	
	Hydrological drought	
	Agricultural and ecological drought	
	Fire weather	
Wind	Mean wind speed	
	Severe wind storm	
	Tropical cyclone	
	Sand and dust storm	
Snow and Ice	Snow, glacier and ice sheet	
	Permafrost	
	Lake, river and sea ice	11
	Heavy snowfall and ice storm	
	Hail	
	Snow avalanche	
Coastal	Relative sea level	
	Coastal flood	
	Coastal erosion	
Open Ocean	Mean ocean temperature	
	Marine heatwave	
	Ocean acidity	
	Ocean salinity	13
	Dissolved oxygen	14
Other	Air pollution weather	
	Atmospheric CO ₂ at surface	
	Radiation at surface	

High confidence of decrease

Medium confidence of decrease

Low confidence in direction of change

Medium confidence of increase

High confidence of increase

?8.1?IPCC AR6???I???12.12??1????
????????????????CID????????????
????????????????????????????????

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????IPCC??CWG???????

IPCC??AR6??
WG1??11????Seneviratne et al., 2021????????????????

??AR5????????????????????????
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??WG1??12??8.5??12.12??2??
??Ranasinghe, 2021??

- ???
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??
??World Weather
Attribution?WWA?worldweatherattribution.org??
??

WWA??
????????WWA??
??Pielke Jr.
2024????????????????WWA??
????????????100??

CWG??
??2????1????????????????????????????????

??????? – 2021???????

2021????????2021?6??116????????107????????????10
8????????103????????????????????????Mass et al., 2024??

WWA??WWA, 2021; Philip et al., 2022??

- ???
- ?????????????????1000??1????????????????
- ?????????????????????????150????????????????

Posted in [???, ?????](#) | [No Comments »](#)

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?? ?? · Monday, August 11th, 2025



ALLVISIONN/iStock

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????????????????????????????????Climate Working Group, CWG????2025?7?23???????

??A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate?????

??????7? ????????????????????

????????CWG??????????????????

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????19??1????2.54?????????

1900????????????8??

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 ???AR6?2050??????

 ?????1995-2014????????????????2025??

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

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 ???

 AR6??1901??2018????????????????7.9?5.9–9.8??199

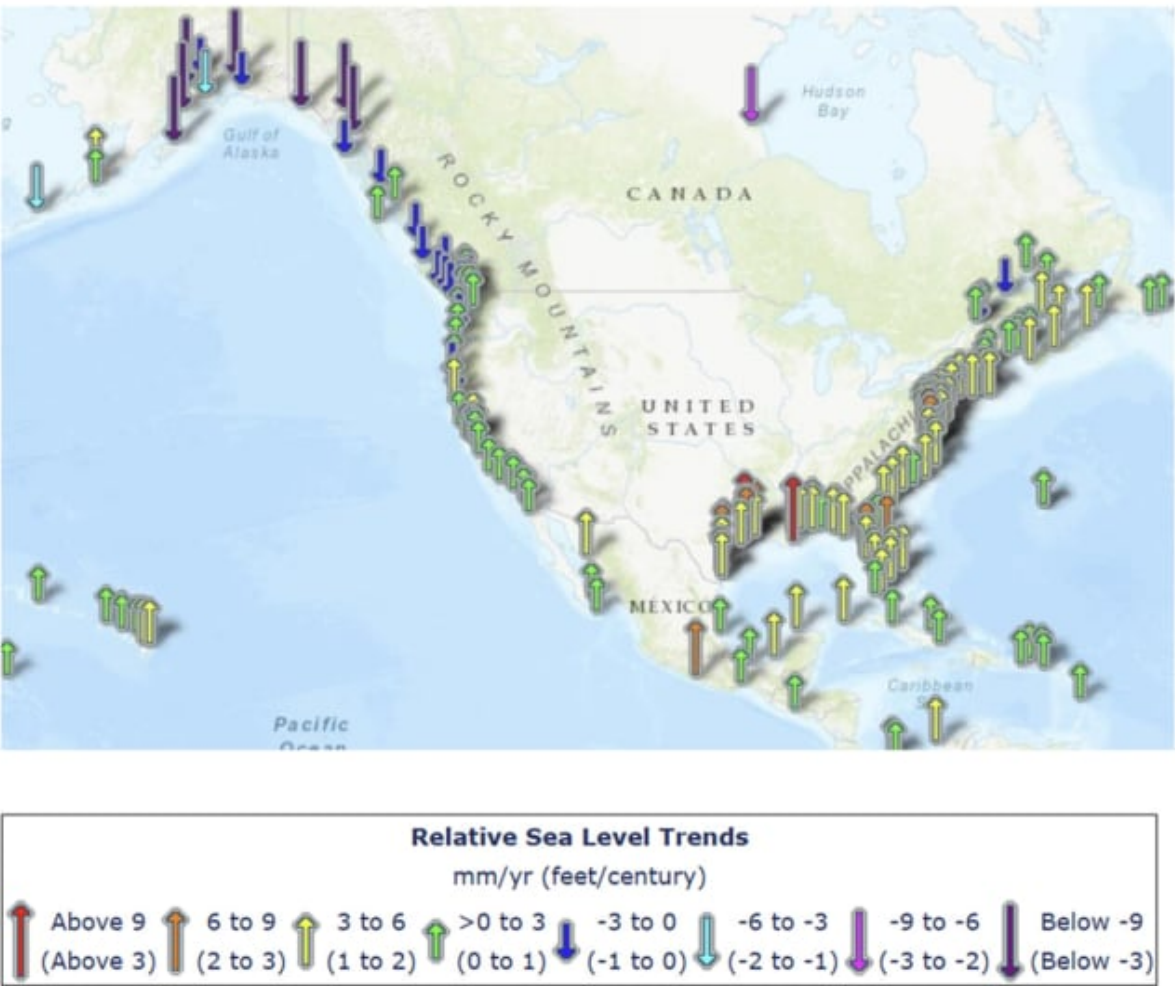
 3??2018??Fox-Kemper et al.,

 2021????????????????0.12????????????????2????????????????????NASA, 2020??

 ???GPS????

 ?????????????????????????1993????????????????7.1??

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?7.1????????????????NOAA??

??CWG????????????????

????????????1900????????????????8????????????????21????????????????????????????????
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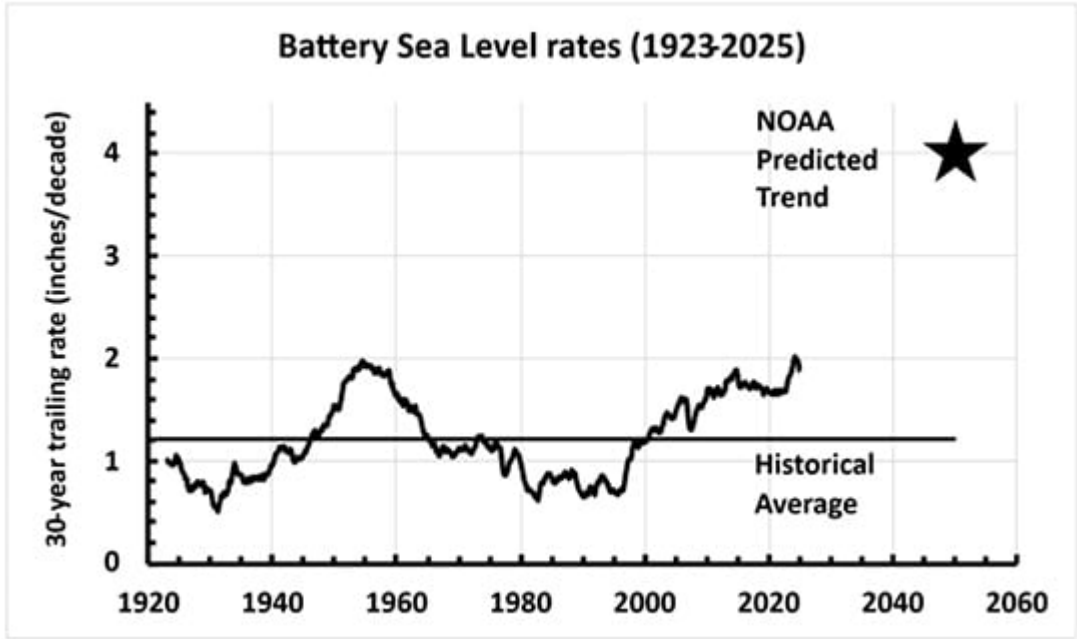
AR6??2050??
??2050????????????1995?2014????????????3.94?15.7
5????5?95??Fox-Kemper et al., 2021??

???AR6??2100??
????????????????????????AR6?2100????????????????????????????????SSP2–4.5?Fox-
Kemper??2021????????5th–95th????????????????????7.9?39.4????????????2100????????????
??

??CW
G????????????????????????

??CWG????????????
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2022?2????????NOAA????????????????????????????????Sweet??2022????????2050????????
????????2020???1????????????????30???1????????2????????1????????3????
????????????NOAA????????7.6????????20????????????????????????????
????Sweet??2022??
??10????????????



??7.6 ?????????????????
????30????????
NOAA????2050????????
????NOAA????

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Posted in ???, ????? | No Comments »

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?? ?? · Sunday, August 10th, 2025



benmoss/iStock

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????????????????????????????????Climate Working Group, CWG????2025?7?23????????

??**A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate**??????

????6? ?????????????????

???????CWG????????????????

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??1950????????????????????AR6????
????????1920???1930??
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????????????1980????????????????????1960????2000????????????????????????????????
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????????????????????????????????????CWG????????????????????????????????

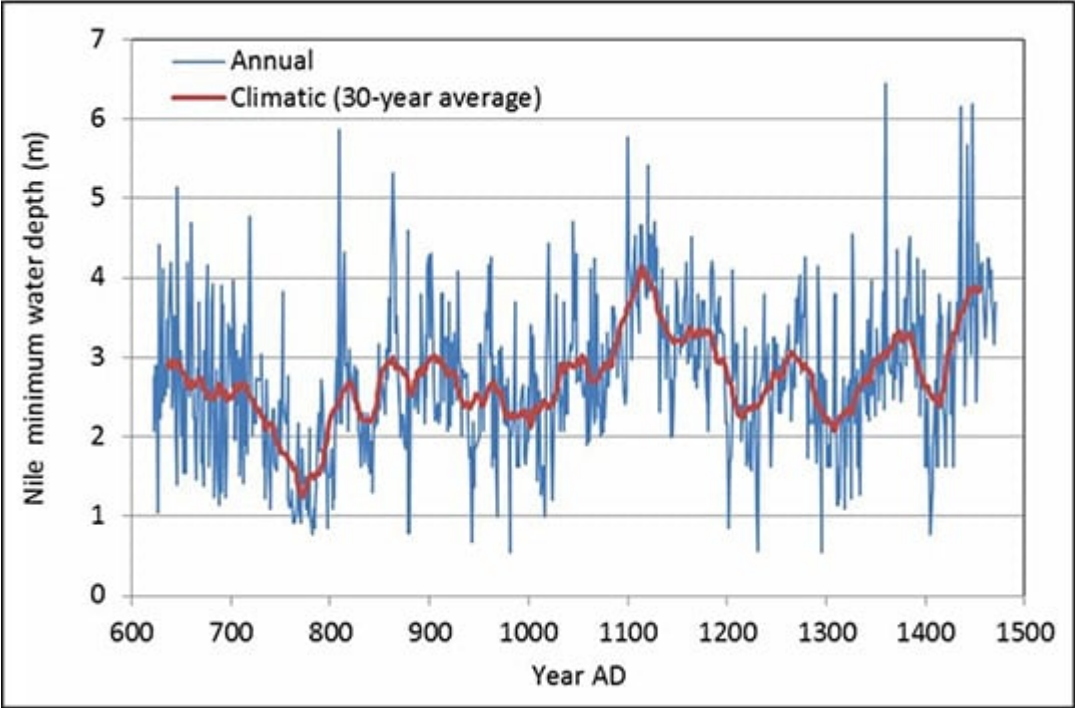
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??800????????????????????????????CO2????

??

??Hurst 1951, Cohn and Lins 2005, Markonis and Koutsoyiannis 2016??Cohn and Lins 2005??

??800????????????6.1.1????????????????3??1????400????????????????????????????????20????????????????????????????????30????????????????????????7????8? ???



?6.1.1????????????????650????????622???1284???
??
????Koutsoyiannis?2013???

????630????770????????????3????1.3????????????????????????????????
????????????????140????????????????????????????????????

????????????IPCC????????????

AR6??40????????3?5????????????????????????????...

??CWG????????????????????????????????

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?????variation????????????????????????change????????CO2????????change????????
??CWG??????

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IPCC?NCA????????????????????????

AR6?1950????????????????????????????

AR6????????????????????1950????????????????????????????????SPM A3.2?

AR6????1950????????????????????????????????????1950??2018????[1??
][5????]????????????11?p. 1560?

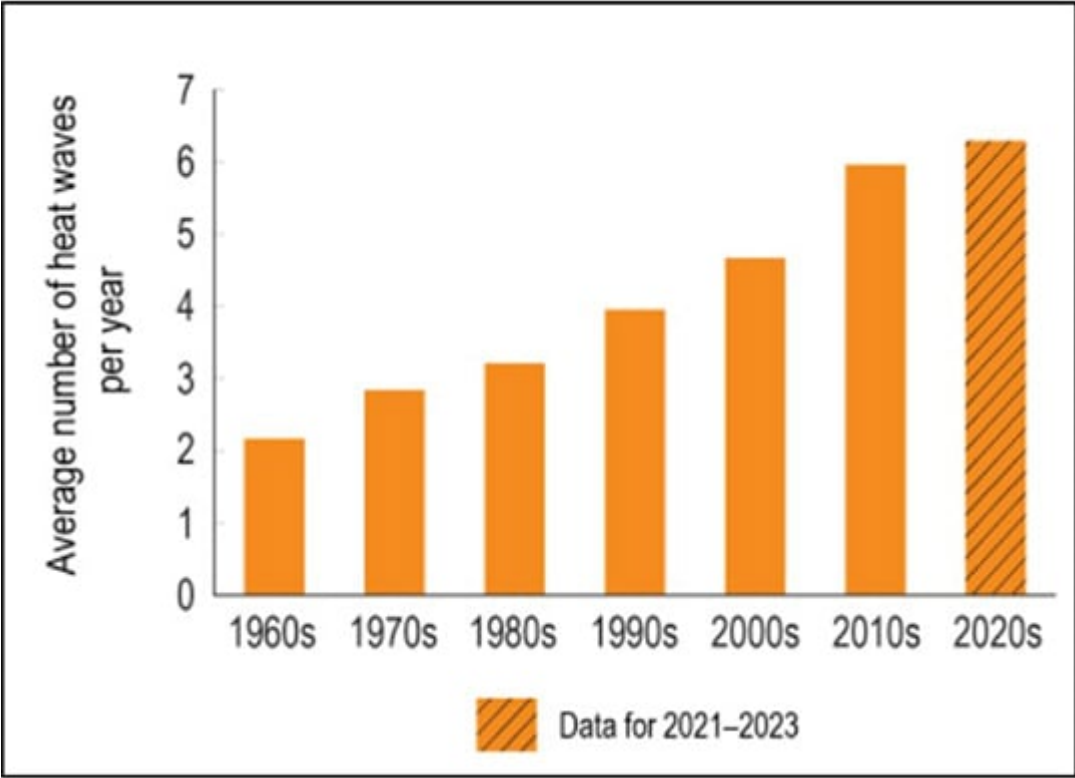
????????NCA4?NCA5????????????????????1901????1958????????????
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???5????????NCA5????????????USGCRP
2023????????1960????10????????????6.3.7????



6.3.750
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<https://www.globalchange.gov/indicators/heat-waves>
2025522

?????????CWG???????

19602202610
8550

USGCRP202319602GHG
1960191019702
1960TminTmaxTmin
Karl et al. 1988, Runnals and Oke 2006, Christy et al. 2009, McNider et al. 2012

1196070193019602
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NCA

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?? ?? · Saturday, August 9th, 2025



Laurence Dutton/iStock

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

????????????????Climate Working Group, CWG????2025?7?23????

????????????????**A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate**????

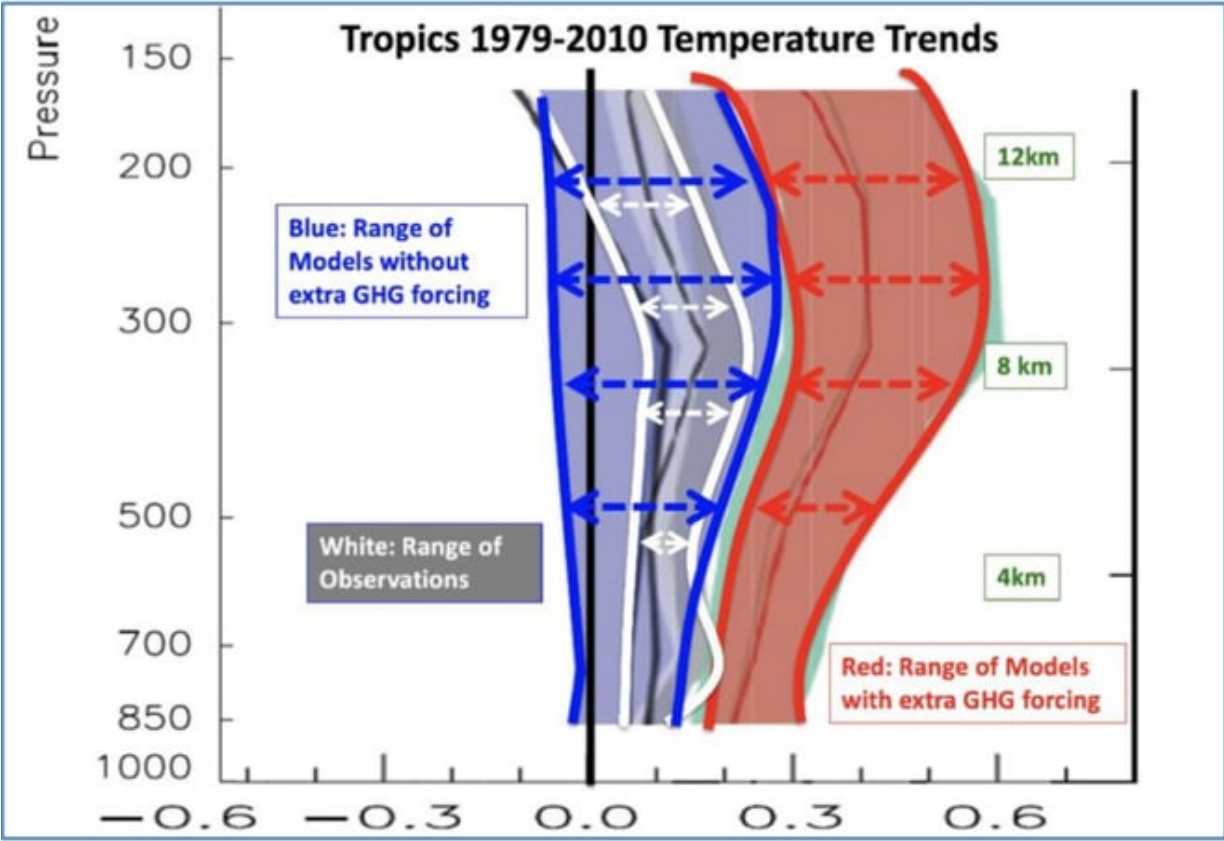
????5? ?????????????????

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?5.5????????????????1979?
??2010????????????
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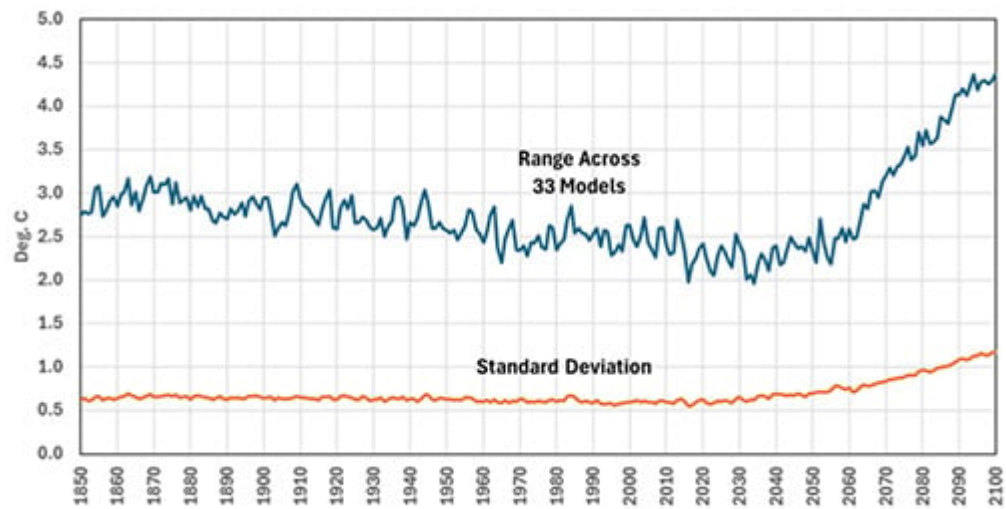
5.5°S-20°N temperature trends (°C/10 years)
IPCC AR5 10.5M.1

CMIP6 1880-2010 trends (°C/10 years)
CMIP6 1880-2010 trends (°C/10 years)

CMIP6 1880-2010 trends (°C/10 years)

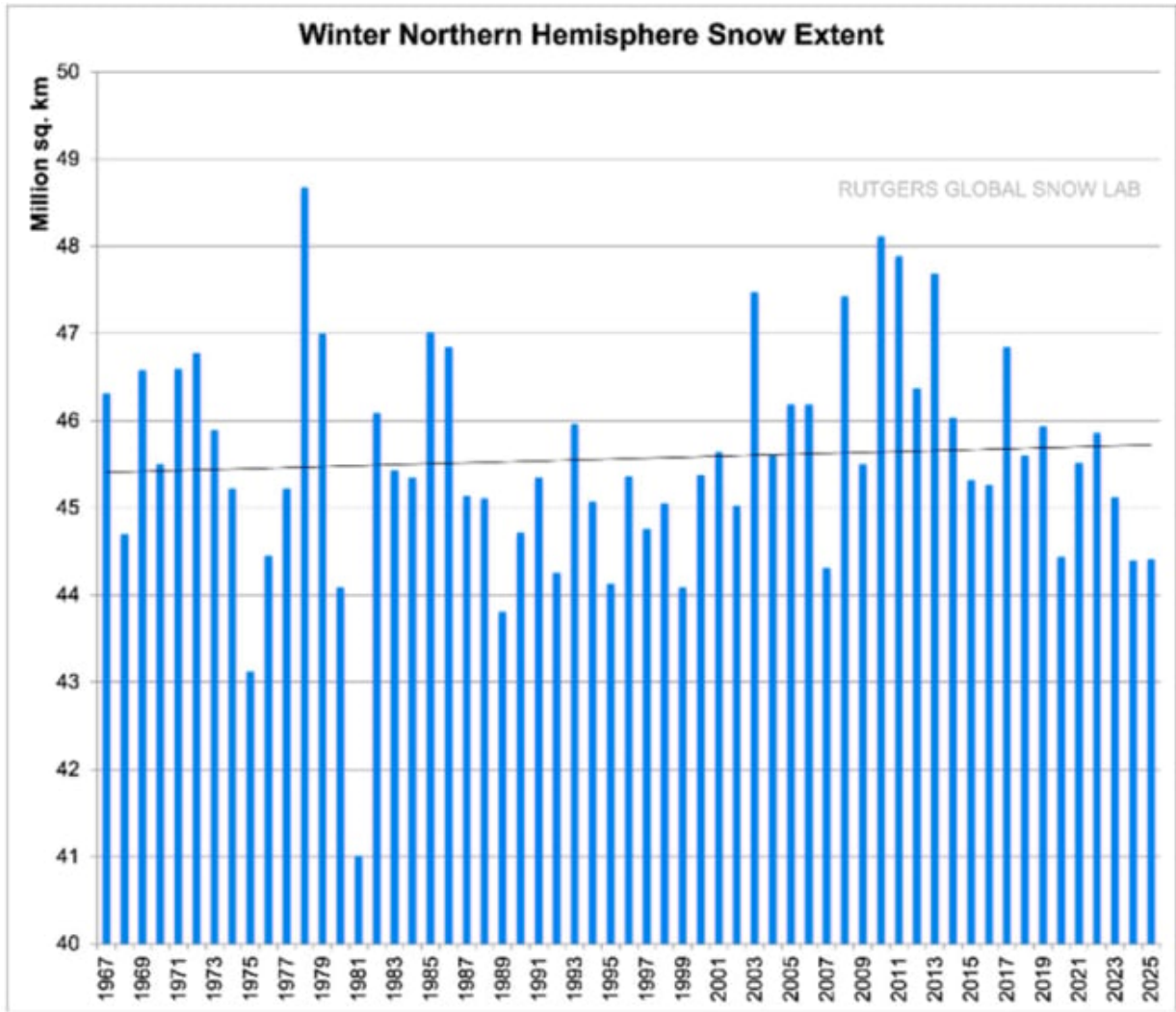
CMIP6 1880-2010 trends (°C/10 years)

CMIP6 1880-2010 trends (°C/10 years)
CMIP6 1880-2010 trends (°C/10 years)
CMIP6 1880-2010 trends (°C/10 years)



?5.1 ?????????????????????????????

??5.7????????????????????????
??



?5.7?????????????
???https://climate.rutgers.edu/snowcover/chart_seasonal.php?ui_set=nhland&ui_season=1

2025527

4

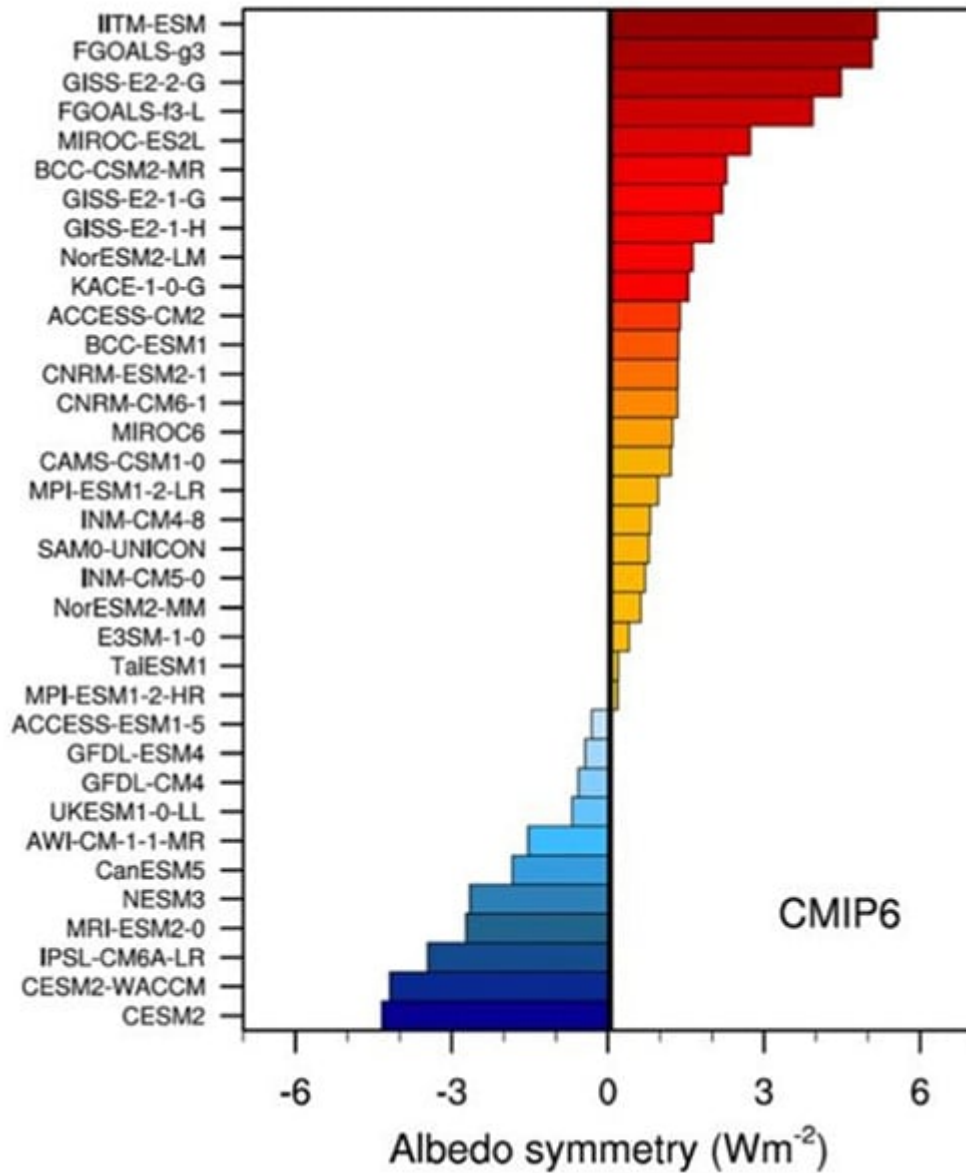
SCE

0.3030%

RugensteinHakuba2023NHSH

Wm²CMIP65.8CMIP60.1

Wm⁻²5Wm⁻²2.7Wm⁻²2



5.8. CMIP6????IPCC????????????????????20????????????????????

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Rugenstein?Hakuba?2023??

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5????CWG????????????

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- ?????????ECS????????????????????
- ?????????????????????????????

- ???Wm⁻²????????????????????????3??????
- IPCC??

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?? ?? · Friday, August 8th, 2025



Sashkinw/iStock

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??A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate??????

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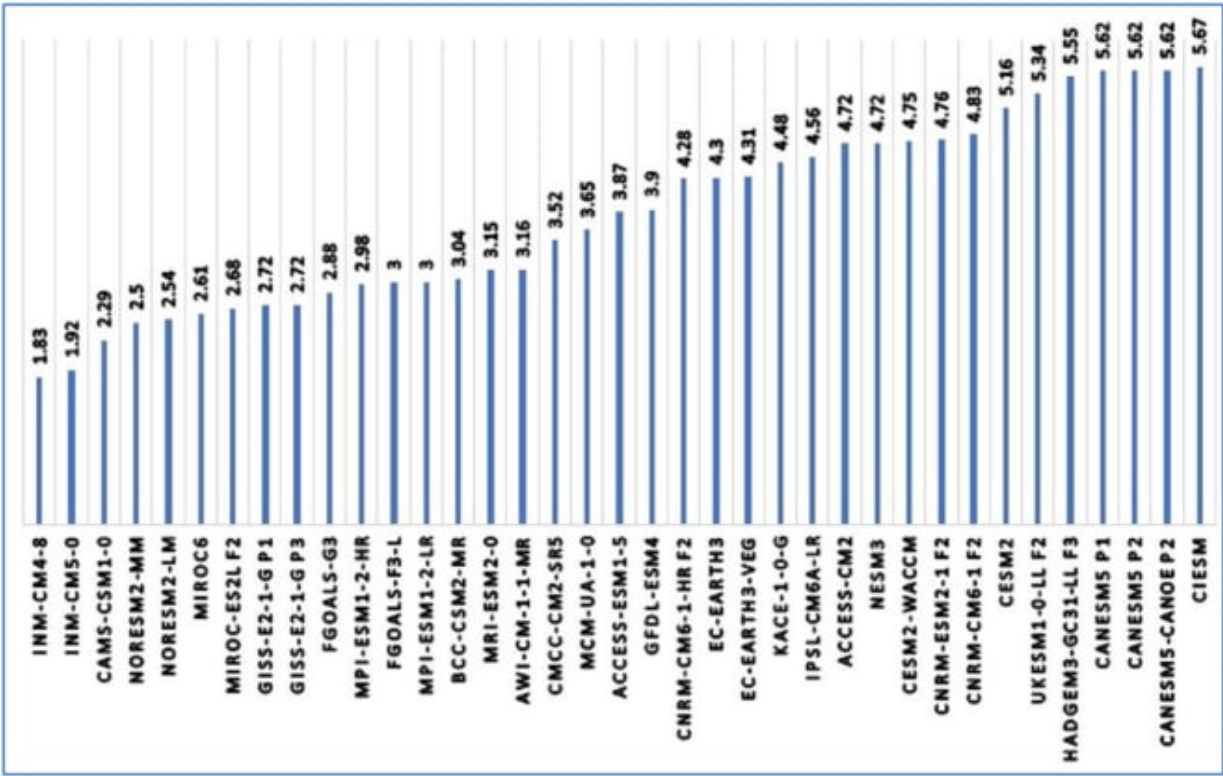
?

????????????????????ECS????CO2????????????????AR5?AR6????IPCC??5??6??????

????CO2????????????????ECS????????????????????????????????IPCC????????????????
??

????ECS????????????????????????????????IPCC
AR6?ECS????????????4.0????AR5?4.5????????????????????????????????
??AR6?ECS????????????2.5??AR5?1.5????????????????????????????????AR6
????????????1.8°C????????

????????????????ECS????????????IPCC????????ECS????????????4.1?



?4.1 CMIP6????37?????

?????

???Scafetta, 2021?

???4.1??MPI-

????????????2????ECS??3????3?????

Mauritsen?Roeckner?2020????MPI?????

?????MPI-

ESM1.2??

????????????????????????????????????ECS??3K????????????????

???

????MPI????ECS??3?????

??IPCC????ECS????

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????????????????????????????????AR6?2021????????????????

?????

???IPCC??ECS????

????ECS????3.1°C????2.6–3.9°C????

2022-2023
37°C
2022-2023
13°C
300
3.1°C
2.6–3.9°C

AR6
IPCC
Sherwood
et al.
2020
ECS
3.1°C
2.6–3.9°C

ECS
Lewis
Lewis
IPCC
AR6
Sherwood

Lewis
2022
Sherwood
2022
2.2
17
83
1.8
2.7°C
5
95
1.6
3.2
IPCC
AR6
ECS
2.3
5
Lewis
50
Sherwood
Lewis

ECS
AR6
AR5
CWG
ECS
Lewis
1.8

ECS
CO2
TCR
TCR
IPCC
Lewis

TCR
ECS
TCR
ECS
AR6
TCR
1.2
2.4
ECS
TCR
Lewis
2023
TCR
1.2
5
2.0
ECS
AR6

21
75
CO2
CO2
IPC
C
1.2
2.4
Lewis
1.25
2.0

IPCC
Lewis
CWG

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?? ?? · Thursday, August 7th, 2025



Dilok Klaisataporn/iStock

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Climate Working Group, CWG2025723

A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate

CO2CO2

CWG

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3.1

IPCC202116TSI16002000TSI20

IPCC11IPCC

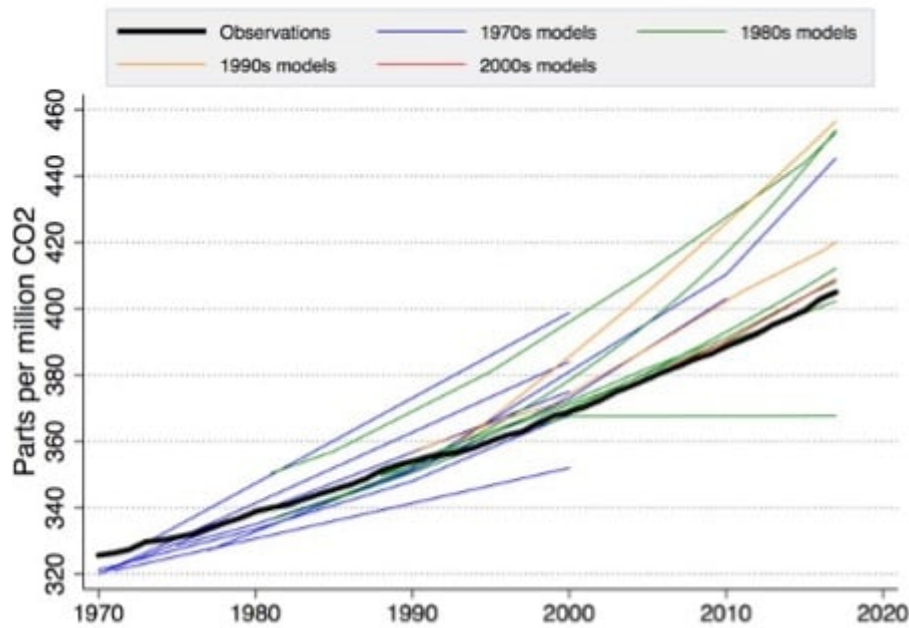
?

TSI

TSIIPCC

IPCC

IPCC34SRESMcKittrick2012SRES1SRES2019CO2SRESIPCC3.2.1



3.2.1 1970??

??Hausfather et al.?2019??S4

????IPCC??

????????????????????????????????????RCP8.5??

??

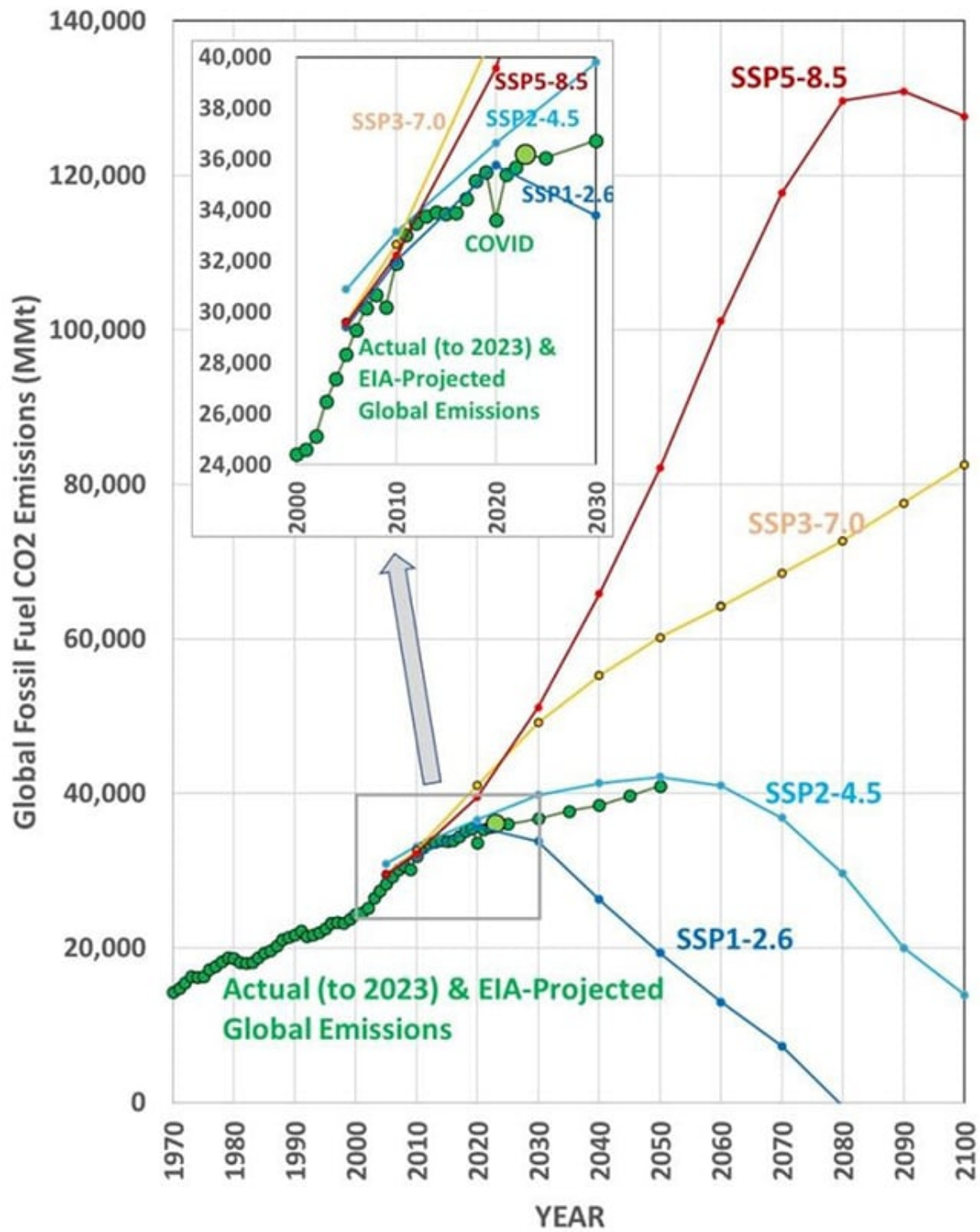
Pielke?Ritchie?2020???RCP8.5????????????1????20????????????????????2???RCP8.5????????business
a s

usual??10????????SF????????????????“?”????????????????
????????????

3.2.2????IPCC????????????SSP5-8.5????RCP8.5??

????????????????EIA????????2050????????????????????

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3.2.2. CO₂ Emissions: EIA-Projected vs. SSP1-5

IPCC SSP EIA?

Friedlingstein 2024?

CO₂ Emissions: EIA-Projected vs. SSP1-5
?

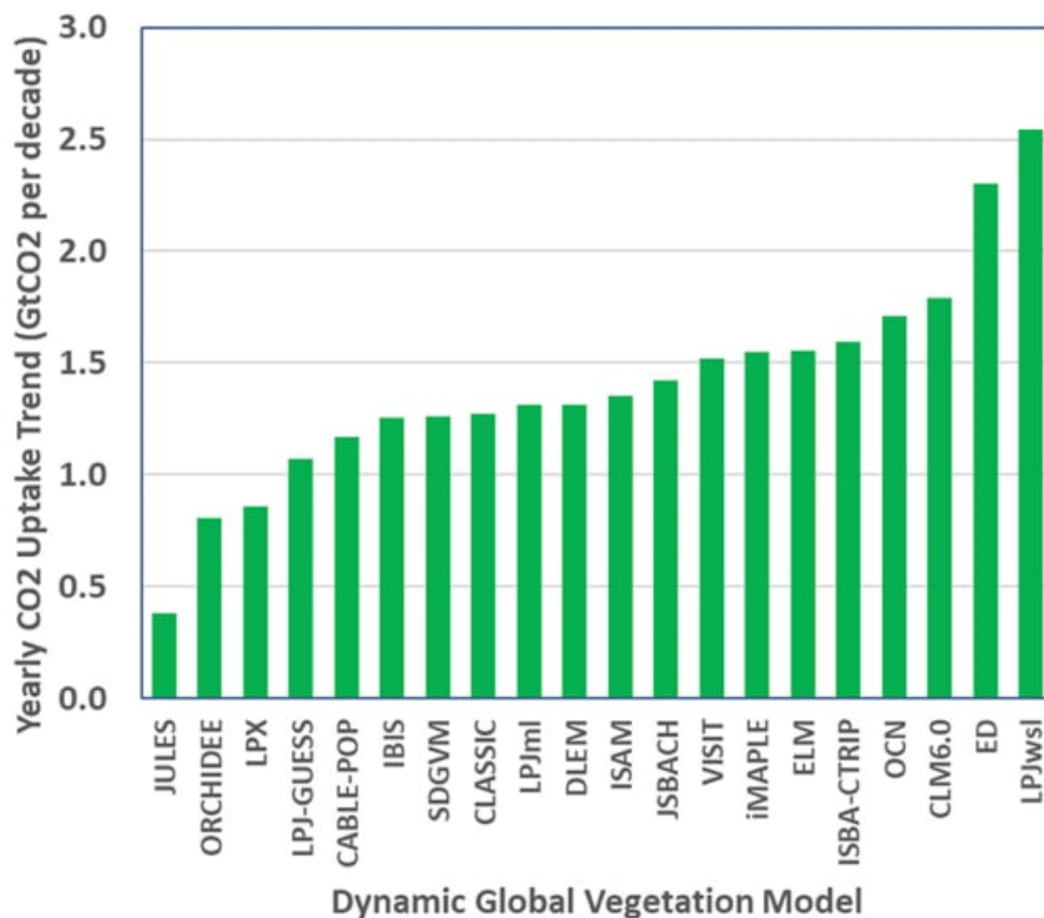
50? Ciais et al., 2013

??????CO??50??????
 ?????????????????CO2??

[illegible]

???20??
 ?????????????????????????Friedlingstein,
 2024????????????????3.2.3??1959??202
 3??65????????????????????????????????7????????????

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



73.2.3 1959???2023????CO2???GtCO2/?/10?????????????
 ?????????????Friedlingstein, 2024????????20????????????

[illegible][illegible]

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??????CDP?SBTi????????????

?? ?? · Wednesday, August 6th, 2025

????????????????????????????????7????????????????????????????????9????????????
?CDP??

??2??

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[illegible][illegible]

03.09.2025

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CDP????????????????SBTi????????????????CDP????????????????
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????????????profit-driven feedback loop??

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CDP????????????????A?B?C?D????????????SBT??TCFD????????????
??RE100?Climate Action
100+?TNFD????????JCLP????????????

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??????3????????

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CDP?RE100?TCFD?SBTi????????????????
????????????????SDGs?ESG????3????????...????
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????SBTi????CDP????????
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- ??????????????????????
- ?ESG?????????????????????
- ??????????????????????

????????????????????????????????CDP?SBTi????????????6????????????ESG????????????????????
????????????????1?CA100+?GFANZ?NZBA?NZIA????????????????????????????

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?SDGs????????

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?? ?? · Wednesday, August 6th, 2025



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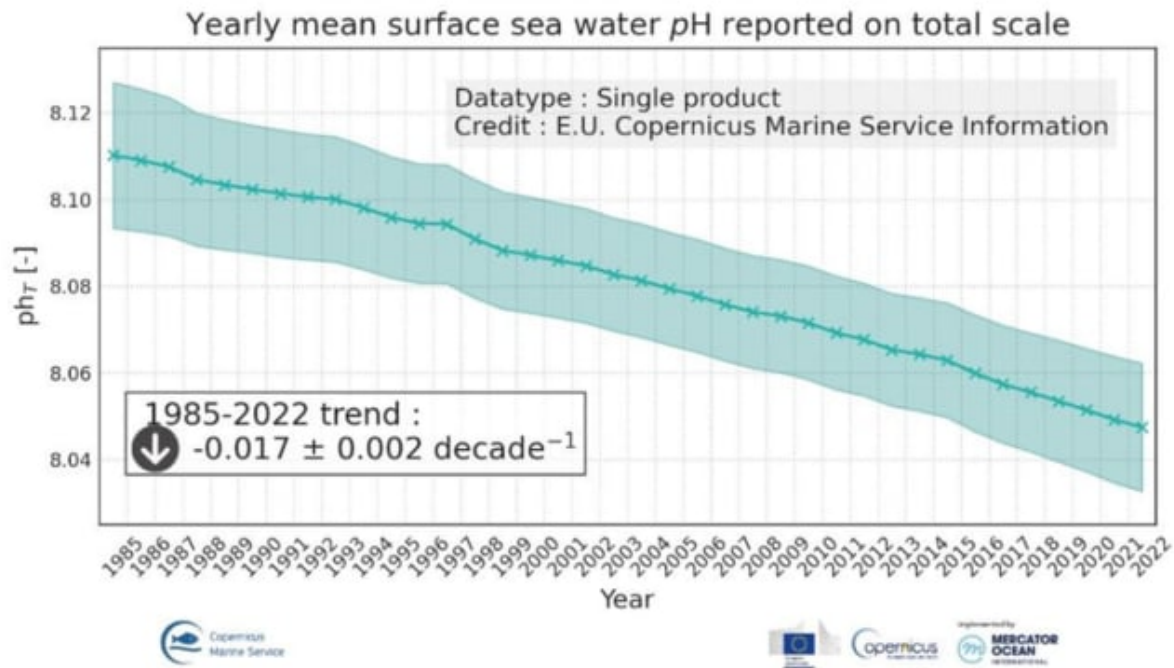
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????????????????????????????????????Climate Working Group,
CWG????2025?7?23????????????????????????????????????A Critical Review of
Impacts of Greenhouse Gas Emissions on the U.S. Climate??

????2??CO2????????????2.2????????????????????????????????CWG????????????????

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????????????????????????????CO2????????????????????????2.3??



2.3??pH 1985?2022
????????????2025

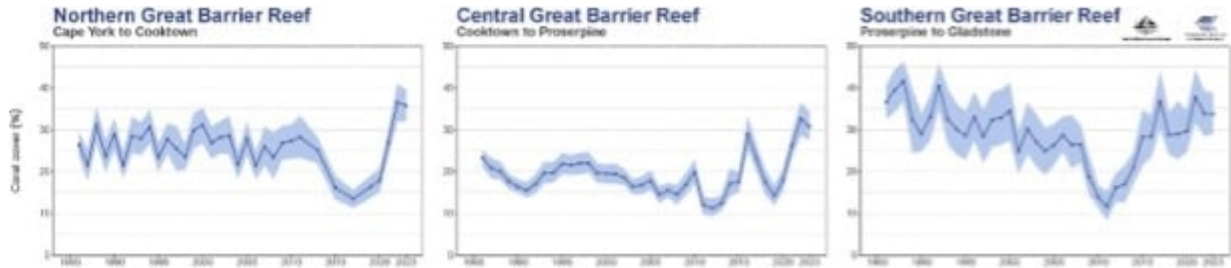
??
????????????????????pH6.5??7.0????????????????????????????????????2018????????????
????????????????????2????????pH?7.4??7.5????????????????????????????????Rae et
al., 2018????????????????pH????????pH????

??2.3????????
????????IPCC?2100????pH????7.8????

??pH????????????pH????????
????pH????9.4????7.5????Revelle and Fairbridge,
1957??De'ath??2009????????GBR????1990????14????
????pH????Ridd??2013????????
????541????11????2025?4?30????
????

????????pH????
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????AIMS????AIMS,
2023??2.4??AIMS????2011????
????Beeden et al., 2015????Woods Hole,
2023??1990??2009??GBR????CO????



2.4 1985-2023
AIMS 2023?

CO2 GBR
CO2

CWG

24500 2
CO2

CWG

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?? ?? · Tuesday, August 5th, 2025



hikastock/iStock

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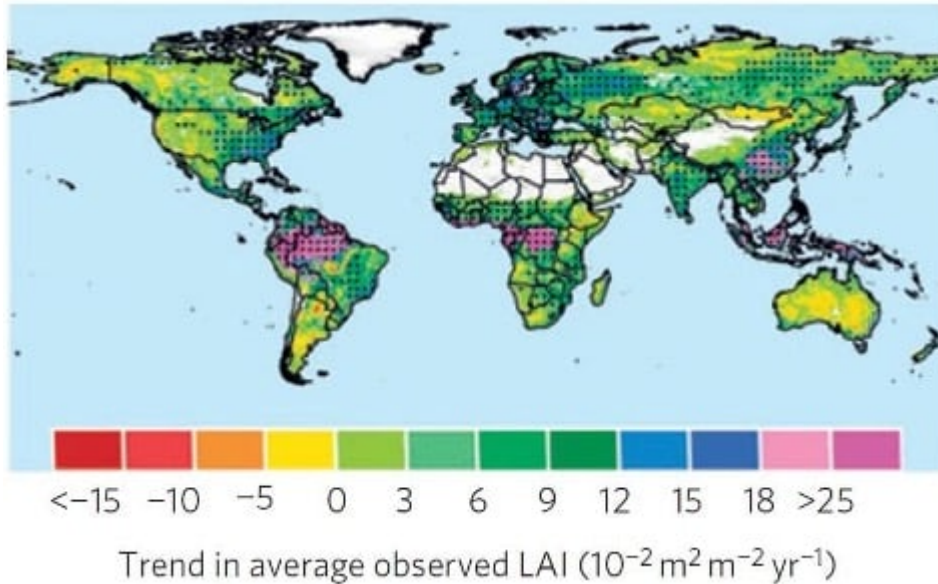
????????????????????????????????Climate Working Group,
CWG?????2025?7?23??A Critical Review of
Impacts of Greenhouse Gas Emissions on the U.S. Climate??

????????????????????Global Greening????????????????????CWG????????????????

2.1? CO2????????????

????CO2??

??LAI????????????????10????????????????
?CO2????????????????????????????????LAI????????????Zhu??2016????????????????????
????????????1982???2011????????25?50????????????4????????????????????70??
????????????????????2.1????



2.1 LAI
Zhu 2016

LAI
LAI

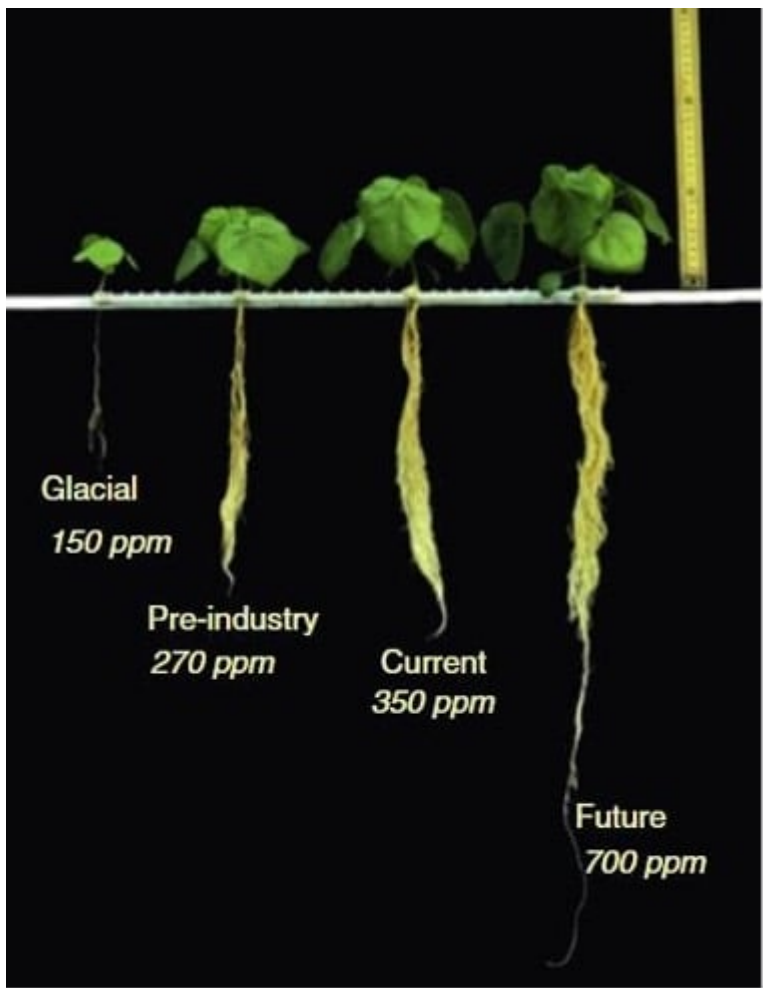
CO₂ 2,000-4,000 ppm
5,000-1,000 ppm
3,500-170 ppm
Gerhart and Ward 2010

CO₂

60
CO₂
CO₂
CO₂

-
- CO₂ CO₂ CO₂

2.2 CO₂



2.2
14
Gerhart and Ward 2010
Current 1988

Deryng 2016
Zhang 2024
4

CO2

IPCC
AR5
AR6

IPCC
CO2

IPCC
NCA

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