

WARM EPISODE REL



Slovensko
meteorološko
društvo
Od 1954

EMBER - FEBRUARY



Podnebna(e) sprememba(e) – izziv za stroko

Smernice in ideje za oblikovanje stališč Slovenskega
meteorološkega društva

WARM EPISODE RELATIVE TO CLIMATE NORMALS JUNE - AUGUST



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Ljubljana, 9. november 2010

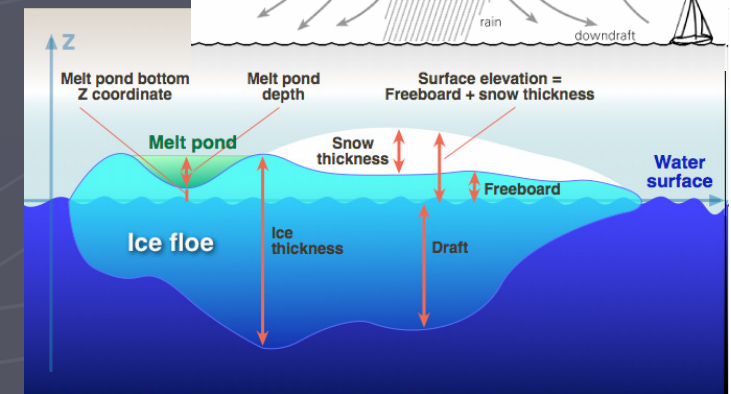
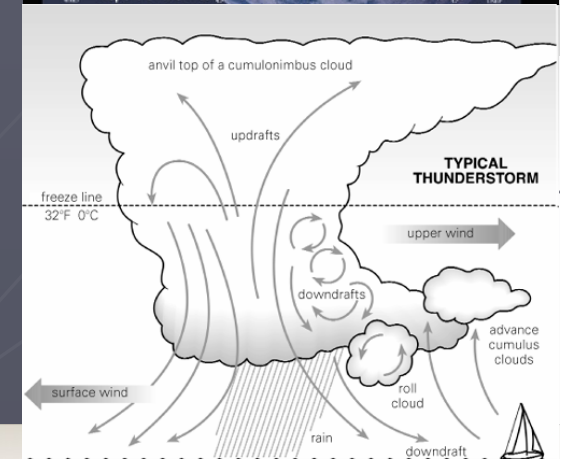
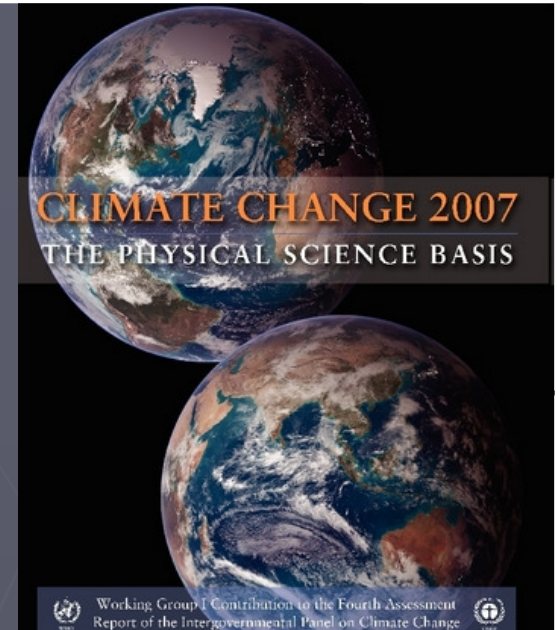


Kazalo

- Izrazoslovje
- Ekstremni vremenski dogodki in podnebna sprememba
- Interpretacija meritev, trendov ...

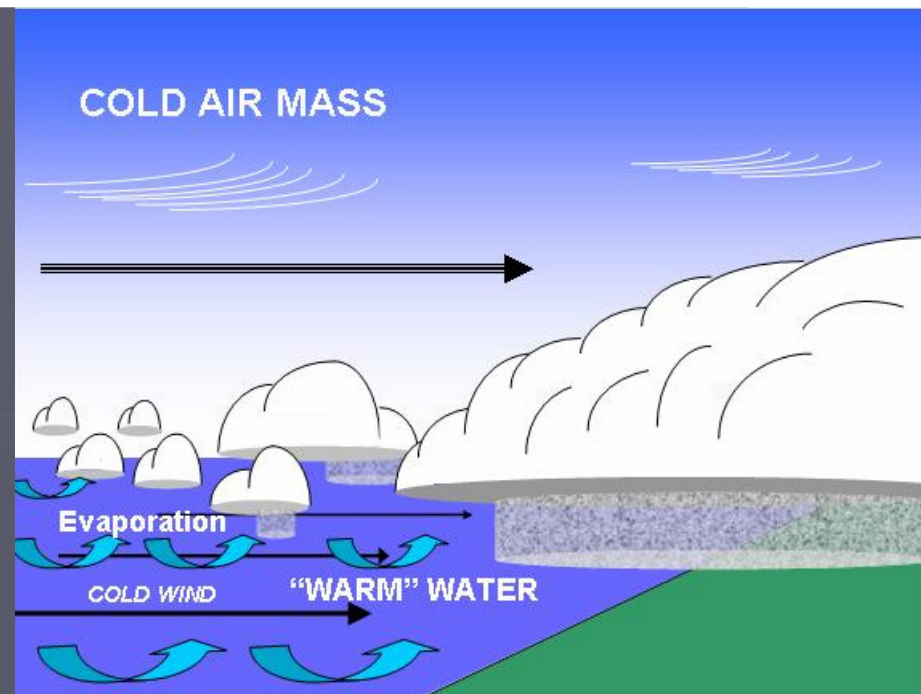
Izrazoslovje

- Hiter napredek nekaterih vej meteorologije in klimatologije v zadnjih dveh desetletjih
- Številni novi (angleški) izrazi, ki se vse bolj uporabljajo v javnosti in pomembnih dokumentih:
 - IPCC poročila
 - Zakon o podnebnih spremembah (v pripravi)
 - Poročila ustanov o podnebnju, podnebnih spremembah
 - Napovedi nevarnega vremena (ESTOFEX)
- Nekatera jezikovna področja v slovenščini relativno slabo pokrita:
 - Neurja
 - Kriosfera (sneg in led)
 - Podnebne spremembe, podnebna spremenljivost

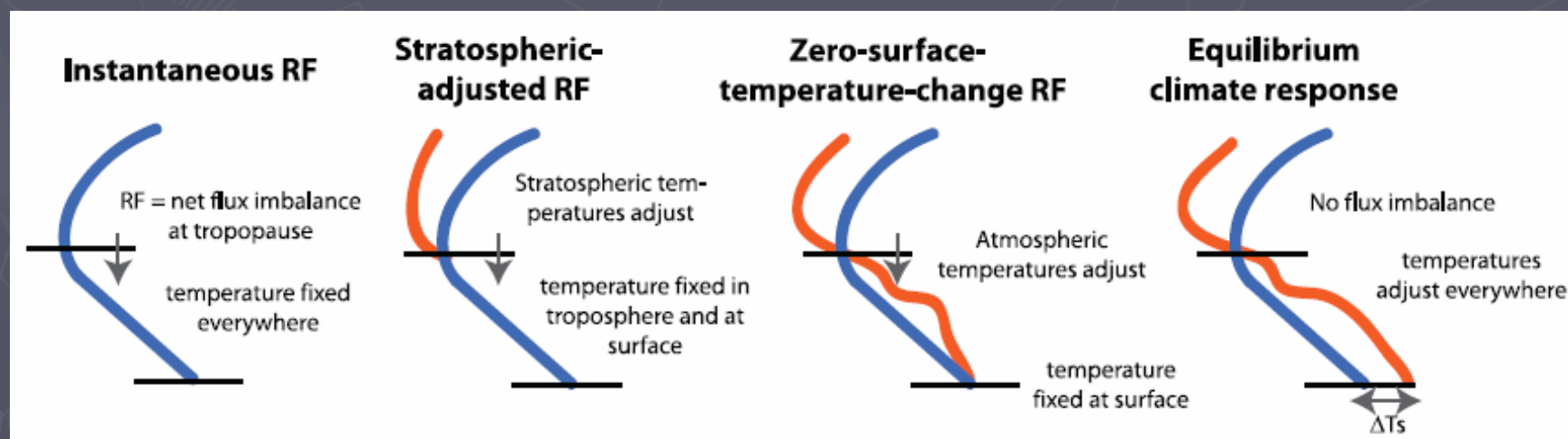


Primeri nezadostnega ali neobstoječega prevoda:

- Bussines as usual
- Radiative forcing
- Tropical storm
- Downburst
- Lake-effect snow
- Teleconnection
- Downscaling
- Desertification



Vir: http://www.weatherquestions.com/What_causes_lake_effect_snow.htm



Vir: Četrto poročilo IPCC, WG1, 2. poglavje, stran 134



🌍 Poseben primer: izraz podnebne/a spremembe/a:

- climate change (ang.)
- Klimawandel (nem.)
- le changement climatique (fra.)
- el cambio climático (špa.)
- klimatske promjene (hrv.)
- изменения климата (rus.)
- klimatické změny (češ.)

🌍 Čemu zmeda v ednini in množini?

🌍 Podnebna sprememba – ena sama, npr. prehod iz ledene dobe v medledeno obdobje

Predlog:

- SMD naj ustanovi komisijo, ki določi rok zbiranja tujk (in predlogov za slovenski prevod)
- Komisija posreduje predloge SMD, zainteresirani javnosti in jezikoslovcem v pregled ter določi končni rok
- SMD sprejme dopolnitev in popravke v meteorološki terminološki slovar in/ali dvo(več)jezični slovar
- SMD objavi slovar na svetovnem spletu



SLOVENSKA AKADEMIJA ZNANOSTI IN UMETNOSTI
ZNANSTVENORAZISKOVALNI CENTER SAZU
DRUŠTVO METEOROLOGOV SLOVENIJE

METEOROLOŠKI TERMINOLOŠKI SLOVAR



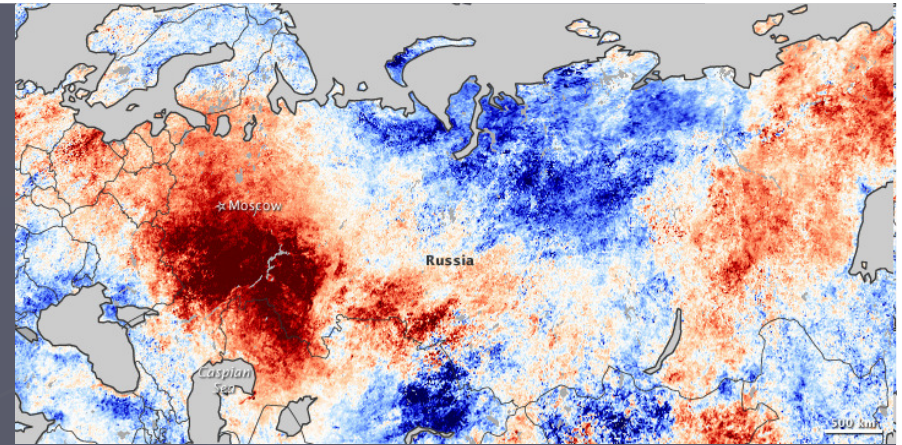
Ljubljana 1990

Ekstremni vremenski dogodki in podnebna sprememba



- Za niz rekordnih vrednosti je problem povezanosti s spremembo v porazdelitvi dokaj enostaven (Benestad, 2004)
- Ali lahko en sam dogodek pripišemo podnebni spremembi?
- IPCC AR4 WG1 FAQ 9.1:
 - **However, determining whether a specific, single extreme event is due to a specific cause, such as increasing greenhouse gases, is difficult, if not impossible, for two reasons: 1) extreme events are usually caused by a combination of factors and 2) a wide range of extreme events is a normal occurrence even in an unchanging climate. Nevertheless, analysis of the warming observed over the past century suggests that the likelihood of some extreme events, such as heat waves, has increased due to greenhouse warming, and that the likelihood of others, such as frost or extremely cold nights, has decreased. For example, a recent study estimates that human influences have more than doubled the risk of a very hot European summer like that of 2003.**

Odklon v temperaturi tal od 20. do 27. julija 2010 v Rusiji in okolici. Vir: Earth Observatory, <http://earthobservatory.nasa.gov/IOTD/view.php?id=45069>

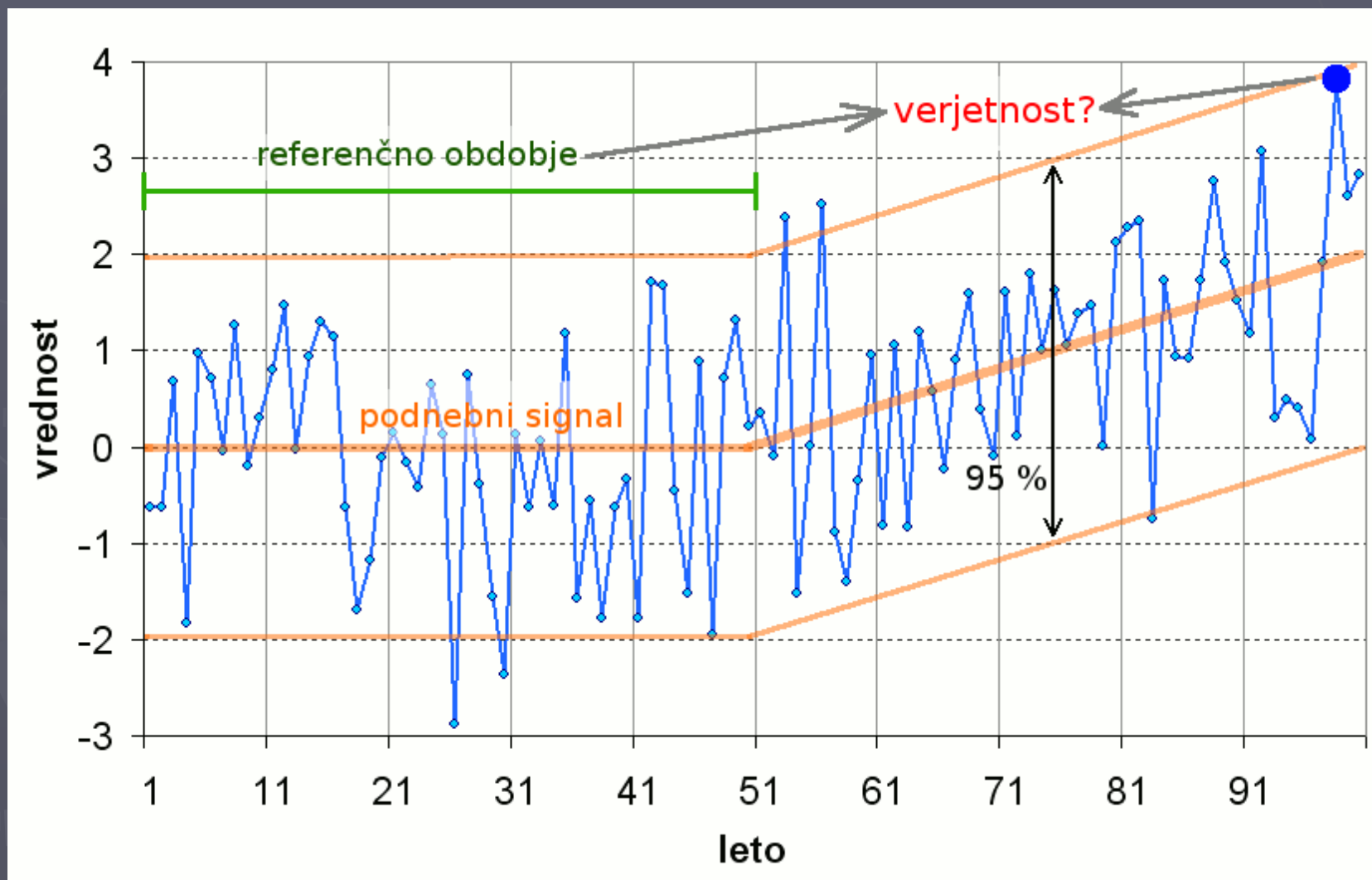


🌍 NASA GISS, How Warm Was Summer 2010?:

- In the face of such a rare event, there's much debate and discussion about whether global warming can "cause" such extreme weather events. The answer — both no and yes — is not a simple one. Weather in a given region occurs in such a complex and unstable environment, driven by such a multitude of factors, that no single weather event can be pinned solely on climate change. In that sense, it's correct to say that the Moscow heat wave was not caused by climate change. However, if one frames the question slightly differently: "Would an event like the Moscow heat wave have occurred if carbon dioxide levels had remained at pre-industrial levels," the answer, Hansen asserts, is clear: "Almost certainly not."

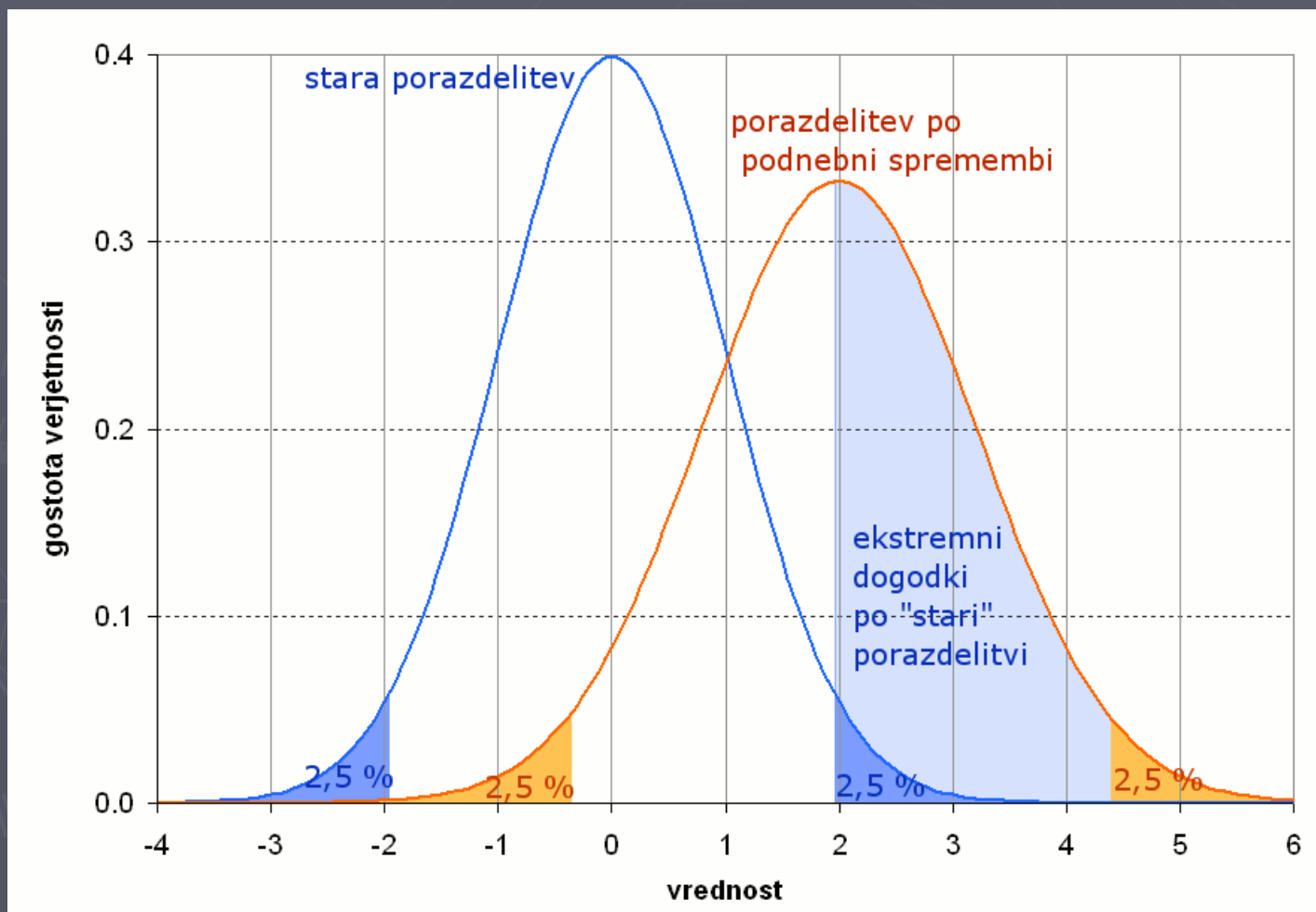


- Vedno se lahko vprašamo, kako verjeten je dan dogodek v referenčnem obdobju
- Teorija ekstremnih dogodkov (GEV ...)





- Se frekvenca določenih ekstremnih dogodkov zaradi podnebne spremembe res povečuje? (ekstremni dogodki so po definiciji redki)
- S spremembo porazdelitvene funkcije se spremenita tudi repa in s tem prag ekstremnih dogodkov!



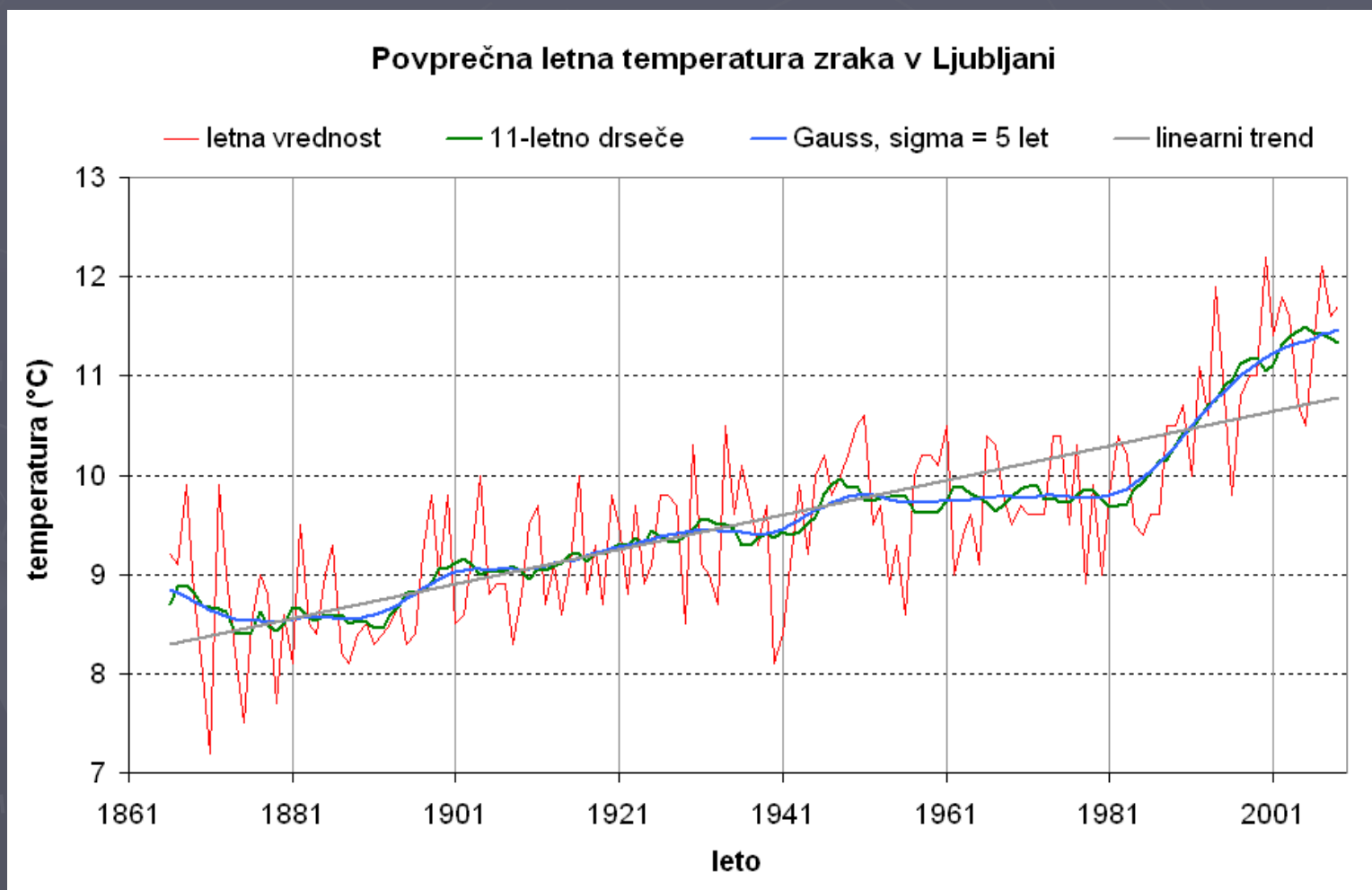


Interpretacija meritev, trendov ...

- Zlasti t.i. skeptiki, zanikovalci antropogene podnebne spremembe pogosto neprimerno tolmačijo meritve
- Primer: intervju Phila Jonesa za BBC, 13. februar 2010 :
 - **B - Do you agree that from 1995 to the present there has been no statistically-significant global warming**
 - ▶ Yes, but only just. I also calculated the trend for the period 1995 to 2009. This trend (0.12C per decade) is positive, but not significant at the 95% significance level. The positive trend is quite close to the significance level. Achieving statistical significance in scientific terms is much more likely for longer periods, and much less likely for shorter periods.
 - **C - Do you agree that from January 2002 to the present there has been statistically significant global cooling?**
 - ▶ No. This period is even shorter than 1995-2009. The trend this time is negative (-0.12C per decade), but this trend is not statistically significant.
- Nekateri so odgovor pod B razlagali kot "segrevanje se je l. 1995 ustavilo" in odgovor C kot "od l. 2002 naprej se ohlaja"
- Javnosti je potrebno dati vedeti, da omejenost količine podatkov pomeni omejenost informacije



- Kaj je podnebni signal v časovnem nizu meritev?
- Kako ga izločimo, v grobem ocenimo? (drseče povprečje, Gaussov filter, odsekan Fourierov spekter, s pomočjo modelskih izračunov ...)





Najlepša hvala za pozornost!



Viri in literatura

- http://www.ipcc.unibe.ch/publications/wg1-ar4/faq/wg1_faq-9.1.html
- <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-annexes.pdf>
- <http://www.giss.nasa.gov/research/news/20100930/>
- <http://www.realclimate.org/index.php/archives/2005/08/on-record-high-temperatures/>
- <http://www.howtosayin.com/climate+change.html>
- <http://news.bbc.co.uk/2/hi/8511670.stm>
- Benestad, R.E., 2004. Record-values, non-stationarity tests and extreme value distributions. Global and Planetary Change, letnik 44, št. 1-4, str. 11-26