

Hvussu ein heitari heimur ávirkar regn í Norðuratlantiska økinum

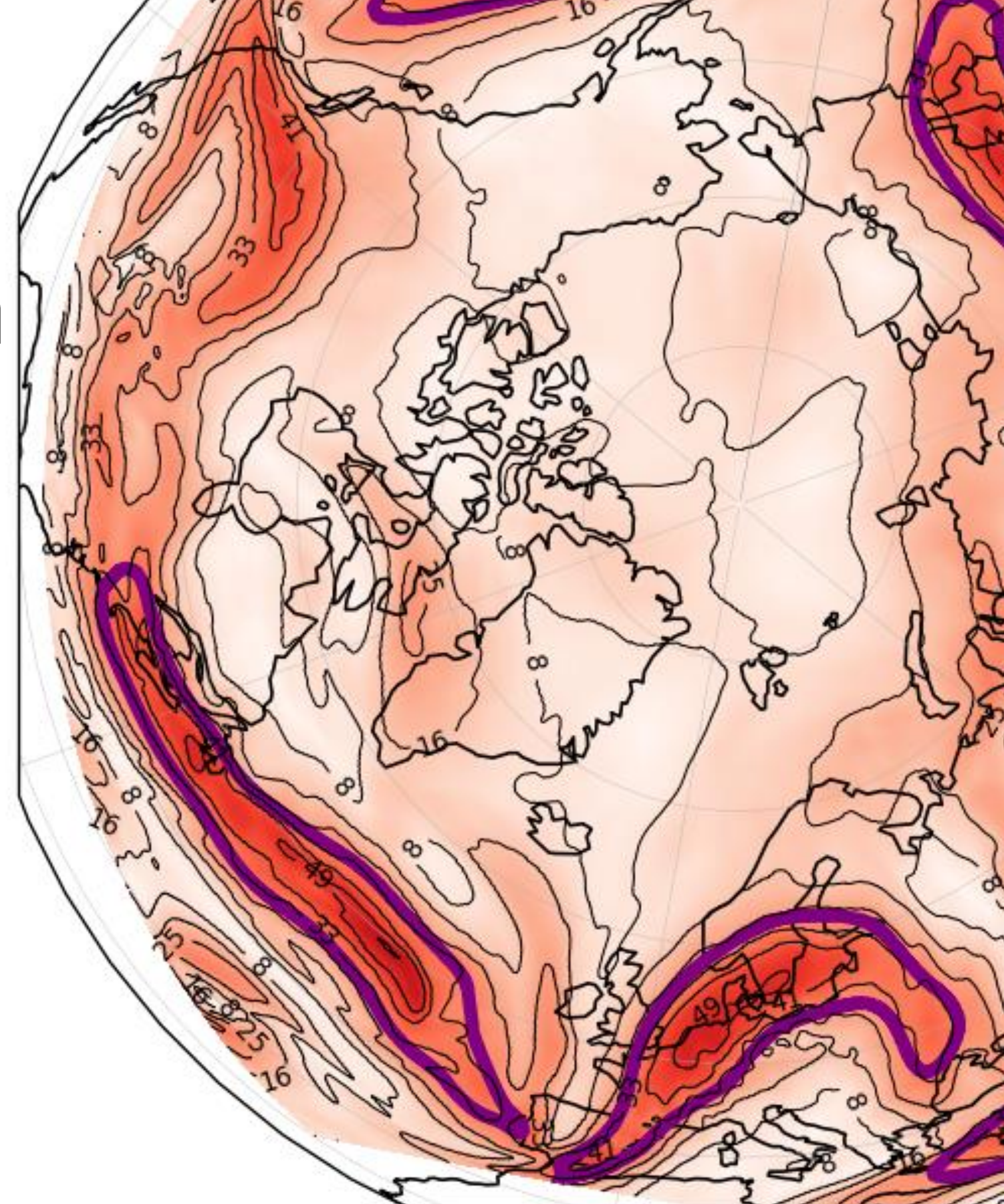
Andrea Vang, KU/DMI

Jens Hesselbjerg Christensen, KU
Hjalte Jomo Danielsen Sørup,
DMI

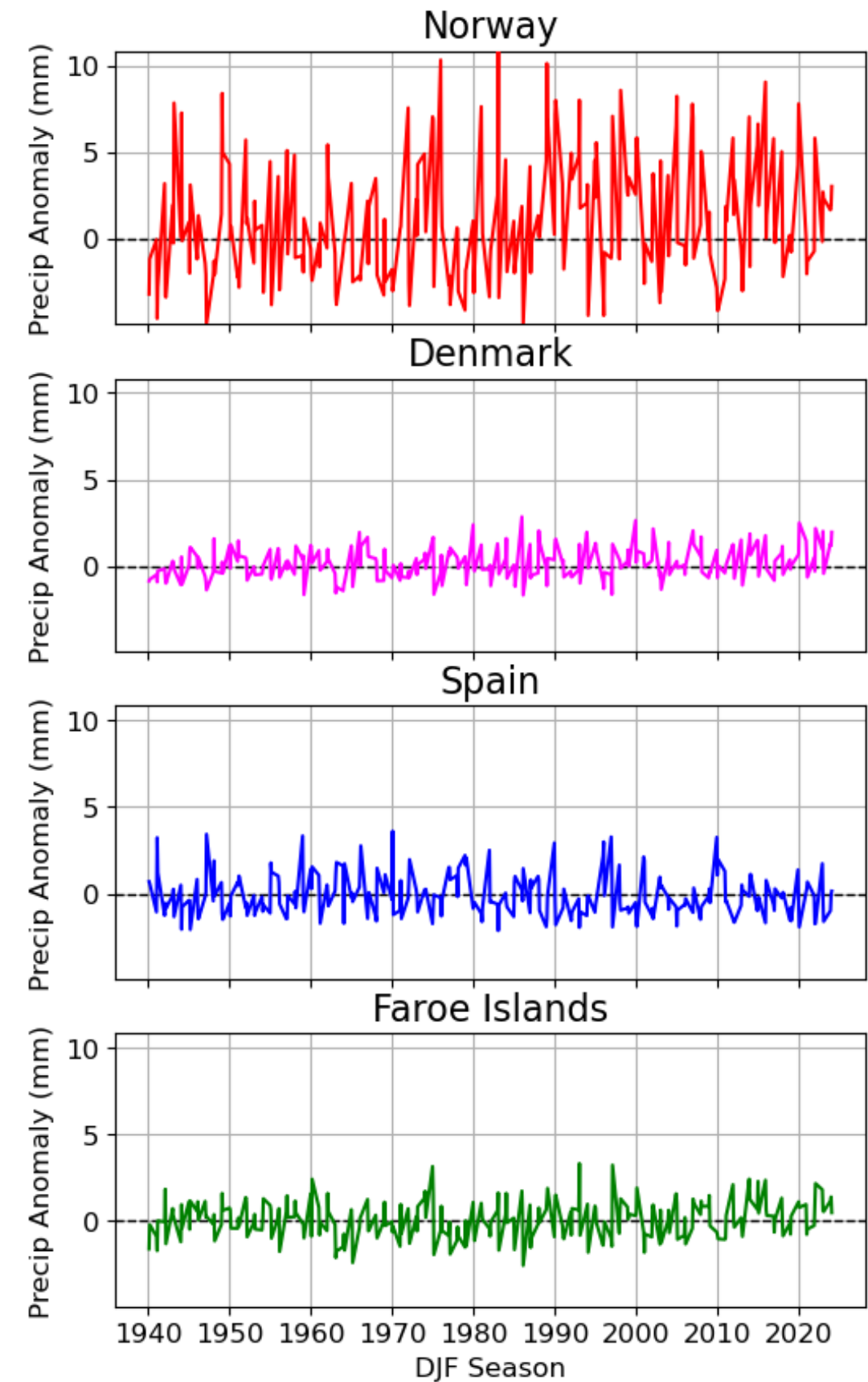
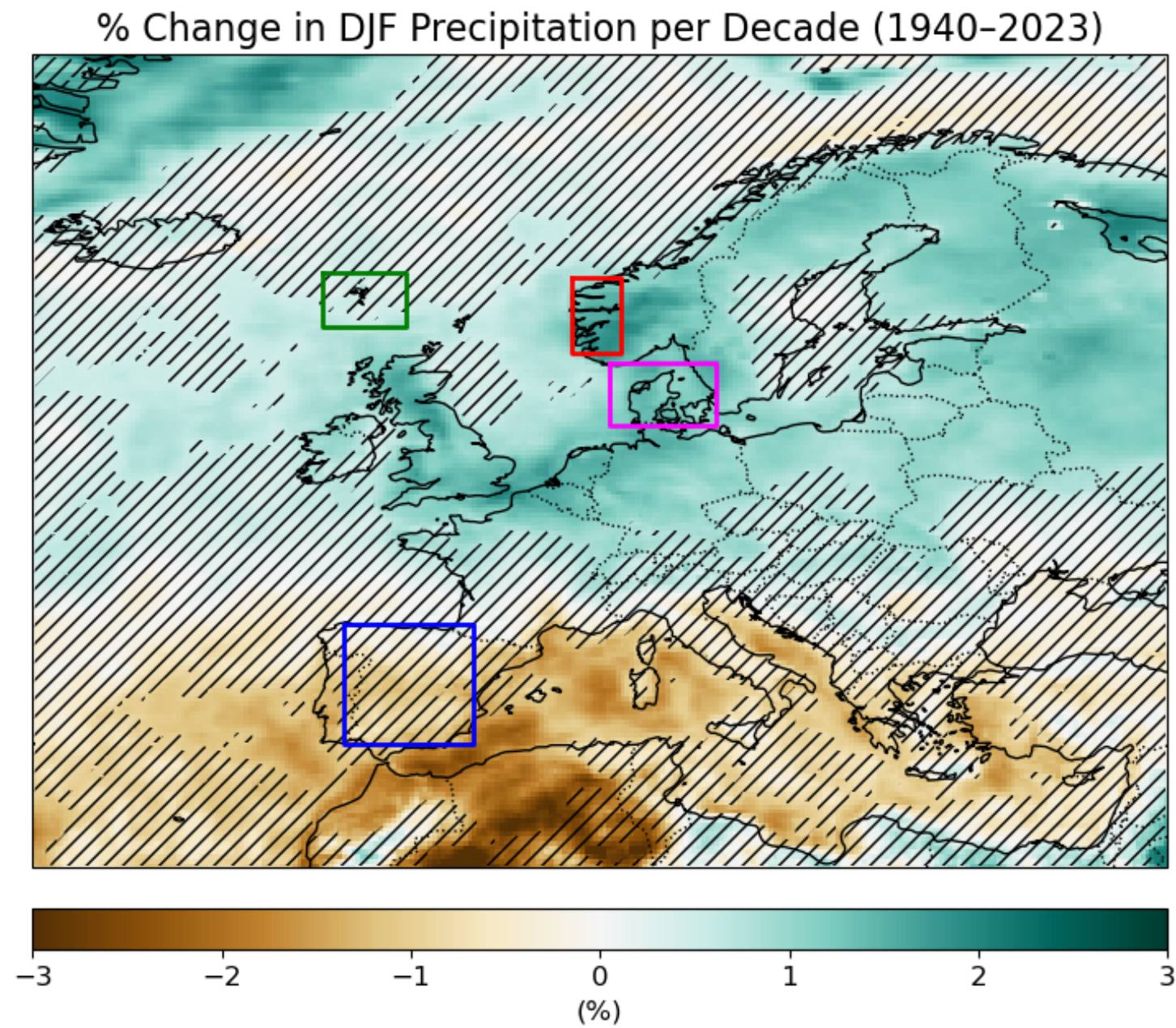
André Düsterhus, DMI

Priscilla Mooney, NORCE

UNIVERSITY OF
COPENHAGEN



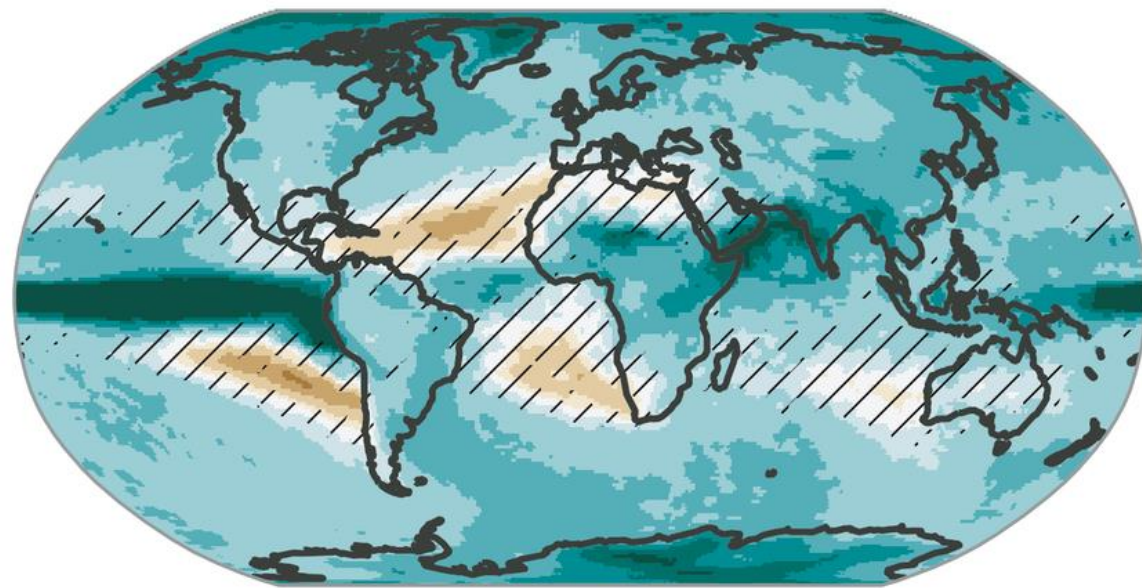
Avfallsmynstrið broytist



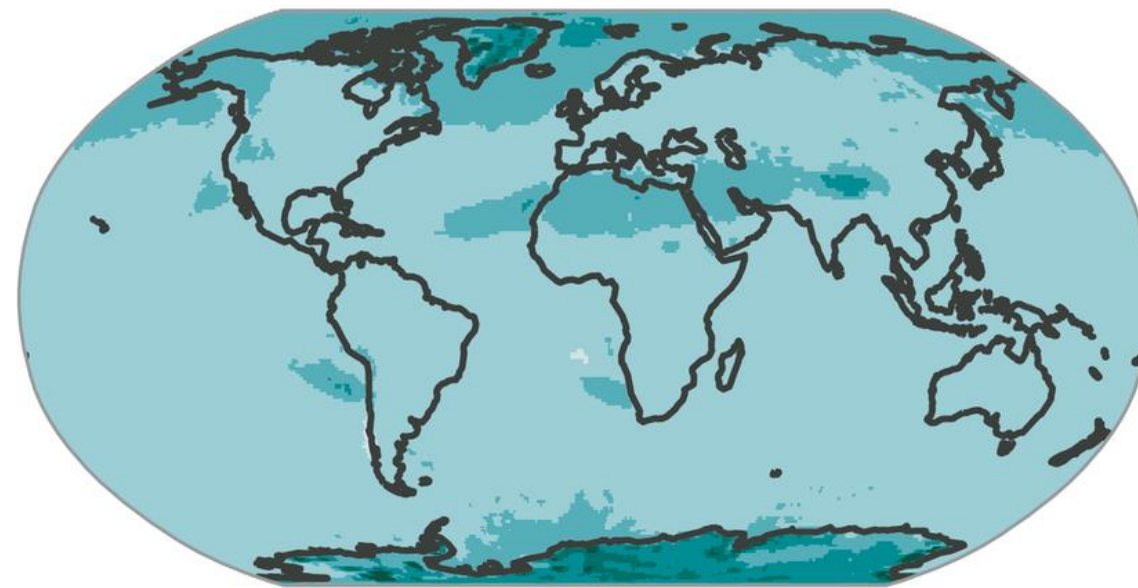
Vang et al.,

Change in annual maximum daily precipitation

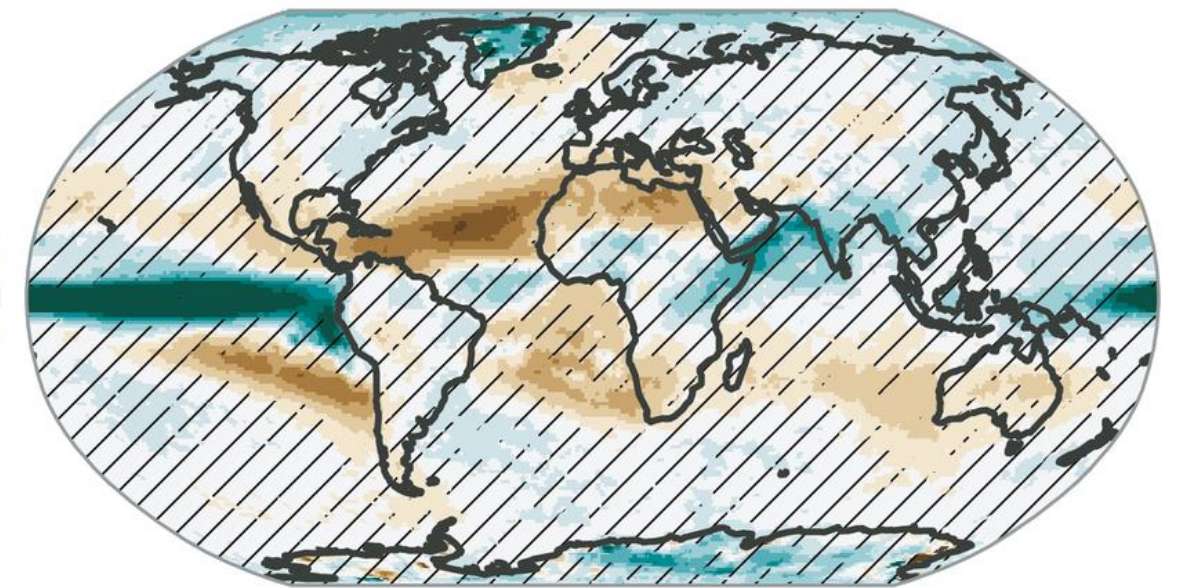
(a) Total change



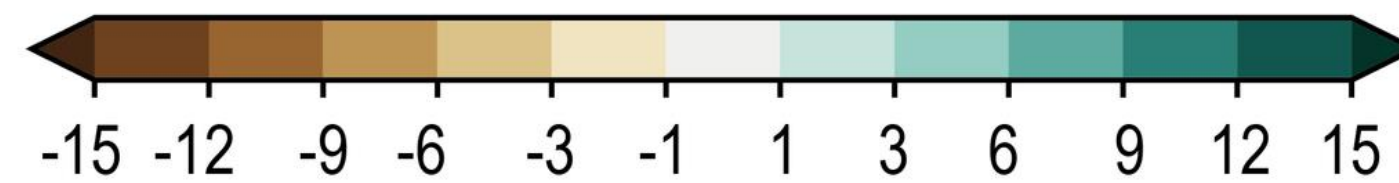
(b) Thermodynamic contribution



(c) Dynamic contribution

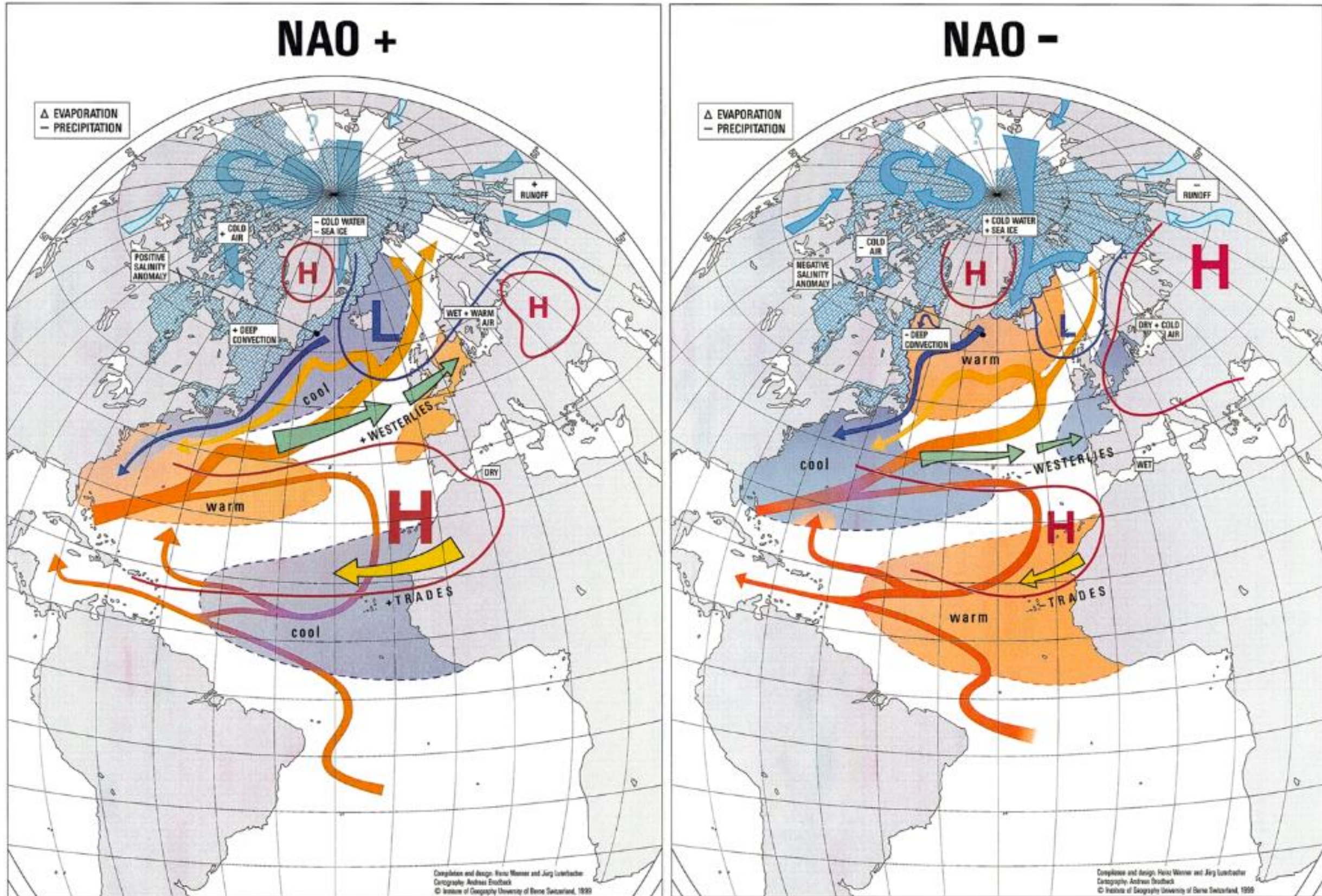


Colour High model agreement
Hatched Low model agreement



Change per °C global warming (% °C⁻¹)

IPCC,
2021

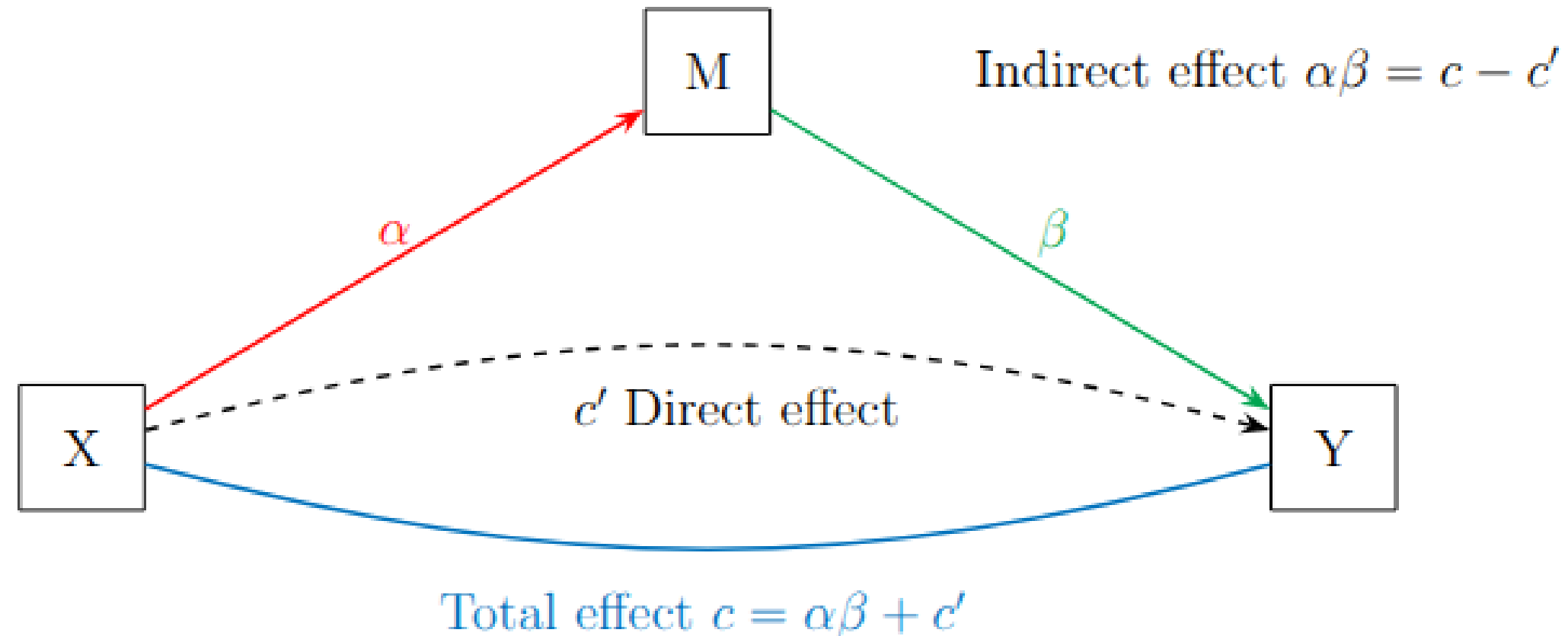


Wanner et al.,
2001

Miðla netverk

- Eitt amboð at kanna hvussu ein variabul (X) ávirkar ein annan (Y), tá ein triði (M) kann miðla ávirkanina av X á Y
- Total effekt: Tá vit ikki taka hædd fyri M
- Ó/beinleiðs effekt: Tá vit taka hædd fyri M
- Vit kanna hvussu NAO og global upphiting (GW) ávirkar regn (TP) ígjøgnum ymiskar miðlarar

*Mediation networks á enskum



$$Y = b_0 + cX + \epsilon$$

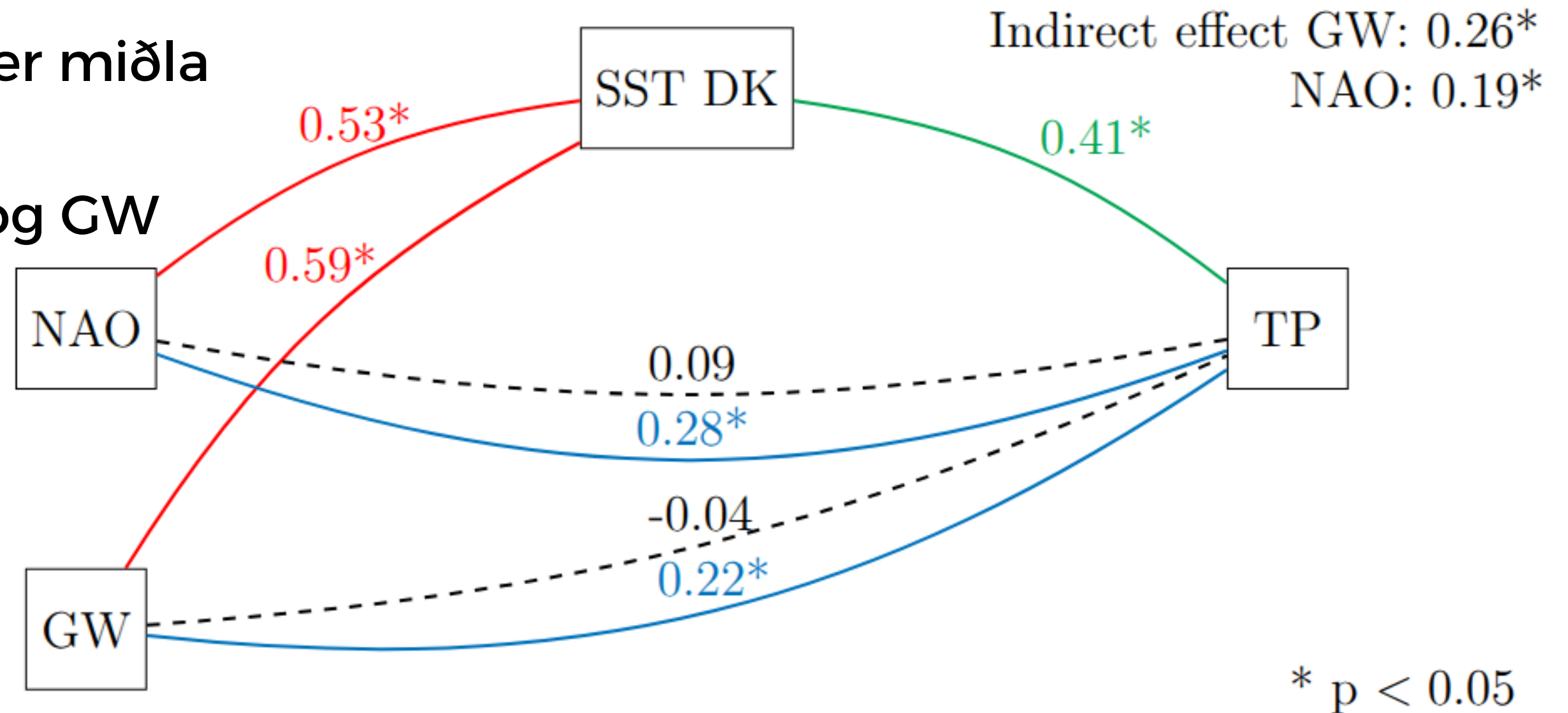
$$M = b_0 + \alpha X + \epsilon$$

$$Y = b_0 + c'X + \beta M + \epsilon$$

Danmark

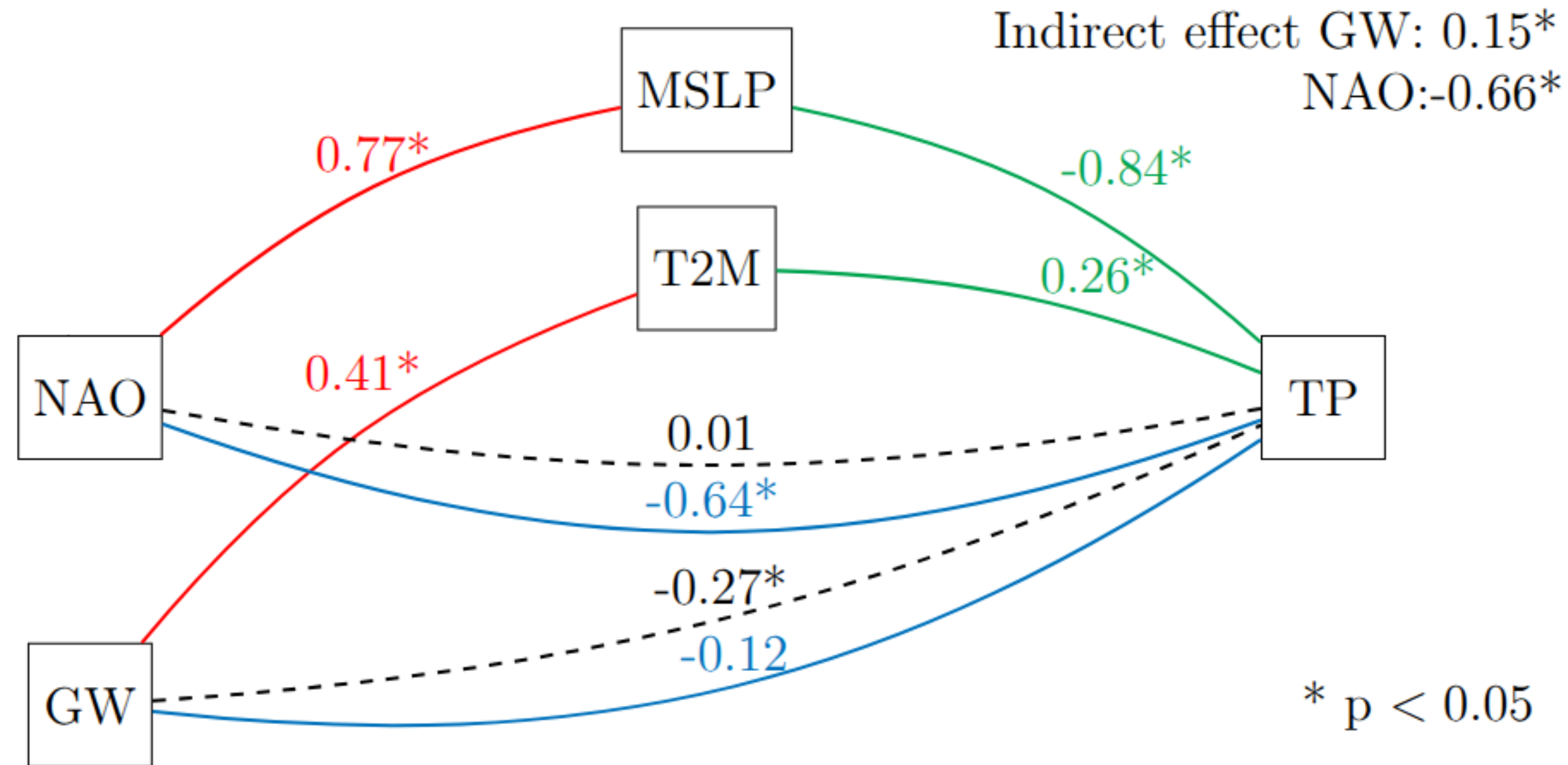
- NAO og GW miðla ígjøgnum havhitan rundan um Danmark SST DK

- Óbeinleiðis effektir: GW er miðla meira enn NAO
- Totalu effektirnar: NAO og GW hava líka nógva ávirkan



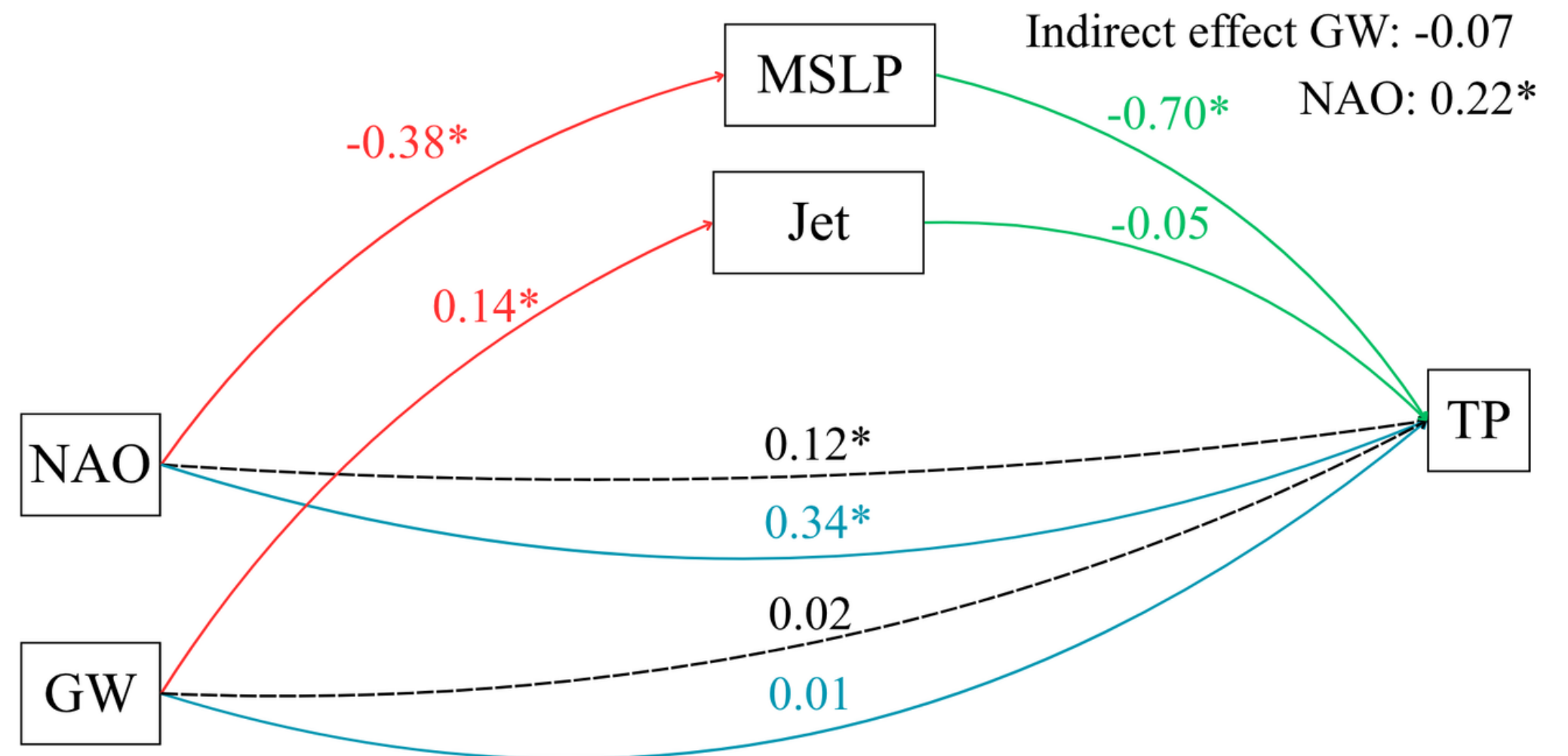
Spainia

- NAO er miðla ígjögnum lokala lofttrýstið (MSLP)
- GW hefur mótsættar beinleiðis og óbeinleiðis ávirkanir
- Totalu effektir: NAO hefur stærri ávirkan



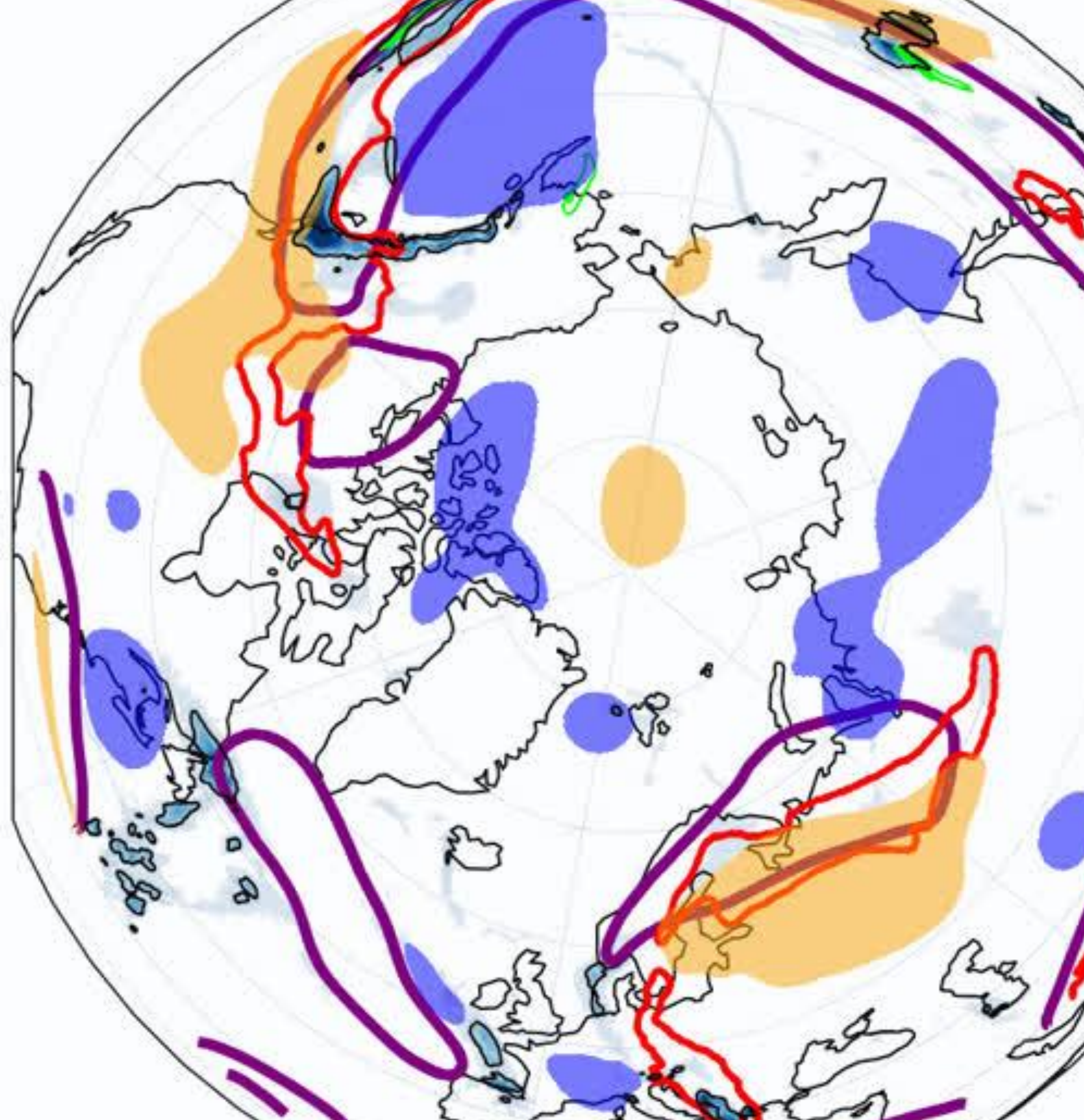
Føroyar

- NAO er partvís miðla ígjøgnum lokala lufttrýstið (MSLP)
- GW ávirkar hvussu langt norðuri jetstreymurin liggur. Tó hevur hetta onga ávirkan á TP í FO, tí tað mesta gongur ígjøgnum NAO
- Totalu effektir: NAO hevur størri ávirkan



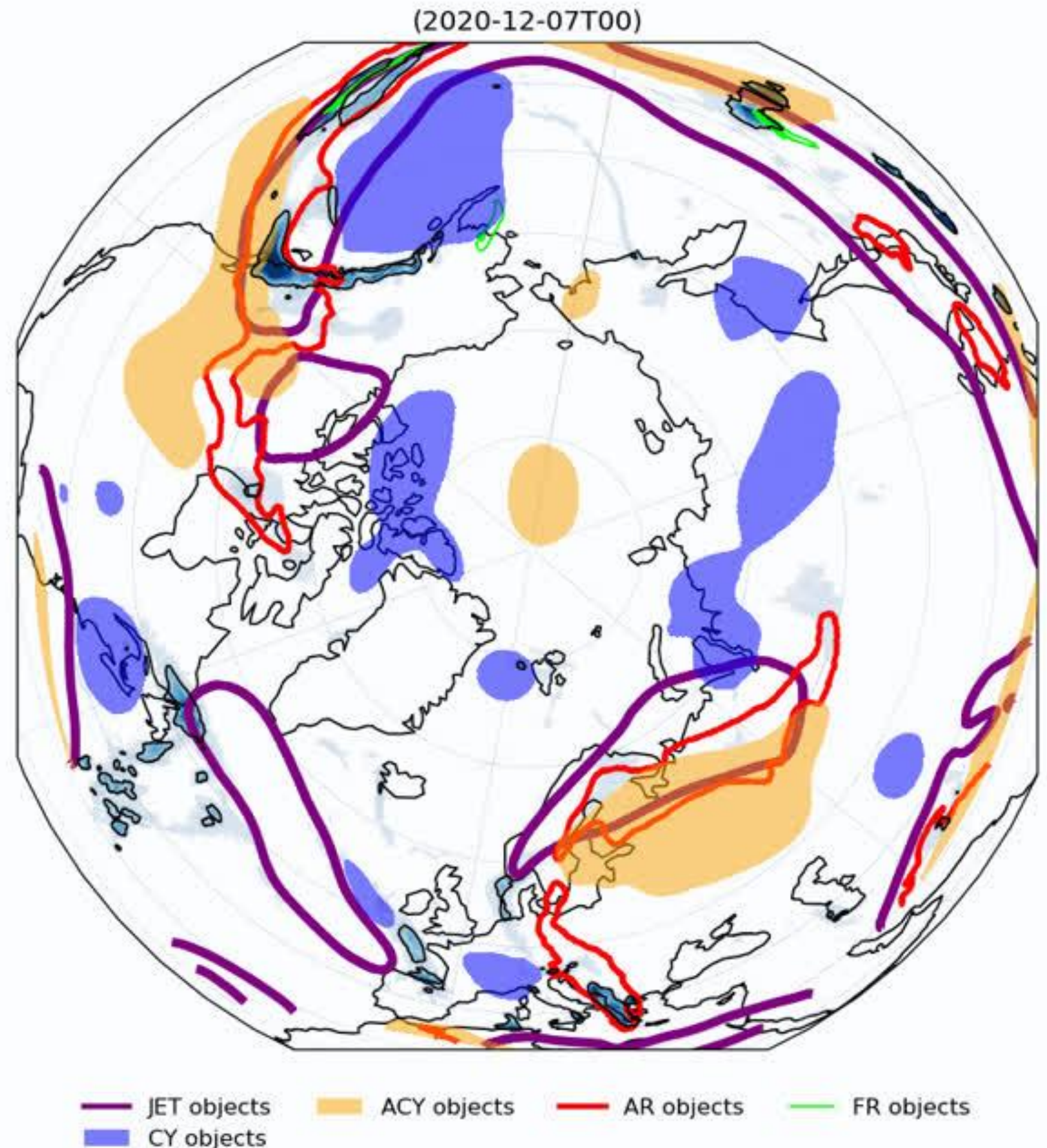
* $p < 0.05$

**Hvat um vit
flyta linsuna
nærri?**



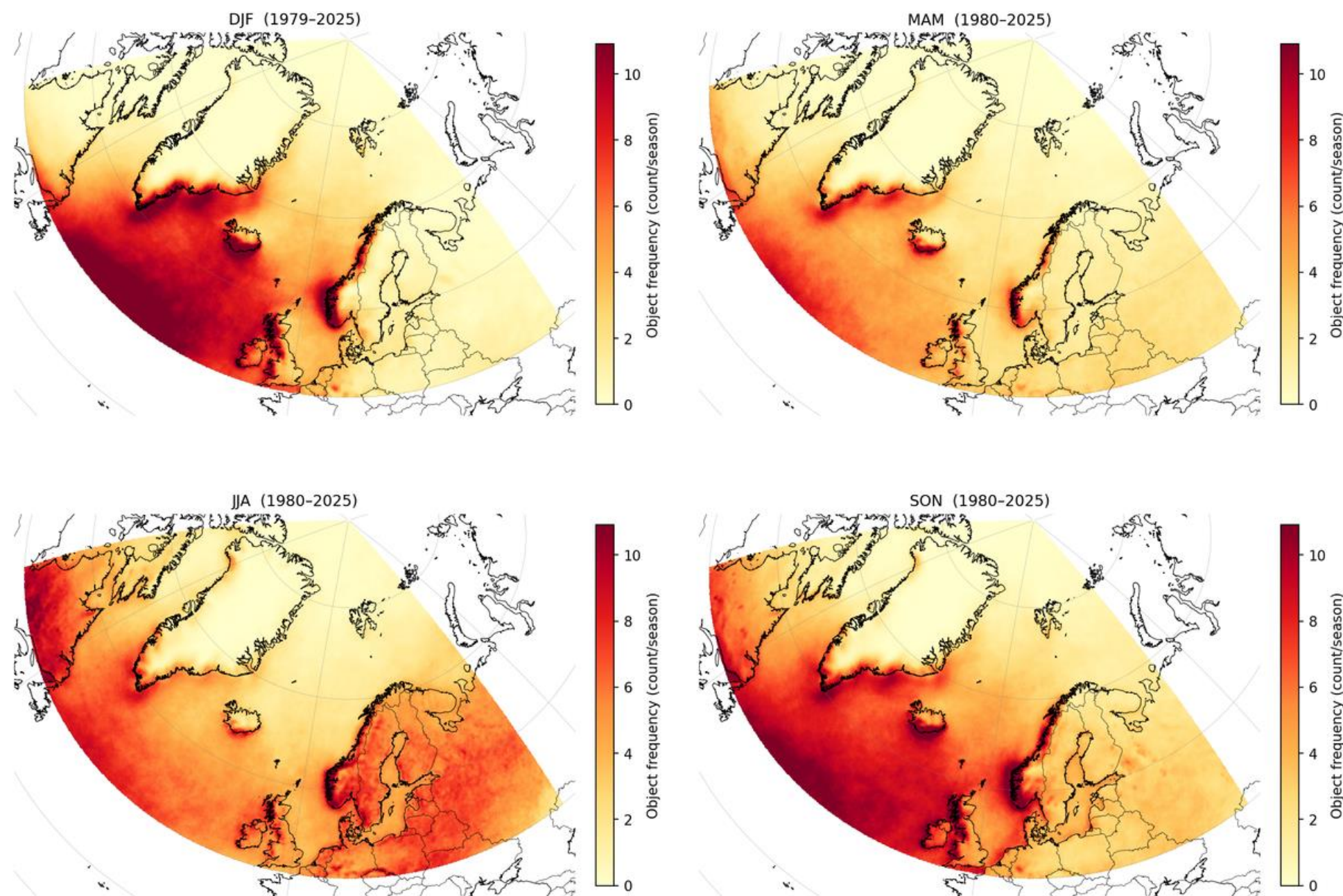
MOAAP

- Ein algoritma sum ger tað móguligt at spora og flokka ymisk atmosferisk fyrbrigdi:
 - Regn
 - Jetstreym
 - Há- og lágtrýst
 - Brúgvaløg
 - Atmospheric Rivers



Hvussu broytist títtleikin av regni?

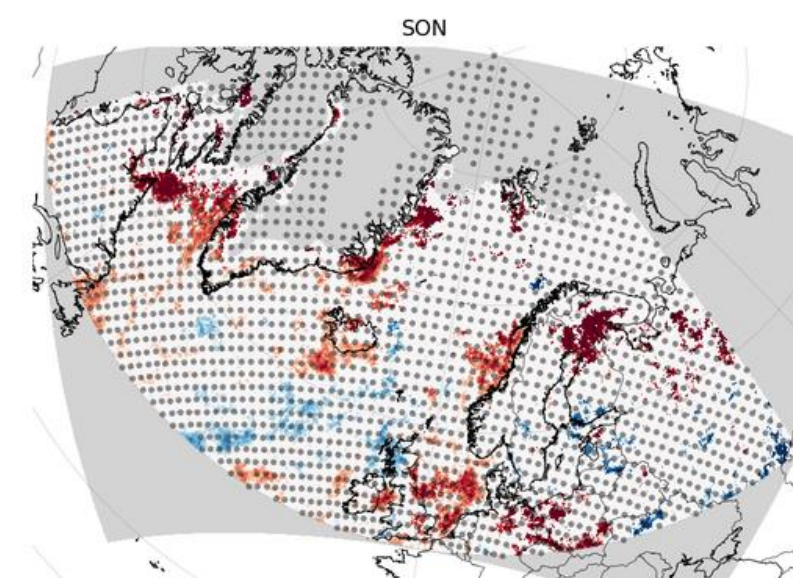
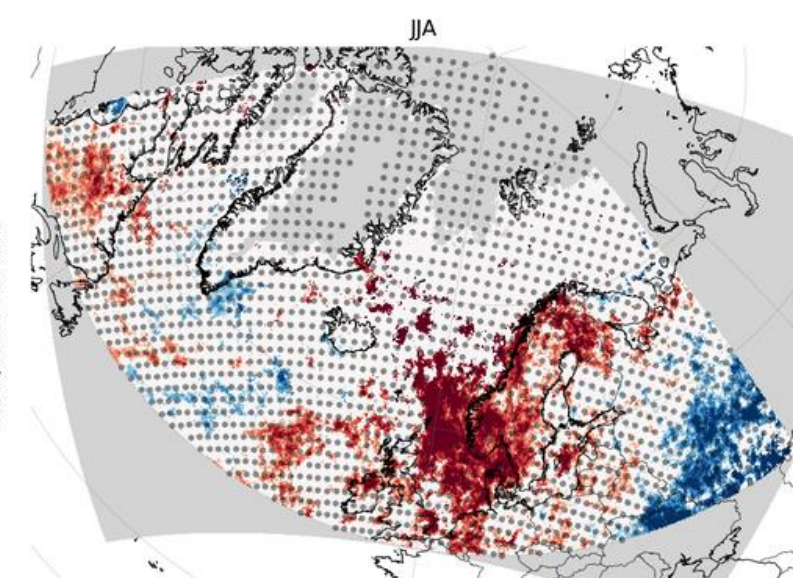
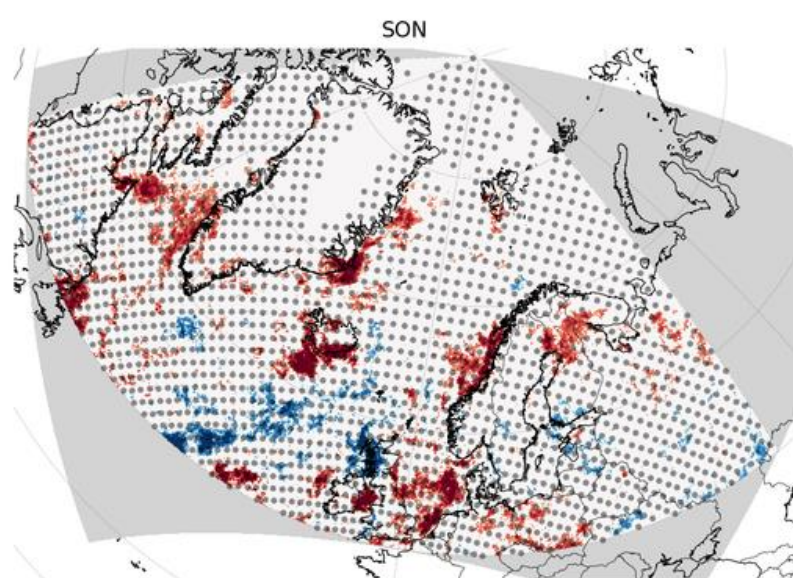
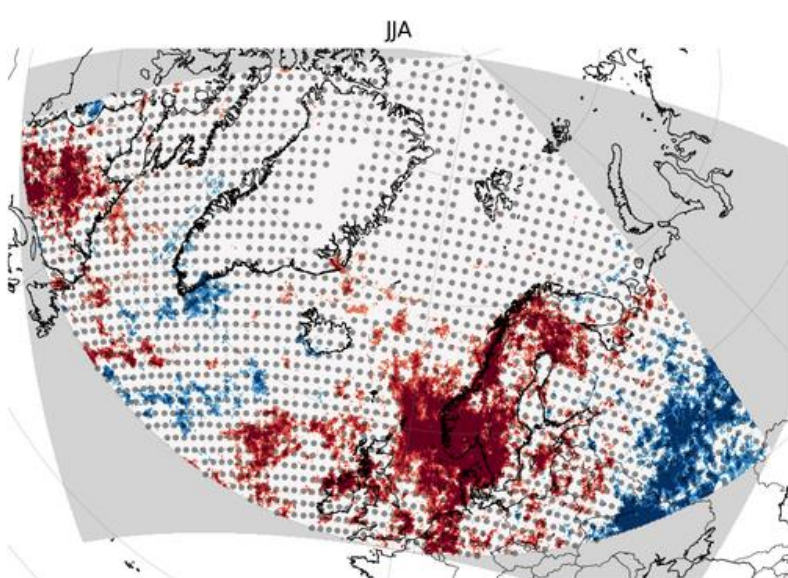
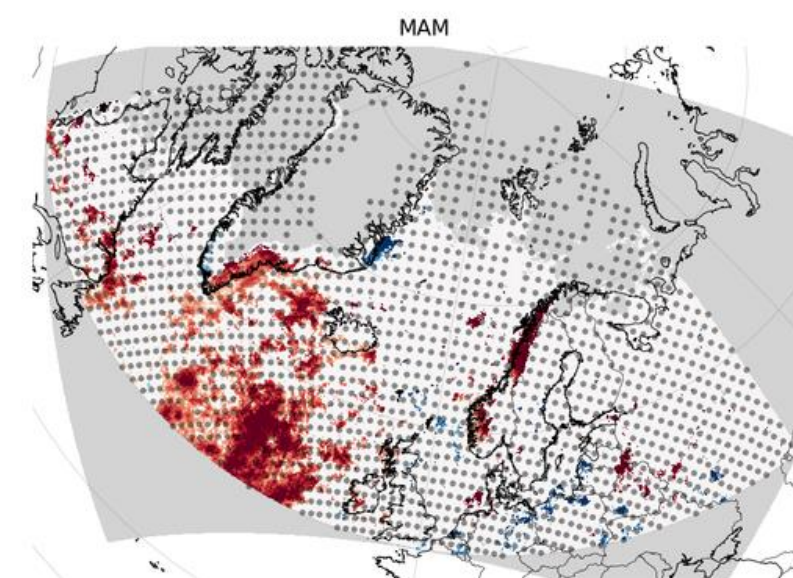
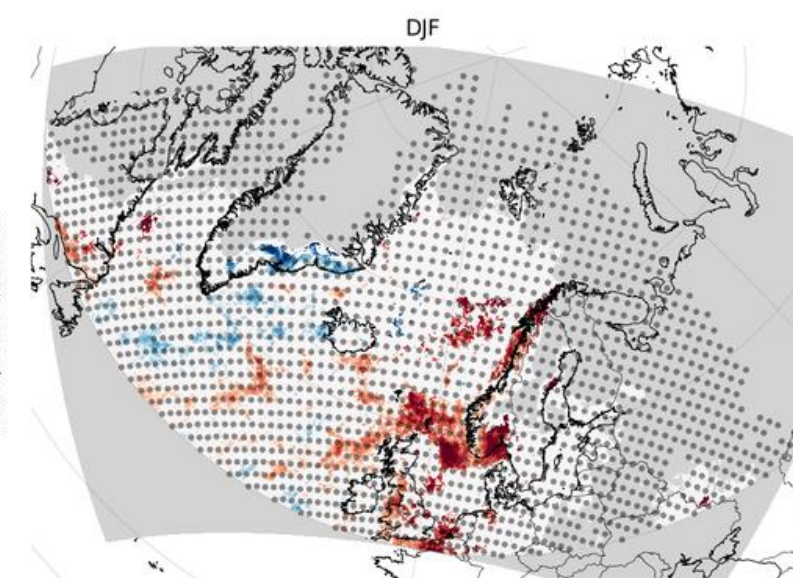
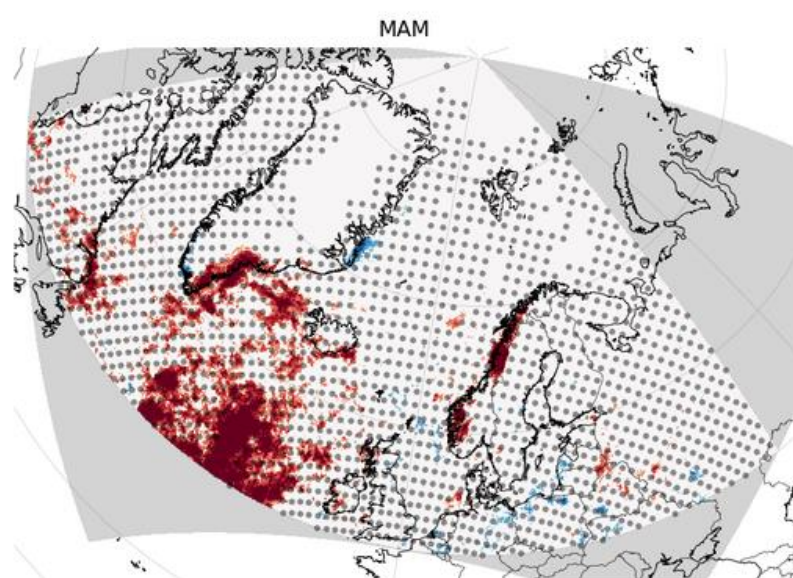
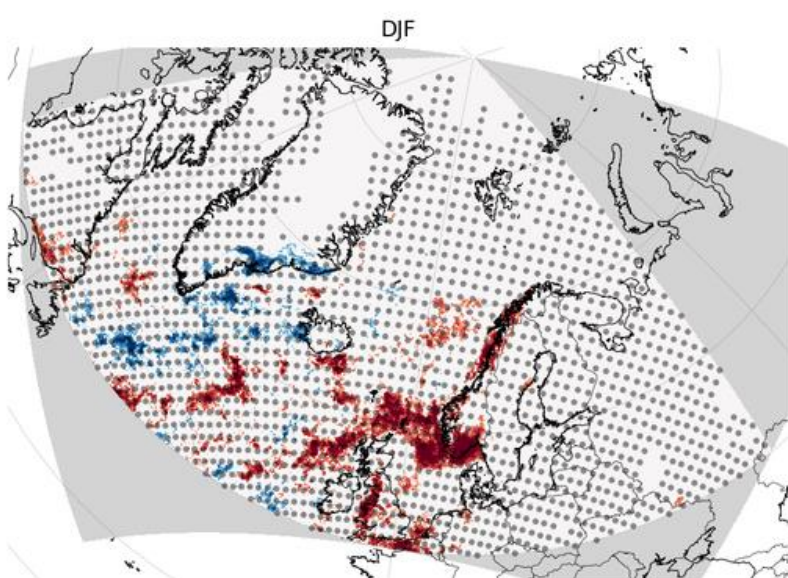
Seasonal climatology — Object frequency (count/season)



Hvussu broytist títtleikin av regni?

MK trend (absolute) — Object frequency (count/season)
stippling: $p > 0.05$

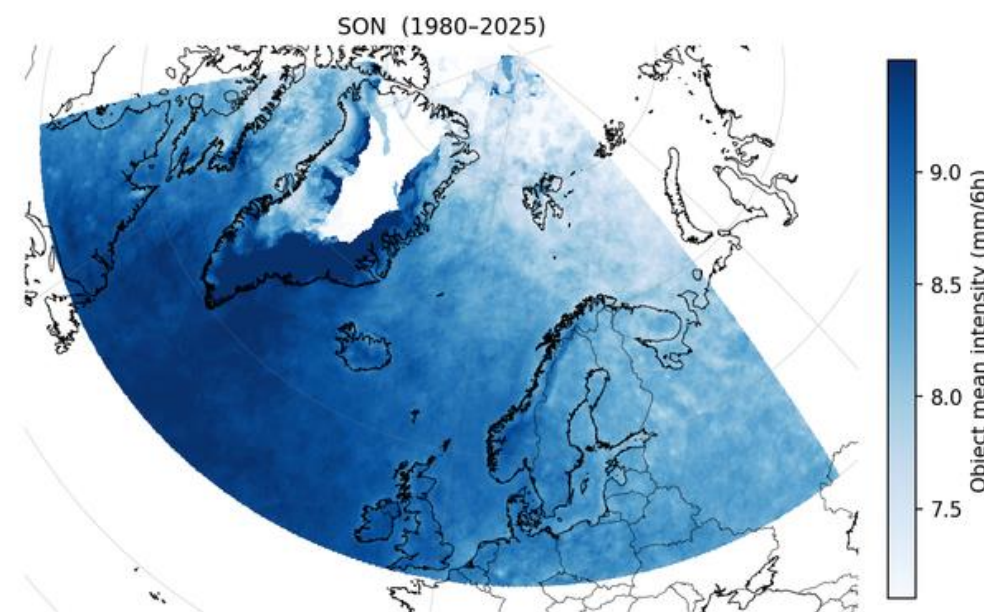
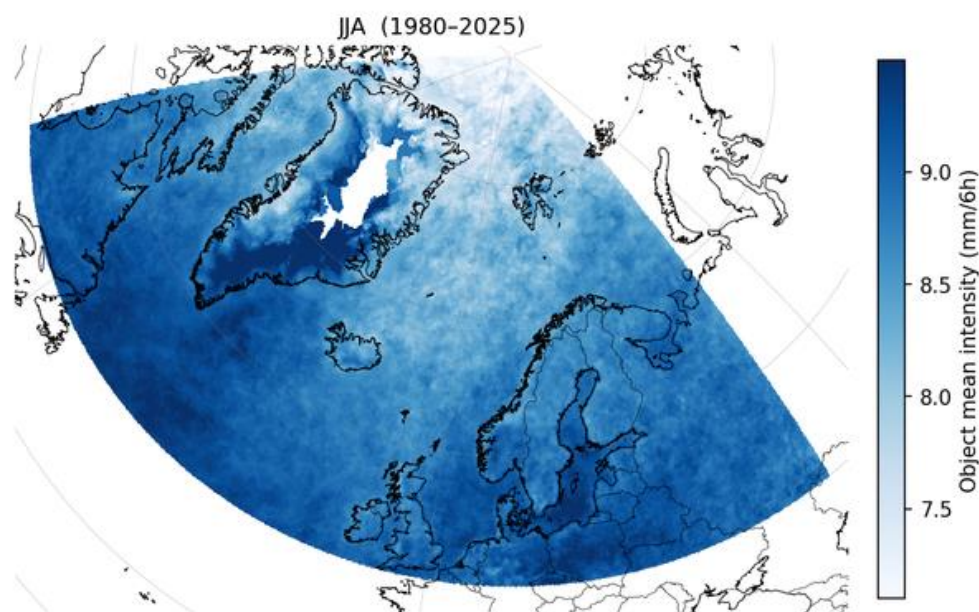
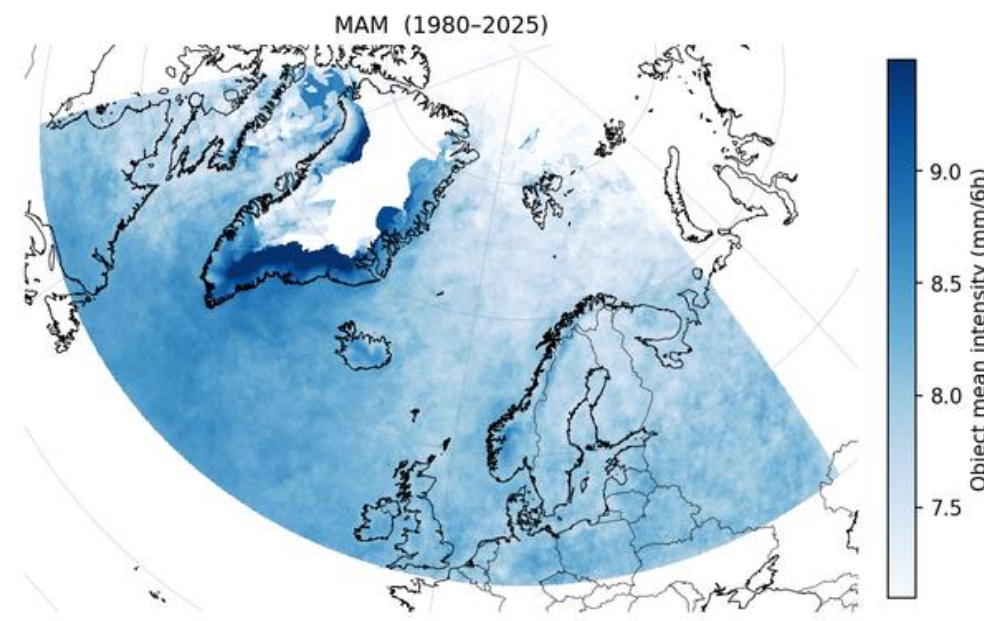
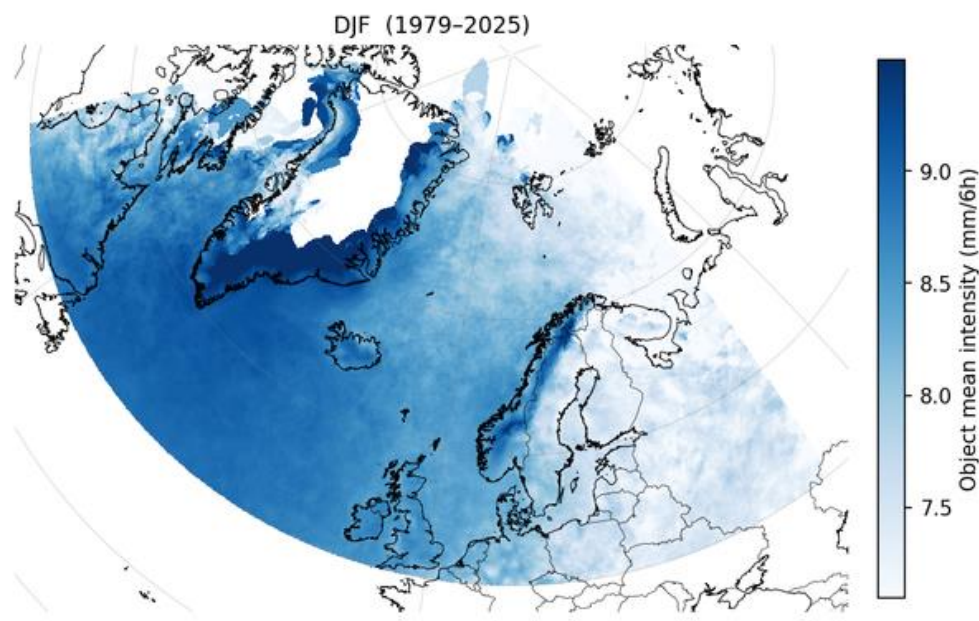
MK trend (relative) — Object frequency (count/season)
stippling: $p > 0.05$



Hvussu broytist intensiteturin av regni?

- Miðal intensitetur

Seasonal climatology — Object mean intensity (mm/6h) [median]

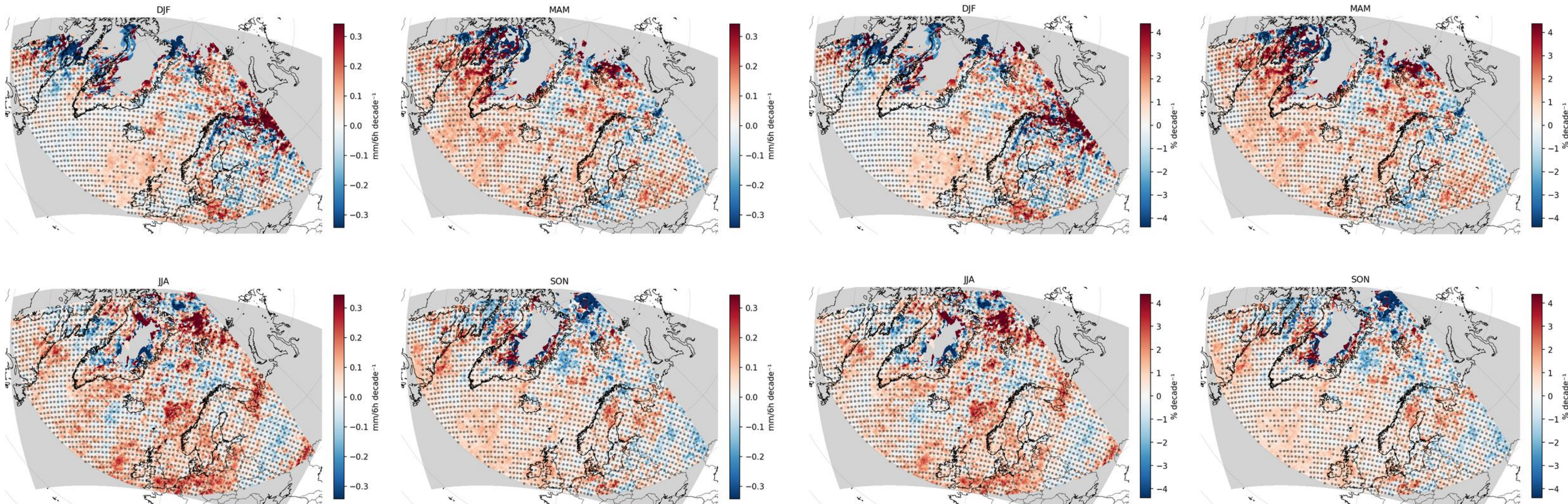


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stippling: $p > 0.05$

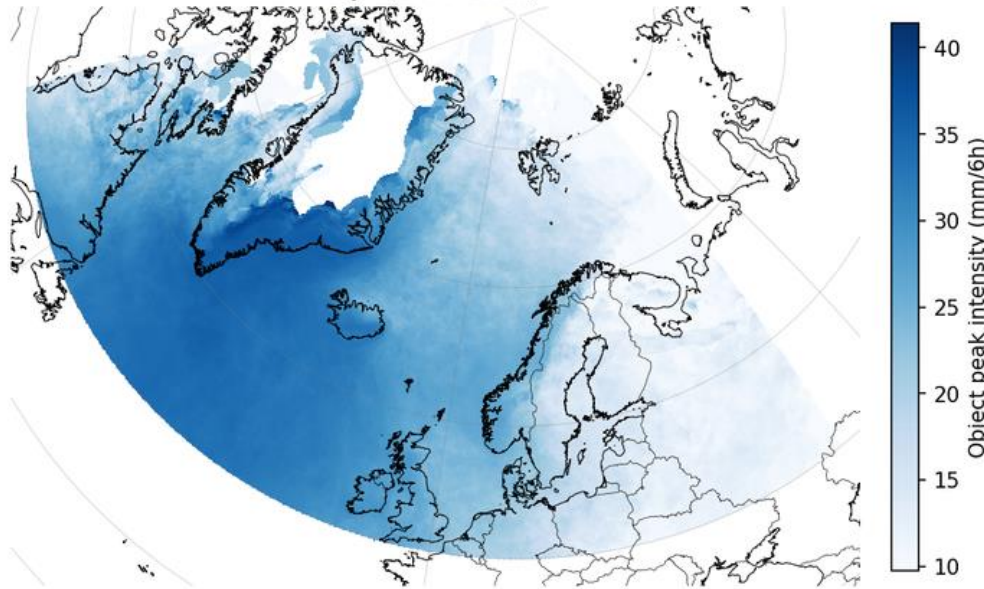


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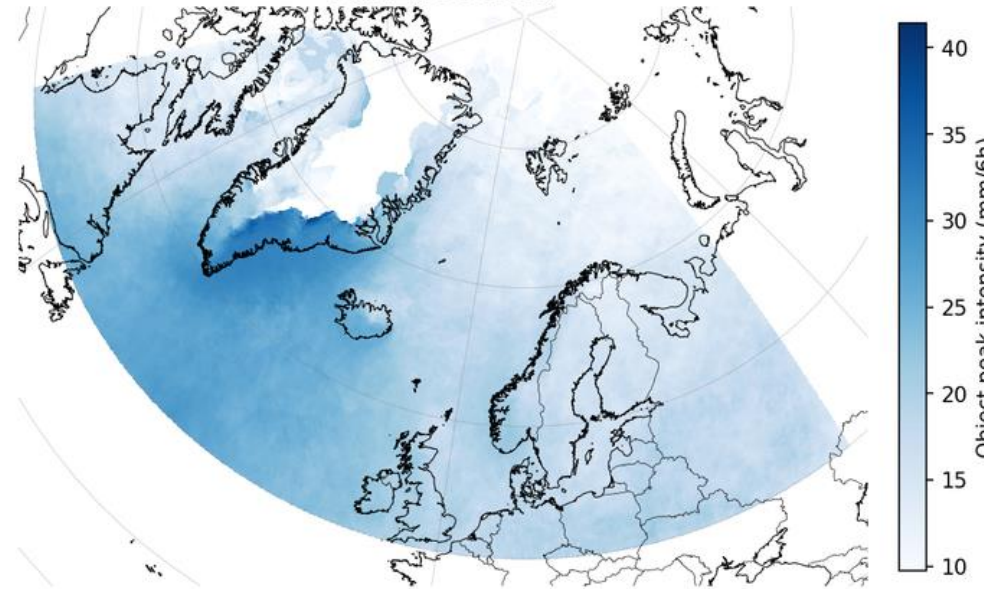
- Hægsti intensitetur

Seasonal climatology — Object peak intensity (mm/6h) [95th pct]

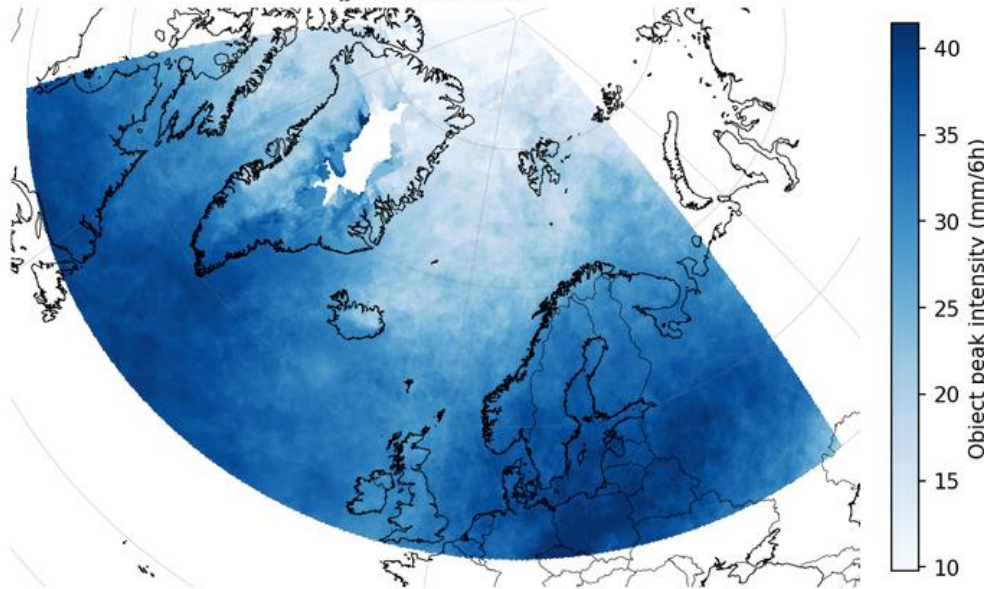
DJF (1979-2025)



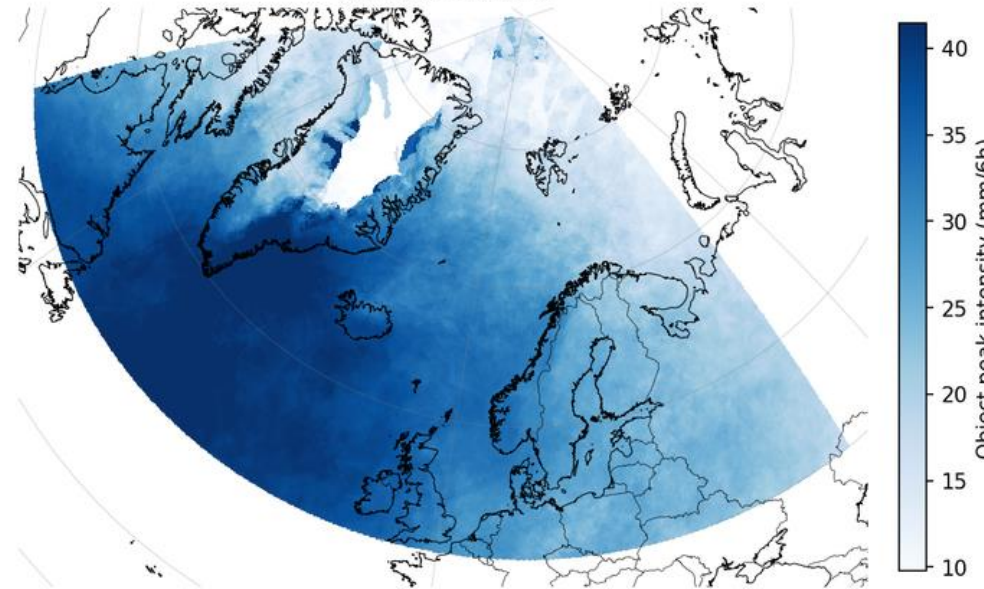
MAM (1980-2025)



JJA (1980-2025)



SON (1980-2025)

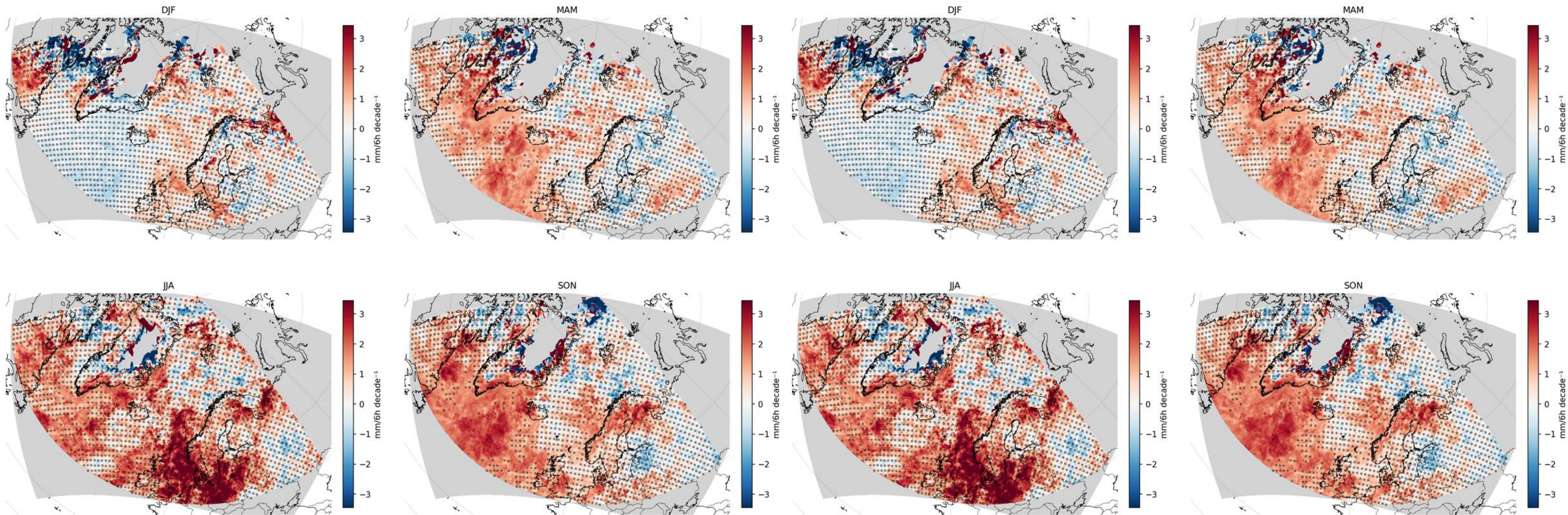


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MK trend (absolute) — Object peak intensity (mm/6h) [95th pct]
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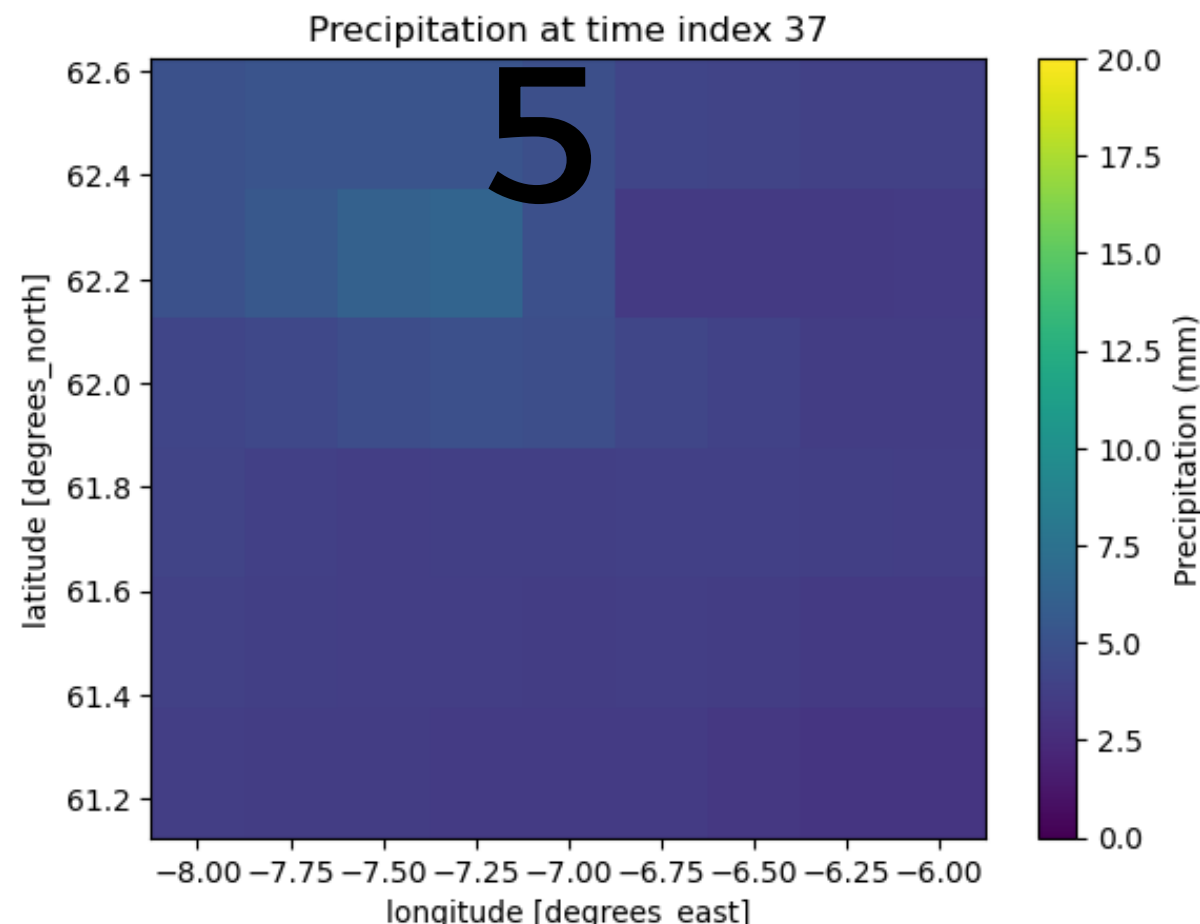
Næstu stig

- Seta broytingarnar í regni í samband við broytingar í atmosferiskum fyrbrigdum

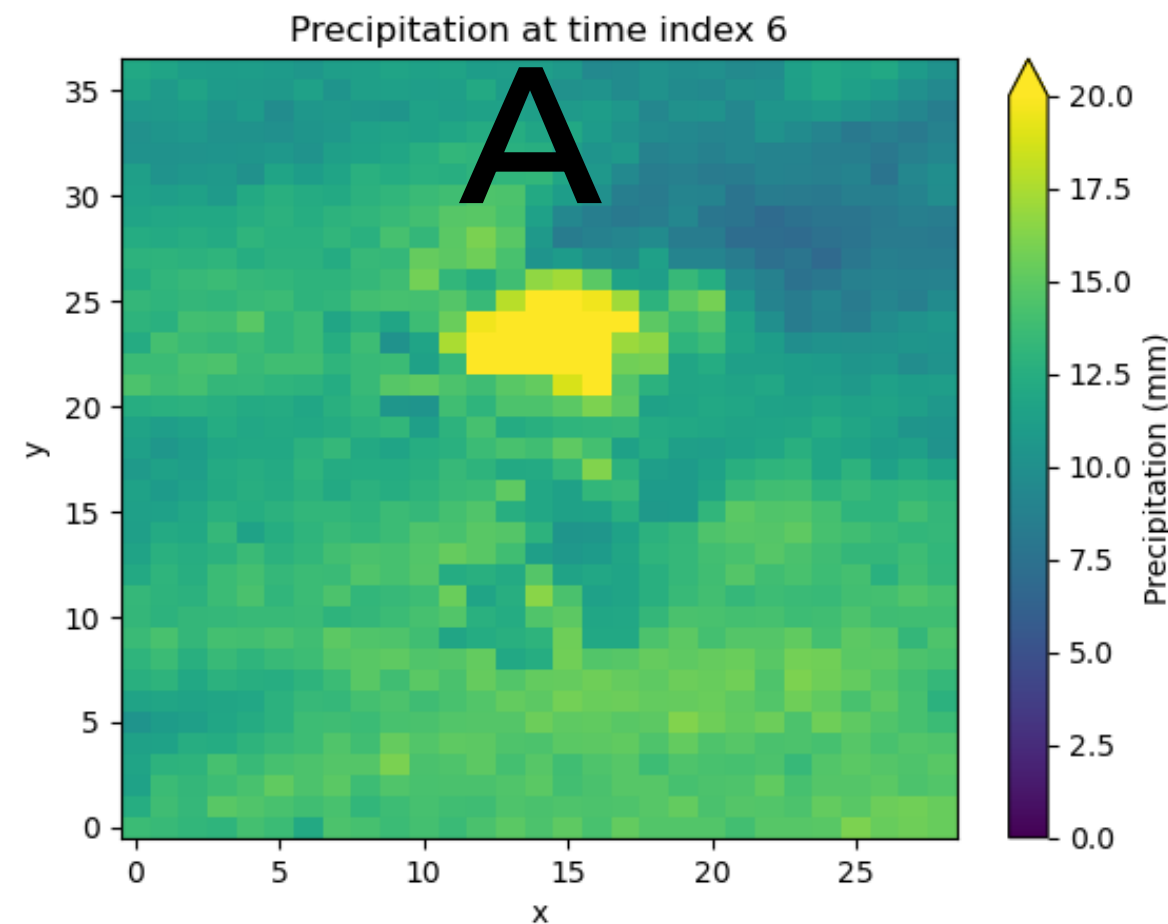
Næstu stig

- Seta broytingarnar í regni í samband við broytingar í atmosferiskum fyrbrigdum
- Fyri at kunna siga nakað um Føroyar, brúka modellir við hægri upploysn

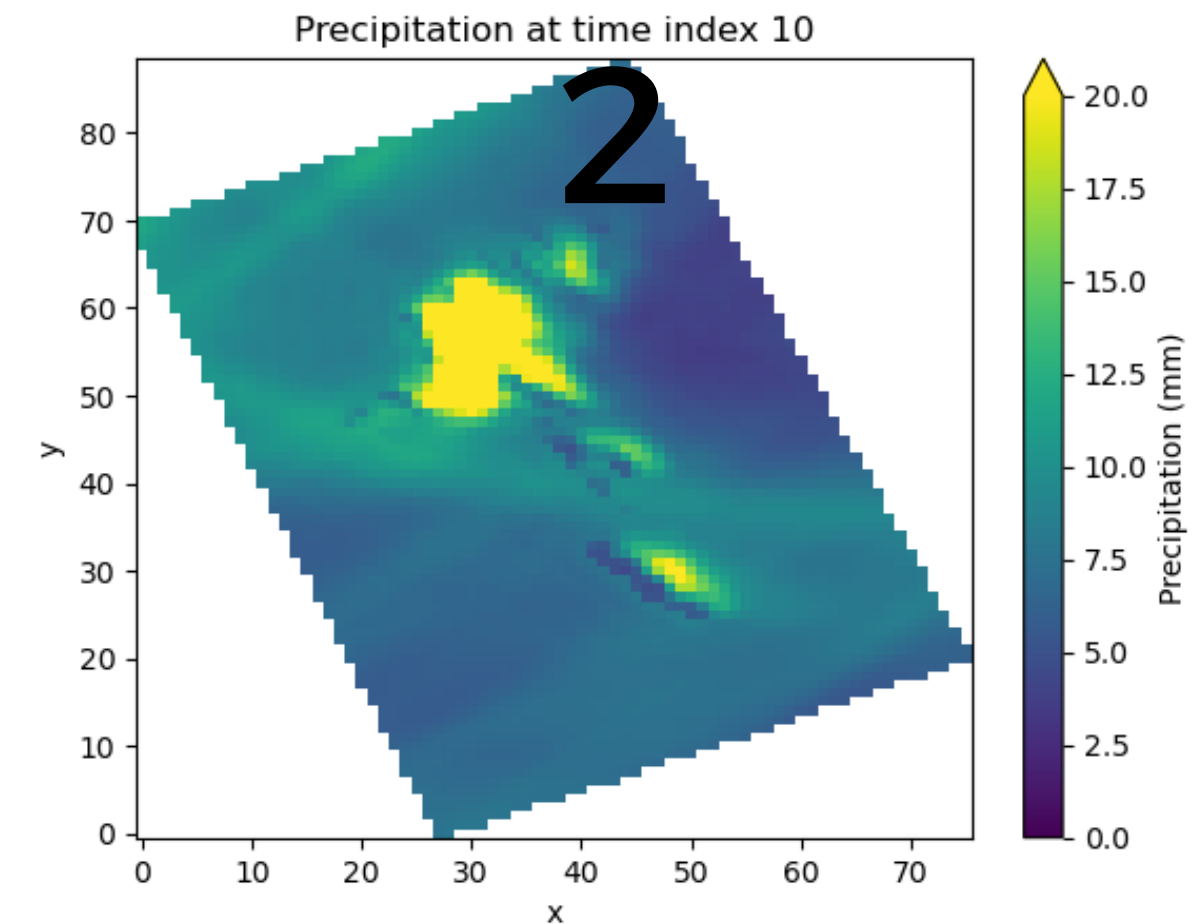
ERA



CERR



CARRA



Samanumtøka

- Tá vit hyggja eftir longri tíðarskala og ávirkan av størri sirkulatiónsmyndum, sær tað ikki út til at veðurlagsbroytingar hava stóra ávirkan á Føroyar, tá tað kemur til avfall
- Men tá vit fara í smálutir, og hyggja eftir teimum einkultu regnhendingunum síggja vit, at tað regnar oftari og meira intenst, tá tað regnar.

**Takk fyri at tit
lurtaðu :-)**

Spurningar?

