

Haraldur Ólafsson og Ólafur Rögnvaldsson:

Skökk og rétt úrkomuspá fyrir úrfellið í
Sameinuðu arabísku furstadæmunum í 16. apríl 2024





Meðalúrcoma í Dúbæ í apríl er 7 mm

Mesta sólarhringsúrcoma 16. apríl 2024: 255 mm

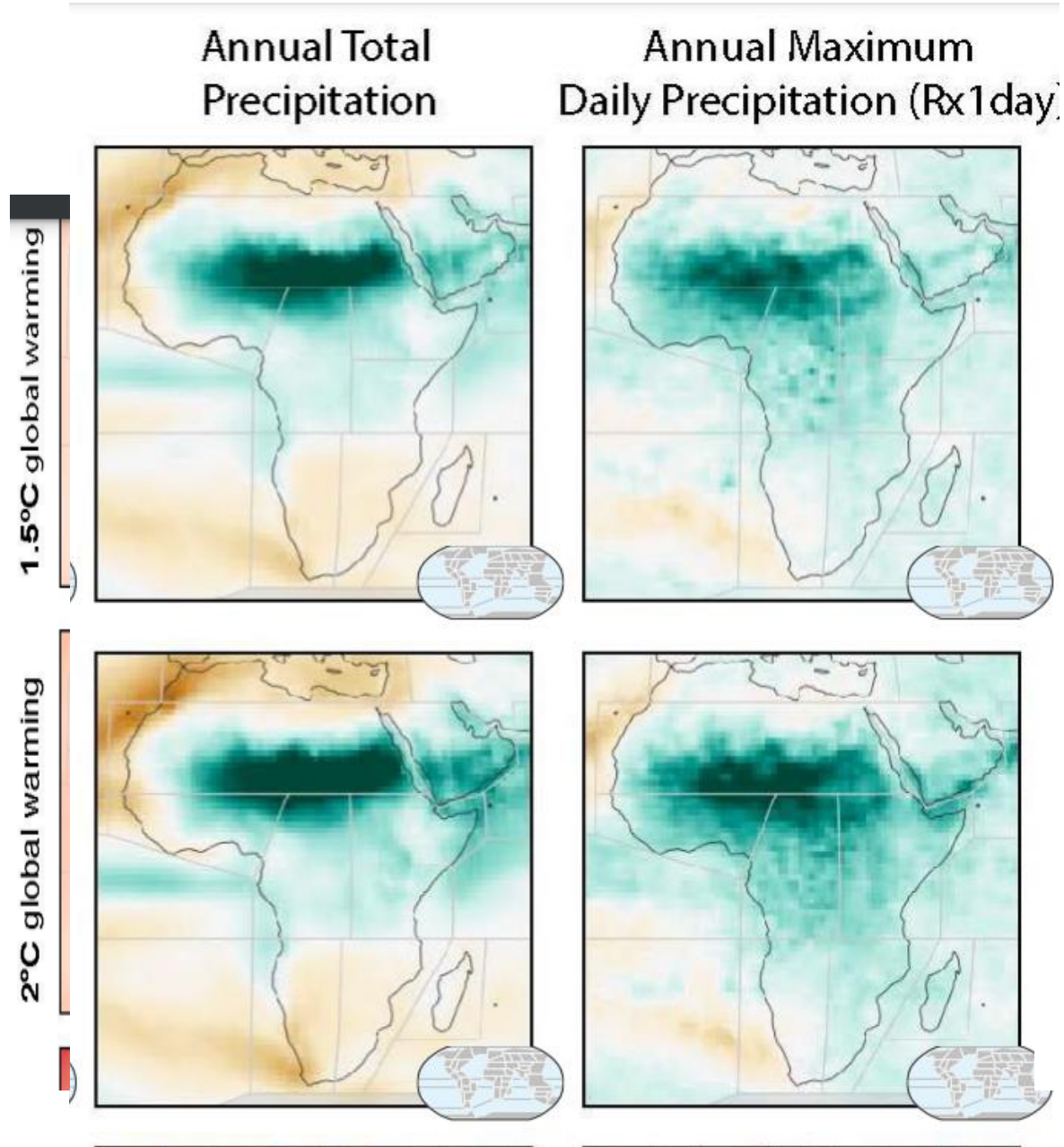
The state-run WAM news agency called the rain “a historic weather event” that surpassed “anything documented since the start of data collection in 1949.”



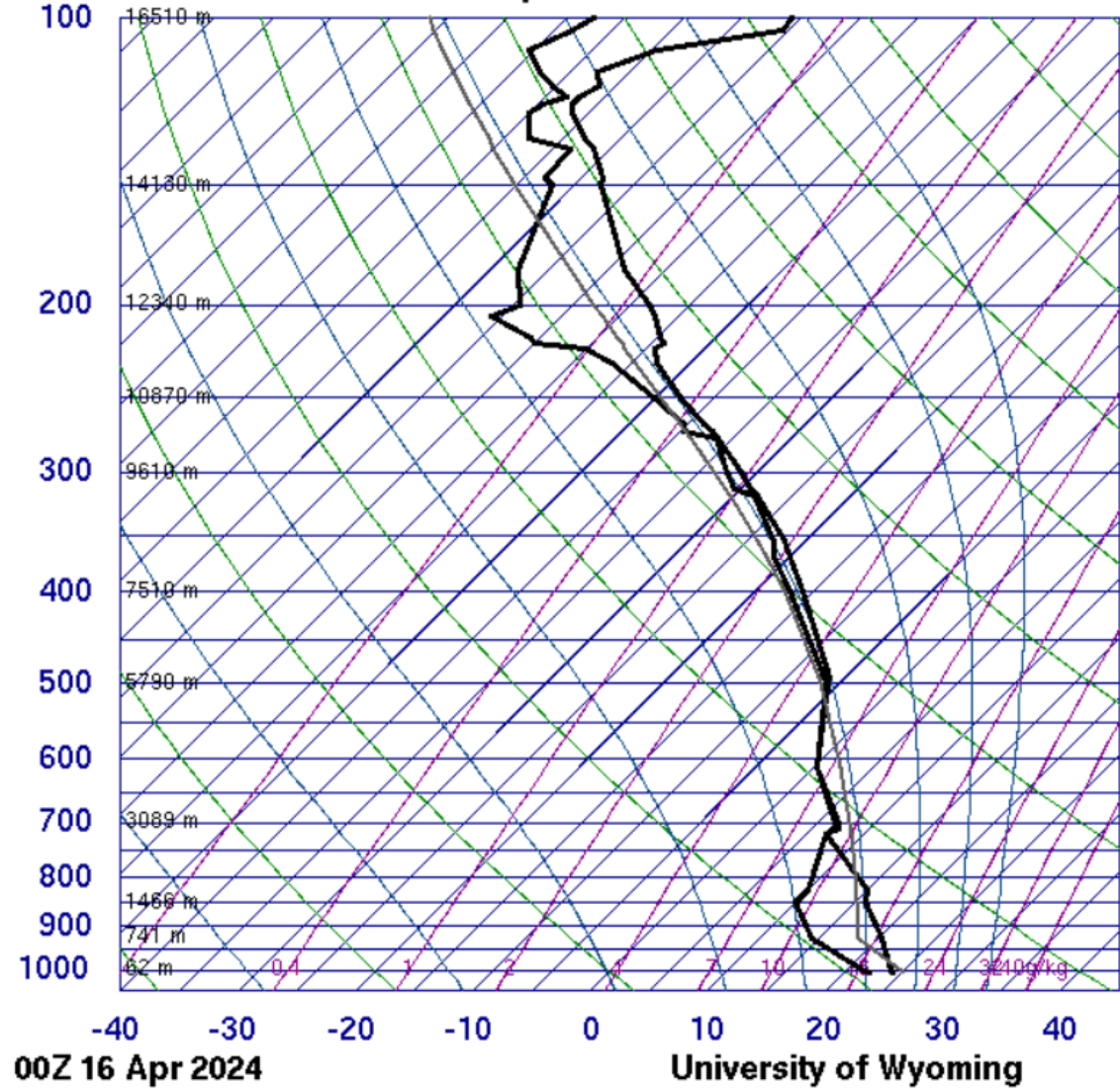
The flooding sparked speculation that the UAE's aggressive campaign of [cloud seeding](#) — flying small planes through clouds dispersing chemicals aimed at getting rain to fall — may have contributed to the deluge. But experts said the storm systems that produced the rain were forecast well in advance and that cloud seeding alone would not have caused such flooding.

Scientists also say climate change is responsible for more intense and more frequent extreme storms, droughts, floods and wildfires around the world. Dubai hosted [the United Nations' COP28 climate talks](#) just last year.

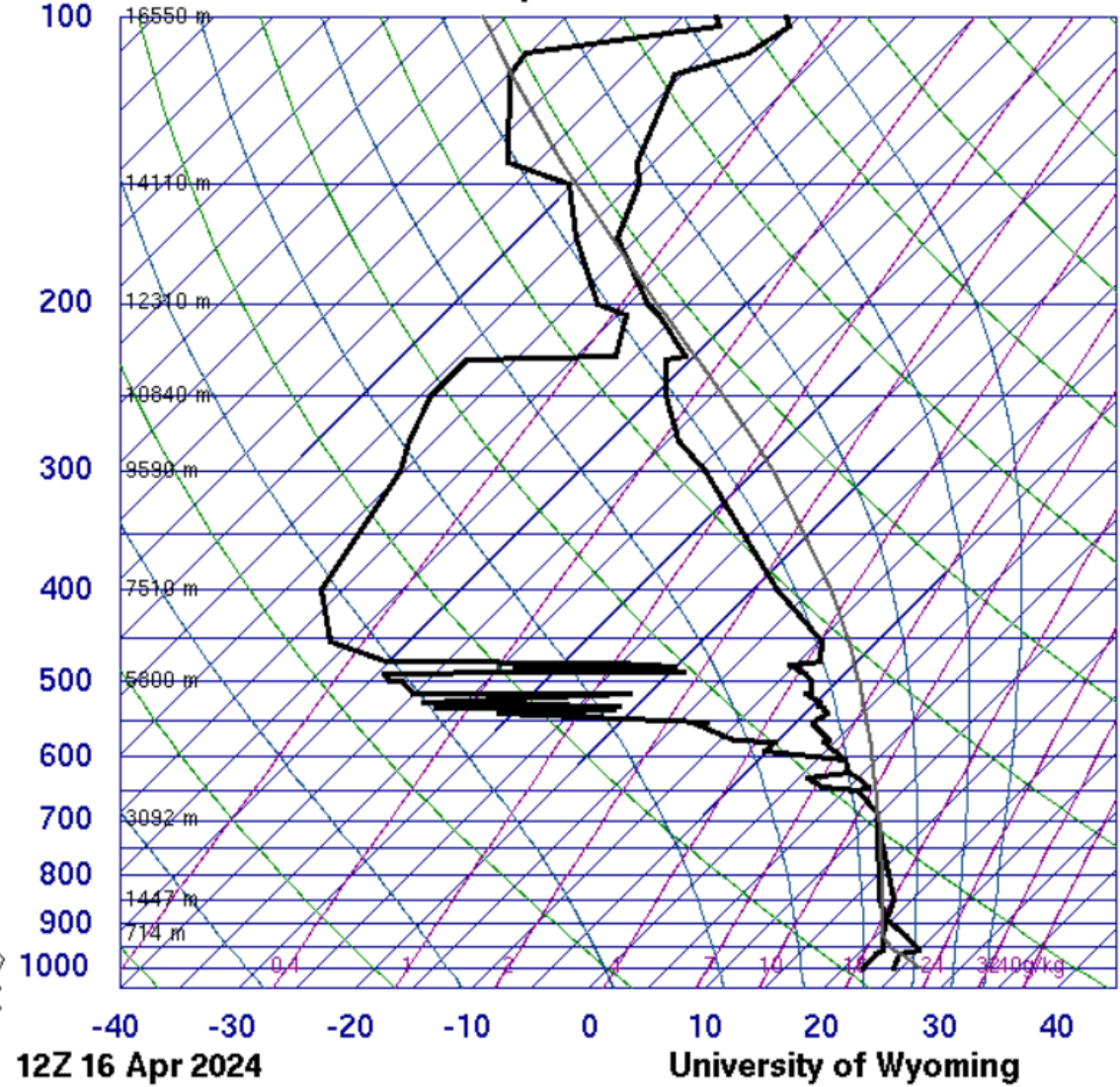
Langtímaspá (IPCC)



41217 OMAA Abu Dhabi Inter Arpt



41217 OMAA Abu Dhabi Inter Arpt

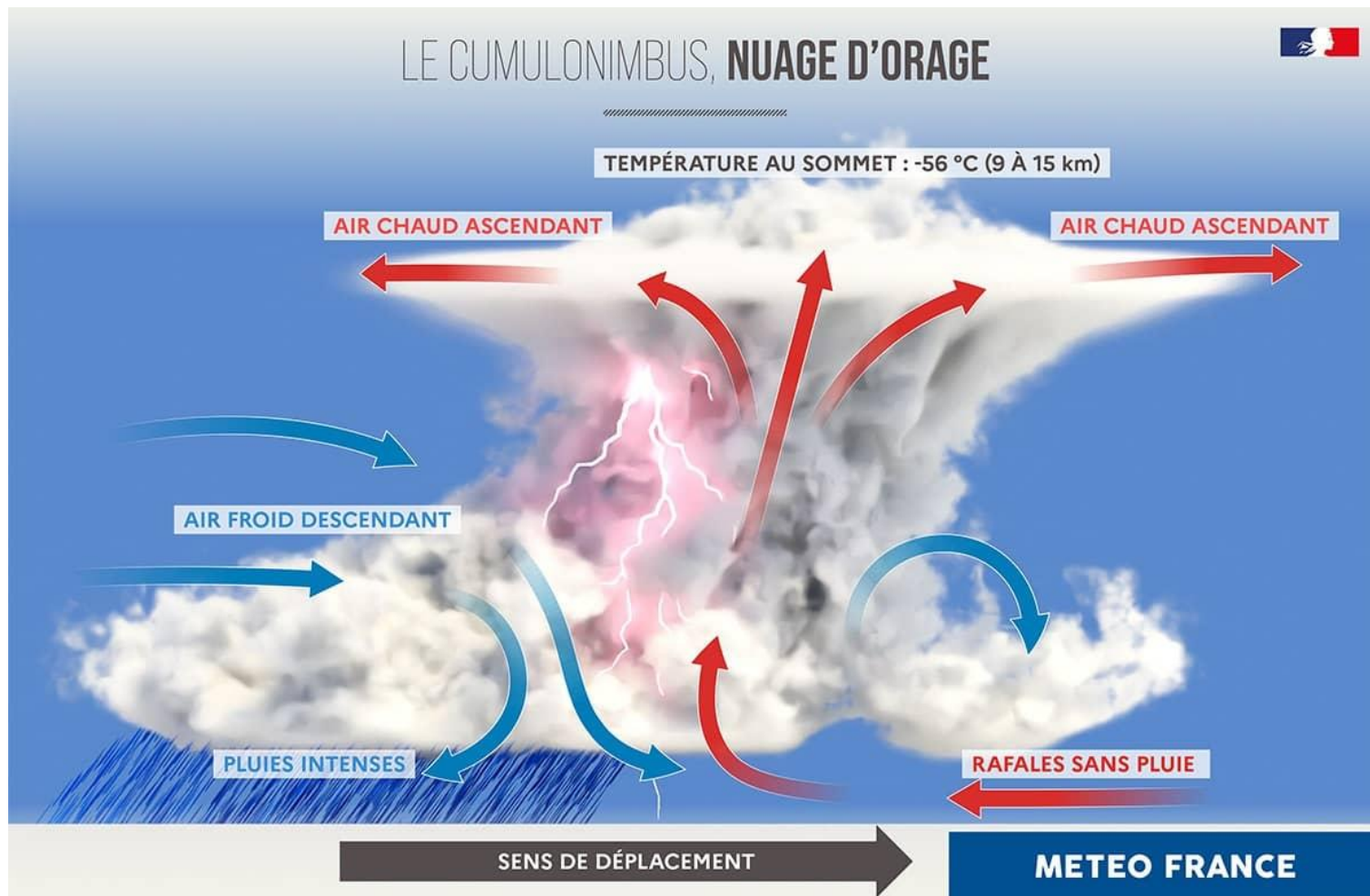


Leiðir til að spilla fyrir vexti skúraskýja

Hitun ofarlega

Aðstreymi af þurru lofti

Kæling neðarlega



Greining á spávillu

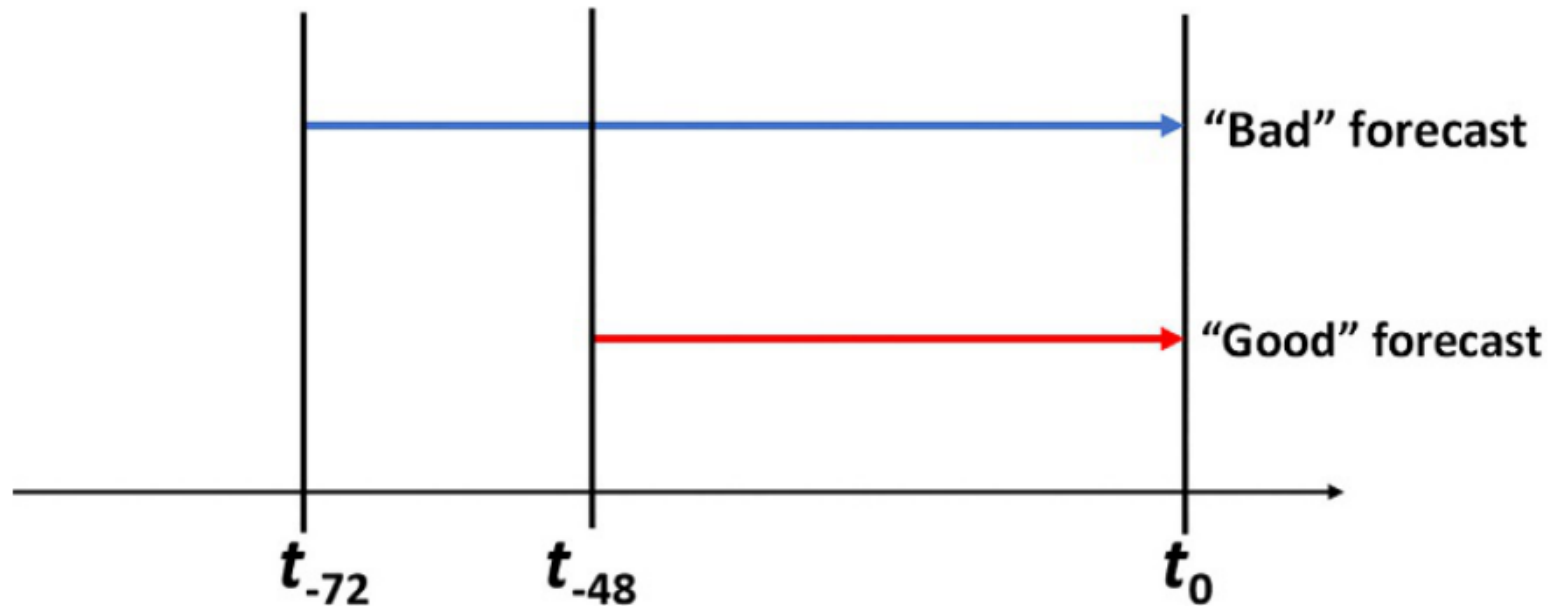


FIG. 1 A schematic of two forecasts (*Good* and *Bad*) with different lead times, compared at $t = t_0$.

WPS Domain Configuration



dx eru 9 og 3 km
55 fletir
WRF

Dubai - 9km (T-5days) - Precipitation & Wind -

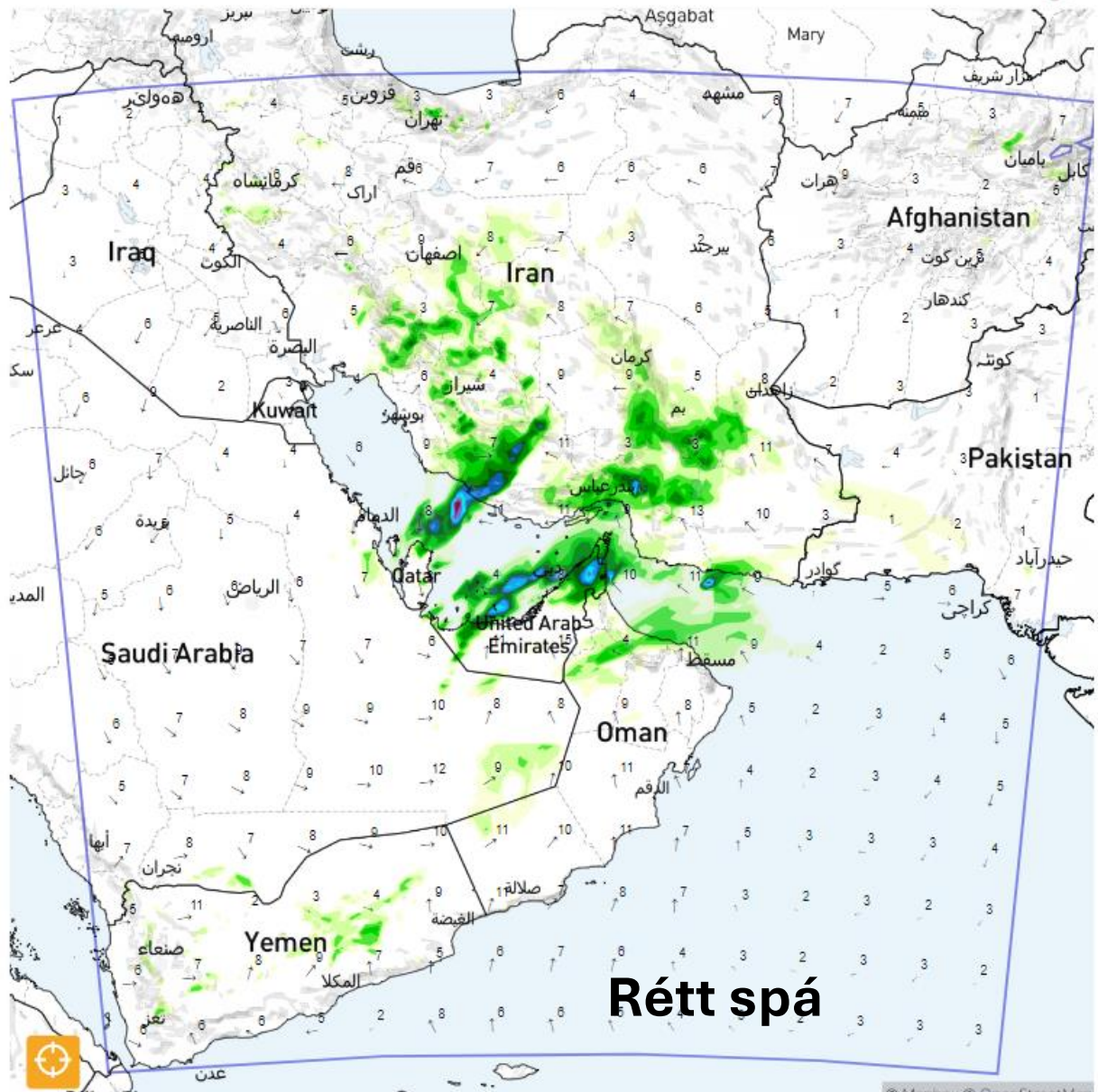
Tue, 16. April at 3:00 pm GMT+4



Vitlaus spá

Tue, Apr 16. | Wed, Apr 17. | Thu, Apr 18.

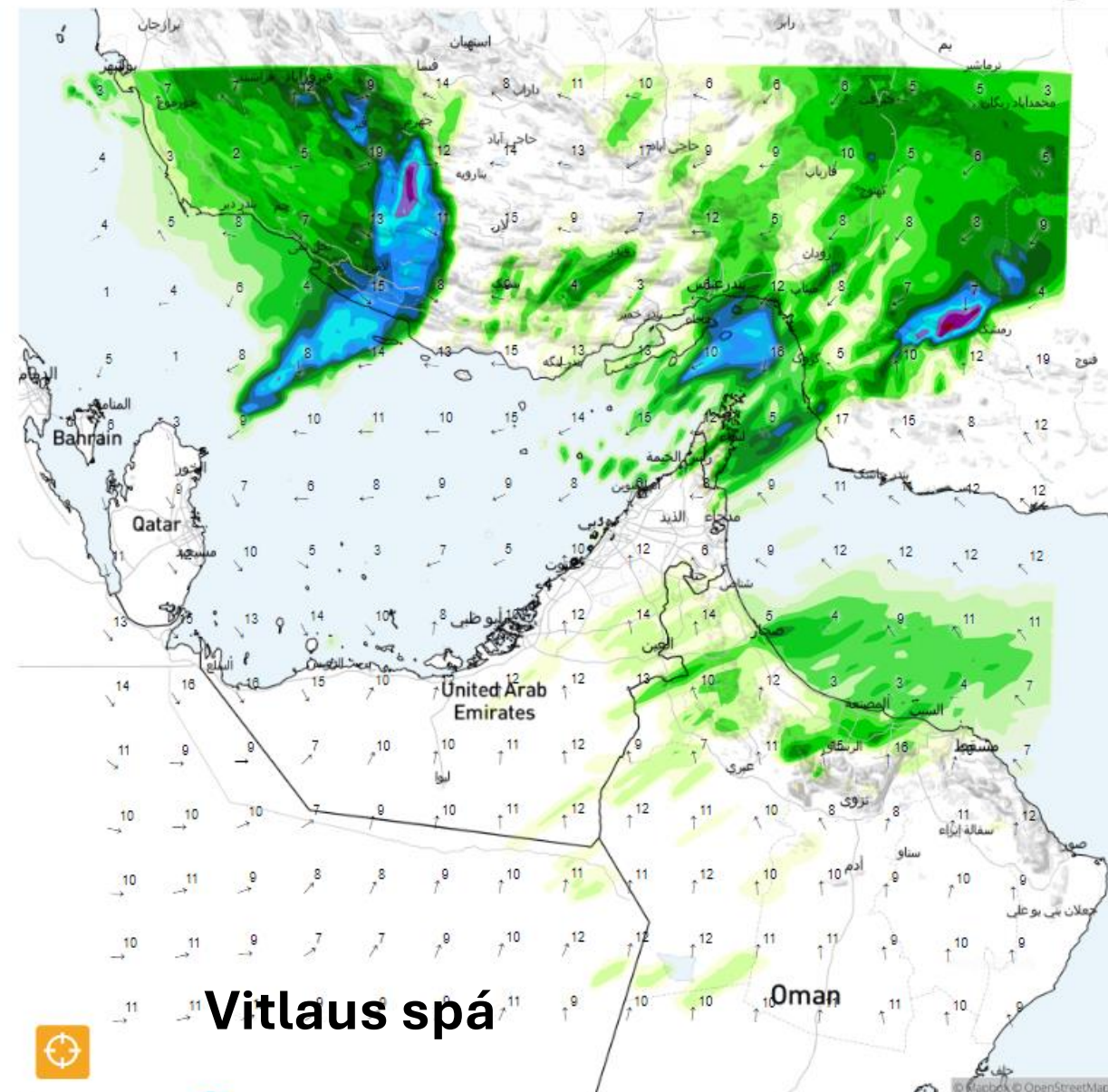
Dubai - 9km (T-2days) - Precipitation & Wind - Tue, 16. April at 3:00 pm GMT+4



Rétt spá

Tue, Apr 16. | Wed, Apr 17. | Thu, Apr 18.

Dubai - 3km (T-5days) ▾ Precipitation & Wind ▾ Tue, 16. April at 3:00 pm GMT+4

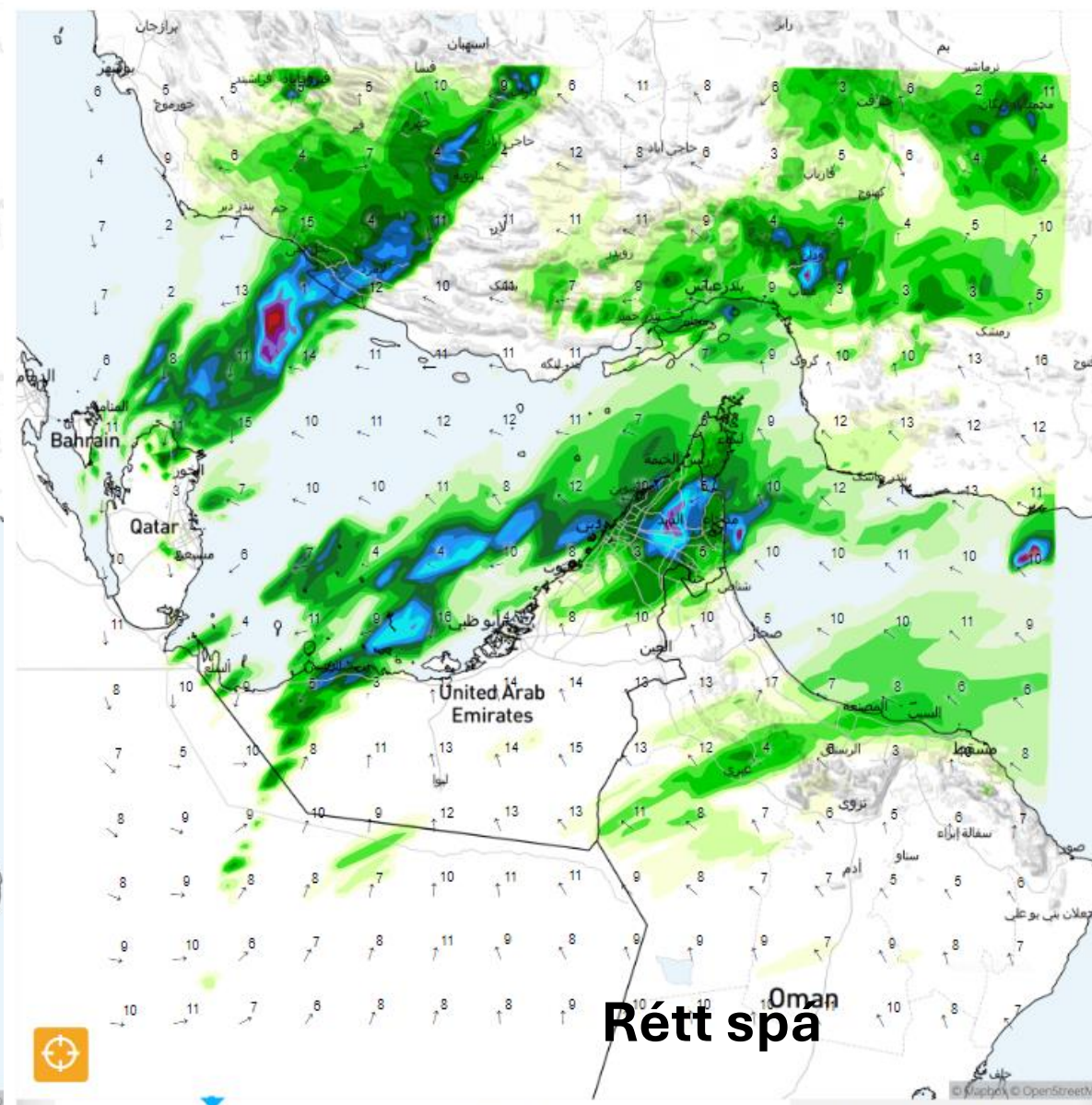


Tue, Apr 16.

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Thu, Apr 18.

Dubai - 3km (T-2days) ▾ Precipitation & Wind ▾ Tue, 16. April at 3:00 pm GMT+4



Tue, Apr 16.

Wed, Apr 17.

Thu, Apr 18.

Greining á spávillu

Berum saman spárnar við $t_0 - 15$ klst

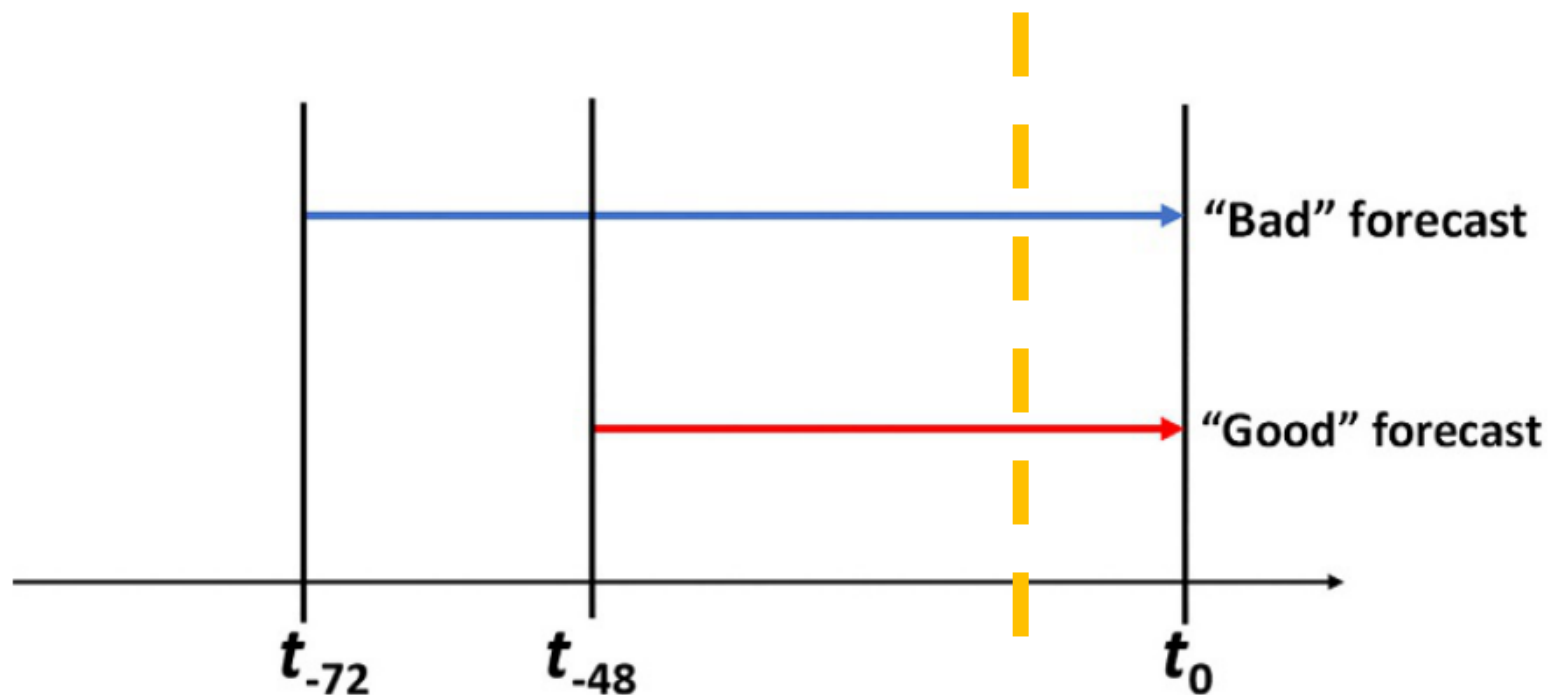
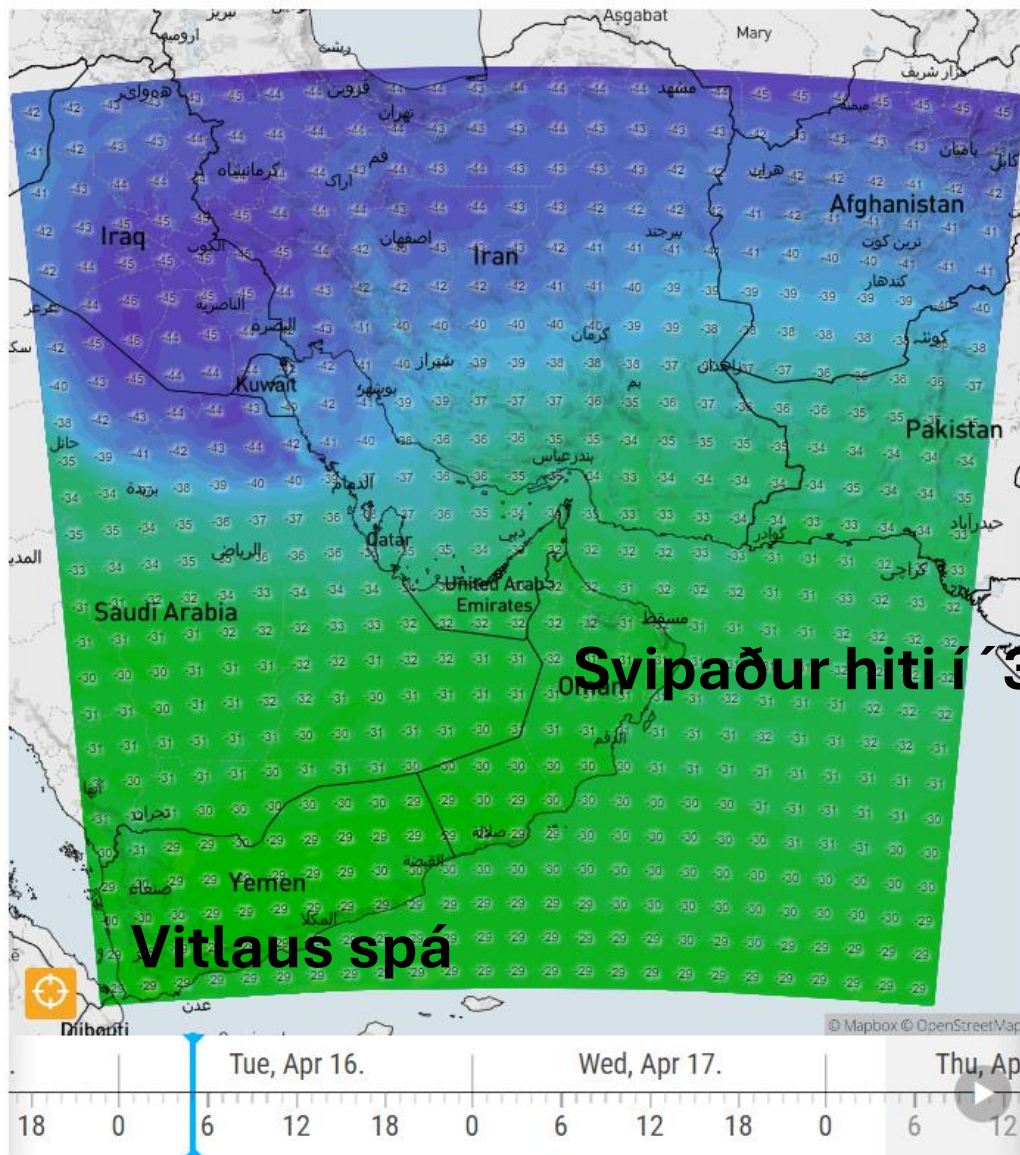
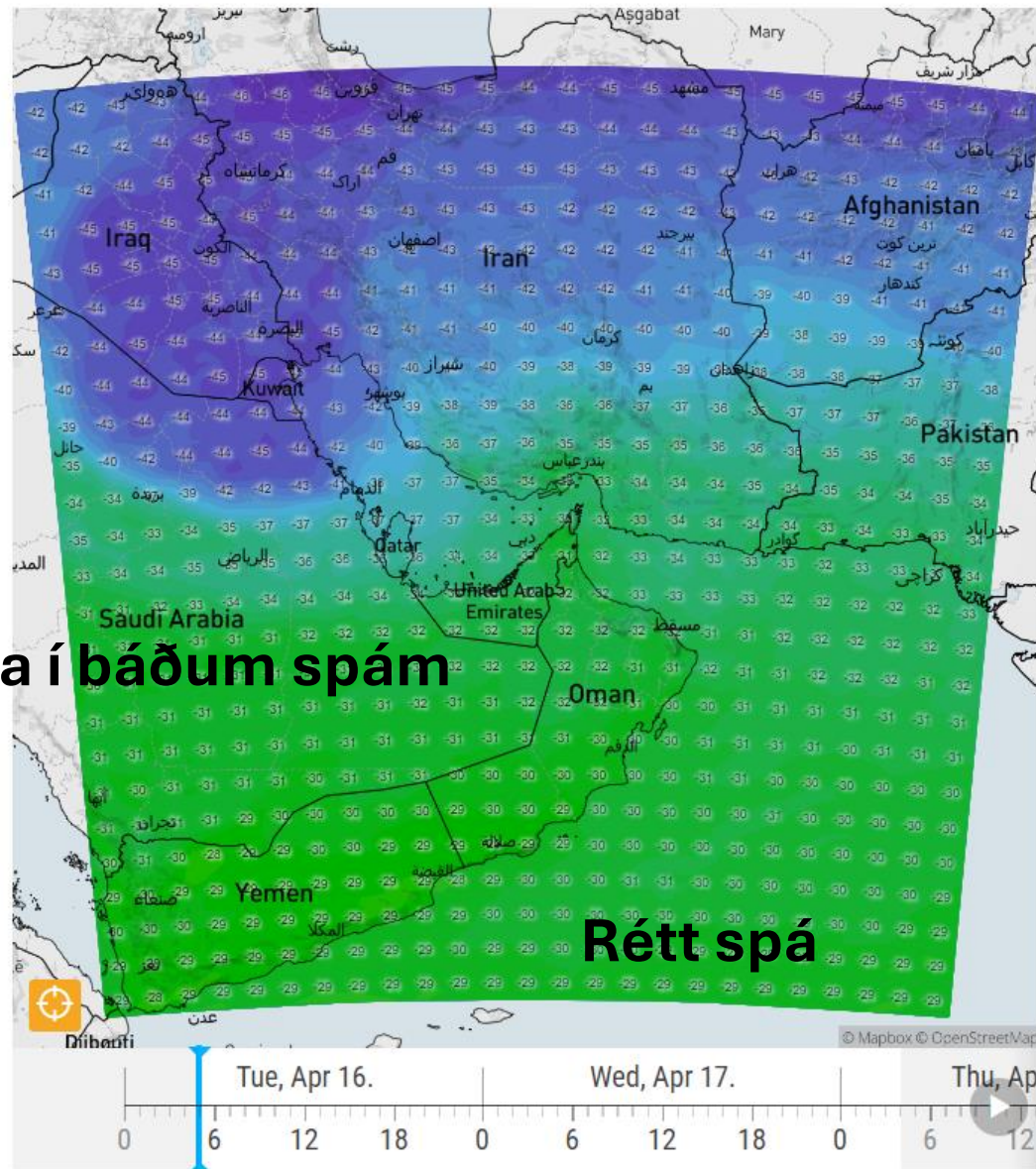


FIG. 1 A schematic of two forecasts (*Good* and *Bad*) with different lead times, compared at $t = t_0$.

Dubai - 9km (T-5days) - Temperature in 300 hPa -
Tue, 16. April at 5:00 am GMT+4



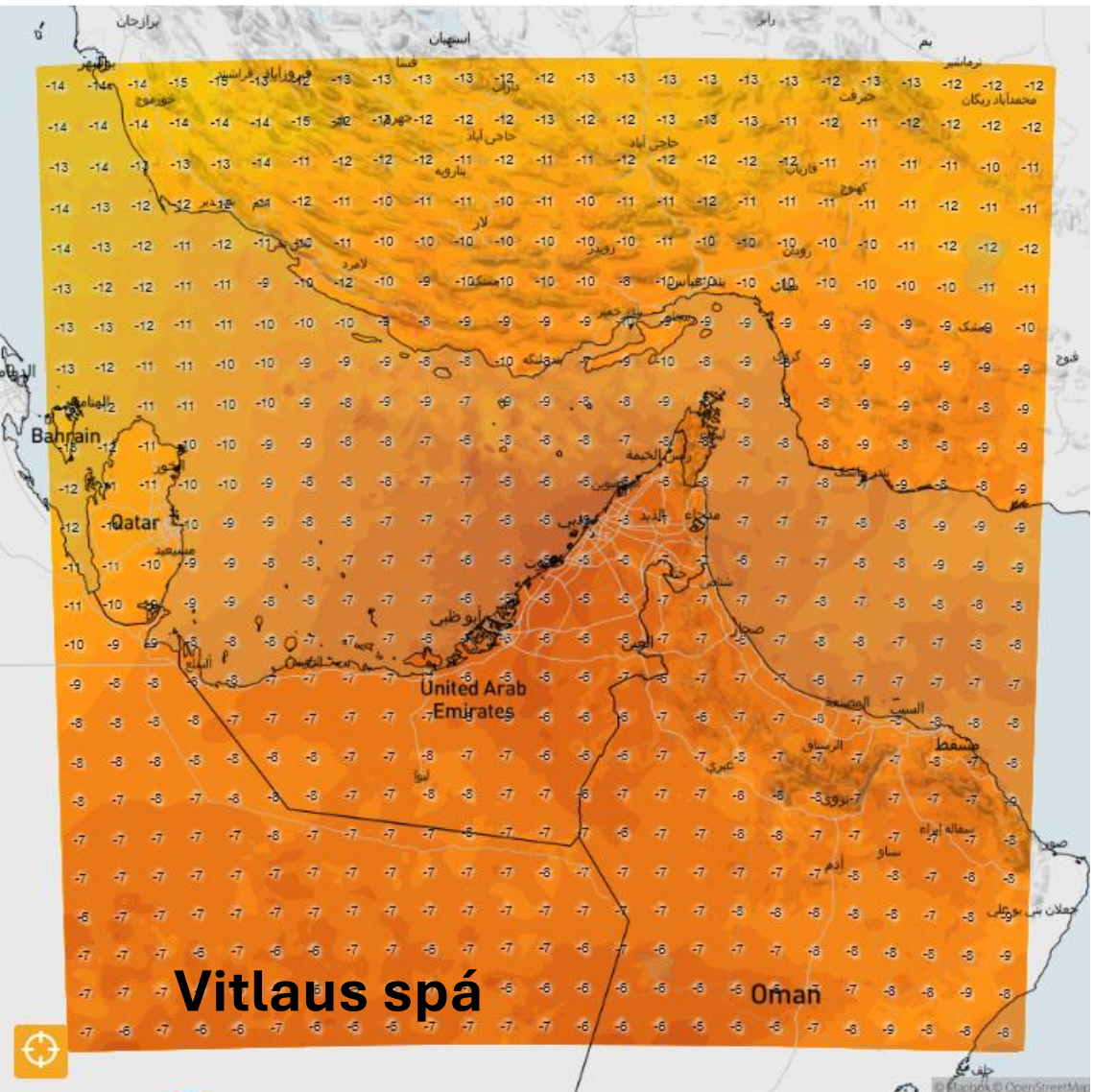
Dubai - 9km (T-2days) - Temperature in 300 hPa -
Tue, 16. April at 5:00 am GMT+4



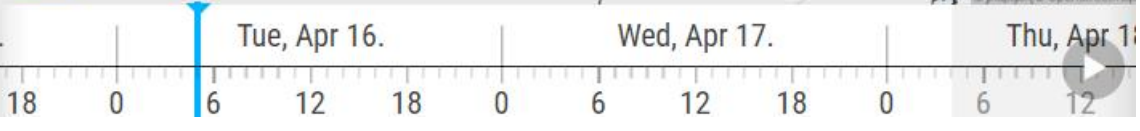
Þvíspáður hiti í 300 hPa í báðum spám

Dubai - 3km (T-5days) - Temperature in 500 hPa -

Tue, 16. April at 5:00 am GMT+4

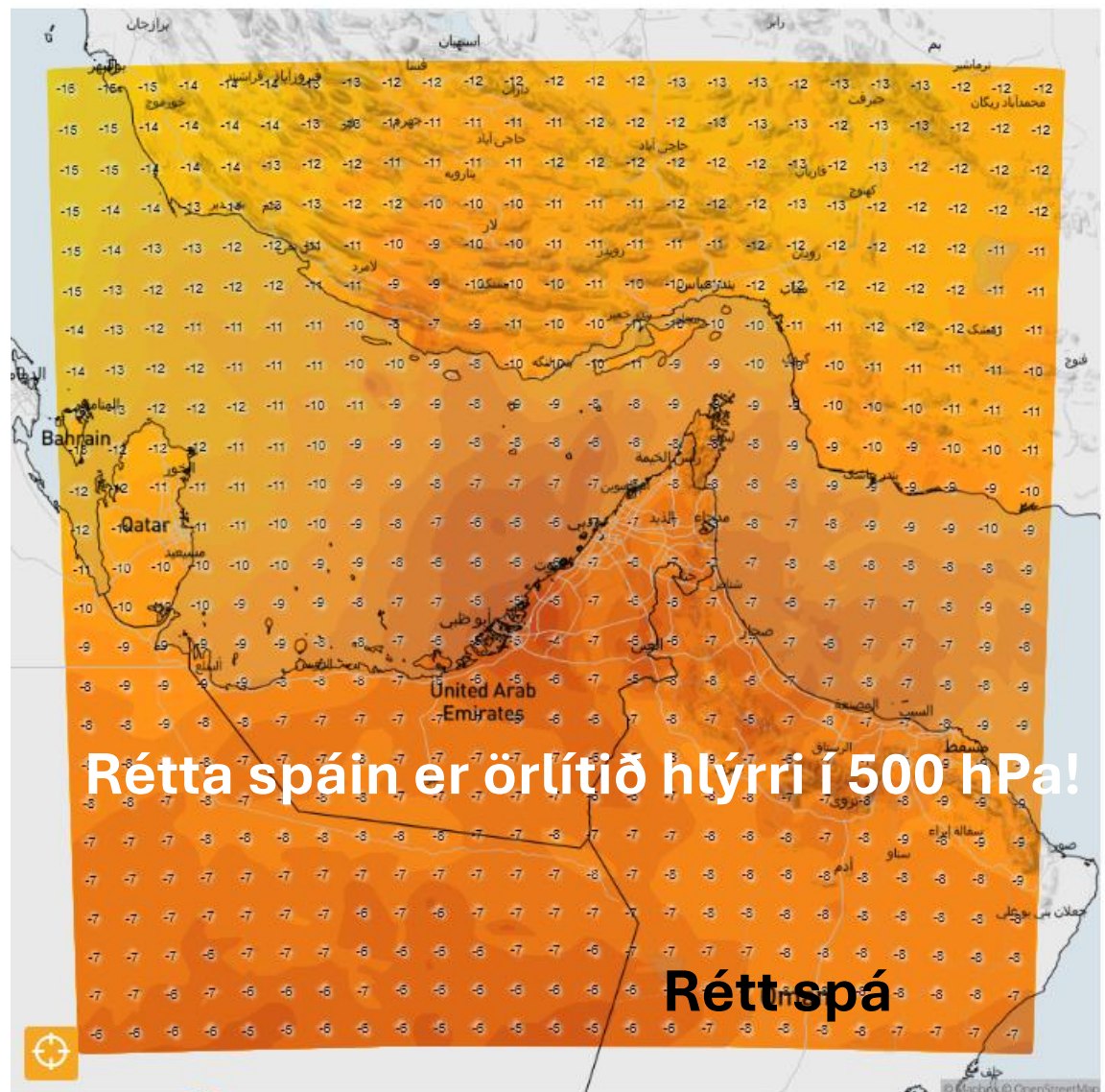


Vitlaus spá



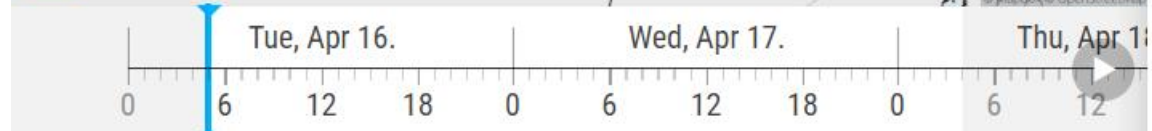
Dubai - 3km (T-2days) - Temperature in 500 hPa -

Tue, 16. April at 5:00 am GMT+4



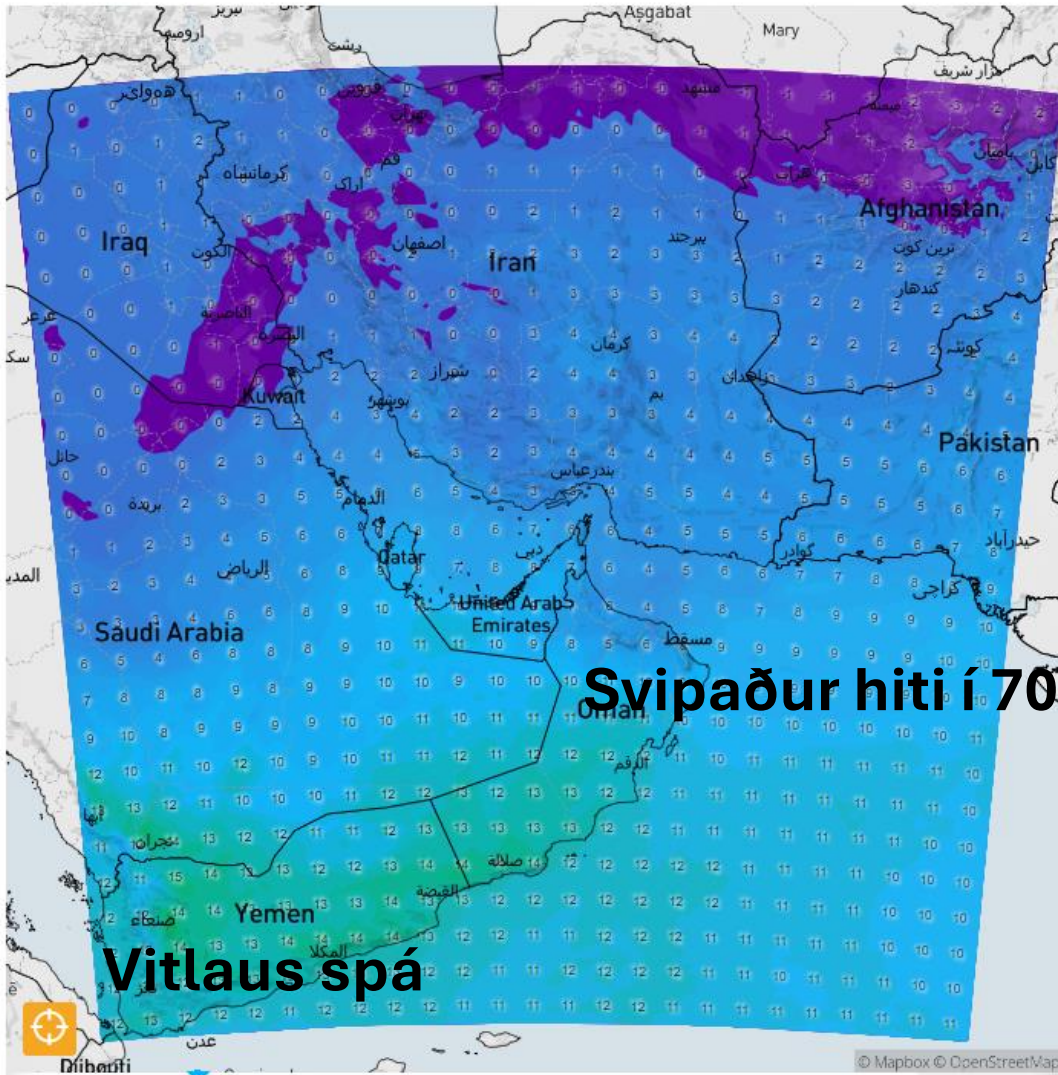
Rétta spáin er örlítið hlýrri í 500 hPa!

Rétt spá



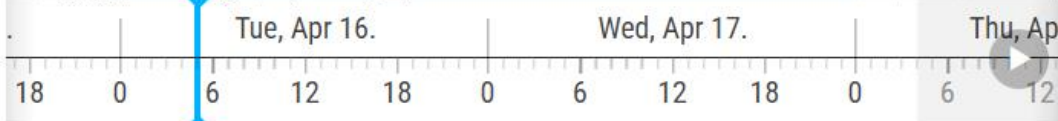
Dubai - 9km (T-5days) - Temperature in 700 hPa -

Tue, 16. April at 5:00 am GMT+4



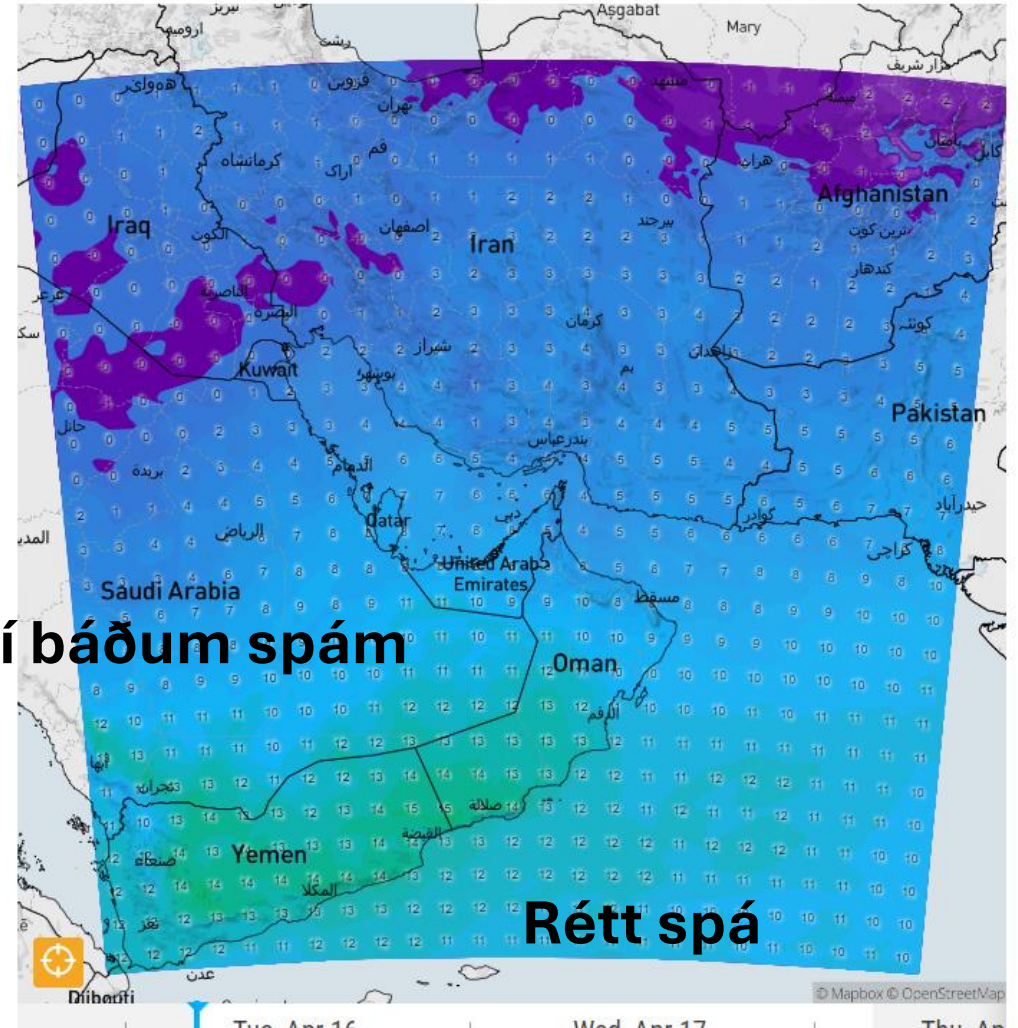
Svipaður hiti í 700 hPa í báðum spám

Vitlaus spá

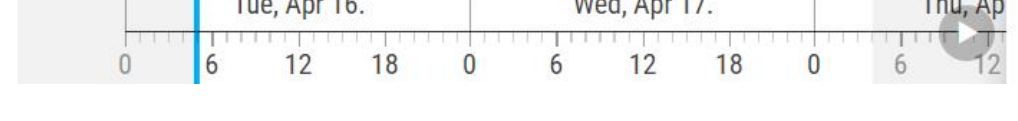


Dubai - 9km (T-2days) - Temperature in 700 hPa -

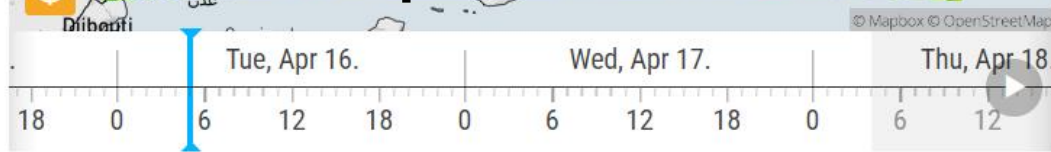
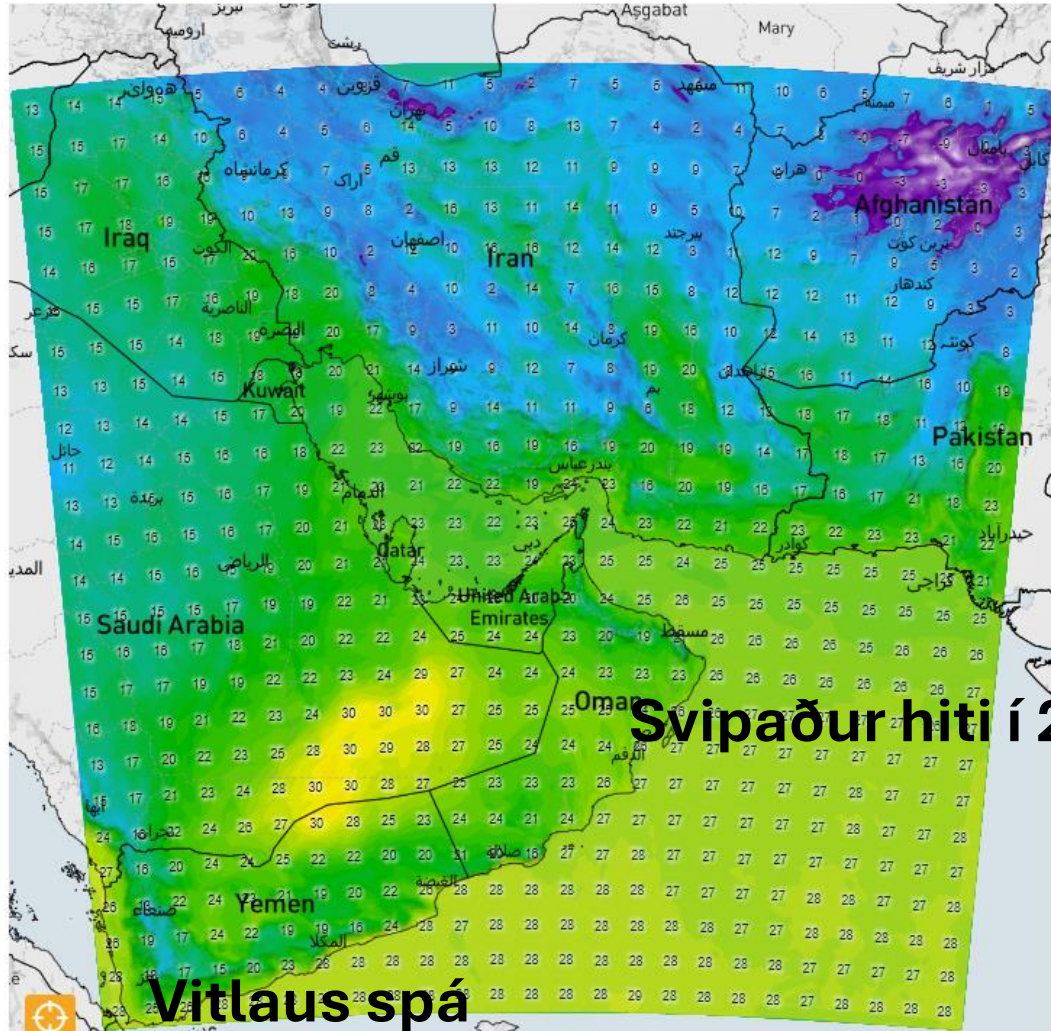
Tue, 16. April at 5:00 am GMT+4



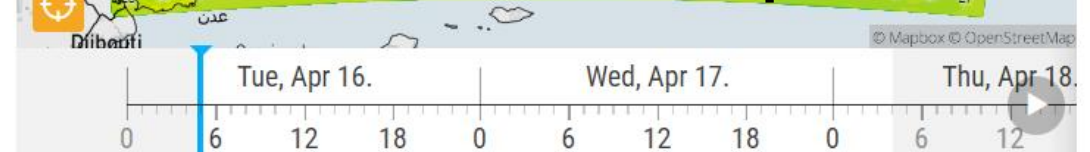
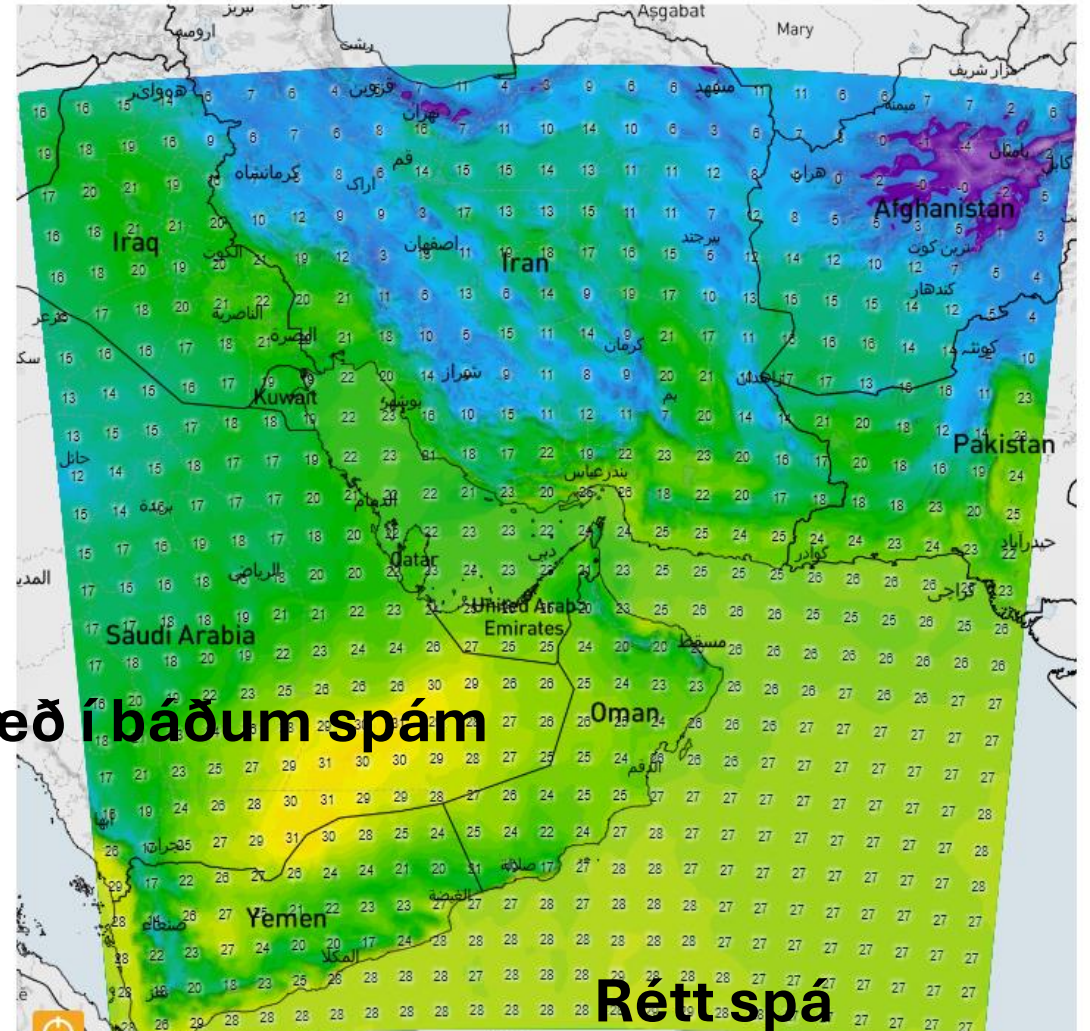
Rétt spá



Dubai - 9km (T-5days) - Temperature - Tue, 16. April at 5:00 am GMT+4



Dubai - 9km (T-2days) - Temperature - Tue, 16. April at 5:00 am GMT+4

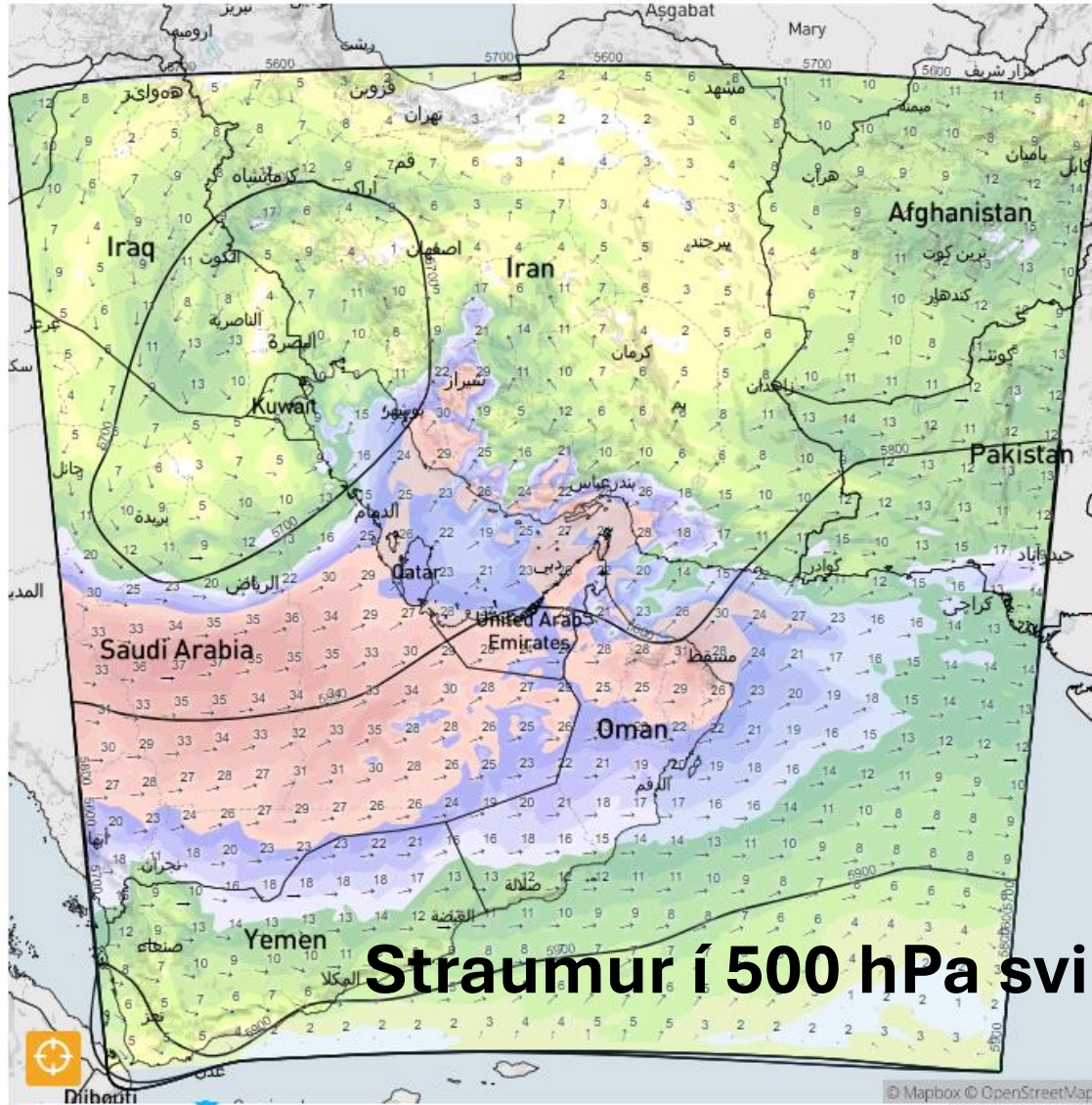


Svipaður hiti í 2m hæð í báðum spám

Dubai - 9km (T-5days) - Wind and Geopotential Height in 500 hPa -

Tue, 16. April at 5:00 am GMT+4

1

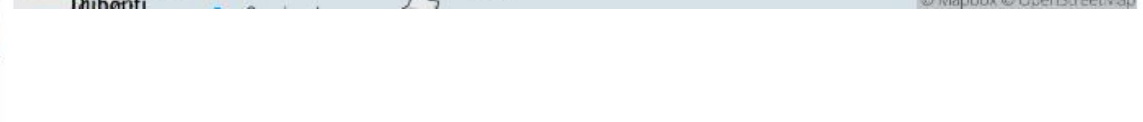
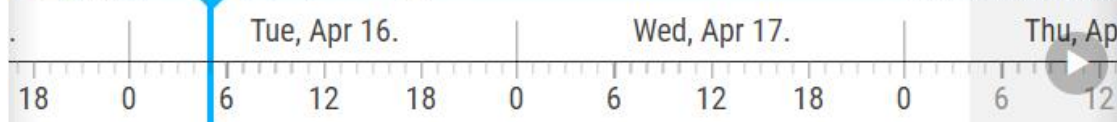
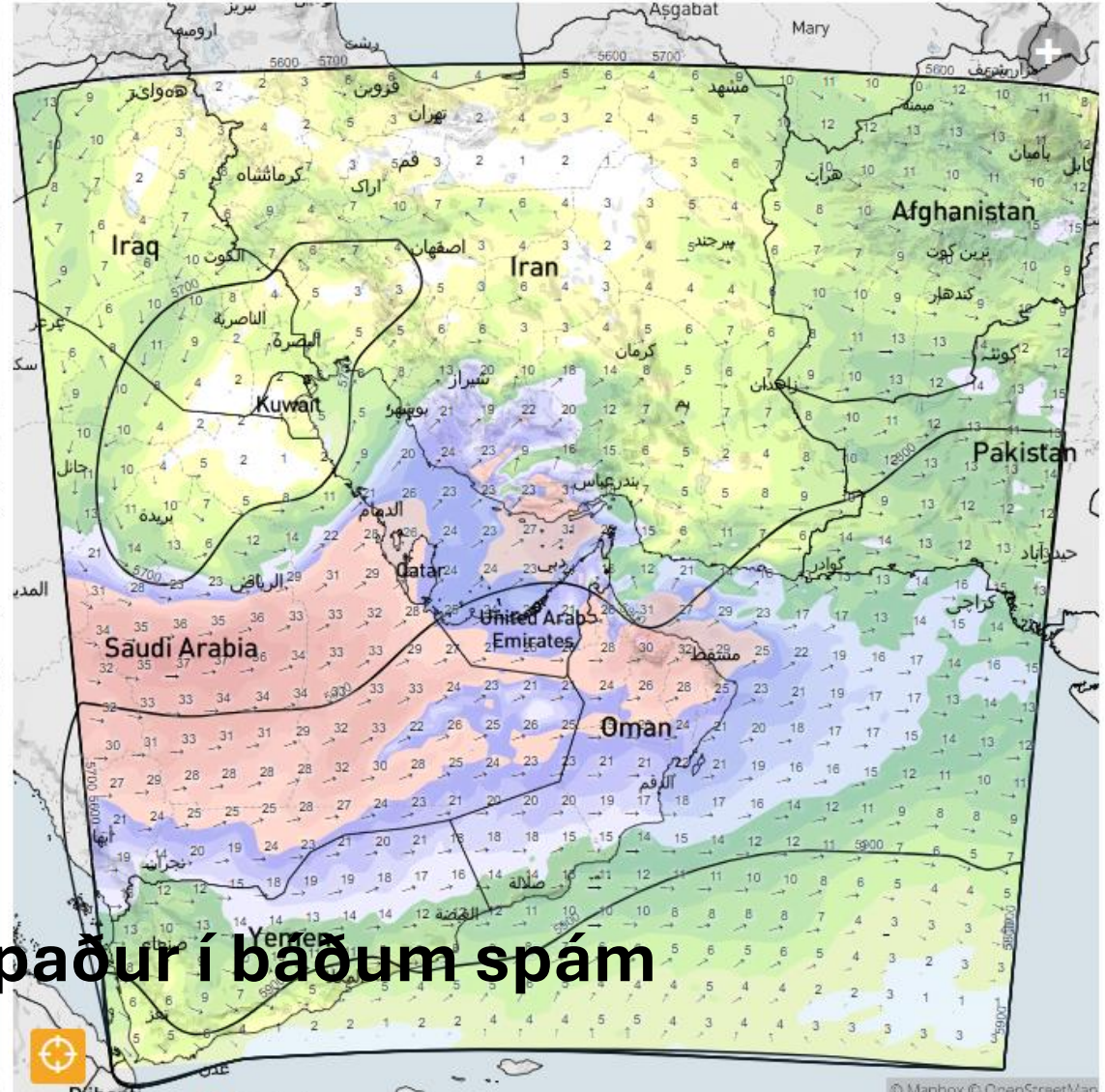


Straumur í 500 hPa svipaður í báðum spám

Dubai - 9km (T-2days) - Wind and Geopotential Height in 500 hPa -

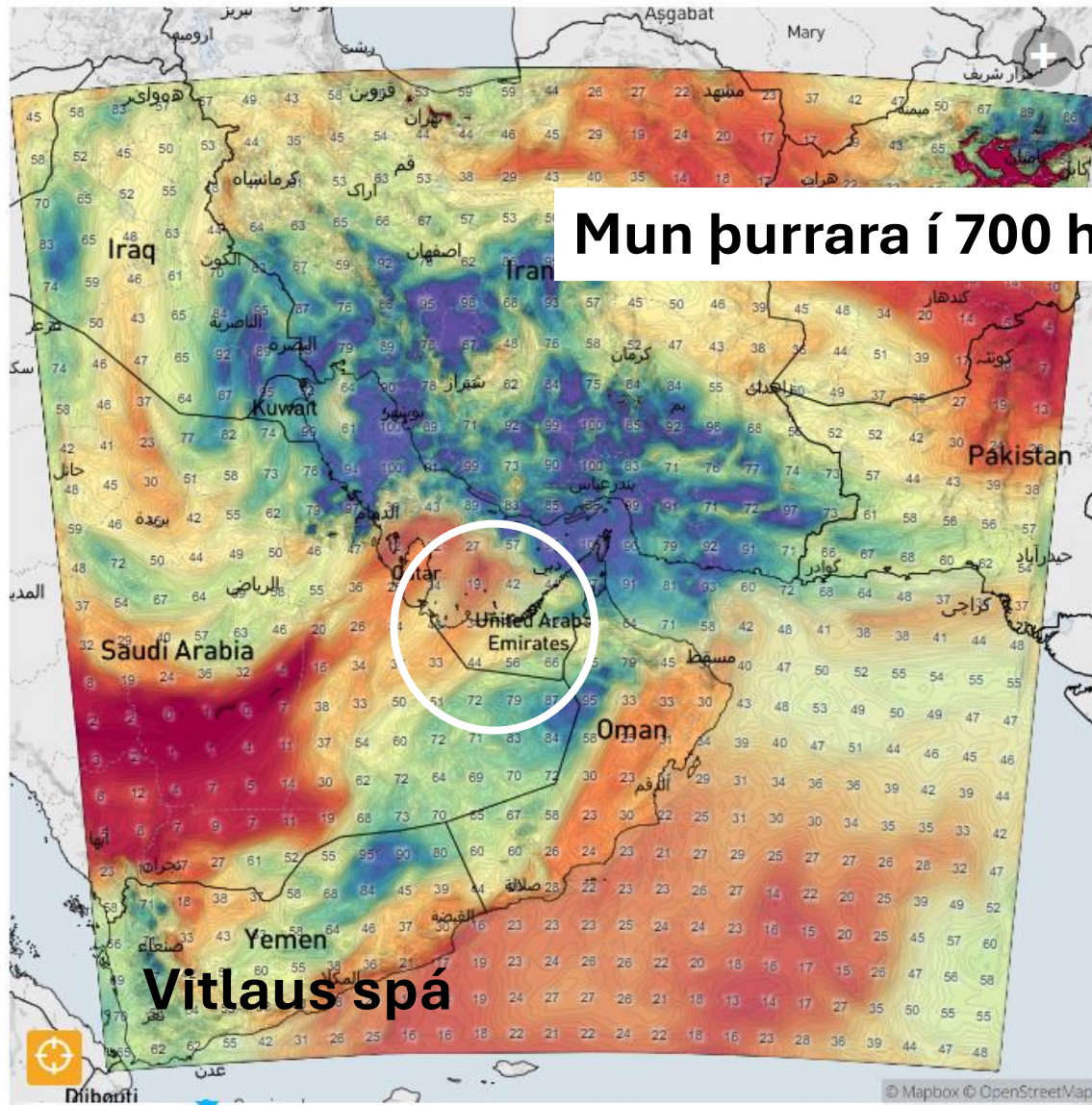
Tue, 16. April at 5:00 am GMT+4

1



Dubai - 9km (T-5days) - \$tpe-relative_humidity_at_700hPa -

Tue, 16. April at 9:00 am GMT+4

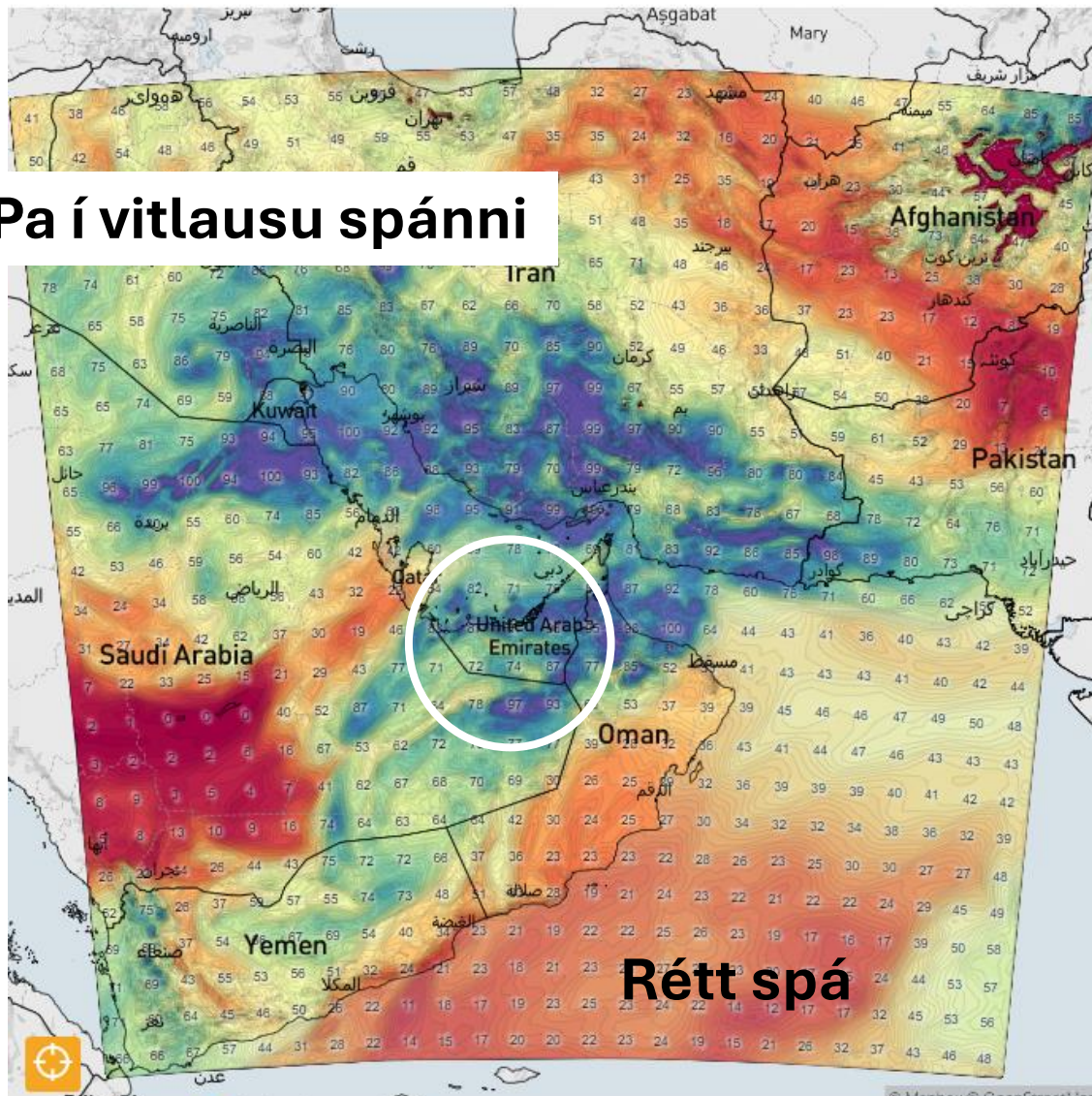


Mun þurrara í 700 hPa í vitlausu spánni

Vitlaus spá

Dubai - 9km (T-2days) - \$tpe-relative_humidity_at_700hPa -

Tue, 16. April at 9:00 am GMT+4



Rétt spá

Tue, Apr 16.

Wed, Apr 17.

Thu, Apr 18.

0 6 12 18

0 6 12 18

0 6 12 18

0 6 12

Tue, Apr 16.

Wed, Apr 17.

Thu, Apr 18.

0 6 12 18

0 6 12 18

0 6 12 18

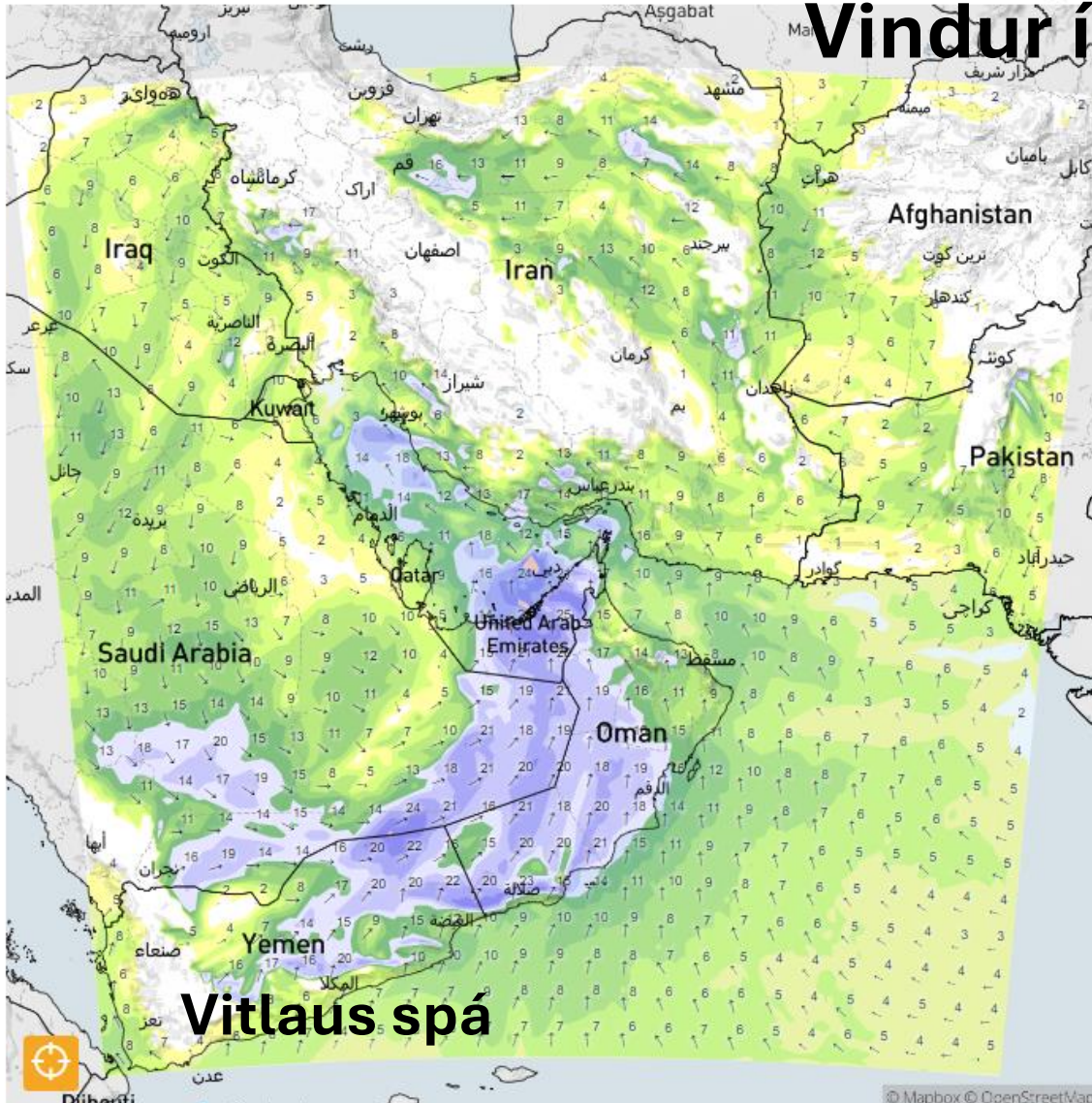
0 6 12

Dubai - 9km (T-5days) - Wind in 850 hPa - Tue, 16. April at 5:00 am GMT+4

Dubai - 9km (T-2days) - Wind in 850 hPa - Tue, 16. April at 5:00 am GMT+4

Vindur í 850 hPa

Rétt spá



Vitlaus spá

Rétt spá

Tue, Apr 16. Wed, Apr 17. Thu, Ap

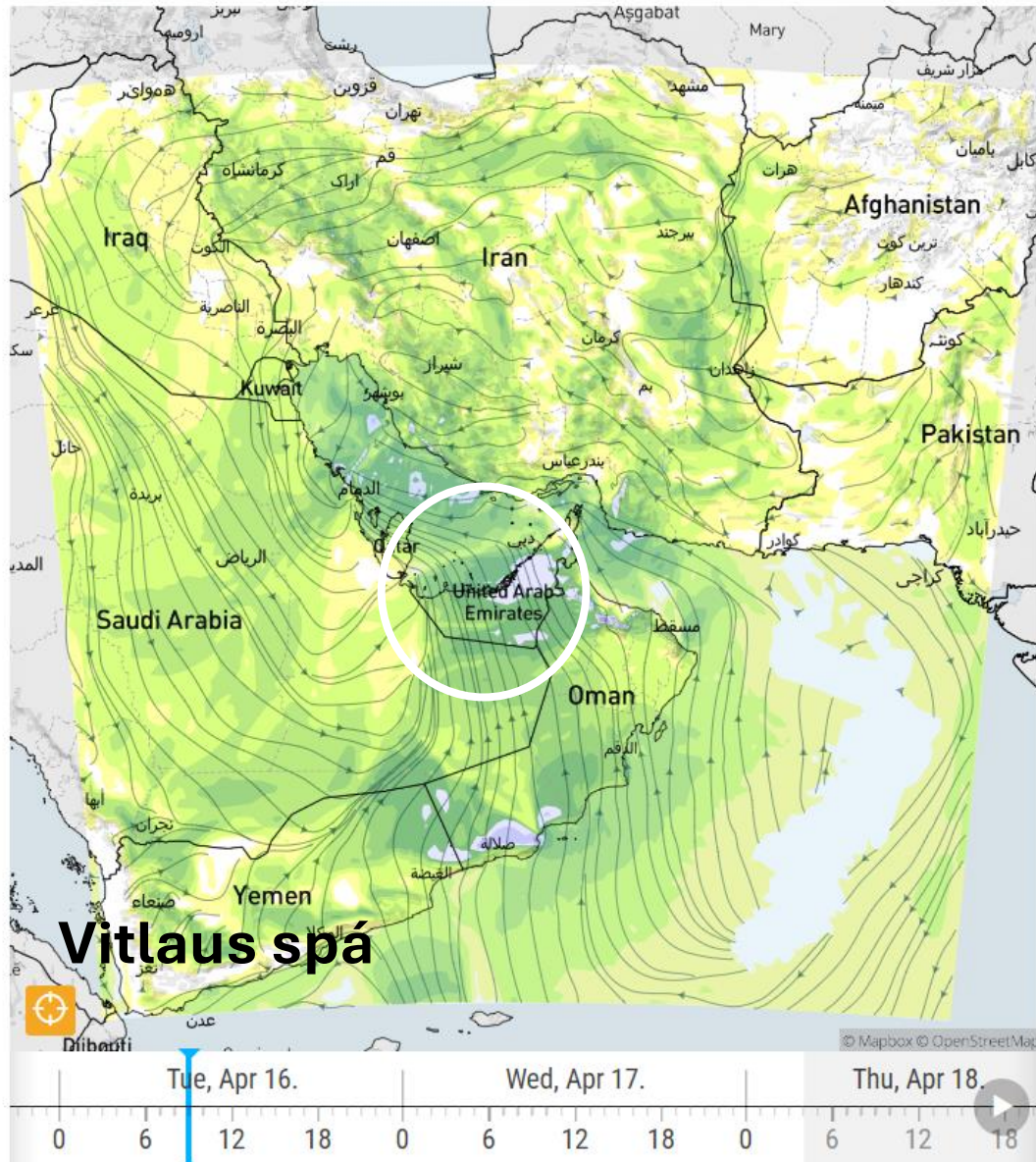
18 0 6 12 18 0 6 12 18 0 6 12

Tue, Apr 16. Wed, Apr 17. Thu, Ap

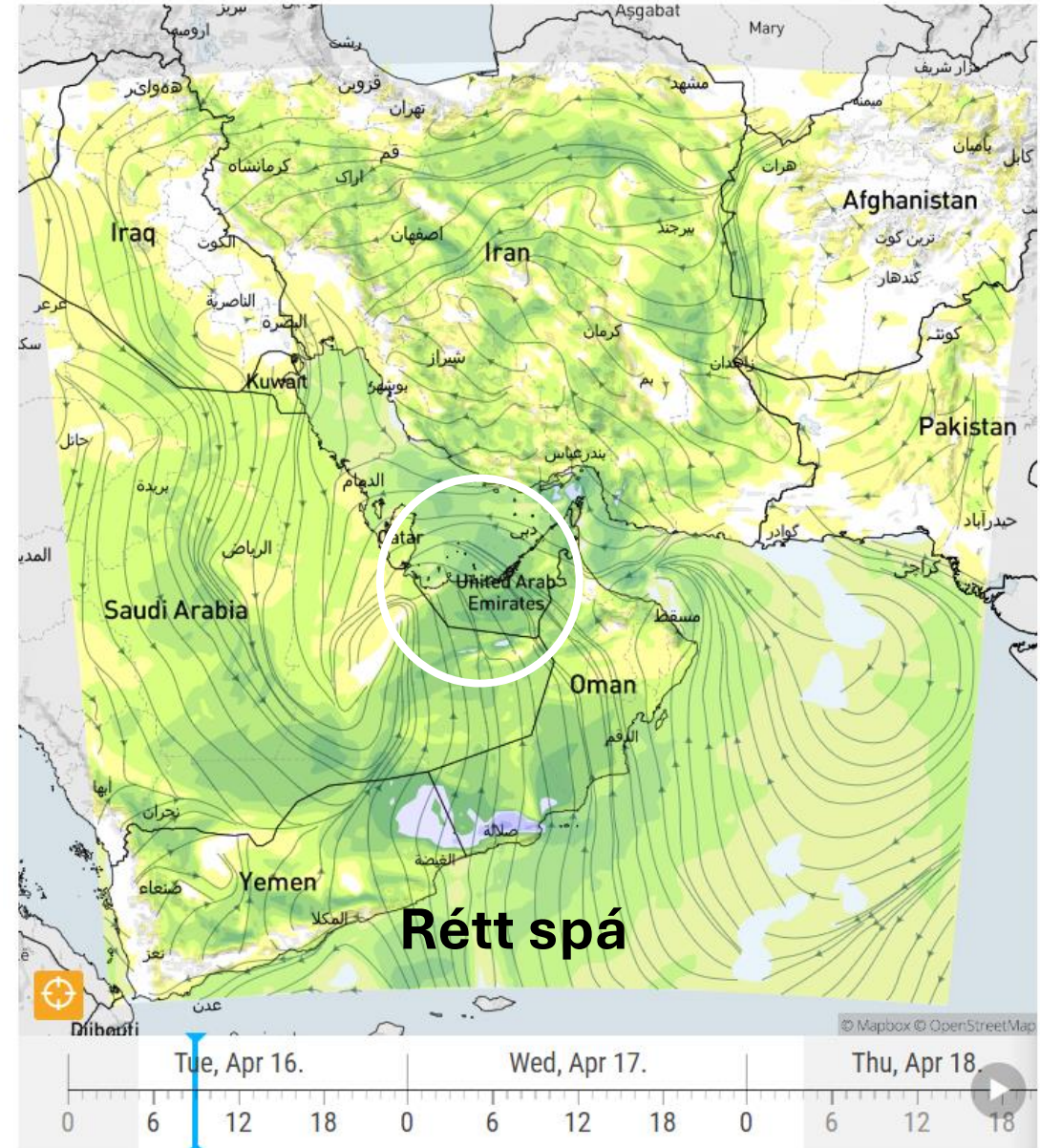
0 6 12 18 0 6 12 18 0 6 12

Hvass vindur af landi í farvegi kerfisins

Dubai - 9km (T-5days) - Windstreams - Tue, 16. April at 9:00 am GMT+4



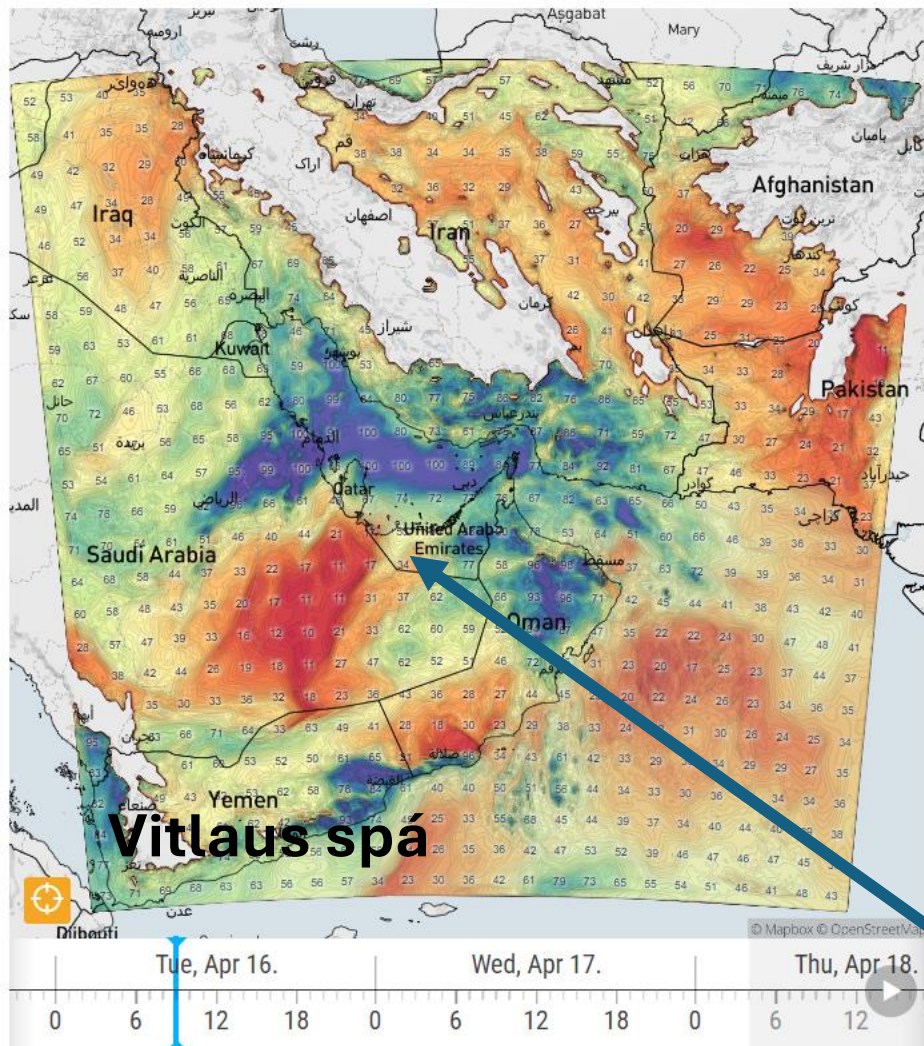
Dubai - 9km (T-2days) - Windstreams - Tue, 16. April at 9:00 am GMT+4



Dubai - 9km (T-5days) - \$t_{type}\$-relative_humidity_at_850hPa -

Tue, 16. April at 9:00 am GMT+4

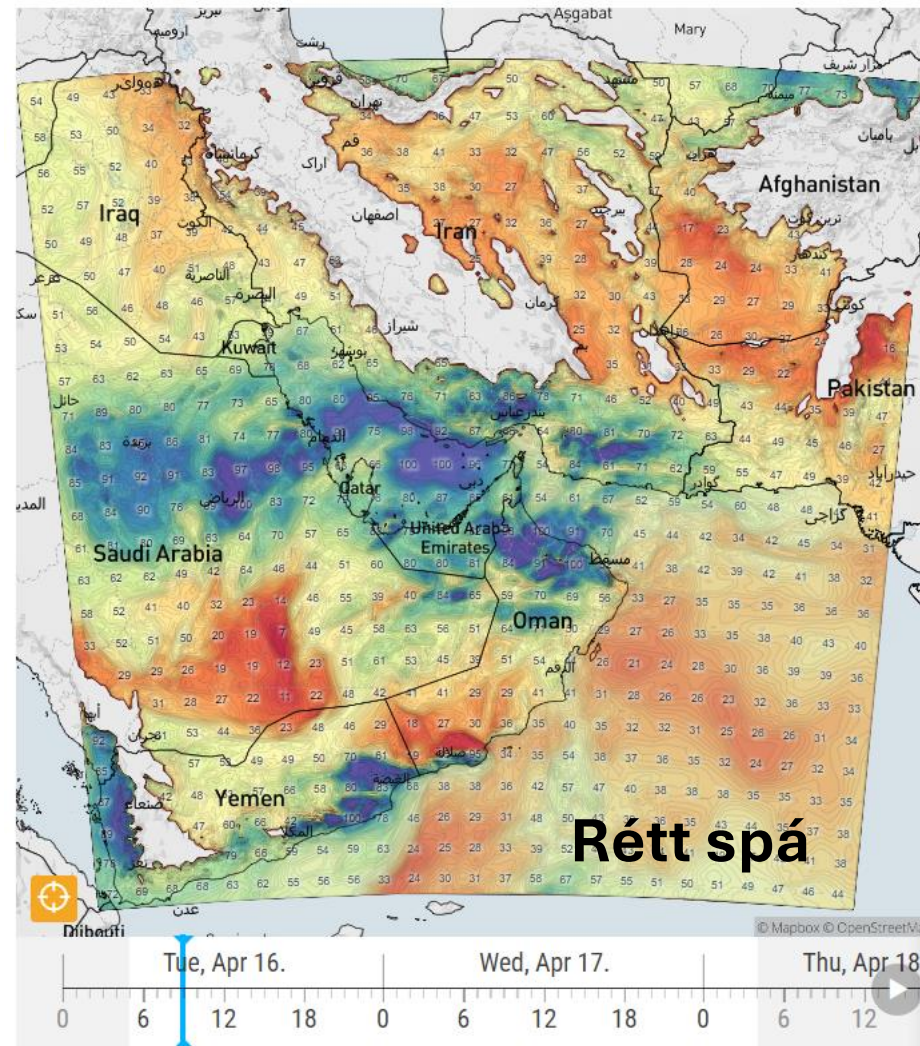
1



Dubai - 9km (T-2days) - \$t_{type}\$-relative_humidity_at_850hPa -

Tue, 16. April at 9:00 am GMT+4

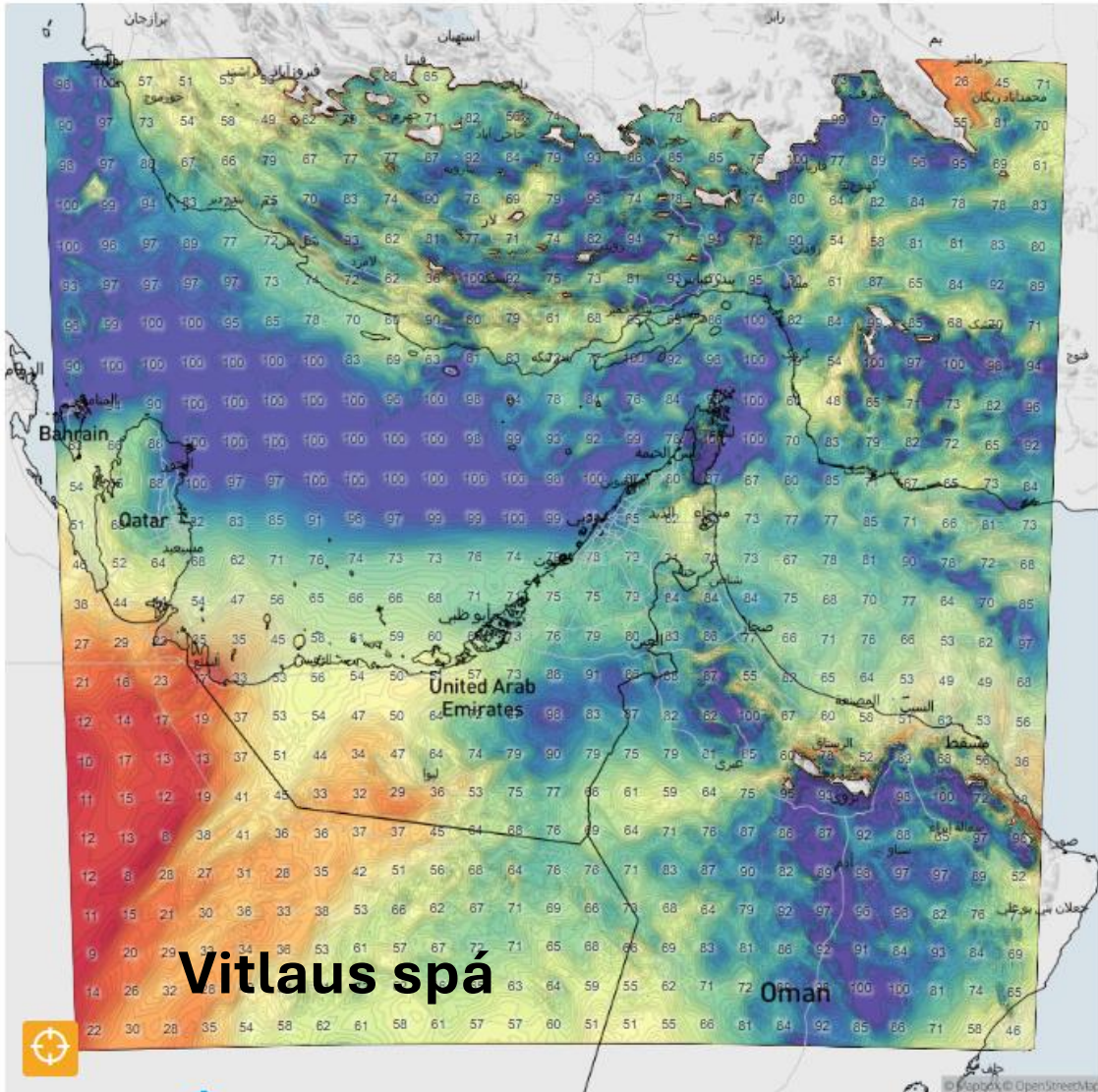
1



Raki í 850 hPa - þurrt í vitlausu spánni

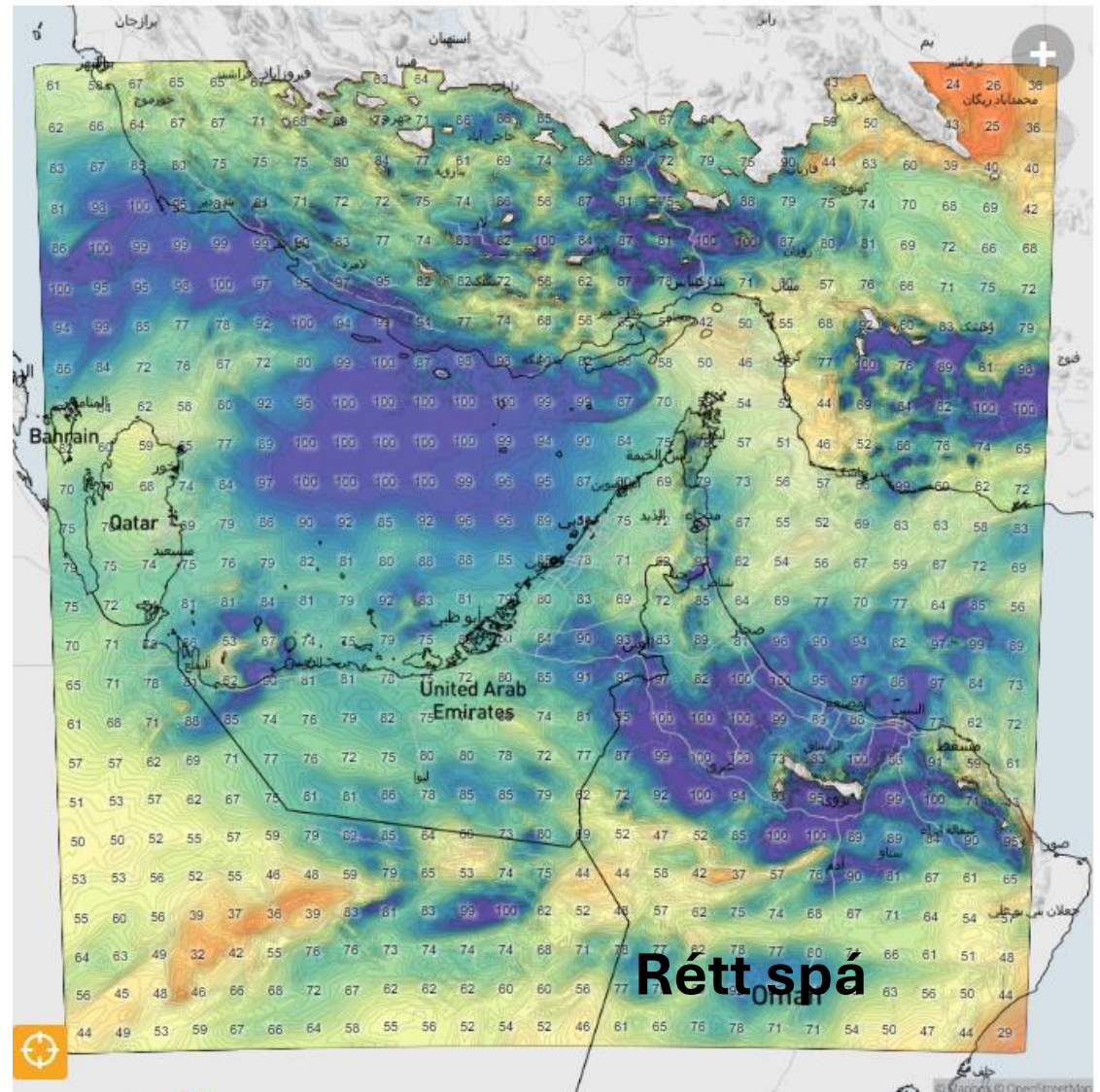
Dubai - 3km (T-5days) - \$type-relative_humidity_at_850hPa -

Tue, 16. April at 9:00 am GMT+4



Dubai - 3km (T-2days) - \$type-relative_humidity_at_850hPa -

Tue, 16. April at 9:00 am GMT+4



Tue, Apr 16.

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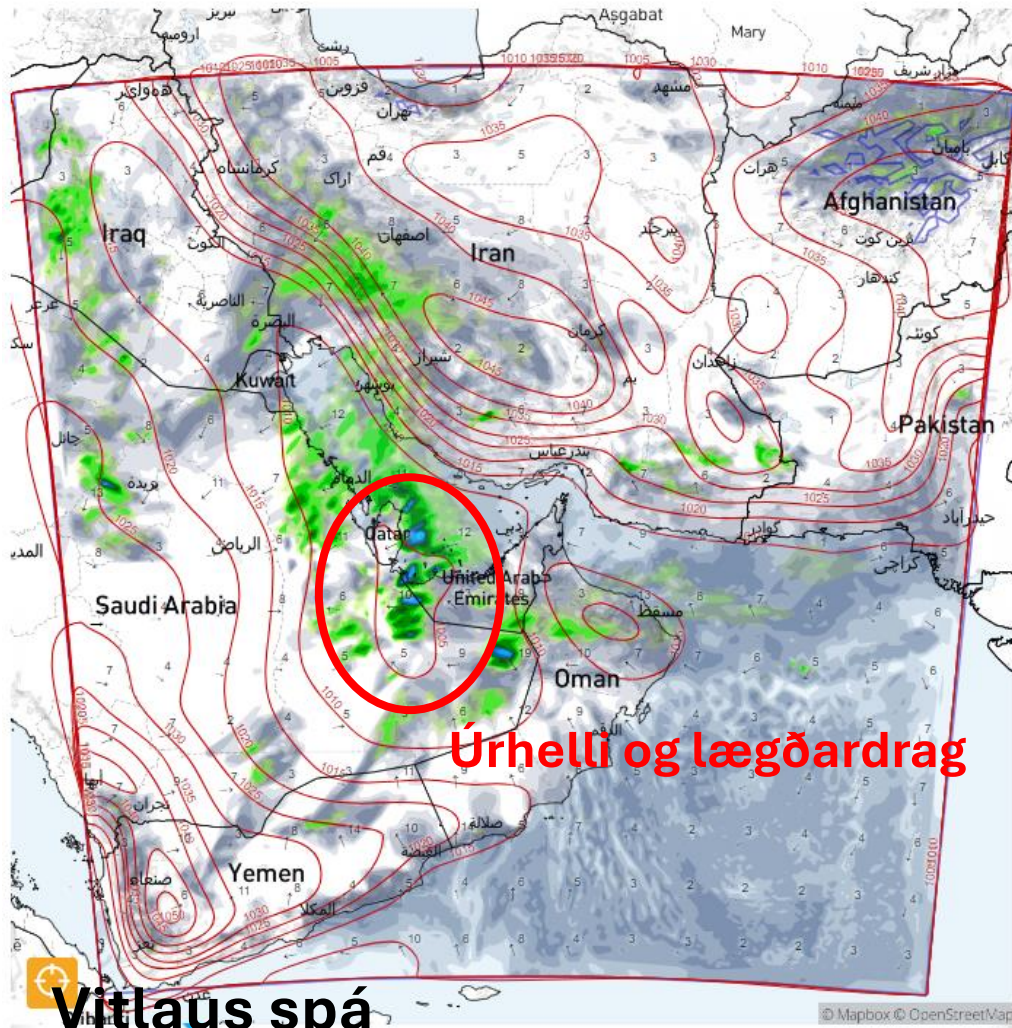
Tue, Apr 16.

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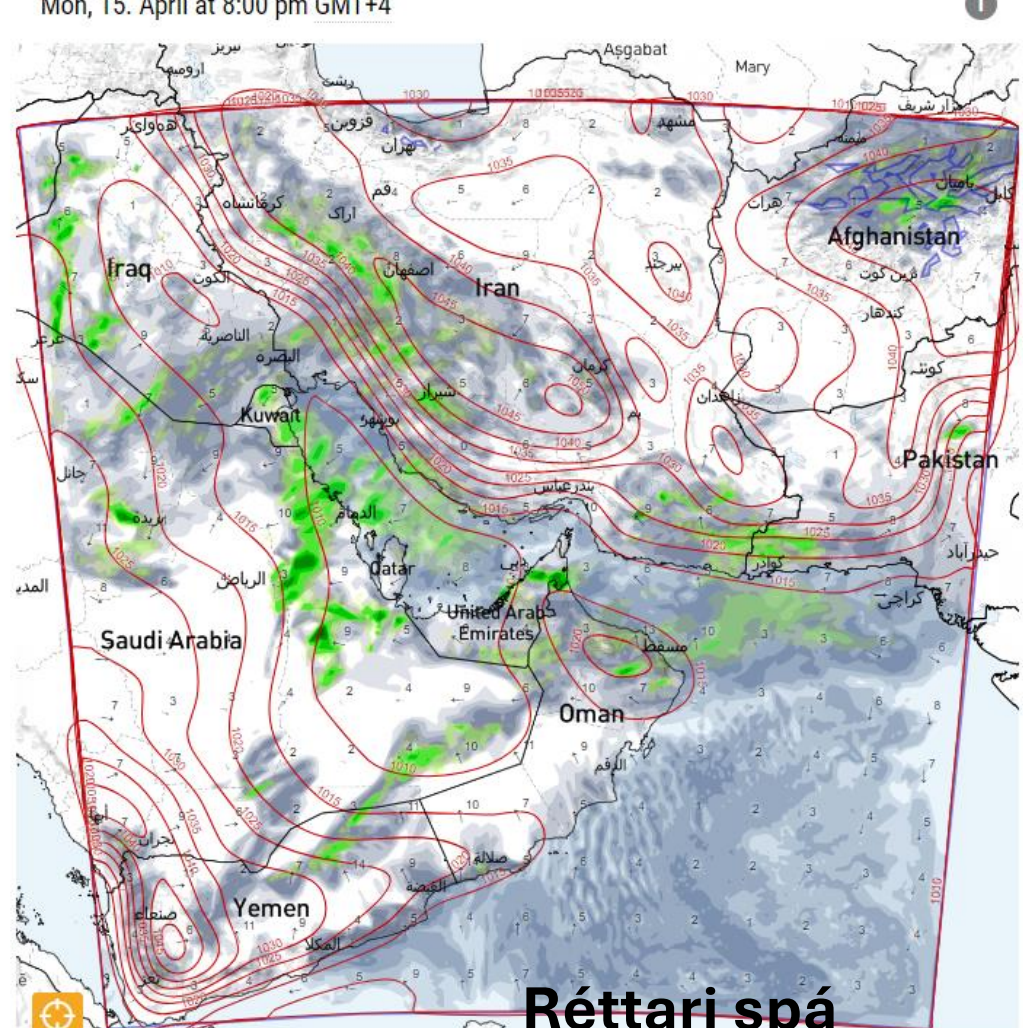
Dubai - 9km (T-5days) - Precipitation, Clouds, Wind & Pressure - **Daginn áður**

Mon, 15. April at 8:00 pm GMT+4



Dubai - 9km (T-3days) - Precipitation, Clouds, Wind & Pressure - **Réttari spá**

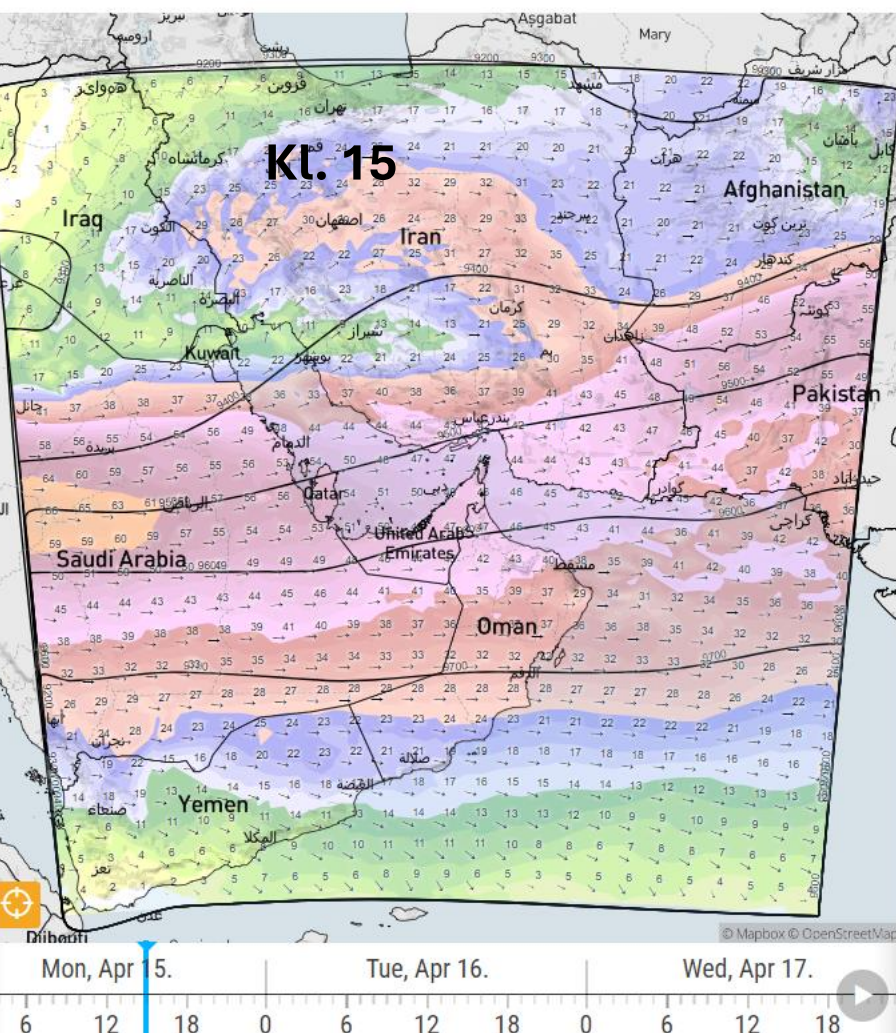
Mon, 15. April at 8:00 pm GMT+4



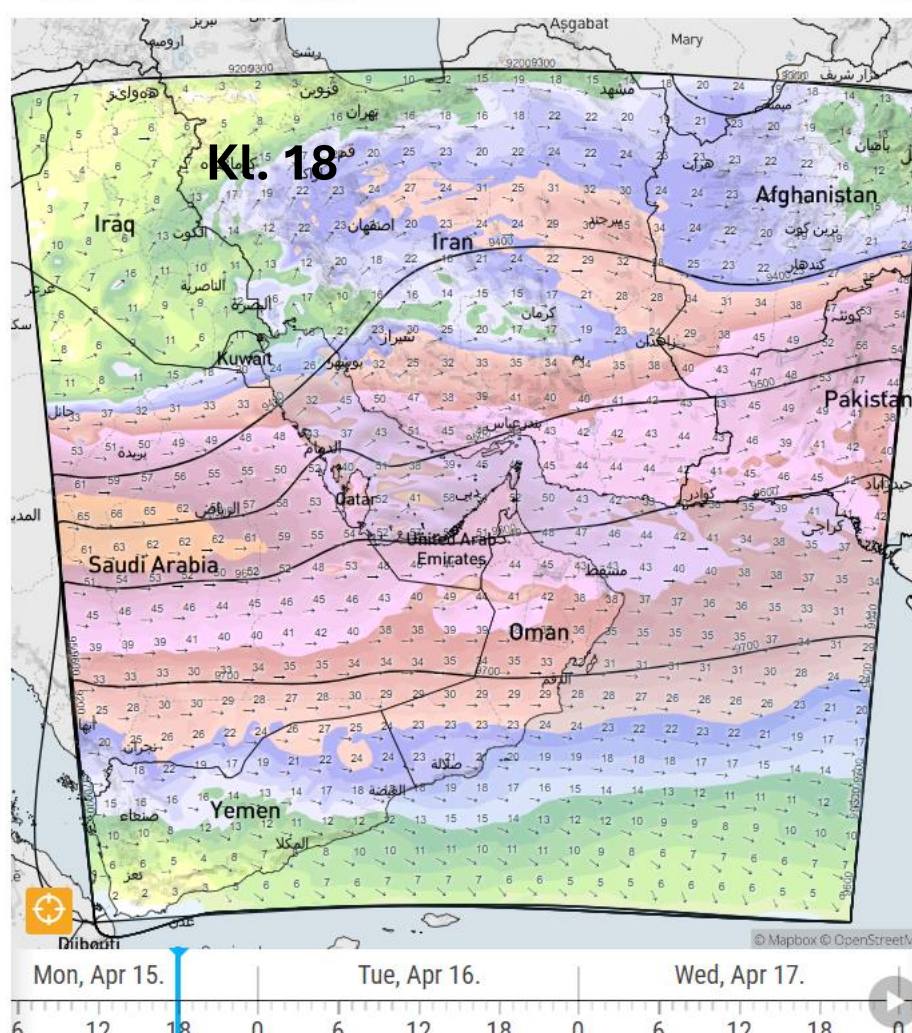
Vindur og hæð 300 hPa flatar í vitlausu spánni daginn áður

Vonda spáin framleiðir stutta bylgju, mjög hratt í tengslum við úrkomubelti 15. apríl

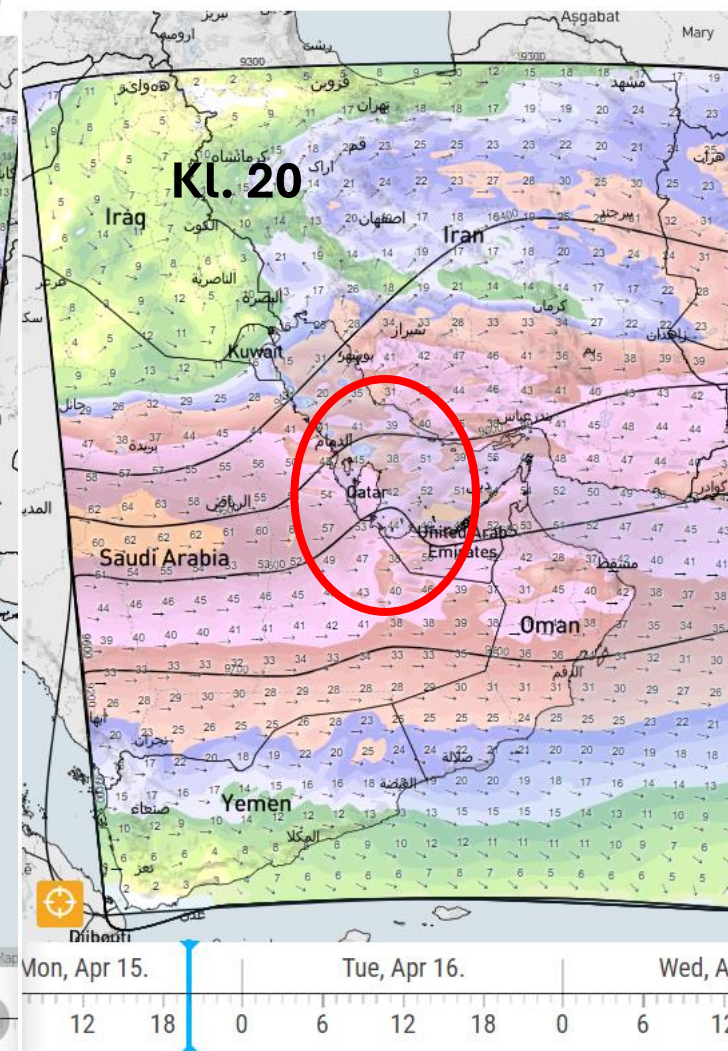
Dubai - 9km (T-5days) - Wind and Geopotential Height in 300 hPa -
Mon, 15. April at 3:00 pm GMT+4



Dubai - 9km (T-5days) - Wind and Geopotential Height in 300 hPa -
Mon, 15. April at 6:00 pm GMT+4



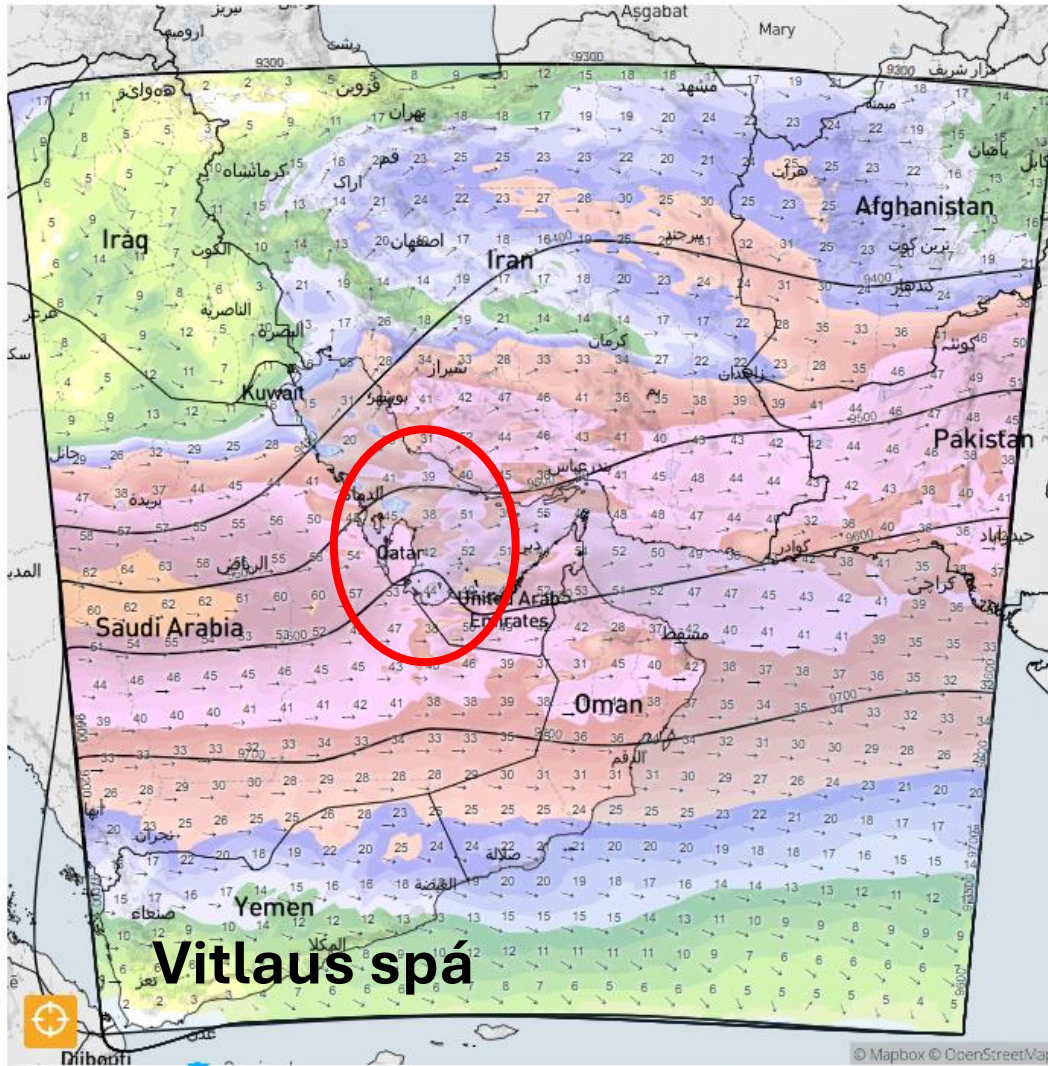
Dubai - 9km (T-5days) - Wind and Geopotential Height in 300 hPa -
Mon, 15. April at 8:00 pm GMT+4



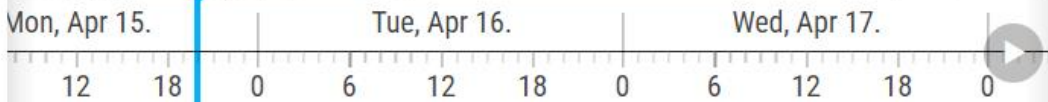
Vindur og hæð 300 hPa flatar daginn áður

Dubai - 9km (T-5days) - Wind and Geopotential Height in 300 hPa -

Mon, 15. April at 8:00 pm GMT+4

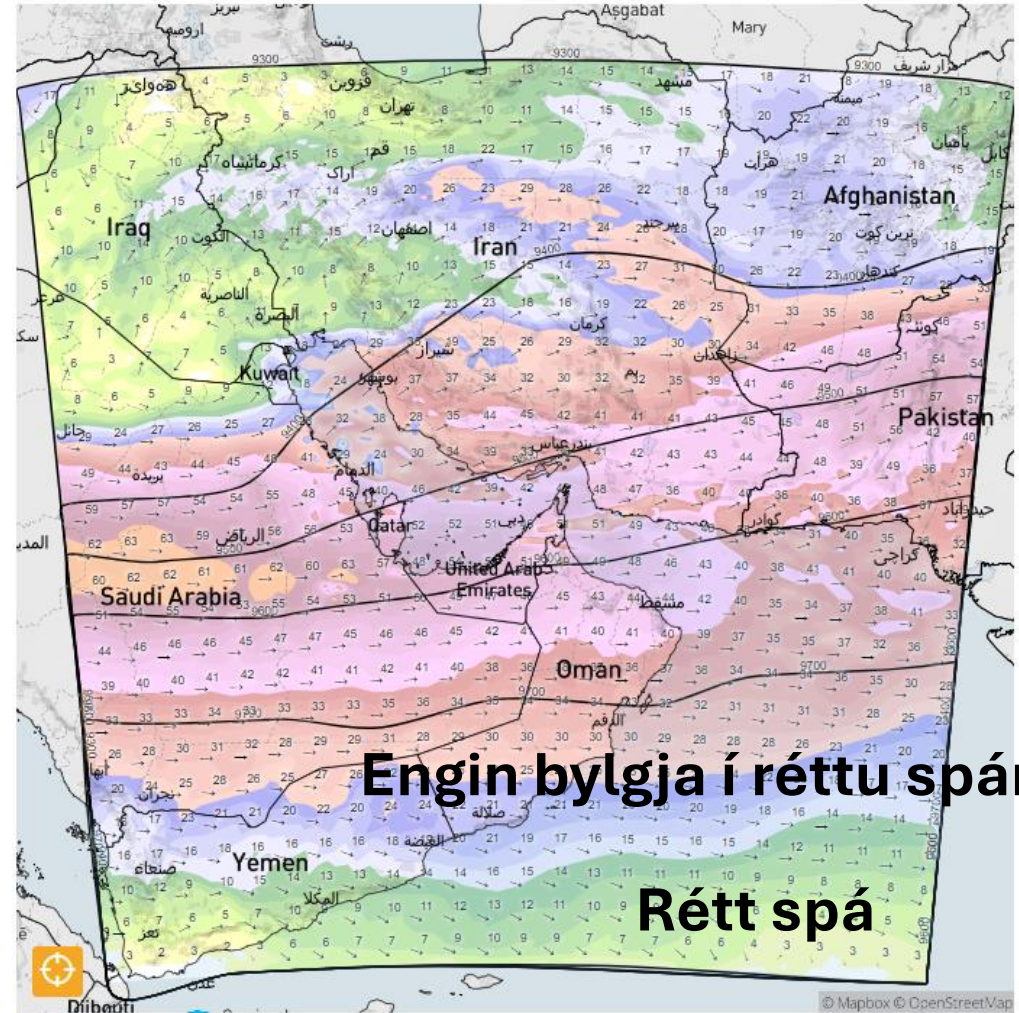


Vitlaus spá



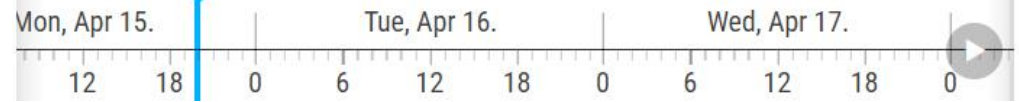
Dubai - 9km (T-3days) - Wind and Geopotential Height in 300 hPa -

Mon, 15. April at 8:00 pm GMT+4



Engin bylgja í réttu spánni!!!

Rétt spá



• d



dx eru 9 og 3 km
55 fletir
WRF

Hvers vegna var vitlausa spáin vitlaus og hvað með það?

- Úrkomukerfinu í Katar 15. apríl (daginn áður) var mjög líklega ekki rétt hermt – það hrindir af stað keðju ferlis sem ekki var í alvörunni
- Skökk skammtímaspá skapar hættu á enn vitlausari langtímaspá, sérstaklega ef lítil breyting á straumum getur valdið miklum breytingum á þróun úrkomukerfis
- Úrkoma í óstöðugum loftmassa er áranum erfiðari viðfangs

