Vreme kar tako na splošno in tudi v hribih

Aleš Šef

Samo za interno uporabo!

Slike so skenirane iz knjige Trontelj, Petkovšek, Pogledi na vreme, 1996

Fotografije so pridobljene na portalu www.weather-photos.net

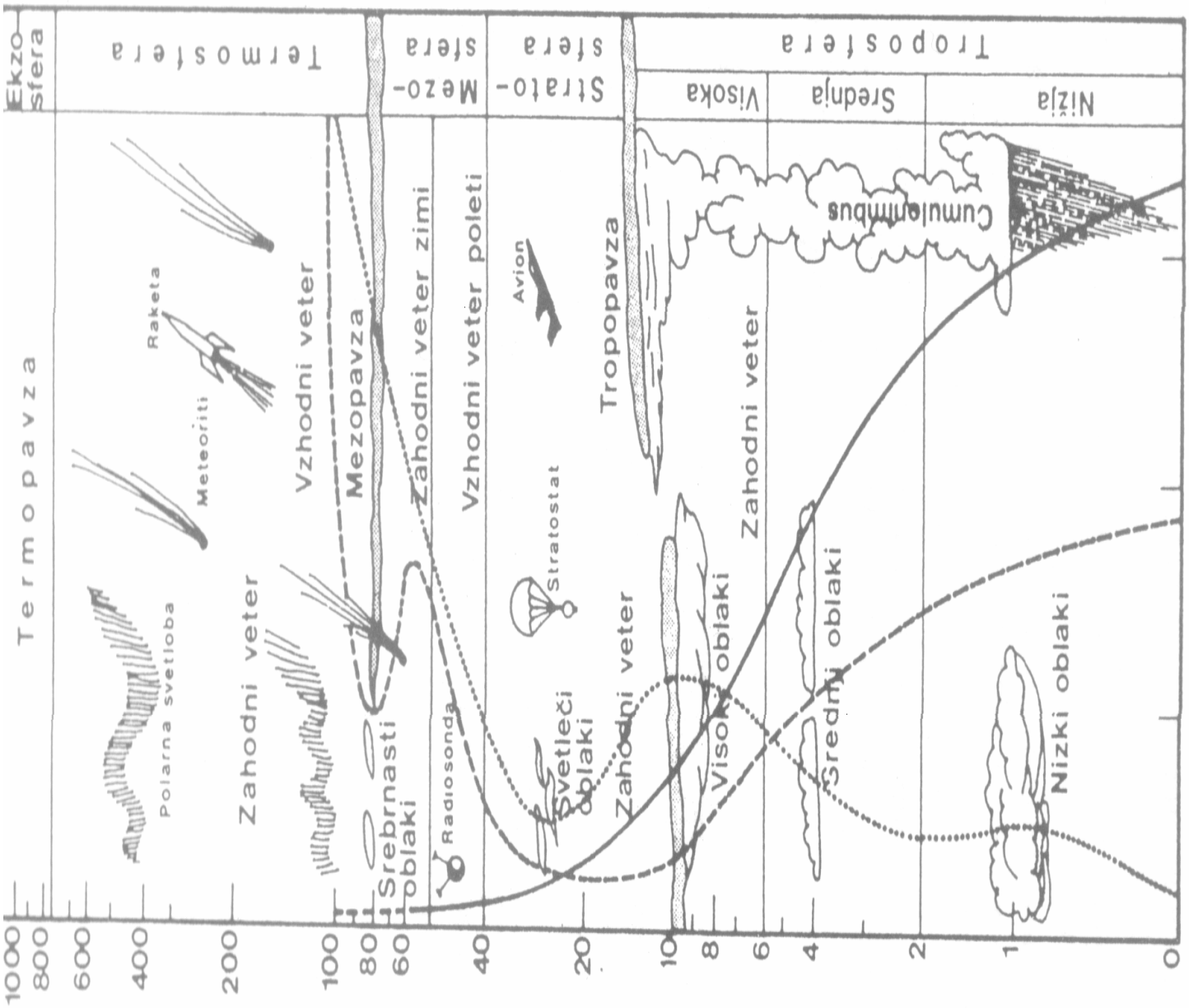
Kaj je vreme?

Vreme je dogajanje v atmosferi, ki nastaja zaradi neenakomernega segrevanja zračnih gmot

Atmosfera

- Sestava **zraka**:
  - 78% dušika
  - 21% kisika
  - <1% argona

- Sestava **atmosfere**:
  - suh zrak
  - vodna para (do 4%)
  - prašni in dimni delci



Vertikalni prerez atmosfere

Načini prenosa energije

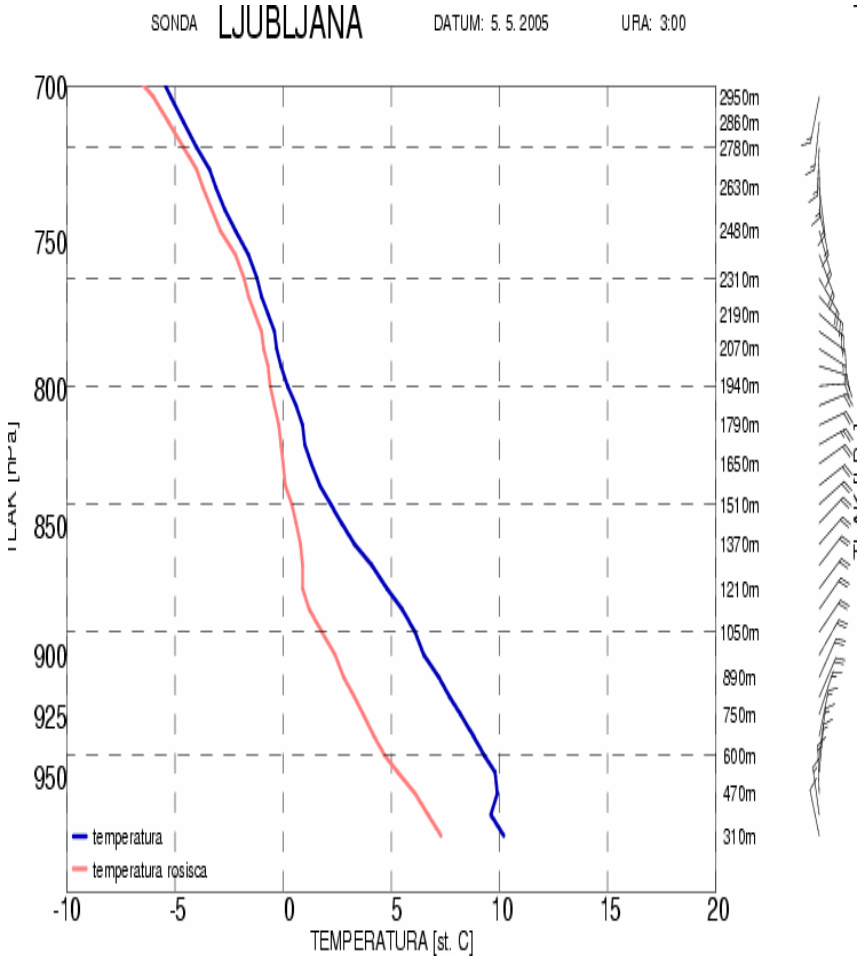
- **sevanje**
  - kratkovalovno - Sonce
  - dolgovalovno – Zemlja in atmosfera
- **kondukcija** – ob dotiku dveh teles
- **konvekcija** – zaradi razlike v gostoti zraka

Količine, ki jih merimo

- Temperatura
- Gostota
- Pritisk

Temperatura

- z višino pada (6,5-10K/1km)
- inverzija
- spreminja se tekom dneva in tekom leta

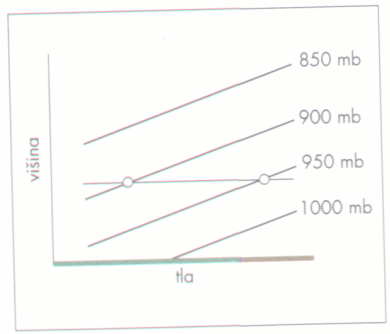


Pritisk

- z višino pada

Višina (m)	Pritisk (hPa)
0	1013,25
500	955
1000	900
5000	540

1.7 Nagib pritiskovih ploskev zaradi vodoravnih razlik temperature zraka



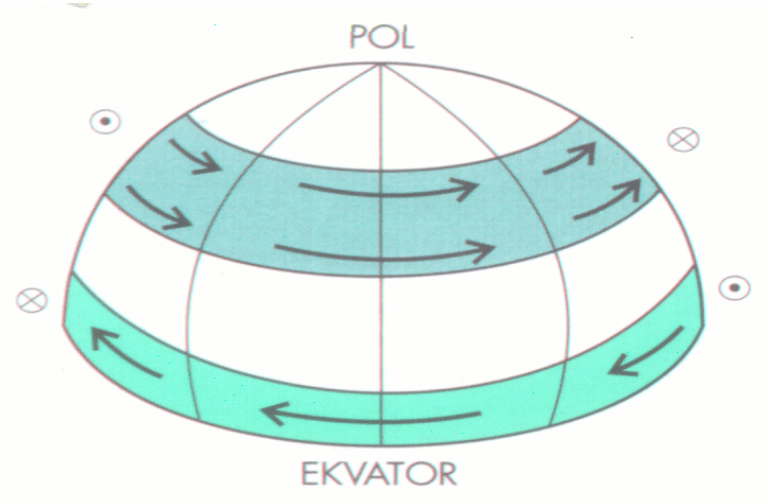
1.8 Razlike pritiska v vodoravni smeri pri nagnjenih pritiskovih ploskvah

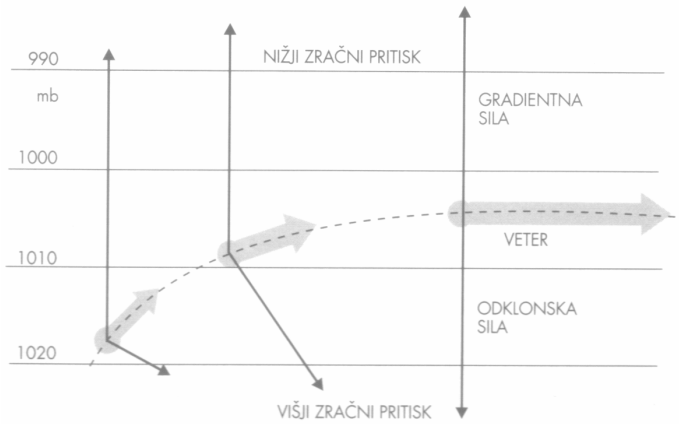
Vlažnost

- **absolutna vlažnost** – v g/m3; toplejši zrak je sposoben sprejeti več vlage
- **relativna vlažnost** – v %; je neodvisna od temperature zraka in jo zato več uporabljamo
- **rosišče** – temperatura, pri kateri se bi vodna para ob dani absolutni vlažnosti kondenzirala (relativna vlažnost bi dosegla 100%)

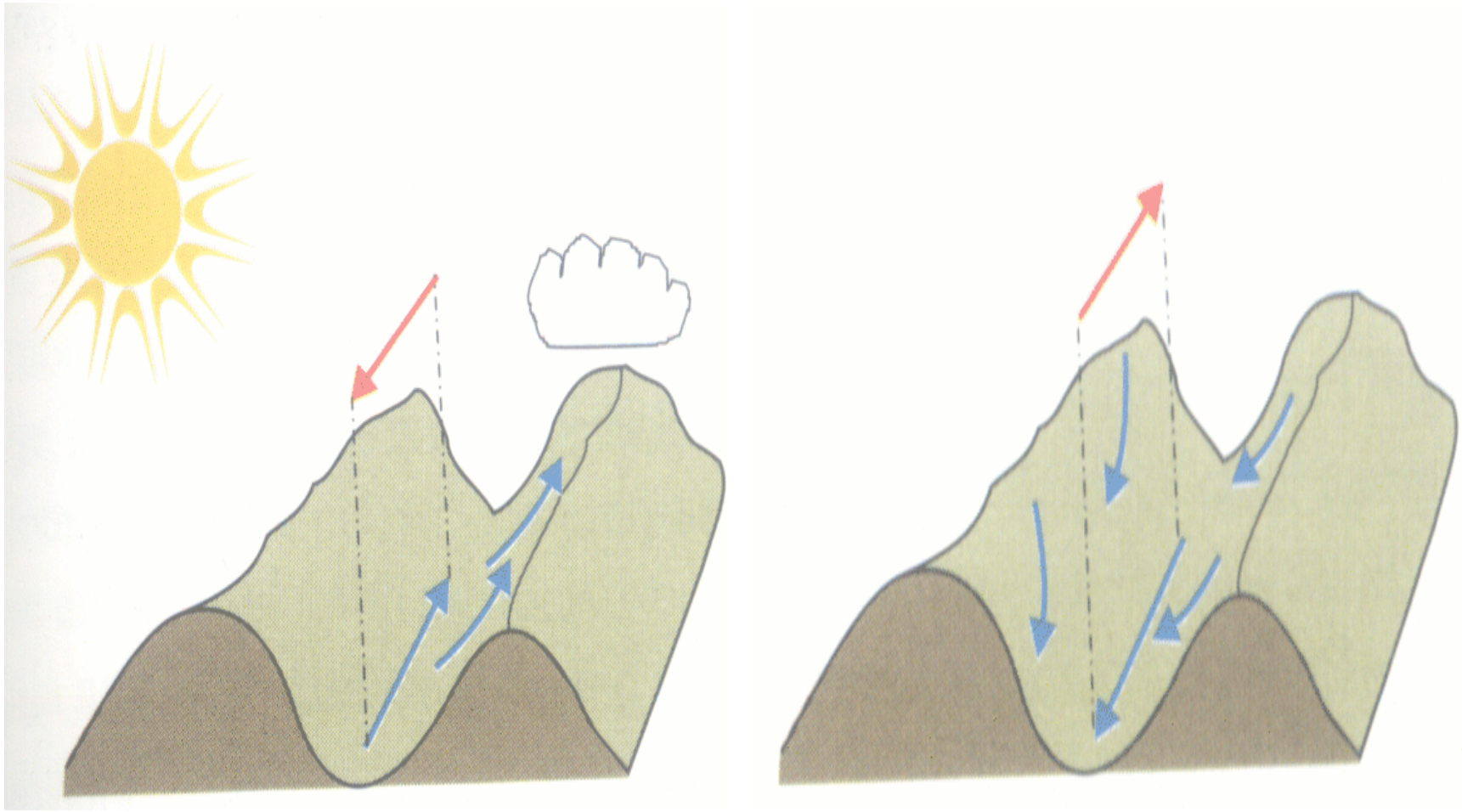
Veter

- nastane zaradi razlik v zračnem pritisku (te pa zaradi razlik v temperaturi)
- piha vzporedno z izobarami
- hitrost z višino navadno raste



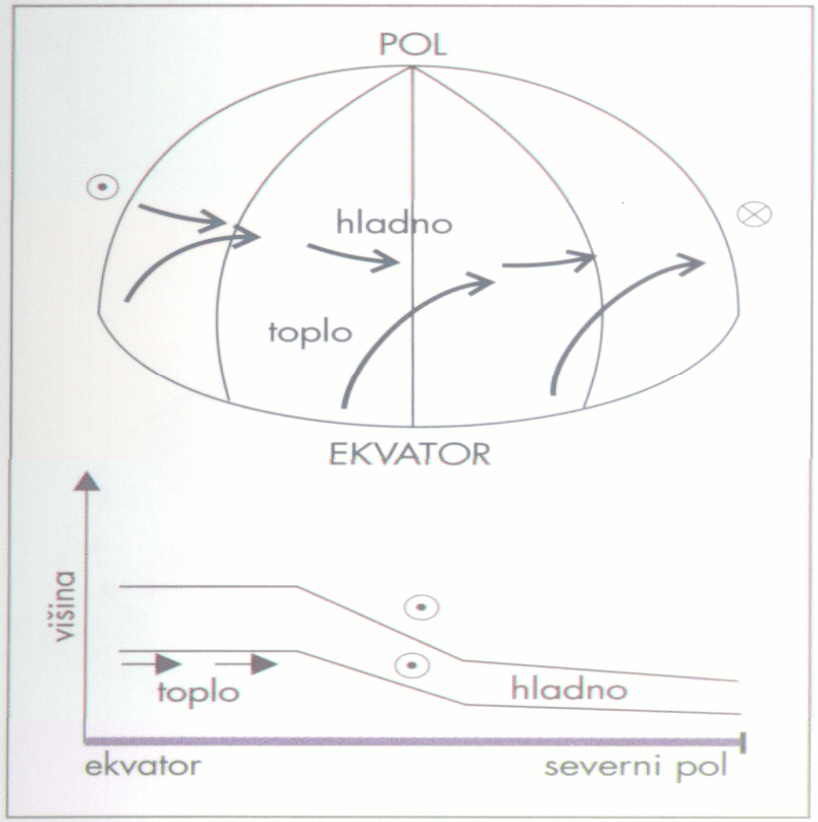


Dolinski in pobočni veter
podnevi in ponoči

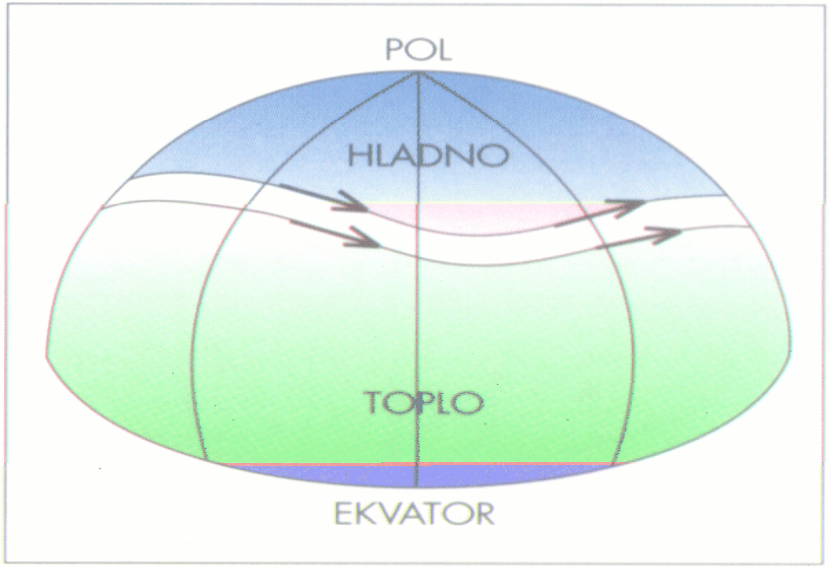


Planetarni zahodnik

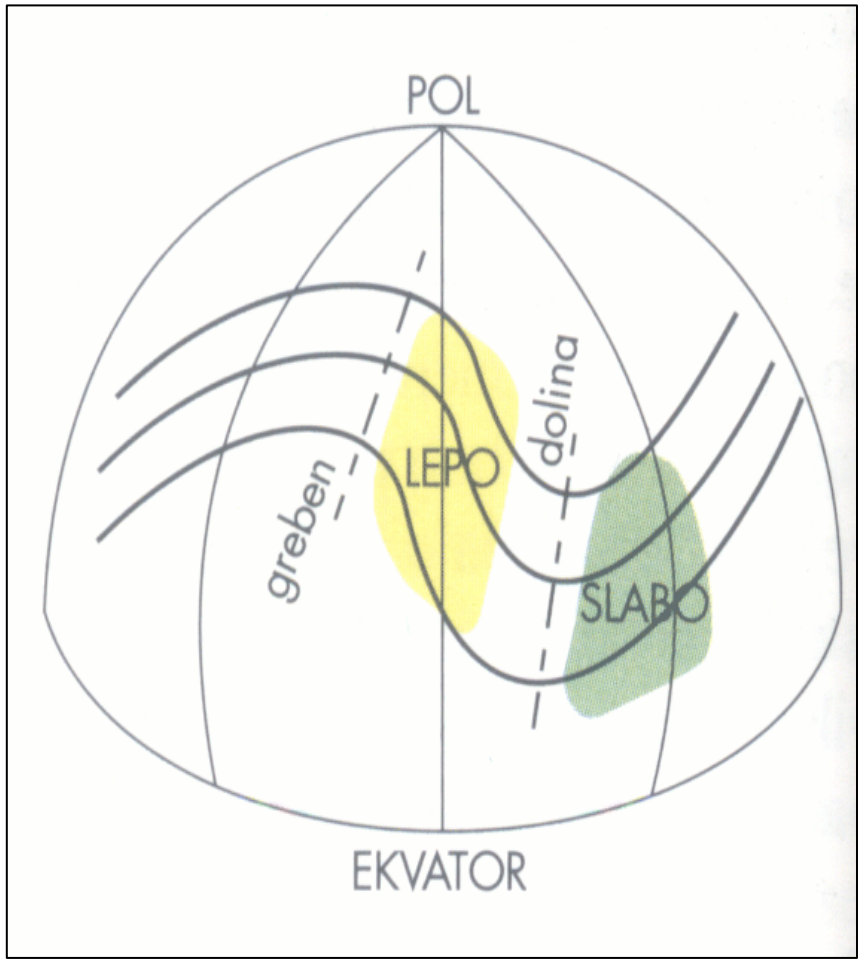
1.10 Nastanek in vzrok planetarnega zahodnika

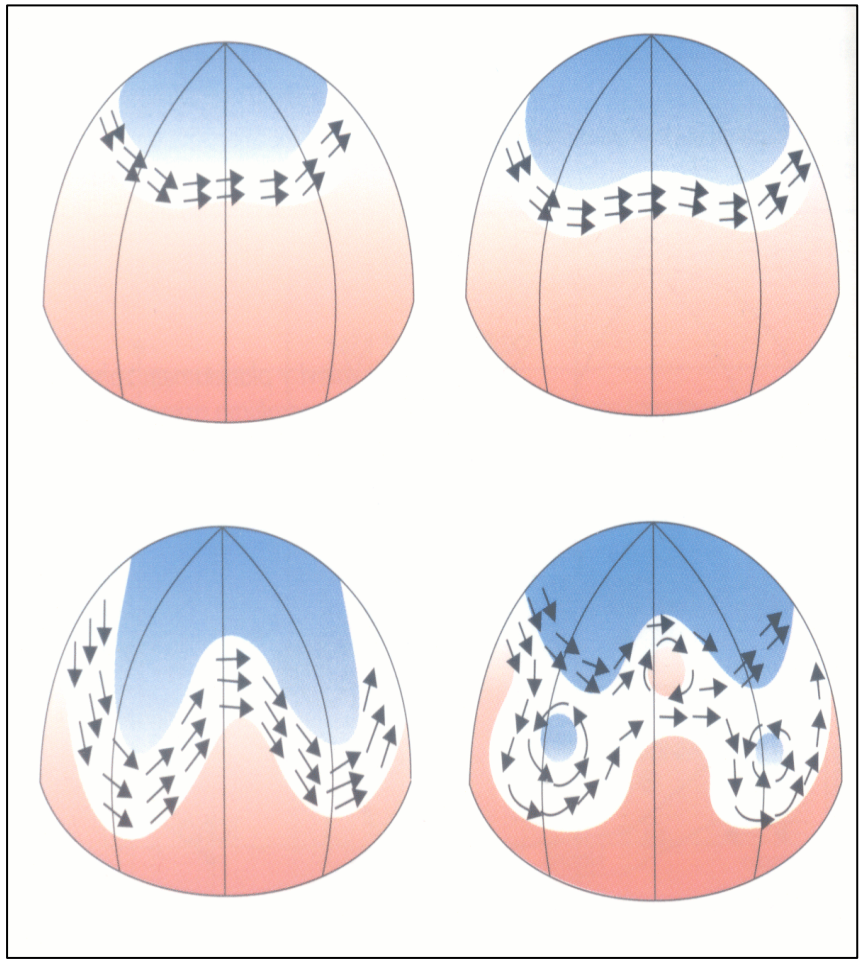


1.11 Valovi v planetarnem zahodniku in groba temperaturna razporeditev

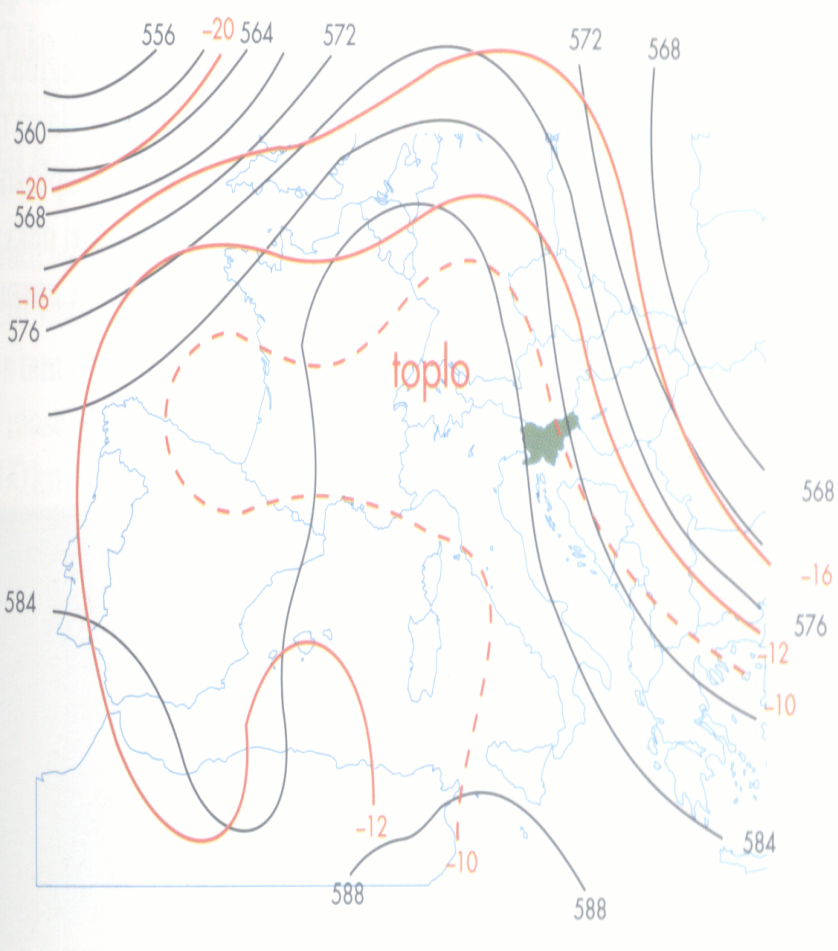


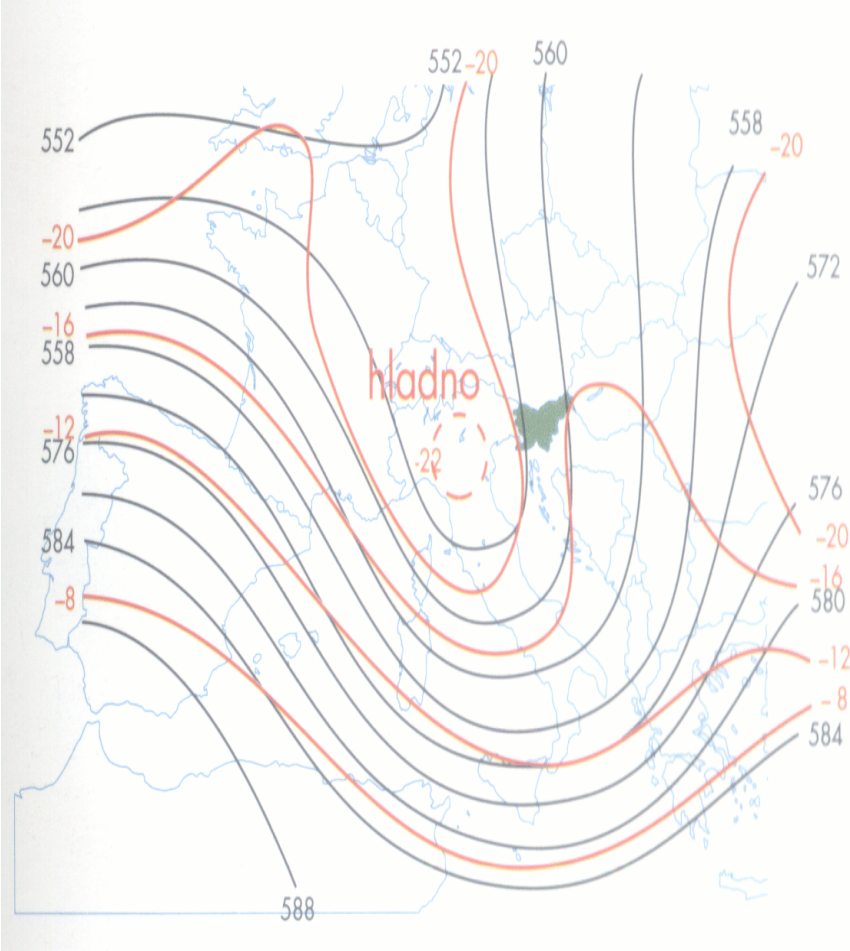
Nastanek blokade planetarnega zahodnika



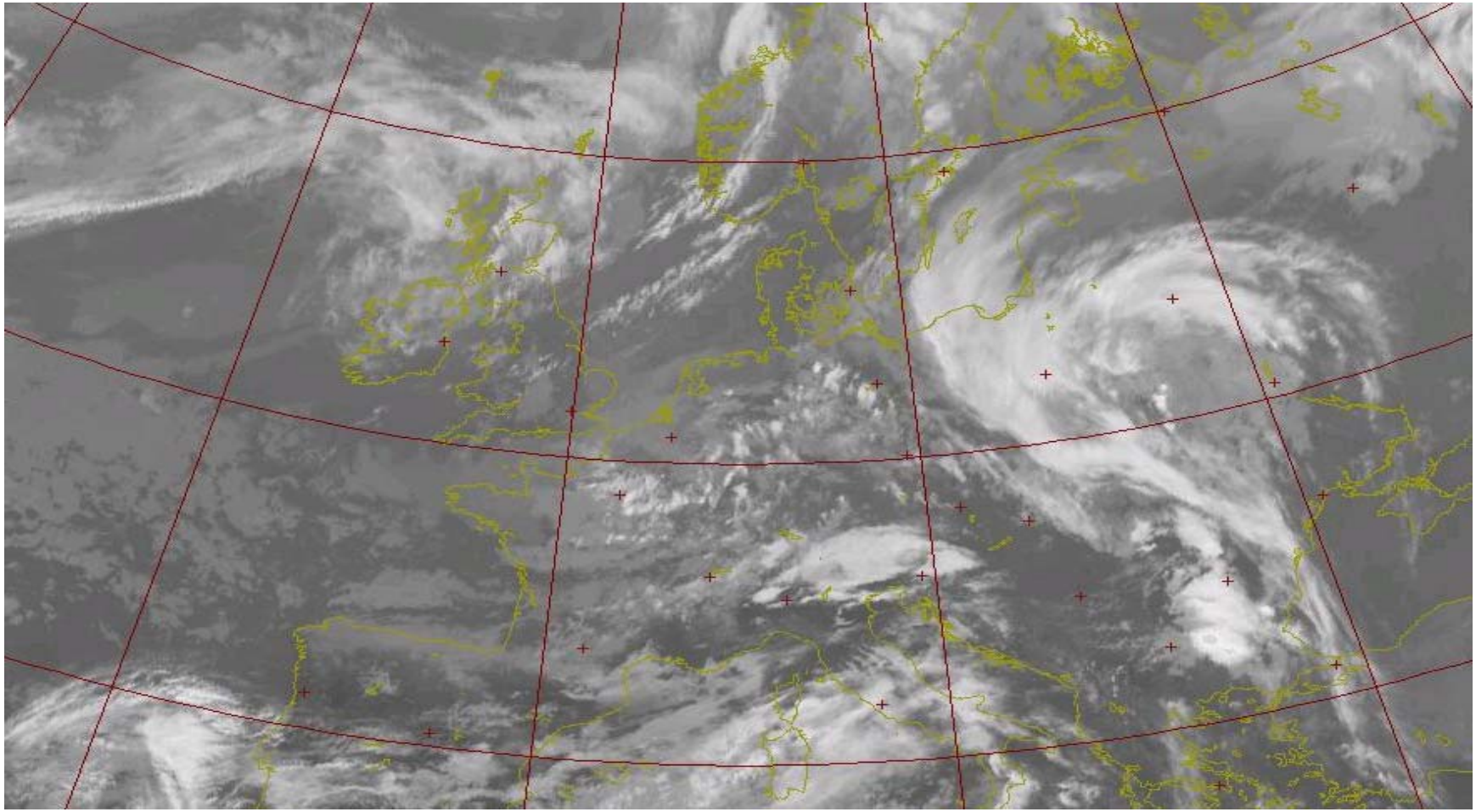


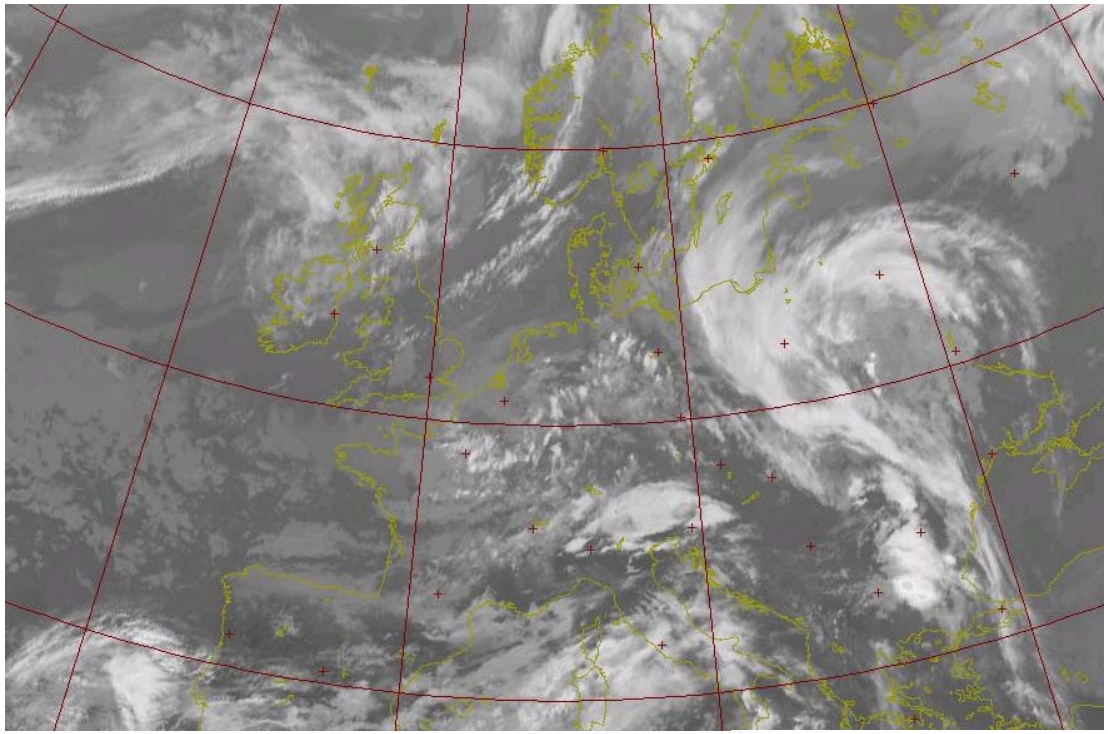
Situacija ob grebenu in dolini

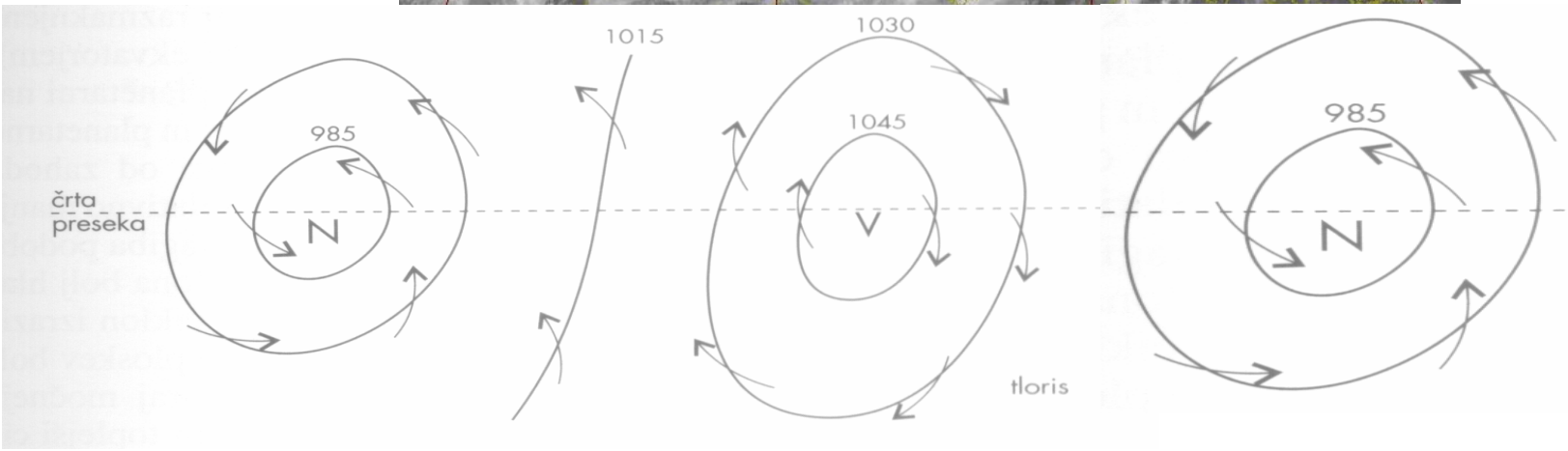




Satelitska slika ob polarni fronti



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črta
preseka
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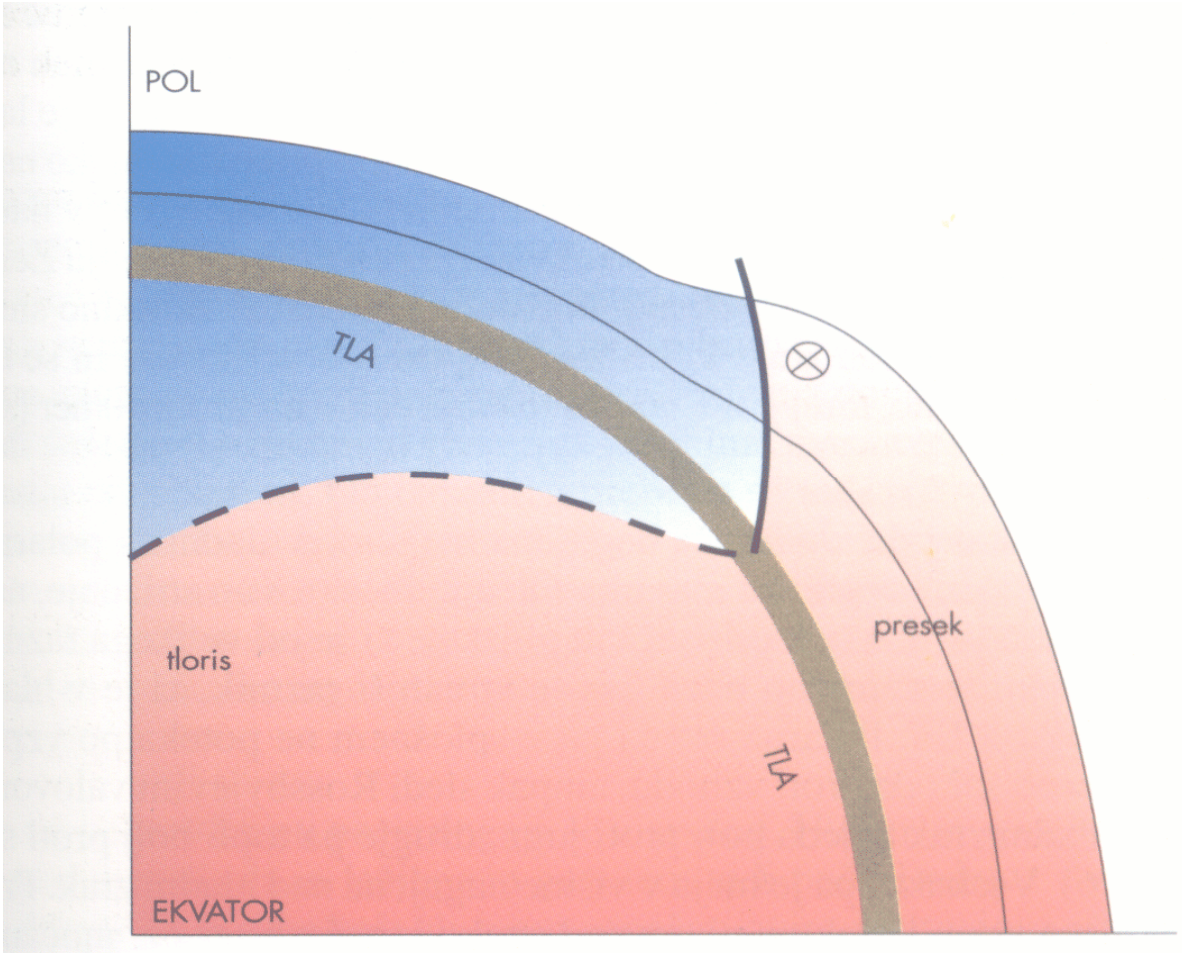
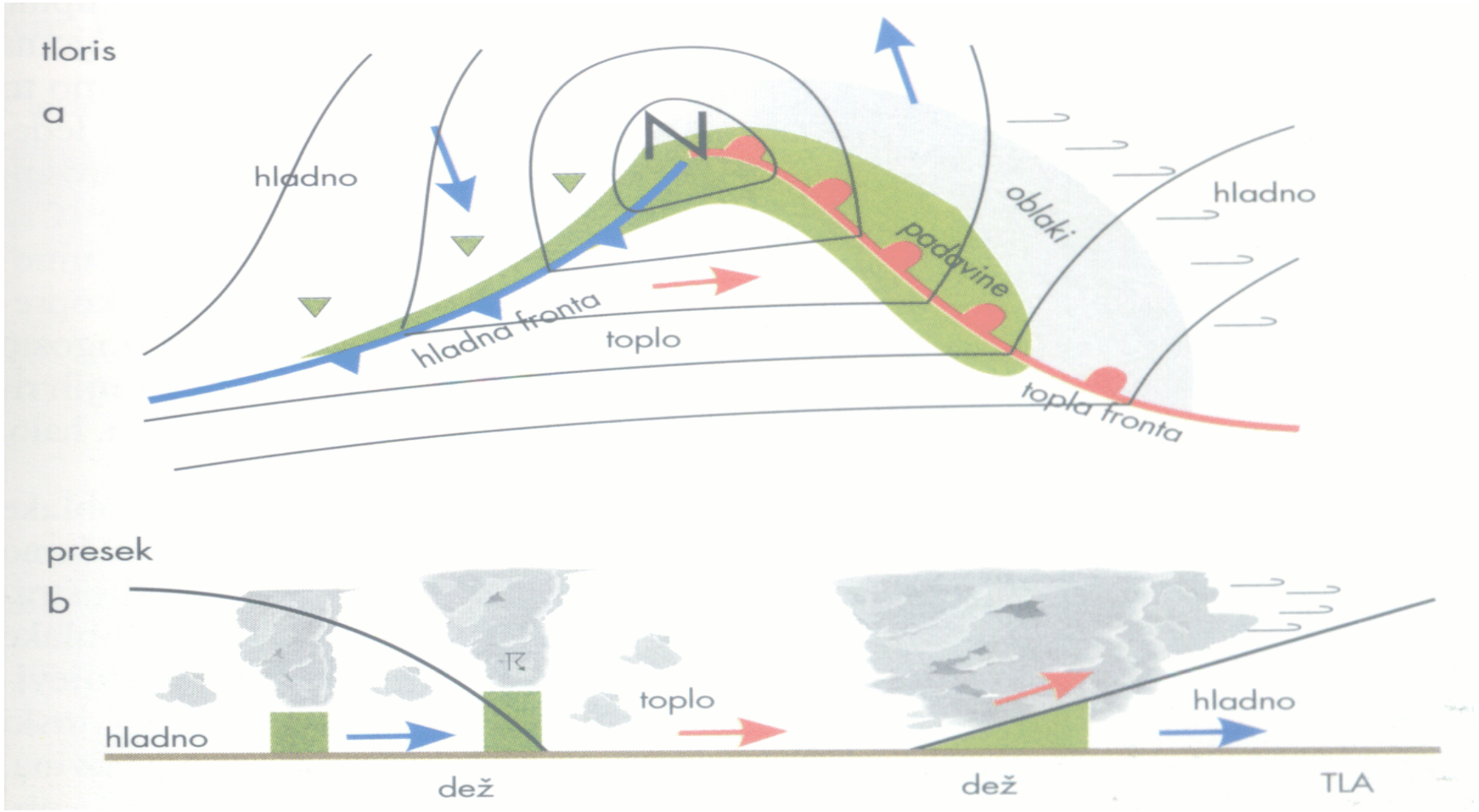
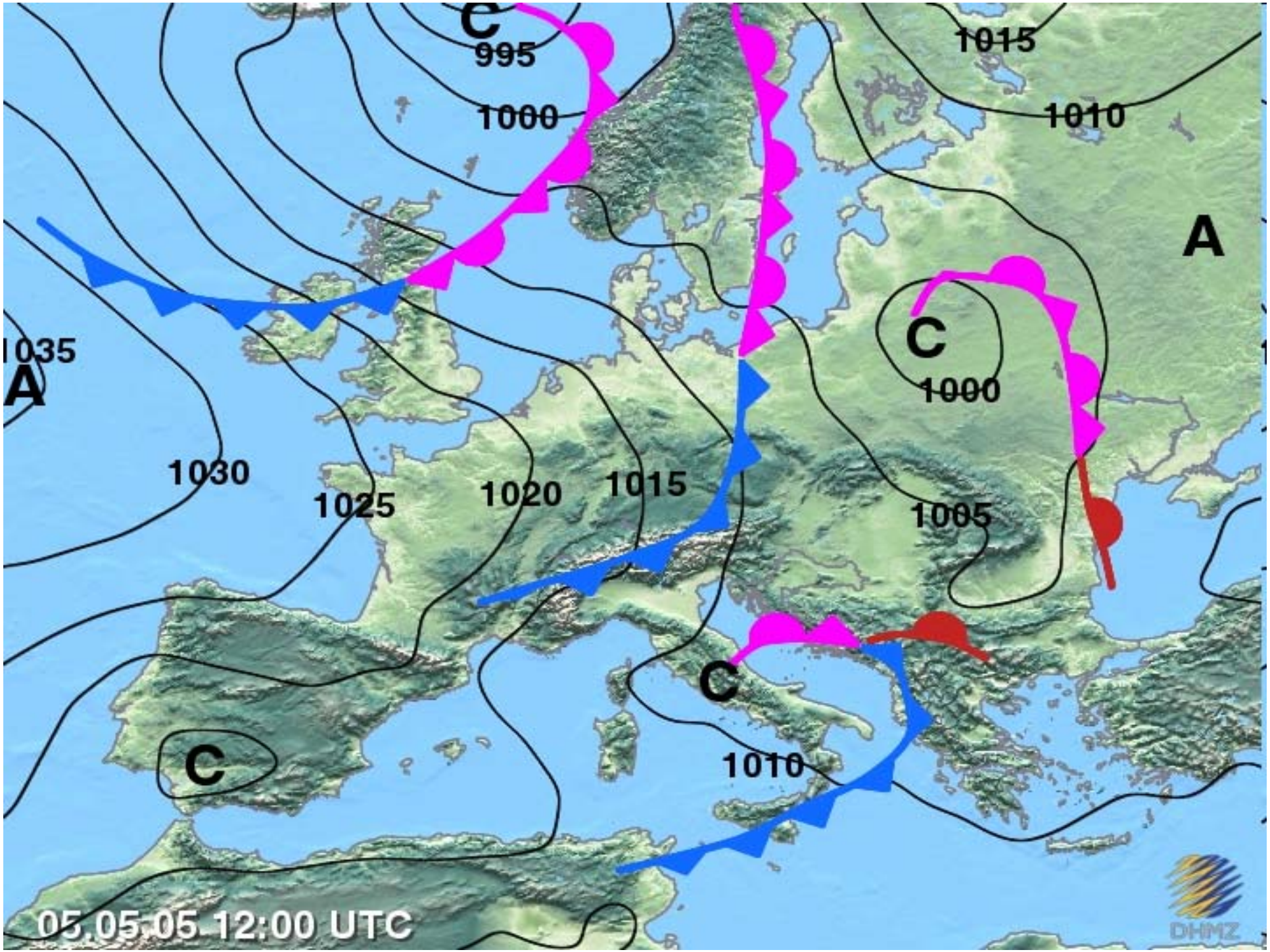
Nastanek polarne fronte



Topla in hladna fronta

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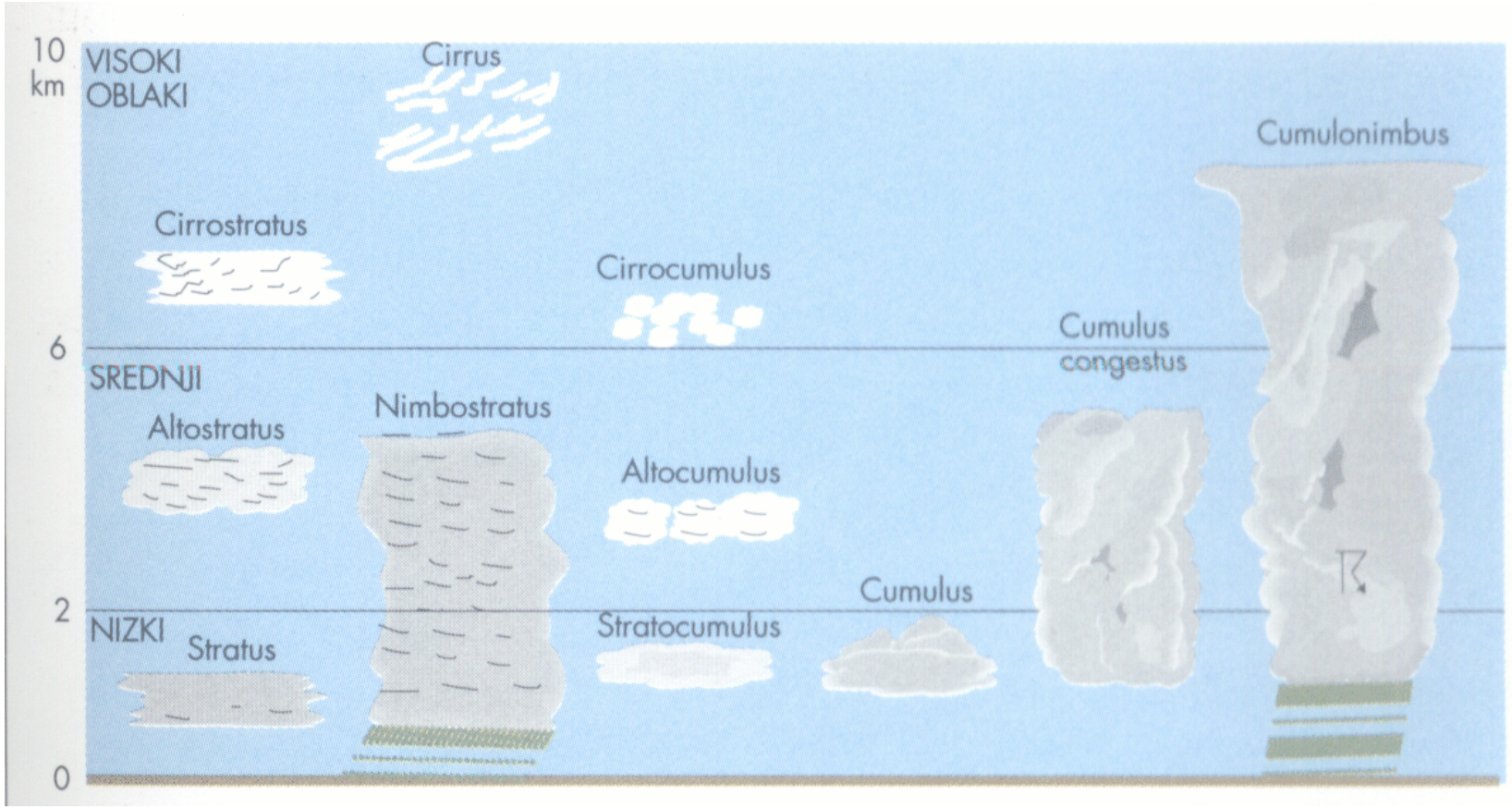
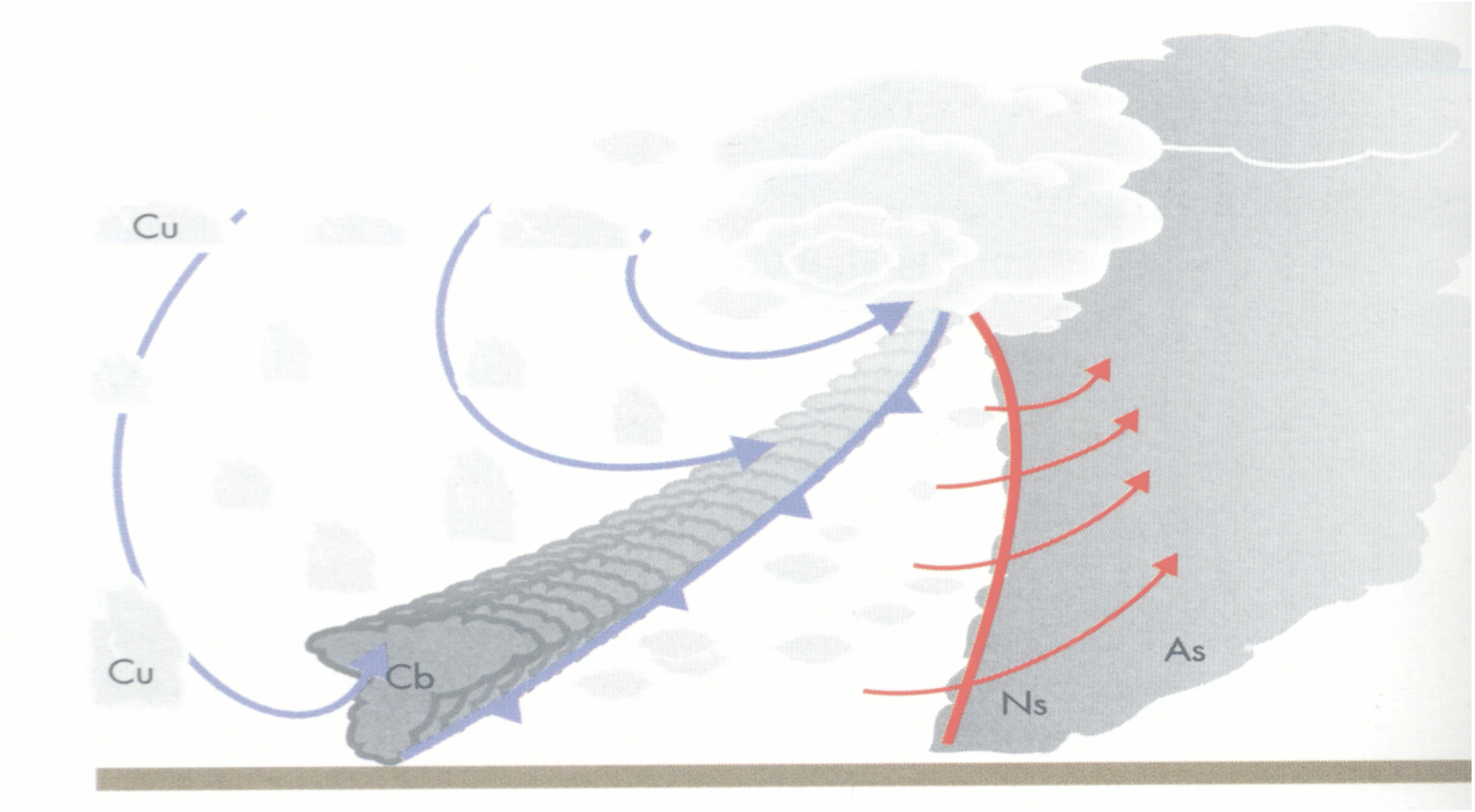
Oblaki

horizontalni razvoj vertikalni razvoj



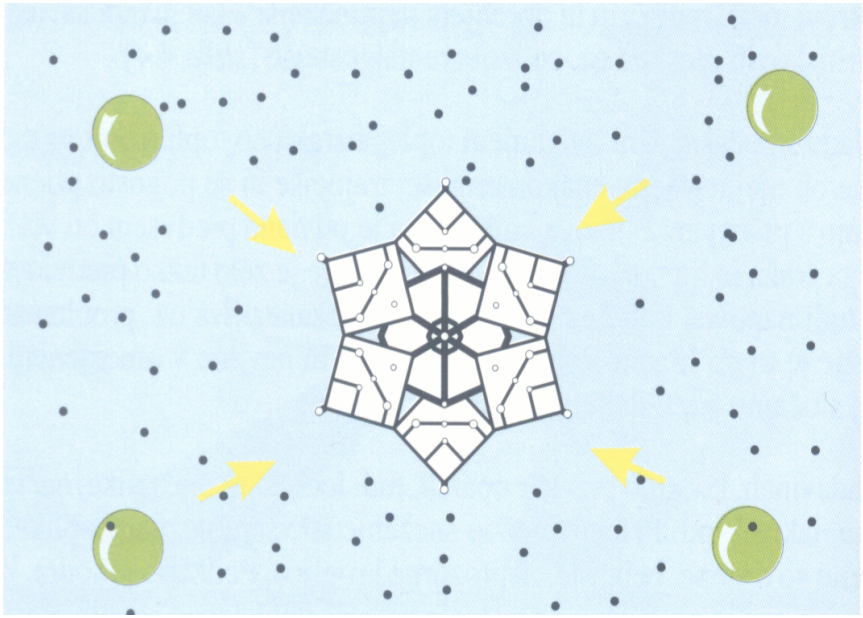
3D slika oblačnosti tople in hladne fronte



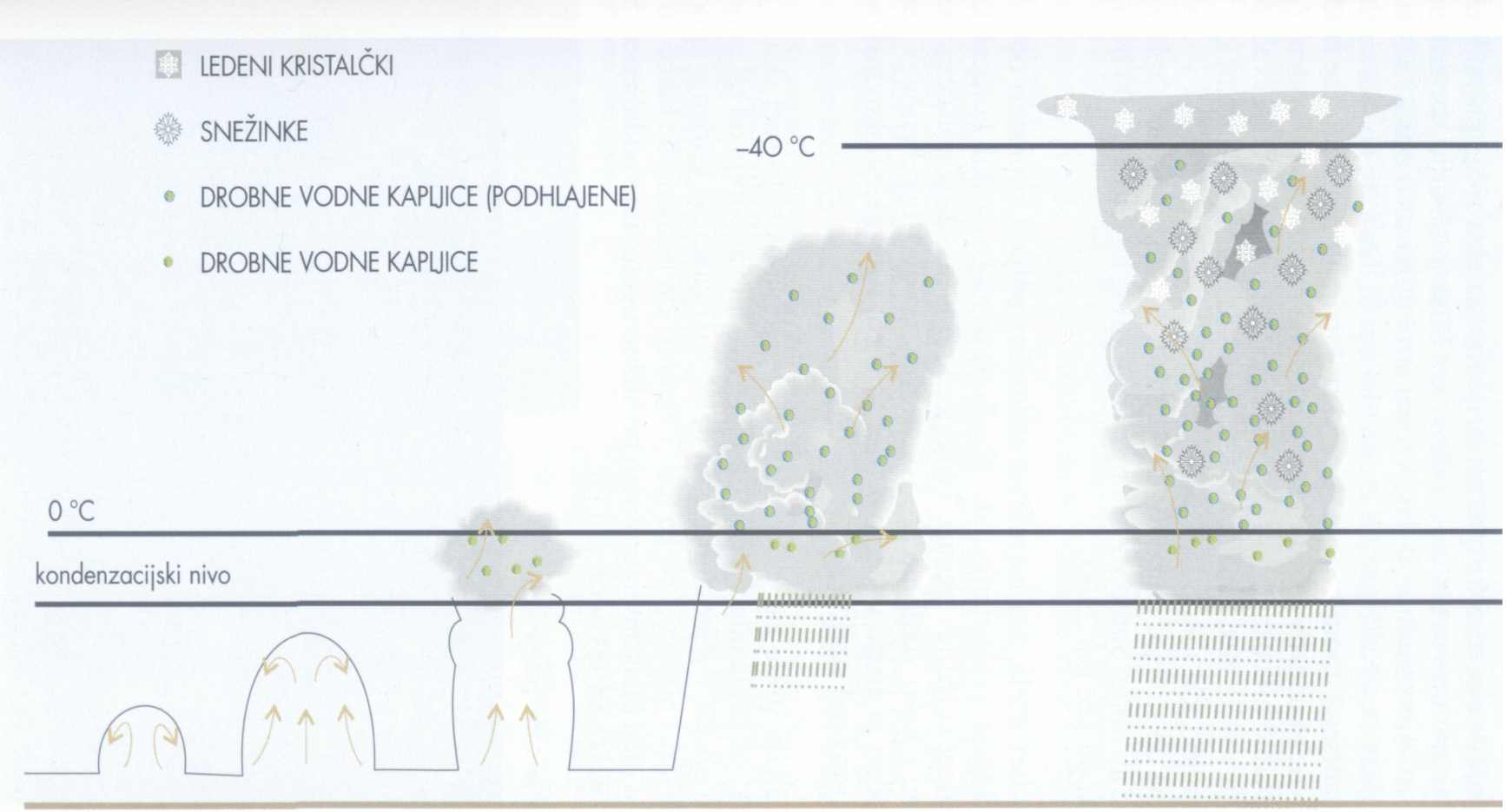
Nastanek padavin

Nastajajo okrog kondenzacijskih jeder:

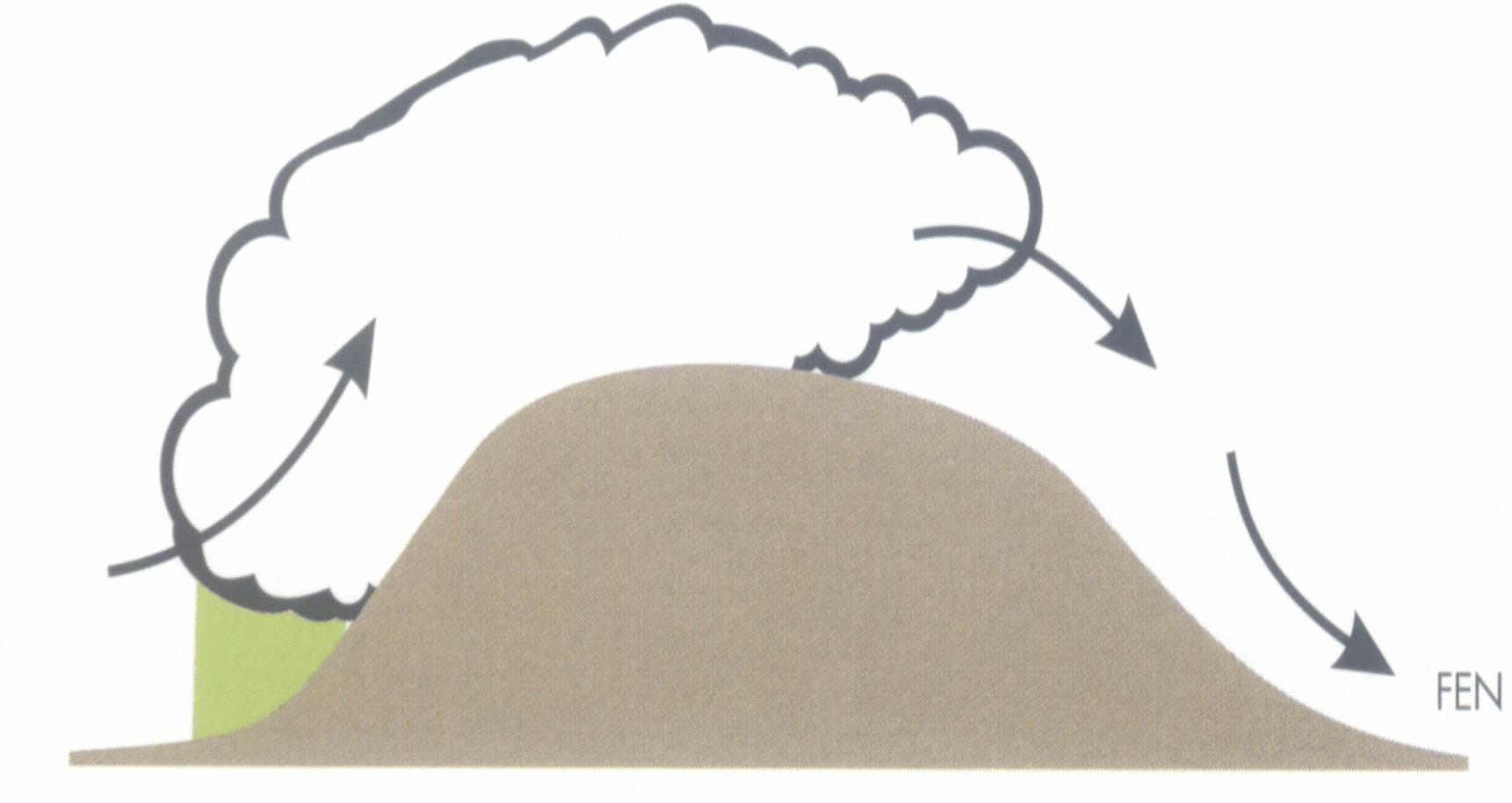
- ledeni kristali
- nečistoče
- kondenzacijska jedra iz gornjih plasti oblakov



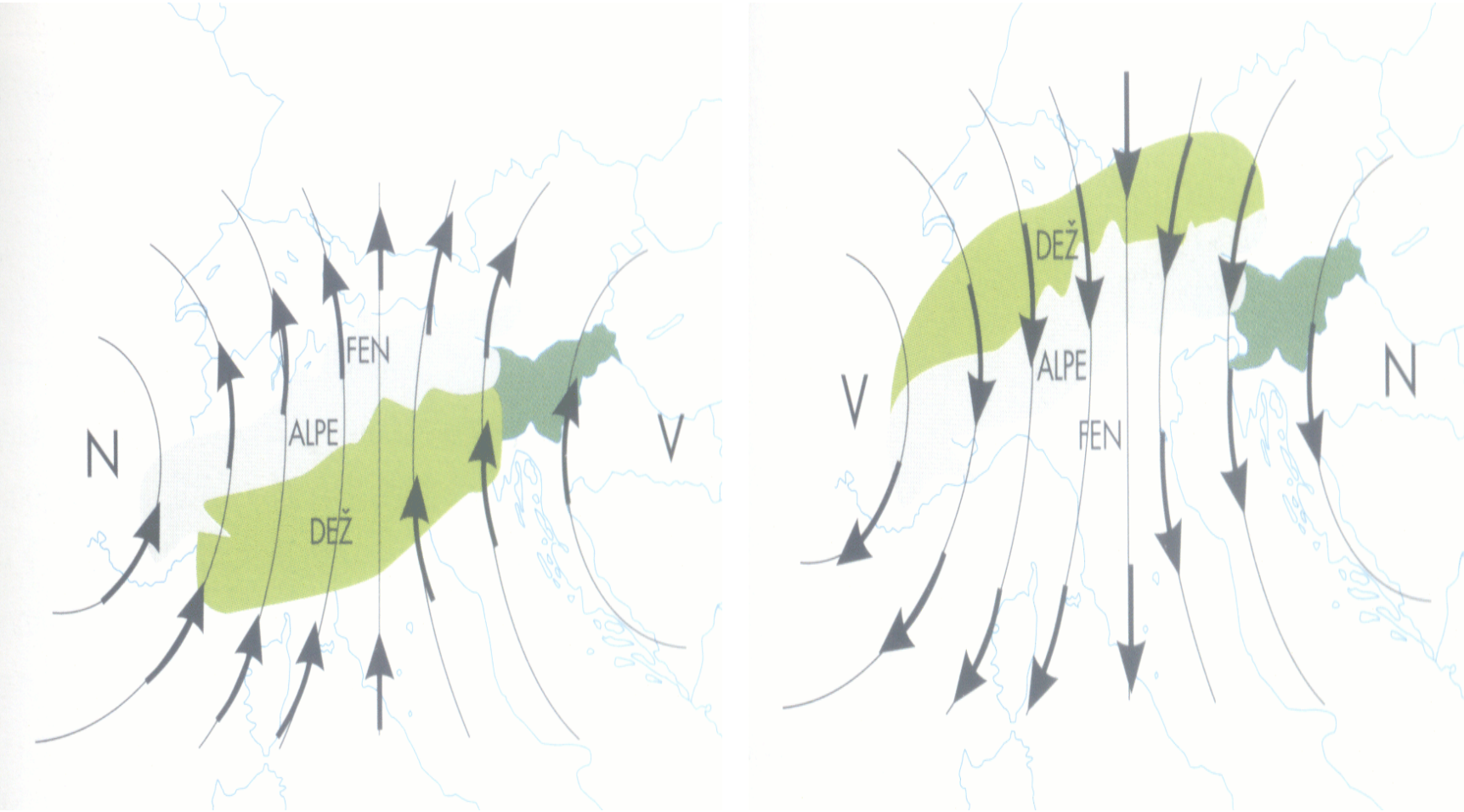
Nastanek nevihte



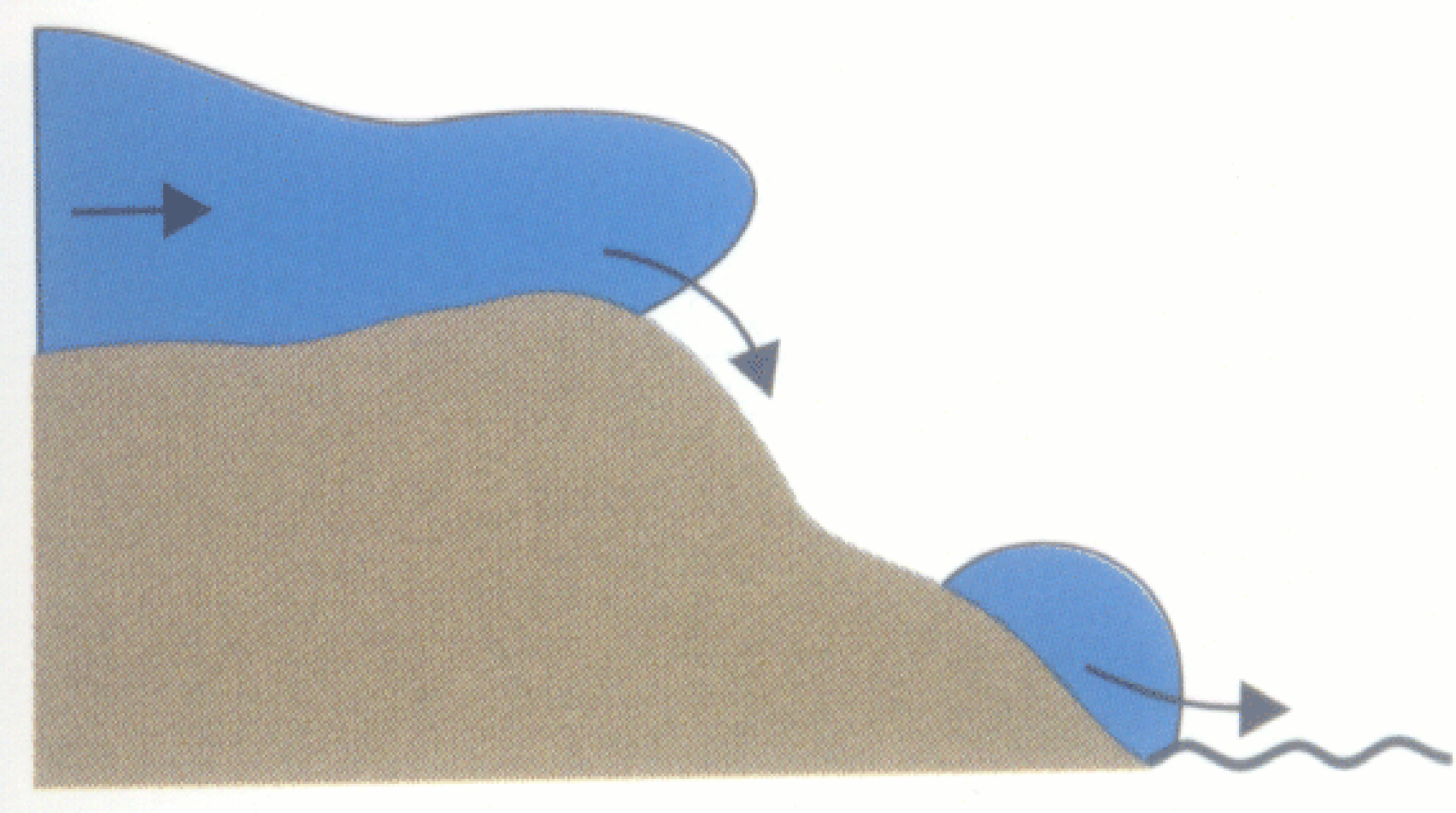
Fen



Fen ob severnem in južnem vetru



Burja – severni fen



Pojavi ob prehodu tople fronte

čas	**pojav**
2-3 dni prej	**- moten in rumen sončni zahod** **- soj okrog lune** **- topel veter** **- visoki oblaki (Ci, Cs)** **- barometer pada** **- ni rose**
1 dan prej	**- pojav srednjih oblakov (As, Ac)** **- barometer pada** **- frontalna megla**
ob prehodu	**- pojav nizke oblačnosti (Ns)** **- rahel dež ali sneg** **- dvig temperature** **- barometer stabilen**
po prehodu	**- delne razjasnitve, nizki oblaki (Sc)** **- menjava smeri vetra** **- barometer stabilen**

Cirrus (Ci)

Cirrocumulus (Cc)

Cirrostratus (Cs)

Altocumulus (Ac)

Altostratus (As)

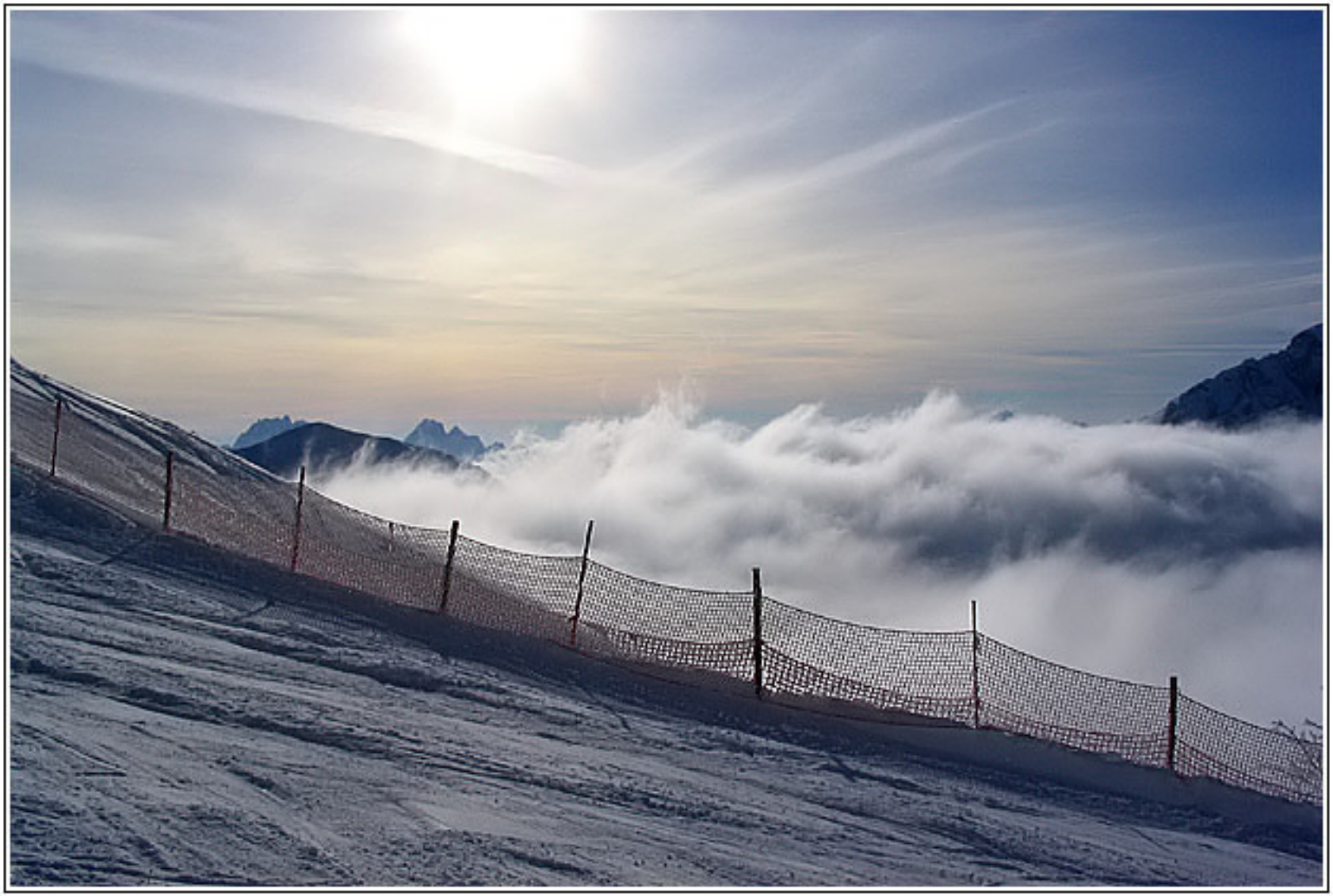
Altostratus (As)

Nimbostratus (Ns)

Nimbostratus (Ns)

Stratocumulus (Sc)

Stratocumulus (Sc)



Pojavi ob prehodu hladne fronte

čas	**pojav**
1 dan prej	**- sprememba smeri vetra, ojačanje vetra** **- barometer pada** **- temno nebo iz smeri prihajajoče fronte (navadno zahod)**
ob prehodu	**- pojav oblakov vertikalnega razvoja (Cu, Cb)** **- močne padavine** **- padec temperature** **- barometer raste**
po prehodu	**- delne razjasnitve, občasne plohe** **- veter hladen, navadno s severa** **- barometer raste**

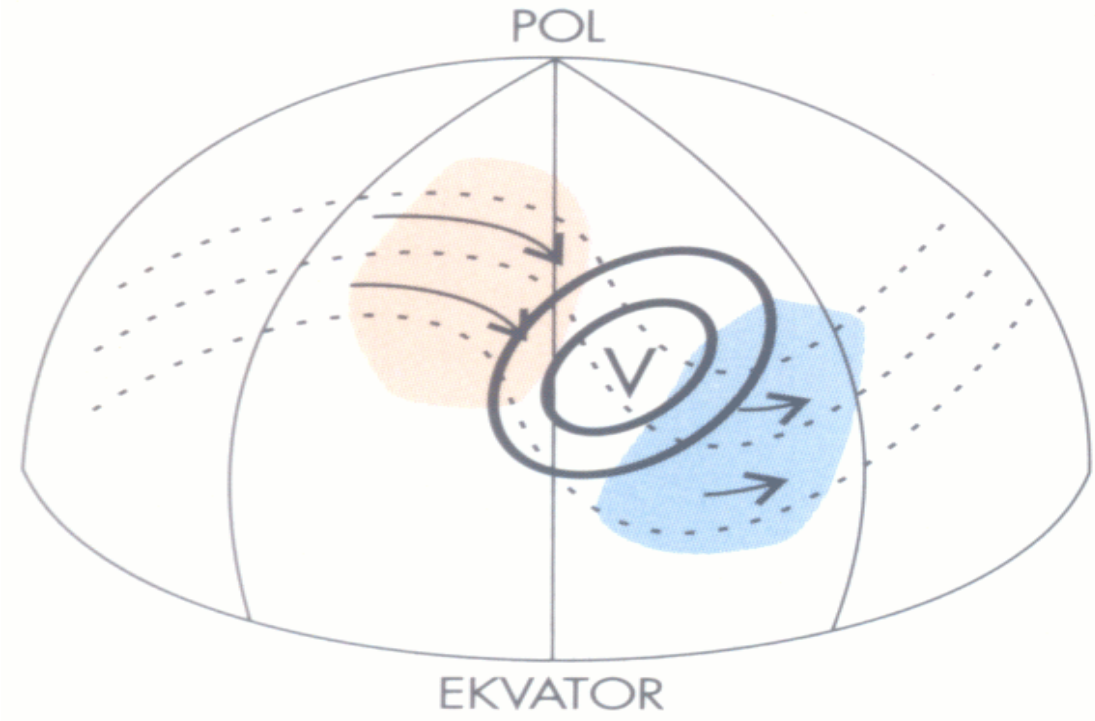
Cumulus (Cu)

Cumulonimbus (Cb)

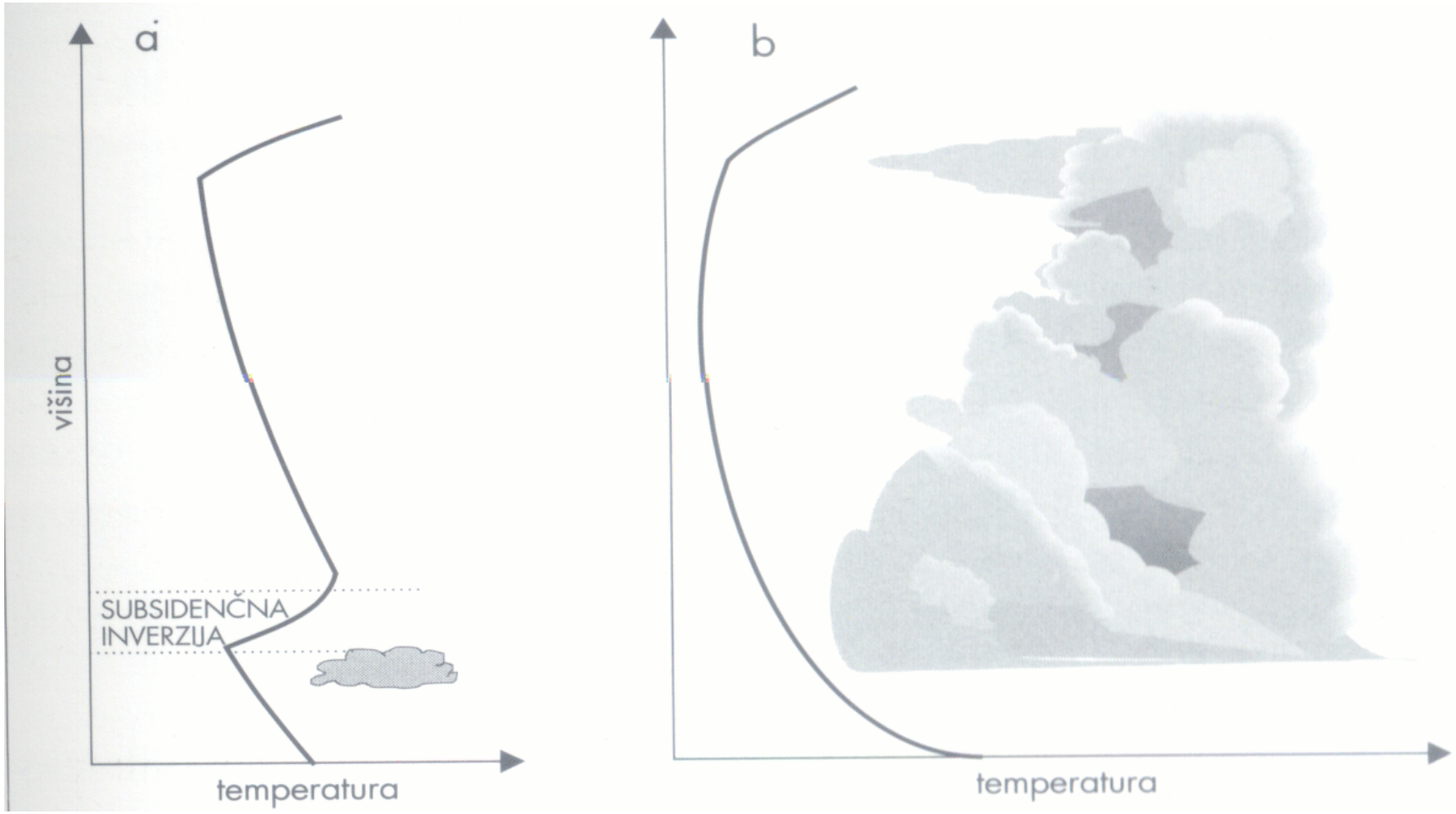
Cumulonimbus (Cb)

Anticiklon

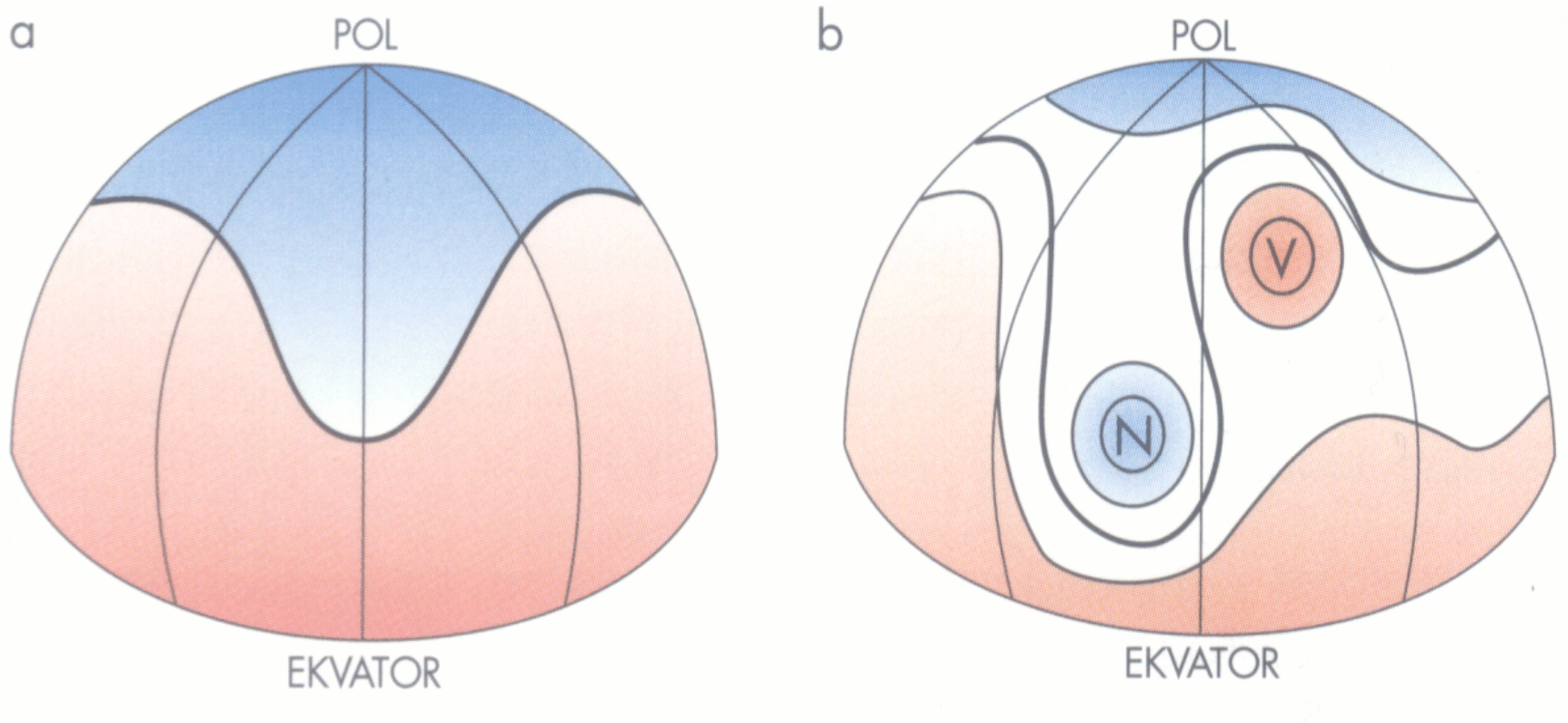
nastane, ker na vzhodni strani valov zrak hitreje priteka kot odteka

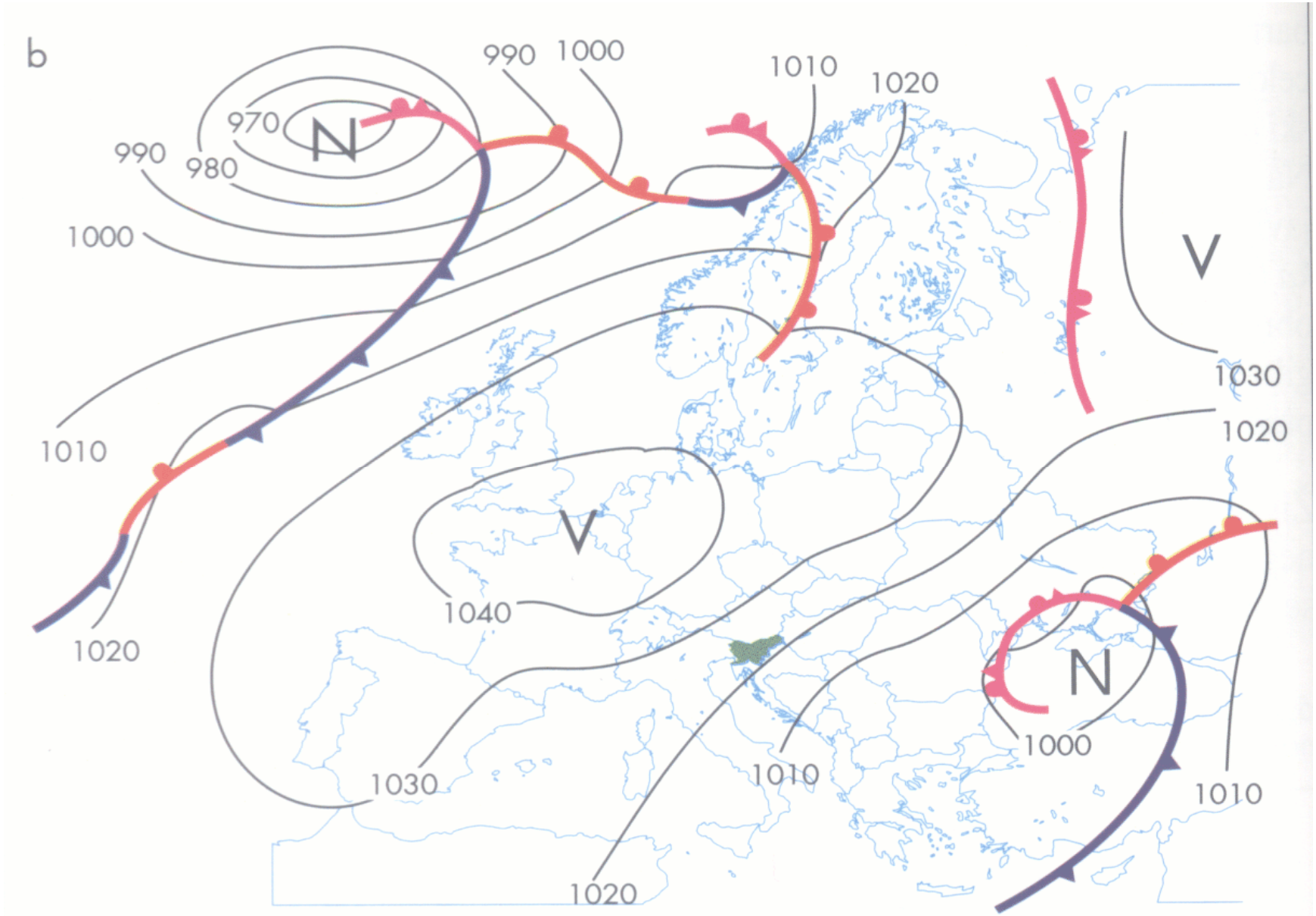


Inverzija in razvoj vertikalne oblačnosti



Blokada – Genovski ciklon

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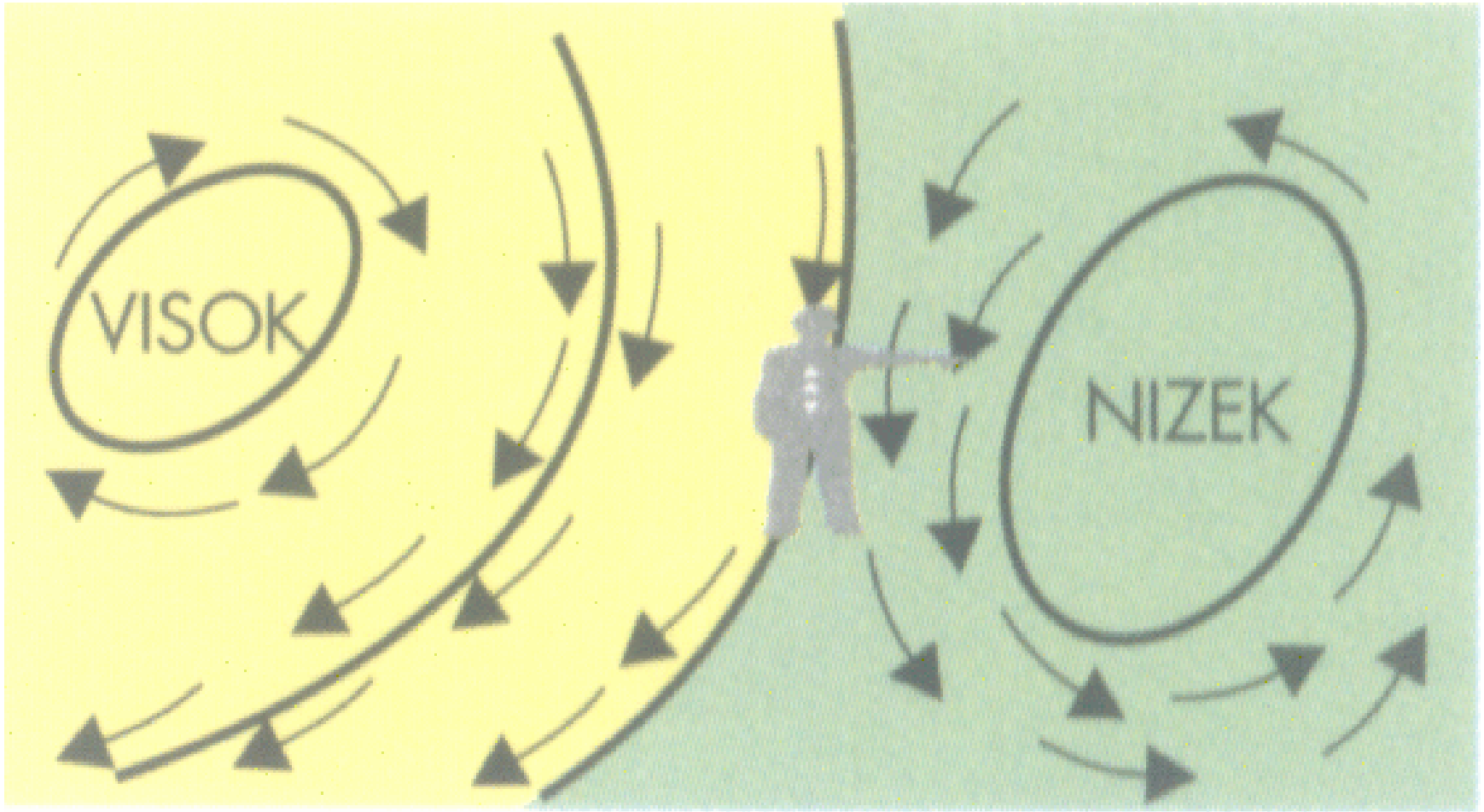
Veter ob ciklonih



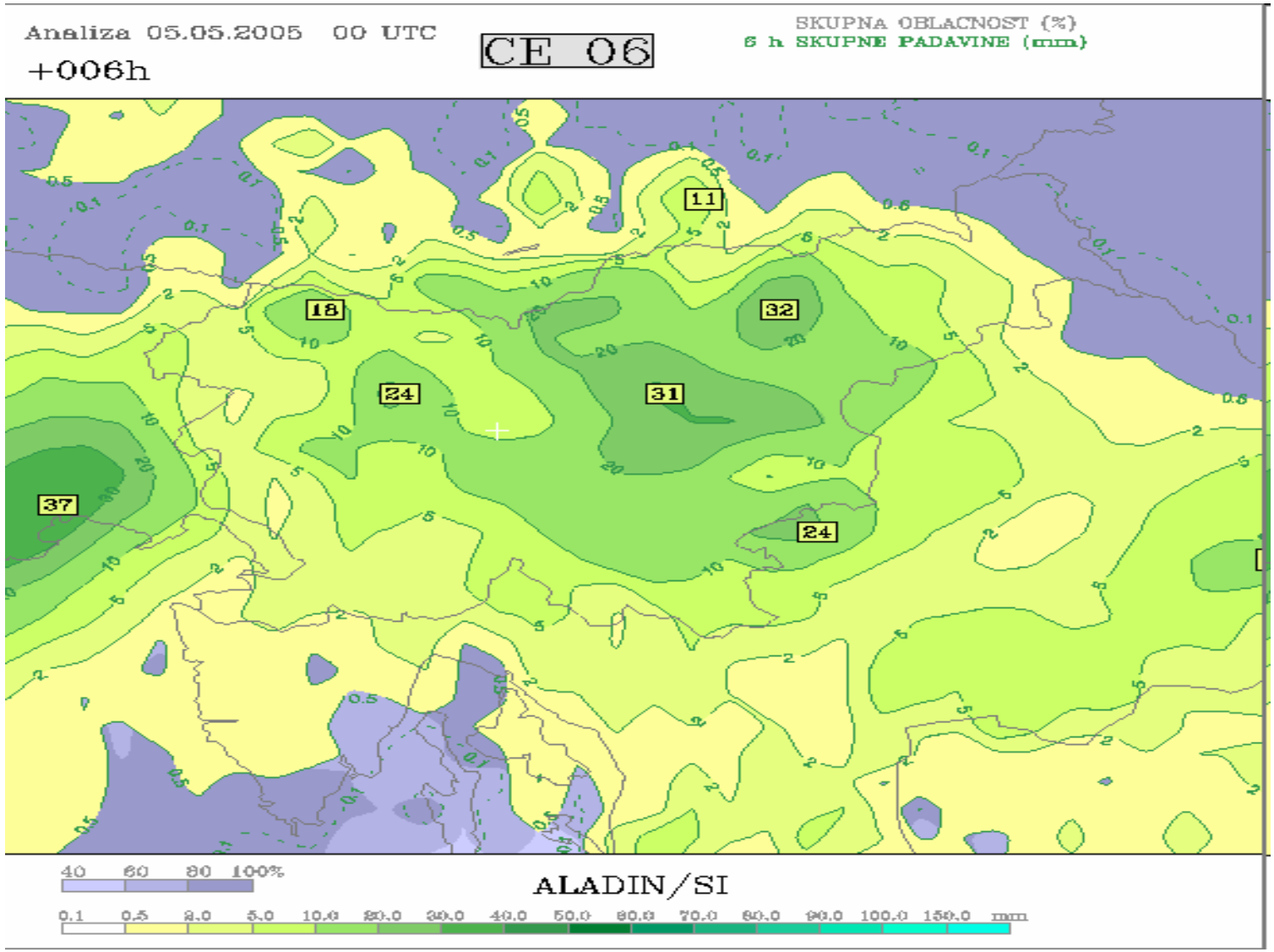
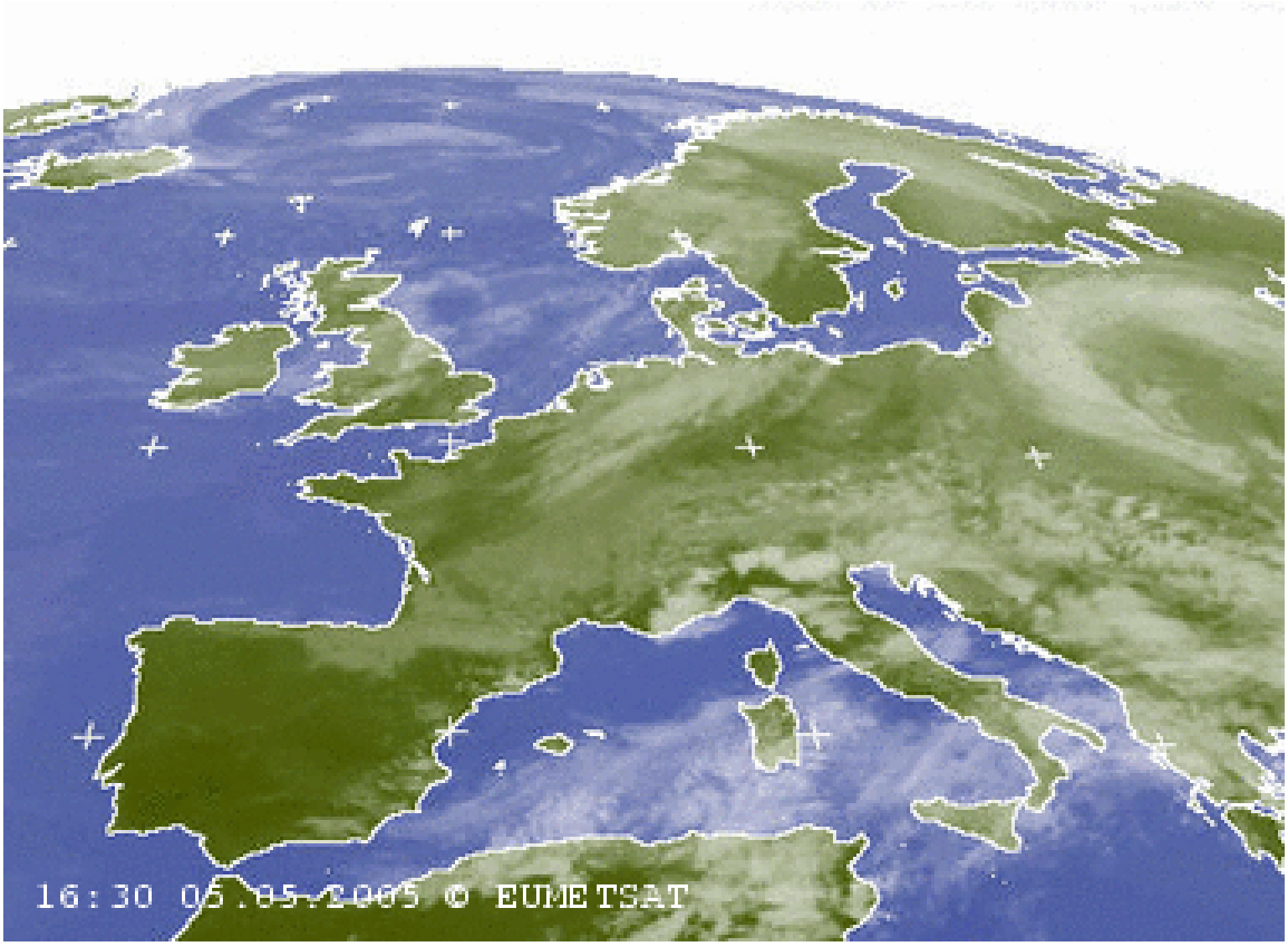
Znaki lepega vremena

- čist, škrlatno rdeč sončni zahod
- rosa
- jasna noč
- lokalni vetrovi podnevi (dolinski veter)
- brezvetrje ali dolinski veter ponoči v poletnem času
- mrzel severni veter ali brezvetrje ponoči v zimskem času
- pajki delajo mreže
- podnevi slabo razviti kumulusi ali brez oblakov
- ponoči jasno nebo
- inverzija

Napoved vremena

- Slovenija: www.arso.gov.si
- Hrvaška: www.dhmz.htnet.hr/index.php
- Avstrija: www.zamg.ac.at
- Nemčija: www.wetteronline.de
- Italija: www.meteo.it

Orodja - Aladin



Orodja – satelitska slika