



La modellistica previsionale del  
Dipartimento di Fisica - UNITO

Ferrarese Silvia

## Indice :

- L'attività di previsione meteorologica presso il Dipartimento di Fisica dell' Università di Torino
- Simulazioni WRF dell'evento 4-6 Novembre 1994 sul Piemonte

Previsioni meteorologiche per il Piemonte ogni giorno  
bollettino (5 giorni)  
mappe di grandezze meteorologiche, output di  
simulazioni WRF

Staff: 5 previsori (docenti, assegnisti, studenti)

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Enrico Solazzo

<http://www.meteo.dfg.unito.it/previsioni>

# Caratteristiche del run operativo

## WRF 4.1.2 sul Piemonte

- Durata di ogni run: 5 giorni simulati
- 4 volte al giorno (0, 6, 12, 18 UTC)
- Input : GFS GM  
(primary and ancillary data, risoluzione: 0.25°, ogni 6 ore)
- Set up:
  - no nesting
  - passo griglia orizzontale 4.1 km
  - 42 livelli verticali (top: 90 hPa)
  - topografia 30''
  - microfisica WSM6 (precedentemente WSM3)
  - time step 20''
  - radiazione: Dudhia
  - pbl: YSU
  - superficie: Noah
- Grafica: ARWpost v3.1 UPP v4.0.2;
- Pubblicazione: [www.meteo.dfg.unito.it](http://www.meteo.dfg.unito.it)



# OUTPUT: mappe meteorologiche

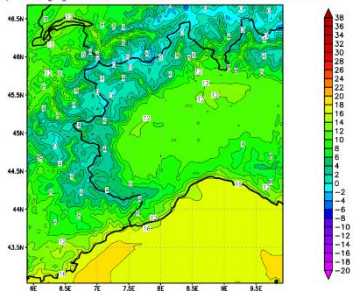
ogni ora

superficie: snow, rain, rh, t, p, wind

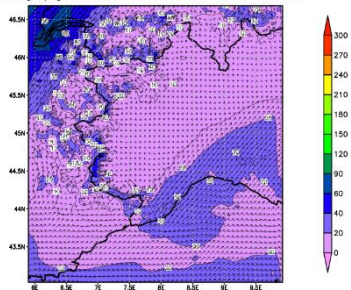
in quota: t, geopot, rh, wind, cloud

e altro ancora...

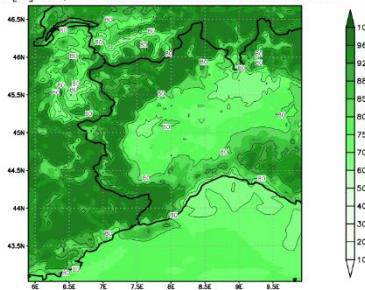
Temp 2m [C], init: 2019110112 valid: 22Z01NOV2019



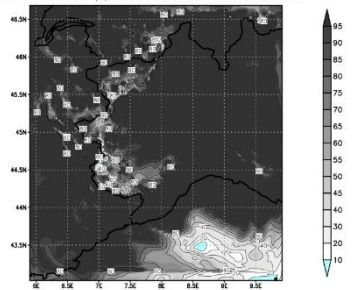
Wind [km/h] 850 hPa, init: 2019110112 valid: 22Z01NOV2019



RH [%] 2m, init: 2019110112 valid: 22Z01NOV2019

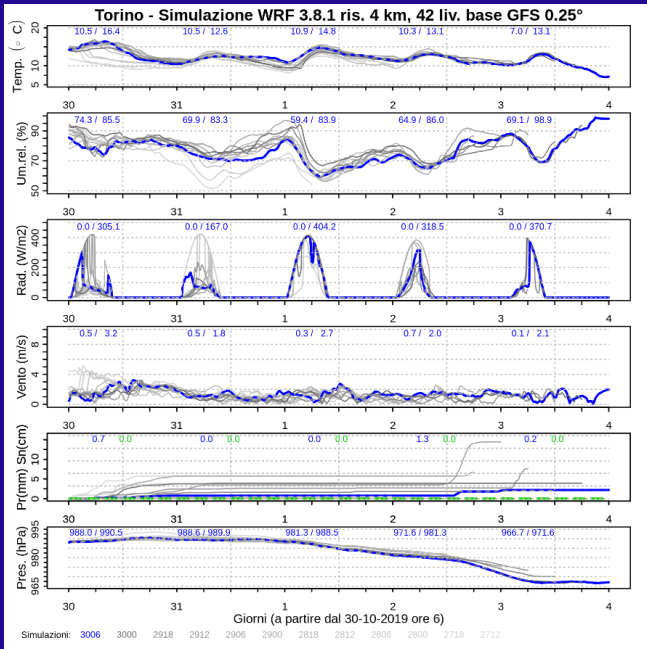


mid cloud fraction (%), init: 2019110112 valid: 22Z01NOV2019



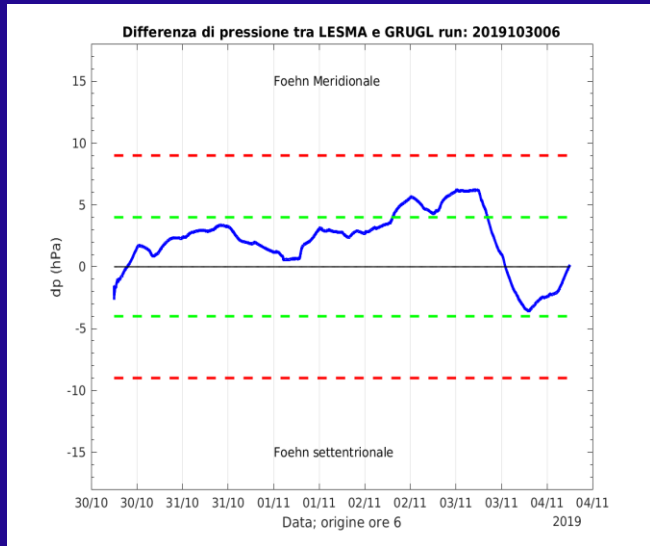
# OUTPUT: meteogrammi

58 siti nell'area



# OUTPUT: foehn

Saluzzo-Embrun  
Grugliasco-LesMarches  
Ivrea-Ginevra  
Domodossola-Spiez



# Simulazioni WRF evento 4-6 Novembre 1994 sul Piemonte

Input: ECMWF Era5, risoluzione  $0.25^\circ$

5 simulazioni

1-6 novembre

Passo griglia  
orizzontale: 4.1 km  
Microfisica WSM6

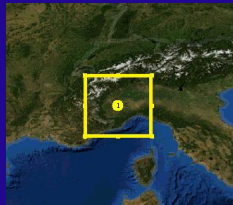


Passo griglia  
orizzontale: 7.5 e 2.5 km  
Microfisica: WSM6

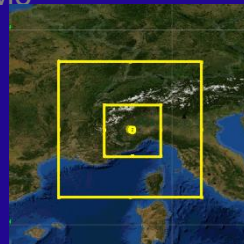
Passo griglia  
orizzontale: 4.1 km  
Microfisica WSM3



Passo griglia  
orizzontale: 4.1 km  
Microfisica Milbrandt

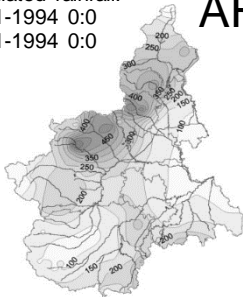


Passo griglia orizzontale:  
4.1 km  
Microfisica: Thompson



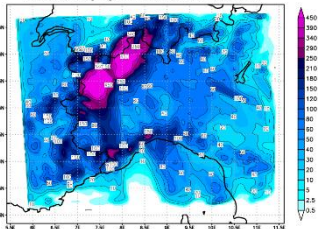
Cumulated rainfall:  
04-11-1994 0:0  
07-11-1994 0:0

# ARPA

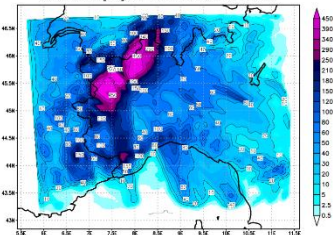


## WSM6

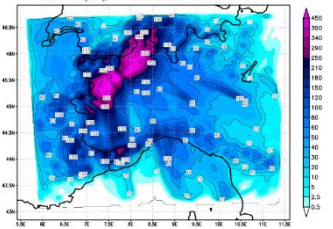
Cumulated Prec [mm], init: 1994110400 valid: 1994110700



Cumulated Prec [mm], init: 1994110400 valid: 1994110700

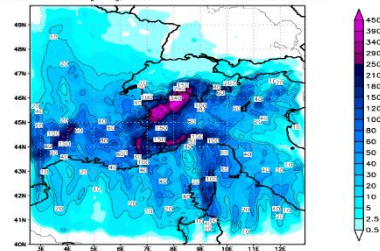


Total Prec [mm], init: 1994110100 valid: 23Z06NOV1994



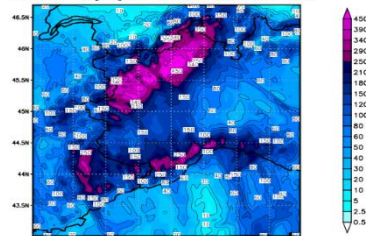
## WSM6 7.5 km (domain 1)

Cumulated Prec [mm], init: 1994110400 valid: 1994110700

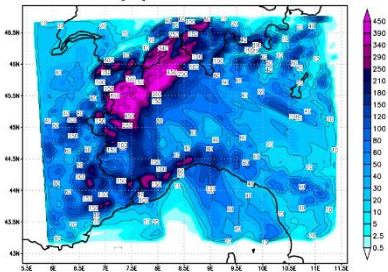


## WSM6 2.5 km, (domain 2)

Cumulated Prec [mm], init: 1994110400 valid: 1994110700



Cumulated Prec [mm], init: 1994110400 valid: 1994110700



## Milbrandt

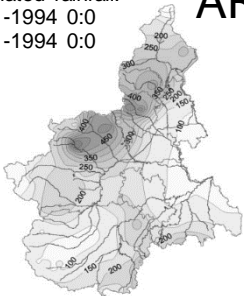
## WSM3

## Thompson

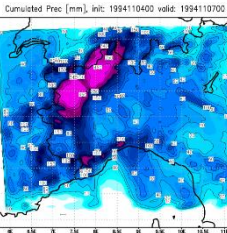


Cumulated rainfall:  
04-11-1994 0:0  
07-11-1994 0:0

# ARPA

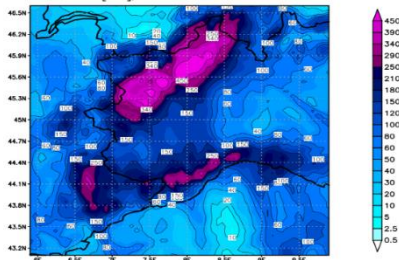


## WSM6

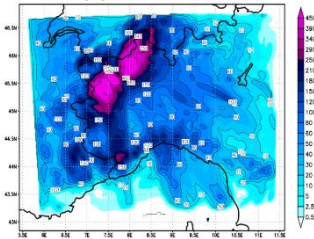


## WSM6 7.5 km (domain 1)

Cumulated Prec [mm], init: 1994110400 valid: 1994110700

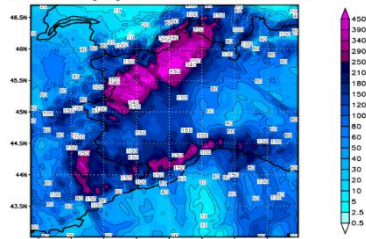


Total Prec [mm], init: 1994110100 valid: 23206NOV1994

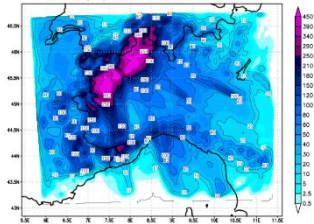


## WSM6 2.5 km, (domain 2)

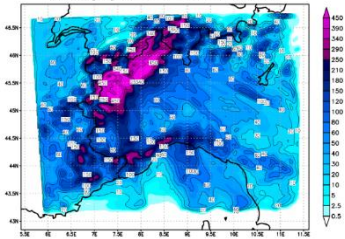
Cumulated Prec [mm], init: 1994110400 valid: 1994110700



Total Prec [mm], init: 1994110100 valid: 23206NOV1994



Total Prec [mm], init: 1994110100 valid: 23206NOV1994



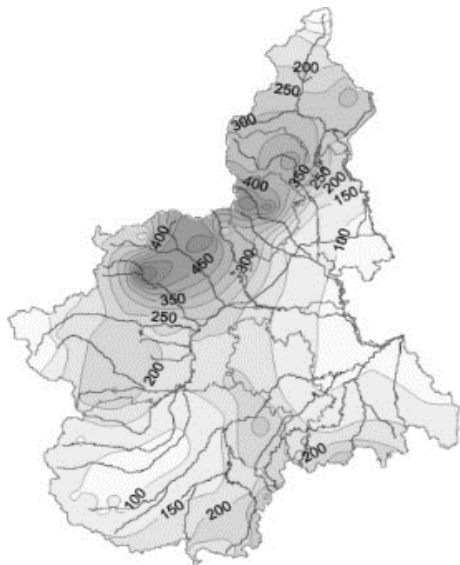
## WSM3

## Milbrandt

## Thompson

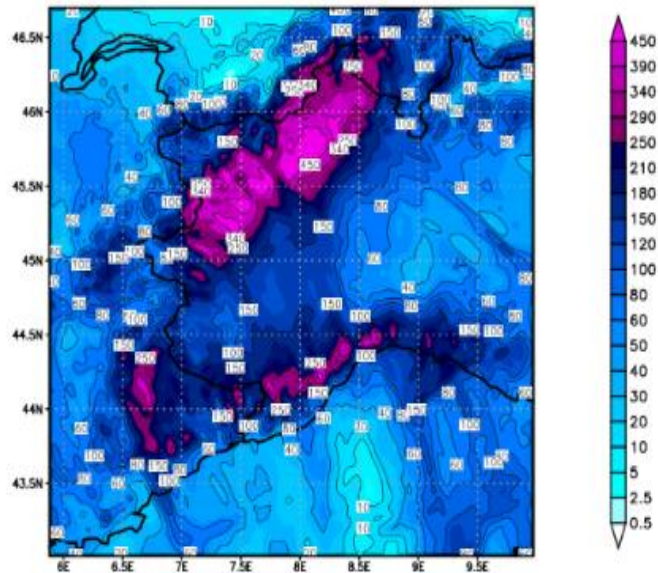
Cumulated rainfall:  
04-11-1994 0:0  
07-11-1994 0:0

# ARPA

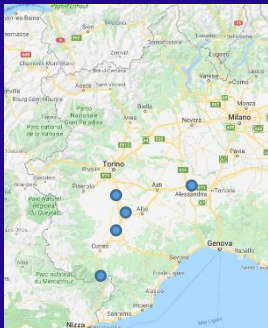


## WSM6 2.5 km, (domain 2)

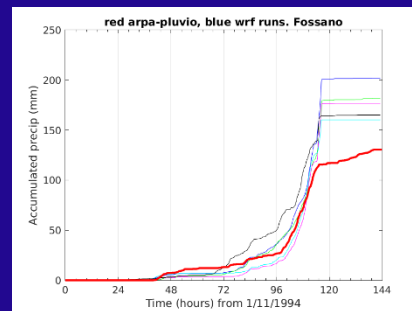
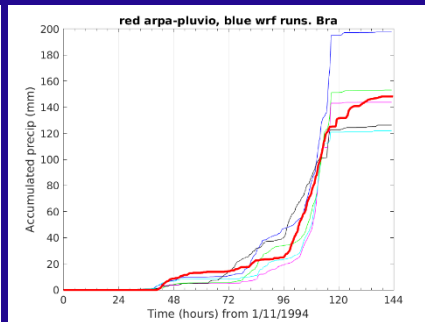
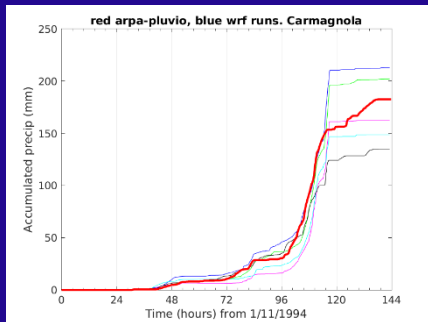
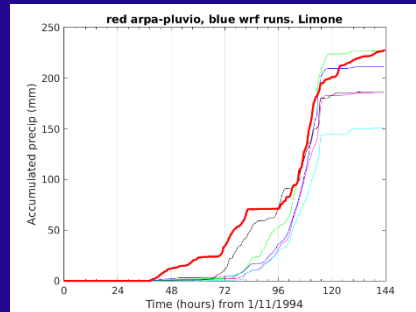
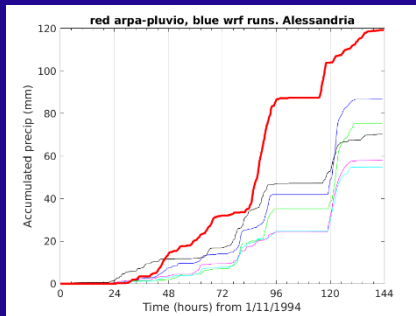
Cumulated Prec [mm], init: 1994110400 valid: 1994110700



# Confronto precipitazione simulata e misurata



ARPA  
WMS6 4.1  
WMS3  
Milbrandt  
Thompson  
WMS6 2.5



Grazie !

