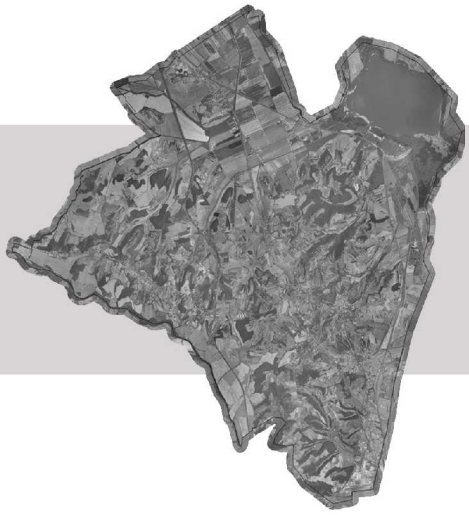
COMUNE DELLA CITTÀ DI CHIUSI

Provincia di Siena



# Piano Strutturale

Adottato con Del.C.C. n. 118 del 21/12/2011

Approvato con Del.C.C. n. ____ del _____

## QUADRO CONOSCITIVO

*Idraulica*

## Risultati Modellazione Idrologica I01-2

Luglio 2012

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# T. MONTELUNGO
# ed affluenti

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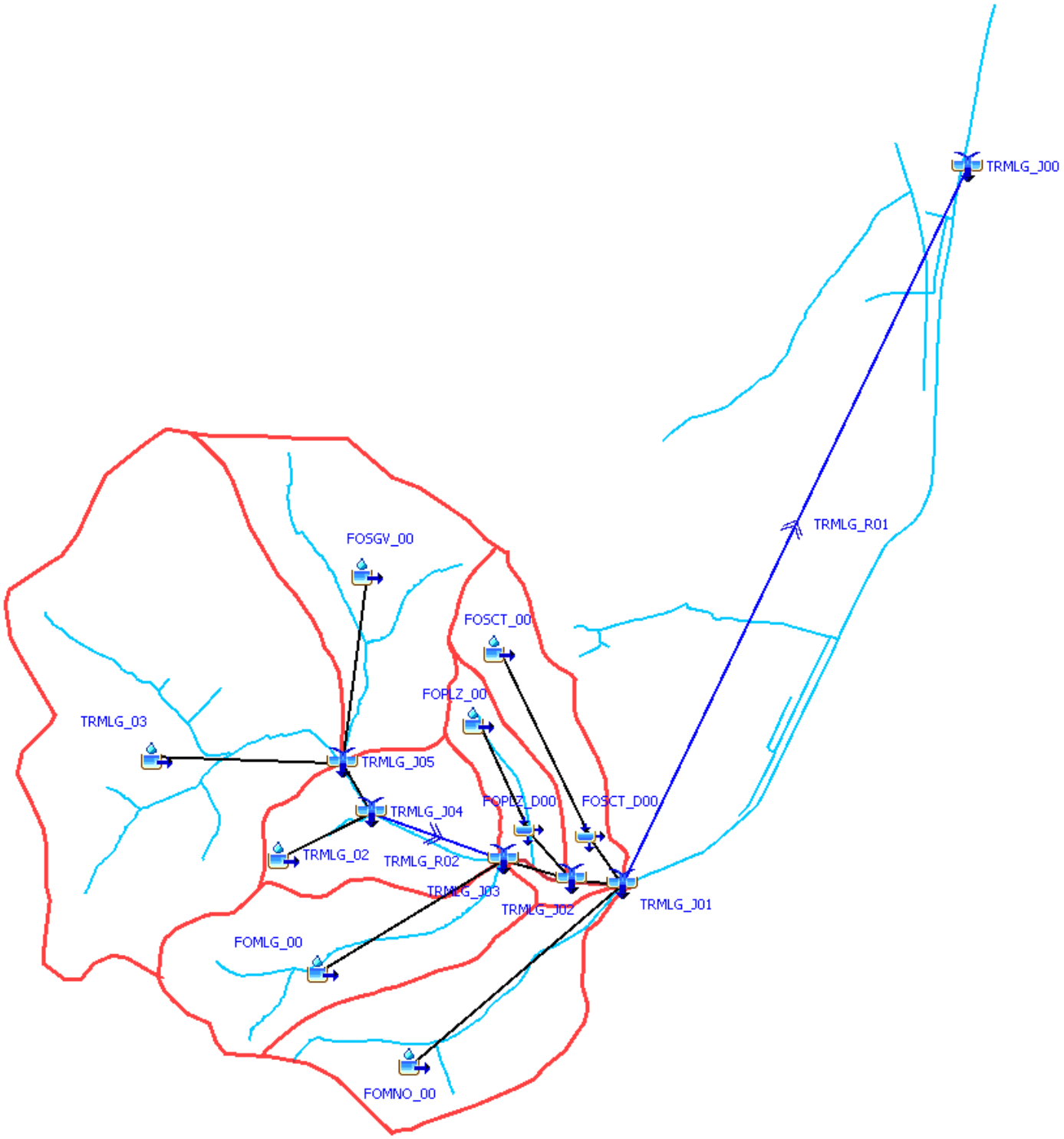
**1**. TABELLE DEI PARAMETRI GEOMORFOLOGICI DI BACINO E IDROGRAMMI SEZIONI IDROLOGICHE SIGNIFICATIVE

# 0.
# SCHEMA MODELLO IDROLOGICO E MAPPE DEI PRINCIPALI PARAMETRI UTILIZZATI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TRMLG_R01
FOSGV_00
FOSCT_00
FOPLZ_00
TRMLG_03
TRMLG_J05
TRMLG_J04
FOPLZ_D00
FOSCT_D00
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TRMLG_R02
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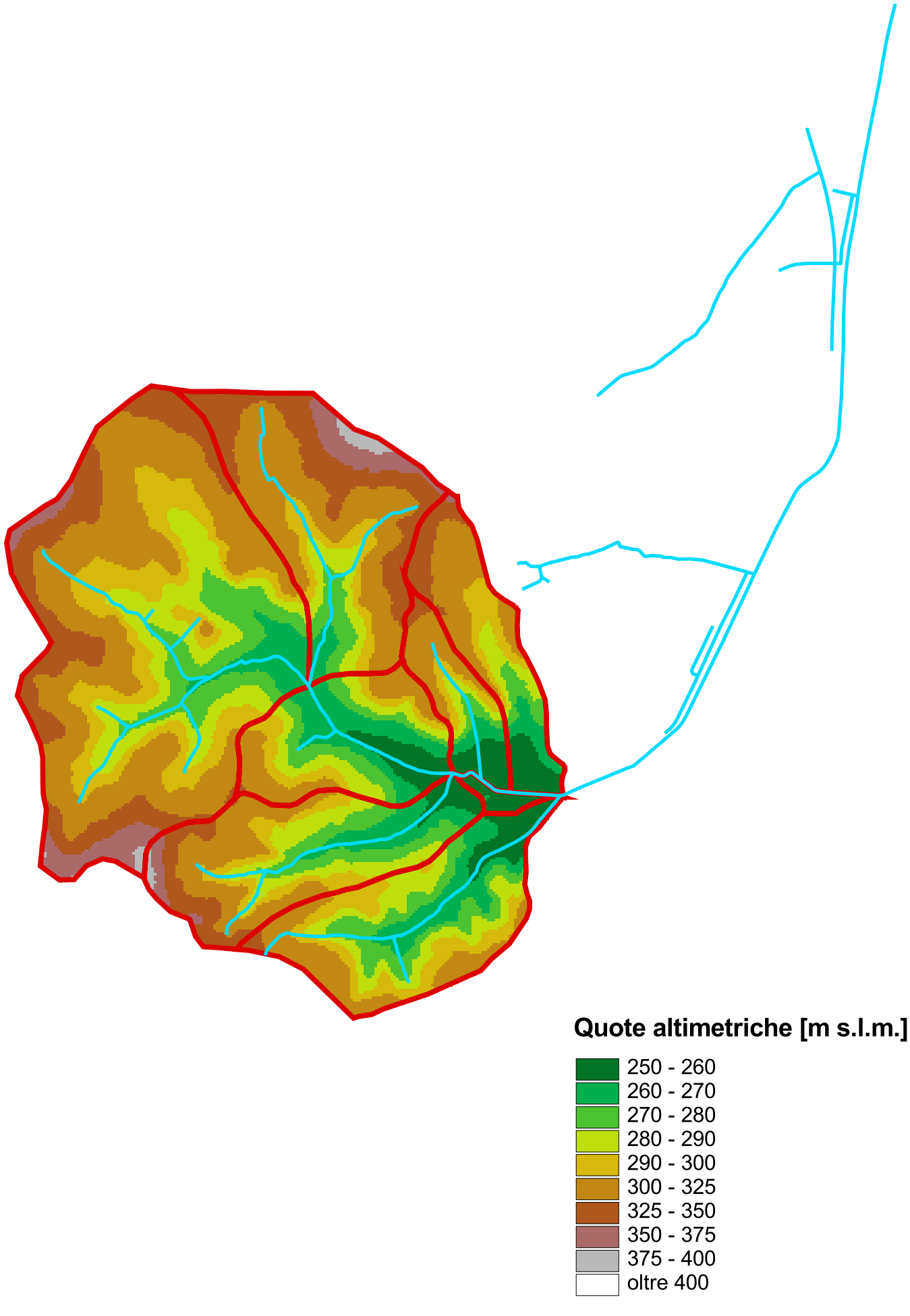
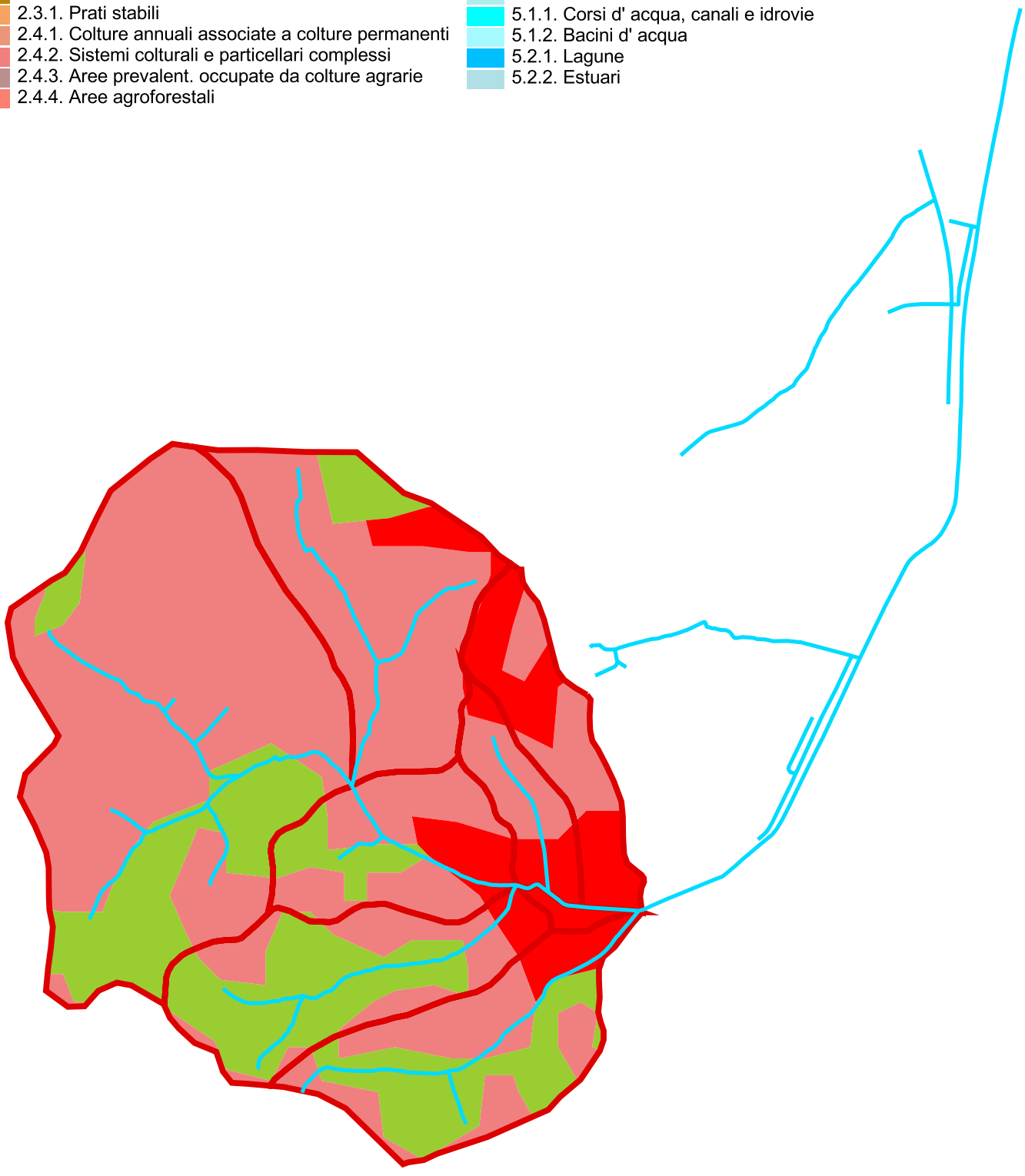
TRMLG_J02
TRMLG_J01
FOMLG_00
FOMNO_00


Quote altimetriche [m s.l.m.]
250 - 260
260 - 270
270 - 280
280 - 290
290 - 300
300 - 325
325 - 350
350 - 375
375 - 400
oltre 400

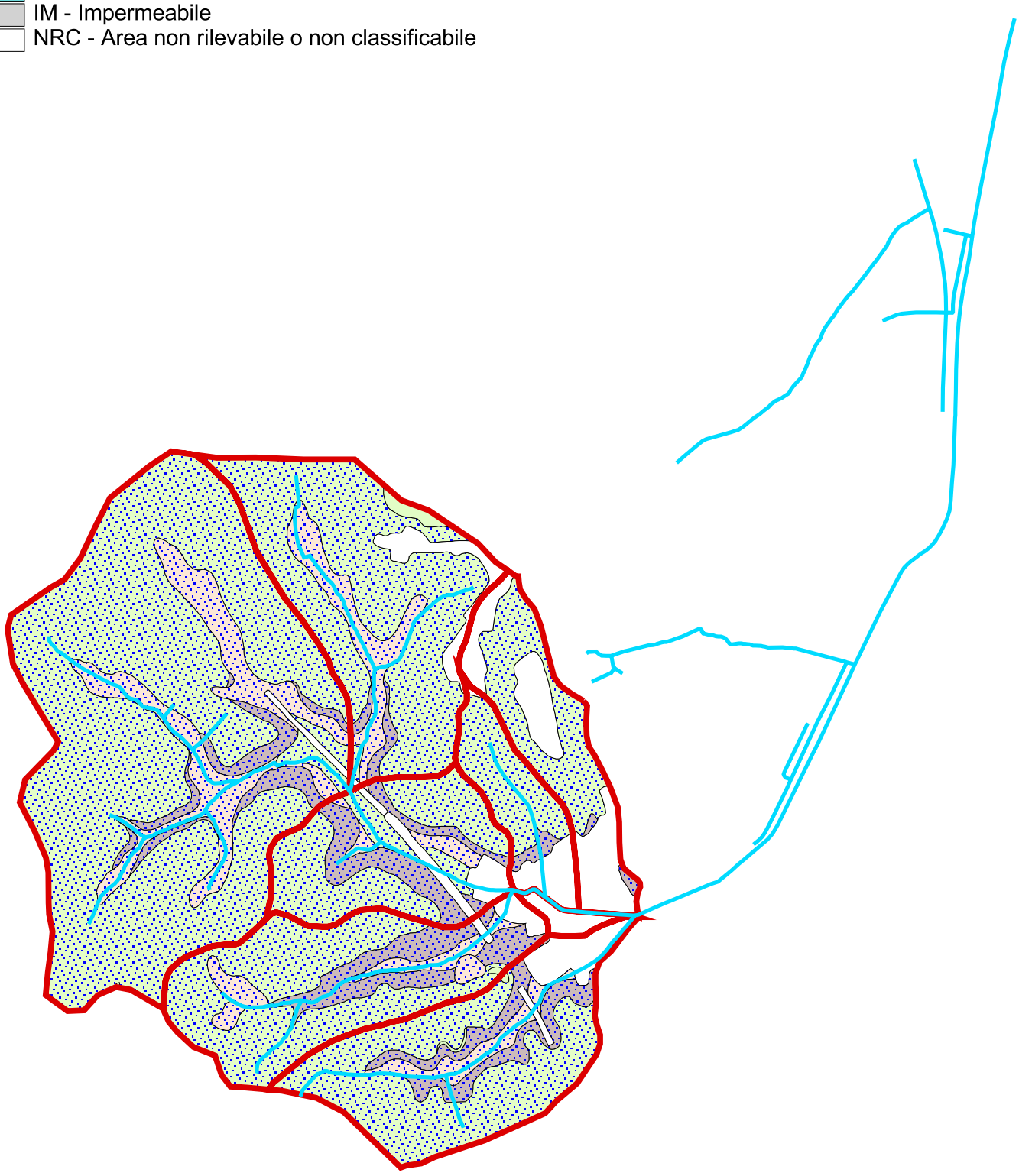
# USO DEL SUOLO

- 1.1.1. Tessuto urbano continuo
- 1.1.2. Tessuto urbano discontinuo
- 1.2.1. Aree industriali o commerciali
- 1.2.2. Reti stradali e ferroviarie
- 1.2.3. Aree portuali
- 1.2.4. Aereoporti
- 1.3.1. Aree estrattive
- 1.3.2. Discariche
- 1.3.3. Cantieri
- 1.4.1. Aree verdi urbane
- 1.4.2. Aree sportive e ricreative
- 2.1.1. Seminativi in aree non irrigue
- 2.1.2. Seminativi in aree irrigue
- 2.1.3. Risaie
- 2.2.1. Vigneti
- 2.2.2. Frutteti e frutti minori
- 2.2.3. Oliveti
- 2.3.1. Prati stabili
- 2.4.1. Colture annuali associate a colture permanenti
- 2.4.2. Sistemi colturali e particellari complessi
- 2.4.3. Aree prevalent. occupate da colture agrarie
- 2.4.4. Aree agroforestali
- 3.1.1. Boschi di latifoglie
- 3.1.2. Boschi di conifere
- 3.1.3. Boschi misti
- 3.2.1. Aree a pascolo naturale
- 3.2.2. Brughiere e cespuglieti
- 3.2.3. Aree a vegetazione sclerofilla
- 3.2.4. Aree a vegetaz. boschiva e arbustiva in evol.
- 3.3.1. Spiagge, dune e sabbie
- 3.3.2. Rocce nude, falesie,rupi e affioramenti
- 3.3.3. Aree con vegetazione rada
- 3.3.4. Aree percorse da incendi
- 3.3.5. Ghiacciai e nevi perenni
- 4.1.1. Paludi interne
- 4.1.2. Torbiere
- 4.2.1. Paludi salmastre
- 4.2.2. Saline
- 4.2.3. Zone intertidali
- 5.1.1. Corsi d' acqua, canali e idrovie
- 5.1.2. Bacini d' acqua
- 5.2.1. Lagune
- 5.2.2. Estuari

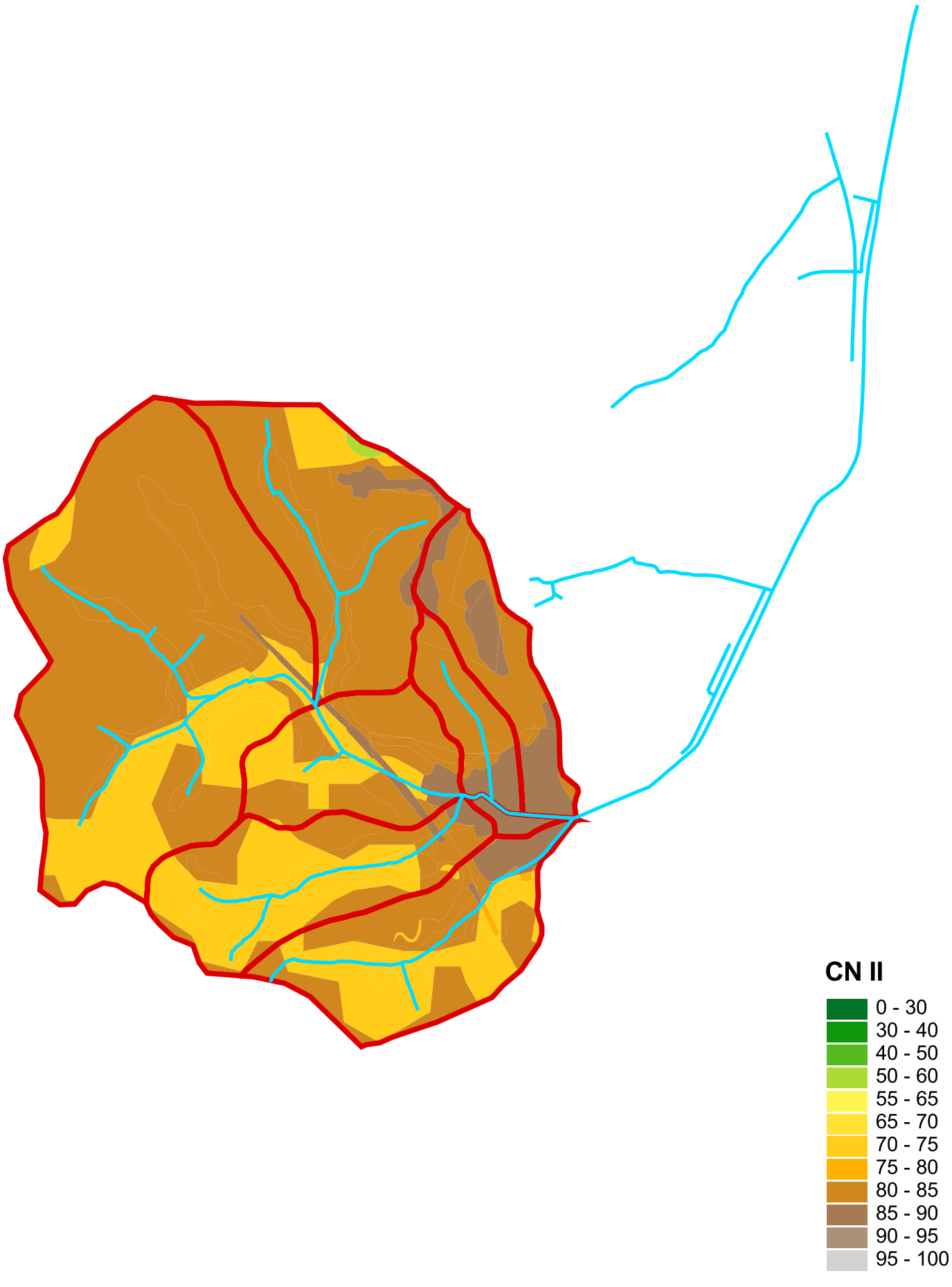


## PERMEABILITA'

- 1 - Permeabilità primaria da bassa a molto bassa
- 2 - Permeabilità primaria  medio-bassa
- 3 - Permeabilità primaria  media
- 4 - Permeabilità primaria  medio-alta
- 5 - Permeabilità primaria alta
- A - Permeabilità mista da bassa a molto bassa
- B - Permeabilità mista medio-bassa
- C - Permeabilità mista media
- D - Permeabilità mista medio-alta
- E - Permeabilità mista alta
- I - Permeabilità secondaria da bassa a molto bassa
- II - Permeabilità secondaria medio-bassa
- III - Permeabilità secondaria media
- IV - Permeabilità secondaria medio-alta
- V - Permeabilità secondaria alta
- IM - Impermeabile
- NRC - Area non rilevabile o non classificabile




CLASSE SUOLO
A
B
C
D


CN II
0 - 30
30 - 40
40 - 50
50 - 60
55 - 65
65 - 70
70 - 75
75 - 80
80 - 85
85 - 90
90 - 95
95 - 100

# 1.
# TABELLE DEI PARAMETRI GEOMORFOLOGICI DI BACINO E IDROGRAMMI SEZIONI IDROLOGICHE SIGNIFICATIVE

# *F.so Montelungo alla confluenza nel T. Montelungo - [FOMLG_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 0.43 | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 77 |
| **Hsc** - quota sezione di chiusura | [m] | 256 | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.20 |
| **Hmb** - altitudine media del bacino | [m] | 298 | **La** - lunghezza asta principale | | [km] | 1.1 |
| **Hma** - quota massima asta principale | [m] | 327 | **ib** - pendenza media del bacino | | [%] | 13.3% |
| **Hmb** - quota massima bacino | [m] | 389 | **i** - pendenza media della rete drenaggio | | [m/m] | - |

## Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 0.82 | **Hm** - altitudine media sulla sez. di chiusura | [m] | 42.0 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 0.20 | **DH** - dislivello altimetrico estremi asta principale | [m] | 71 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 0.33 | **HM** - altitudine massima sulla sez. di chiusura | [m] | 133 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 1.27 | **Trr** - tempo di ritardo di Rosso | [h] | 0.29 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | 0.90 |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 0.12 |
| **Tca** - tempo di corrivazione di riferimento | [h] | 0.20 | **Tra** - tempo di ritardo adottato | [h] | 0.29 |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 0.43 |
| Loss / **Initial Abstraction** | [mm] | 15.2 |
| Loss / **CN** | [-] | 77 |
| Transform / **Lag Time** | [min] | 18 |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

**Tr** - tempo di ritorno [anni]

| | | | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **iIDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **3.5** | **4.5** | **6.1** | **11.3** | **15.1** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 8.1 | 10.5 | 14.2 | 26.3 | 35.1 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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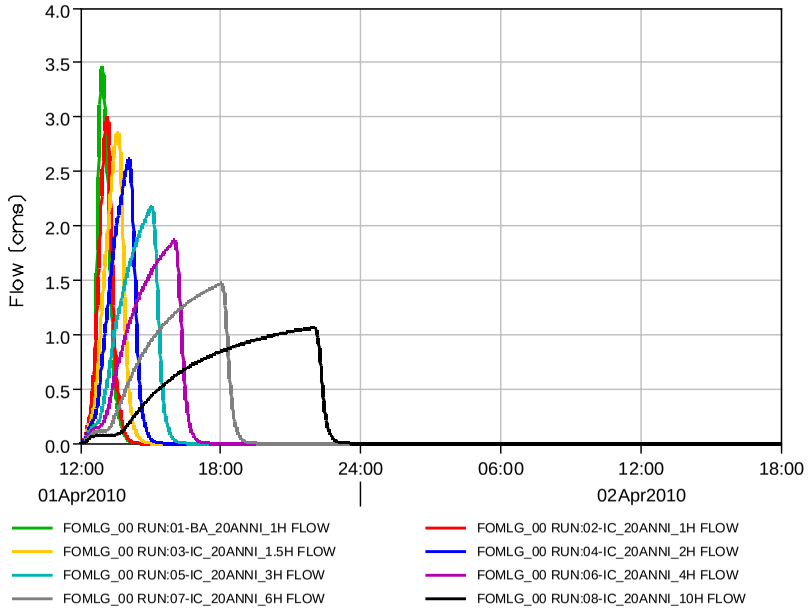


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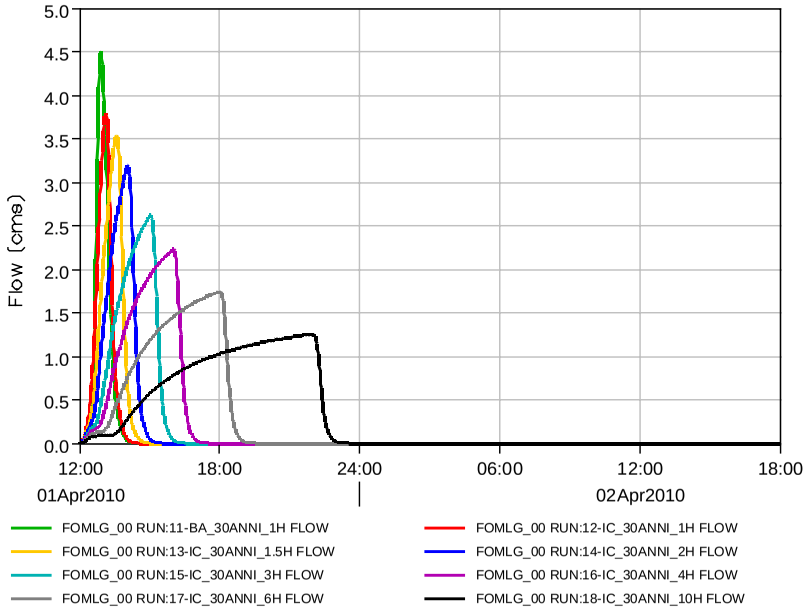


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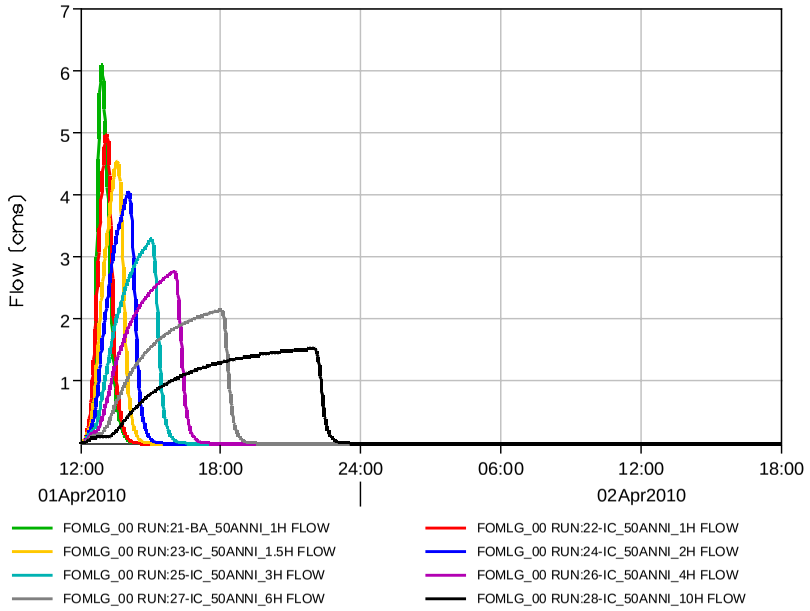


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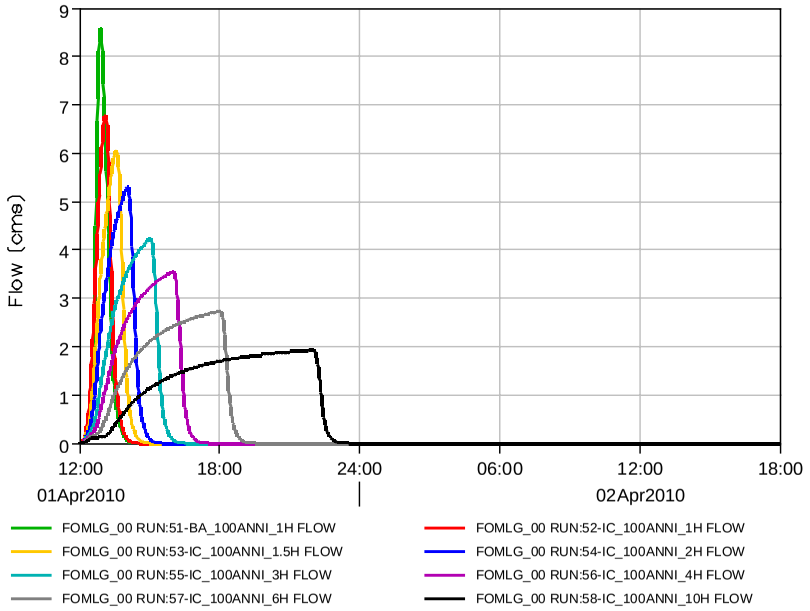

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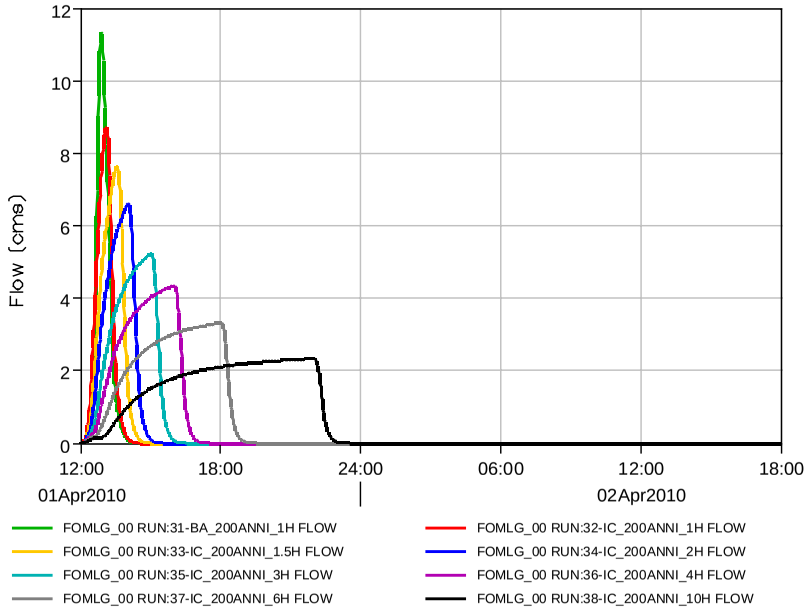


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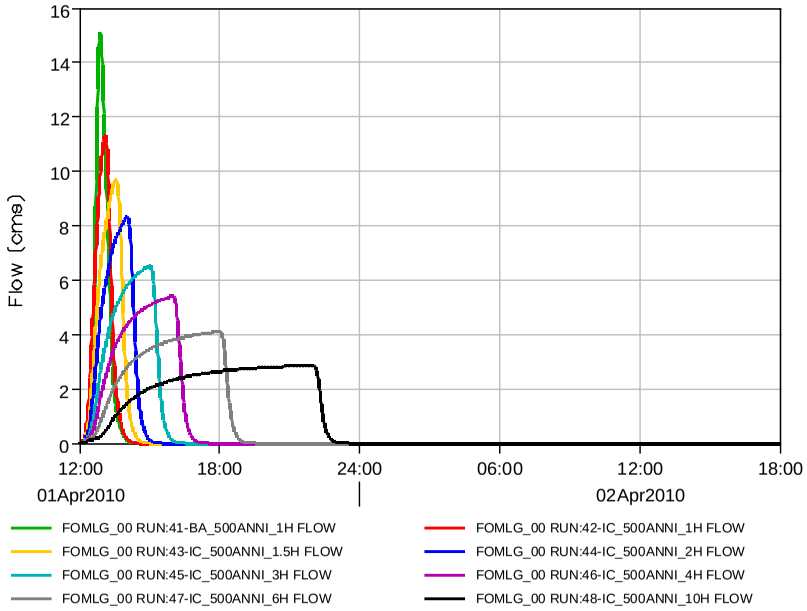


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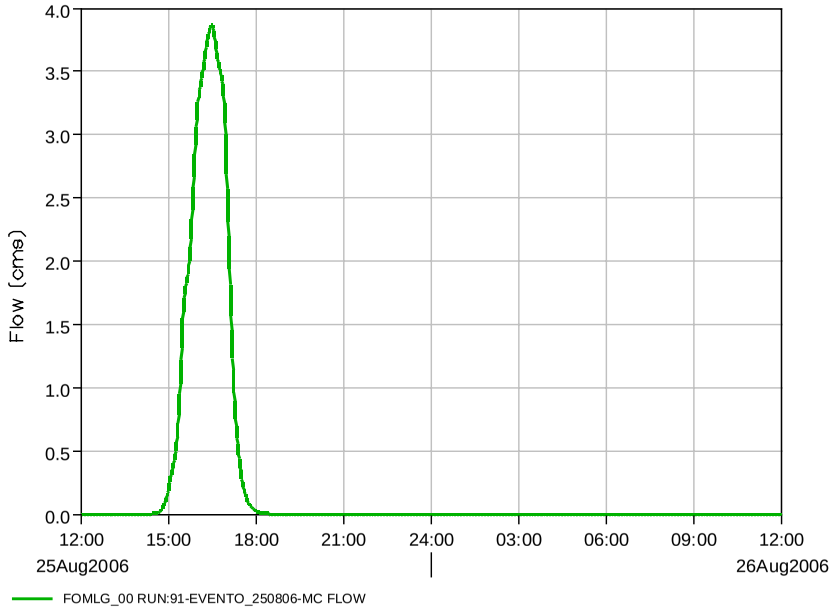

# *F.so Montelunghino alla confluenza nel T. Montelungo [FOMNO_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 0.44 | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 78 |
| **Hsc** - quota sezione di chiusura | [m] | 254 | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.20 |
| **Hmb** - altitudine media del bacino | [m] | 282 | **La** - lunghezza asta principale | | [km] | 1.1 |
| **Hma** - quota massima asta principale | [m] | 327 | **ib** - pendenza media del bacino | | [%] | 10.4% |
| **Hmb** - quota massima bacino | [m] | 340 | **i** - pendenza media della rete drenaggio | | [m/m] | - |

## Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 1.02 | **Hm** - altitudine media sulla sez. di chiusura | [m] | 28.0 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 0.20 | **DH** - dislivello altimetrico estremi asta principale | [m] | 73 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 0.33 | **HM** - altitudine massima sulla sez. di chiusura | [m] | 86 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 1.47 | **Trr** - tempo di ritardo di Rosso | [h] | 0.31 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | 0.90 |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 0.12 |
| **Tca** - tempo di corrivazione di riferimento | [h] | 0.20 | **Tra** - tempo di ritardo adottato | [h] | 0.31 |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 0.44 |
| Loss / **Initial Abstraction** | [mm] | 14.3 |
| Loss / **CN** | [-] | 78 |
| Transform / **Lag Time** | [min] | 18 |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **iIDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **4.8** | **5.9** | **7.7** | **13.2** | **17.2** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 10.9 | 13.4 | 17.5 | 30.0 | 39.1 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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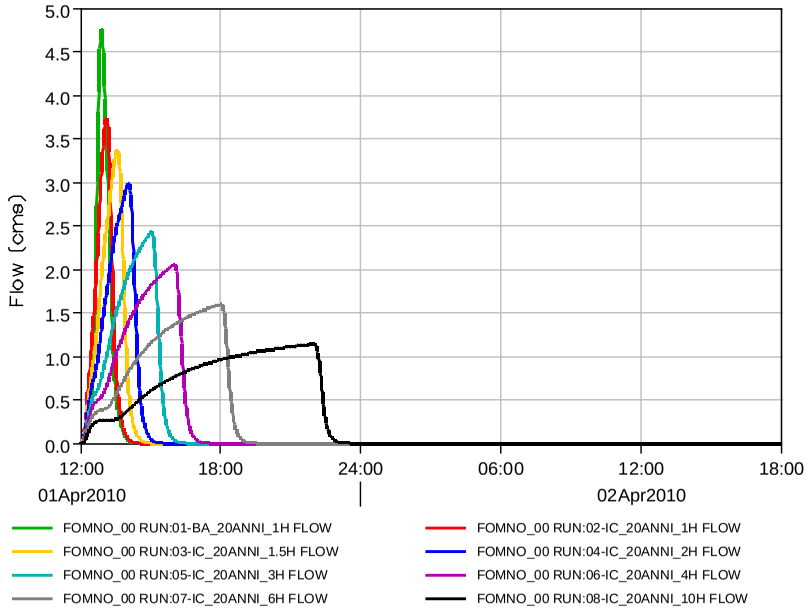


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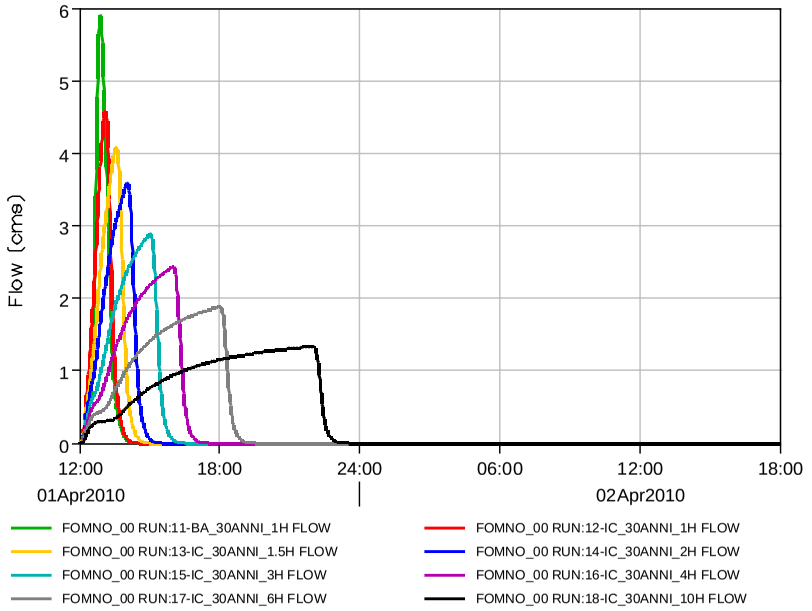


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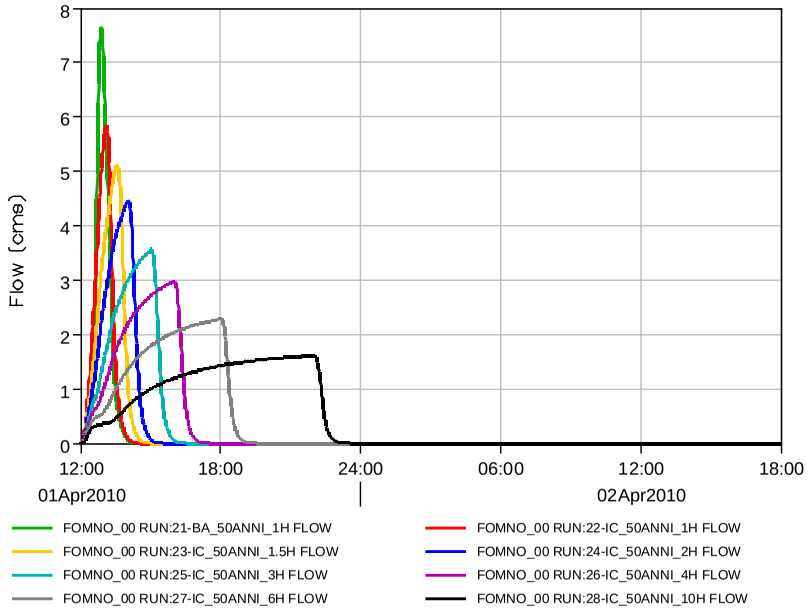


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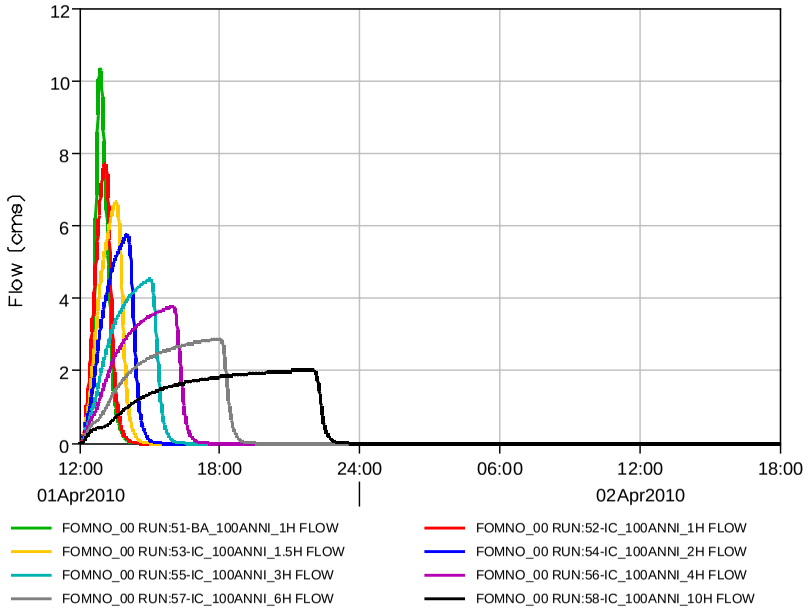

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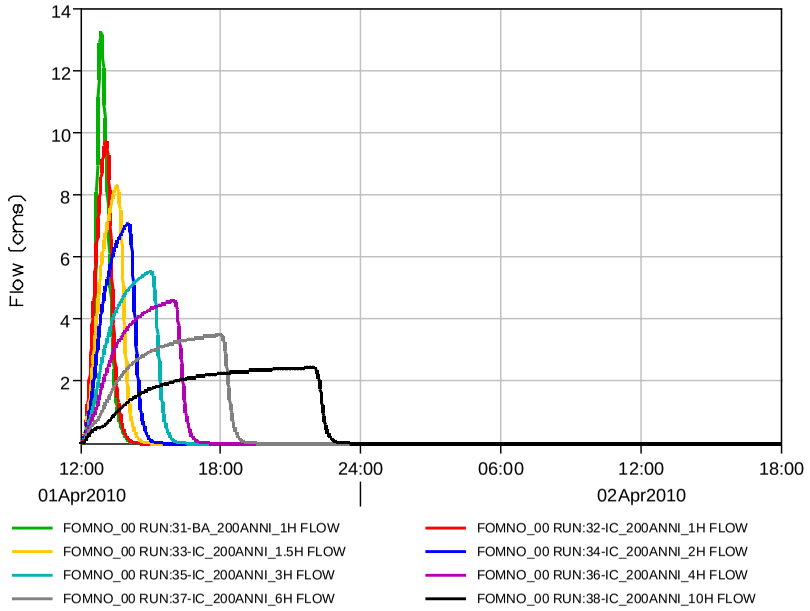


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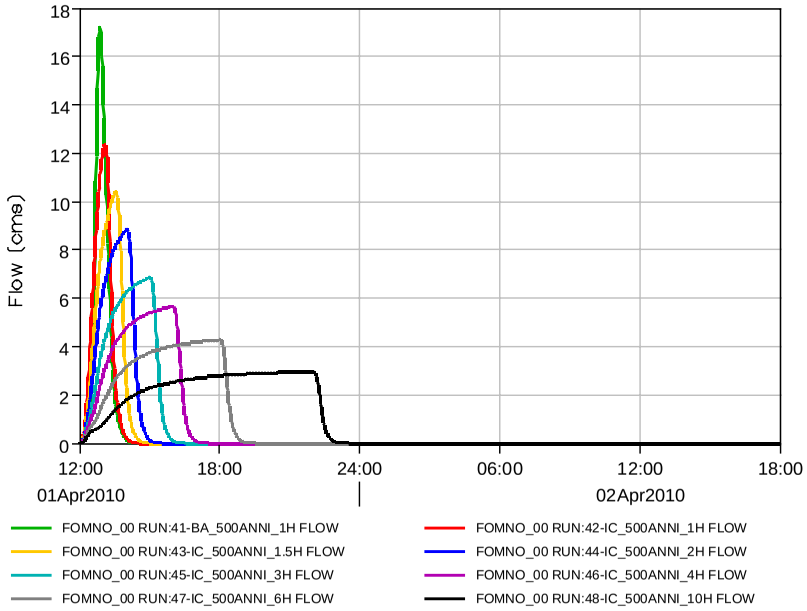


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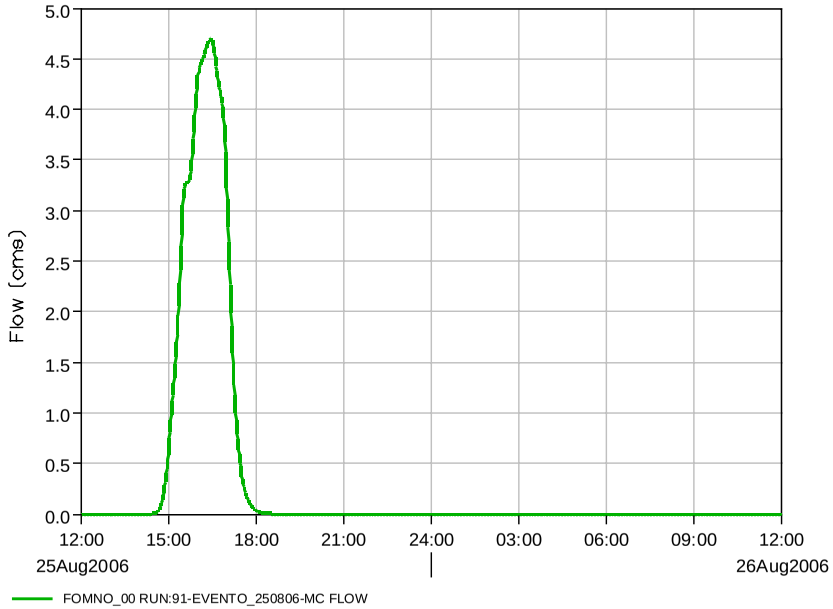

# *F.so Palazzuolo alla confluenza nel T. Montelungo [FOPLZ_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **0.13** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **83** |
| **Hsc** - quota sezione di chiusura | [m] | **254** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.20** |
| **Hmb** - altitudine media del bacino | [m] | **282** | **La** - lunghezza asta principale | | [km] | **0.6** |
| **Hma** - quota massima asta principale | [m] | **310** | **ib** - pendenza media del bacino | | [%] | **11.2%** |
| **Hmb** - quota massima bacino | [m] | **340** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

## Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | **0.55** | **Hm** - altitudine media sulla sez. di chiusura | [m] | **28.0** |
| **Tck** - tempo di corrivazione di Kirpich | [h] | **0.11** | **DH** - dislivello altimetrico estremi asta principale | [m] | **56** |
| **Tcv** - tempo di corrivazione di Ventura | [h] | **0.15** | **HM** - altitudine massima sulla sez. di chiusura | [m] | **86** |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | **0.98** | **Trr** - tempo di ritardo di Rosso | [h] | **0.18** |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | **-** | **TrRT** - tempo di ritardo region. Al.To. | [h] | **0.90** |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | **0.07** |
| **Tca** - tempo di corrivazione di riferimento | [h] | **0.11** | **Tra** - tempo di ritardo adottato | [h] | **0.18** |

## Parametri da utilizzare in HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **0.13** |
| Loss / **Initial Abstraction** | [mm] | **10.4** |
| Loss / **CN** | [-] | **83** |
| Transform / **Lag Time** | [min] | **11** |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **IIDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **2.6** | **3.1** | **3.9** | **6.2** | **7.8** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 20.0 | 23.8 | 30.0 | 47.7 | 60.0 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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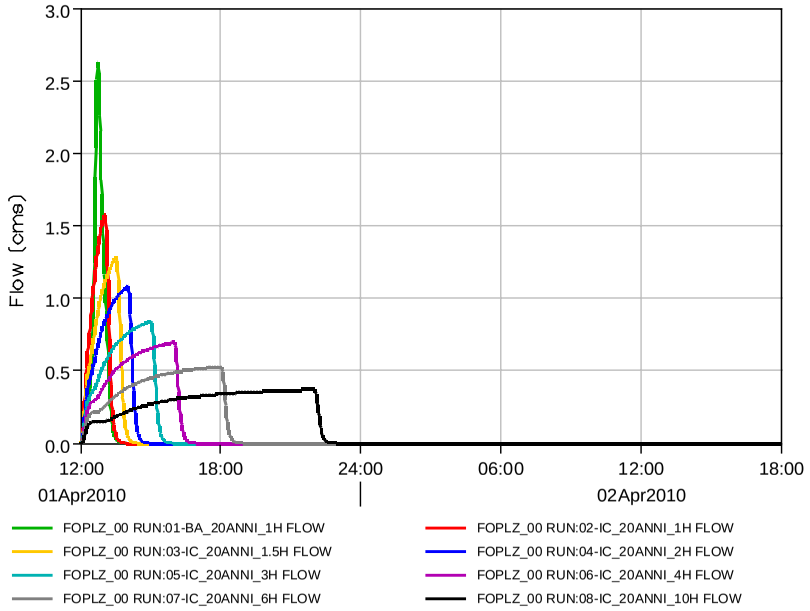


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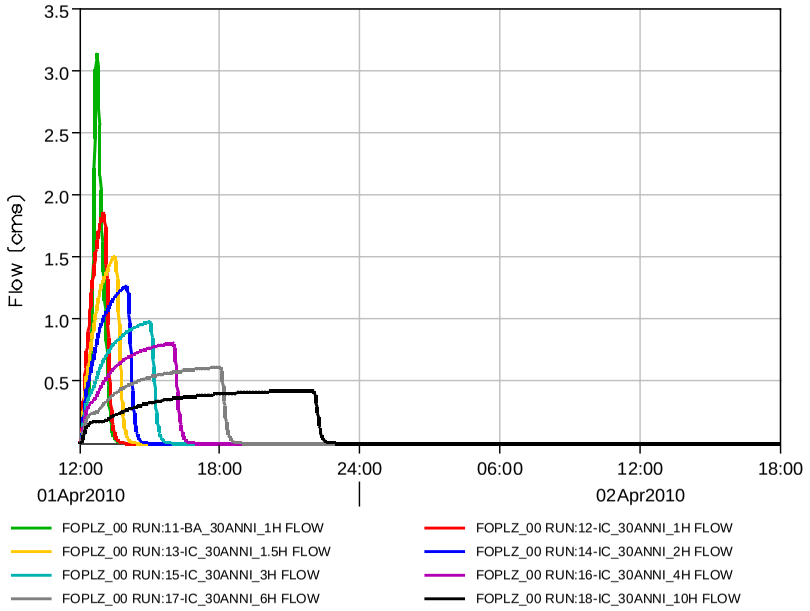


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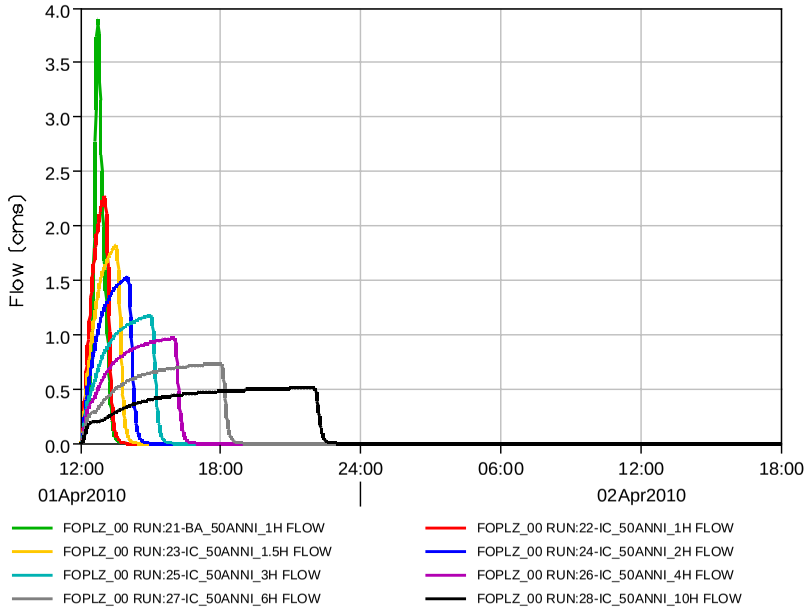


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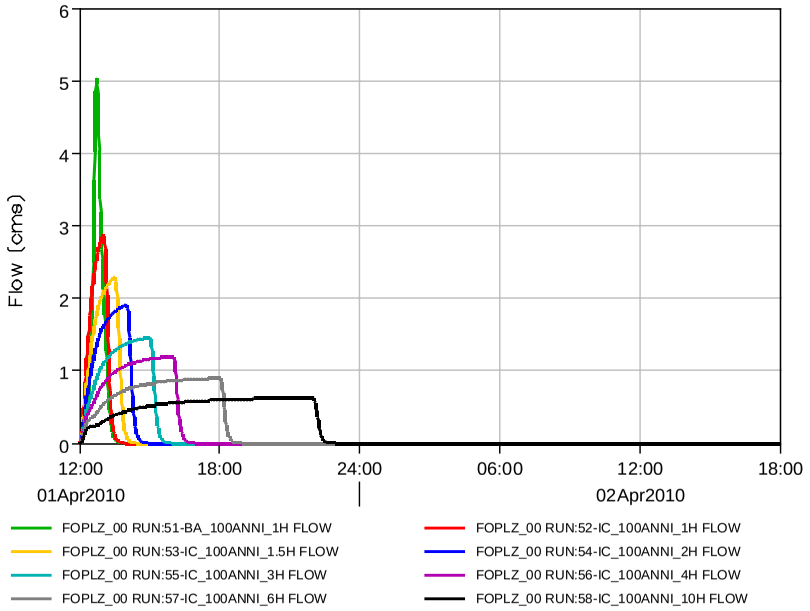

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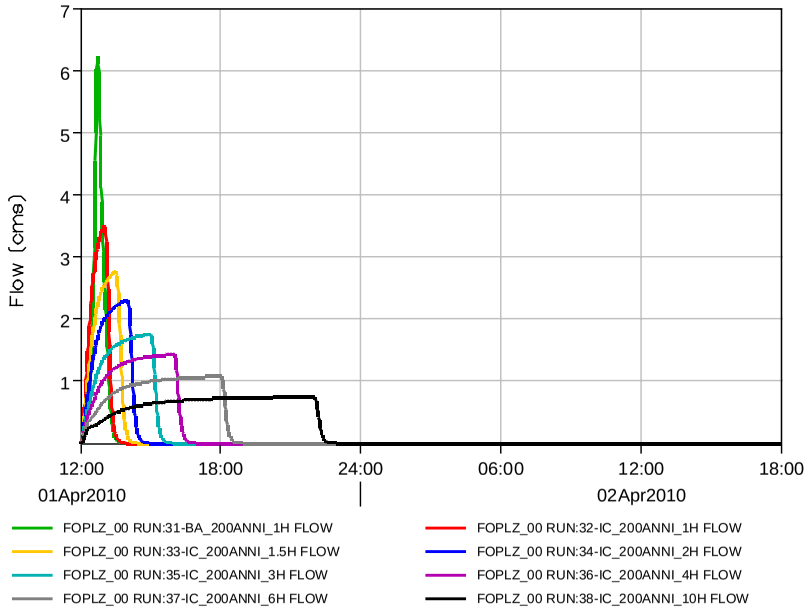


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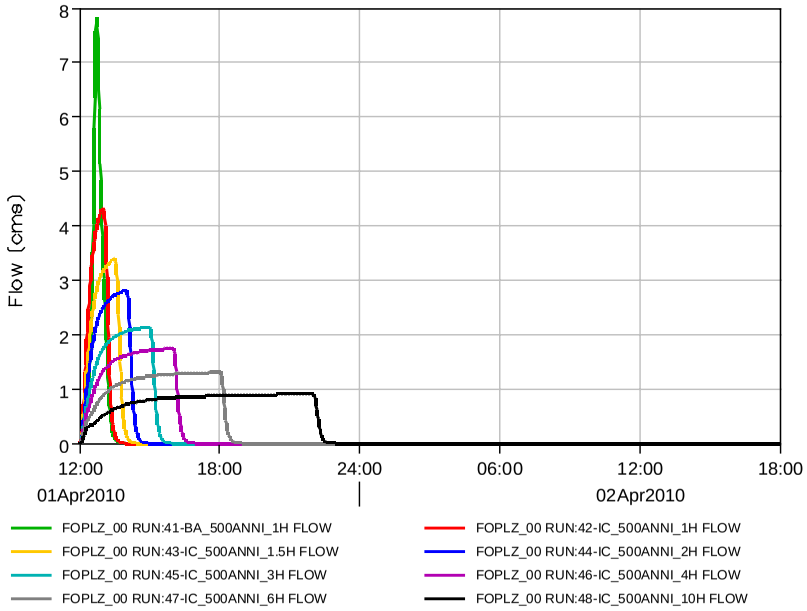


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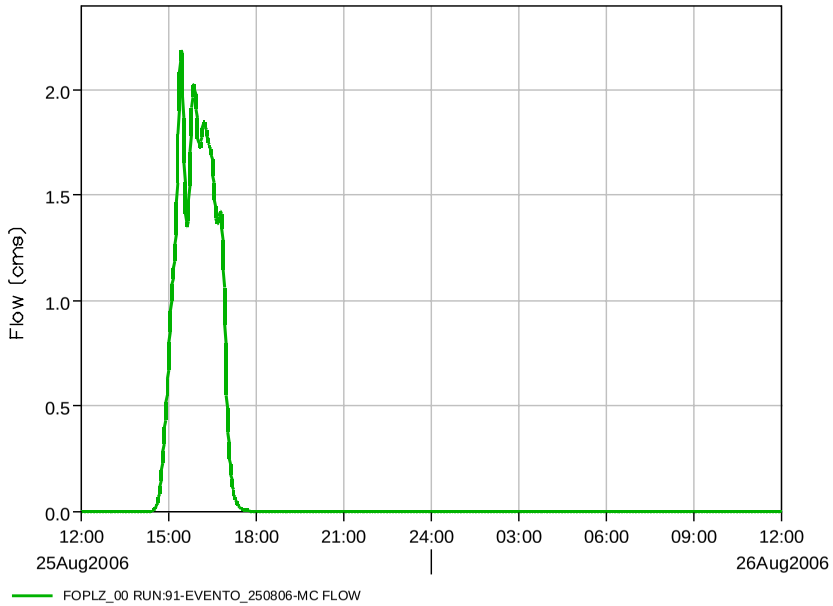


# *F.so Santa Caterina alla confluenza nel T. Montelungo [FOSCT_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 0.22 | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 84 |
| **Hsc** - quota sezione di chiusura | [m] | 256 | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.20 |
| **Hmb** - altitudine media del bacino | [m] | 298 | **La** - lunghezza asta principale | | [km] | 0.8 |
| **Hma** - quota massima asta principale | [m] | 310 | **ib** - pendenza media del bacino | | [%] | 10.3% |
| **Hmb** - quota massima bacino | [m] | 359 | **i** - pendenza media della rete drenaggio | | [m/m] | - |

## Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 0.59 | **Hm** - altitudine media sulla sez. di chiusura | [m] | 42.0 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 0.16 | **DH** - dislivello altimetrico estremi asta principale | [m] | 54 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 0.23 | **HM** - altitudine massima sulla sez. di chiusura | [m] | 103 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 1.12 | **Trr** - tempo di ritardo di Rosso | [h] | 0.23 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | 0.90 |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 0.09 |
| **Tca** - tempo di corrivazione di riferimeto | [h] | 0.16 | **Tra** - tempo di ritardo adottato | [h] | 0.23 |

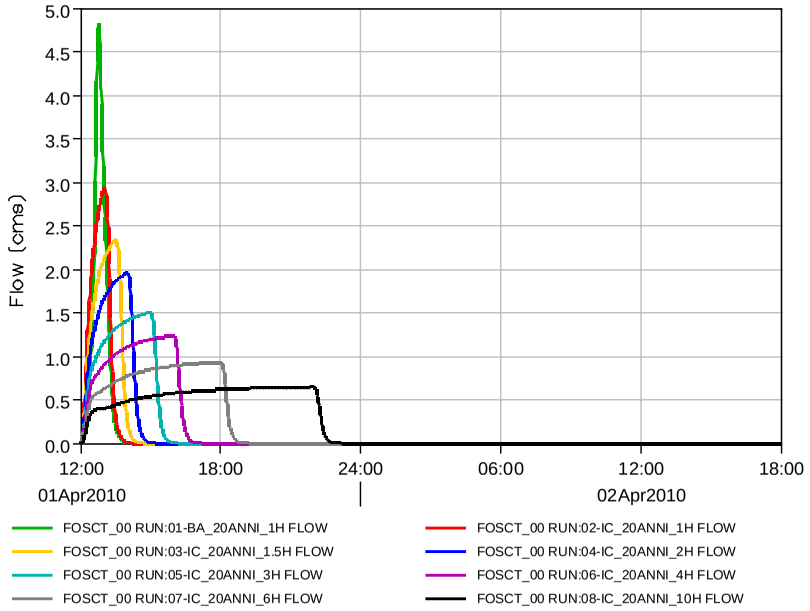
## Parametri da utilizzare in HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 0.22 |
| Loss / **Initial Abstraction** | [mm] | 9.7 |
| Loss / **CN** | [-] | 84 |
| Transform / **Lag Time** | [min] | 14 |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **iIDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **4.8** | **5.6** | **6.8** | **10.4** | **12.8** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 21.8 | 25.5 | 30.9 | 47.3 | 58.2 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

//FOSCT_00/FLOW/01APR2010/1MIN/RUN:01-BA_20ANNI_1H/

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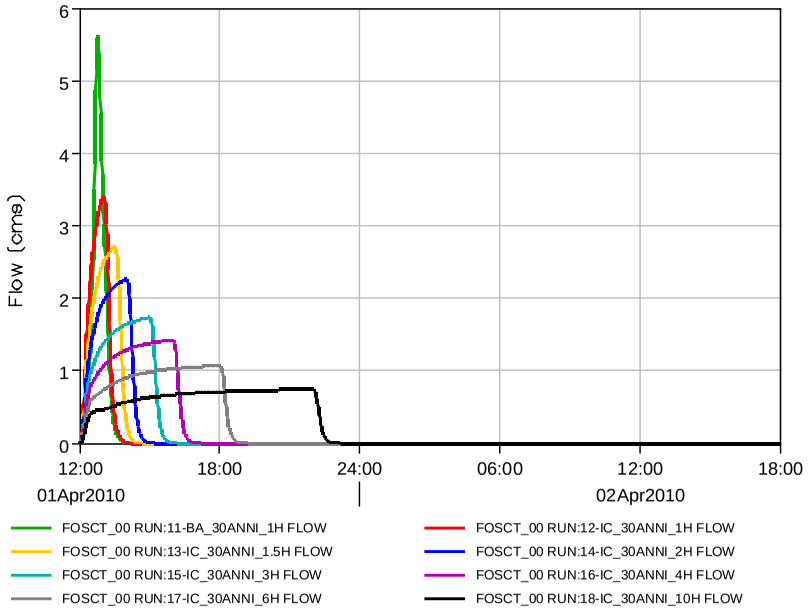


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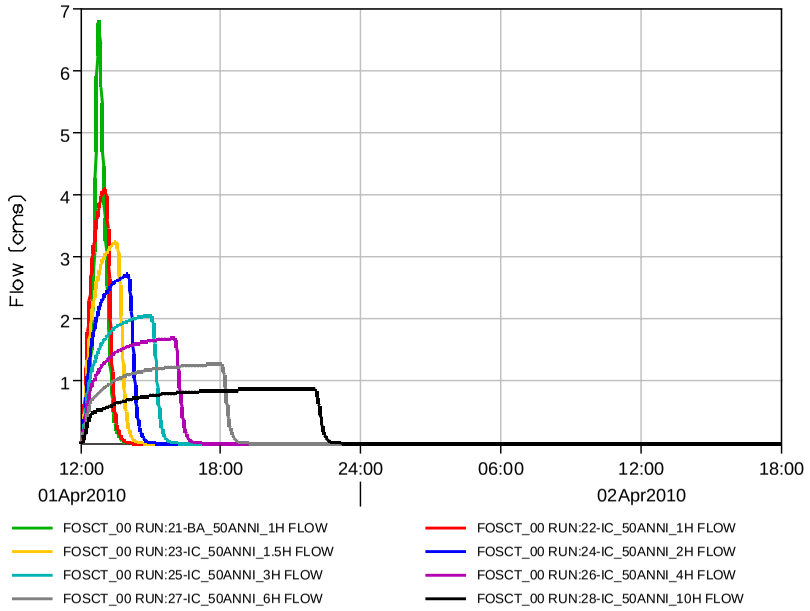


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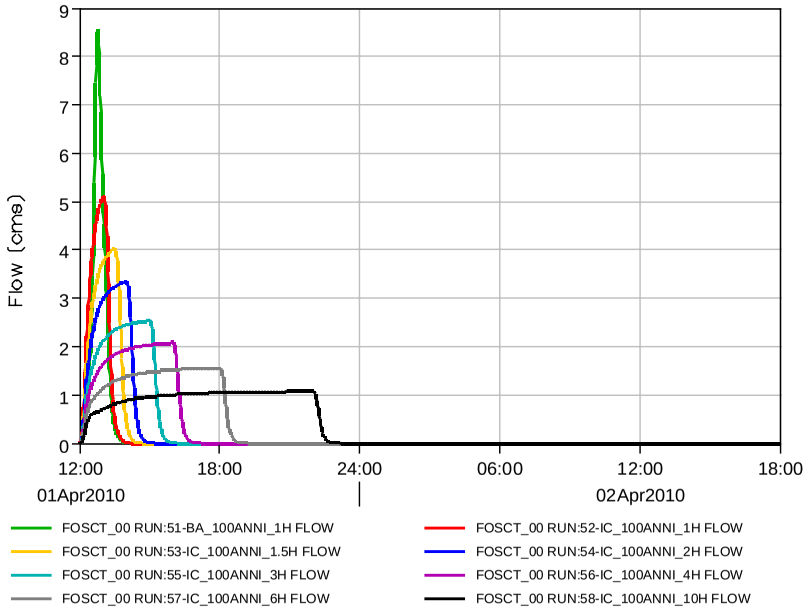

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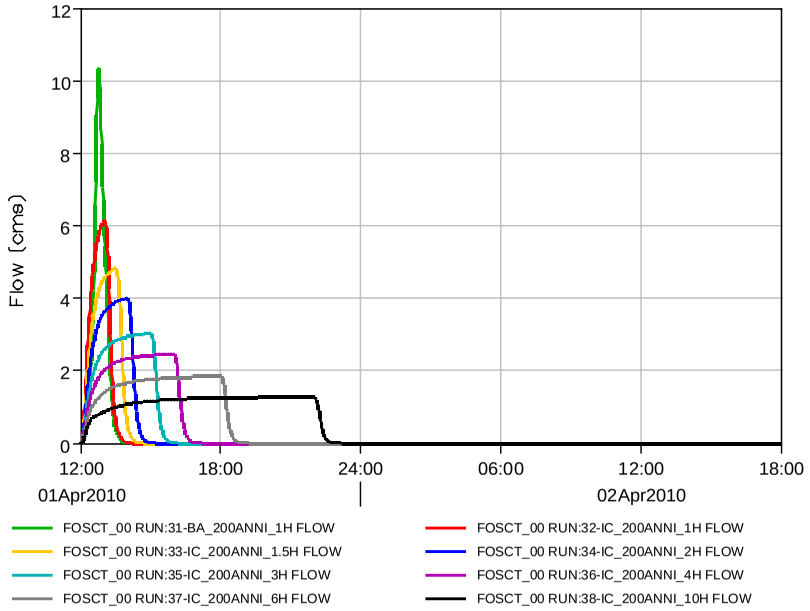


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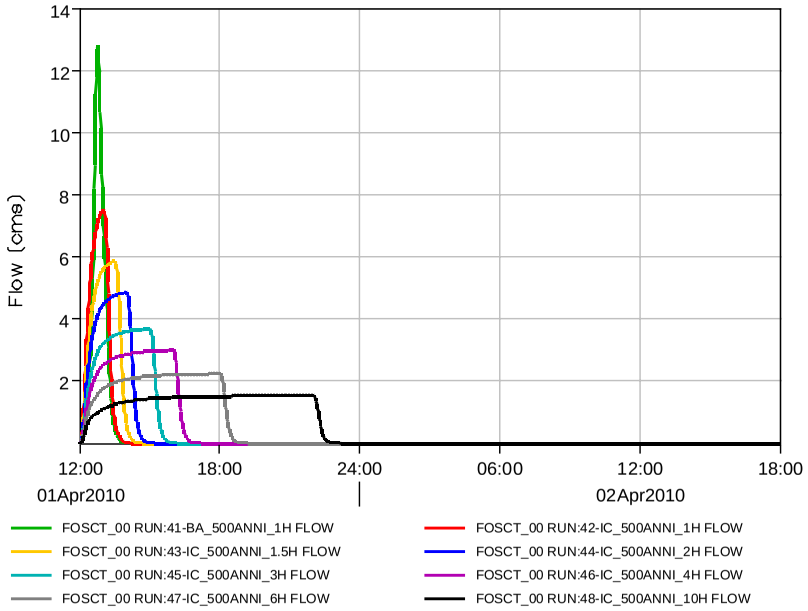


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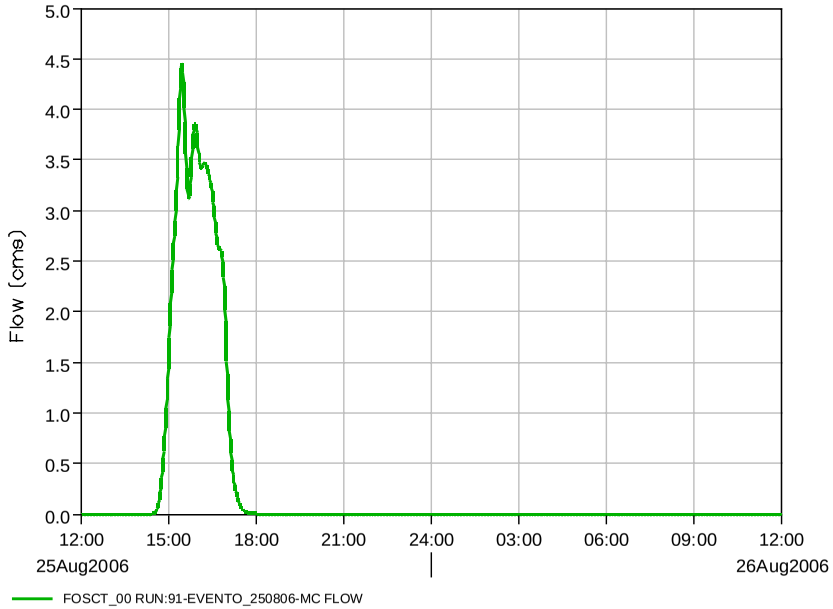

# *F.so San Giovanni alla confluenza nel T. Montelungo [FOSGV_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 0.55 | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 81 |
| **Hsc** - quota sezione di chiusura | [m] | 263 | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.20 |
| **Hmb** - altitudine media del bacino | [m] | 317 | **La** - lunghezza asta principale | | [km] | 1.2 |
| **Hma** - quota massima asta principale | [m] | 321 | **ib** - pendenza media del bacino | | [%] | 12.6 % |
| **Hmb** - quota massima bacino | [m] | 395 | **i** - pendenza media della rete drenaggio | | [m/m] | - |

## Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 0.81 | **Hm** - altitudine media sulla sez. di chiusura | [m] | 54.0 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 0.24 | **DH** - dislivello altimetrico estremi asta principale | [m] | 58 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 0.43 | **HM** - altitudine massima sulla sez. di chiusura | [m] | 132 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 1.35 | **Trr** - tempo di ritardo di Rosso | [h] | 0.31 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | 0.90 |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 0.15 |
| **Tca** - tempo di corrivazione di riferimento | [h] | 0.24 | **Tra** - tempo di ritardo adottato | [h] | 0.31 |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 0.55 |
| Loss / **Initial Abstraction** | [mm] | 11.9 |
| Loss / **CN** | [-] | 81 |
| Transform / **Lag Time** | [min] | 19 |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **iIDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **5.6** | **7.0** | **9.2** | **16.2** | **21.2** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 10.2 | 12.7 | 16.7 | 29.5 | 38.5 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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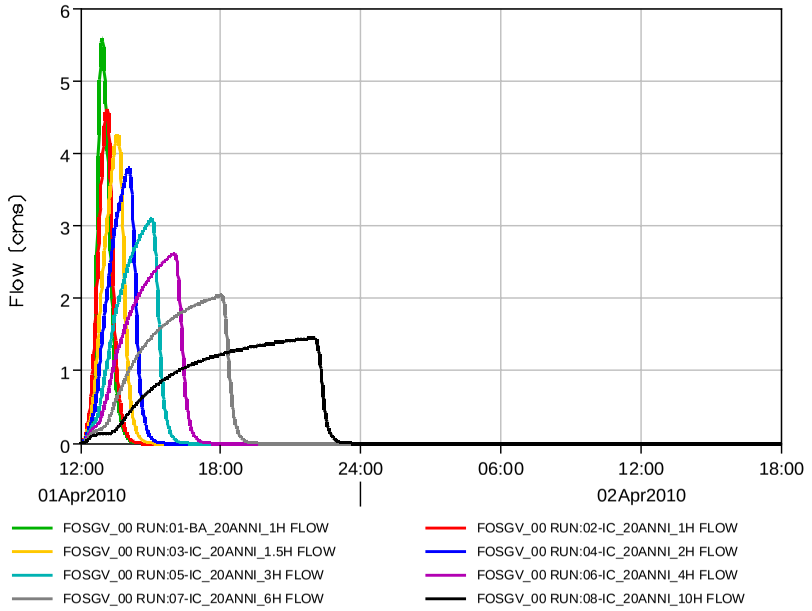


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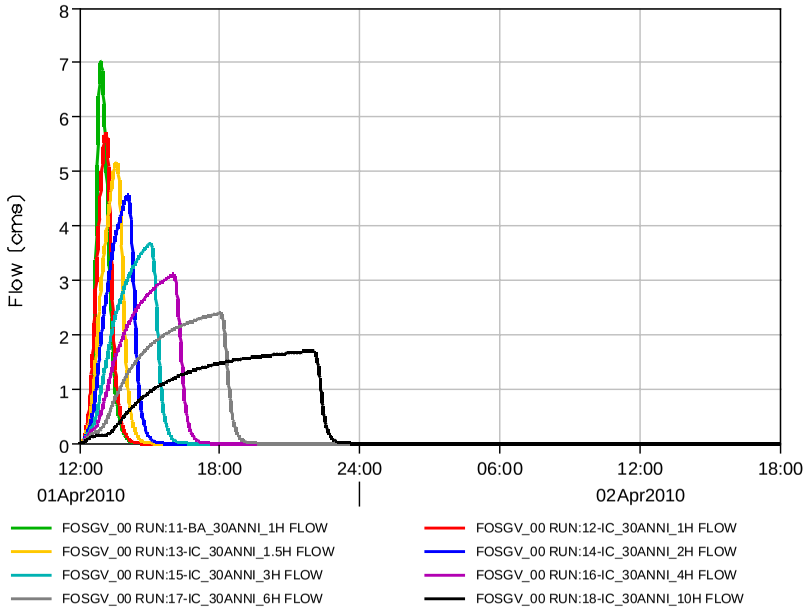


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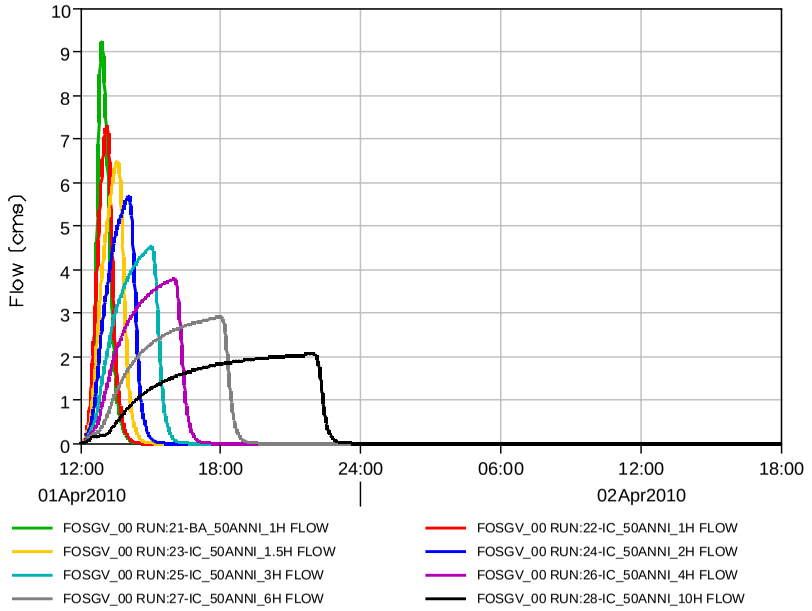


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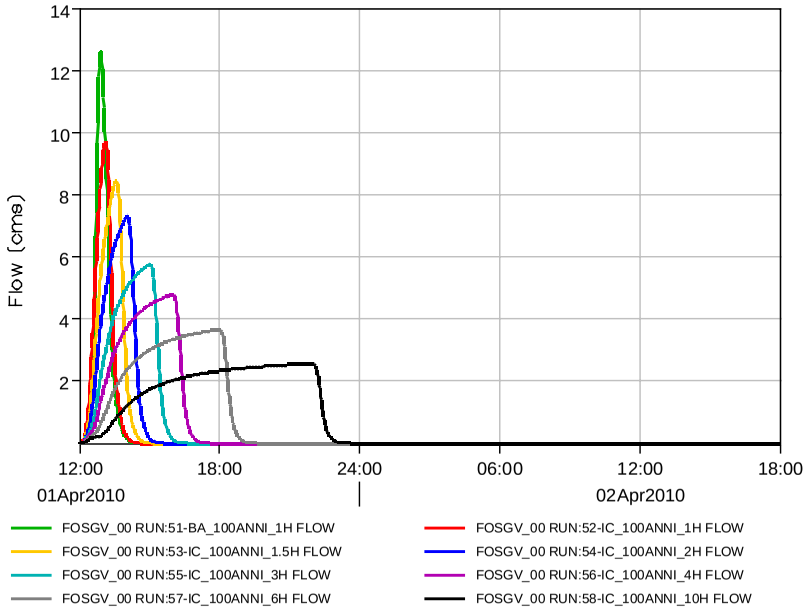

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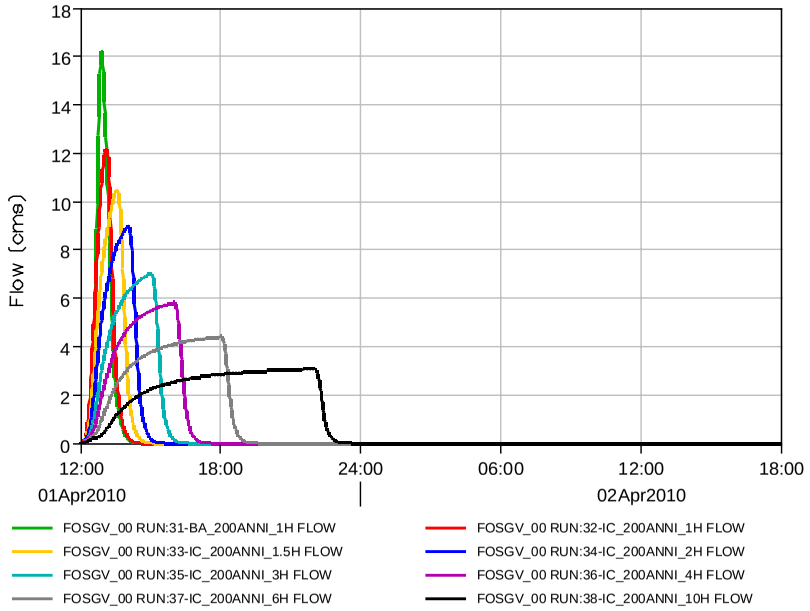


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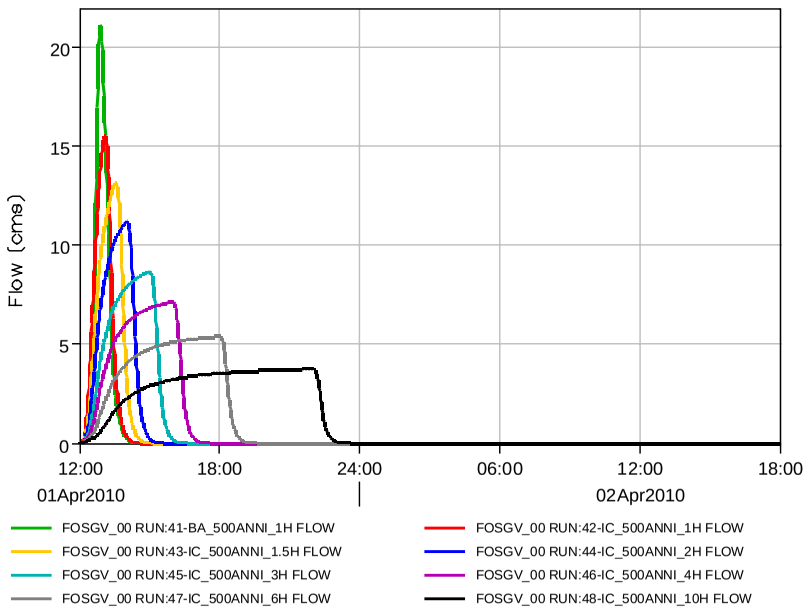


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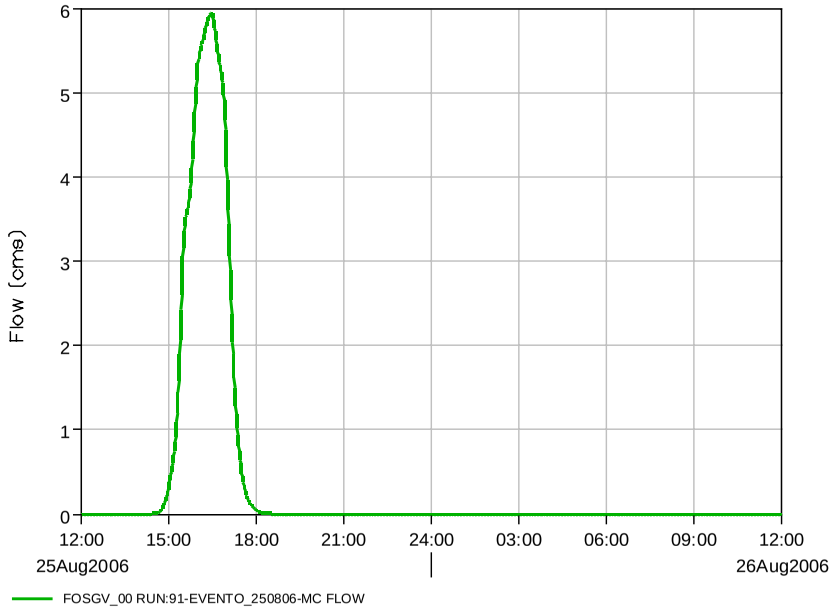

# *T. Montelungo a monte del F.so S. Giovanni [TRMLG_03]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 1.34 | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 80 |
| **Hsc** - quota sezione di chiusura | [m] | 263 | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.20 |
| **Hmb** - altitudine media del bacino | [m] | 307 | **La** - lunghezza asta principale | | [km] | 1.3 |
| **Hma** - quota massima asta principale | [m] | 330 | **ib** - pendenza media del bacino | | [%] | 11.0% |
| **Hmb** - quota massima bacino | [m] | 384 | **i** - pendenza media della rete drenaggio | | [m/m] | - |

## Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 1.24 | **Hm** - altitudine media sulla sez. di chiusura | [m] | 44.0 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 0.25 | **DH** - dislivello altimetrico estremi asta principale | [m] | 67 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 0.65 | **HM** - altitudine massima sulla sez. di chiusura | [m] | 121 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 1.47 | **Trr** - tempo di ritardo di Rosso | [h] | 0.34 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | - |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 0.15 |
| **Tca** - tempo di corrivazione di riferimento | [h] | 0.26 | **Tra** - tempo di ritardo adottato | [h] | 0.34 |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 1.34 |
| Loss / **Initial Abstraction** | [mm] | 12.7 |
| Loss / **CN** | [-] | 80 |
| Transform / **Lag Time** | [min] | 21 |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

**Tr** - tempo di ritorno [anni]

| | | | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **iIDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **10.7** | **13.9** | **18.7** | **34.2** | **45.4** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 8.0 | 10.4 | 14.0 | 25.5 | 33.9 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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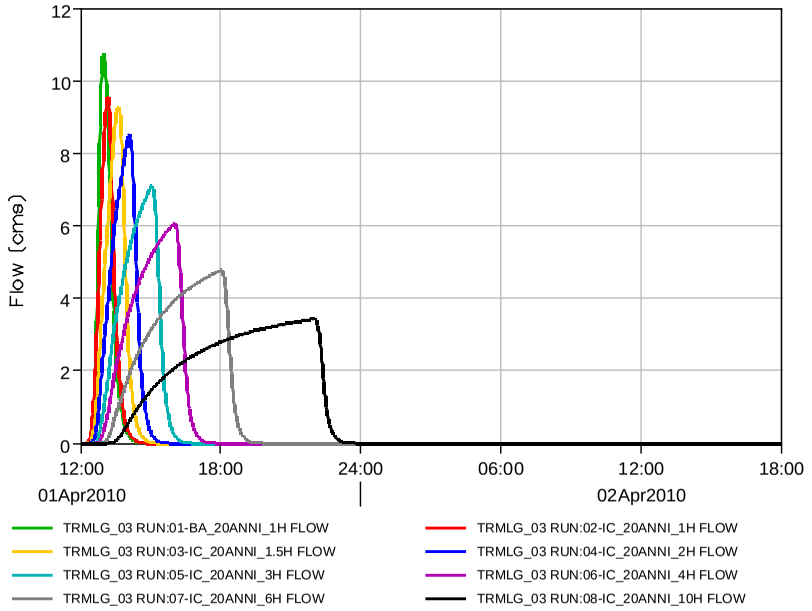


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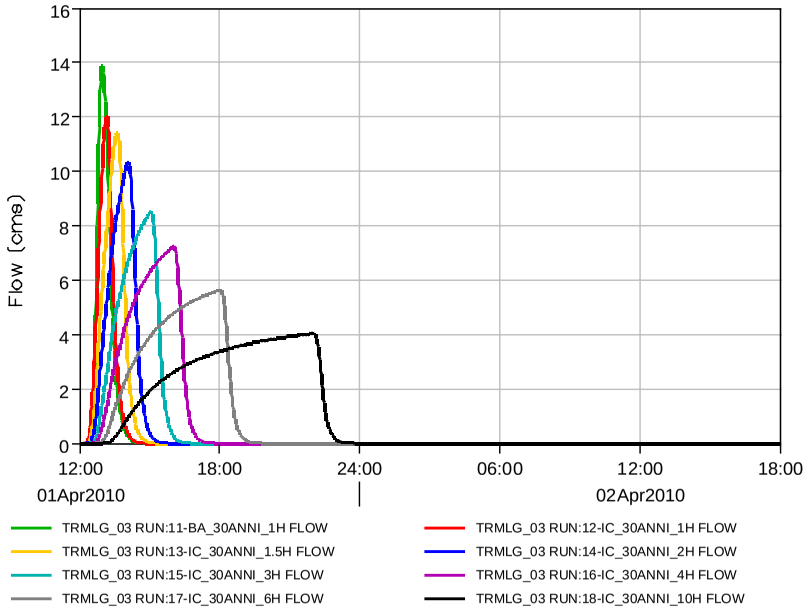


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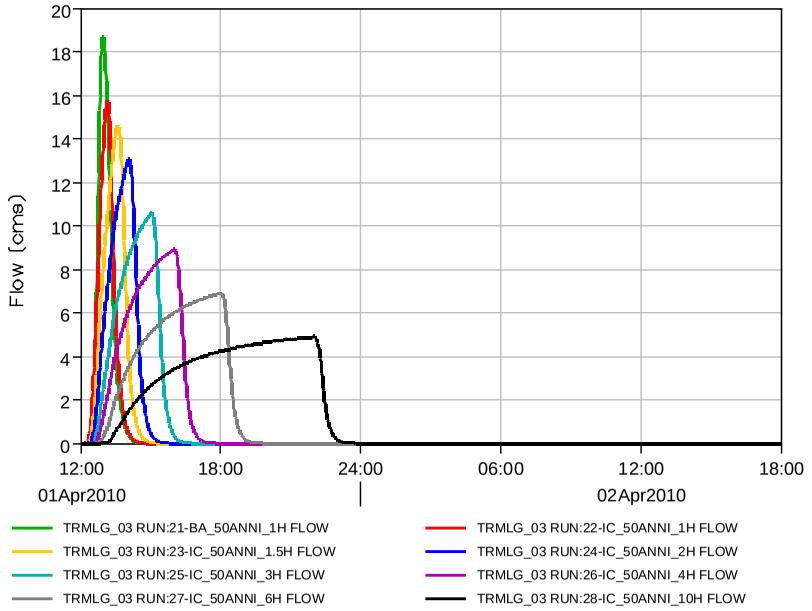


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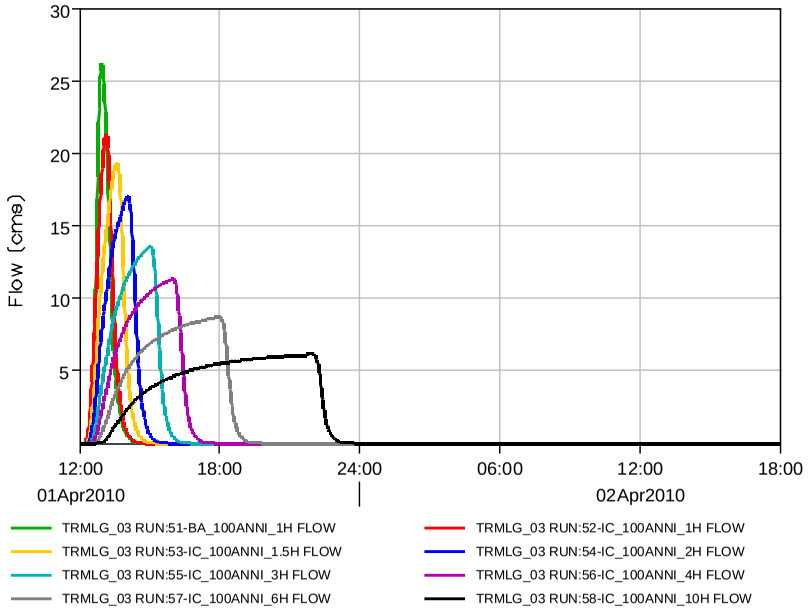

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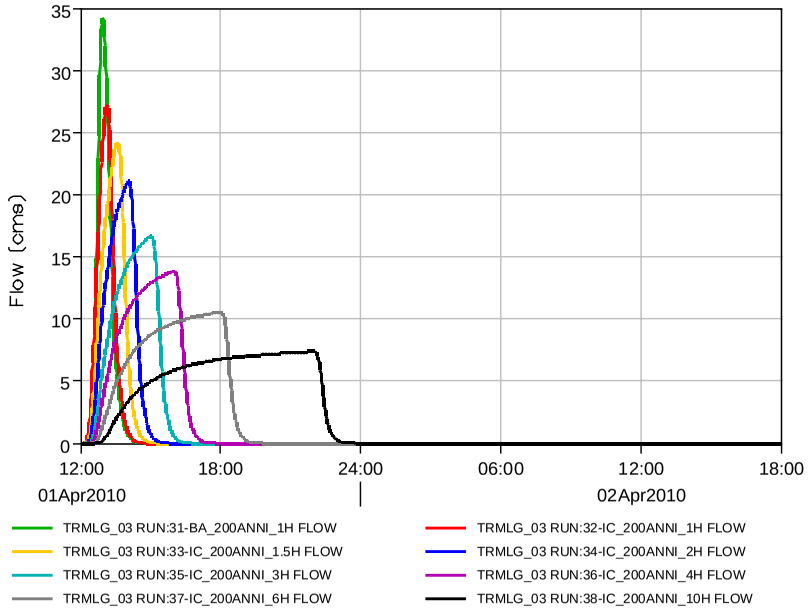


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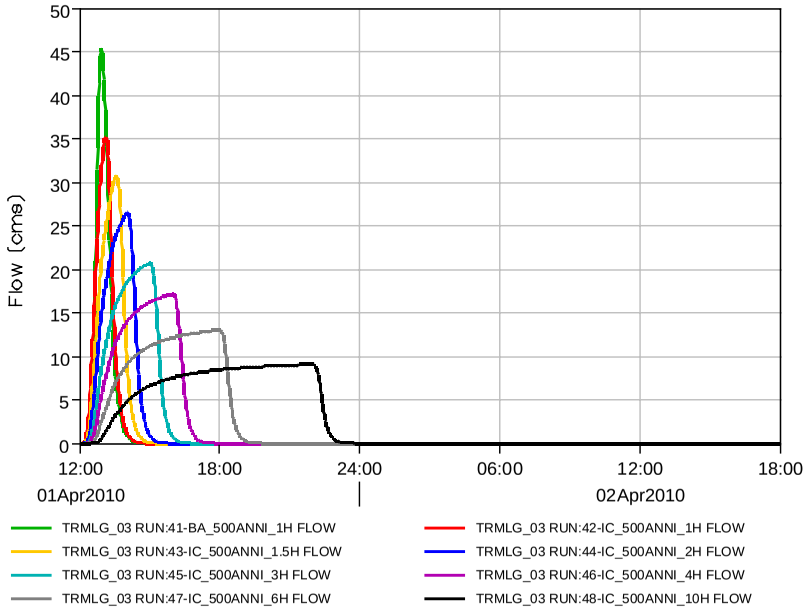


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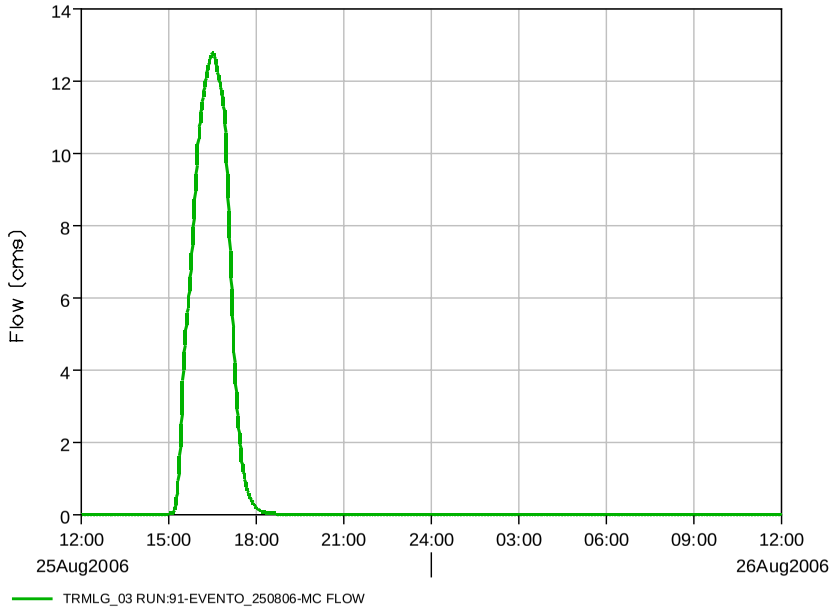

## *T. Montelungo a valle del F.so S. Giovanni [TRMLG_J05]*

### Dati caratteristici del bacino idrografico

**S** - superficie complessiva del bacino [kmq] **1.89**

### Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **iIlDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **16.2** | **20.8** | **27.8** | **50.2** | **66.2** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 8.6 | 11.0 | 14.7 | 26.6 | 35.0 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | 1.2 | | 1.2 | |
| | **Qmax** – portata al colmo | [mc/s] | | **16.0** | | **31.0** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | 13.3 | | 25.8 | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | 2.0 | | 2.0 | |
| | **Qmax** – portata al colmo | [mc/s] | | **31.0** | | **42.0** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | 15.5 | | 21.0 | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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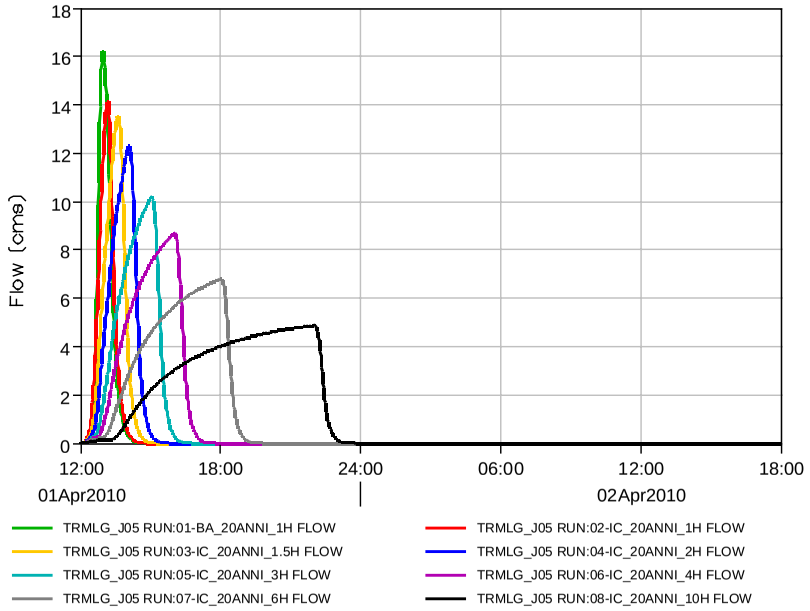


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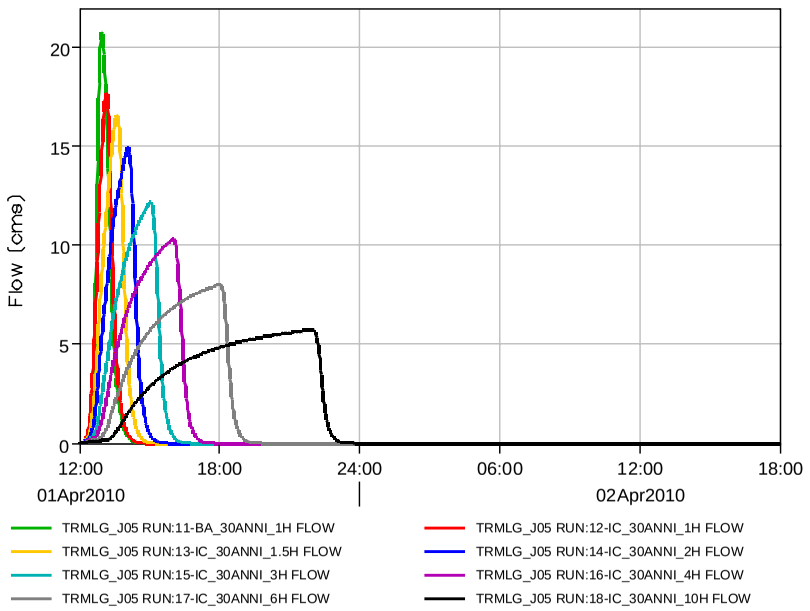


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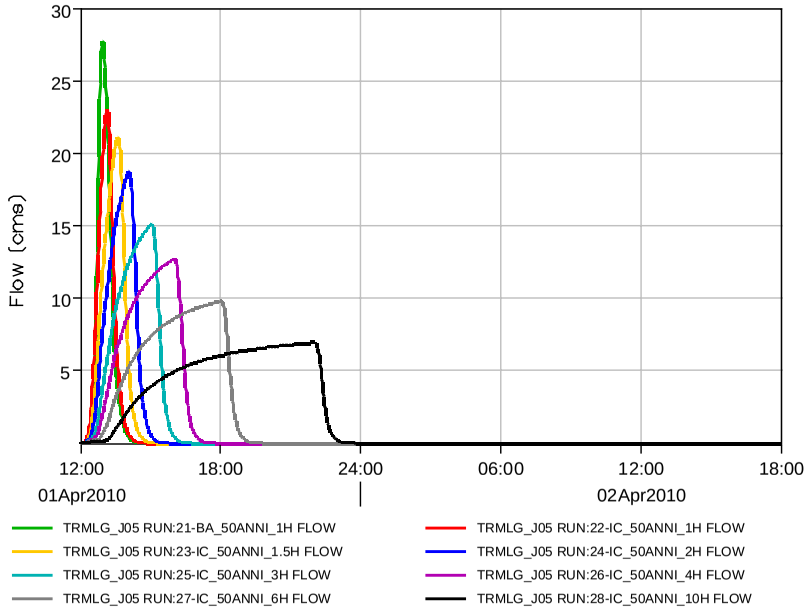


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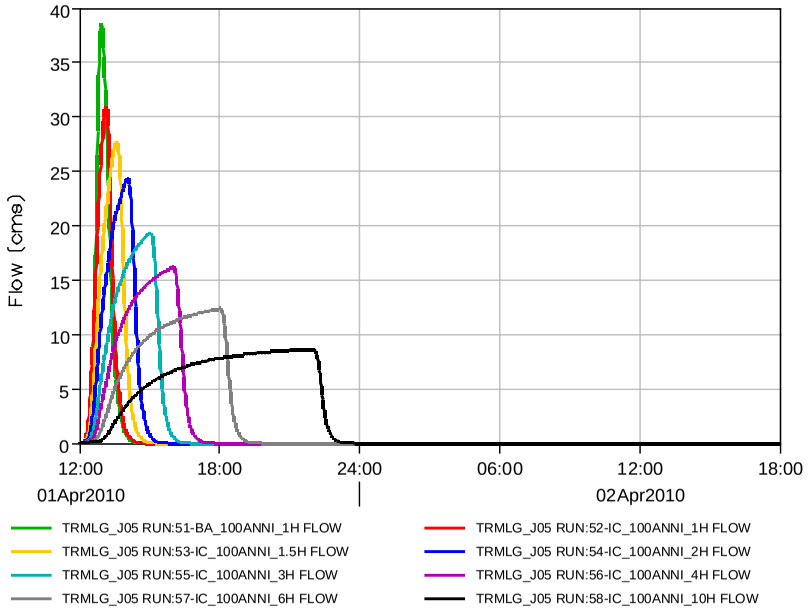

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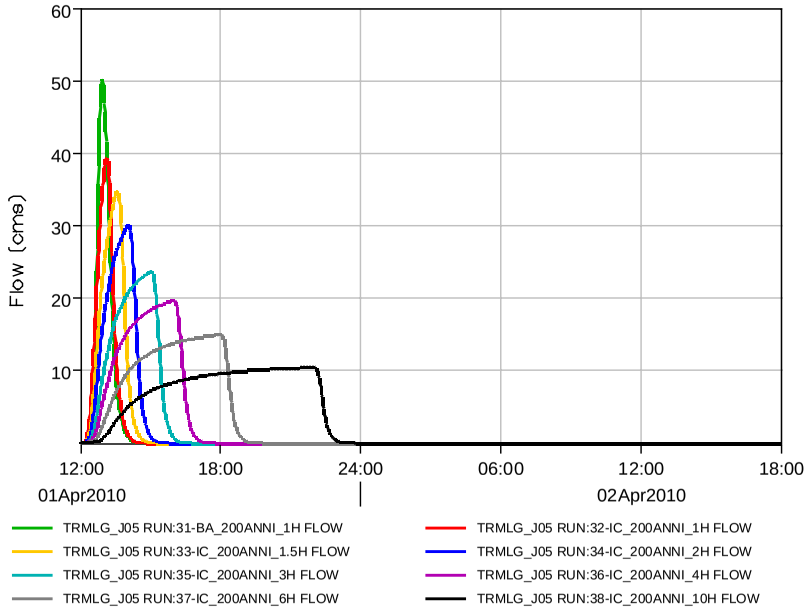


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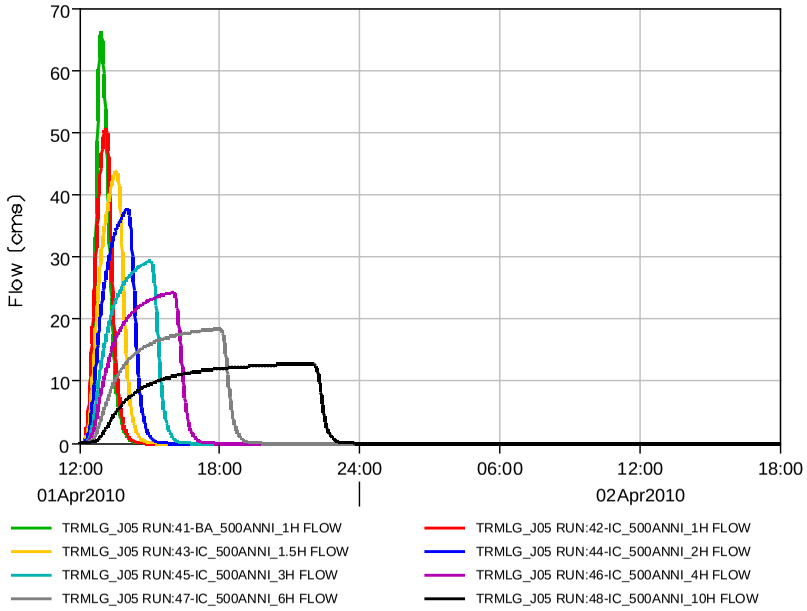


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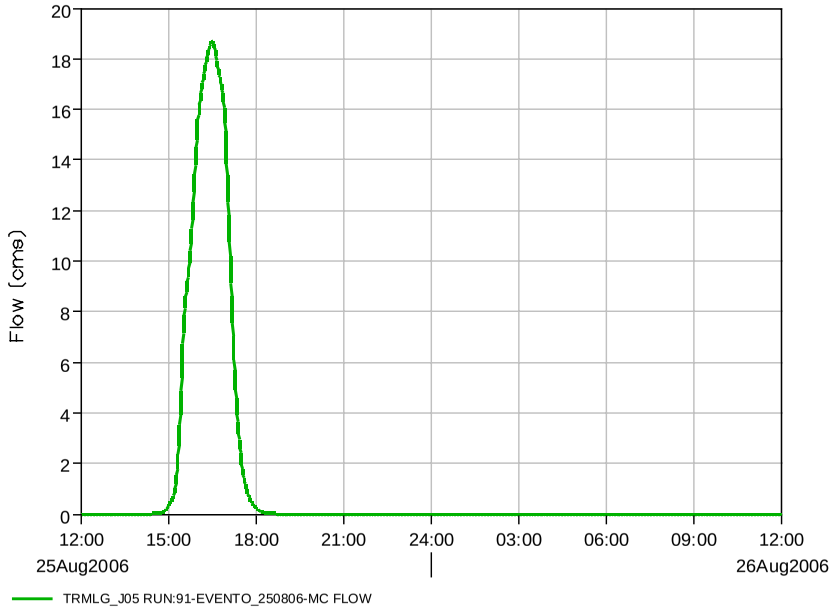

## *T. Montelungo a valle del F.so S.ta Caterina [TRMLG_J01]*

### Dati caratteristici del bacino idrografico

**S** - superficie complessiva del bacino [kmq] **3.45**

### Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **IlDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **25.3** | **32.2** | **42.5** | **75.8** | **99.5** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 7.3 | 9.3 | 12.3 | 22.0 | 28.8 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | 3.0 | | 3.0 | |
| | **Qmax** – portata al colmo | [mc/s] | | **31.0** | | **48.0** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | 10.3 | | 16.0 | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | 3.5 | | 3.5 | |
| | **Qmax** – portata al colmo | [mc/s] | | **38.0** | | **52.0** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | 10.9 | | 14.9 | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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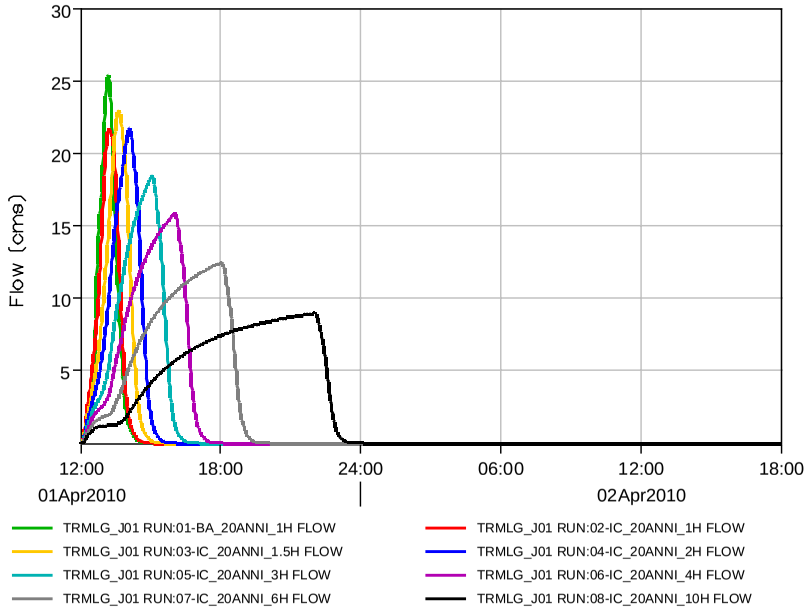


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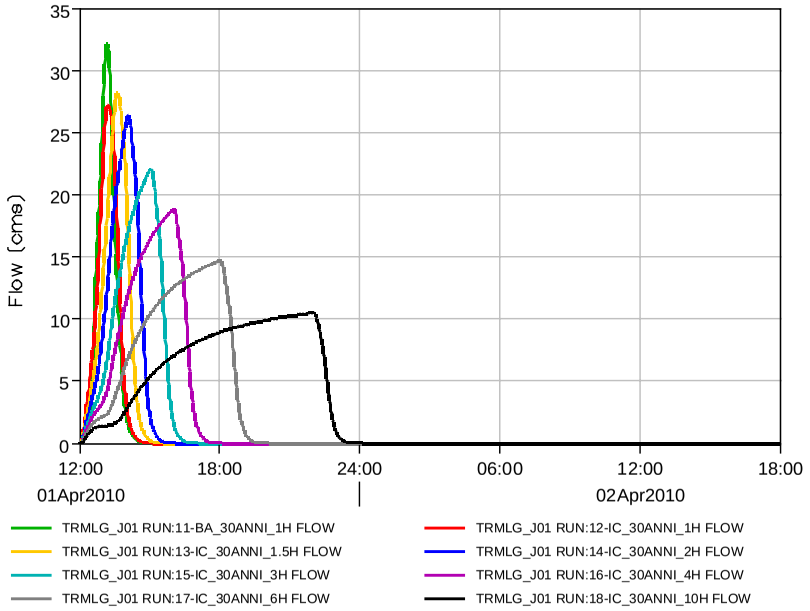


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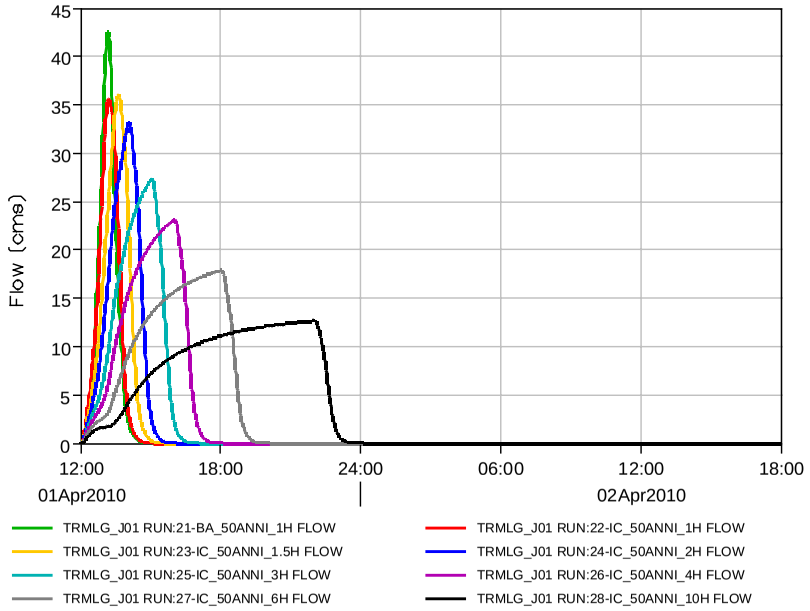


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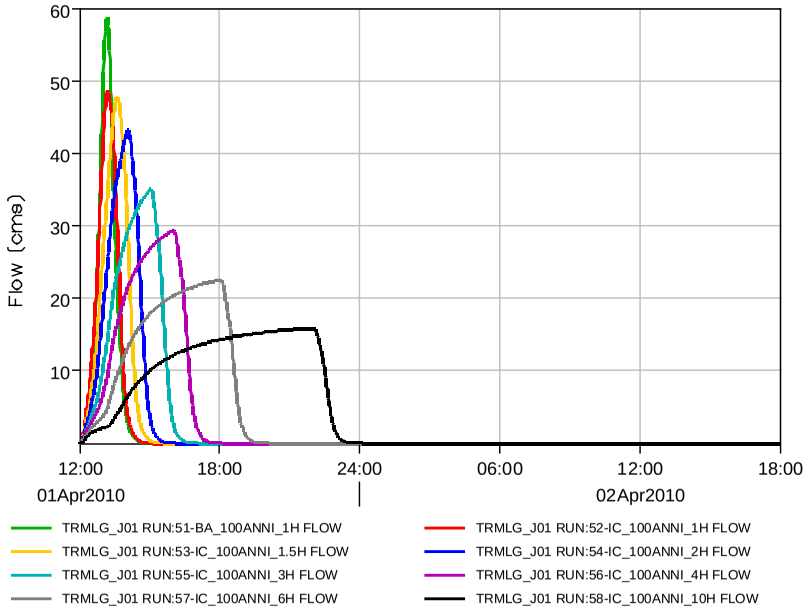

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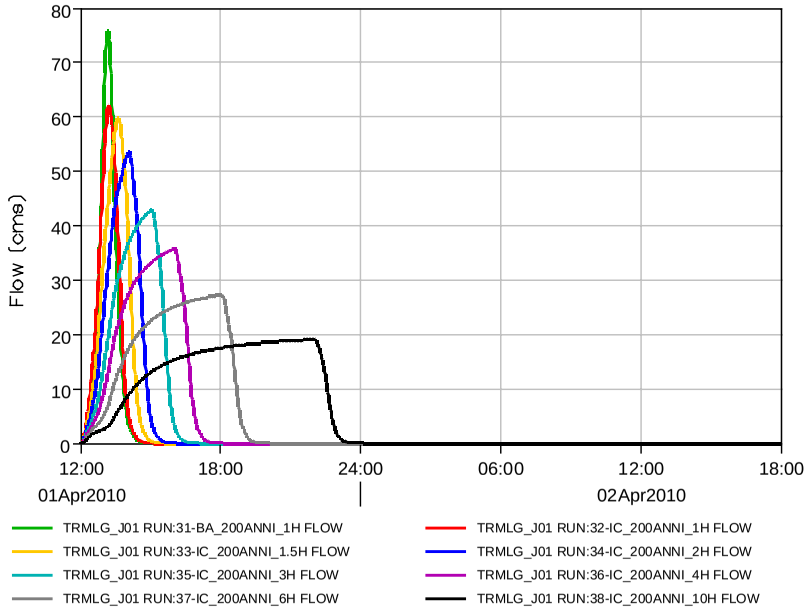


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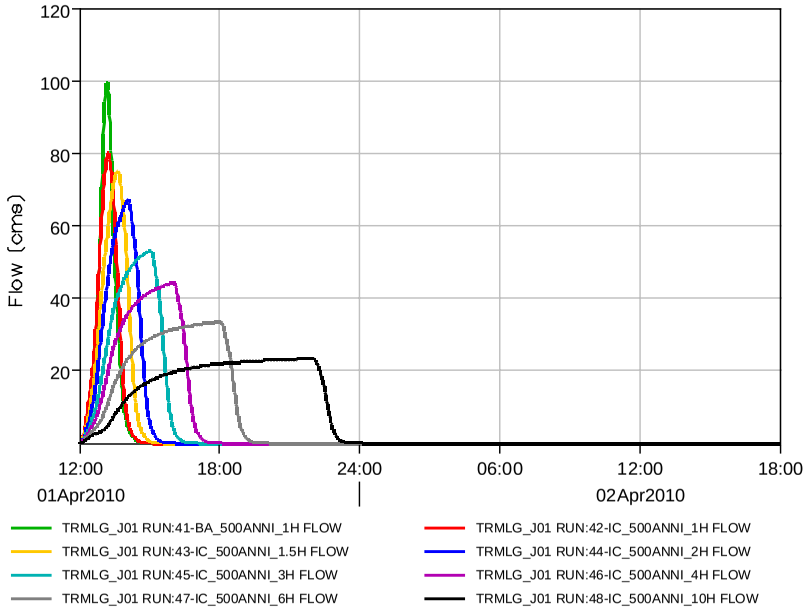


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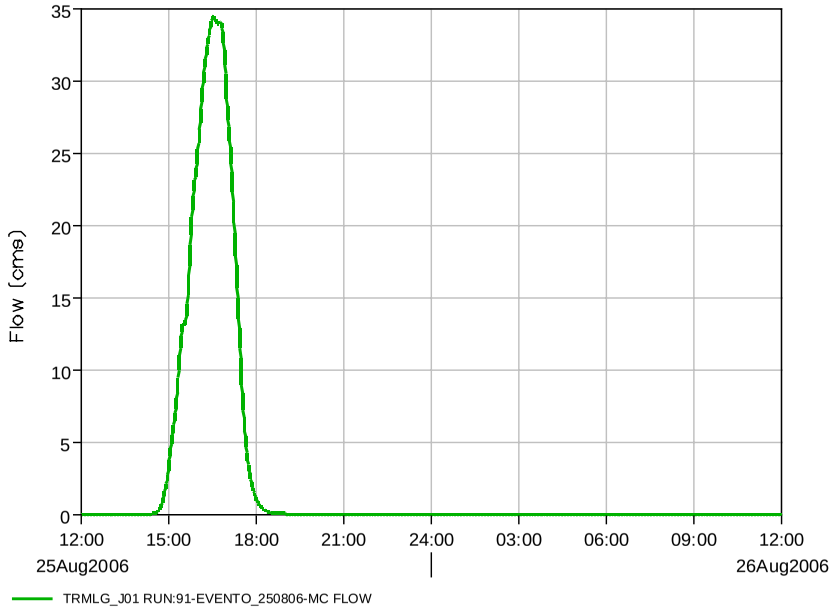

# C.LE CHIANETTA
# ed affluenti

# INDICE

**0**. SCHEMA MODELLO IDROLOGICO E MAPPE DEI PRINCIPALI PARAMETRI UTILIZZATI

**1**. TABELLE DEI PARAMETRI GEOMORFOLOGICI DI BACINO E IDROGRAMMI SEZIONI IDROLOGICHE SIGNIFICATIVE

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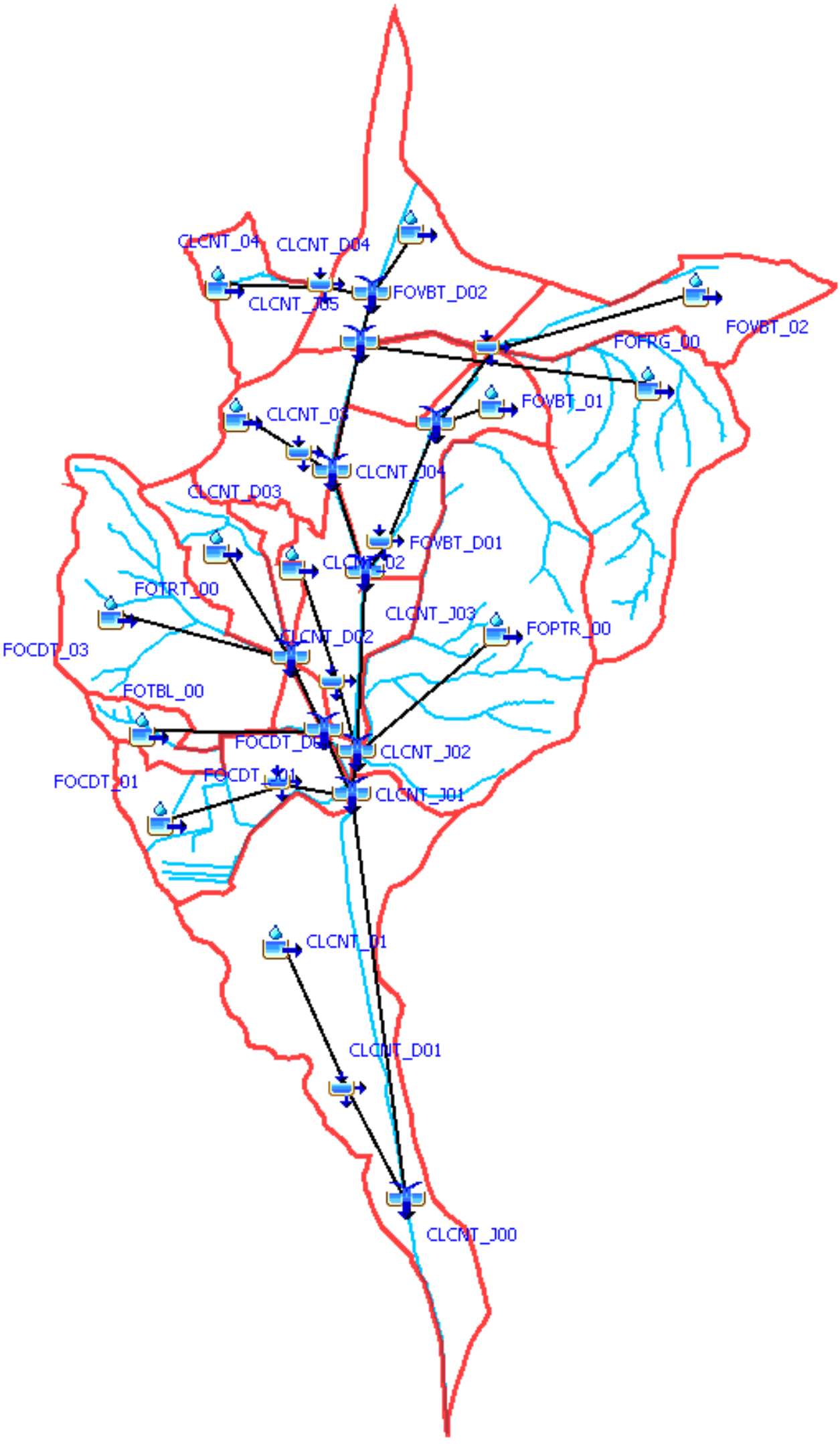
# SCHEMA MODELLO IDROLOGICO E MAPPE DEI PRINCIPALI PARAMETRI UTILIZZATI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CLCNT_J05
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FOVBT_01
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CLCNT_D03
FOVBT_D01
CLCNT_D02
FOTRT_00
CLCNT_J03
FOPTR_00
FOCDT_03
CLCNT_D02
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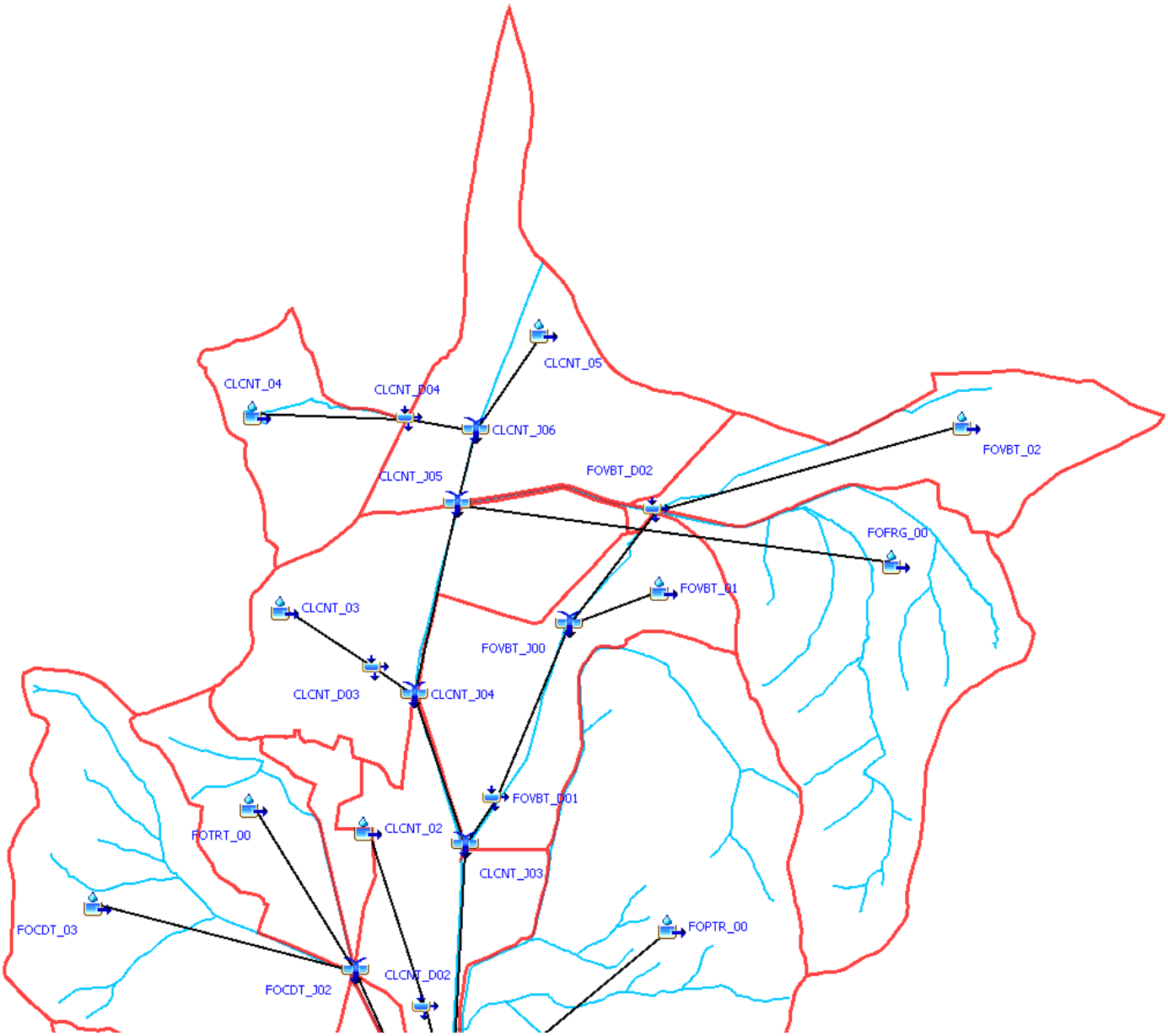
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CLCNT_J04
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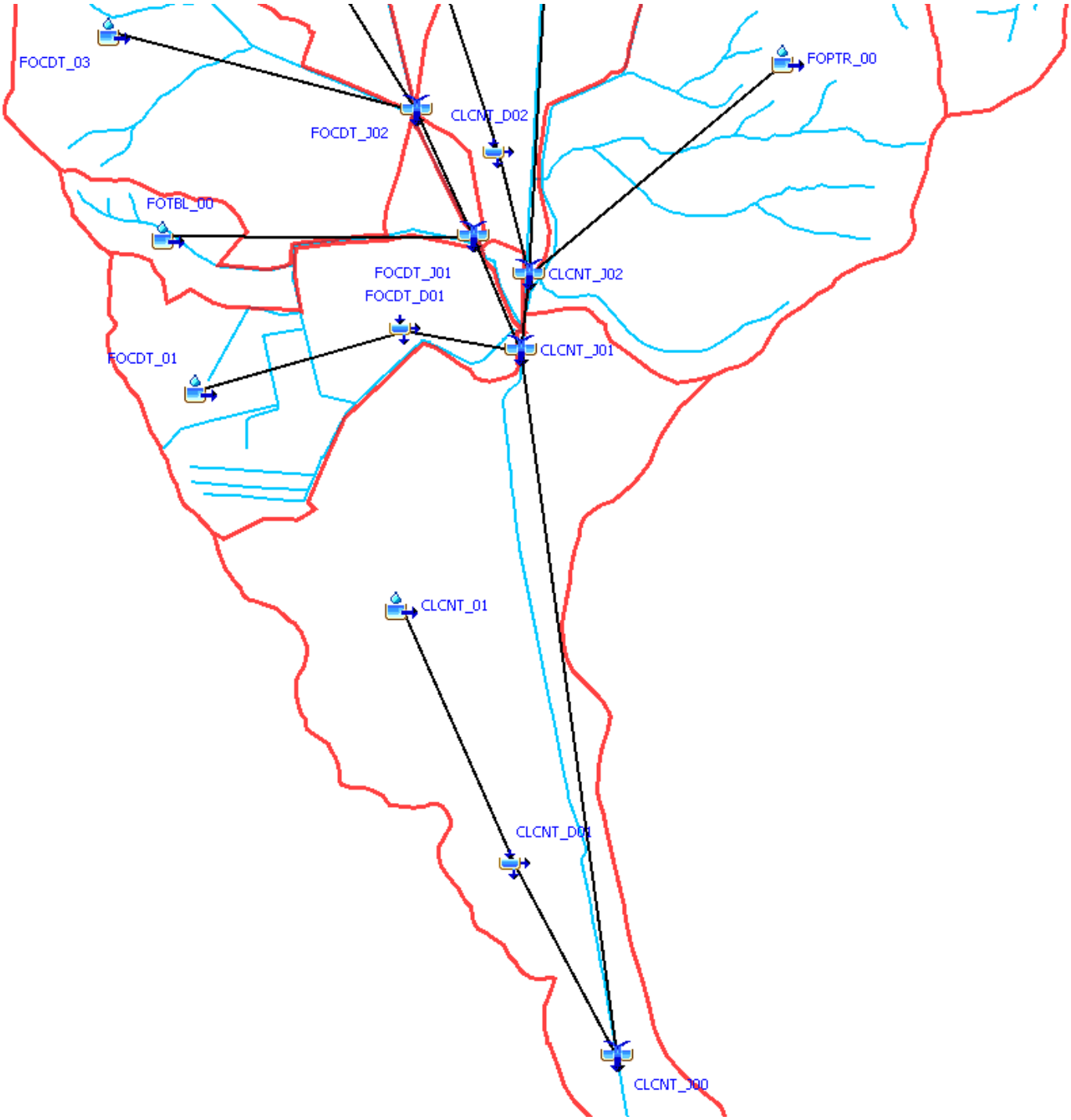
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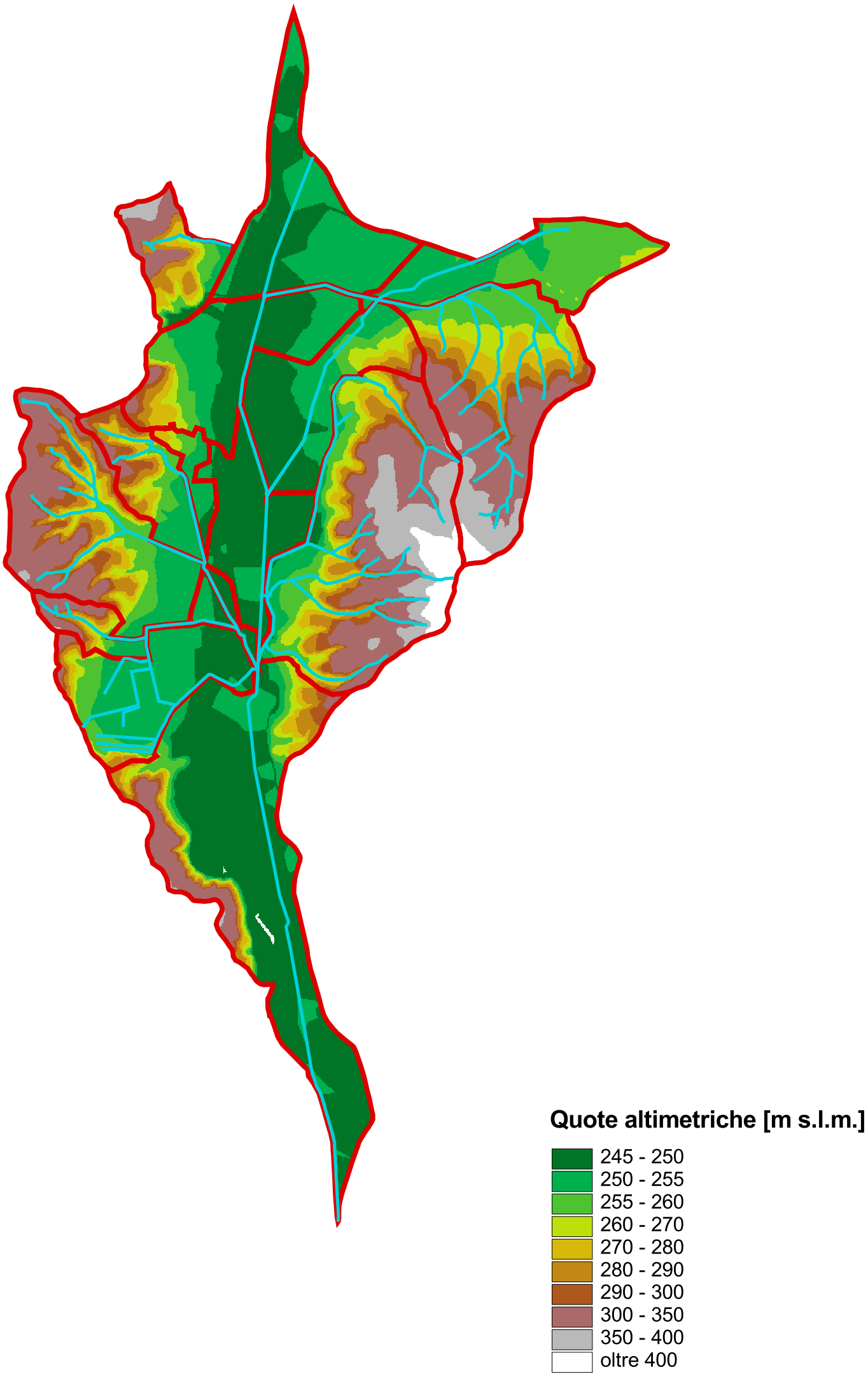
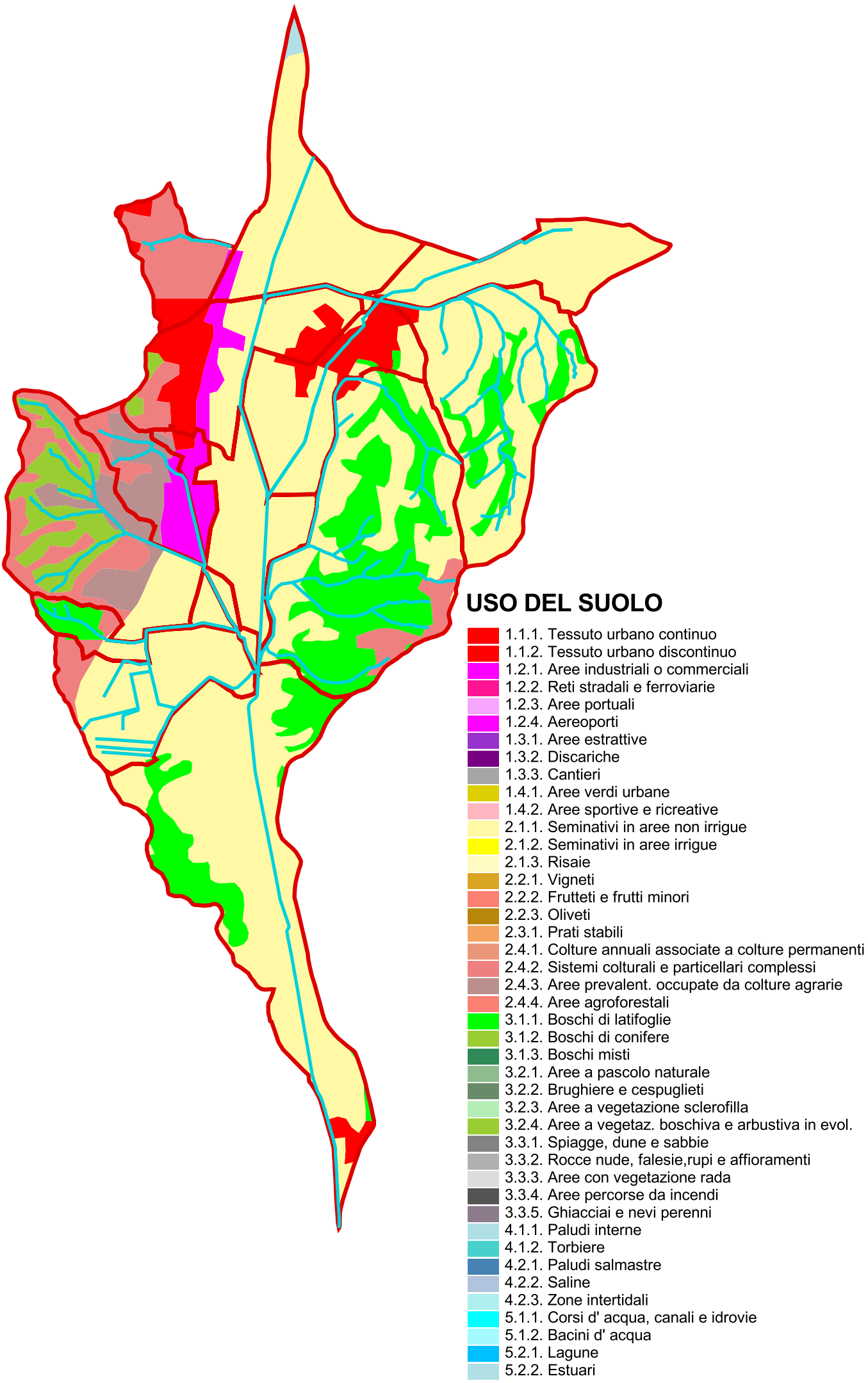
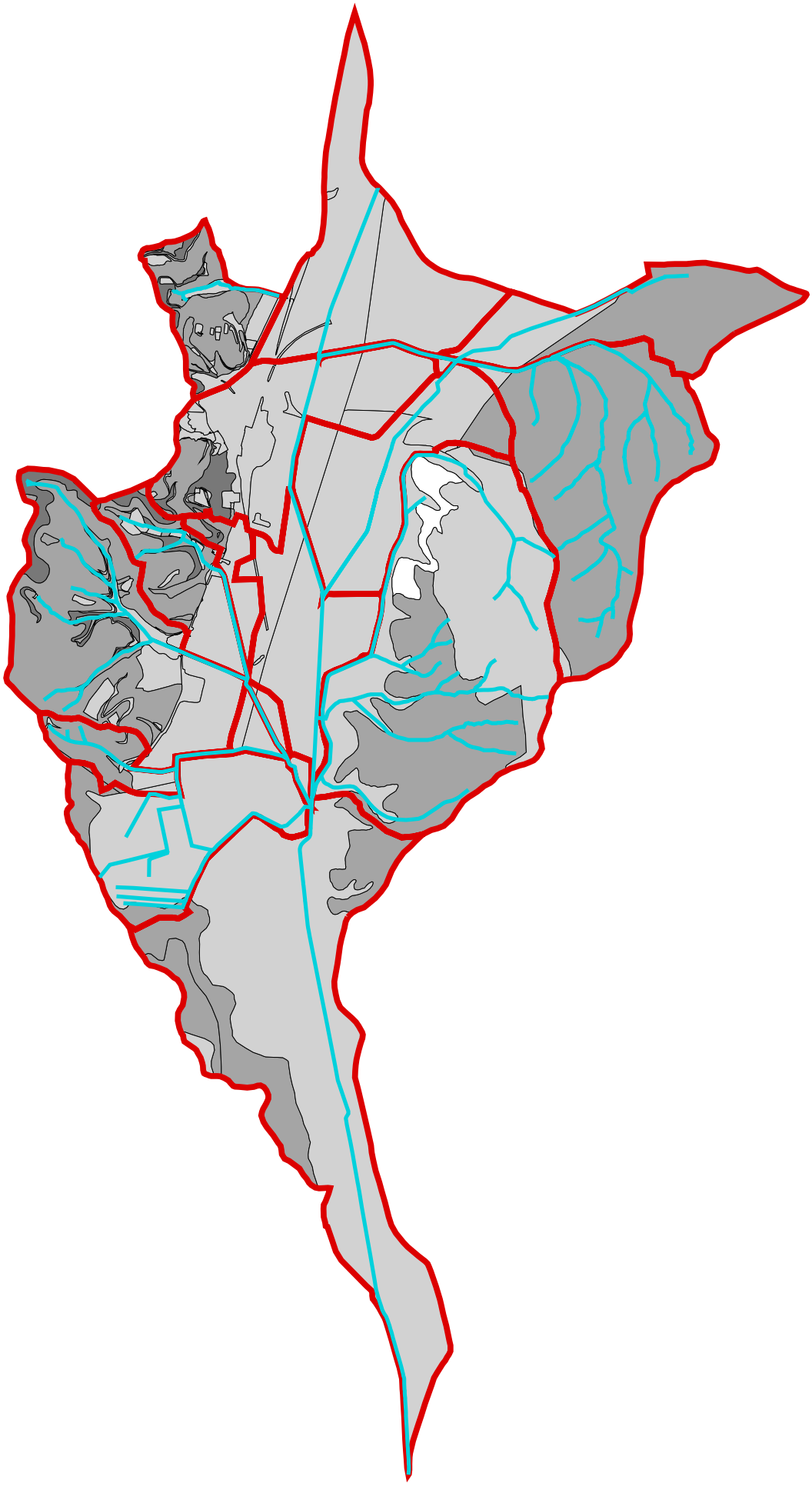
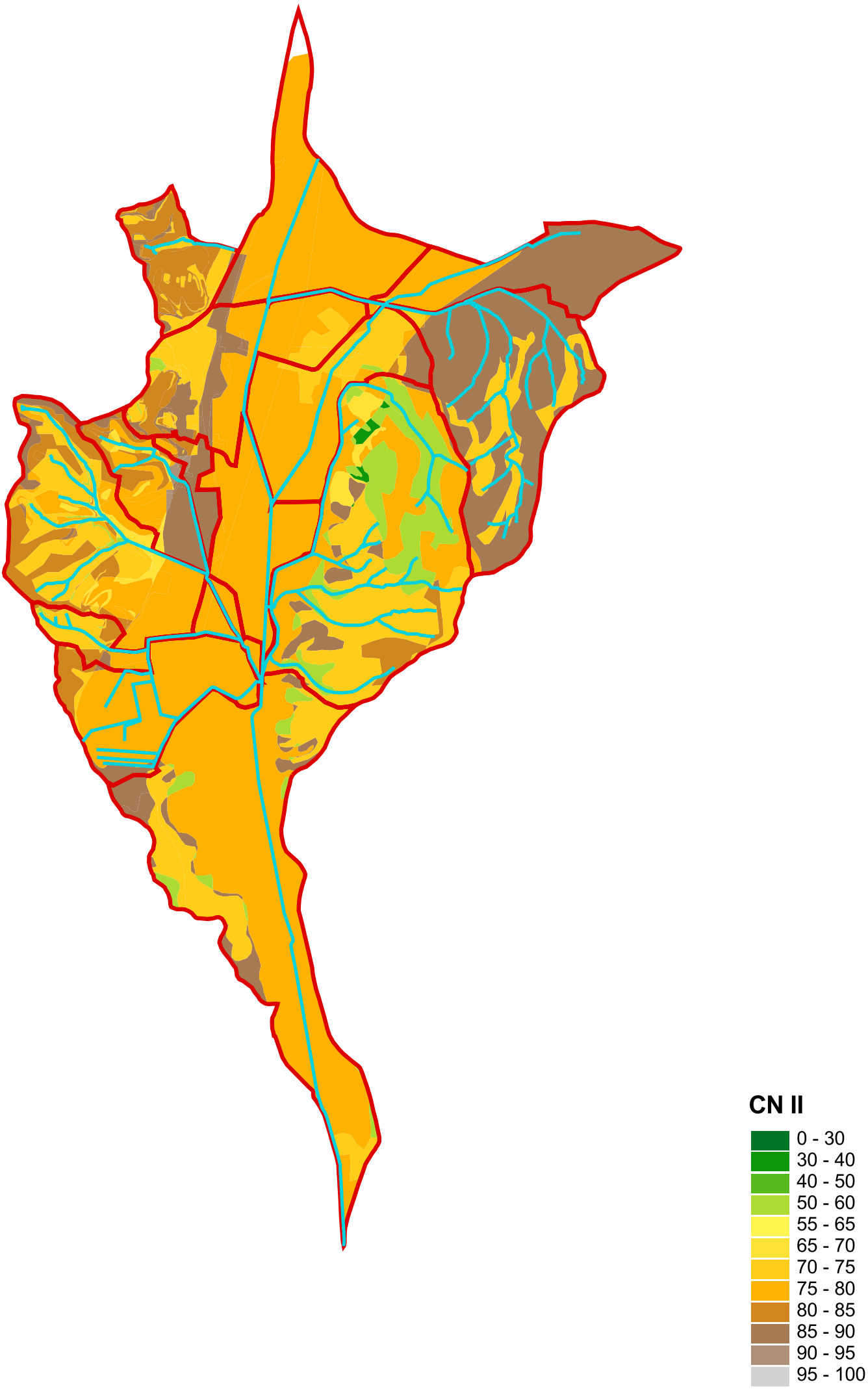
CLCNT_J00


Quote altimetriche [m s.l.m.]
245 - 250
250 - 255
255 - 260
260 - 270
270 - 280
280 - 290
290 - 300
300 - 350
350 - 400
oltre 400


USO DEL SUOLO
1.1.1. Tessuto urbano continuo
1.1.2. Tessuto urbano discontinuo
1.2.1. Aree industriali o commerciali
1.2.2. Reti stradali e ferroviarie
1.2.3. Aree portuali
1.2.4. Aereoporti
1.3.1. Aree estrattive
1.3.2. Discariche
1.3.3. Cantieri
1.4.1. Aree verdi urbane
1.4.2. Aree sportive e ricreative
2.1.1. Seminativi in aree non irrigue
2.1.2. Seminativi in aree irrigue
2.1.3. Risaie
2.2.1. Vigneti
2.2.2. Frutteti e frutti minori
2.2.3. Oliveti
2.3.1. Prati stabili
2.4.1. Colture annuali associate a colture permanenti
2.4.2. Sistemi colturali e particellari complessi
2.4.3. Aree prevalent. occupate da colture agrarie
2.4.4. Aree agroforestali
3.1.1. Boschi di latifoglie
3.1.2. Boschi di conifere
3.1.3. Boschi misti
3.2.1. Aree a pascolo naturale
3.2.2. Brughiere e cespuglieti
3.2.3. Aree a vegetazione sclerofilla
3.2.4. Aree a vegetaz. boschiva e arbustiva in evol.
3.3.1. Spiagge, dune e sabbie
3.3.2. Rocce nude, falesie,rupi e affioramenti
3.3.3. Aree con vegetazione rada
3.3.4. Aree percorse da incendi
3.3.5. Ghiacciai e nevi perenni
4.1.1. Paludi interne
4.1.2. Torbiere
4.2.1. Paludi salmastre
4.2.2. Saline
4.2.3. Zone intertidali
5.1.1. Corsi d' acqua, canali e idrovie
5.1.2. Bacini d' acqua
5.2.1. Lagune
5.2.2. Estuari


CLASSE SUOLO
A
B
C
D


CN II
0 - 30
30 - 40
40 - 50
50 - 60
55 - 65
65 - 70
70 - 75
75 - 80
80 - 85
85 - 90
90 - 95
95 - 100

# 1.
# TABELLE DEI PARAMETRI GEOMORFOLOGICI DI BACINO E IDROGRAMMI SEZIONI IDROLOGICHE SIGNIFICATIVE

# *Fosso della Fargnia alla confluenza nel C.le Chianetta [FOFRG_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **2.81** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **83** |
| **Hsc** - quota sezione di chiusura | [m] | **250** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.25** |
| **Hmb** - altitudine media del bacino | [m] | **302** | **La** - lunghezza asta principale | | [km] | **4.7** |
| **Hma** - quota massima asta principale | [m] | **350** | **ib** - pendenza media del bacino | | [%] | **6.4%** |
| **Hmb** - quota massima bacino | [m] | **454** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

## Parametri calcolati

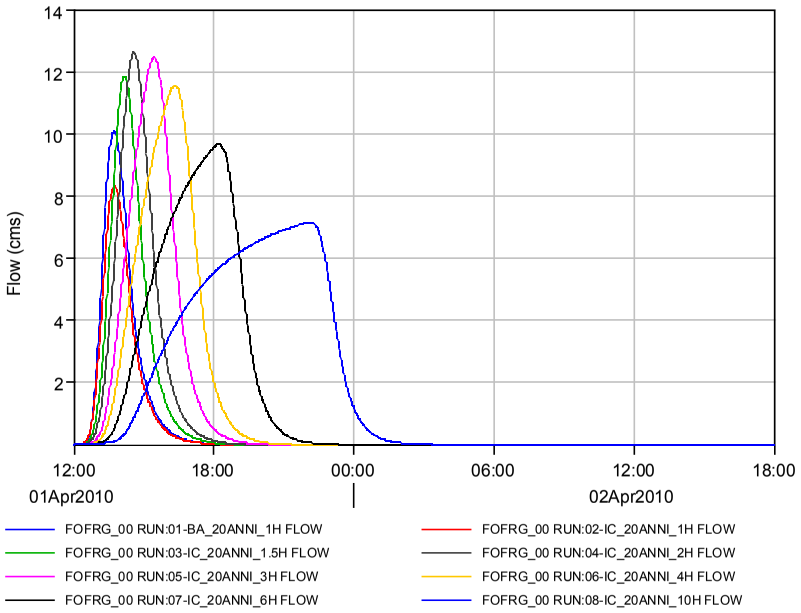
| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | **2.38** | **Hm** - altitudine media sulla sez. di chiusura | [m] | **52.0** |
| **Tck** - tempo di corrivazione di Kirpich | [h] | **0.96** | **DH** - dislivello altimetrico estremi asta principale | [m] | **100** |
| **Tcv** - tempo di corrivazione di Ventura | [h] | **1.46** | **HM** - altitudine massima sulla sez. di chiusura | [m] | **204** |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | **2.93** | **Trr** - tempo di ritardo di Rosso | [h] | **1.07** |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | **-** | **TrRT** - tempo di ritardo region. Al.To. | [h] | **0.90** |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | **0.60** |
| **Tca** - tempo di corrivazione di riferimento | [h] | **0.99** | **Tra** - tempo di ritardo adottato | [h] | **1.07** |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **2.81** |
| Loss / **Initial Abstraction** | [mm] | **13.0** |
| Loss / **CN** | [-] | **83** |
| Transform / **Lag Time** | [min] | **64** |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **12.6** | **15.6** | **20.0** | **33.5** | **42.7** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 4.5 | 5.6 | 7.1 | 11.9 | 15.2 |
| **C.B.C.R.** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | 2.9 | | | 2.9 | |
| | **Qmax** – portata al colmo | [mc/s] | **12.9** | | | **17.7** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 4.4 | | | 6.1 | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | 2.9 | |
| | **Qmax** – portata al colmo | [mc/s] | | | | **20.7** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | 7.1 | |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FOFRG_00 RUN:02-IC_20ANNI_1H FLOW
FOFRG_00 RUN:03-IC_20ANNI_1.5H FLOW
FOFRG_00 RUN:04-IC_20ANNI_2H FLOW
FOFRG_00 RUN:05-IC_20ANNI_3H FLOW
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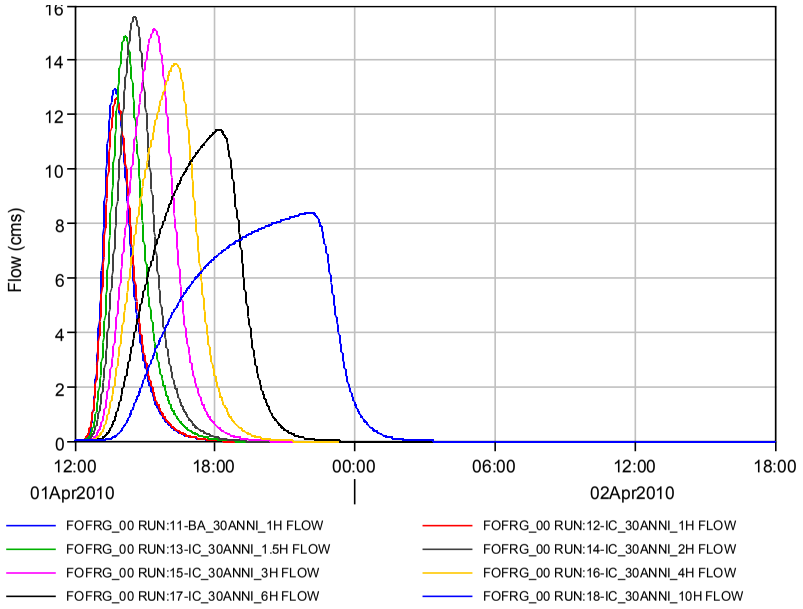
FOFRG_00 RUN:08-IC_20ANNI_10H FLOW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FOFRG_00 RUN:11-BA_30ANNI_1H FLOW
FOFRG_00 RUN:12-IC_30ANNI_1H FLOW
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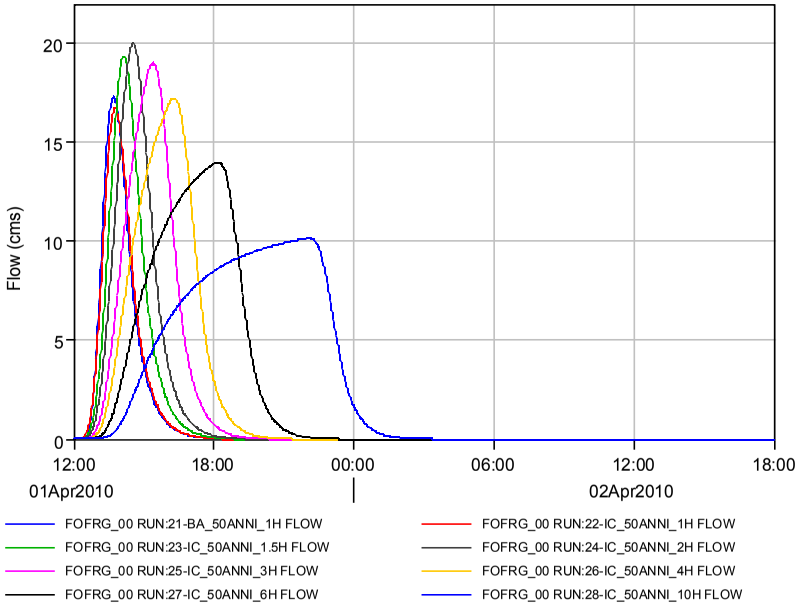
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FOFRG_00 RUN:22-IC_50ANNI_1H FLOW
FOFRG_00 RUN:23-IC_50ANNI_1.5H FLOW
FOFRG_00 RUN:24-IC_50ANNI_2H FLOW
FOFRG_00 RUN:25-IC_50ANNI_3H FLOW
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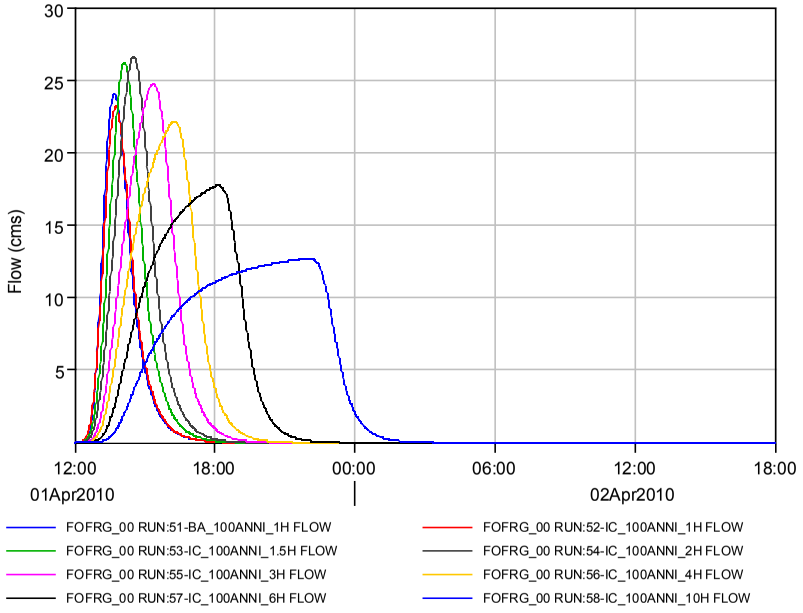
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FOFRG_00 RUN:53-IC_100ANNI_1.5H FLOW
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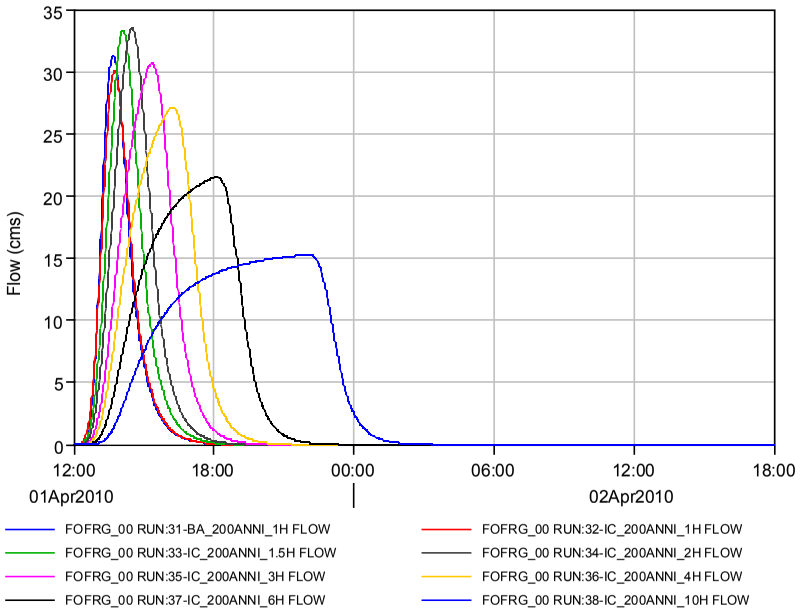
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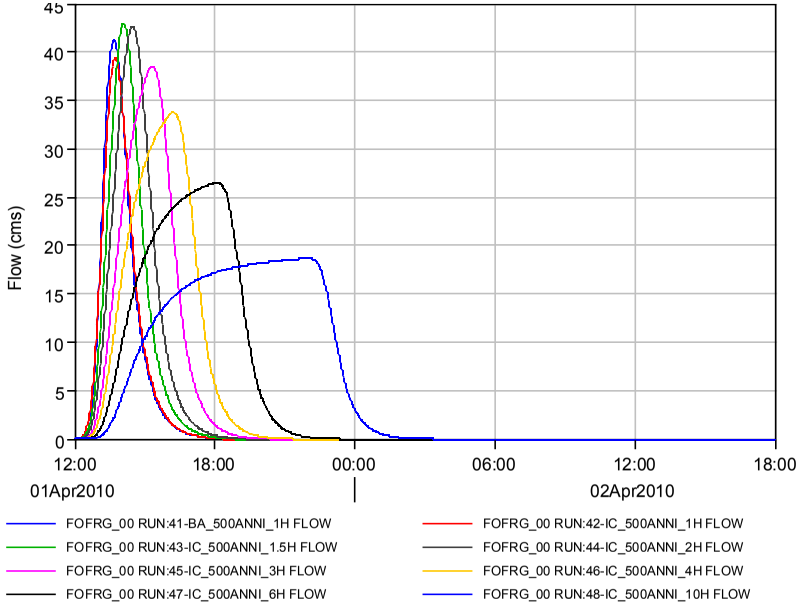
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FOFRG_00 RUN:44-IC_500ANNI_2H FLOW
FOFRG_00 RUN:45-IC_500ANNI_3H FLOW
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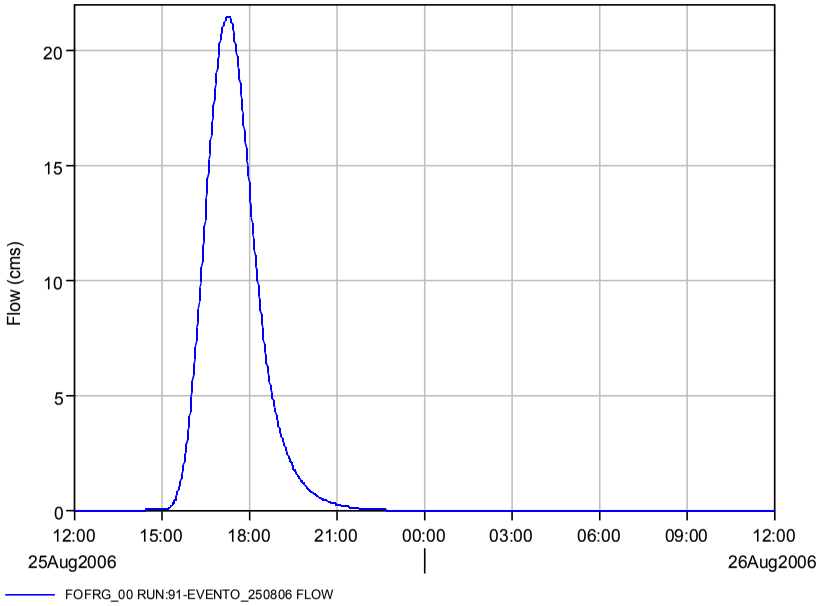
FOFRG_00 RUN:48-IC_500ANNI_10H FLOW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25Aug2006
26Aug2006
FOFRG_00 RUN:91-EVENTO_250806 FLOW

# *F.so Cardete a monte del F.so Tarantello [FOCRD_03]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **2.38** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **78** |
| **Hsc** - quota sezione di chiusura | [m] | **250** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.25** |
| **Hmb** - altitudine media del bacino | [m] | **291** | **La** - lunghezza asta principale | | [km] | **2.6** |
| **Hma** - quota massima asta principale | [m] | **332** | **ib** - pendenza media del bacino | | [%] | **10.2%** |
| **Hmb** - quota massima bacino | [m] | **360** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

## Parametri calcolati

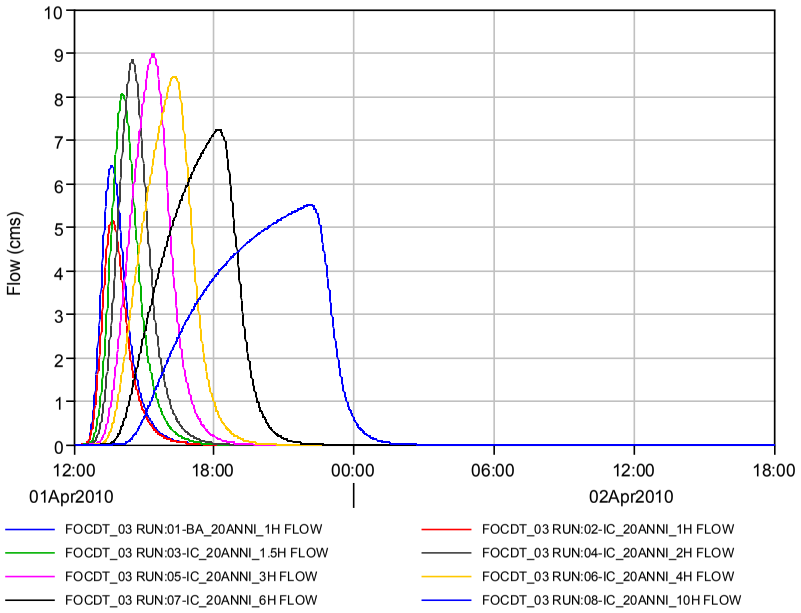
| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | **1.97** | **Hm** - altitudine media sulla sez. di chiusura | [m] | **41.0** |
| **Tck** - tempo di corrivazione di Kirpich | [h] | **0.52** | **DH** - dislivello altimetrico estremi asta principale | [m] | **82** |
| **Tcv** - tempo di corrivazione di Ventura | [h] | **1.10** | **HM** - altitudine massima sulla sez. di chiusura | [m] | **110** |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | **2.41** | **Trr** - tempo di ritardo di Rosso | [h] | **0.62** |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | **-** | **TrRT** - tempo di ritardo region. Al.To. | [h] | **-** |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | **0.33** |
| **Tca** - tempo di corrivazione di riferimento | [h] | **0.55** | **Tra** - tempo di ritardo adottato | [h] | **0.62** |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **2.38** |
| Loss / **Initial Abstraction** | [mm] | **17.9** |
| Loss / **CN** | [-] | **78** |
| Transform / **Lag Time** | [min] | **56** |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **9.0** | **11.3** | **15.0** | **26.5** | **34.6** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 3.8 | 4.7 | 6.3 | 11.1 | 14.5 |
| **C.B.C.R.** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | 2.9 | | | 2.9 | |
| | **Qmax** – portata al colmo | [mc/s] | **14.7** | | | **20.7** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 5.1 | | | 7.1 | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |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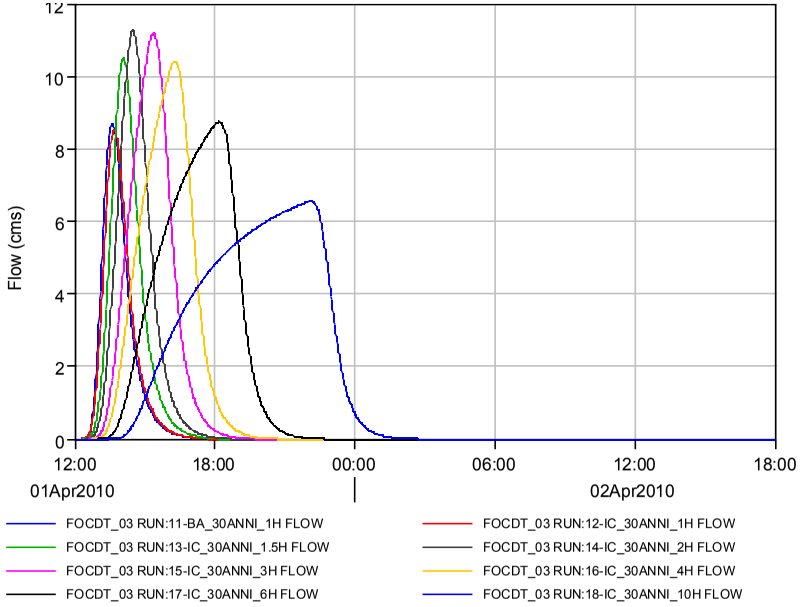
01Apr2010
02Apr2010
FOCDT_03 RUN:01-BA_20ANNI_1H FLOW
FOCDT_03 RUN:02-IC_20ANNI_1H FLOW
FOCDT_03 RUN:03-IC_20ANNI_1.5H FLOW
FOCDT_03 RUN:04-IC_20ANNI_2H FLOW
FOCDT_03 RUN:05-IC_20ANNI_3H FLOW
FOCDT_03 RUN:06-IC_20ANNI_4H FLOW
FOCDT_03 RUN:07-IC_20ANNI_6H FLOW
FOCDT_03 RUN:08-IC_20ANNI_10H FLOW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FOCDT_03 RUN:11-BA_30ANNI_1H FLOW
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FOCDT_03 RUN:13-IC_30ANNI_1.5H FLOW
FOCDT_03 RUN:14-IC_30ANNI_2H FLOW
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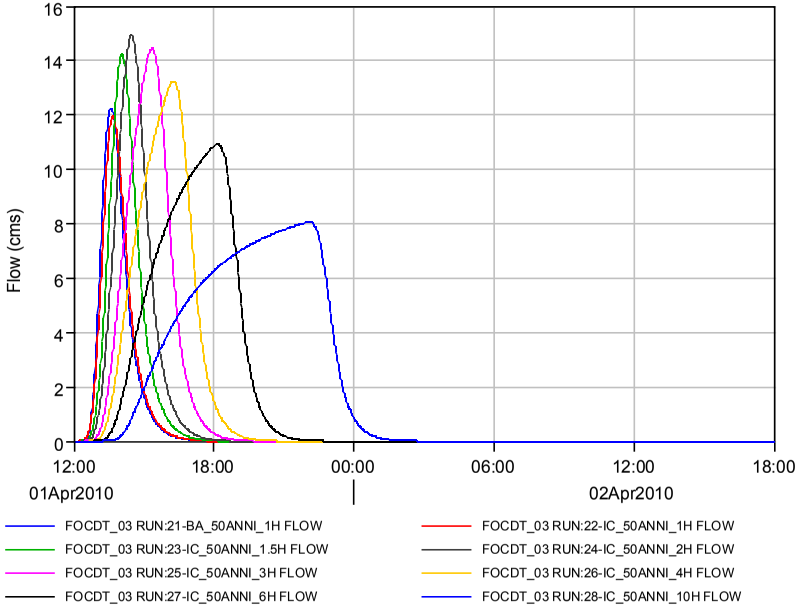
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FOCDT_03 RUN:21-BA_50ANNI_1H FLOW
FOCDT_03 RUN:22-IC_50ANNI_1H FLOW
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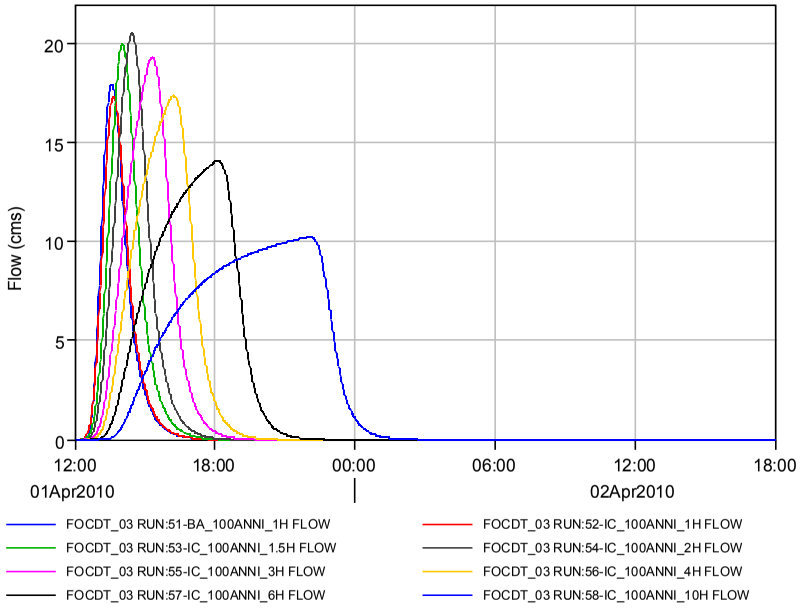
FOCDT_03 RUN:28-IC_50ANNI_10H FLOW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FOCDT_03 RUN:51-BA_100ANNI_1H FLOW
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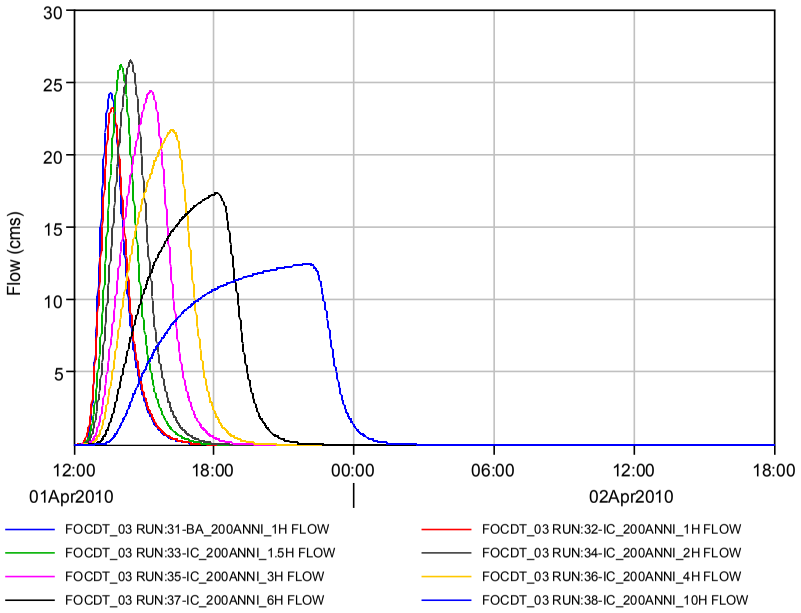
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FOCDT_03 RUN:31-BA_200ANNI_1H FLOW
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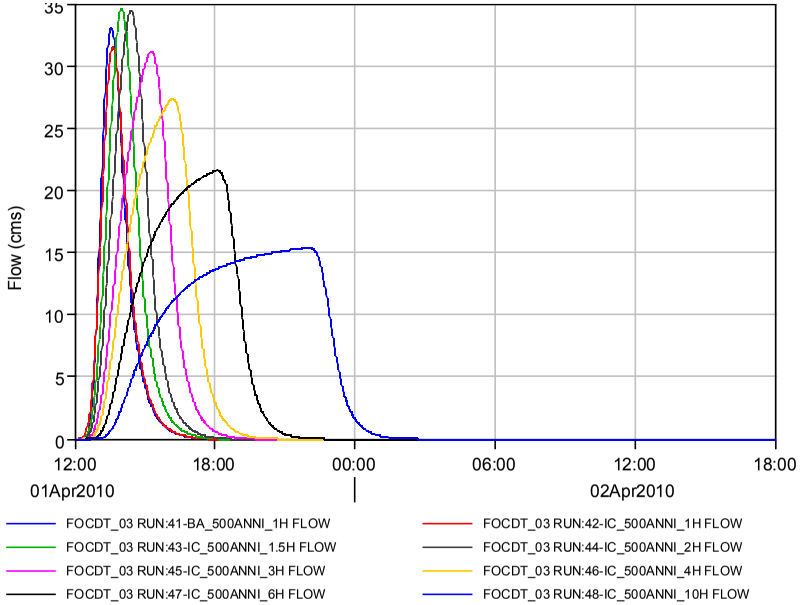
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02Apr2010
FOCDT_03 RUN:41-BA_500ANNI_1H FLOW
FOCDT_03 RUN:42-IC_500ANNI_1H FLOW
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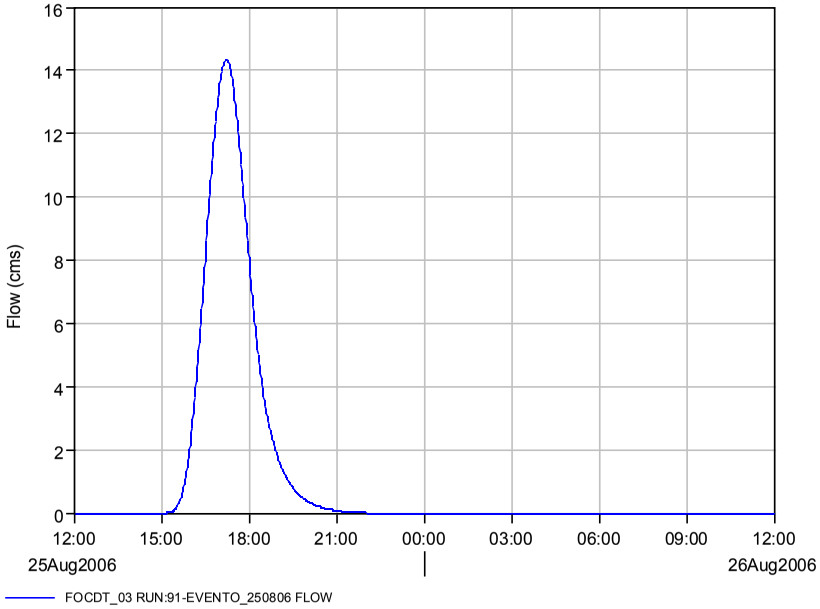
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25Aug2006
26Aug2006
FOCDT_03 RUN:91-EVENTO_250806 FLOW

## *F.so Cardete a valle della confluenza del F.so Tombarelle (agricolo) [FOCRD_01]*

### Dati caratteristici del bacino idrografico

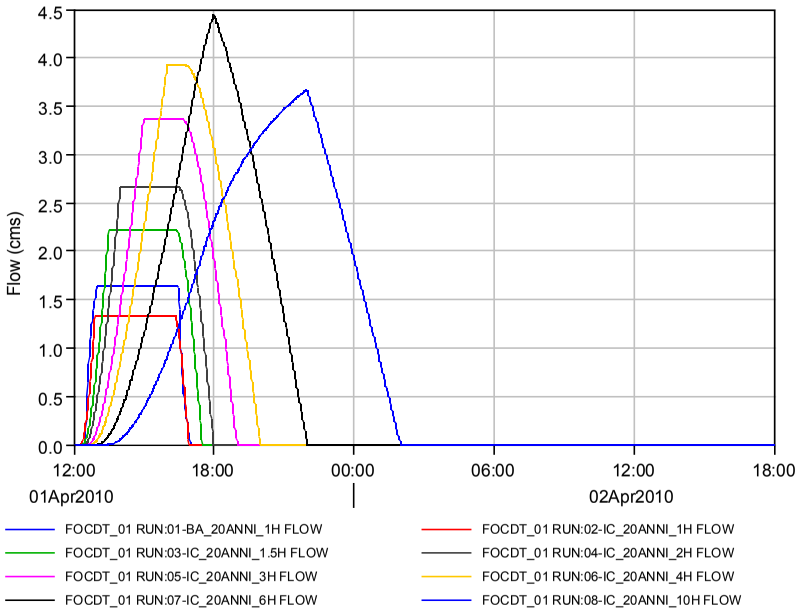
| | | | | | | |
|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **1.6** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **80** |
| **$H_{sc}$** - quota sezione di chiusura | [m] | **250** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.25** |
| **$H_{mb}$** - altitudine media del bacino | [m] | **291** | **La** - lunghezza asta principale | | [km] | **2.0** |
| **$H_{ma}$** - quota massima asta principale | [m] | **256** | **$i_b$** - pendenza media del bacino | | [%] | **10.2%** |
| **$H_{mb}$** - quota massima bacino | [m] | **360** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

### Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **$T_{cg}$** - tempo di corrivazione di Giandotti | [h] | **1.57** | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | **41.0** |
| **$T_{ck}$** - tempo di corrivazione di Kirpich | [h] | **1.06** | **DH** - dislivello altimetrico estremi asta principale | [m] | **6.0** |
| **$T_{cv}$** - tempo di corrivazione di Ventura | [h] | **2.93** | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | **110** |
| **$T_{cpu}$** - tempo di corrivazione di Puglisi | [h] | **2.02** | **$T_{rr}$** - tempo di ritardo di Rosso | [h] | **0.50** |
| **$T_{cpa}$** - tempo di corrivazione di Pasini | [h] | **-** | **$T_{rRT}$** - tempo di ritardo region. Al.To. | [h] | **-** |
| | | | **$T_{rc}$** - tempo di ritardo dal tempo di corrivazione | [h] | **2.11** |
| **$T_{ca}$** - tempo di corrivazione di adottato | [h] | **3.51** | **$T_{ra}$** - tempo di ritardo di riferimento | [h] | **0.50** |

### Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **1.59** |
| Loss / **Initial Abstraction** | [mm] | **15.9** |
| Loss / **CN** | [-] | **80** |
| **UH Y hight** | [mc/s] | **0.126** |
| **UH X lenght** | [min] | **211** |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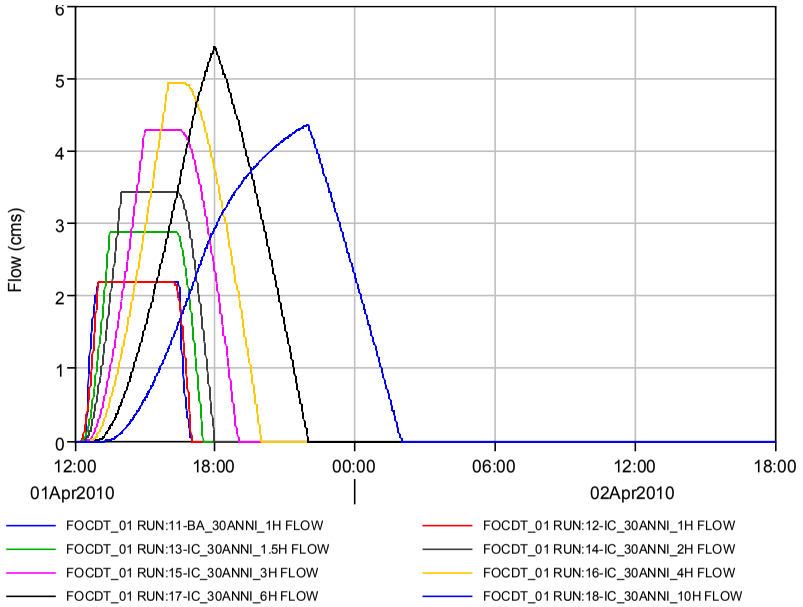
FOCDT_01 RUN:08-IC_20ANNI_10H FLOW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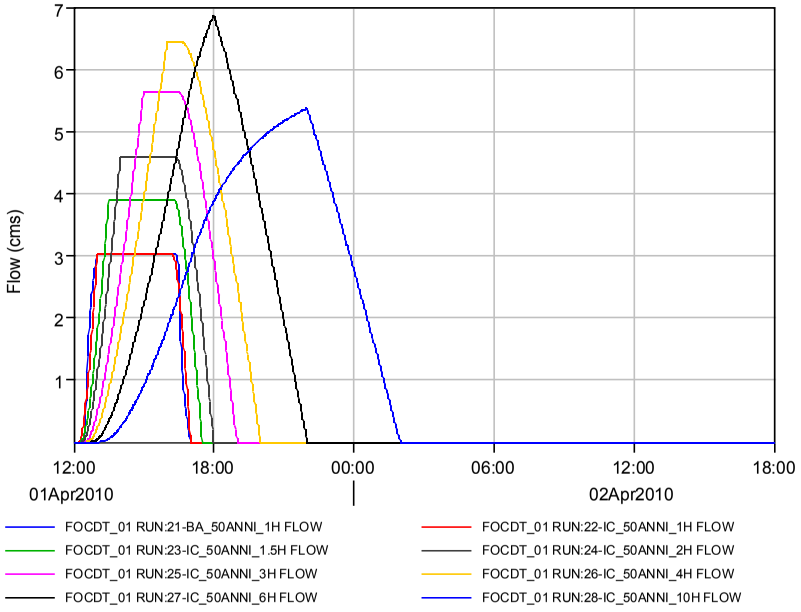
FOCDT_01 RUN:16-IC_30ANNI_4H FLOW
FOCDT_01 RUN:17-IC_30ANNI_6H FLOW
FOCDT_01 RUN:18-IC_30ANNI_10H FLOW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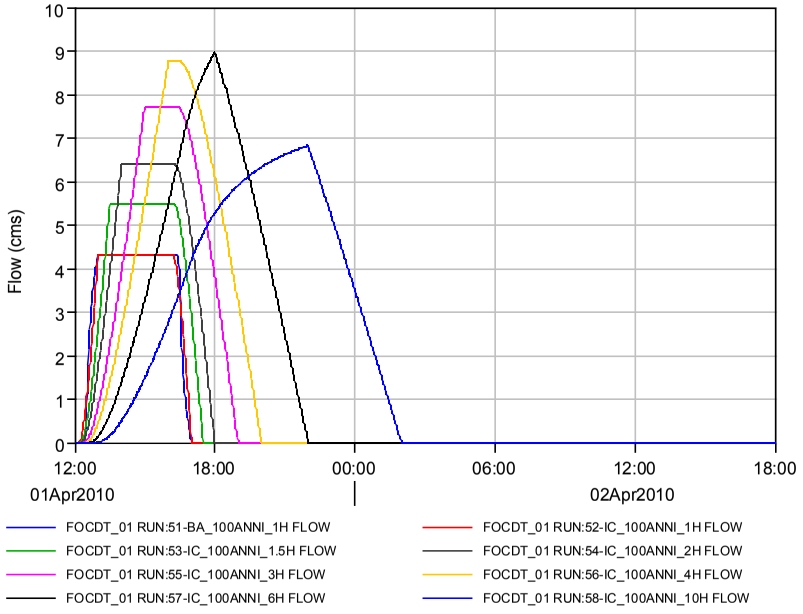
02Apr2010
FOCDT_01 RUN:21-BA_50ANNI_1H FLOW
FOCDT_01 RUN:22-IC_50ANNI_1H FLOW
FOCDT_01 RUN:23-IC_50ANNI_1.5H FLOW
FOCDT_01 RUN:24-IC_50ANNI_2H FLOW
FOCDT_01 RUN:25-IC_50ANNI_3H FLOW
FOCDT_01 RUN:26-IC_50ANNI_4H FLOW
FOCDT_01 RUN:27-IC_50ANNI_6H FLOW
FOCDT_01 RUN:28-IC_50ANNI_10H FLOW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01Apr2010
02Apr2010
FOCDT_01 RUN:51-BA_100ANNI_1H FLOW
FOCDT_01 RUN:52-IC_100ANNI_1H FLOW
FOCDT_01 RUN:53-IC_100ANNI_1.5H FLOW
FOCDT_01 RUN:54-IC_100ANNI_2H FLOW
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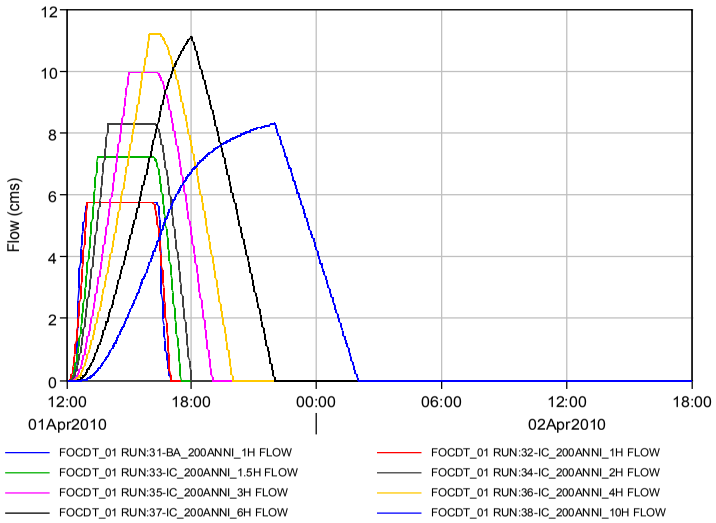
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FOCDT_01 RUN:33-IC_200ANNI_1.5H FLOW
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FOCDT_01 RUN:35-IC_200ANNI_3H FLOW
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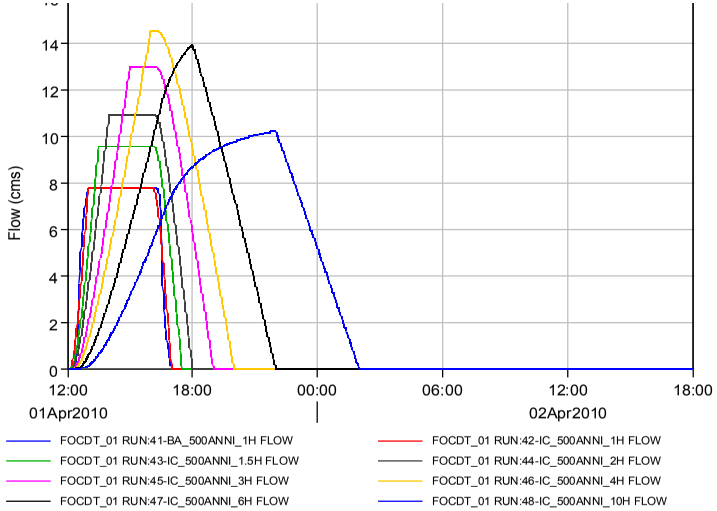
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FOCDT_01 RUN:43-IC_500ANNI_1.5H FLOW
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FOCDT_01 RUN:45-IC_500ANNI_3H FLOW
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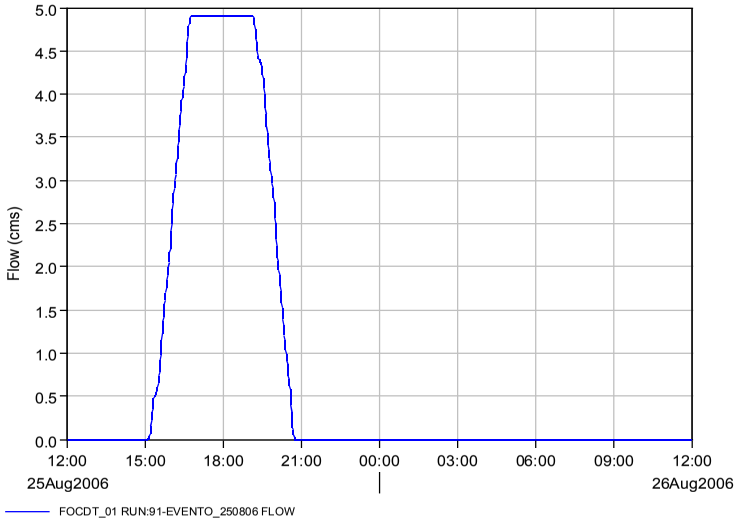
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25Aug2006
26Aug2006
FOCDT_01 RUN:91-EVENTO_250806 FLOW

# *F.so Tarantello alla confluenza nel F.so Cardete [FOTRT_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 0.74 | | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 83 |
| **Hsc** - quota sezione di chiusura | [m] | 250 | | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.25 |
| **Hmb** - altitudine media del bacino | [m] | 274 | | **La** - lunghezza asta principale | | [km] | 1.9 |
| **Hma** - quota massima asta principale | [m] | 283 | | **ib** - pendenza media del bacino | | [%] | 7.2% |
| **Hmb** - quota massima bacino | [m] | 310 | | **i** - pendenza media della rete drenaggio | | [m/m] | - |

## Parametri calcolati

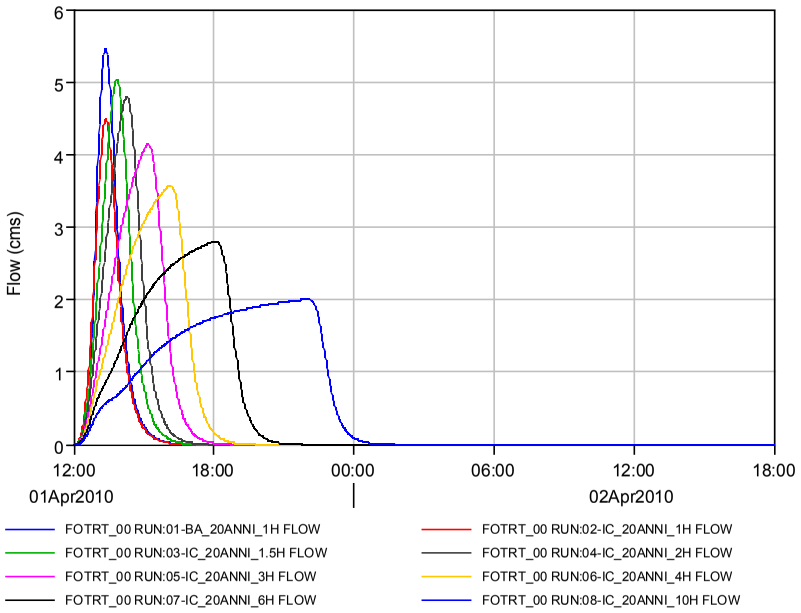
| | | | | | | |
|---|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 1.62 | **Hm** - altitudine media sulla sez. di chiusura | [m] | 24.0 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 0.53 | **DH** - dislivello altimetrico estremi asta principale | [m] | 33 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 0.84 | **HM** - altitudine massima sulla sez. di chiusura | [m] | 60 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 2.42 | **Trr** - tempo di ritardo di Rosso | [h] | 0.51 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | - |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 0.32 |
| **Tca** - tempo di corrivazione di riferimento | [h] | 0.53 | **Tra** - tempo di ritardo adottato | [h] | 0.51 |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 0.74 |
| Loss / **Initial Abstraction** | [mm] | 13.0 |
| Loss / **CN** | [-] | 83 |
| Transform / **Lag Time** | [min] | 45 |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **5.5** | **6.6** | **8.3** | **13.5** | **17.1** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 7.4 | 8.9 | 11.2 | 18.2 | 23.1 |
| **C.B.C.R.** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |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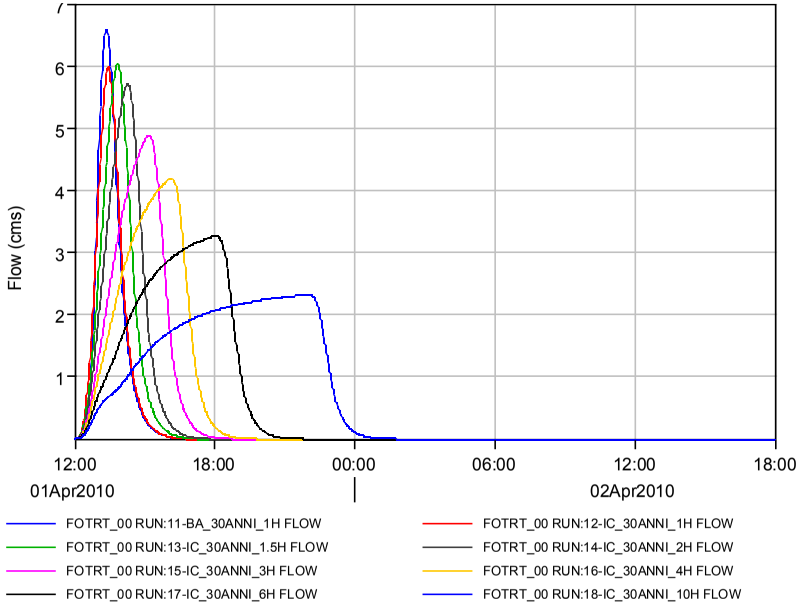
FOTRT_00 RUN:01-BA_20ANNI_1H FLOW
FOTRT_00 RUN:02-IC_20ANNI_1H FLOW
FOTRT_00 RUN:03-IC_20ANNI_1.5H FLOW
FOTRT_00 RUN:04-IC_20ANNI_2H FLOW
FOTRT_00 RUN:05-IC_20ANNI_3H FLOW
FOTRT_00 RUN:06-IC_20ANNI_4H FLOW
FOTRT_00 RUN:07-IC_20ANNI_6H FLOW
FOTRT_00 RUN:08-IC_20ANNI_10H FLOW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02Apr2010
FOTRT_00 RUN:11-BA_30ANNI_1H FLOW
FOTRT_00 RUN:12-IC_30ANNI_1H FLOW
FOTRT_00 RUN:13-IC_30ANNI_1.5H FLOW
FOTRT_00 RUN:14-IC_30ANNI_2H FLOW
FOTRT_00 RUN:15-IC_30ANNI_3H FLOW
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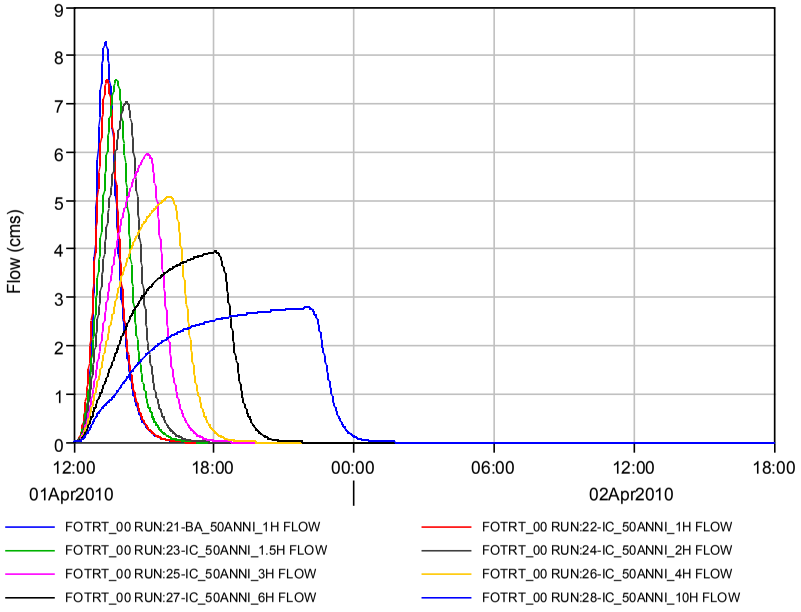
FOTRT_00 RUN:17-IC_30ANNI_6H FLOW
FOTRT_00 RUN:18-IC_30ANNI_10H FLOW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FOTRT_00 RUN:21-BA_50ANNI_1H FLOW
FOTRT_00 RUN:22-IC_50ANNI_1H FLOW
FOTRT_00 RUN:23-IC_50ANNI_1.5H FLOW
FOTRT_00 RUN:24-IC_50ANNI_2H FLOW
FOTRT_00 RUN:25-IC_50ANNI_3H FLOW
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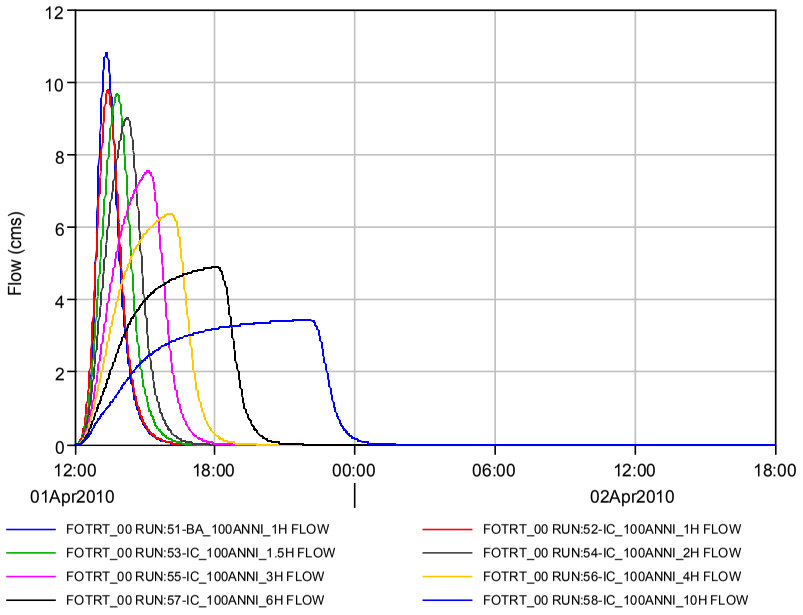
FOTRT_00 RUN:28-IC_50ANNI_10H FLOW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FOTRT_00 RUN:51-BA_100ANNI_1H FLOW
FOTRT_00 RUN:52-IC_100ANNI_1H FLOW
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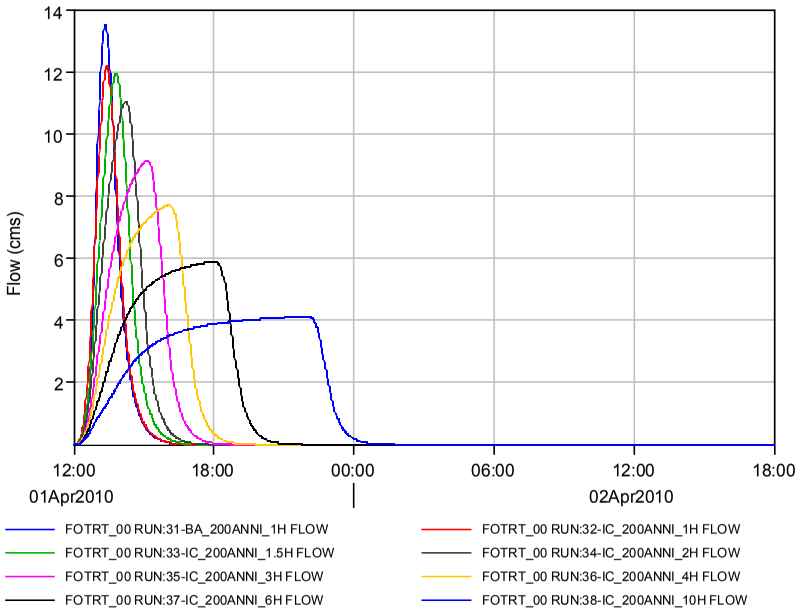
FOTRT_00 RUN:57-IC_100ANNI_6H FLOW
FOTRT_00 RUN:58-IC_100ANNI_10H FLOW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FOTRT_00 RUN:31-BA_200ANNI_1H FLOW
FOTRT_00 RUN:32-IC_200ANNI_1H FLOW
FOTRT_00 RUN:33-IC_200ANNI_1.5H FLOW
FOTRT_00 RUN:34-IC_200ANNI_2H FLOW
FOTRT_00 RUN:35-IC_200ANNI_3H FLOW
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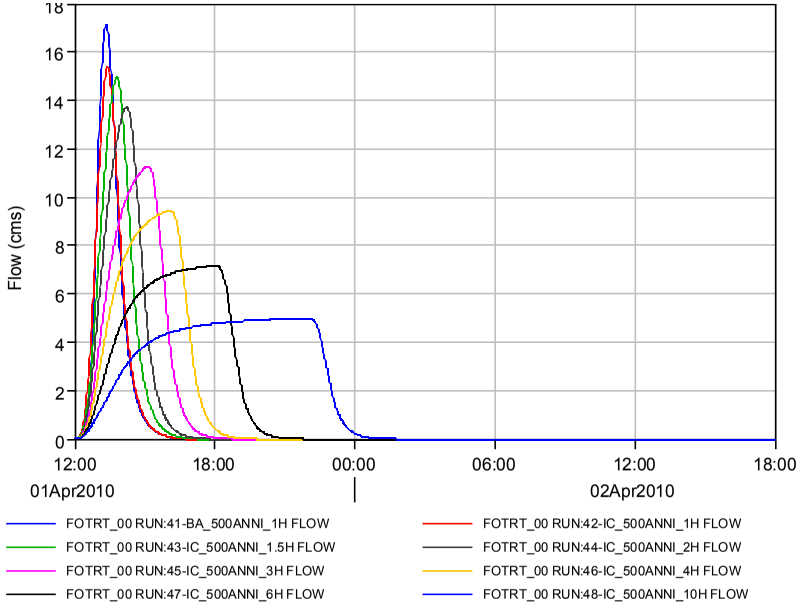
FOTRT_00 RUN:38-IC_200ANNI_10H FLOW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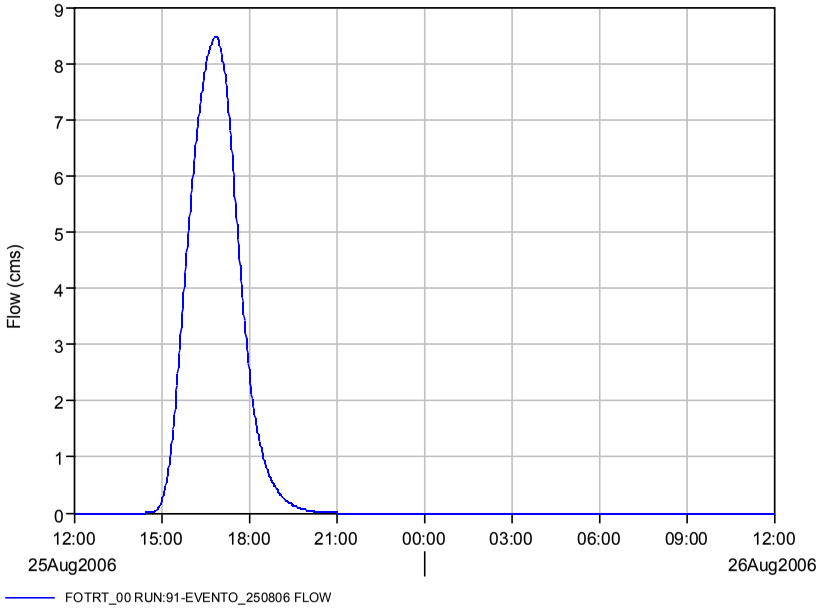
FOTRT_00 RUN:41-BA_500ANNI_1H FLOW
FOTRT_00 RUN:42-IC_500ANNI_1H FLOW
FOTRT_00 RUN:43-IC_500ANNI_1.5H FLOW
FOTRT_00 RUN:44-IC_500ANNI_2H FLOW
FOTRT_00 RUN:45-IC_500ANNI_3H FLOW
FOTRT_00 RUN:46-IC_500ANNI_4H FLOW
FOTRT_00 RUN:47-IC_500ANNI_6H FLOW
FOTRT_00 RUN:48-IC_500ANNI_10H FLOW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25Aug2006
26Aug2006
FOTRT_00 RUN:91-EVENTO_250806 FLOW

# *F.so Tombarelle alla confluenza nel F.so Cardete[FOTBL_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 0.7 | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 78 |
| **Hsc** - quota sezione di chiusura | [m] | 249 | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.25 |
| **Hmb** - altitudine media del bacino | [m] | 288 | **La** - lunghezza asta principale | | [km] | 2.1 |
| **Hma** - quota massima asta principale | [m] | 330 | **ib** - pendenza media del bacino | | [%] | 11.6% |
| **Hmb** - quota massima bacino | [m] | 360 | **i** - pendenza media della rete drenaggio | | [m/m] | - |

## Parametri calcolati

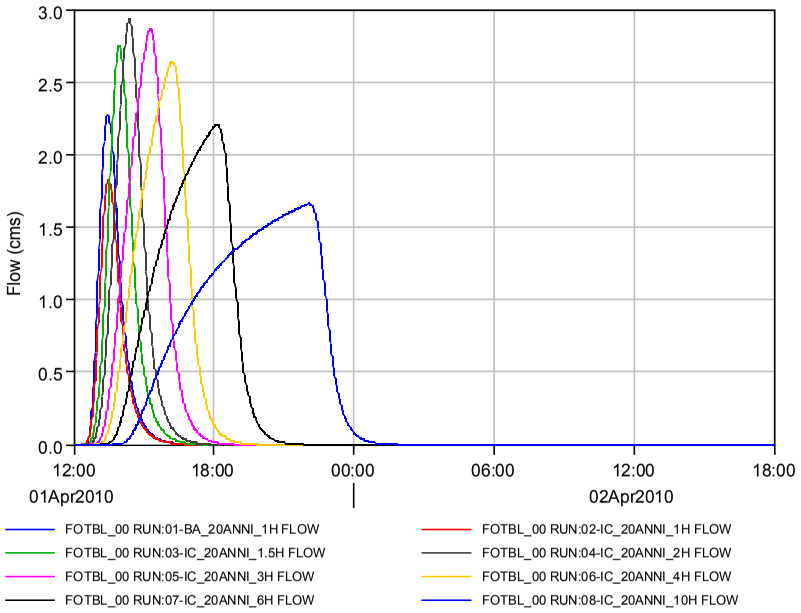
| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 1.31 | **Hm** - altitudine media sulla sez. di chiusura | [m] | 39.0 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 0.41 | **DH** - dislivello altimetrico estremi asta principale | [m] | 81 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 0.55 | **HM** - altitudine massima sulla sez. di chiusura | [m] | 111 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 2.08 | **Trr** - tempo di ritardo di Rosso | [h] | 0.51 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | - |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 0.25 |
| **Tca** - tempo di corrivazione di riferimento | [h] | 0.41 | **Tra** - tempo di ritardo adottato | [h] | 0.51 |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 0.71 |
| Loss / **Initial Abstraction** | [mm] | 17.9 |
| Loss / **CN** | [-] | 78 |
| Transform / **Lag Time** | [min] | 46 |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **2.9** | **3.7** | **4.9** | **8.7** | **11.7** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 4.1 | 5.2 | 6.9 | 12.3 | 16.5 |
| **C.B.C.R.** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |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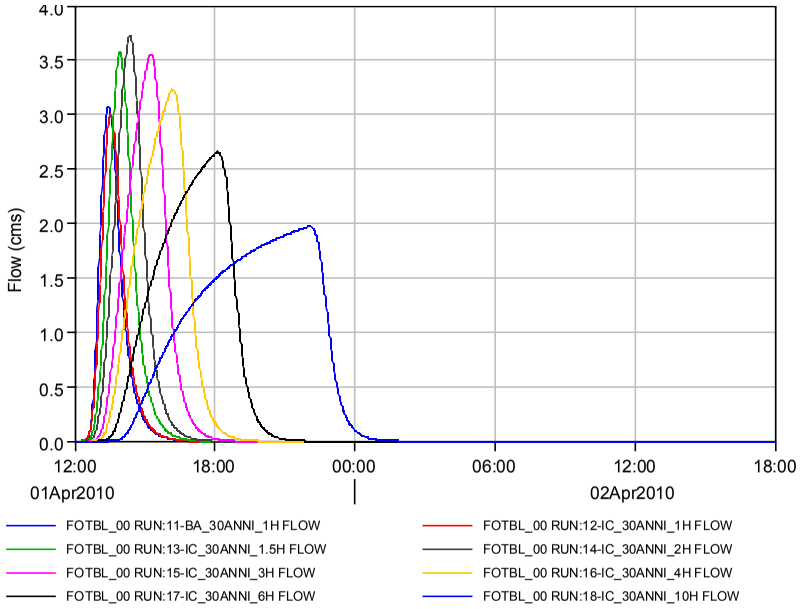
02Apr2010
FOTBL_00 RUN:01-BA_20ANNI_1H FLOW
FOTBL_00 RUN:02-IC_20ANNI_1H FLOW
FOTBL_00 RUN:03-IC_20ANNI_1.5H FLOW
FOTBL_00 RUN:04-IC_20ANNI_2H FLOW
FOTBL_00 RUN:05-IC_20ANNI_3H FLOW
FOTBL_00 RUN:06-IC_20ANNI_4H FLOW
FOTBL_00 RUN:07-IC_20ANNI_6H FLOW
FOTBL_00 RUN:08-IC_20ANNI_10H FLOW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FOTBL_00 RUN:11-BA_30ANNI_1H FLOW
FOTBL_00 RUN:12-IC_30ANNI_1H FLOW
FOTBL_00 RUN:13-IC_30ANNI_1.5H FLOW
FOTBL_00 RUN:14-IC_30ANNI_2H FLOW
FOTBL_00 RUN:15-IC_30ANNI_3H FLOW
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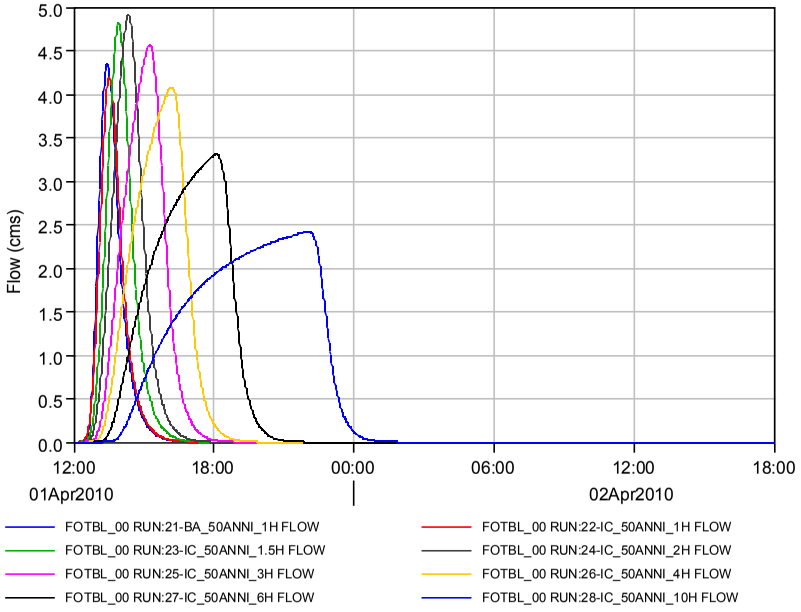
FOTBL_00 RUN:18-IC_30ANNI_10H FLOW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FOTBL_00 RUN:21-BA_50ANNI_1H FLOW
FOTBL_00 RUN:22-IC_50ANNI_1H FLOW
FOTBL_00 RUN:23-IC_50ANNI_1.5H FLOW
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FOTBL_00 RUN:25-IC_50ANNI_3H FLOW
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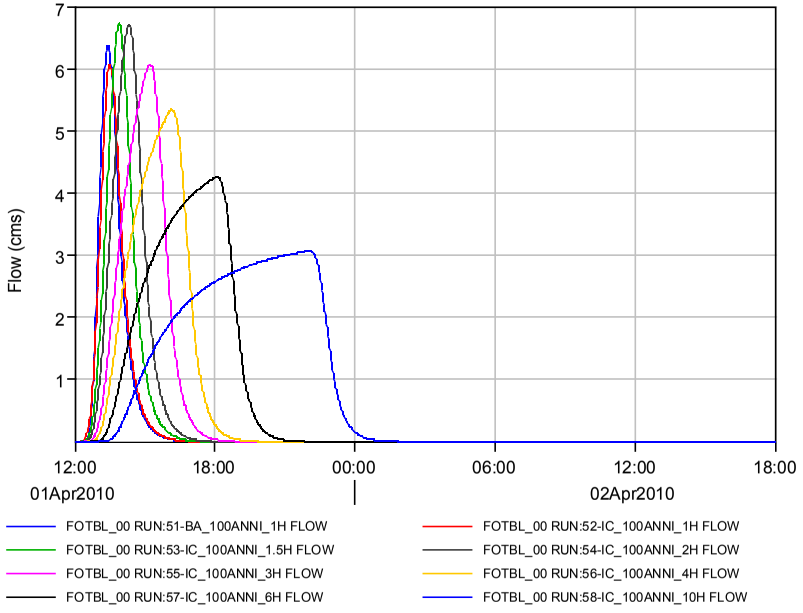
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FOTBL_00 RUN:51-BA_100ANNI_1H FLOW
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FOTBL_00 RUN:53-IC_100ANNI_1.5H FLOW
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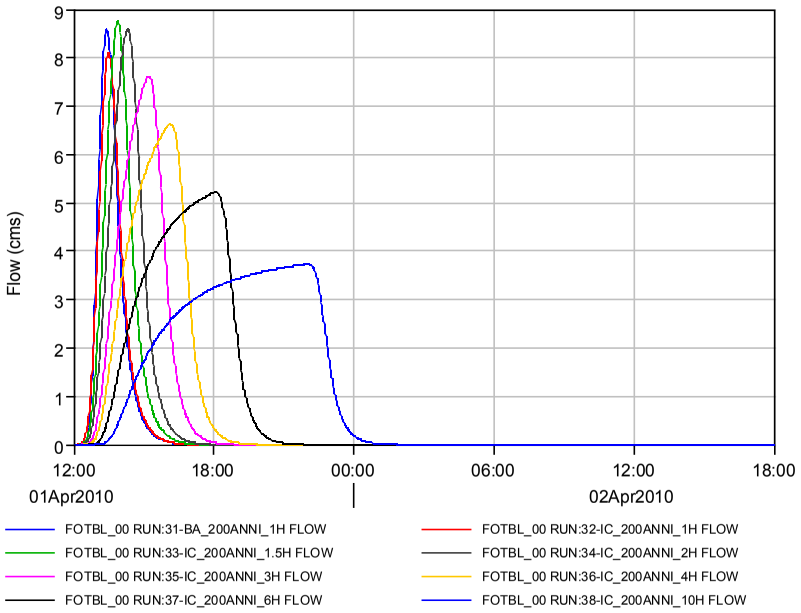
FOTBL_00 RUN:56-IC_100ANNI_4H FLOW
FOTBL_00 RUN:57-IC_100ANNI_6H FLOW
FOTBL_00 RUN:58-IC_100ANNI_10H FLOW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12:00
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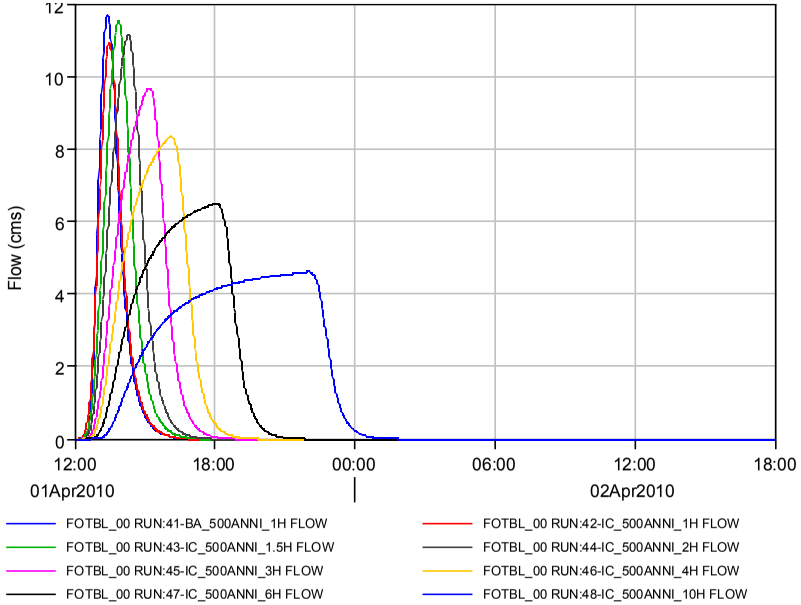
18:00
01Apr2010
02Apr2010
FOTBL_00 RUN:31-BA_200ANNI_1H FLOW
FOTBL_00 RUN:32-IC_200ANNI_1H FLOW
FOTBL_00 RUN:33-IC_200ANNI_1.5H FLOW
FOTBL_00 RUN:34-IC_200ANNI_2H FLOW
FOTBL_00 RUN:35-IC_200ANNI_3H FLOW
FOTBL_00 RUN:36-IC_200ANNI_4H FLOW
FOTBL_00 RUN:37-IC_200ANNI_6H FLOW
FOTBL_00 RUN:38-IC_200ANNI_10H FLOW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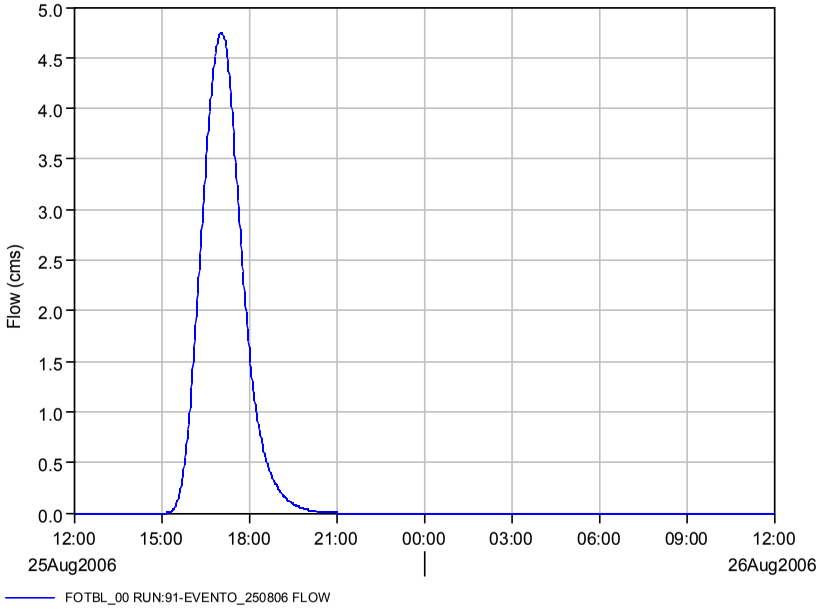
02Apr2010
FOTBL_00 RUN:41-BA_500ANNI_1H FLOW
FOTBL_00 RUN:42-IC_500ANNI_1H FLOW
FOTBL_00 RUN:43-IC_500ANNI_1.5H FLOW
FOTBL_00 RUN:44-IC_500ANNI_2H FLOW
FOTBL_00 RUN:45-IC_500ANNI_3H FLOW
FOTBL_00 RUN:46-IC_500ANNI_4H FLOW
FOTBL_00 RUN:47-IC_500ANNI_6H FLOW
FOTBL_00 RUN:48-IC_500ANNI_10H FLOW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25Aug2006
26Aug2006
FOTBL_00 RUN:91-EVENTO_250806 FLOW

## *F.so Vuotabotte a monte del F.so della Fargnia (agricolo+urbano) [FOVBT_02]*

### Dati caratteristici del bacino idrografico

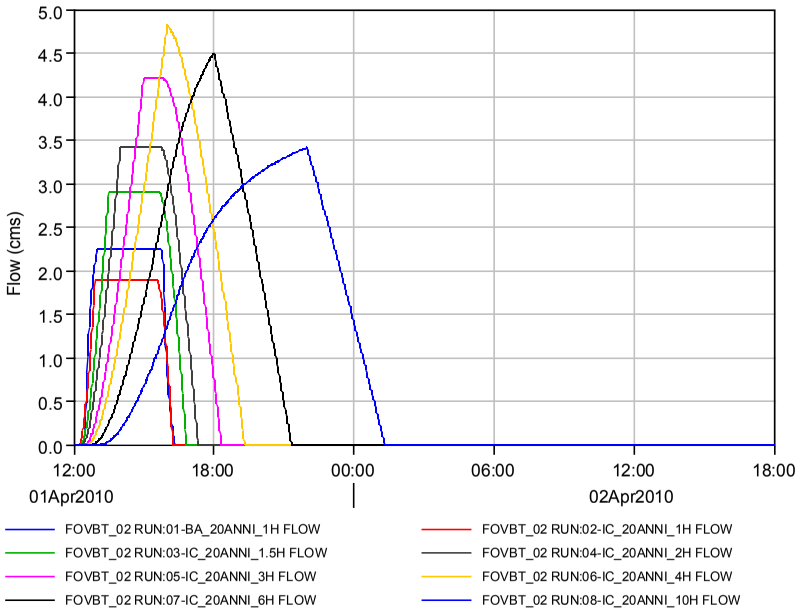
| | | | | | | |
|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **1.3** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **84** |
| **$H_{sc}$** - quota sezione di chiusura | [m] | **253** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.25** |
| **$H_{mb}$** - altitudine media del bacino | [m] | **255** | **La** - lunghezza asta principale | | [km] | **2.1** |
| **$H_{ma}$** - quota massima asta principale | [m] | **257** | **$i_b$** - pendenza media del bacino | | [%] | **1.3%** |
| **$H_{mb}$** - quota massima bacino | [m] | **325** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

### Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **$T_{cg}$** - tempo di corrivazione di Giandotti | [h] | **6.15** | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | **2.5** |
| **$T_{ck}$** - tempo di corrivazione di Kirpich | [h] | **1.31** | **DH** - dislivello altimetrico estremi asta principale | [m] | **4** |
| **$T_{cv}$** - tempo di corrivazione di Ventura | [h] | **3.37** | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | **73** |
| **$T_{cpu}$** - tempo di corrivazione di Puglisi | [h] | **2.40** | **$T_{rr}$** - tempo di ritardo di Rosso | [h] | **0.75** |
| **$T_{cpa}$** - tempo di corrivazione di Pasini | [h] | **-** | **$T_{rRT}$** - tempo di ritardo region. Al.To. | [h] | **0.90** |
| | | | **$T_{rc}$** - tempo di ritardo dal tempo di corrivazione | [h] | **2.02** |
| **$T_{ca}$** - tempo di corrivazione adottato | [h] | **3.37** | **$T_{ra}$** - tempo di ritardo di riferimento | [h] | **0.75** |

### Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **1.34** |
| Loss / **Initial Abstraction** | [mm] | **12.1** |
| Loss / **CN** | [-] | **84** |
| **UH Y hight** | [mc/s] | **0.111** |
| **UH X lenght** | [min] | **200** |


Flow (cms)
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12:00
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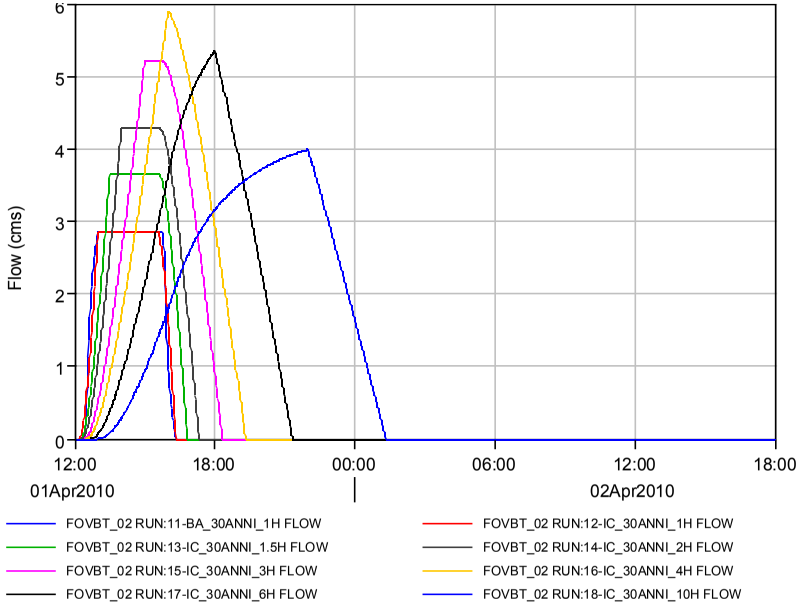
01Apr2010
02Apr2010
FOVBT_02 RUN:01-BA_20ANNI_1H FLOW
FOVBT_02 RUN:02-IC_20ANNI_1H FLOW
FOVBT_02 RUN:03-IC_20ANNI_1.5H FLOW
FOVBT_02 RUN:04-IC_20ANNI_2H FLOW
FOVBT_02 RUN:05-IC_20ANNI_3H FLOW
FOVBT_02 RUN:06-IC_20ANNI_4H FLOW
FOVBT_02 RUN:07-IC_20ANNI_6H FLOW
FOVBT_02 RUN:08-IC_20ANNI_10H FLOW


Flow (cms)
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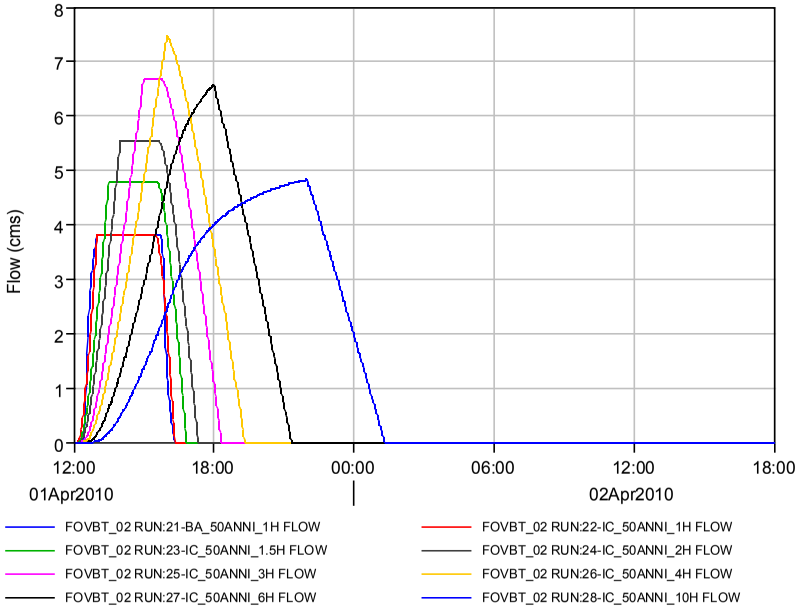
01Apr2010
02Apr2010
FOVBT_02 RUN:11-BA_30ANNI_1H FLOW
FOVBT_02 RUN:12-IC_30ANNI_1H FLOW
FOVBT_02 RUN:13-IC_30ANNI_1.5H FLOW
FOVBT_02 RUN:14-IC_30ANNI_2H FLOW
FOVBT_02 RUN:15-IC_30ANNI_3H FLOW
FOVBT_02 RUN:16-IC_30ANNI_4H FLOW
FOVBT_02 RUN:17-IC_30ANNI_6H FLOW
FOVBT_02 RUN:18-IC_30ANNI_10H FLOW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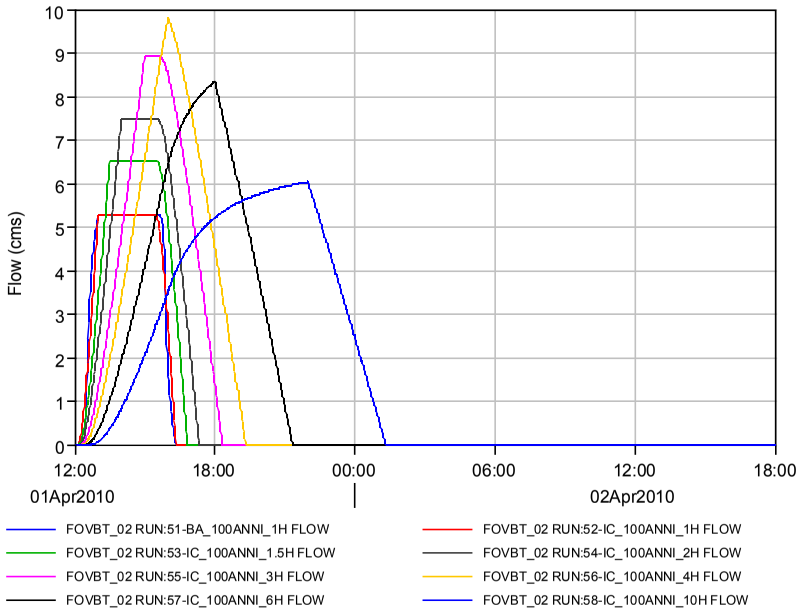
01Apr2010
02Apr2010
FOVBT_02 RUN:21-BA_50ANNI_1H FLOW
FOVBT_02 RUN:22-IC_50ANNI_1H FLOW
FOVBT_02 RUN:23-IC_50ANNI_1.5H FLOW
FOVBT_02 RUN:24-IC_50ANNI_2H FLOW
FOVBT_02 RUN:25-IC_50ANNI_3H FLOW
FOVBT_02 RUN:26-IC_50ANNI_4H FLOW
FOVBT_02 RUN:27-IC_50ANNI_6H FLOW
FOVBT_02 RUN:28-IC_50ANNI_10H FLOW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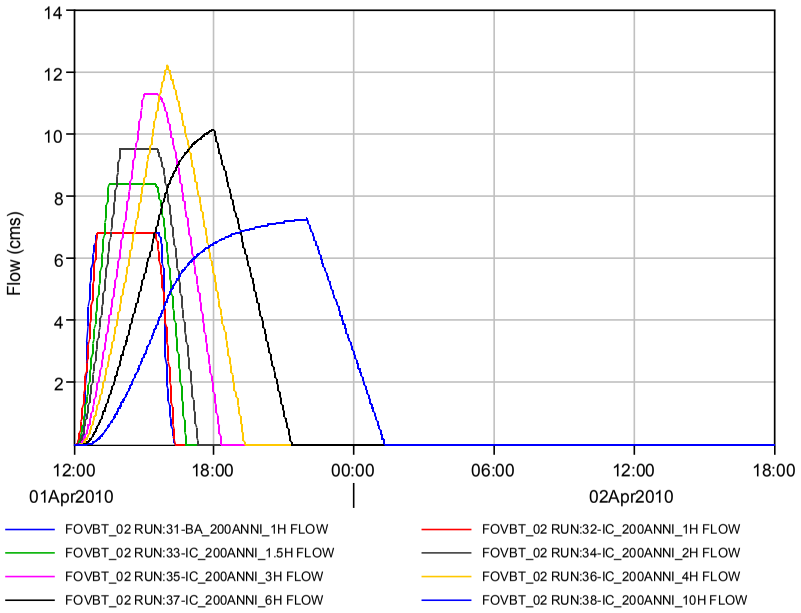
01Apr2010
02Apr2010
FOVBT_02 RUN:51-BA_100ANNI_1H FLOW
FOVBT_02 RUN:52-IC_100ANNI_1H FLOW
FOVBT_02 RUN:53-IC_100ANNI_1.5H FLOW
FOVBT_02 RUN:54-IC_100ANNI_2H FLOW
FOVBT_02 RUN:55-IC_100ANNI_3H FLOW
FOVBT_02 RUN:56-IC_100ANNI_4H FLOW
FOVBT_02 RUN:57-IC_100ANNI_6H FLOW
FOVBT_02 RUN:58-IC_100ANNI_10H FLOW


Flow (cms)
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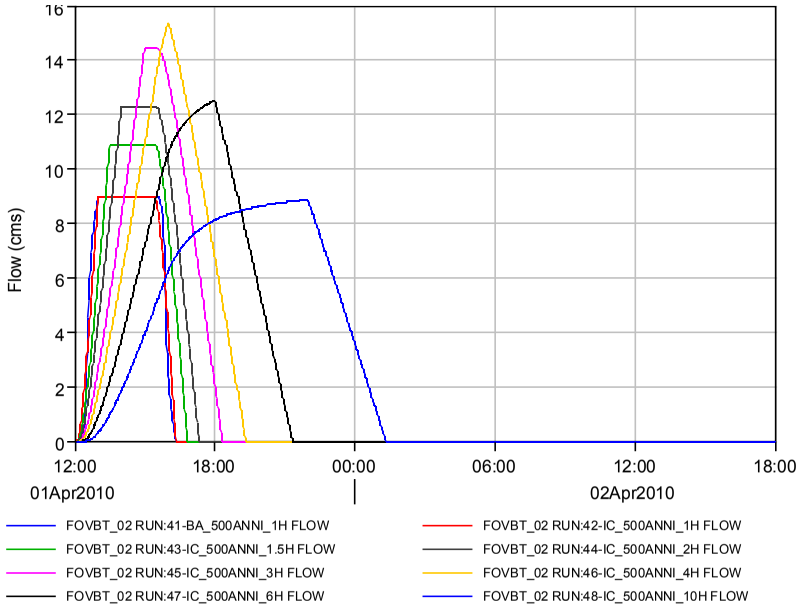
18:00
01Apr2010
02Apr2010
FOVBT_02 RUN:31-BA_200ANNI_1H FLOW
FOVBT_02 RUN:32-IC_200ANNI_1H FLOW
FOVBT_02 RUN:33-IC_200ANNI_1.5H FLOW
FOVBT_02 RUN:34-IC_200ANNI_2H FLOW
FOVBT_02 RUN:35-IC_200ANNI_3H FLOW
FOVBT_02 RUN:36-IC_200ANNI_4H FLOW
FOVBT_02 RUN:37-IC_200ANNI_6H FLOW
FOVBT_02 RUN:38-IC_200ANNI_10H FLOW


Flow (cms)
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12:00
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06:00
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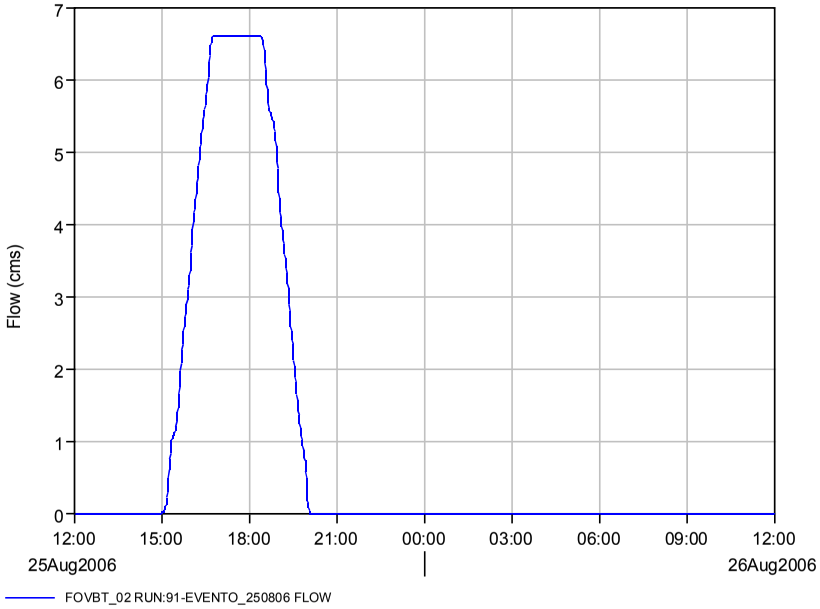
18:00
01Apr2010
02Apr2010
FOVBT_02 RUN:41-BA_500ANNI_1H FLOW
FOVBT_02 RUN:42-IC_500ANNI_1H FLOW
FOVBT_02 RUN:43-IC_500ANNI_1.5H FLOW
FOVBT_02 RUN:44-IC_500ANNI_2H FLOW
FOVBT_02 RUN:45-IC_500ANNI_3H FLOW
FOVBT_02 RUN:46-IC_500ANNI_4H FLOW
FOVBT_02 RUN:47-IC_500ANNI_6H FLOW
FOVBT_02 RUN:48-IC_500ANNI_10H FLOW


Flow (cms)
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5
4
3
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15:00
18:00
21:00
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03:00
06:00
09:00
12:00
25Aug2006
26Aug2006
FOVBT_02 RUN:91-EVENTO_250806 FLOW

## *F.so Vuotabotte a valle del F.so della Fargnia (agricolo+urbano) [FOVBT_01]*

### Dati caratteristici del bacino idrografico

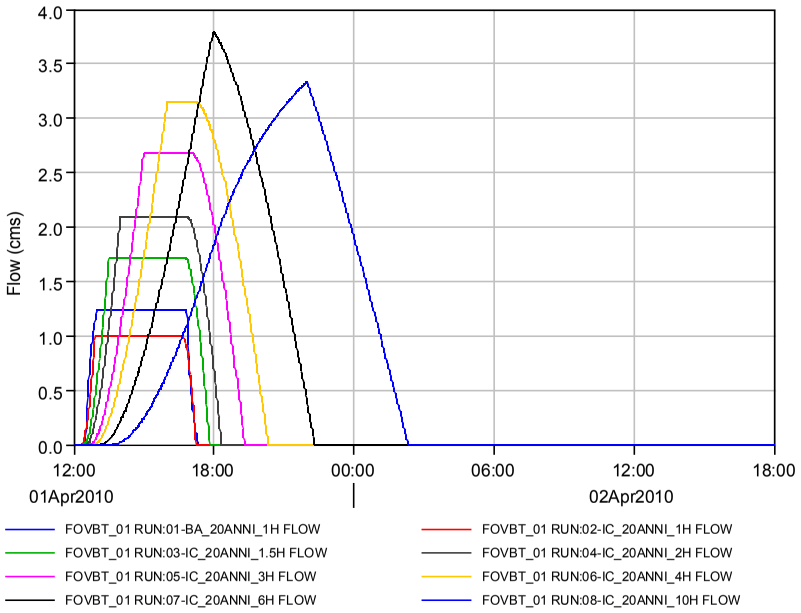
| | | | | | | |
|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **1.5** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **78** |
| **$H_{sc}$** - quota sezione di chiusura | [m] | **250** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.25** |
| **$H_{mb}$** - altitudine media del bacino | [m] | **255** | **La** - lunghezza asta principale | | [km] | **2.3** |
| **$H_{ma}$** - quota massima asta principale | [m] | **253** | **$i_b$** - pendenza media del bacino | | [%] | **1.3%** |
| **$H_{mb}$** - quota massima bacino | [m] | **325** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

### Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **$T_{cg}$** - tempo di corrivazione di Giandotti | [h] | **4.47** | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | **5.5** |
| **$T_{ck}$** - tempo di corrivazione di Kirpich | [h] | **1.62** | **DH** - dislivello altimetrico estremi asta principale | [m] | **3.0** |
| **$T_{cv}$** - tempo di corrivazione di Ventura | [h] | **4.34** | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | **76** |
| **$T_{cpu}$** - tempo di corrivazione di Puglisi | [h] | **2.52** | **$T_{rr}$** - tempo di ritardo di Rosso | [h] | **0.85** |
| **$T_{cpa}$** - tempo di corrivazione di Pasini | [h] | **-** | **$T_{rRT}$** - tempo di ritardo region. Al.To. | [h] | **0.90** |
| | | | **$T_{rc}$** - tempo di ritardo dal tempo di corrivazione | [h] | **2.61** |
| **$T_{ca}$** - tempo di corrivazione adottato | [h] | **4.34** | **$T_{ra}$** - tempo di ritardo di riferimento | [h] | **0.85** |

### Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **1.52** |
| Loss / **Initial Abstraction** | [mm] | **17.9** |
| Loss / **CN** | [-] | **78** |
| **UH Y hight** | [mc/s] | **0.098** |
| **UH X lenght** | [min] | **260** |


Flow (cms)
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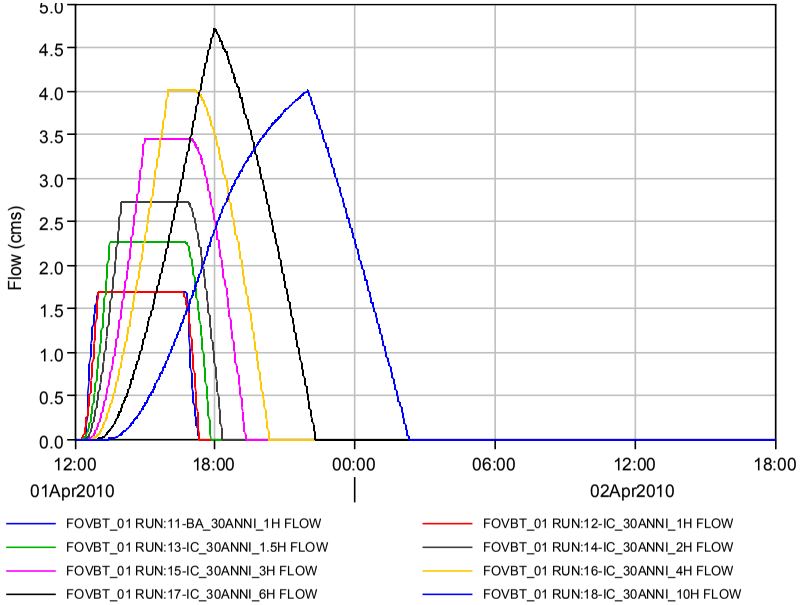
02Apr2010
FOVBT_01 RUN:01-BA_20ANNI_1H FLOW
FOVBT_01 RUN:02-IC_20ANNI_1H FLOW
FOVBT_01 RUN:03-IC_20ANNI_1.5H FLOW
FOVBT_01 RUN:04-IC_20ANNI_2H FLOW
FOVBT_01 RUN:05-IC_20ANNI_3H FLOW
FOVBT_01 RUN:06-IC_20ANNI_4H FLOW
FOVBT_01 RUN:07-IC_20ANNI_6H FLOW
FOVBT_01 RUN:08-IC_20ANNI_10H FLOW


Flow (cms)
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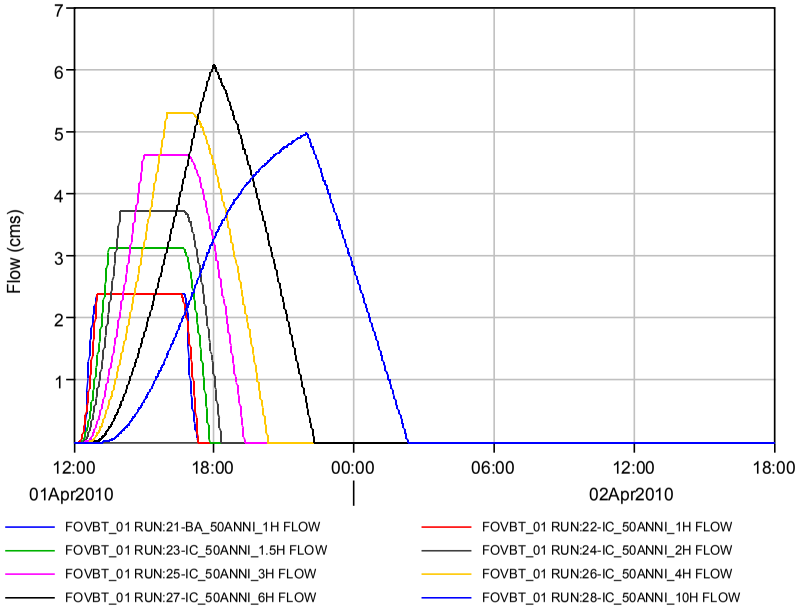
FOVBT_01 RUN:11-BA_30ANNI_1H FLOW
FOVBT_01 RUN:12-IC_30ANNI_1H FLOW
FOVBT_01 RUN:13-IC_30ANNI_1.5H FLOW
FOVBT_01 RUN:14-IC_30ANNI_2H FLOW
FOVBT_01 RUN:15-IC_30ANNI_3H FLOW
FOVBT_01 RUN:16-IC_30ANNI_4H FLOW
FOVBT_01 RUN:17-IC_30ANNI_6H FLOW
FOVBT_01 RUN:18-IC_30ANNI_10H FLOW


Flow (cms)
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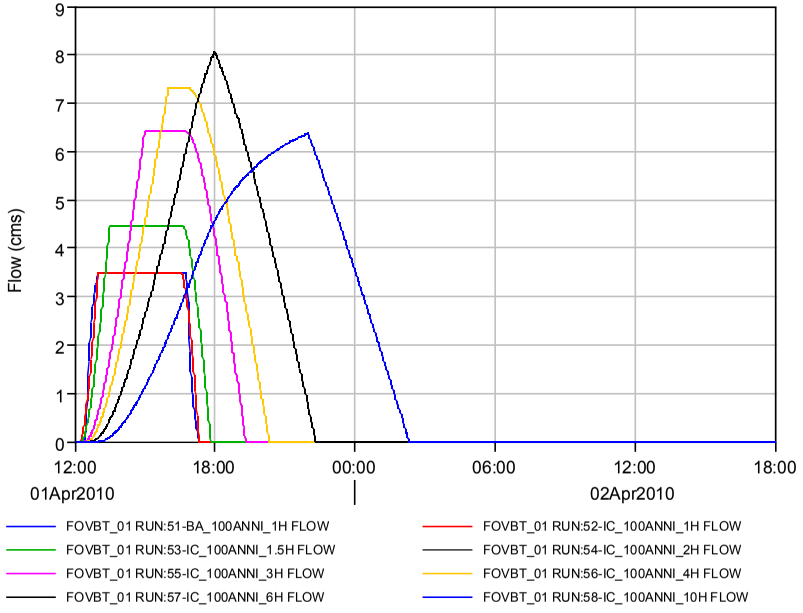
01Apr2010
02Apr2010
FOVBT_01 RUN:21-BA_50ANNI_1H FLOW
FOVBT_01 RUN:22-IC_50ANNI_1H FLOW
FOVBT_01 RUN:23-IC_50ANNI_1.5H FLOW
FOVBT_01 RUN:24-IC_50ANNI_2H FLOW
FOVBT_01 RUN:25-IC_50ANNI_3H FLOW
FOVBT_01 RUN:26-IC_50ANNI_4H FLOW
FOVBT_01 RUN:27-IC_50ANNI_6H FLOW
FOVBT_01 RUN:28-IC_50ANNI_10H FLOW


Flow (cms)
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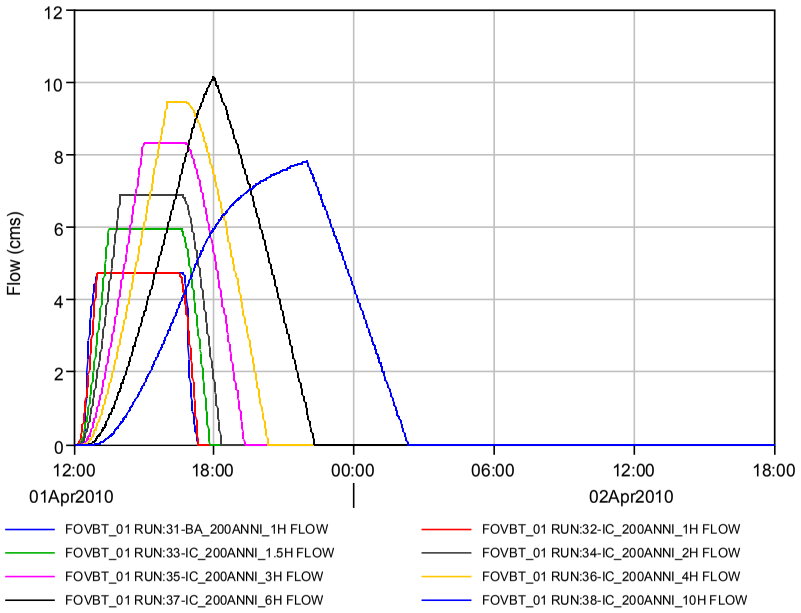
01Apr2010
02Apr2010
FOVBT_01 RUN:51-BA_100ANNI_1H FLOW
FOVBT_01 RUN:52-IC_100ANNI_1H FLOW
FOVBT_01 RUN:53-IC_100ANNI_1.5H FLOW
FOVBT_01 RUN:54-IC_100ANNI_2H FLOW
FOVBT_01 RUN:55-IC_100ANNI_3H FLOW
FOVBT_01 RUN:56-IC_100ANNI_4H FLOW
FOVBT_01 RUN:57-IC_100ANNI_6H FLOW
FOVBT_01 RUN:58-IC_100ANNI_10H FLOW


Flow (cms)
12
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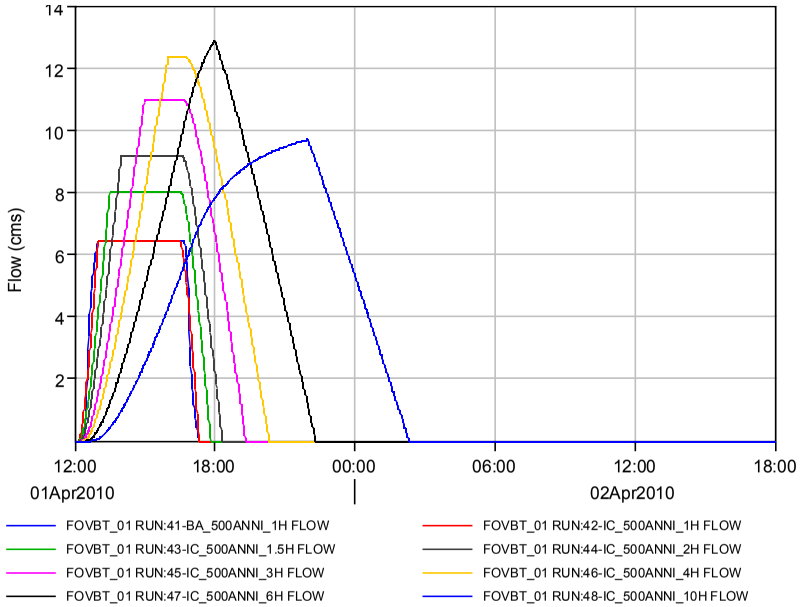
01Apr2010
02Apr2010
FOVBT_01 RUN:31-BA_200ANNI_1H FLOW
FOVBT_01 RUN:32-IC_200ANNI_1H FLOW
FOVBT_01 RUN:33-IC_200ANNI_1.5H FLOW
FOVBT_01 RUN:34-IC_200ANNI_2H FLOW
FOVBT_01 RUN:35-IC_200ANNI_3H FLOW
FOVBT_01 RUN:36-IC_200ANNI_4H FLOW
FOVBT_01 RUN:37-IC_200ANNI_6H FLOW
FOVBT_01 RUN:38-IC_200ANNI_10H FLOW


Flow (cms)
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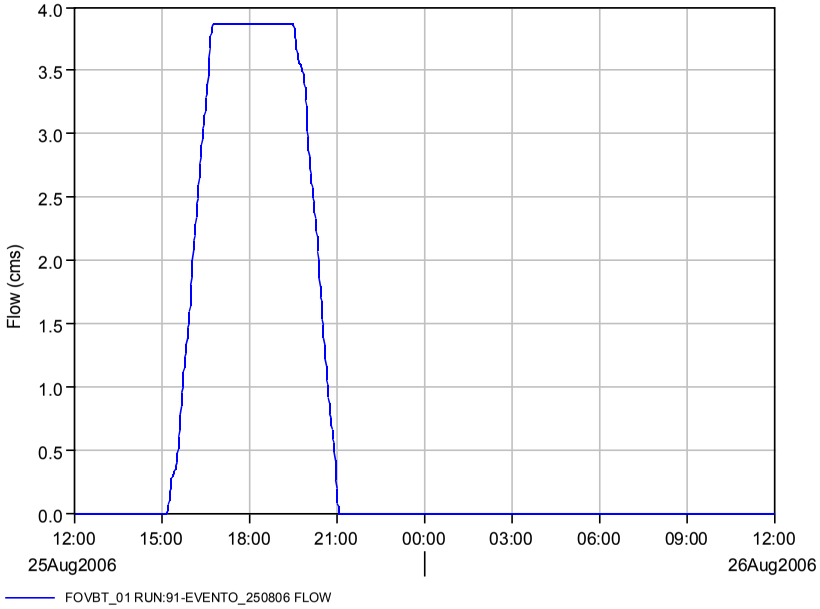
02Apr2010
FOVBT_01 RUN:41-BA_500ANNI_1H FLOW
FOVBT_01 RUN:42-IC_500ANNI_1H FLOW
FOVBT_01 RUN:43-IC_500ANNI_1.5H FLOW
FOVBT_01 RUN:44-IC_500ANNI_2H FLOW
FOVBT_01 RUN:45-IC_500ANNI_3H FLOW
FOVBT_01 RUN:46-IC_500ANNI_4H FLOW
FOVBT_01 RUN:47-IC_500ANNI_6H FLOW
FOVBT_01 RUN:48-IC_500ANNI_10H FLOW


Flow (cms)
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25Aug2006
26Aug2006
FOVBT_01 RUN:91-EVENTO_250806 FLOW

# *F.so Paterno alla confluenze nel C.le Chianetta [FOPTR_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **4.14** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **73** |
| **Hsc** - quota sezione di chiusura | [m] | **249** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.25** |
| **Hmb** - altitudine media del bacino | [m] | **314** | **La** - lunghezza asta principale | | [km] | **5.1** |
| **Hma** - quota massima asta principale | [m] | **375** | **ib** - pendenza media del bacino | | [%] | **12.5%** |
| **Hmb** - quota massima bacino | [m] | **456** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

## Parametri calcolati

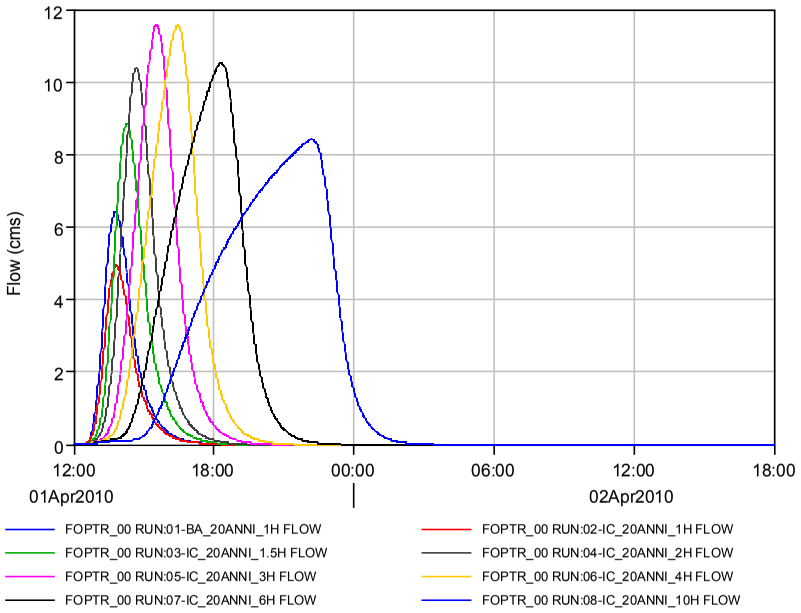
| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | **2.45** | **Hm** - altitudine media sulla sez. di chiusura | [m] | **65.0** |
| **Tck** - tempo di corrivazione di Kirpich | [h] | **0.96** | **DH** - dislivello altimetrico estremi asta principale | [m] | **126** |
| **Tcv** - tempo di corrivazione di Ventura | [h] | **1.65** | **HM** - altitudine massima sulla sez. di chiusura | [m] | **207** |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | **3.08** | **Trr** - tempo di ritardo di Rosso | [h] | **1.08** |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | **-** | **TrRT** - tempo di ritardo region. Al.To. | [h] | **0.90** |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | **0.62** |
| **Tca** - tempo di corrivazione di riferimento | [h] | **1.03** | **Tra** - tempo di ritardo adottato | [h] | **1.08** |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **4.14** |
| Loss / **Initial Abstraction** | [mm] | **23.5** |
| Loss / **CN** | [-] | **73** |
| Transform / **Lag Time** | [min] | **65** |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **11.6** | **15.0** | **20.0** | **36.8** | **49.3** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 2.8 | 3.6 | 4.8 | 8.9 | 11.9 |
| **C.B.C.R.** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |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8
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18:00
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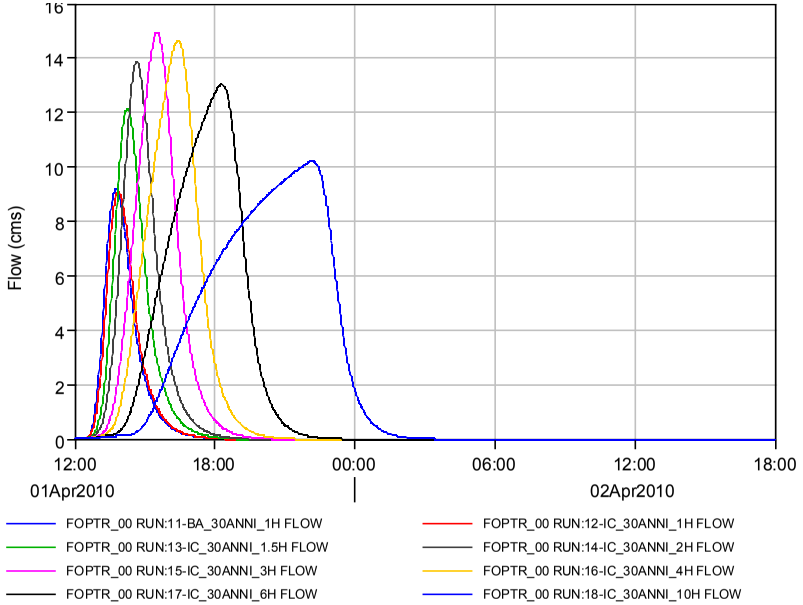
06:00
12:00
18:00
01Apr2010
02Apr2010
FOPTR_00 RUN:01-BA_20ANNI_1H FLOW
FOPTR_00 RUN:02-IC_20ANNI_1H FLOW
FOPTR_00 RUN:03-IC_20ANNI_1.5H FLOW
FOPTR_00 RUN:04-IC_20ANNI_2H FLOW
FOPTR_00 RUN:05-IC_20ANNI_3H FLOW
FOPTR_00 RUN:06-IC_20ANNI_4H FLOW
FOPTR_00 RUN:07-IC_20ANNI_6H FLOW
FOPTR_00 RUN:08-IC_20ANNI_10H FLOW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18:00
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02Apr2010
FOPTR_00 RUN:11-BA_30ANNI_1H FLOW
FOPTR_00 RUN:12-IC_30ANNI_1H FLOW
FOPTR_00 RUN:13-IC_30ANNI_1.5H FLOW
FOPTR_00 RUN:14-IC_30ANNI_2H FLOW
FOPTR_00 RUN:15-IC_30ANNI_3H FLOW
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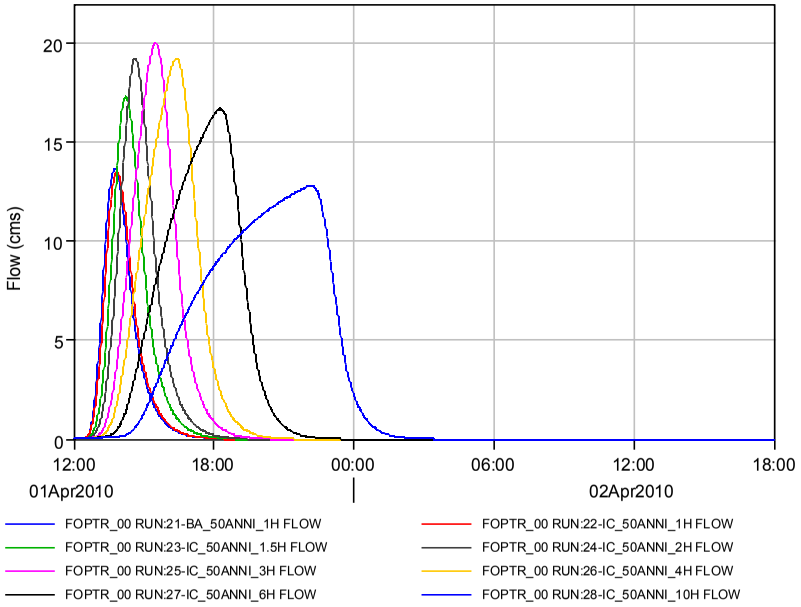
FOPTR_00 RUN:18-IC_30ANNI_10H FLOW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FOPTR_00 RUN:22-IC_50ANNI_1H FLOW
FOPTR_00 RUN:23-IC_50ANNI_1.5H FLOW
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FOPTR_00 RUN:25-IC_50ANNI_3H FLOW
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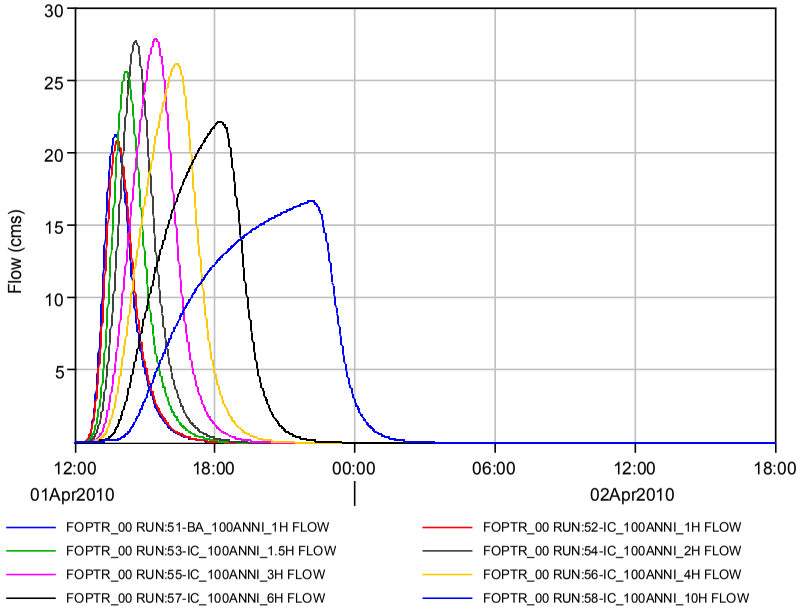
FOPTR_00 RUN:28-IC_50ANNI_10H FLOW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FOPTR_00 RUN:53-IC_100ANNI_1.5H FLOW
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FOPTR_00 RUN:55-IC_100ANNI_3H FLOW
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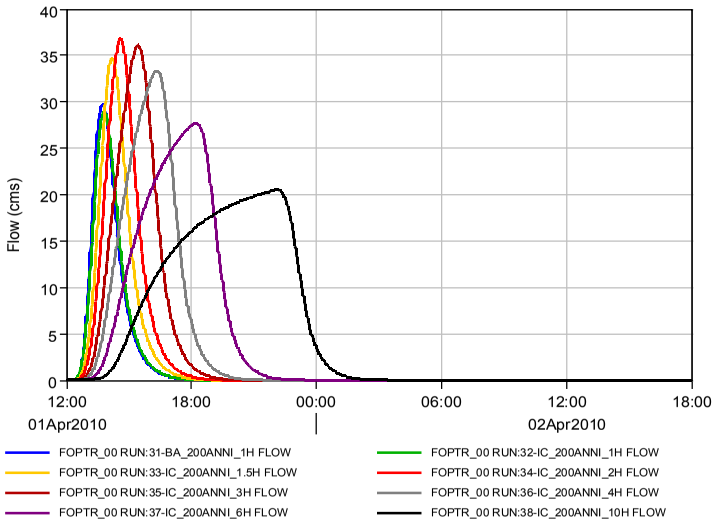
FOPTR_00 RUN:57-IC_100ANNI_6H FLOW
FOPTR_00 RUN:58-IC_100ANNI_10H FLOW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01Apr2010
02Apr2010
FOPTR_00 RUN:31-BA_200ANNI_1H FLOW
FOPTR_00 RUN:32-IC_200ANNI_1H FLOW
FOPTR_00 RUN:33-IC_200ANNI_1.5H FLOW
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FOPTR_00 RUN:35-IC_200ANNI_3H FLOW
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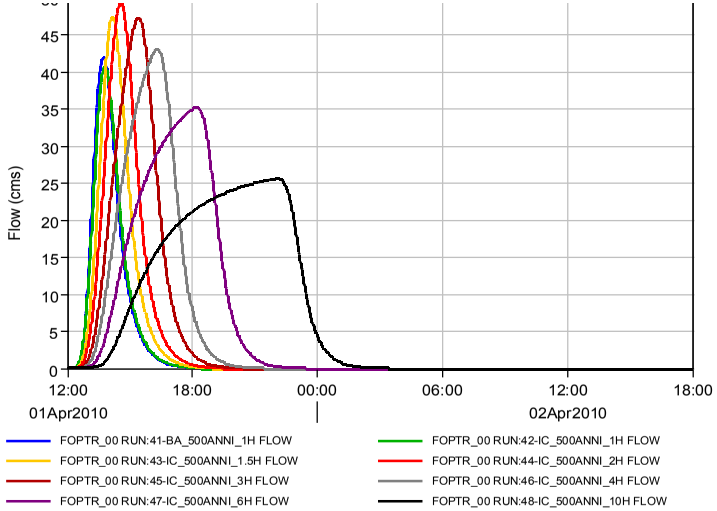
FOPTR_00 RUN:37-IC_200ANNI_6H FLOW
FOPTR_00 RUN:38-IC_200ANNI_10H FLOW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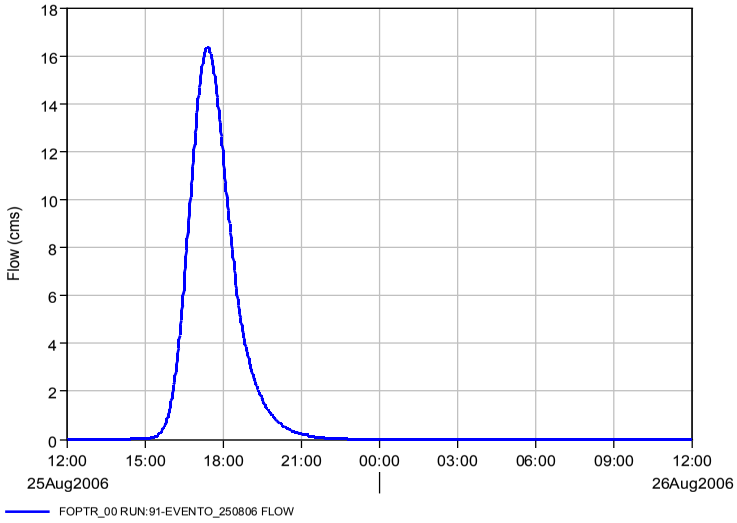
18:00
01Apr2010
02Apr2010
FOPTR_00 RUN:41-BA_500ANNI_1H FLOW
FOPTR_00 RUN:42-IC_500ANNI_1H FLOW
FOPTR_00 RUN:43-IC_500ANNI_1.5H FLOW
FOPTR_00 RUN:44-IC_500ANNI_2H FLOW
FOPTR_00 RUN:45-IC_500ANNI_3H FLOW
FOPTR_00 RUN:46-IC_500ANNI_4H FLOW
FOPTR_00 RUN:47-IC_500ANNI_6H FLOW
FOPTR_00 RUN:48-IC_500ANNI_10H FLOW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03:00
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09:00
12:00
25Aug2006
26Aug2006
FOPTR_00 RUN:91-EVENTO_250806 FLOW

## *C.le Chianetta a monte del F.so della Fargnia (agricolo) [CLCNT_05]*

### Dati caratteristici del bacino idrografico

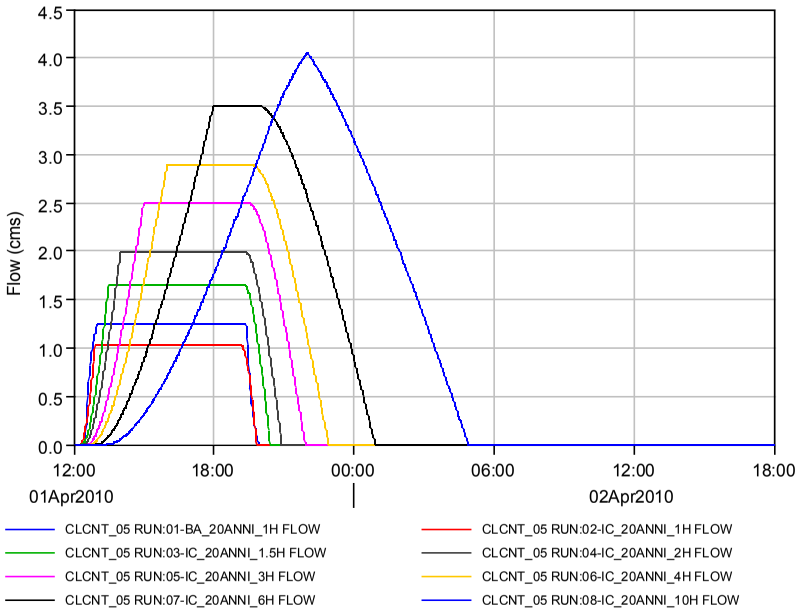
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **1.9** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **81** |
| **$H_{sc}$** - quota sezione di chiusura | [m] | **250** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.25** |
| **$H_{mb}$** - altitudine media del bacino | [m] | **291** | **La** - lunghezza asta principale | | [km] | **1.5** |
| **$H_{ma}$** - quota massima asta principale | [m] | **251** | **$i_b$** - pendenza media del bacino | | [%] | **10.2%** |
| **$H_{mb}$** - quota massima bacino | [m] | **360** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

### Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **$T_{cg}$** - tempo di corrivazione di Giandotti | [h] | **1.51** | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | **41.2** |
| **$T_{ck}$** - tempo di corrivazione di Kirpich | [h] | **1.33** | **DH** - dislivello altimetrico estremi asta principale | [m] | **1.4** |
| **$T_{cv}$** - tempo di corrivazione di Ventura | [h] | **5.75** | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | **110** |
| **$T_{cpu}$** - tempo di corrivazione di Puglisi | [h] | **1.67** | **$T_{rr}$** - tempo di ritardo di Rosso | [h] | **0.39** |
| **$T_{cpa}$** - tempo di corrivazione di Pasini | [h] | **-** | **$T_{rRT}$** - tempo di ritardo region. Al.To. | [h] | **-** |
| | | | **$T_{rc}$** - tempo di ritardo dal tempo di corrivazione | [h] | **4.14** |
| **$T_{ca}$** - tempo di corrivazione adottato | [h] | **6.91** | **$T_{ra}$** - tempo di ritardo di riferimento | [h] | **0.39** |

### Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **1.91** |
| Loss / **Initial Abstraction** | [mm] | **14.9** |
| Loss / **CN** | [-] | **81** |
| **UH Y hight** | [mc/s] | **0.077** |
| **UH X lenght** | [min] | **415** |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01Apr2010
02Apr2010
CLCNT_05 RUN:01-BA_20ANNI_1H FLOW
CLCNT_05 RUN:02-IC_20ANNI_1H FLOW
CLCNT_05 RUN:03-IC_20ANNI_1.5H FLOW
CLCNT_05 RUN:04-IC_20ANNI_2H FLOW
CLCNT_05 RUN:05-IC_20ANNI_3H FLOW
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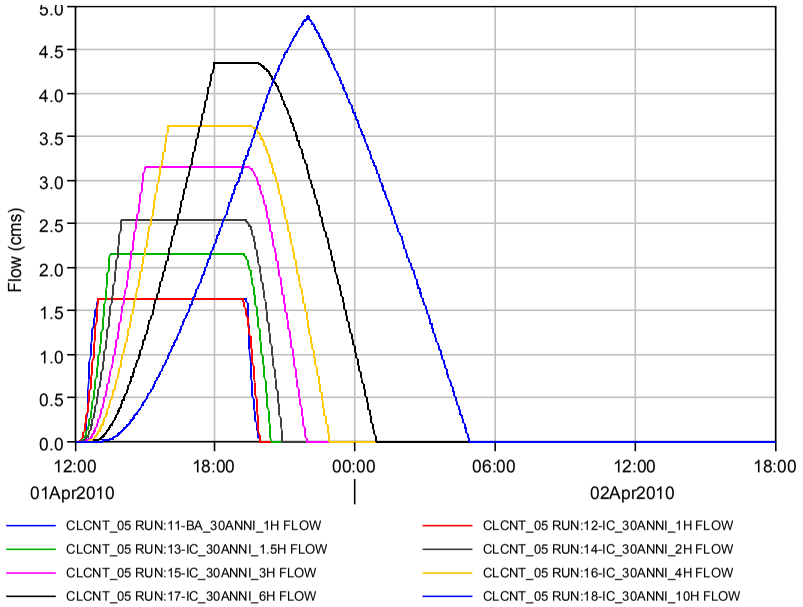
CLCNT_05 RUN:07-IC_20ANNI_6H FLOW
CLCNT_05 RUN:08-IC_20ANNI_10H FLOW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01Apr2010
02Apr2010
CLCNT_05 RUN:11-BA_30ANNI_1H FLOW
CLCNT_05 RUN:12-IC_30ANNI_1H FLOW
CLCNT_05 RUN:13-IC_30ANNI_1.5H FLOW
CLCNT_05 RUN:14-IC_30ANNI_2H FLOW
CLCNT_05 RUN:15-IC_30ANNI_3H FLOW
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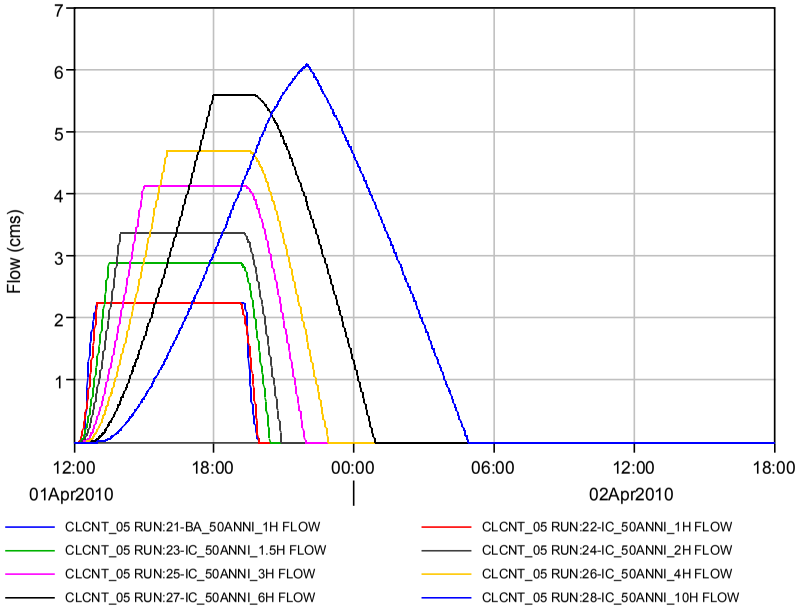
CLCNT_05 RUN:18-IC_30ANNI_10H FLOW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02Apr2010
CLCNT_05 RUN:21-BA_50ANNI_1H FLOW
CLCNT_05 RUN:22-IC_50ANNI_1H FLOW
CLCNT_05 RUN:23-IC_50ANNI_1.5H FLOW
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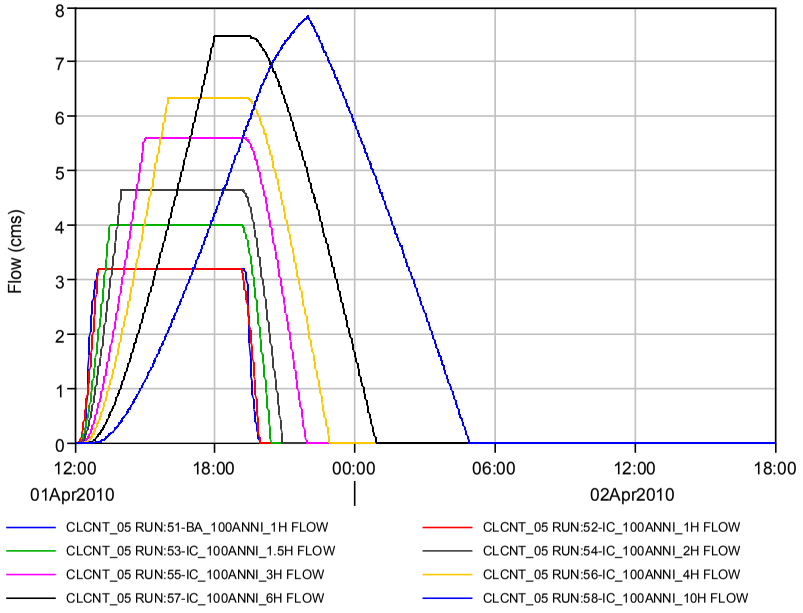
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CLCNT_05 RUN:54-IC_100ANNI_2H FLOW
CLCNT_05 RUN:55-IC_100ANNI_3H FLOW
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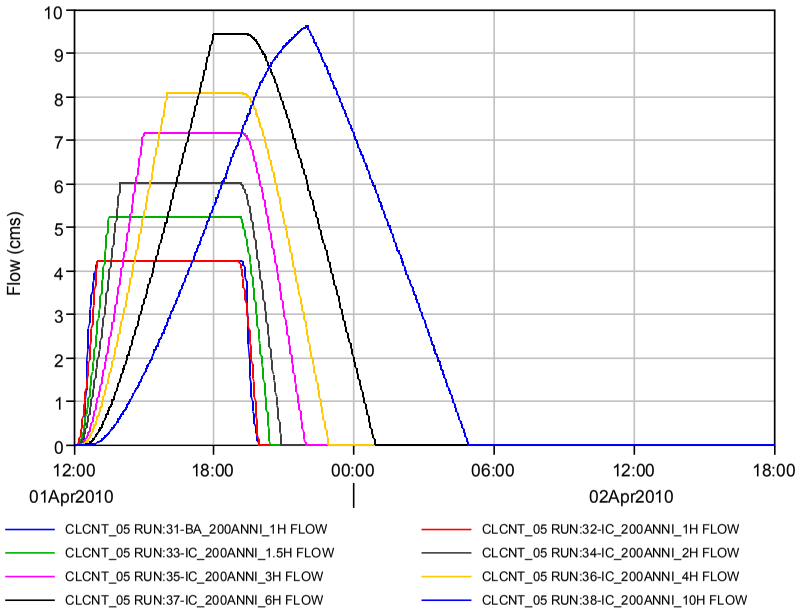
CLCNT_05 RUN:57-IC_100ANNI_6H FLOW
CLCNT_05 RUN:58-IC_100ANNI_10H FLOW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18:00
01Apr2010
02Apr2010
CLCNT_05 RUN:31-BA_200ANNI_1H FLOW
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CLCNT_05 RUN:33-IC_200ANNI_1.5H FLOW
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CLCNT_05 RUN:35-IC_200ANNI_3H FLOW
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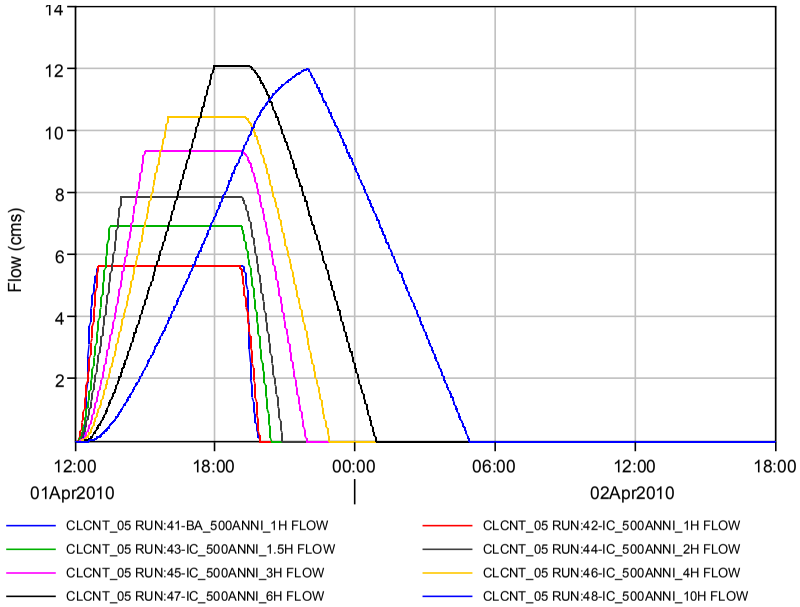
CLCNT_05 RUN:38-IC_200ANNI_10H FLOW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02Apr2010
CLCNT_05 RUN:41-BA_500ANNI_1H FLOW
CLCNT_05 RUN:42-IC_500ANNI_1H FLOW
CLCNT_05 RUN:43-IC_500ANNI_1.5H FLOW
CLCNT_05 RUN:44-IC_500ANNI_2H FLOW
CLCNT_05 RUN:45-IC_500ANNI_3H FLOW
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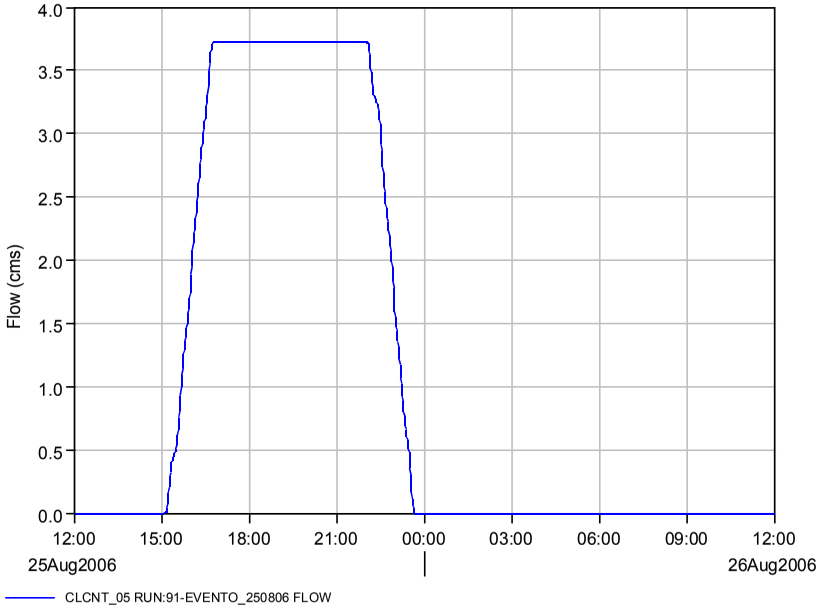
CLCNT_05 RUN:47-IC_500ANNI_6H FLOW
CLCNT_05 RUN:48-IC_500ANNI_10H FLOW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03:00
06:00
09:00
12:00
25Aug2006
26Aug2006
CLCNT_05 RUN:91-EVENTO_250806 FLOW

# *C.le Chianetta a monte del F.so della Fargnia [CLCNT_04]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **0.86** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **80** |
| **Hsc** - quota sezione di chiusura | [m] | **250** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.25** |
| **Hmb** - altitudine media del bacino | [m] | **294** | **La** - lunghezza asta principale | | [km] | **0.9** |
| **Hma** - quota massima asta principale | [m] | **380** | **ib** - pendenza media del bacino | | [%] | **14.2%** |
| **Hmb** - quota massima bacino | [m] | **290** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

## Parametri calcolati

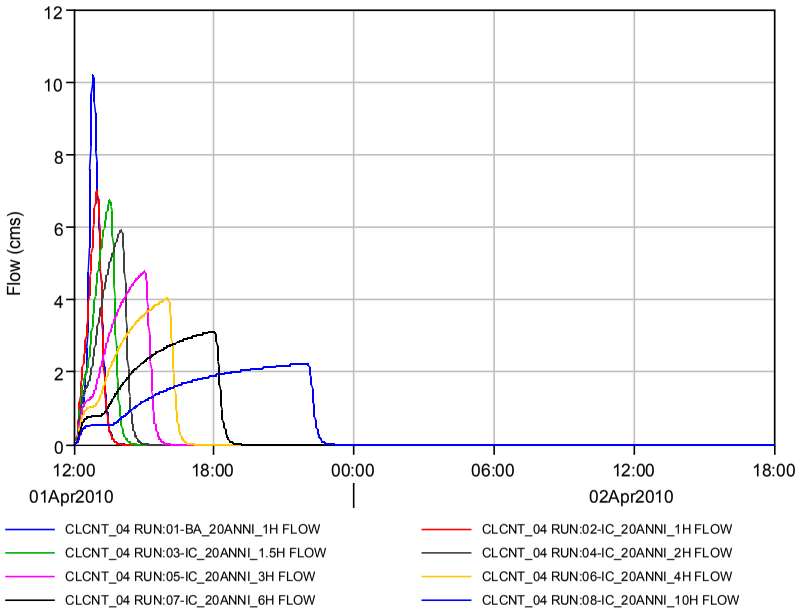
| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | **0.95** | **Hm** - altitudine media sulla sez. di chiusura | [m] | **44.0** |
| **Tck** - tempo di corrivazione di Kirpich | [h] | **0.13** | **DH** - dislivello altimetrico estremi asta principale | [m] | **130** |
| **Tcv** - tempo di corrivazione di Ventura | [h] | **0.31** | **HM** - altitudine massima sulla sez. di chiusura | [m] | **40** |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | **1.66** | **Trr** - tempo di ritardo di Rosso | [h] | **0.24** |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | **-** | **TrRT** - tempo di ritardo region. Al.To. | [h] | **0.90** |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | **0.08** |
| **Tca** - tempo di corrivazione di riferimento | [h] | **0.13** | **Tra** - tempo di ritardo adottato | [h] | **0.24** |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **0.86** |
| Loss / **Initial Abstraction** | [mm] | **15.9** |
| Loss / **CN** | [-] | **80** |
| Transform / **Lag Time** | [min] | **14** |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **10.2** | **12.8** | **16.7** | **29.1** | **38.0** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 11.9 | 14.9 | 19.4 | 33.8 | 44.2 |
| **C.B.C.R.** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |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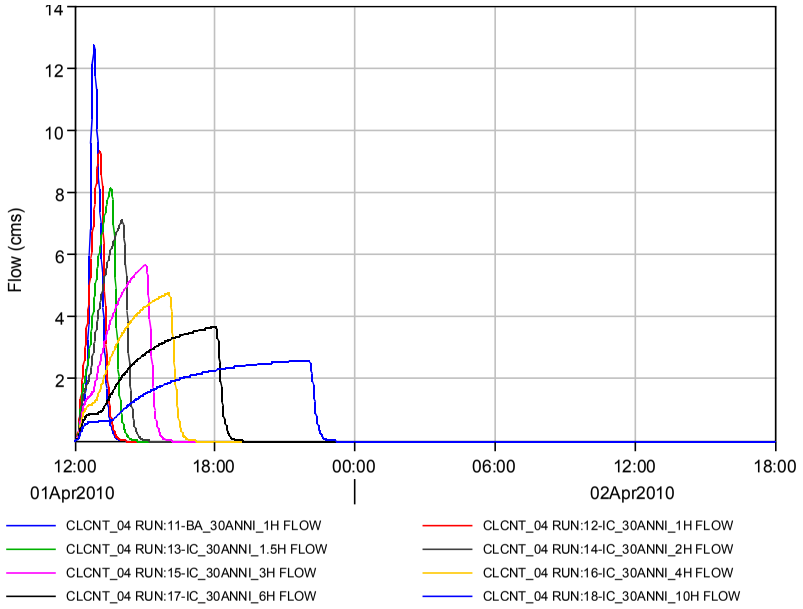
01Apr2010
02Apr2010
CLCNT_04 RUN:01-BA_20ANNI_1H FLOW
CLCNT_04 RUN:02-IC_20ANNI_1H FLOW
CLCNT_04 RUN:03-IC_20ANNI_1.5H FLOW
CLCNT_04 RUN:04-IC_20ANNI_2H FLOW
CLCNT_04 RUN:05-IC_20ANNI_3H FLOW
CLCNT_04 RUN:06-IC_20ANNI_4H FLOW
CLCNT_04 RUN:07-IC_20ANNI_6H FLOW
CLCNT_04 RUN:08-IC_20ANNI_10H FLOW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02Apr2010
CLCNT_04 RUN:11-BA_30ANNI_1H FLOW
CLCNT_04 RUN:12-IC_30ANNI_1H FLOW
CLCNT_04 RUN:13-IC_30ANNI_1.5H FLOW
CLCNT_04 RUN:14-IC_30ANNI_2H FLOW
CLCNT_04 RUN:15-IC_30ANNI_3H FLOW
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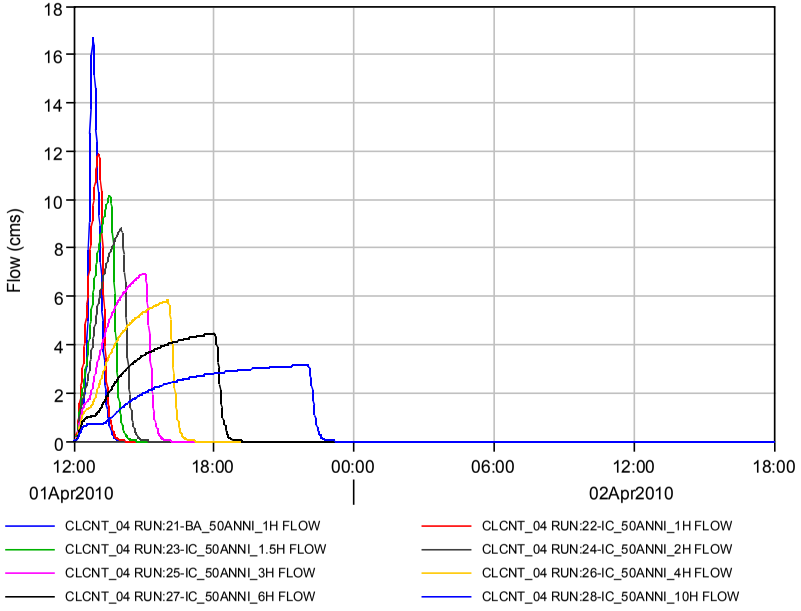
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02Apr2010
CLCNT_04 RUN:21-BA_50ANNI_1H FLOW
CLCNT_04 RUN:22-IC_50ANNI_1H FLOW
CLCNT_04 RUN:23-IC_50ANNI_1.5H FLOW
CLCNT_04 RUN:24-IC_50ANNI_2H FLOW
CLCNT_04 RUN:25-IC_50ANNI_3H FLOW
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CLCNT_04 RUN:27-IC_50ANNI_6H FLOW
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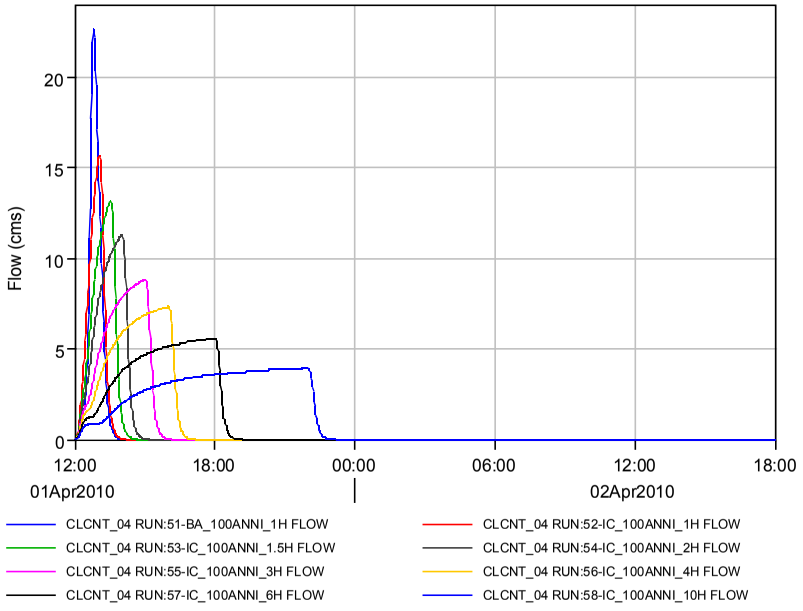
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CLCNT_04 RUN:51-BA_100ANNI_1H FLOW
CLCNT_04 RUN:52-IC_100ANNI_1H FLOW
CLCNT_04 RUN:53-IC_100ANNI_1.5H FLOW
CLCNT_04 RUN:54-IC_100ANNI_2H FLOW
CLCNT_04 RUN:55-IC_100ANNI_3H FLOW
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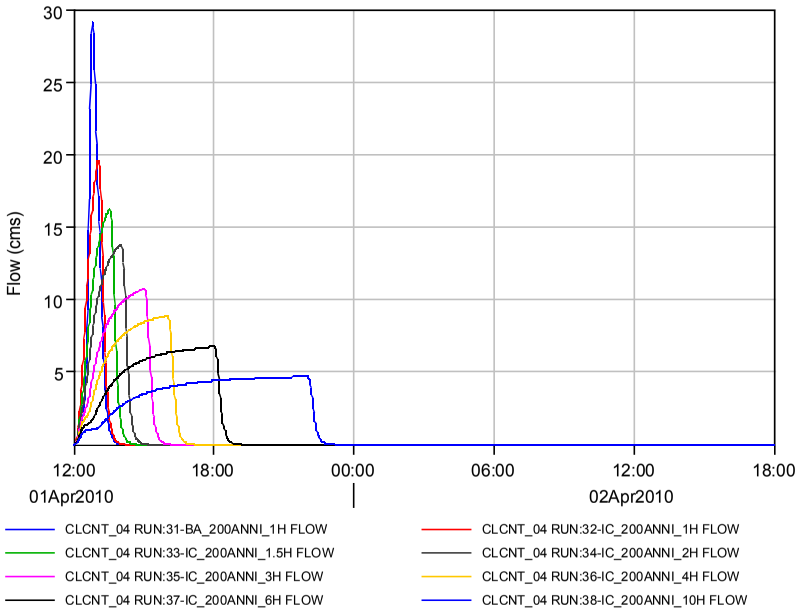
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CLCNT_04 RUN:31-BA_200ANNI_1H FLOW
CLCNT_04 RUN:32-IC_200ANNI_1H FLOW
CLCNT_04 RUN:33-IC_200ANNI_1.5H FLOW
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CLCNT_04 RUN:35-IC_200ANNI_3H FLOW
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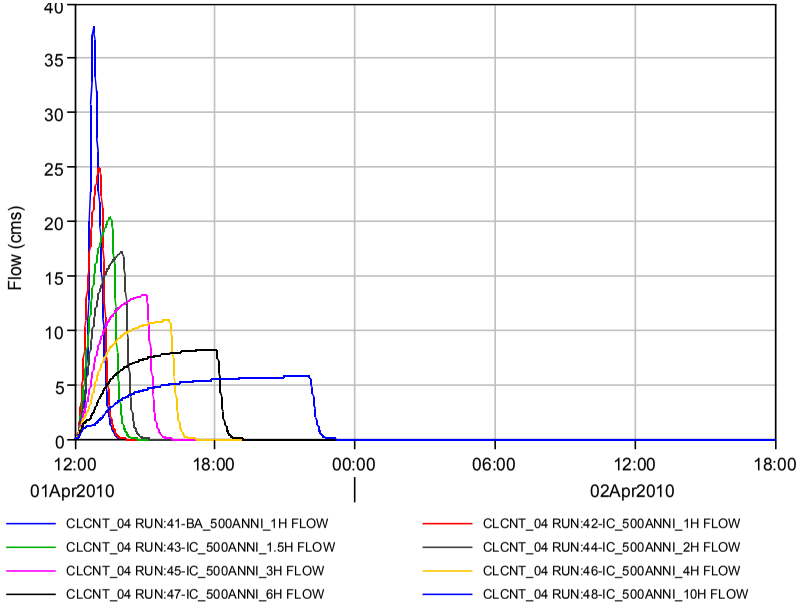
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CLCNT_04 RUN:41-BA_500ANNI_1H FLOW
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CLCNT_04 RUN:43-IC_500ANNI_1.5H FLOW
CLCNT_04 RUN:44-IC_500ANNI_2H FLOW
CLCNT_04 RUN:45-IC_500ANNI_3H FLOW
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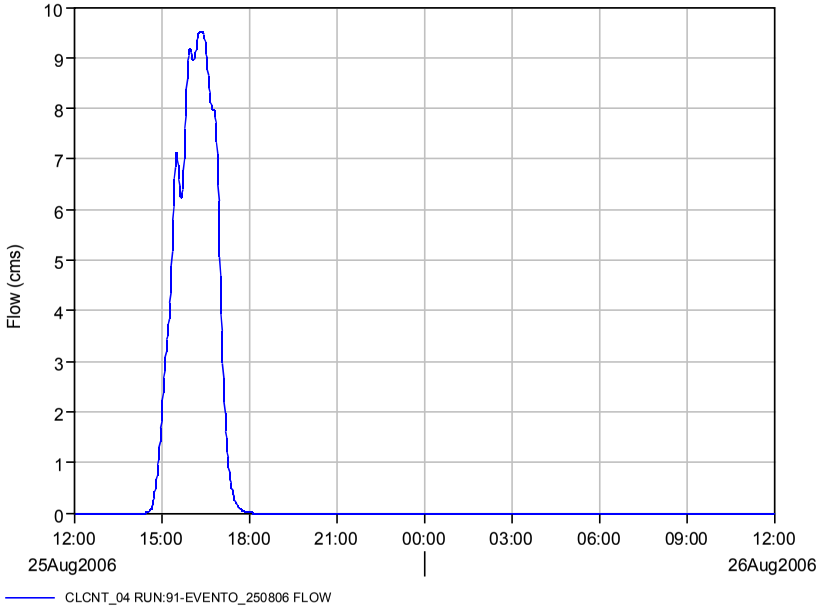
CLCNT_04 RUN:48-IC_500ANNI_10H FLOW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25Aug2006
26Aug2006
CLCNT_04 RUN:91-EVENTO_250806 FLOW

## *C.le Chianetta tra F.so della Fargnia e F.so Vuotabotte (urbano) [CLCNT_03]*

### Dati caratteristici del bacino idrografico

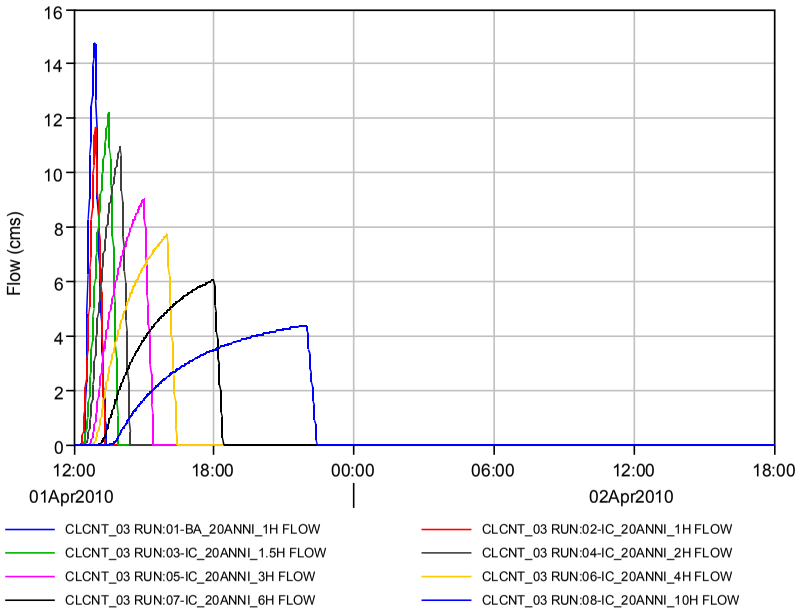
| | | | | | | |
|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **1.8** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **79** |
| **$H_{sc}$** - quota sezione di chiusura | [m] | **250** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.25** |
| **$H_{mb}$** - altitudine media del bacino | [m] | **291** | **La** - lunghezza asta principale | | [km] | **0.9** |
| **$H_{ma}$** - quota massima asta principale | [m] | **251** | **$i_b$** - pendenza media del bacino | | [%] | **10.2%** |
| **$H_{mb}$** - quota massima bacino | [m] | **360** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

### Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **$T_{cg}$** - tempo di corrivazione di Giandotti | [h] | **1.31** | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | **41.2** |
| **$T_{ck}$** - tempo di corrivazione di Kirpich | [h] | **0.72** | **DH** - dislivello altimetrico estremi asta principale | [m] | **1.5** |
| **$T_{cv}$** - tempo di corrivazione di Ventura | [h] | **4.17** | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | **110** |
| **$T_{cpu}$** - tempo di corrivazione di Puglisi | [h] | **1.18** | **$T_{rr}$** - tempo di ritardo di Rosso | [h] | **0.26** |
| **$T_{cpa}$** - tempo di corrivazione di Pasini | [h] | **-** | **$T_{rRT}$** - tempo di ritardo region. Al.To. | [h] | **-** |
| | | | **$T_{rc}$** - tempo di ritardo dal tempo di corrivazione | [h] | **0.25** |
| **$T_{ca}$** - tempo di corrivazione adottato | [h] | **0.42** | **$T_{ra}$** - tempo di ritardo di riferimento | [h] | **0.26** |

### Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **1.79** |
| Loss / **Initial Abstraction** | [mm] | **16.6** |
| Loss / **CN** | [-] | **79** |
| **UH Y hight** | [mc/s] | **1.193** |
| **UH X lenght** | [min] | **25** |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02Apr2010
CLCNT_03 RUN:01-BA_20ANNI_1H FLOW
CLCNT_03 RUN:02-IC_20ANNI_1H FLOW
CLCNT_03 RUN:03-IC_20ANNI_1.5H FLOW
CLCNT_03 RUN:04-IC_20ANNI_2H FLOW
CLCNT_03 RUN:05-IC_20ANNI_3H FLOW
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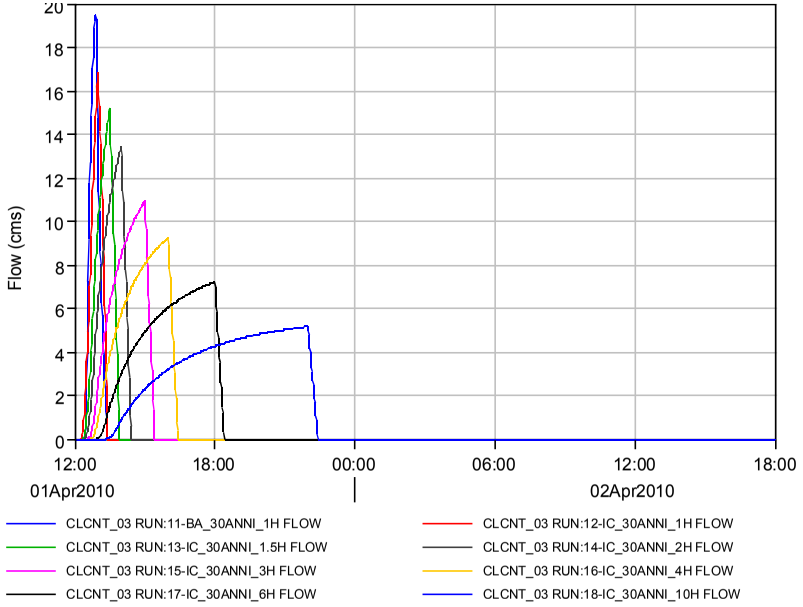
CLCNT_03 RUN:07-IC_20ANNI_6H FLOW
CLCNT_03 RUN:08-IC_20ANNI_10H FLOW


Flow (cms)
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02Apr2010
CLCNT_03 RUN:11-BA_30ANNI_1H FLOW
CLCNT_03 RUN:12-IC_30ANNI_1H FLOW
CLCNT_03 RUN:13-IC_30ANNI_1.5H FLOW
CLCNT_03 RUN:14-IC_30ANNI_2H FLOW
CLCNT_03 RUN:15-IC_30ANNI_3H FLOW
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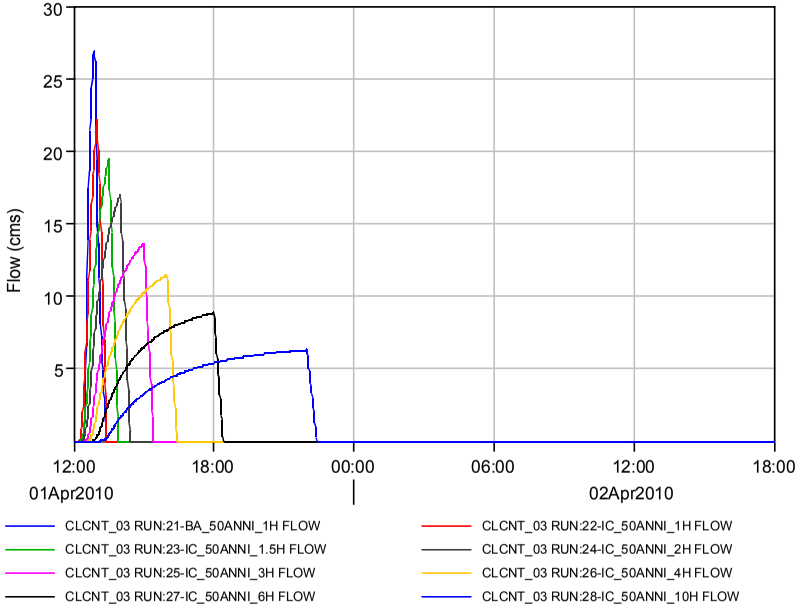
CLCNT_03 RUN:18-IC_30ANNI_10H FLOW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CLCNT_03 RUN:23-IC_50ANNI_1.5H FLOW
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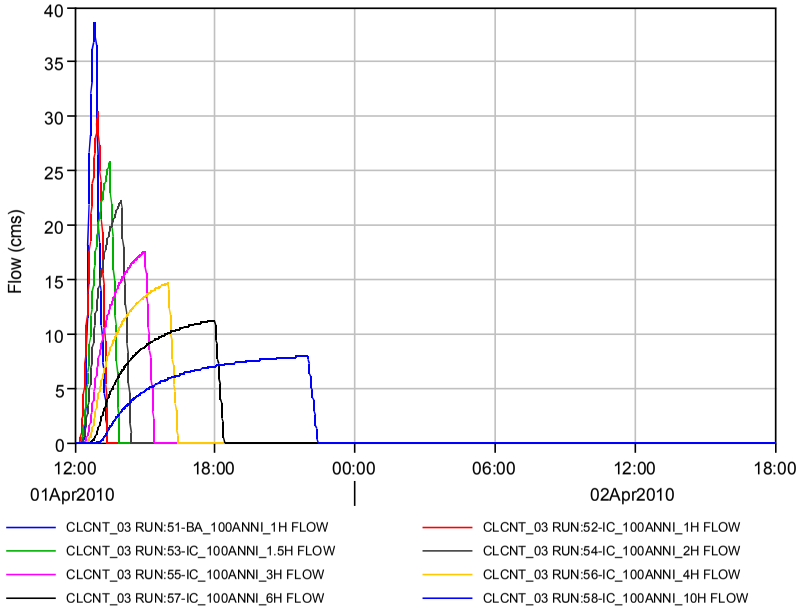
CLCNT_03 RUN:25-IC_50ANNI_3H FLOW
CLCNT_03 RUN:26-IC_50ANNI_4H FLOW
CLCNT_03 RUN:27-IC_50ANNI_6H FLOW
CLCNT_03 RUN:28-IC_50ANNI_10H FLOW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02Apr2010
CLCNT_03 RUN:51-BA_100ANNI_1H FLOW
CLCNT_03 RUN:52-IC_100ANNI_1H FLOW
CLCNT_03 RUN:53-IC_100ANNI_1.5H FLOW
CLCNT_03 RUN:54-IC_100ANNI_2H FLOW
CLCNT_03 RUN:55-IC_100ANNI_3H FLOW
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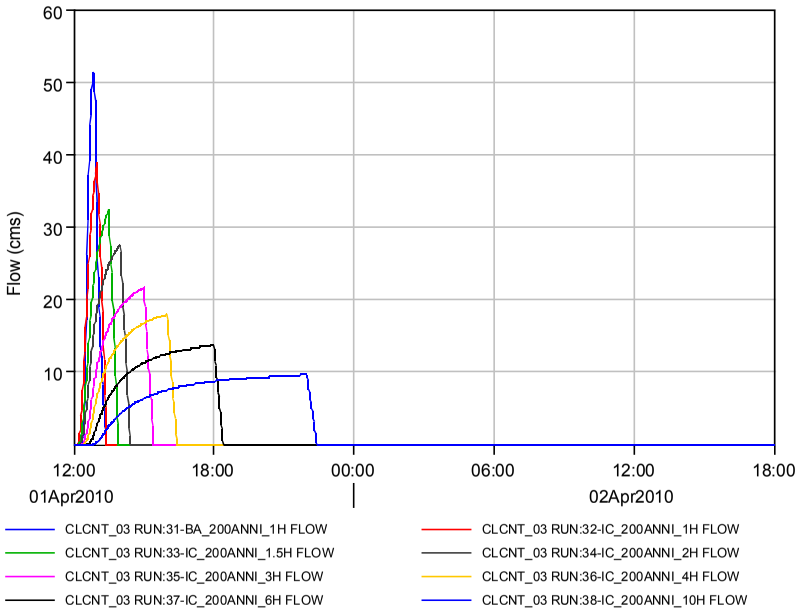
CLCNT_03 RUN:57-IC_100ANNI_6H FLOW
CLCNT_03 RUN:58-IC_100ANNI_10H FLOW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01Apr2010
02Apr2010
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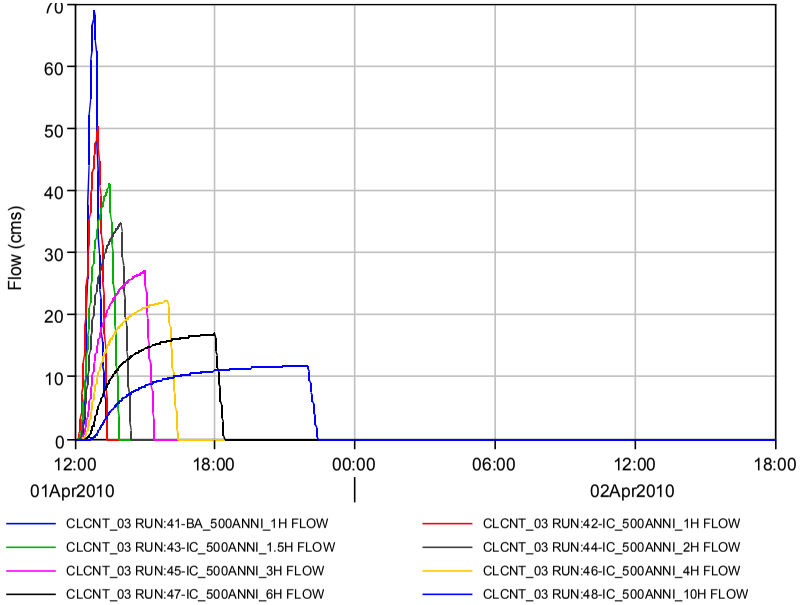
CLCNT_03 RUN:32-IC_200ANNI_1H FLOW
CLCNT_03 RUN:33-IC_200ANNI_1.5H FLOW
CLCNT_03 RUN:34-IC_200ANNI_2H FLOW
CLCNT_03 RUN:35-IC_200ANNI_3H FLOW
CLCNT_03 RUN:36-IC_200ANNI_4H FLOW
CLCNT_03 RUN:37-IC_200ANNI_6H FLOW
CLCNT_03 RUN:38-IC_200ANNI_10H FLOW


Flow (cms)
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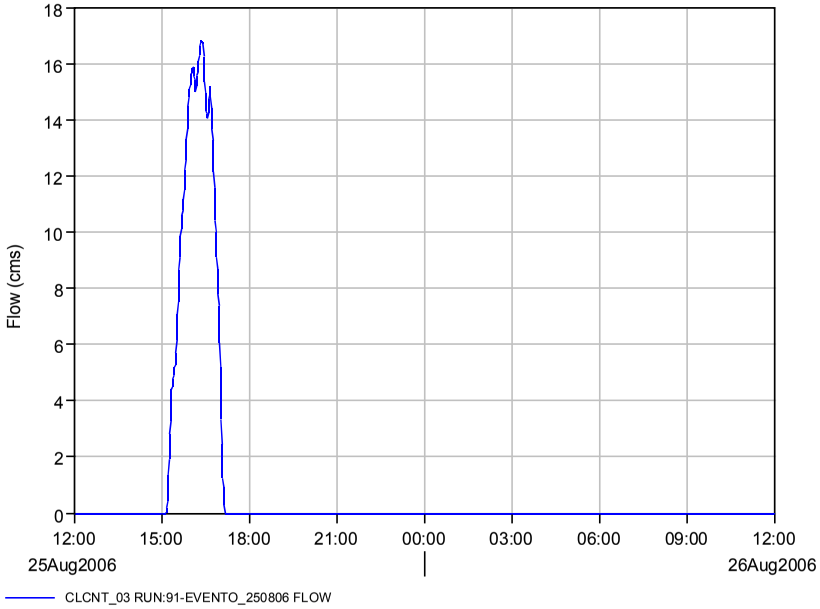
02Apr2010
CLCNT_03 RUN:41-BA_500ANNI_1H FLOW
CLCNT_03 RUN:42-IC_500ANNI_1H FLOW
CLCNT_03 RUN:43-IC_500ANNI_1.5H FLOW
CLCNT_03 RUN:44-IC_500ANNI_2H FLOW
CLCNT_03 RUN:45-IC_500ANNI_3H FLOW
CLCNT_03 RUN:46-IC_500ANNI_4H FLOW
CLCNT_03 RUN:47-IC_500ANNI_6H FLOW
CLCNT_03 RUN:48-IC_500ANNI_10H FLOW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06:00
09:00
12:00
25Aug2006
26Aug2006
CLCNT_03 RUN:91-EVENTO_250806 FLOW

## *C.le Chianetta tra F.so Vuotabotte e F.so Paterno (agricolo+urbano) [CLCNT_02]*

### Dati caratteristici del bacino idrografico

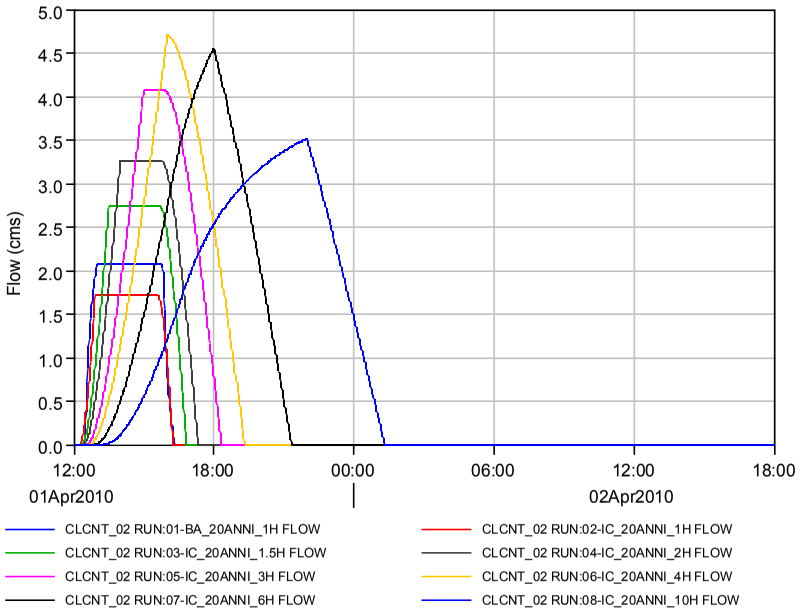
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **1.4** | 0.3 | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **82** |
| **$H_{sc}$** - quota sezione di chiusura | [m] | **250** | | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.25** |
| **$H_{mb}$** - altitudine media del bacino | [m] | **291** | | **La** - lunghezza asta principale | | [km] | **0.9** |
| **$H_{ma}$** - quota massima asta principale | [m] | **251** | | **$i_b$** - pendenza media del bacino | | [%] | **10.2%** |
| **$H_{mb}$** - quota massima bacino | [m] | **360** | | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

### Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **$T_{cg}$** - tempo di corrivazione di Giandotti | [h] | **1.19** | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | **41.2** |
| **$T_{ck}$** - tempo di corrivazione di Kirpich | [h] | **0.72** | **DH** - dislivello altimetrico estremi asta principale | [m] | **1.5** |
| **$T_{cv}$** - tempo di corrivazione di Ventura | [h] | **3.34** | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | **110** |
| **$T_{cpu}$** - tempo di corrivazione di Puglisi | [h] | **1.18** | **$T_{rr}$** - tempo di ritardo di Rosso | [h] | **0.25** |
| **$T_{cpa}$** - tempo di corrivazione di Pasini | [h] | **-** | **$T_{rRT}$** - tempo di ritardo region. Al.To. | [h] | **-** |
| | | | **$T_{rc}$** - tempo di ritardo dal tempo di corrivazione | [h] | **2.00** |
| **$T_{ca}$** - tempo di corrivazione adottato | [h] | **3.34** | **$T_{ra}$** - tempo di ritardo di riferimento | [h] | **0.25** |

### Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **1.43** |
| Loss / **Initial Abstraction** | [mm] | **13.9** |
| Loss / **CN** | [-] | **82** |
| **UH Y hight** | [mc/s] | **0.119** |
| **UH X lenght** | [min] | **200** |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01Apr2010
02Apr2010
CLCNT_02 RUN:01-BA_20ANNI_1H FLOW
CLCNT_02 RUN:02-IC_20ANNI_1H FLOW
CLCNT_02 RUN:03-IC_20ANNI_1.5H FLOW
CLCNT_02 RUN:04-IC_20ANNI_2H FLOW
CLCNT_02 RUN:05-IC_20ANNI_3H FLOW
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CLCNT_02 RUN:07-IC_20ANNI_6H FLOW
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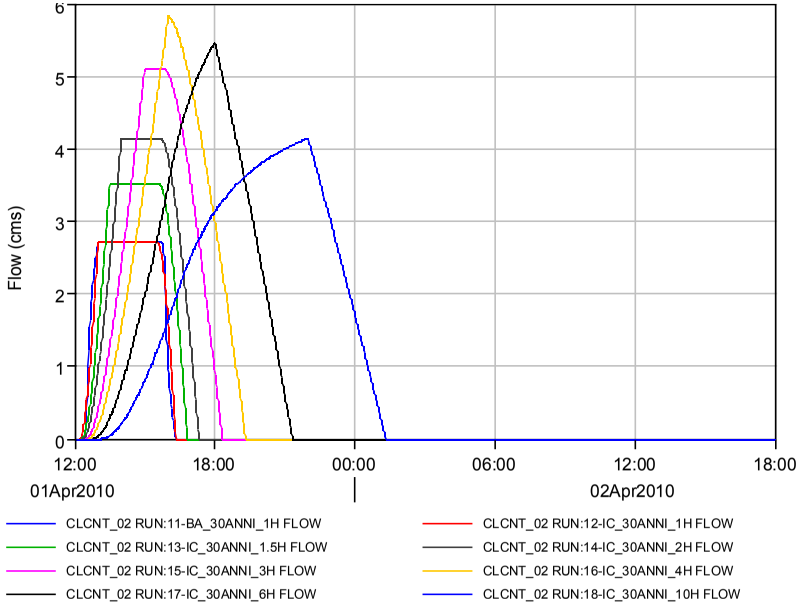
Flow (cms)
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02Apr2010
CLCNT_02 RUN:11-BA_30ANNI_1H FLOW
CLCNT_02 RUN:12-IC_30ANNI_1H FLOW
CLCNT_02 RUN:13-IC_30ANNI_1.5H FLOW
CLCNT_02 RUN:14-IC_30ANNI_2H FLOW
CLCNT_02 RUN:15-IC_30ANNI_3H FLOW
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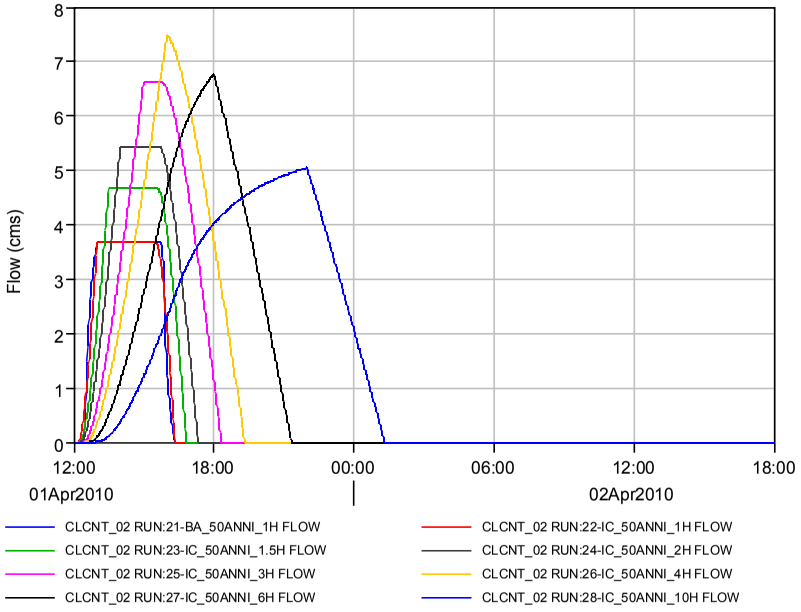
CLCNT_02 RUN:18-IC_30ANNI_10H FLOW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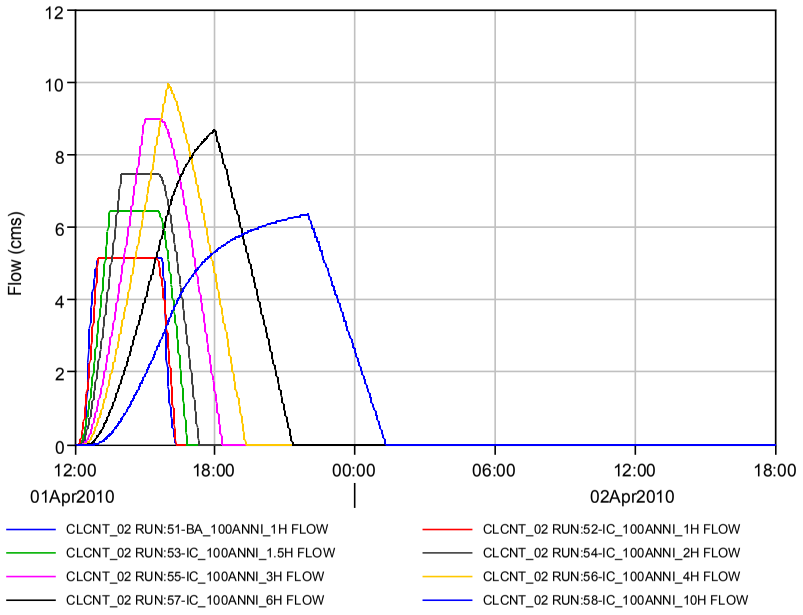
CLCNT_02 RUN:24-IC_50ANNI_2H FLOW
CLCNT_02 RUN:25-IC_50ANNI_3H FLOW
CLCNT_02 RUN:26-IC_50ANNI_4H FLOW
CLCNT_02 RUN:27-IC_50ANNI_6H FLOW
CLCNT_02 RUN:28-IC_50ANNI_10H FLOW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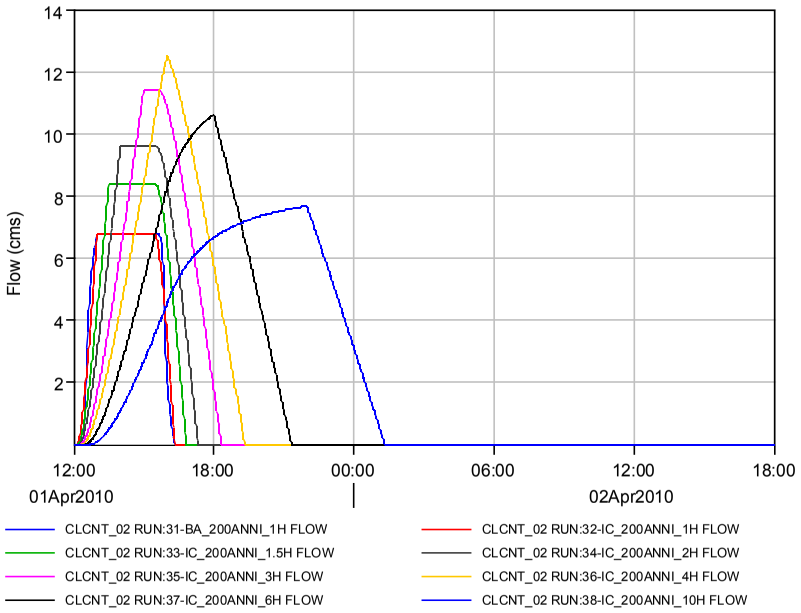
CLCNT_02 RUN:51-BA_100ANNI_1H FLOW
CLCNT_02 RUN:52-IC_100ANNI_1H FLOW
CLCNT_02 RUN:53-IC_100ANNI_1.5H FLOW
CLCNT_02 RUN:54-IC_100ANNI_2H FLOW
CLCNT_02 RUN:55-IC_100ANNI_3H FLOW
CLCNT_02 RUN:56-IC_100ANNI_4H FLOW
CLCNT_02 RUN:57-IC_100ANNI_6H FLOW
CLCNT_02 RUN:58-IC_100ANNI_10H FLOW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6
4
2
12:00
18:00
00:00
06:00
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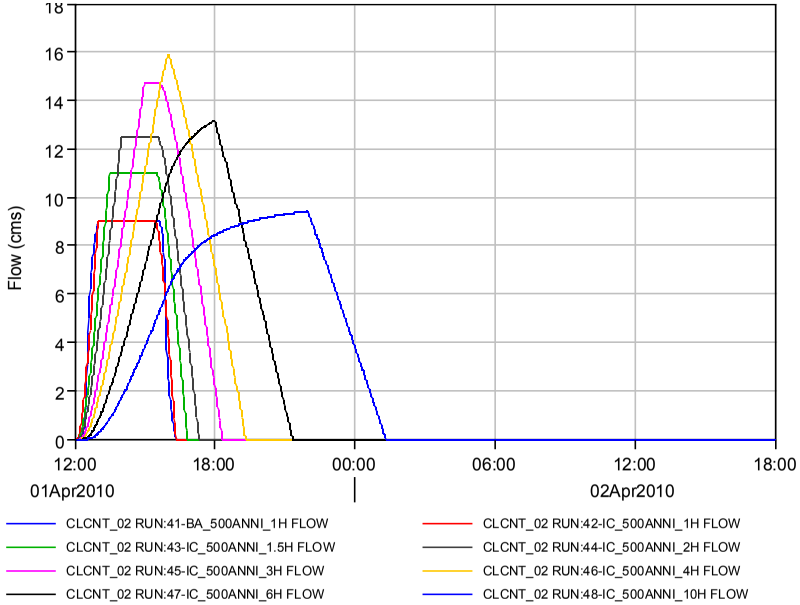
18:00
01Apr2010
02Apr2010
CLCNT_02 RUN:31-BA_200ANNI_1H FLOW
CLCNT_02 RUN:32-IC_200ANNI_1H FLOW
CLCNT_02 RUN:33-IC_200ANNI_1.5H FLOW
CLCNT_02 RUN:34-IC_200ANNI_2H FLOW
CLCNT_02 RUN:35-IC_200ANNI_3H FLOW
CLCNT_02 RUN:36-IC_200ANNI_4H FLOW
CLCNT_02 RUN:37-IC_200ANNI_6H FLOW
CLCNT_02 RUN:38-IC_200ANNI_10H FLOW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06:00
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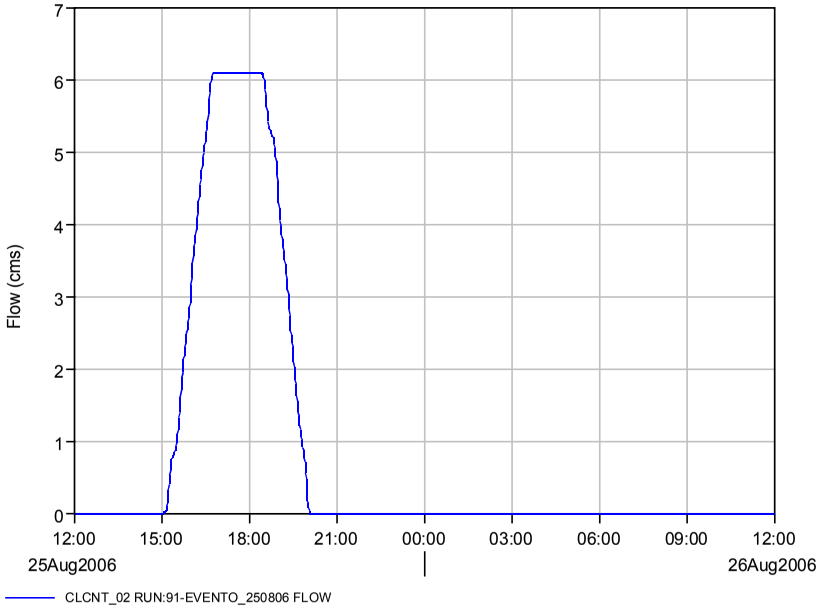
18:00
01Apr2010
02Apr2010
CLCNT_02 RUN:41-BA_500ANNI_1H FLOW
CLCNT_02 RUN:42-IC_500ANNI_1H FLOW
CLCNT_02 RUN:43-IC_500ANNI_1.5H FLOW
CLCNT_02 RUN:44-IC_500ANNI_2H FLOW
CLCNT_02 RUN:45-IC_500ANNI_3H FLOW
CLCNT_02 RUN:46-IC_500ANNI_4H FLOW
CLCNT_02 RUN:47-IC_500ANNI_6H FLOW
CLCNT_02 RUN:48-IC_500ANNI_10H FLOW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06:00
09:00
12:00
25Aug2006
26Aug2006
CLCNT_02 RUN:91-EVENTO_250806 FLOW

## *C.le Chianetta a valle del F.so Paterno (agricolo+urbano) [CLCNT_01]*

### Dati caratteristici del bacino idrografico

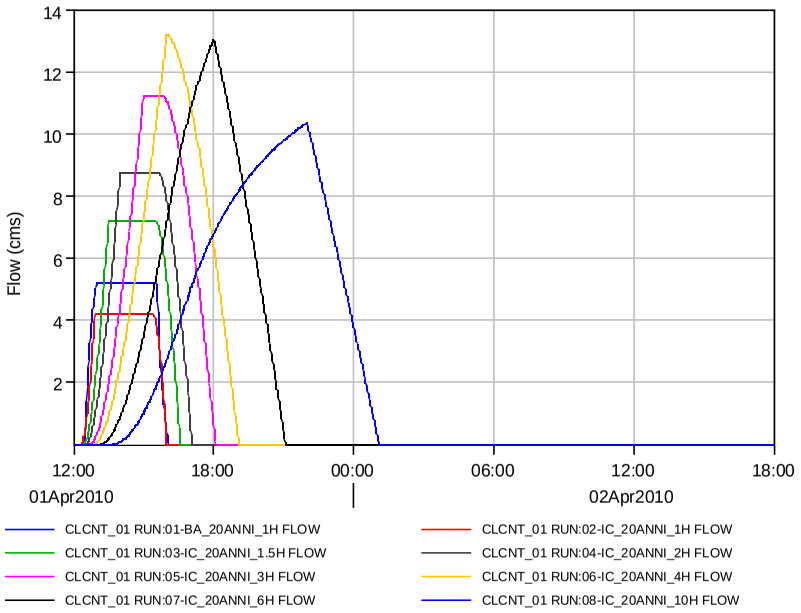
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **4.6** | 0.0 | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **78** |
| **$H_{sc}$** - quota sezione di chiusura | [m] | **247** | | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.25** |
| **$H_{mb}$** - altitudine media del bacino | [m] | **291** | | **La** - lunghezza asta principale | | [km] | **2.5** |
| **$H_{ma}$** - quota massima asta principale | [m] | **275** | | **$i_b$** - pendenza media del bacino | | [%] | **4.3%** |
| **$H_{mb}$** - quota massima bacino | [m] | **360** | | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

### Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **$T_{cg}$** - tempo di corrivazione di Giandotti | [h] | **2.32** | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | **44.0** |
| **$T_{ck}$** - tempo di corrivazione di Kirpich | [h] | **0.75** | **DH** - dislivello altimetrico estremi asta principale | [m] | **28.0** |
| **$T_{cv}$** - tempo di corrivazione di Ventura | [h] | **2.57** | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | **113** |
| **$T_{cpu}$** - tempo di corrivazione di Puglisi | [h] | **2.33** | **$T_{rr}$** - tempo di ritardo di Rosso | [h] | **0.72** |
| **$T_{cpa}$** - tempo di corrivazione di Pasini | [h] | **-** | **$T_{rRT}$** - tempo di ritardo region. Al.To. | [h] | **-** |
| | | | **$T_{rc}$** - tempo di ritardo dal tempo di corrivazione | [h] | **1.85** |
| **$T_{ca}$** - tempo di corrivazione adottato | [h] | **3.08** | **$T_{ra}$** - tempo di ritardo di riferimento | [h] | **0.72** |

### Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **4.56** |
| Loss / **Initial Abstraction** | [mm] | **17.9** |
| Loss / **CN** | [-] | **78** |
| **UH Y hight** | [mc/s] | **0.411** |
| **UH X lenght** | [min] | **185** |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12:00
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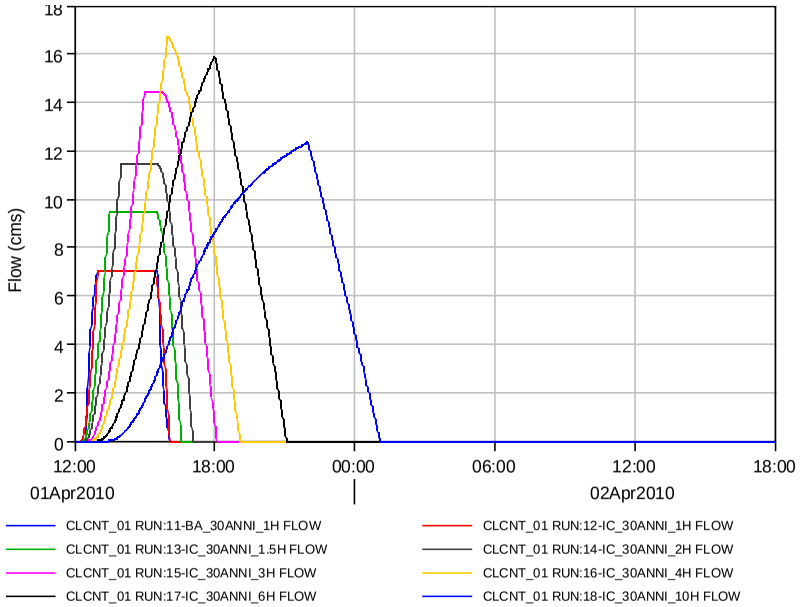
06:00
12:00
18:00
01Apr2010
02Apr2010
CLCNT_01 RUN:01-BA_20ANNI_1H FLOW
CLCNT_01 RUN:02-IC_20ANNI_1H FLOW
CLCNT_01 RUN:03-IC_20ANNI_1.5H FLOW
CLCNT_01 RUN:04-IC_20ANNI_2H FLOW
CLCNT_01 RUN:05-IC_20ANNI_3H FLOW
CLCNT_01 RUN:06-IC_20ANNI_4H FLOW
CLCNT_01 RUN:07-IC_20ANNI_6H FLOW
CLCNT_01 RUN:08-IC_20ANNI_10H FLOW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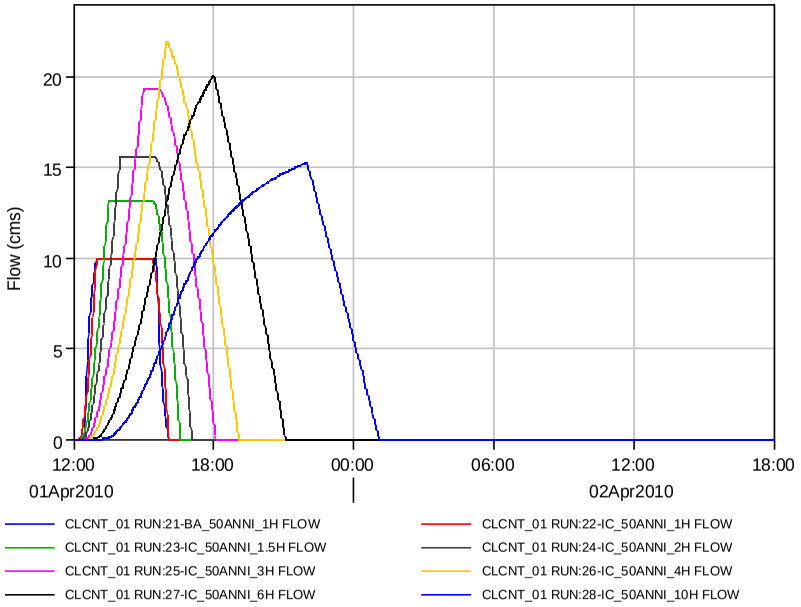
18:00
01Apr2010
02Apr2010
CLCNT_01 RUN:11-BA_30ANNI_1H FLOW
CLCNT_01 RUN:12-IC_30ANNI_1H FLOW
CLCNT_01 RUN:13-IC_30ANNI_1.5H FLOW
CLCNT_01 RUN:14-IC_30ANNI_2H FLOW
CLCNT_01 RUN:15-IC_30ANNI_3H FLOW
CLCNT_01 RUN:16-IC_30ANNI_4H FLOW
CLCNT_01 RUN:17-IC_30ANNI_6H FLOW
CLCNT_01 RUN:18-IC_30ANNI_10H FLOW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CLCNT_01 RUN:22-IC_50ANNI_1H FLOW
CLCNT_01 RUN:23-IC_50ANNI_1.5H FLOW
CLCNT_01 RUN:24-IC_50ANNI_2H FLOW
CLCNT_01 RUN:25-IC_50ANNI_3H FLOW
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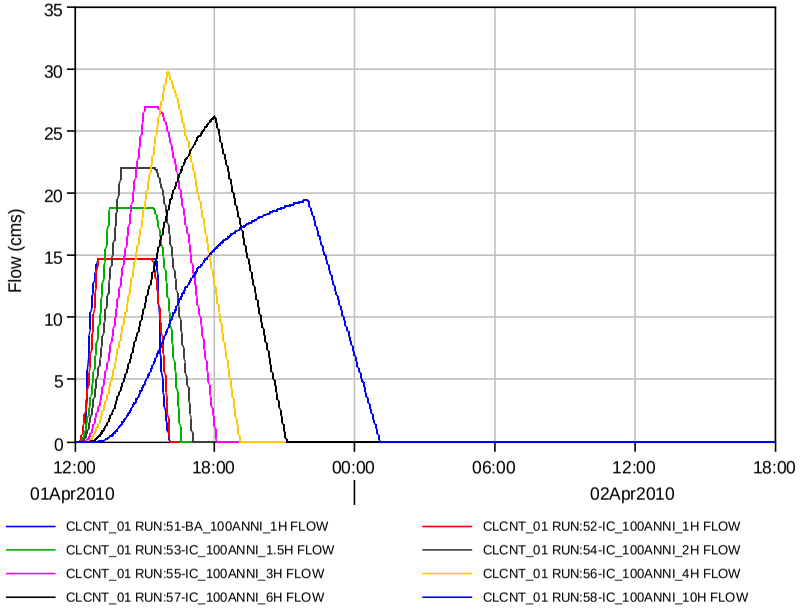
CLCNT_01 RUN:28-IC_50ANNI_10H FLOW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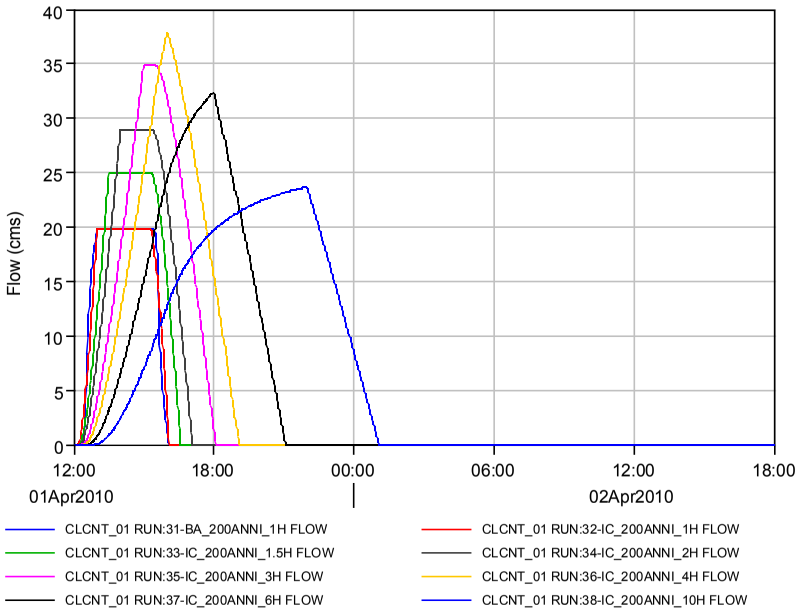
CLCNT_01 RUN:53-IC_100ANNI_1.5H FLOW
CLCNT_01 RUN:54-IC_100ANNI_2H FLOW
CLCNT_01 RUN:55-IC_100ANNI_3H FLOW
CLCNT_01 RUN:56-IC_100ANNI_4H FLOW
CLCNT_01 RUN:57-IC_100ANNI_6H FLOW
CLCNT_01 RUN:58-IC_100ANNI_10H FLOW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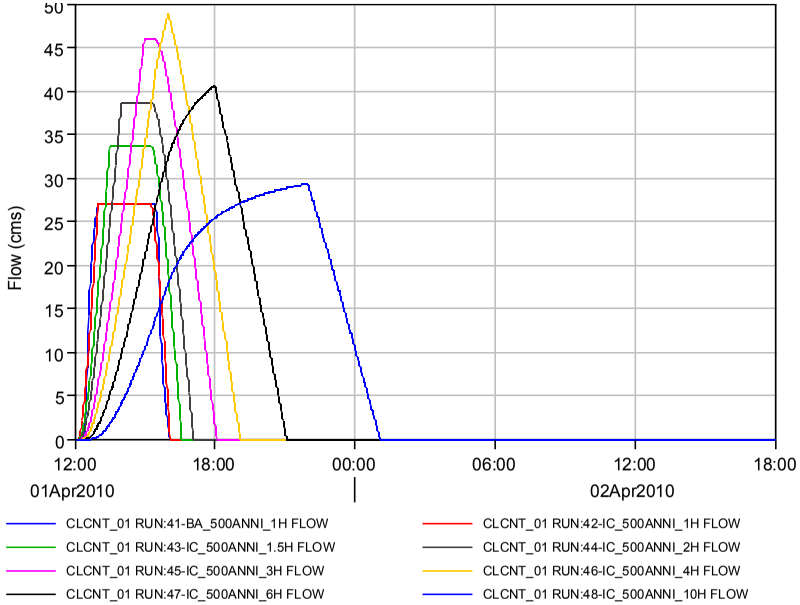
01Apr2010
02Apr2010
CLCNT_01 RUN:31-BA_200ANNI_1H FLOW
CLCNT_01 RUN:32-IC_200ANNI_1H FLOW
CLCNT_01 RUN:33-IC_200ANNI_1.5H FLOW
CLCNT_01 RUN:34-IC_200ANNI_2H FLOW
CLCNT_01 RUN:35-IC_200ANNI_3H FLOW
CLCNT_01 RUN:36-IC_200ANNI_4H FLOW
CLCNT_01 RUN:37-IC_200ANNI_6H FLOW
CLCNT_01 RUN:38-IC_200ANNI_10H FLOW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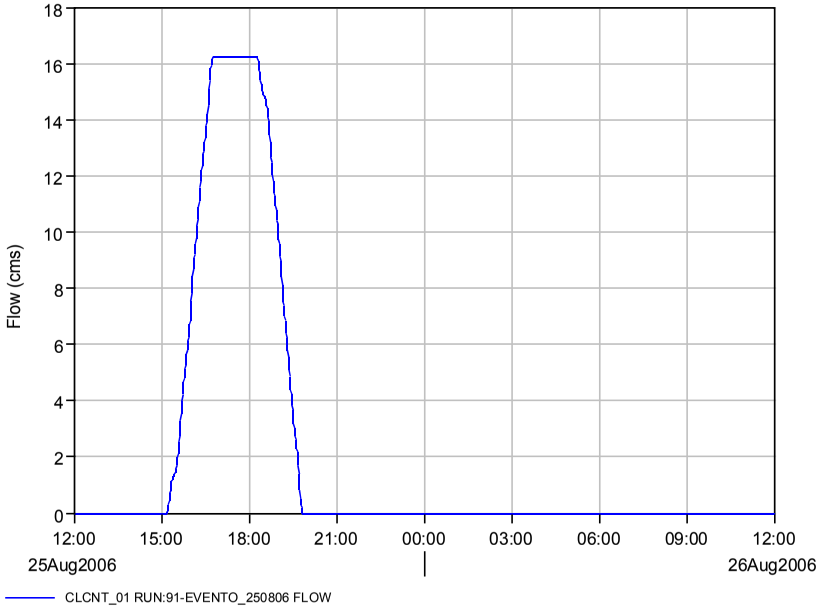
12:00
18:00
01Apr2010
02Apr2010
CLCNT_01 RUN:41-BA_500ANNI_1H FLOW
CLCNT_01 RUN:42-IC_500ANNI_1H FLOW
CLCNT_01 RUN:43-IC_500ANNI_1.5H FLOW
CLCNT_01 RUN:44-IC_500ANNI_2H FLOW
CLCNT_01 RUN:45-IC_500ANNI_3H FLOW
CLCNT_01 RUN:46-IC_500ANNI_4H FLOW
CLCNT_01 RUN:47-IC_500ANNI_6H FLOW
CLCNT_01 RUN:48-IC_500ANNI_10H FLOW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09:00
12:00
25Aug2006
26Aug2006
CLCNT_01 RUN:91-EVENTO_250806 FLOW

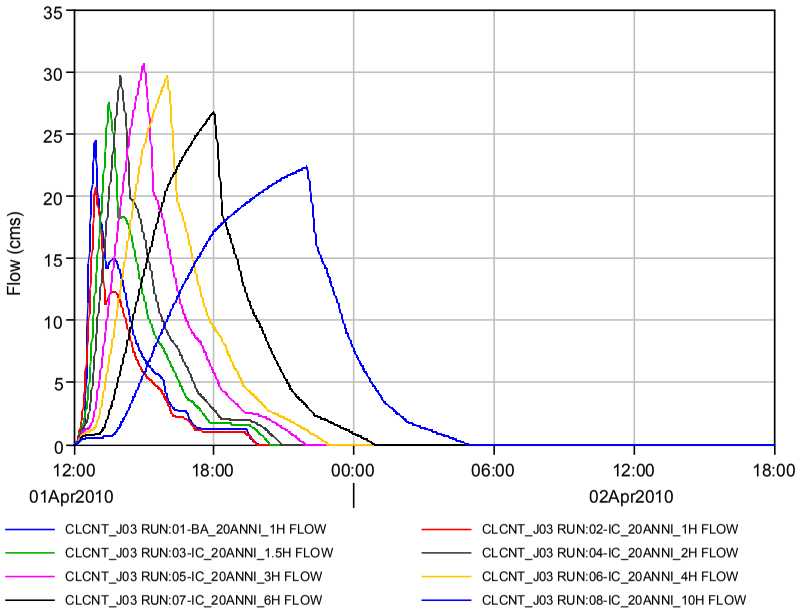
## *C.le Chianetta a valle del F.so Vuotabotte [CLCNT_J03]*

### Dati caratteristici del bacino idrografico

**S** - superficie complessiva del bacino [kmq] **10.23**

### Confronti

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **iIDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **30.5** | **35.8** | **43.3** | **60.0** | **71.1** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 3.0 | 3.5 | 4.2 | 5.9 | 7.0 |
| **C.B.C.R.** | **S** - superficie complessiva del bacino | [kmq] | | | 12.1 | 12.1 | 12.1 |
| | **Qmax** – portata al colmo | [mc/s] | | | **66.0** | **103.0** | **130.0** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | 5.5 | 8.5 | 10.7 |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |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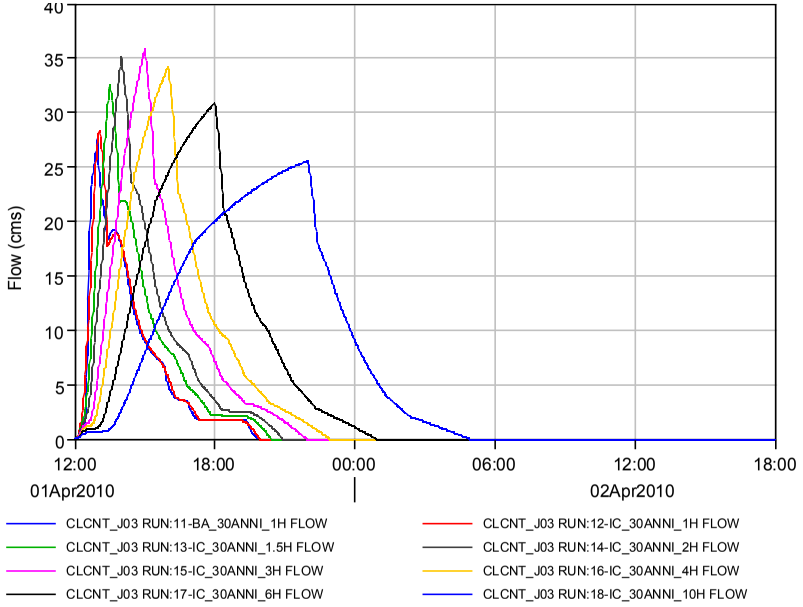
01Apr2010
02Apr2010
CLCNT_J03 RUN:01-BA_20ANNI_1H FLOW
CLCNT_J03 RUN:02-IC_20ANNI_1H FLOW
CLCNT_J03 RUN:03-IC_20ANNI_1.5H FLOW
CLCNT_J03 RUN:04-IC_20ANNI_2H FLOW
CLCNT_J03 RUN:05-IC_20ANNI_3H FLOW
CLCNT_J03 RUN:06-IC_20ANNI_4H FLOW
CLCNT_J03 RUN:07-IC_20ANNI_6H FLOW
CLCNT_J03 RUN:08-IC_20ANNI_10H FLOW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18:00
01Apr2010
02Apr2010
CLCNT_J03 RUN:11-BA_30ANNI_1H FLOW
CLCNT_J03 RUN:12-IC_30ANNI_1H FLOW
CLCNT_J03 RUN:13-IC_30ANNI_1.5H FLOW
CLCNT_J03 RUN:14-IC_30ANNI_2H FLOW
CLCNT_J03 RUN:15-IC_30ANNI_3H FLOW
CLCNT_J03 RUN:16-IC_30ANNI_4H FLOW
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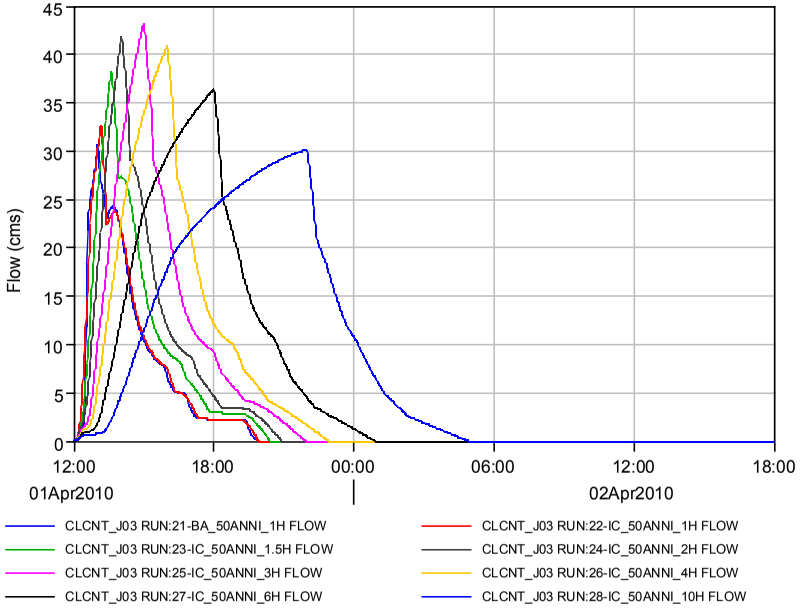
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18:00
01Apr2010
02Apr2010
CLCNT_J03 RUN:21-BA_50ANNI_1H FLOW
CLCNT_J03 RUN:22-IC_50ANNI_1H FLOW
CLCNT_J03 RUN:23-IC_50ANNI_1.5H FLOW
CLCNT_J03 RUN:24-IC_50ANNI_2H FLOW
CLCNT_J03 RUN:25-IC_50ANNI_3H FLOW
CLCNT_J03 RUN:26-IC_50ANNI_4H FLOW
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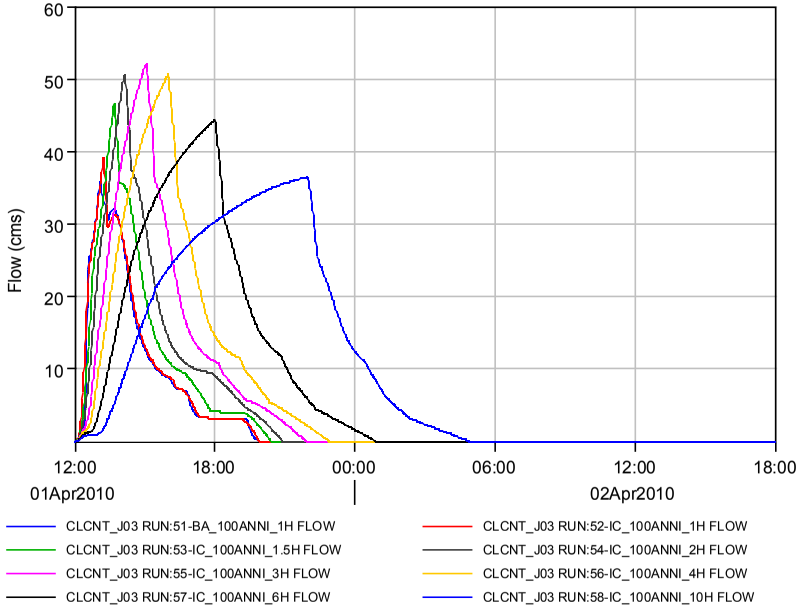
CLCNT_J03 RUN:28-IC_50ANNI_10H FLOW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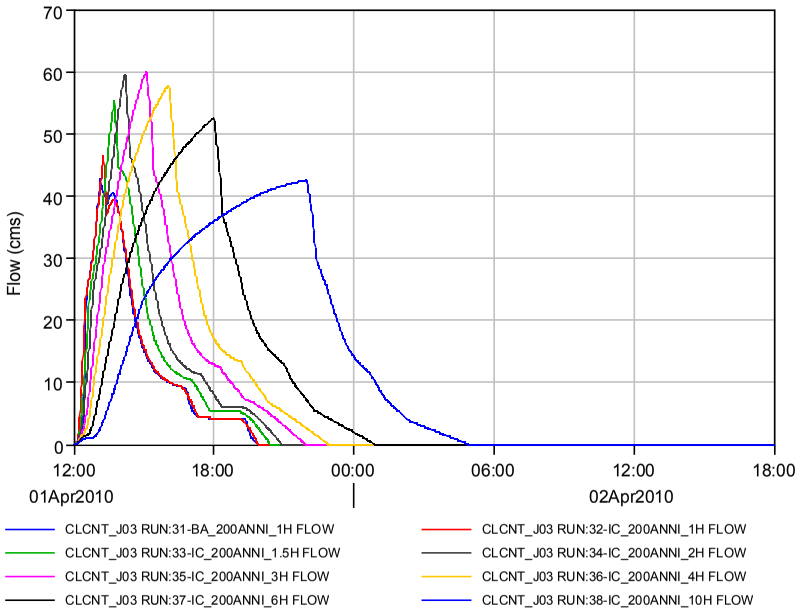
18:00
01Apr2010
02Apr2010
CLCNT_J03 RUN:51-BA_100ANNI_1H FLOW
CLCNT_J03 RUN:52-IC_100ANNI_1H FLOW
CLCNT_J03 RUN:53-IC_100ANNI_1.5H FLOW
CLCNT_J03 RUN:54-IC_100ANNI_2H FLOW
CLCNT_J03 RUN:55-IC_100ANNI_3H FLOW
CLCNT_J03 RUN:56-IC_100ANNI_4H FLOW
CLCNT_J03 RUN:57-IC_100ANNI_6H FLOW
CLCNT_J03 RUN:58-IC_100ANNI_10H FLOW


Flow (cms)
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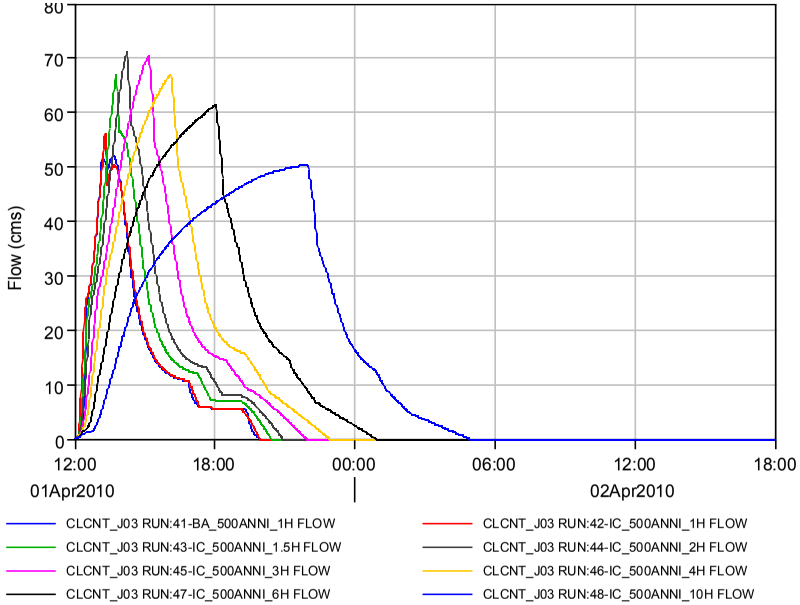
18:00
01Apr2010
02Apr2010
CLCNT_J03 RUN:31-BA_200ANNI_1H FLOW
CLCNT_J03 RUN:32-IC_200ANNI_1H FLOW
CLCNT_J03 RUN:33-IC_200ANNI_1.5H FLOW
CLCNT_J03 RUN:34-IC_200ANNI_2H FLOW
CLCNT_J03 RUN:35-IC_200ANNI_3H FLOW
CLCNT_J03 RUN:36-IC_200ANNI_4H FLOW
CLCNT_J03 RUN:37-IC_200ANNI_6H FLOW
CLCNT_J03 RUN:38-IC_200ANNI_10H FLOW


Flow (cms)
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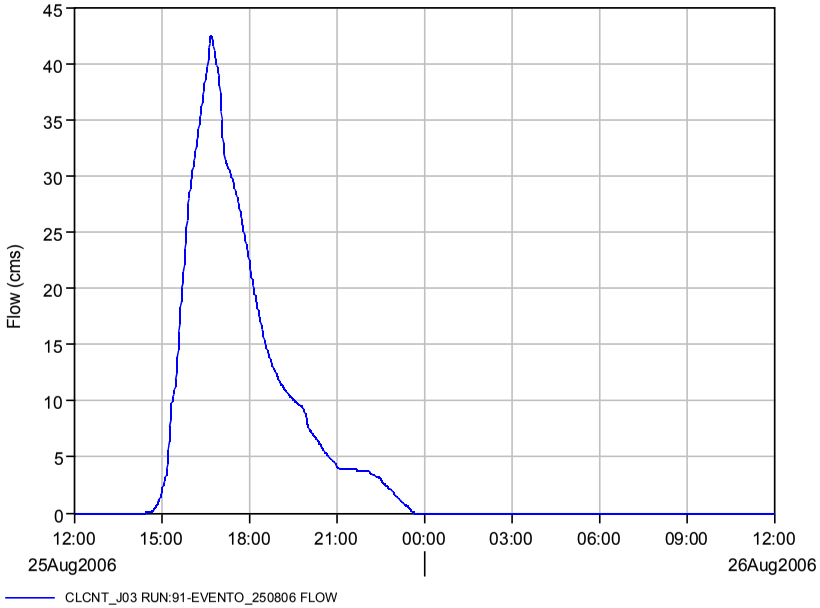
12:00
18:00
01Apr2010
02Apr2010
CLCNT_J03 RUN:41-BA_500ANNI_1H FLOW
CLCNT_J03 RUN:42-IC_500ANNI_1H FLOW
CLCNT_J03 RUN:43-IC_500ANNI_1.5H FLOW
CLCNT_J03 RUN:44-IC_500ANNI_2H FLOW
CLCNT_J03 RUN:45-IC_500ANNI_3H FLOW
CLCNT_J03 RUN:46-IC_500ANNI_4H FLOW
CLCNT_J03 RUN:47-IC_500ANNI_6H FLOW
CLCNT_J03 RUN:48-IC_500ANNI_10H FLOW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09:00
12:00
25Aug2006
26Aug2006
CLCNT_J03 RUN:91-EVENTO_250806 FLOW

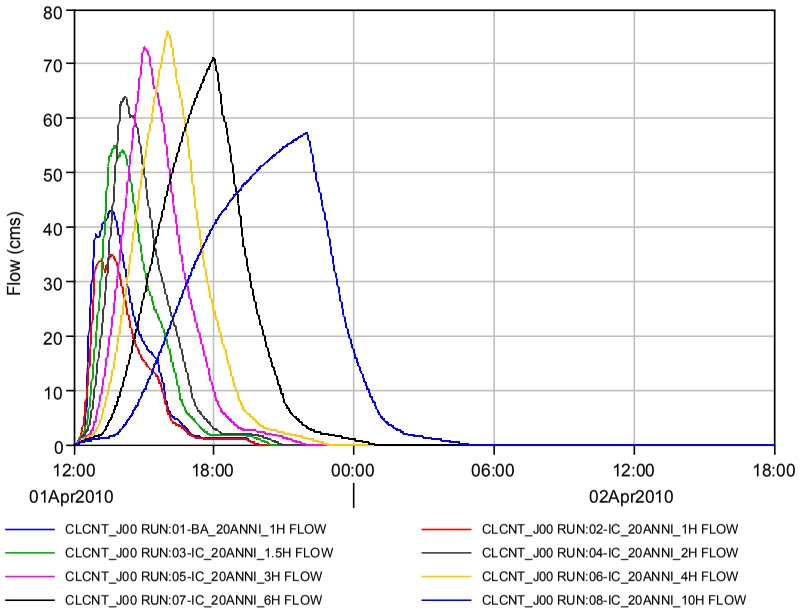
## *C.le Chianetta alla confluenza nel T. Astrone [CLCNT_J00]*

### Dati caratteristici del bacino idrografico

**S** - superficie complessiva del bacino [kmq] **25.78**

### Confronti

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **iIDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **76.0** | **88.4** | **106.2** | **157.4** | **196.0** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 2.9 | 3.4 | 4.1 | 6.1 | 7.6 |
| **C.B.C.R.** | **S** - superficie complessiva del bacino | [kmq] | | | 26.0 | 26.0 | 26.0 |
| | **Qmax** – portata al colmo | [mc/s] | | | **98.0** | **150.0** | **188.0** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | 3.8 | 5.8 | 7.2 |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |


Flow (cms)
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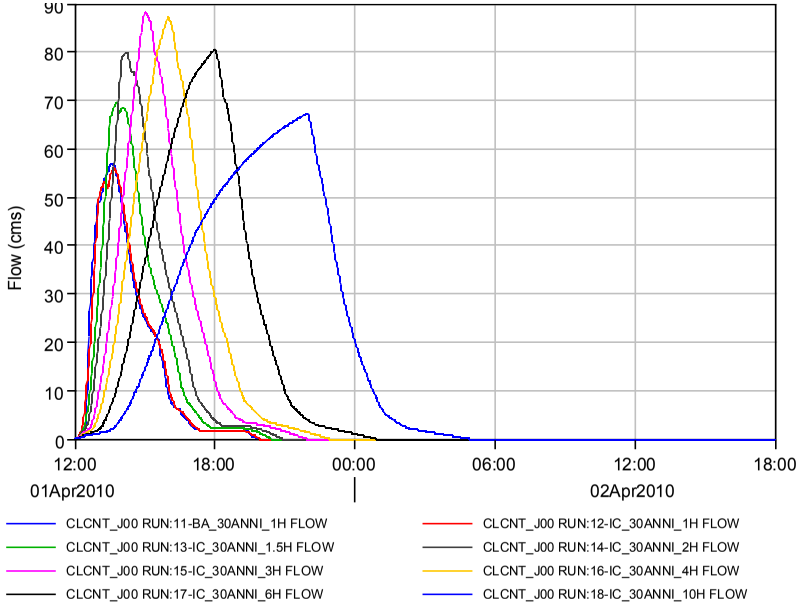
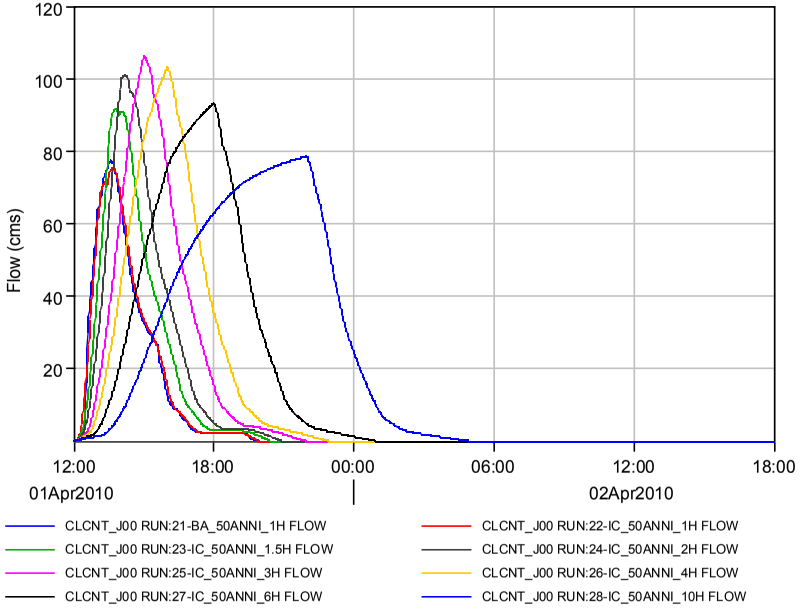
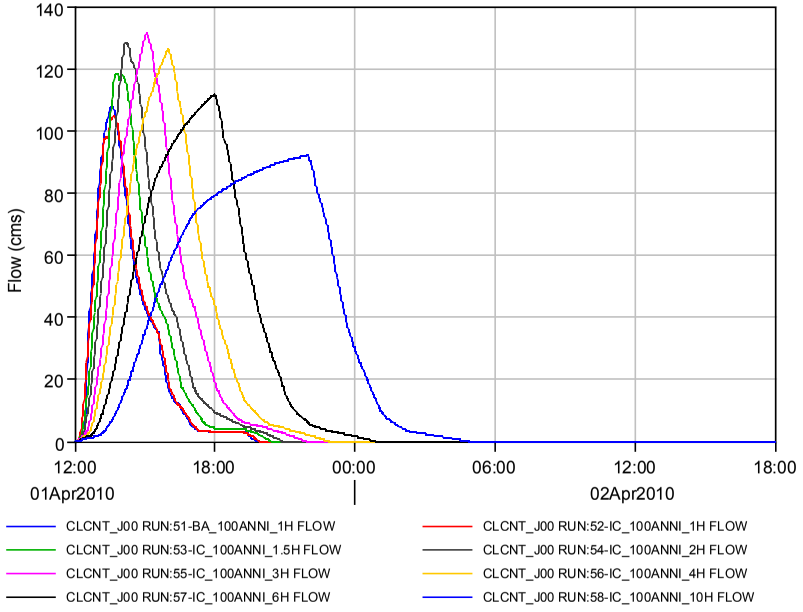
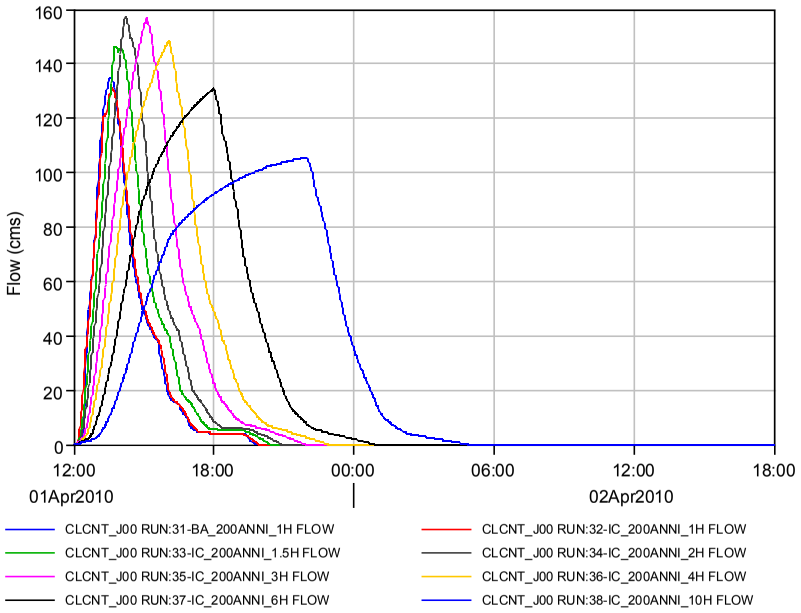
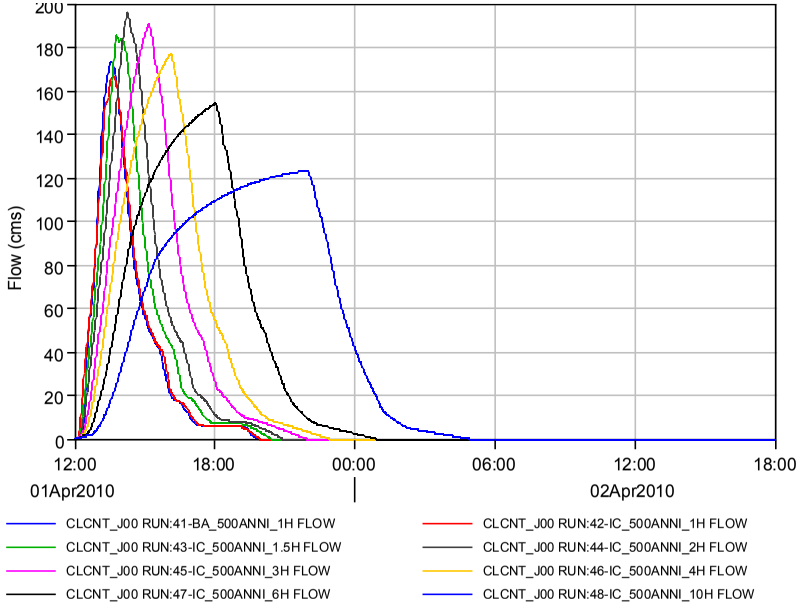
01Apr2010
02Apr2010
CLCNT_J00 RUN:01-BA_20ANNI_1H FLOW
CLCNT_J00 RUN:02-IC_20ANNI_1H FLOW
CLCNT_J00 RUN:03-IC_20ANNI_1.5H FLOW
CLCNT_J00 RUN:04-IC_20ANNI_2H FLOW
CLCNT_J00 RUN:05-IC_20ANNI_3H FLOW
CLCNT_J00 RUN:06-IC_20ANNI_4H FLOW
CLCNT_J00 RUN:07-IC_20ANNI_6H FLOW
CLCNT_J00 RUN:08-IC_20ANNI_10H FLOW

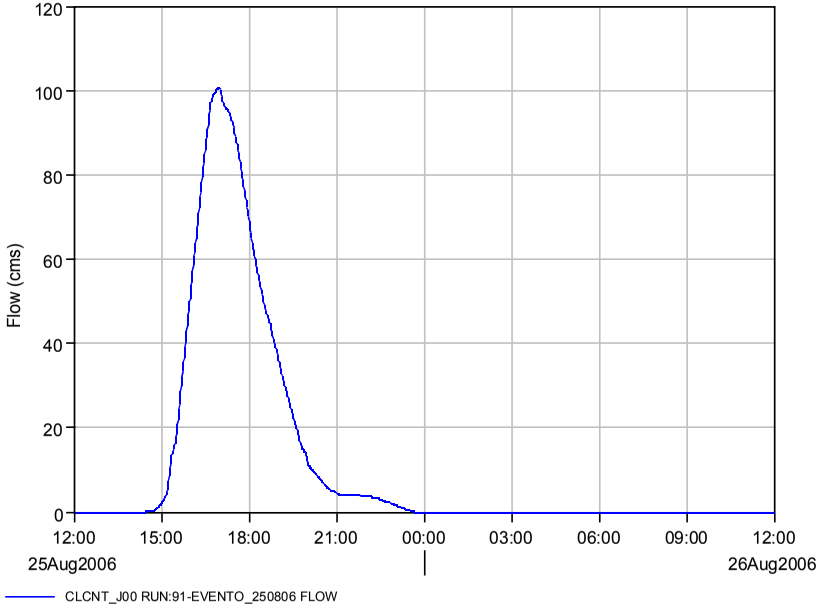

Flow (cms)
90
80
70
60
50
40
30
20
10
0
12:00
18:00
00:00
06:00
12:00
18:00
01Apr2010
02Apr2010
CLCNT_J00 RUN:11-BA_30ANNI_1H FLOW
CLCNT_J00 RUN:12-IC_30ANNI_1H FLOW
CLCNT_J00 RUN:13-IC_30ANNI_1.5H FLOW
CLCNT_J00 RUN:14-IC_30ANNI_2H FLOW
CLCNT_J00 RUN:15-IC_30ANNI_3H FLOW
CLCNT_J00 RUN:16-IC_30ANNI_4H FLOW
CLCNT_J00 RUN:17-IC_30ANNI_6H FLOW
CLCNT_J00 RUN:18-IC_30ANNI_10H FLOW


Flow (cms)
120
100
80
60
40
20
12:00
18:00
00:00
06:00
12:00
18:00
01Apr2010
02Apr2010
CLCNT_J00 RUN:21-BA_50ANNI_1H FLOW
CLCNT_J00 RUN:22-IC_50ANNI_1H FLOW
CLCNT_J00 RUN:23-IC_50ANNI_1.5H FLOW
CLCNT_J00 RUN:24-IC_50ANNI_2H FLOW
CLCNT_J00 RUN:25-IC_50ANNI_3H FLOW
CLCNT_J00 RUN:26-IC_50ANNI_4H FLOW
CLCNT_J00 RUN:27-IC_50ANNI_6H FLOW
CLCNT_J00 RUN:28-IC_50ANNI_10H FLOW


Flow (cms)
140
120
100
80
60
40
20
0
12:00
18:00
00:00
06:00
12:00
18:00
01Apr2010
02Apr2010
CLCNT_J00 RUN:51-BA_100ANNI_1H FLOW
CLCNT_J00 RUN:52-IC_100ANNI_1H FLOW
CLCNT_J00 RUN:53-IC_100ANNI_1.5H FLOW
CLCNT_J00 RUN:54-IC_100ANNI_2H FLOW
CLCNT_J00 RUN:55-IC_100ANNI_3H FLOW
CLCNT_J00 RUN:56-IC_100ANNI_4H FLOW
CLCNT_J00 RUN:57-IC_100ANNI_6H FLOW
CLCNT_J00 RUN:58-IC_100ANNI_10H FLOW


Flow (cms)
160
140
120
100
80
60
40
20
0
12:00
18:00
00:00
06:00
12:00
18:00
01Apr2010
02Apr2010
CLCNT_J00 RUN:31-BA_200ANNI_1H FLOW
CLCNT_J00 RUN:32-IC_200ANNI_1H FLOW
CLCNT_J00 RUN:33-IC_200ANNI_1.5H FLOW
CLCNT_J00 RUN:34-IC_200ANNI_2H FLOW
CLCNT_J00 RUN:35-IC_200ANNI_3H FLOW
CLCNT_J00 RUN:36-IC_200ANNI_4H FLOW
CLCNT_J00 RUN:37-IC_200ANNI_6H FLOW
CLCNT_J00 RUN:38-IC_200ANNI_10H FLOW


Flow (cms)
200
180
160
140
120
100
80
60
40
20
0
12:00
18:00
00:00
06:00
12:00
18:00
01Apr2010
02Apr2010
CLCNT_J00 RUN:41-BA_500ANNI_1H FLOW
CLCNT_J00 RUN:42-IC_500ANNI_1H FLOW
CLCNT_J00 RUN:43-IC_500ANNI_1.5H FLOW
CLCNT_J00 RUN:44-IC_500ANNI_2H FLOW
CLCNT_J00 RUN:45-IC_500ANNI_3H FLOW
CLCNT_J00 RUN:46-IC_500ANNI_4H FLOW
CLCNT_J00 RUN:47-IC_500ANNI_6H FLOW
CLCNT_J00 RUN:48-IC_500ANNI_10H FLOW


Flow (cms)
120
100
80
60
40
20
0
12:00
15:00
18:00
21:00
00:00
03:00
06:00
09:00
12:00
25Aug2006
26Aug2006
CLCNT_J00 RUN:91-EVENTO_250806 FLOW

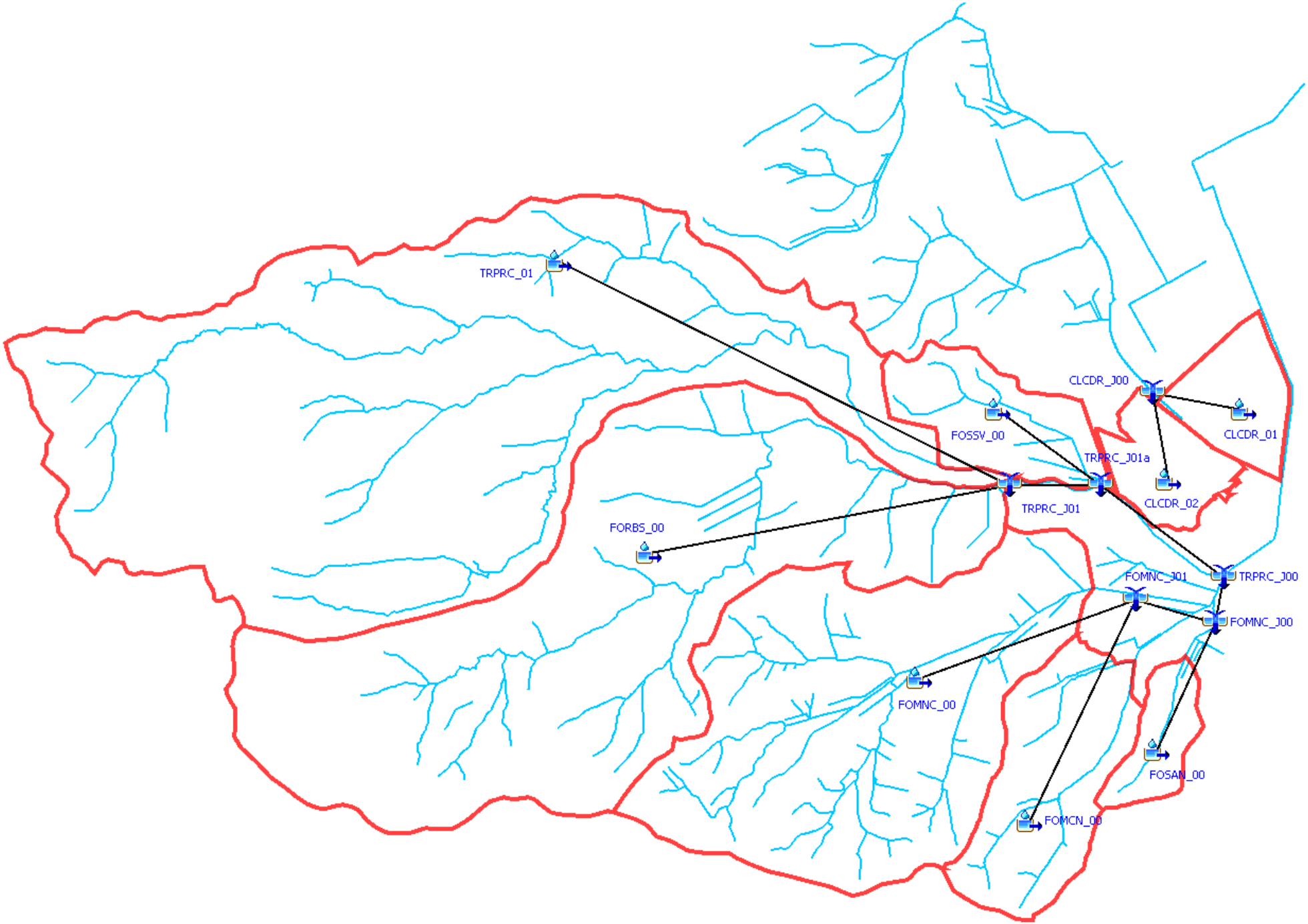
# T. PARCE
# ed affluenti

# INDICE

**0**. SCHEMA MODELLO IDROLOGICO E MAPPE DEI PRINCIPALI PARAMETRI UTILIZZATI

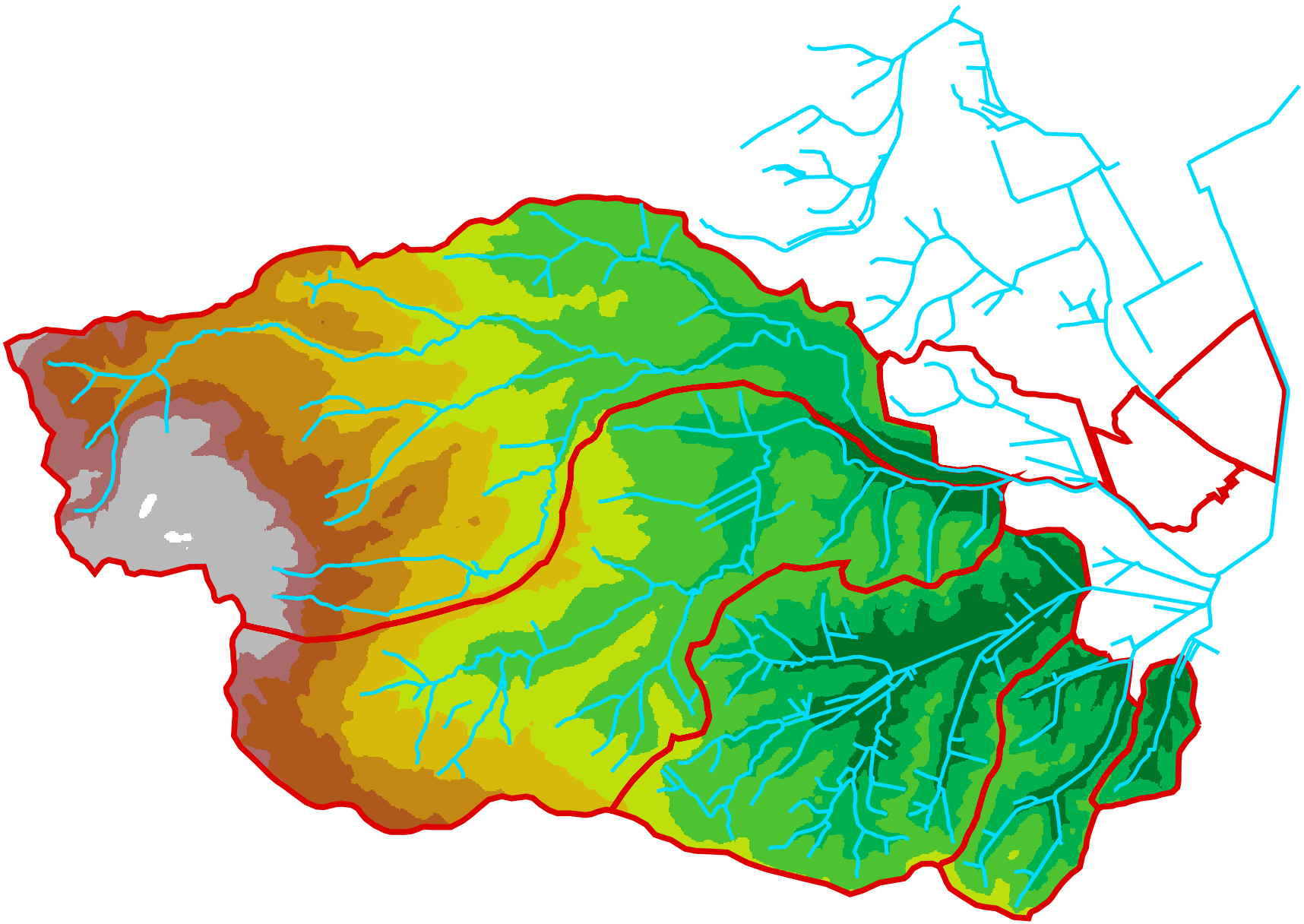
**1**. TABELLE DEI PARAMETRI GEOMORFOLOGICI DI BACINO E IDROGRAMMI SEZIONI IDROLOGICHE SIGNIFICATIVE

# 0.
# SCHEMA MODELLO IDROLOGICO E MAPPE DEI PRINCIPALI PARAMETRI UTILIZZATI


TRPRC_01
CLCDR_J00
CLCDR_01
FOSSV_00
TRPRC_J01a
CLCDR_02
TRPRC_J01
FORBS_00
FOMNC_J01
TRPRC_J00
FOMNC_J00
FOMNC_00
FOSAN_00
FOMCN_00

**Quote altimetriche [m s.l.m.]**

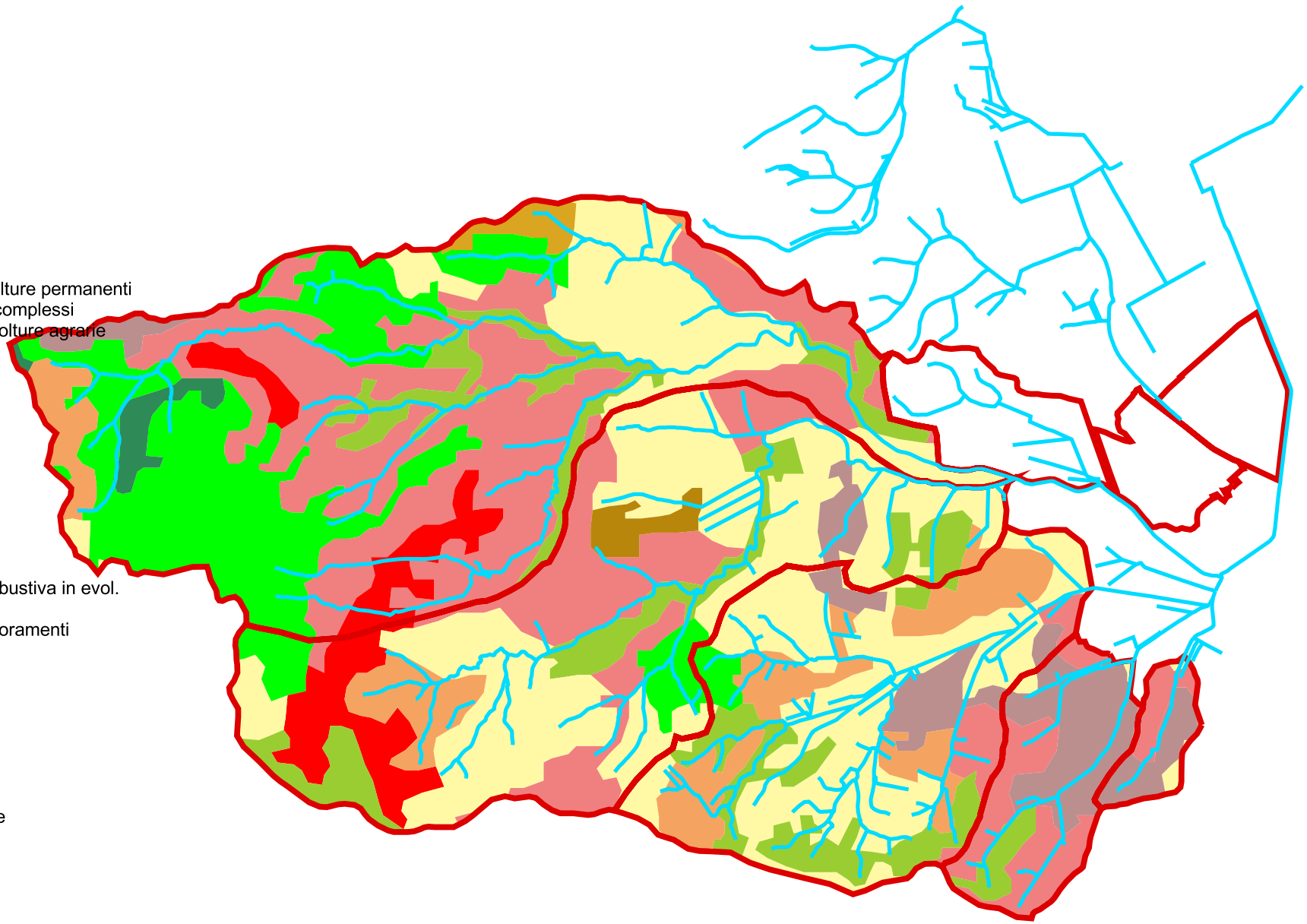
- 250 - 275
- 275 - 300
- 300 - 350
- 350 - 400
- 400 - 450
- 450 - 500
- 500 - 550
- 550 - 600
- 600 - 700
- oltre 700



# USO DEL SUOLO

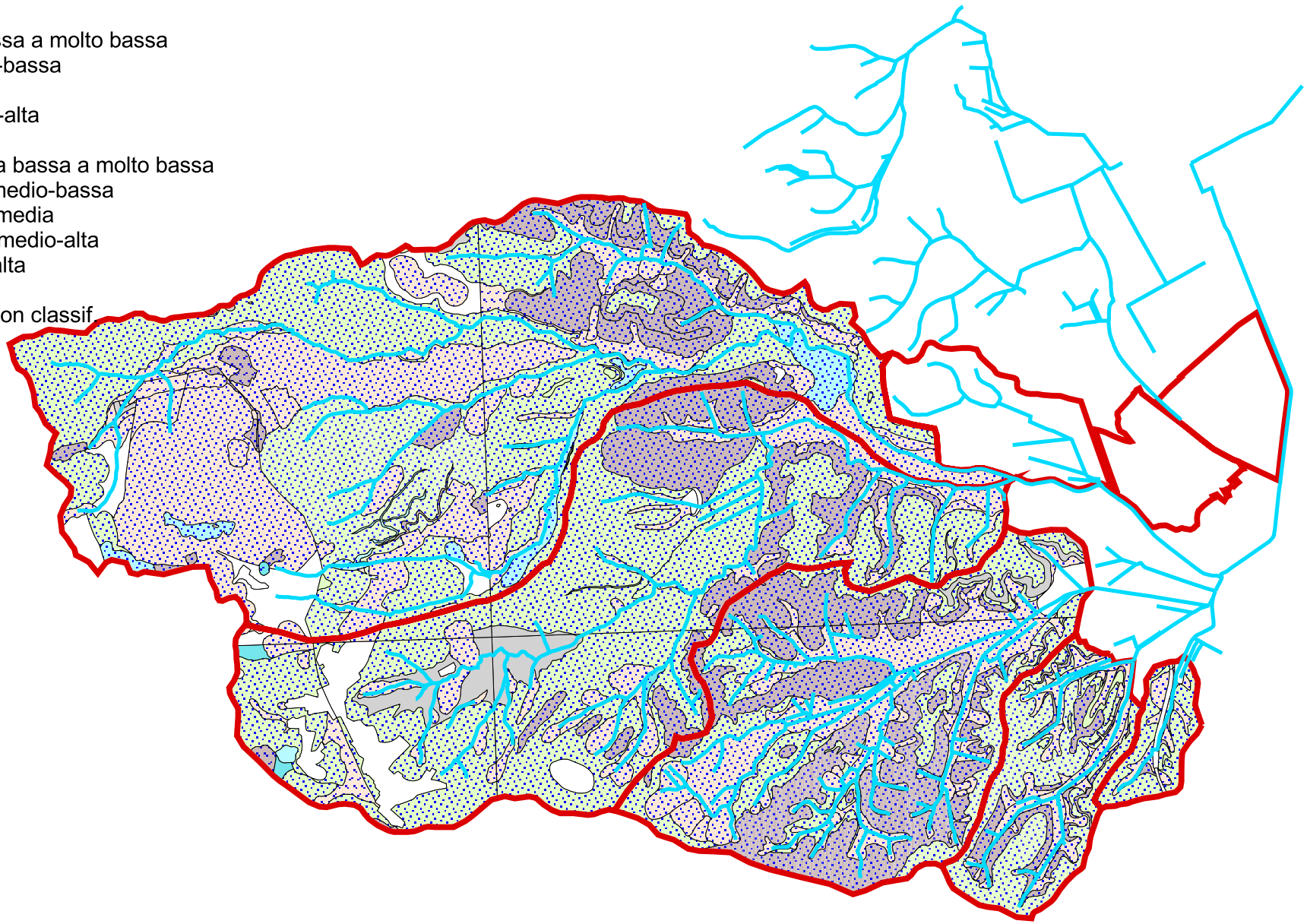
- 1.1.1. Tessuto urbano continuo
- 1.1.2. Tessuto urbano discontinuo
- 1.2.1. Aree industriali o commerciali
- 1.2.2. Reti stradali e ferroviarie
- 1.2.3. Aree portuali
- 1.2.4. Aereoporti
- 1.3.1. Aree estrattive
- 1.3.2. Discariche
- 1.3.3. Cantieri
- 1.4.1. Aree verdi urbane
- 1.4.2. Aree sportive e ricreative
- 2.1.1. Seminativi in aree non irrigue
- 2.1.2. Seminativi in aree irrigue
- 2.1.3. Risaie
- 2.2.1. Vigneti
- 2.2.2. Frutteti e frutti minori
- 2.2.3. Oliveti
- 2.3.1. Prati stabili
- 2.4.1. Colture annuali associate a colture permanenti
- 2.4.2. Sistemi colturali e particellari complessi
- 2.4.3. Aree prevalent. occupate da colture agrarie
- 2.4.4. Aree agroforestali

- 3.1.1. Boschi di latifoglie
- 3.1.2. Boschi di conifere
- 3.1.3. Boschi misti
- 3.2.1. Aree a pascolo naturale
- 3.2.2. Brughiere e cespuglieti
- 3.2.3. Aree a vegetazione sclerofilla
- 3.2.4. Aree a vegetaz. boschiva e arbustiva in evol.
- 3.3.1. Spiagge, dune e sabbie
- 3.3.2. Rocce nude, falesie,rupi e affioramenti
- 3.3.3. Aree con vegetazione rada
- 3.3.4. Aree percorse da incendi
- 3.3.5. Ghiacciai e nevi perenni
- 4.1.1. Paludi interne
- 4.1.2. Torbiere
- 4.2.1. Paludi salmastre
- 4.2.2. Saline
- 4.2.3. Zone intertidali
- 5.1.1. Corsi d' acqua, canali e idrovie
- 5.1.2. Bacini d' acqua
- 5.2.1. Lagune
- 5.2.2. Estuari



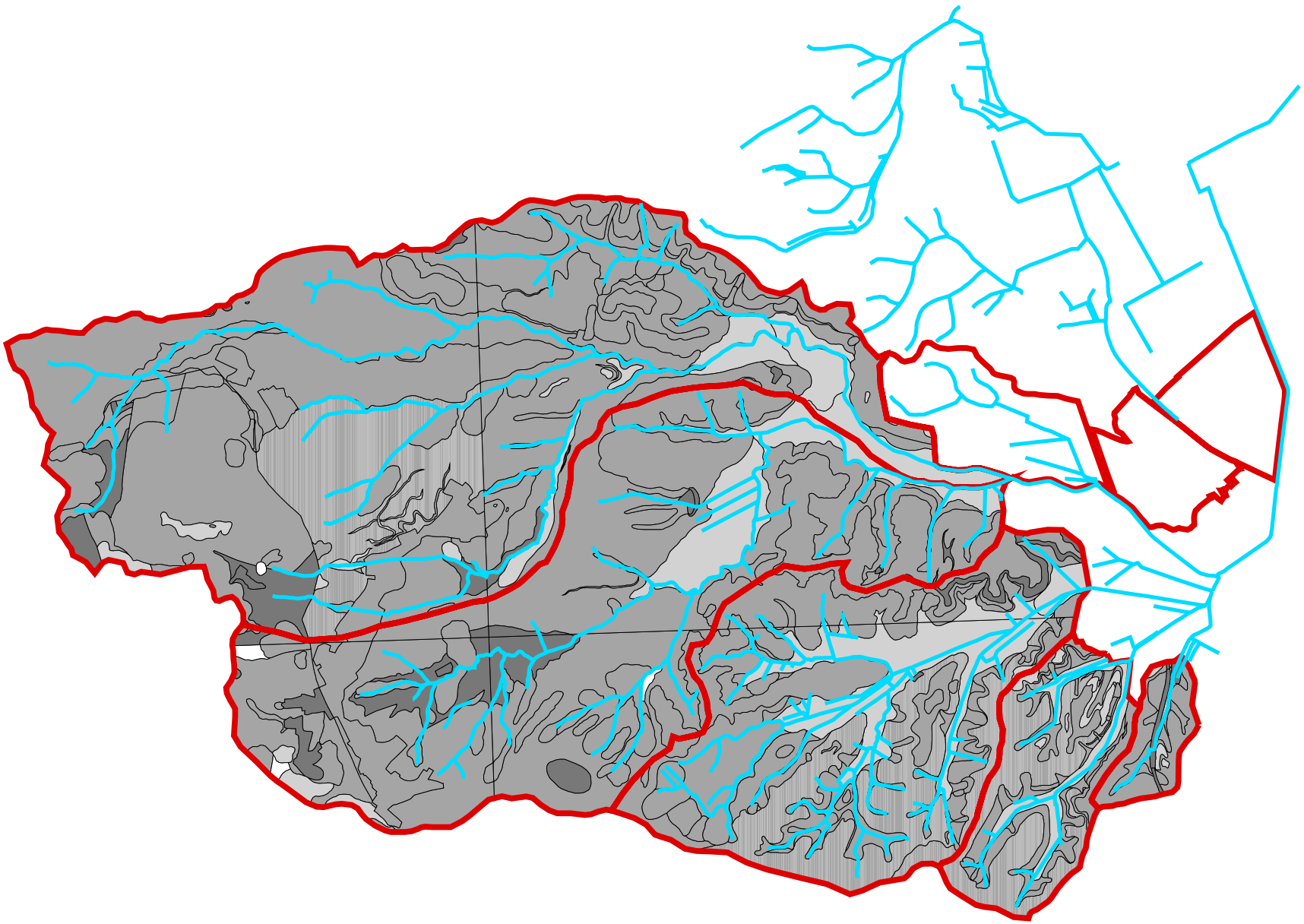
## PERMEABILITA'

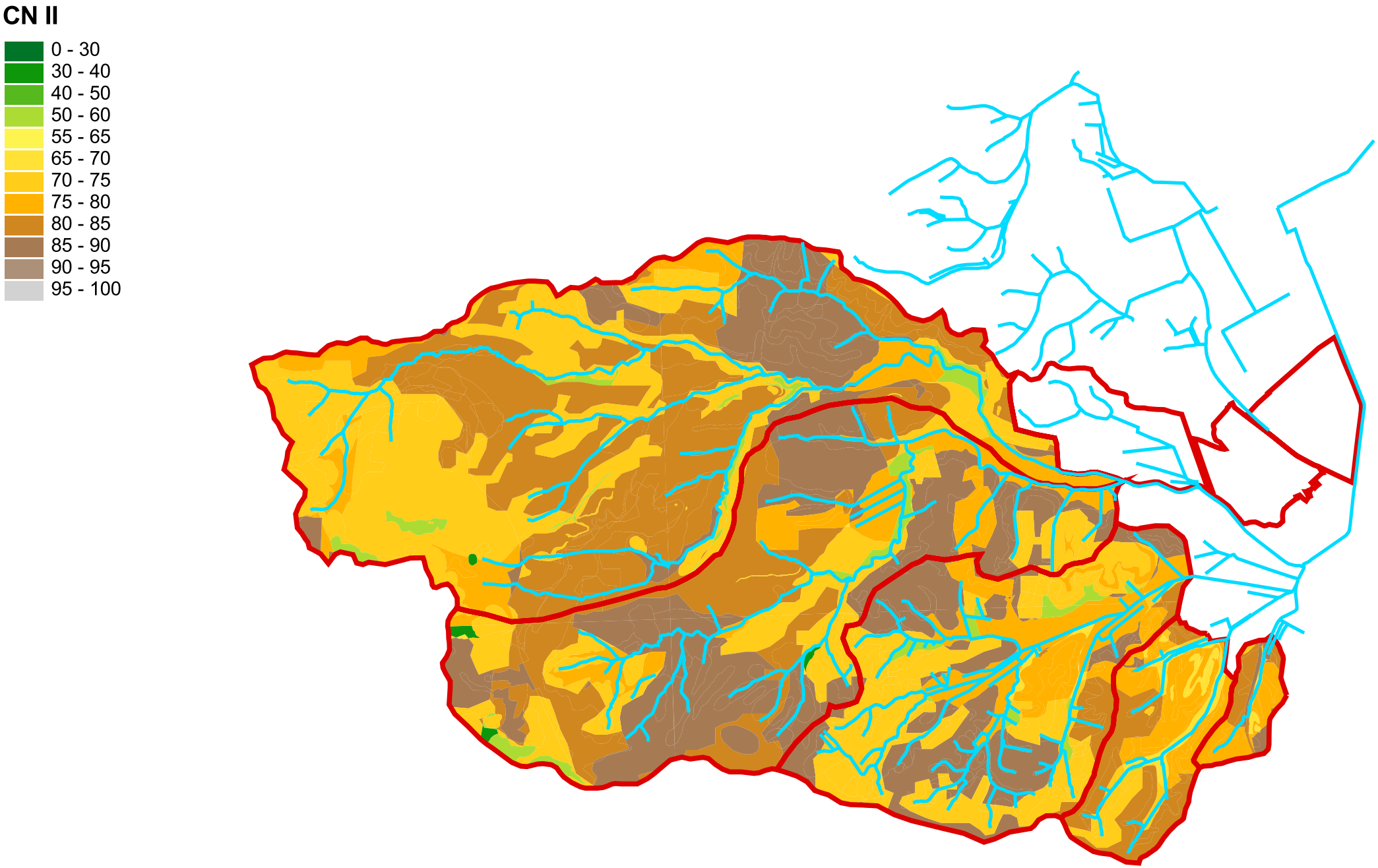
- 1 - Permeabilità primaria da bassa a molto bassa
- 2 - Permeabilità primaria  medio-bassa
- 3 - Permeabilità primaria  media
- 4 - Permeabilità primaria  medio-alta
- 5 - Permeabilità primaria alta
- A - Permeabilità mista da bassa a molto bassa
- B - Permeabilità mista medio-bassa
- C - Permeabilità mista media
- D - Permeabilità mista medio-alta
- E - Permeabilità mista alta
- I - Permeabilità secondaria da bassa a molto bassa
- II - Permeabilità secondaria medio-bassa
- III - Permeabilità secondaria media
- IV - Permeabilità secondaria medio-alta
- V - Permeabilità secondaria alta
- IM - Impermeabile
- NRC - Area non rilevabile o non classif



**CLASSE SUOLO**

- A
- B
- C
- D




CN II
0 - 30
30 - 40
40 - 50
50 - 60
55 - 65
65 - 70
70 - 75
75 - 80
80 - 85
85 - 90
90 - 95
95 - 100

# 1.
# TABELLE DEI PARAMETRI GEOMORFOLOGICI DI BACINO E IDROGRAMMI SEZIONI IDROLOGICHE SIGNIFICATIVE

# *F.so delle Ribussolaie alla confluenza nel T. Parce [FORBS_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 12.8 | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 81 |
| **$H_{sc}$** - quota sezione di chiusura | [m] | 261 | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.20 |
| **$H_{mb}$** - altitudine media del bacino | [m] | 373 | **La** - lunghezza asta principale | | [km] | 8.3 |
| **$H_{ma}$** - quota massima asta principale | [m] | 442 | **$i_b$** - pendenza media del bacino | | [%] | 9.0% |
| **$H_{mb}$** - quota massima bacino | [m] | 663 | **i** - pendenza media della rete drenaggio | | [m/m] | - |

## Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 3.16 | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | 112.0 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 1.47 | **DH** - dislivello altimetrico estremi asta principale | [m] | 181 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 3.08 | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | 402 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 3.42 | **Trr** - tempo di ritardo di Rosso | [h] | 1.62 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | - |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 1.04 |
| **Tca** - tempo di corrivazione di riferimento | [h] | 1.74 | **Tra** - tempo di ritardo adottato | [h] | 1.62 |

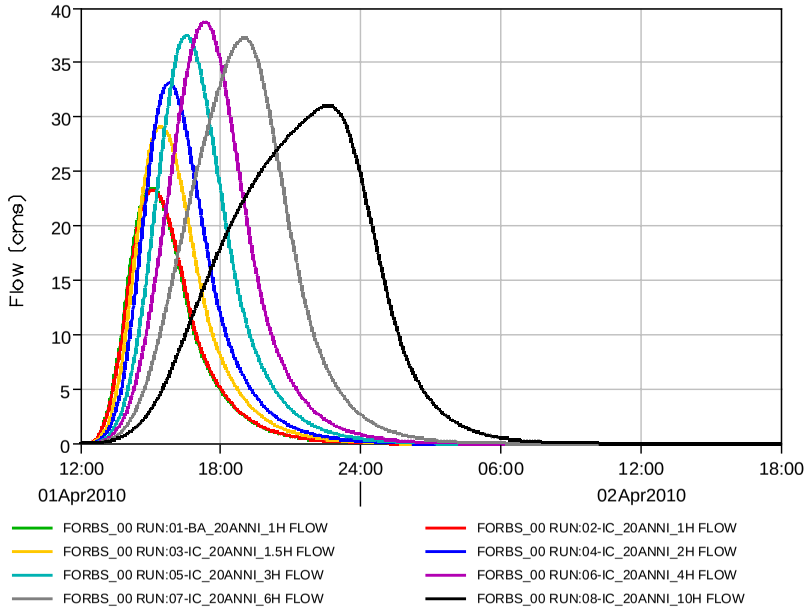
## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 12.80 |
| Loss / **Initial Abstraction** | [mm] | 11.9 |
| Loss / **CN** | [-] | 81 |
| Transform / **Lag Time** | [min] | 146 |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **37.5** | **45.8** | **58.1** | **95.8** | **121.9** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 2.9 | 3.6 | 4.5 | 7.5 | 9.5 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

//FORBS_00/FLOW/01APR2010/1MIN/RUN:01-BA_20ANNI_1H/

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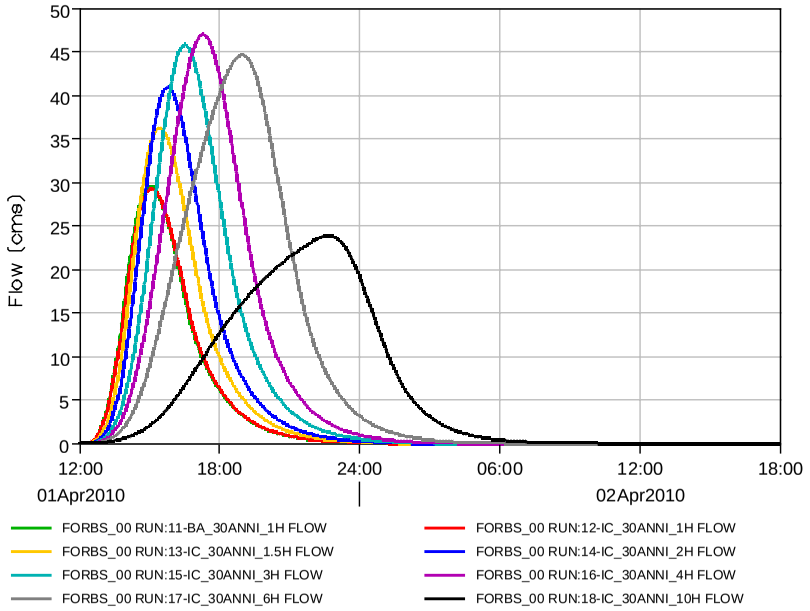


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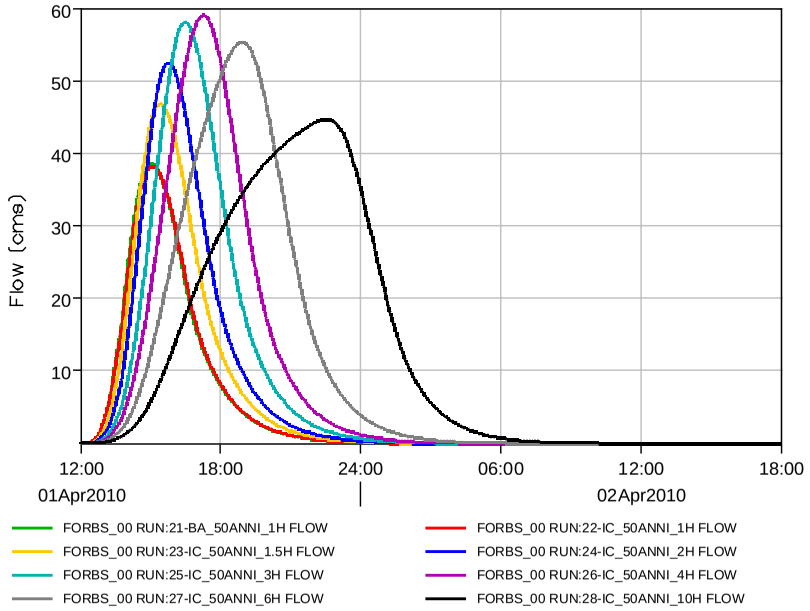
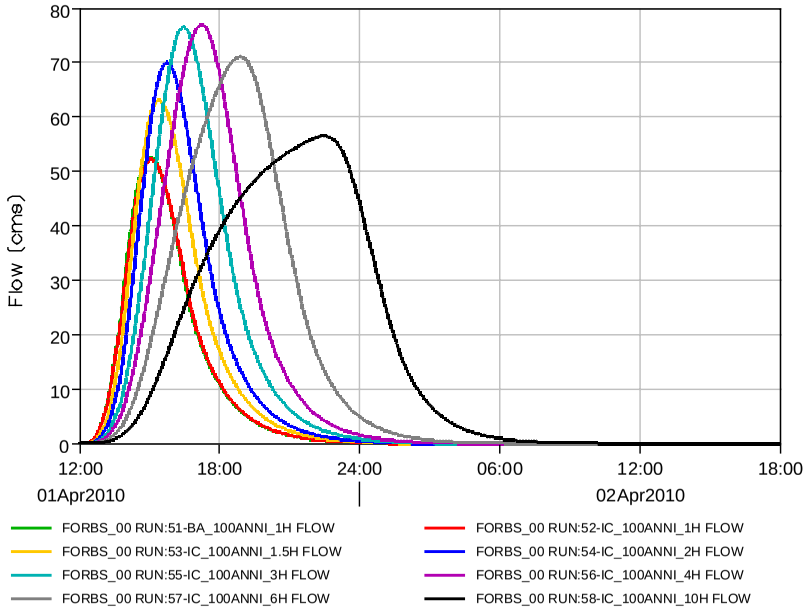



//FORBS_00/FLOW/01APR2010/1MIN/RUN:51-BA_100ANNI_1H/



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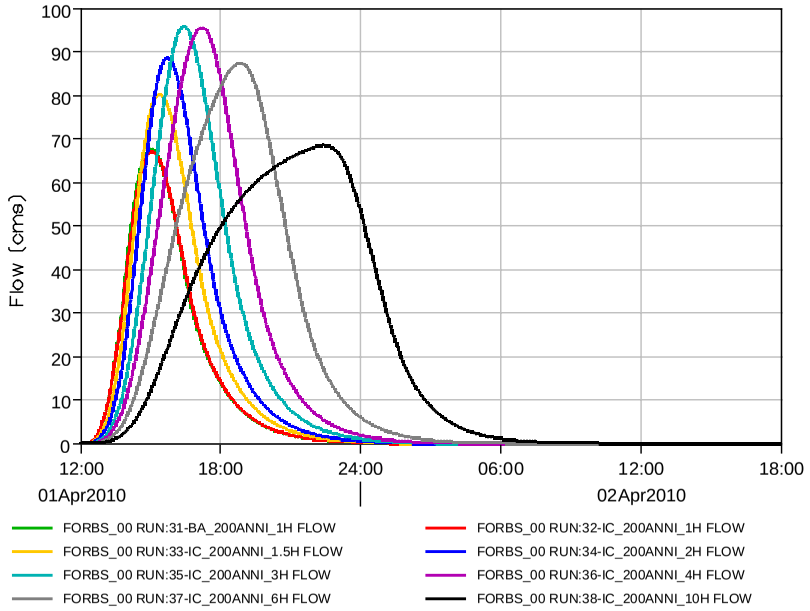


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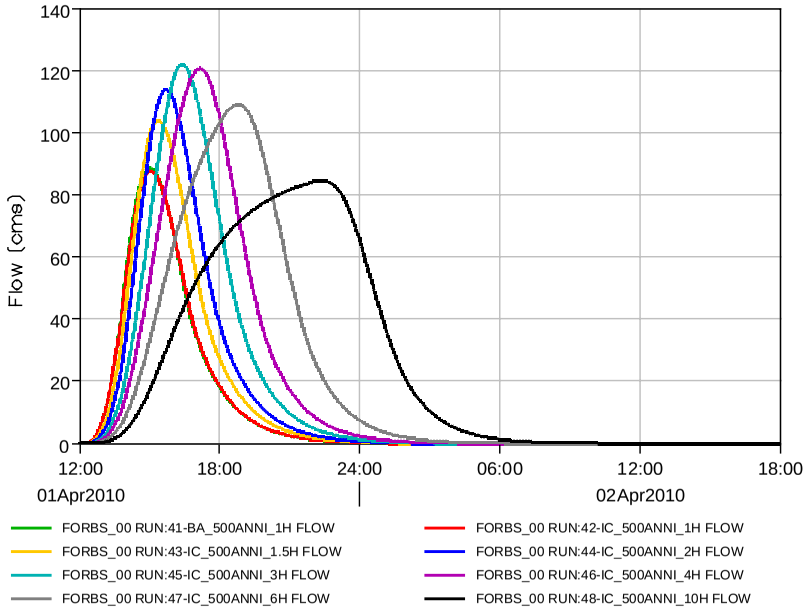
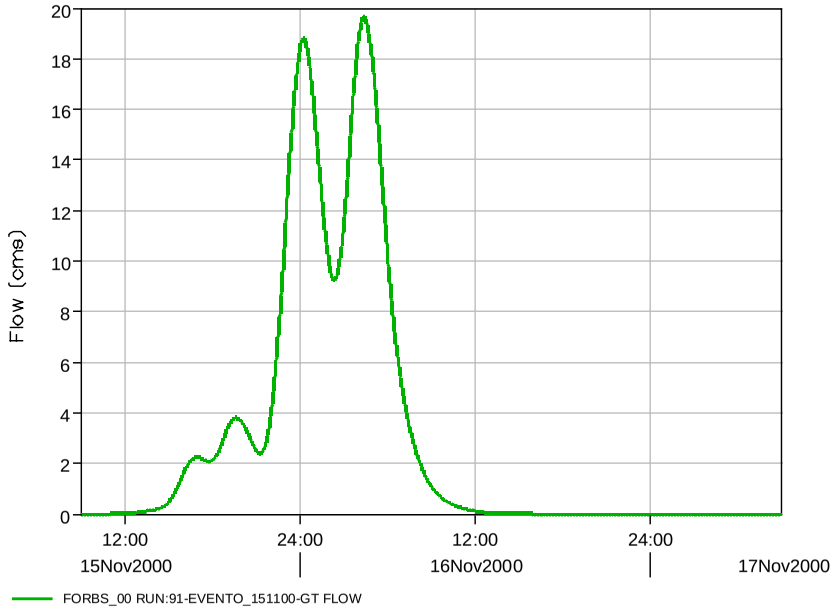



//FORBS_00/FLOW/15NOV2000/1MIN/RUN:91-EVENTO_151100-GT/

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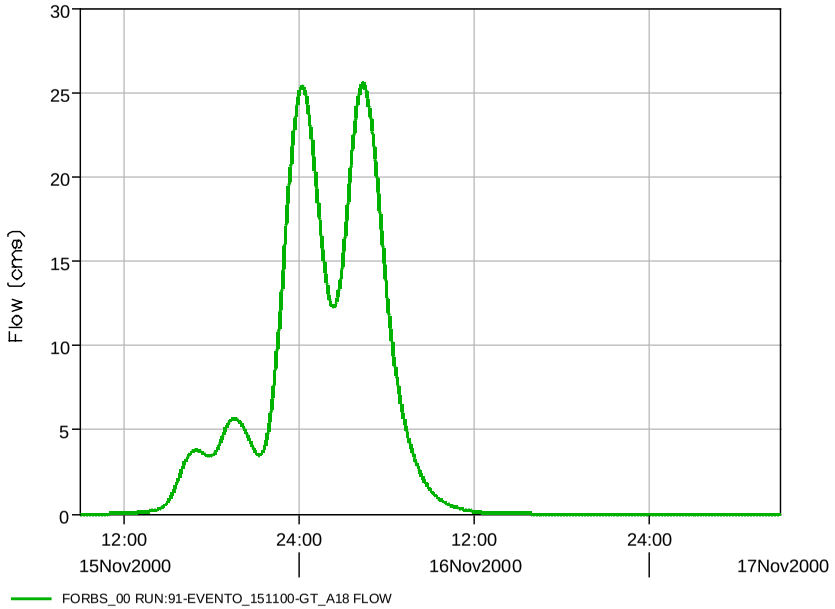

# *F.so Monaco a monte della confluenza del F.so di Macciano [FOMNC_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **8.3** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **78** |
| **Hsc** - quota sezione di chiusura | [m] | **256** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.20** |
| **Hmb** - altitudine media del bacino | [m] | **297** | **La** - lunghezza asta principale | | [km] | **6.2** |
| **Hma** - quota massima asta principale | [m] | **358** | **ib** - pendenza media del bacino | | [%] | **7.8%** |
| **Hmb** - quota massima bacino | [m] | **410** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

## Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | **4.08** | **Hm** - altitudine media sulla sez. di chiusura | [m] | **41.0** |
| **Tck** - tempo di corrivazione di Kirpich | [h] | **1.32** | **DH** - dislivello altimetrico estremi asta principale | [m] | **102** |
| **Tcv** - tempo di corrivazione di Ventura | [h] | **2.87** | **HM** - altitudine massima sulla sez. di chiusura | [m] | **154** |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | **3.88** | **Trr** - tempo di ritardo di Rosso | [h] | **1.35** |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | **-** | **TrRT** - tempo di ritardo region. Al.To. | [h] | **-** |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | **0.96** |
| **Tca** - tempo di corrivazione di riferimento | [h] | **1.59** | **Tra** - tempo di ritardo adottato | [h] | **1.35** |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **8.30** |
| Loss / **Initial Abstraction** | [mm] | **14.3** |
| Loss / **CN** | [-] | **78** |
| Transform / **Lag Time** | [min] | **81** |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **iIDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **27.2** | **34.4** | **45.2** | **79.5** | **103.5** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 3.3 | 4.1 | 5.4 | 9.6 | 12.5 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | 8.3 | | 8.3 | |
| | **Qmax** – portata al colmo | [mc/s] | | **46.0** | | **72.0** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | 5.5 | | 8.7 | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | 8.3 | | 8.3 | |
| | **Qmax** – portata al colmo | [mc/s] | | **37.0** | | **49.0** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | 4.5 | | 5.9 | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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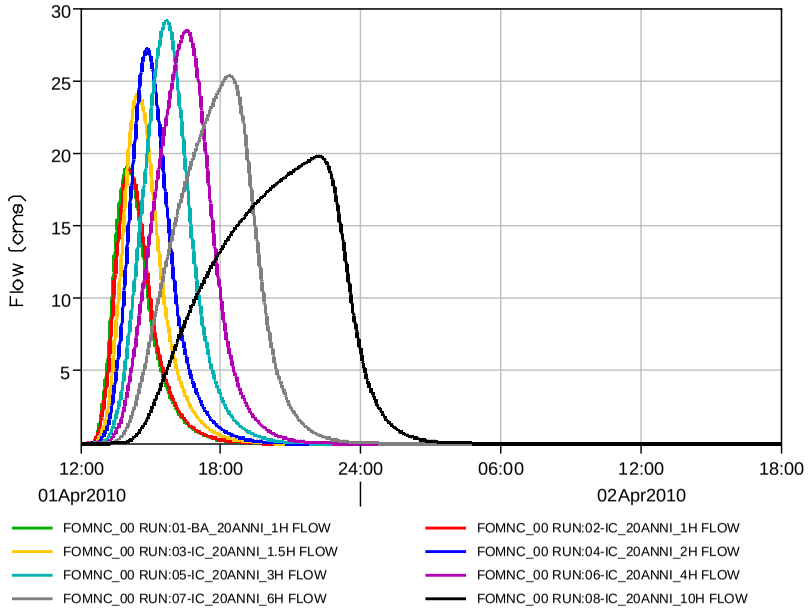


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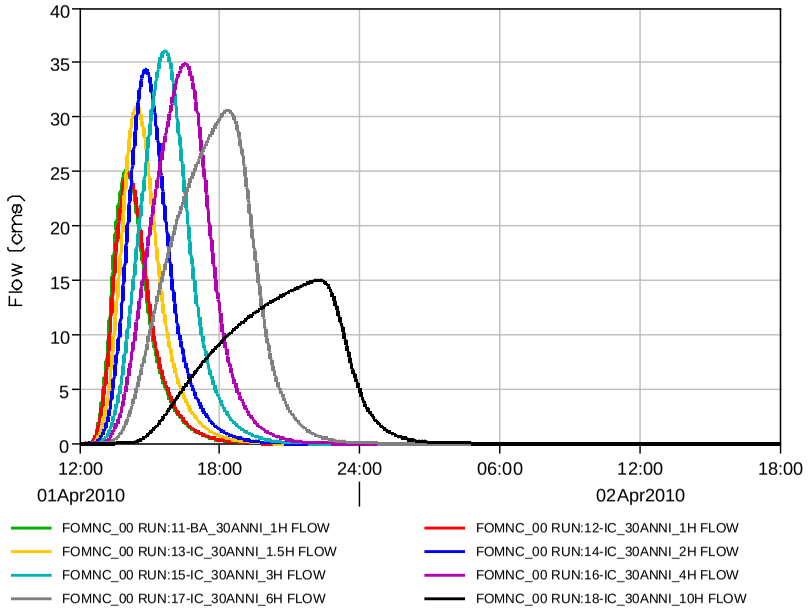


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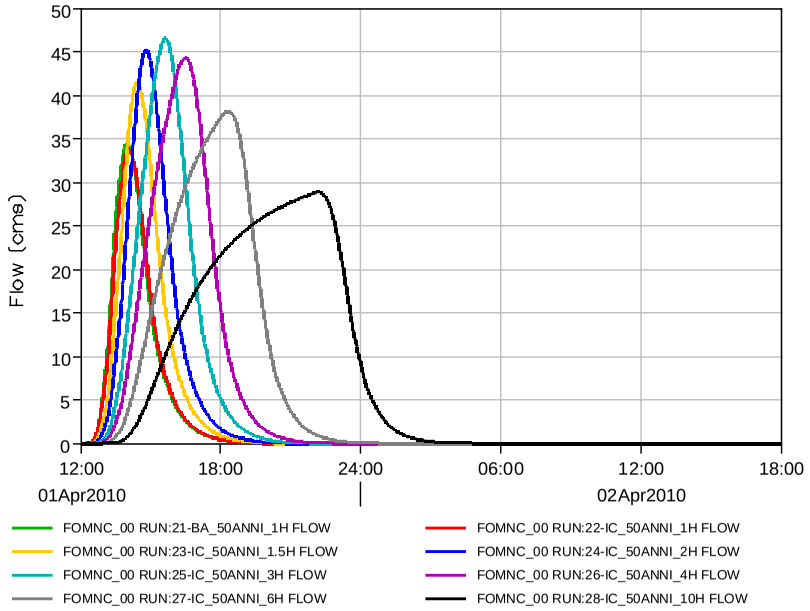


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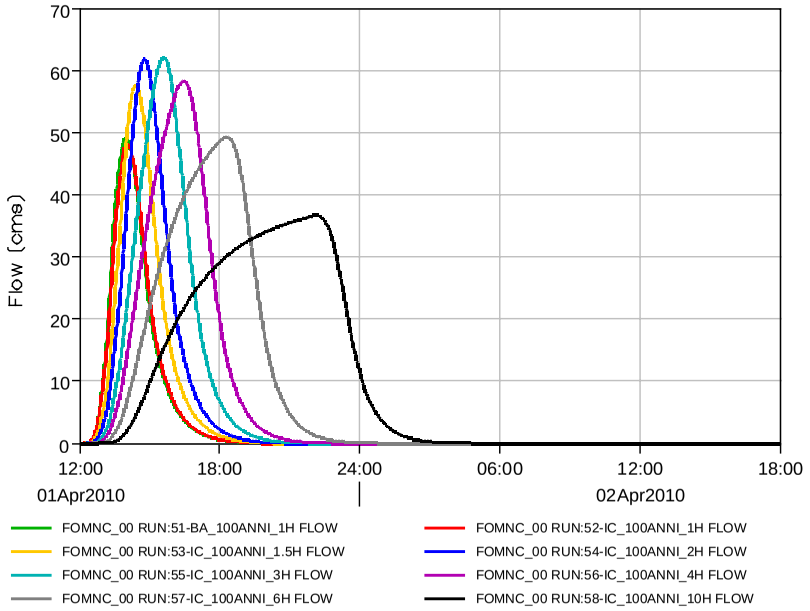

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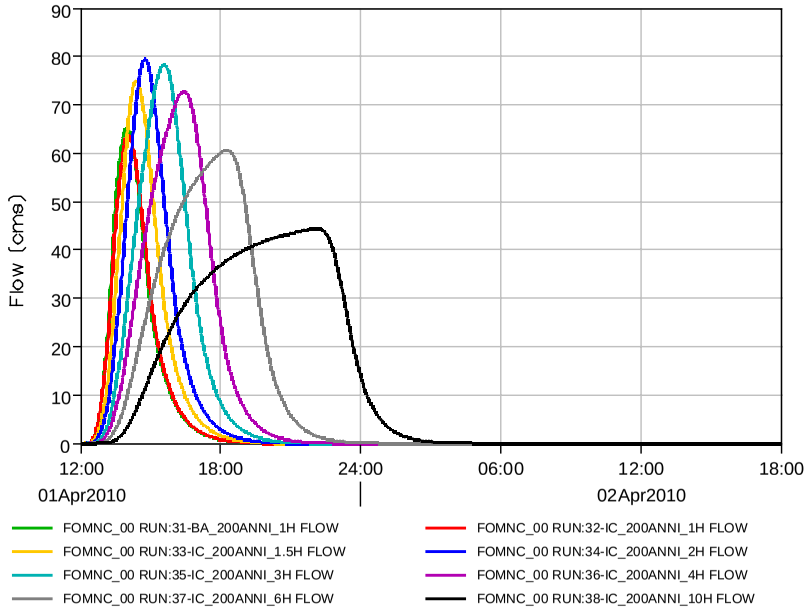


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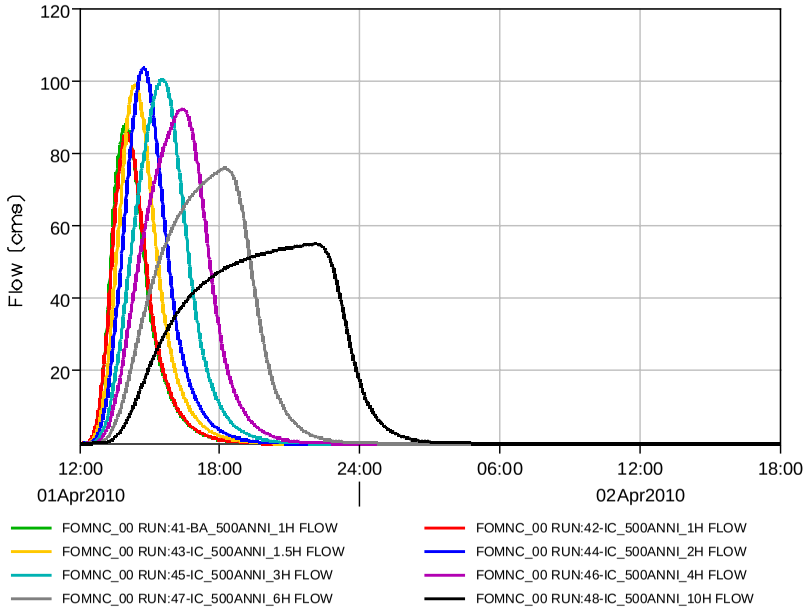


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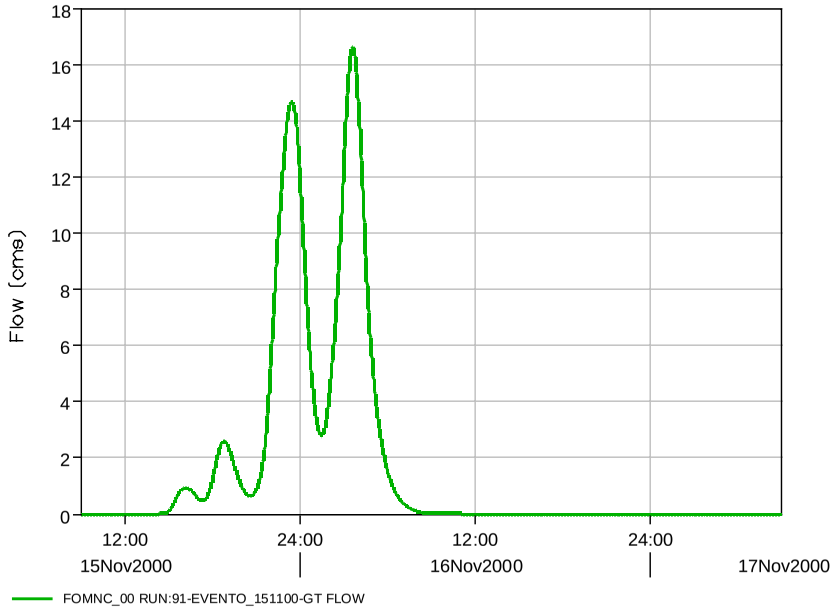


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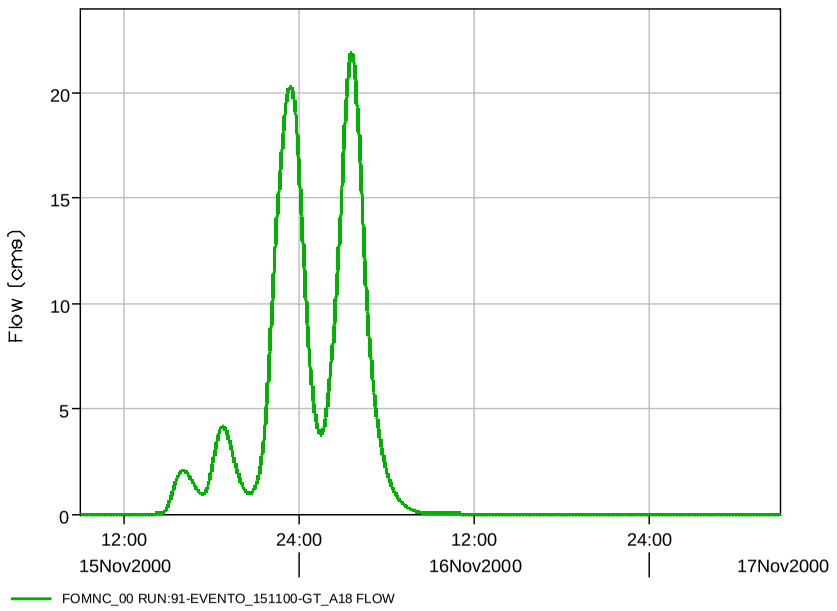

# *F.so di Sant'Anna alla confluenza nel F.so Monaco [FOSAN_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 0.67 | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 81 |
| **$H_{sc}$** - quota sezione di chiusura | [m] | 255 | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.20 |
| **$H_{mb}$** - altitudine media del bacino | [m] | 279 | **La** - lunghezza asta principale | | [km] | 2.2 |
| **$H_{ma}$** - quota massima asta principale | [m] | 282 | **$i_b$** - pendenza media del bacino | | [%] | 8.6 % |
| **$H_{mb}$** - quota massima bacino | [m] | 311 | **i** - pendenza media della rete drenaggio | | [m/m] | - |

## Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 1.66 | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | 24.0 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 0.65 | **DH** - dislivello altimetrico estremi asta principale | [m] | 27 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 0.93 | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | 56 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 2.66 | **Trr** - tempo di ritardo di Rosso | [h] | 0.54 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | - |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 0.39 |
| **Tca** - tempo di corrivazione di riferimento | [h] | 0.65 | **Tra** - tempo di ritardo adottato | [h] | 0.54 |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 0.67 |
| Loss / **Initial Abstraction** | [mm] | 11.9 |
| Loss / **CN** | [-] | 81 |
| Transform / **Lag Time** | [min] | 33 |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **4.1** | **5.3** | **7.0** | **12.8** | **16.8** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 6.1 | 7.9 | 10.4 | 19.1 | 25.1 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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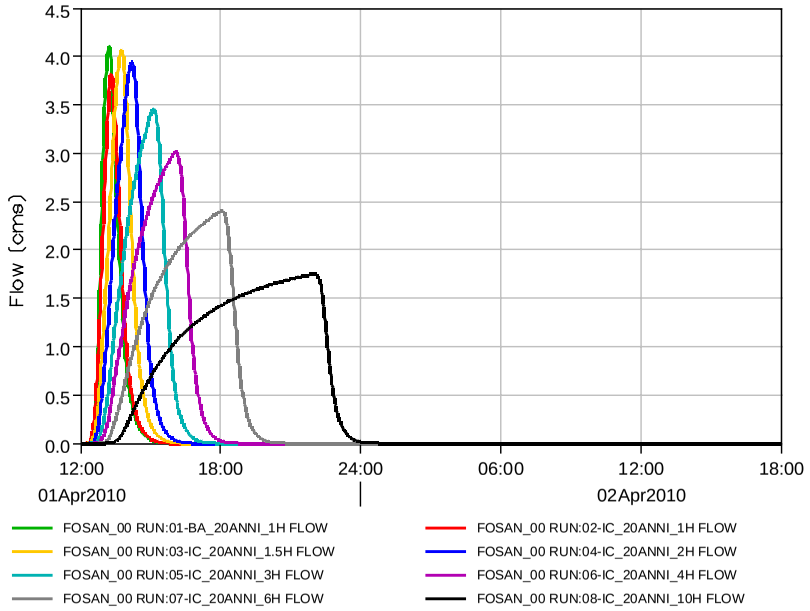


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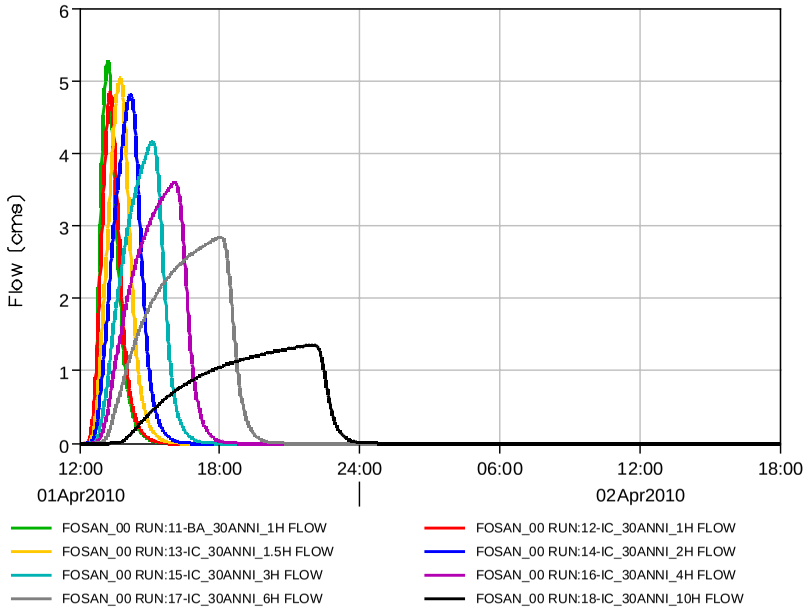


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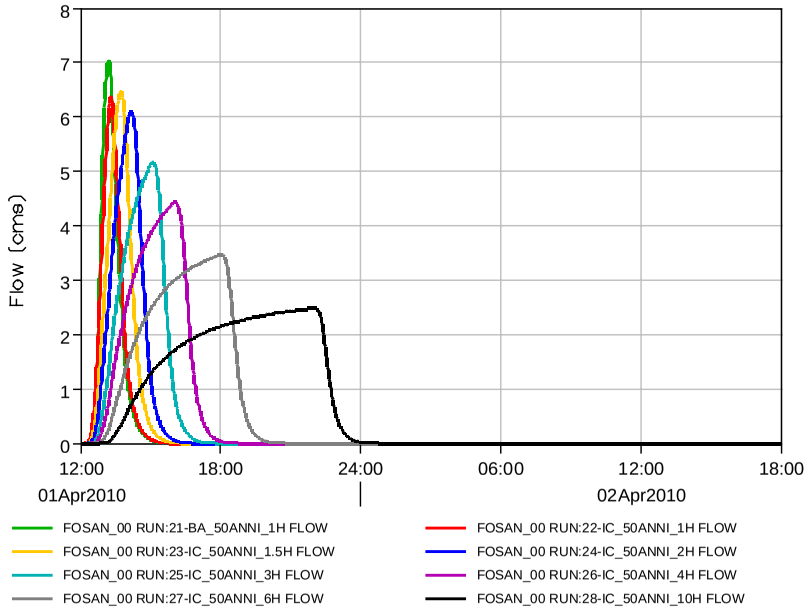


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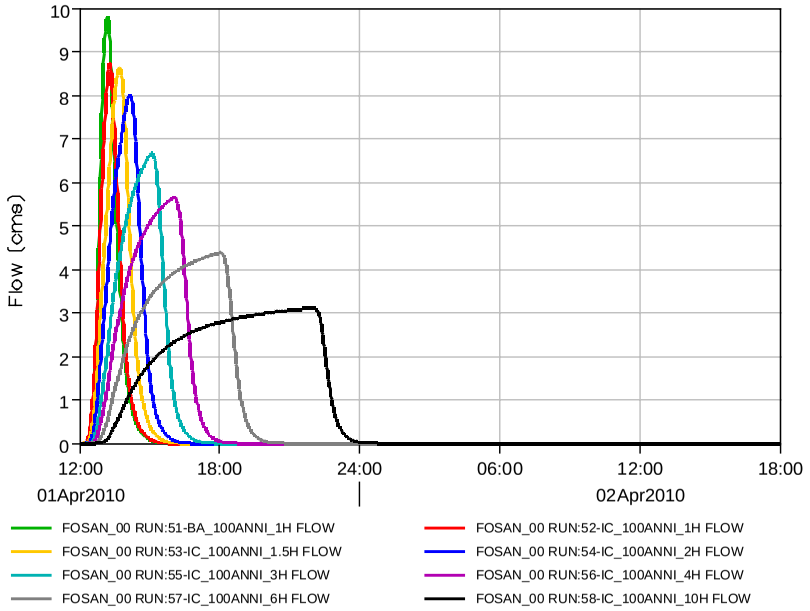

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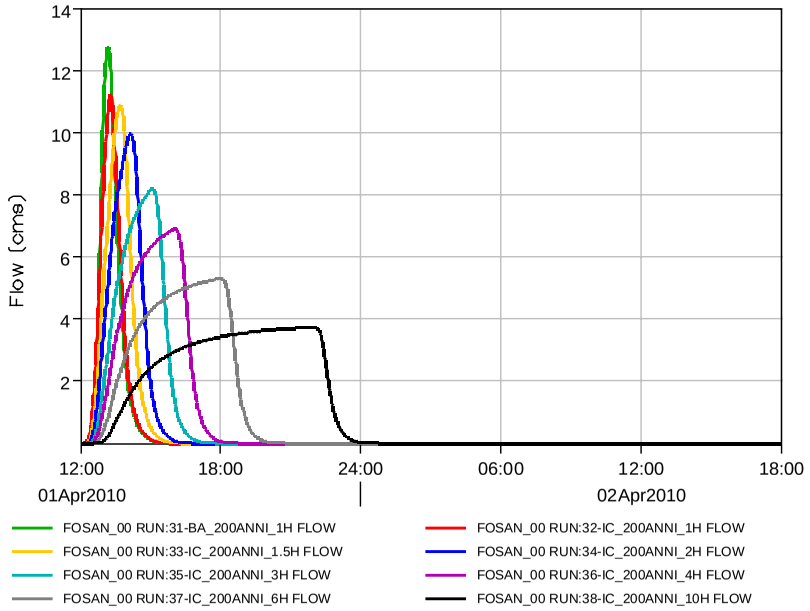


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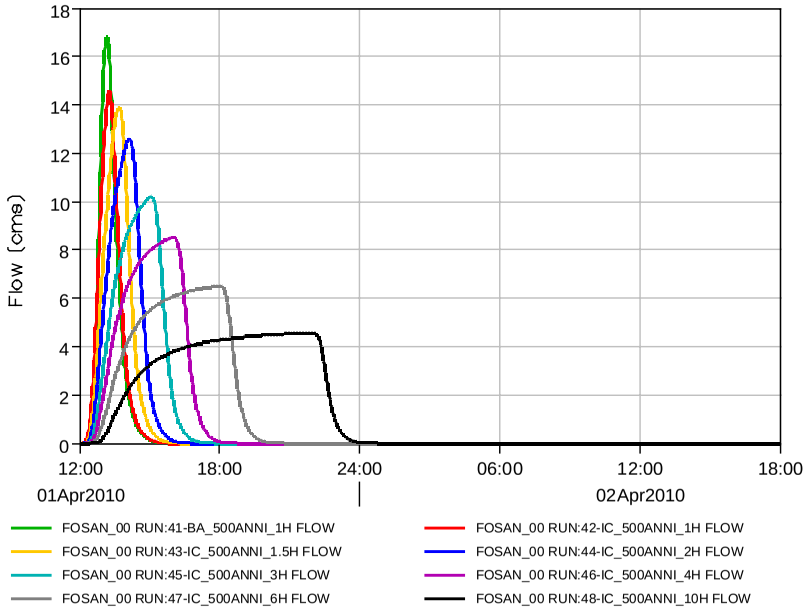


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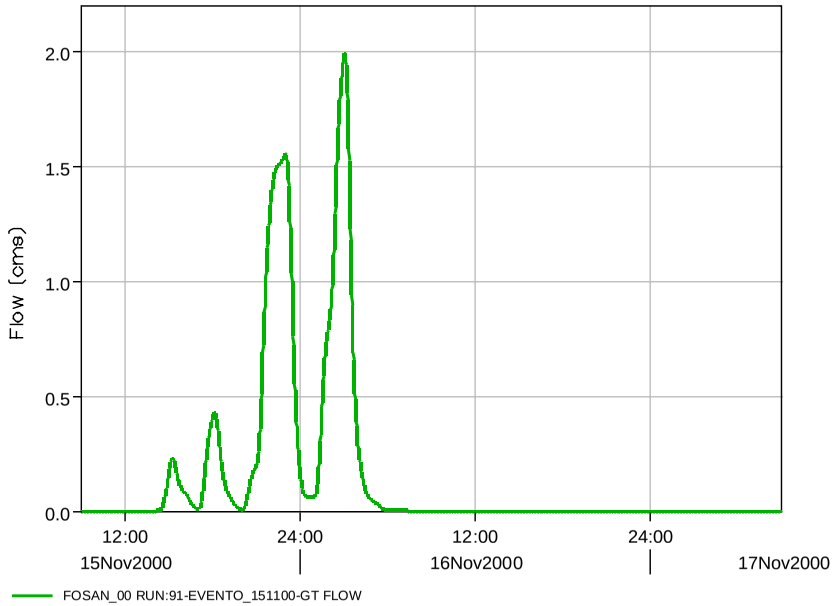


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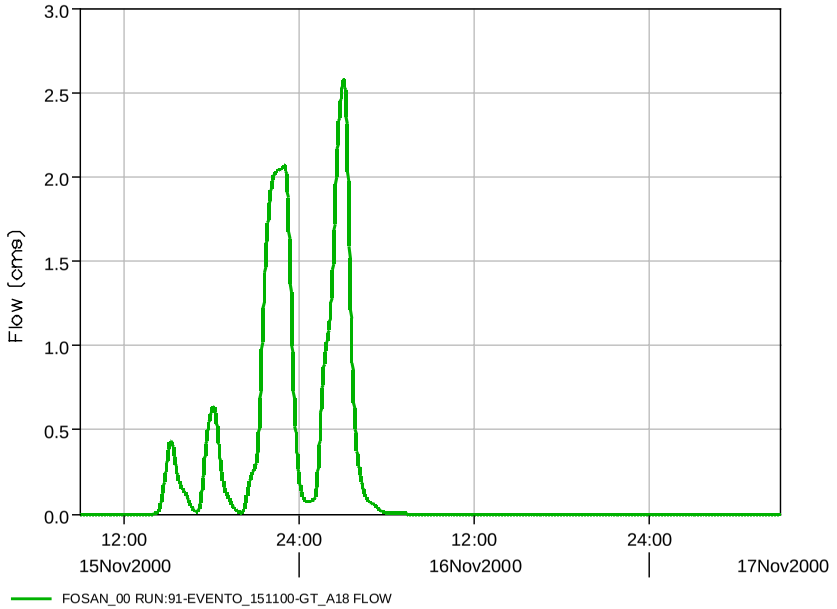

# *F.so di Macciano alla confluenza nel F.so Monaco [FOMCN_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 2.5 | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 78 |
| **Hsc** - quota sezione di chiusura | [m] | 257 | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.20 |
| **Hmb** - altitudine media del bacino | [m] | 296 | **La** - lunghezza asta principale | | [km] | 3.5 |
| **Hma** - quota massima asta principale | [m] | 335 | **ib** - pendenza media del bacino | | [%] | 11.5% |
| **Hmb** - quota massima bacino | [m] | 383 | **i** - pendenza media della rete drenaggio | | [m/m] | - |

## Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 2.31 | **Hm** - altitudine media sulla sez. di chiusura | [m] | 39.0 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 0.74 | **DH** - dislivello altimetrico estremi asta principale | [m] | 78 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 1.34 | **HM** - altitudine massima sulla sez. di chiusura | [m] | 126 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 2.80 | **Trr** - tempo di ritardo di Rosso | [h] | 0.77 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | - |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 0.46 |
| **Tca** - tempo di corrivazione di riferimento | [h] | 0.77 | **Tra** - tempo di ritardo adottato | [h] | 0.77 |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 2.50 |
| Loss / **Initial Abstraction** | [mm] | 14.3 |
| Loss / **CN** | [-] | 78 |
| Transform / **Lag Time** | [min] | 46 |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

**Tr** - tempo di ritorno [anni]

| | | | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **11.0** | **14.0** | **18.5** | **32.7** | **42.6** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 4.4 | 5.6 | 7.4 | 13.1 | 17.0 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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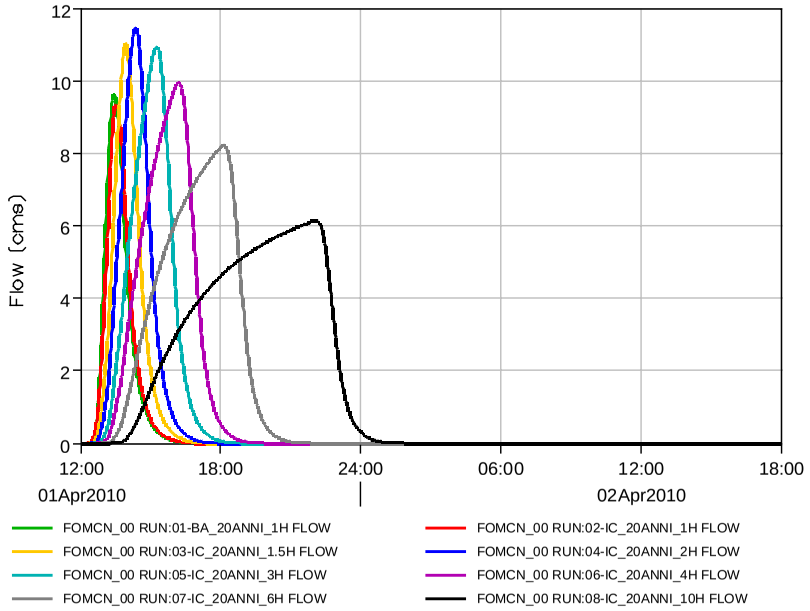


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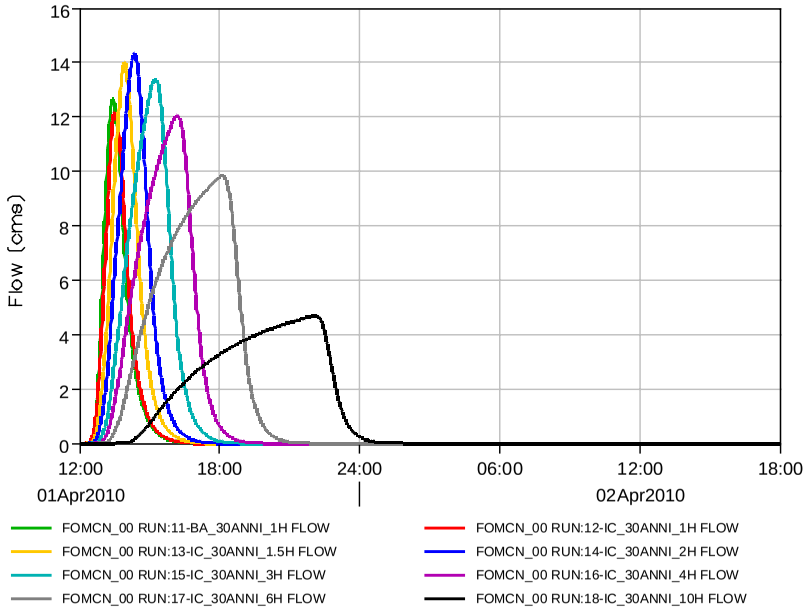


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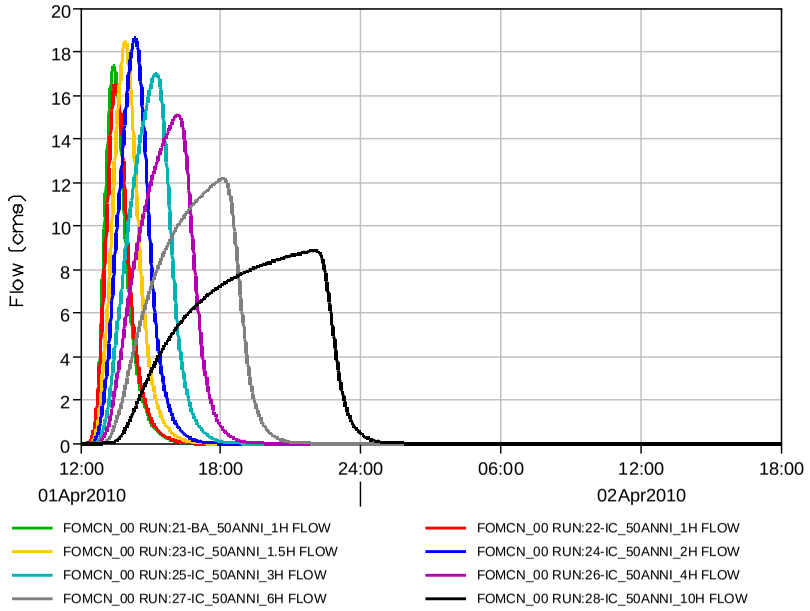


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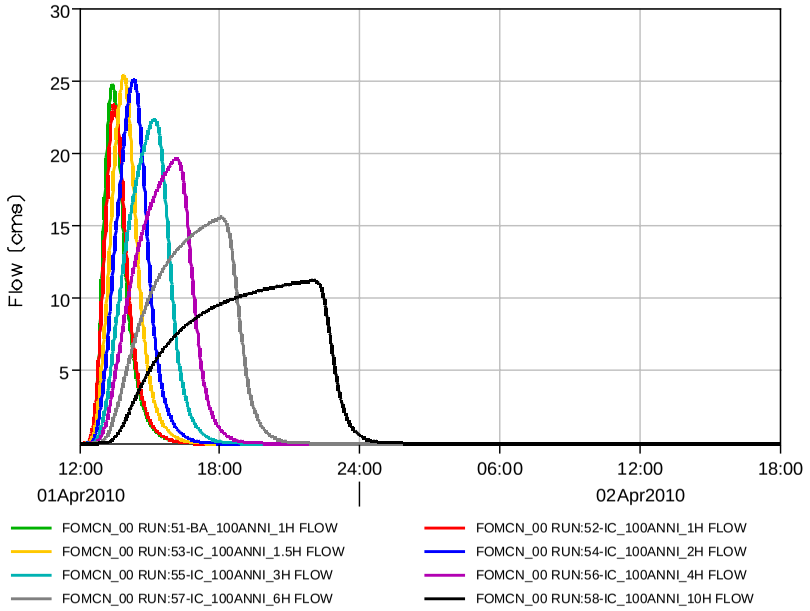

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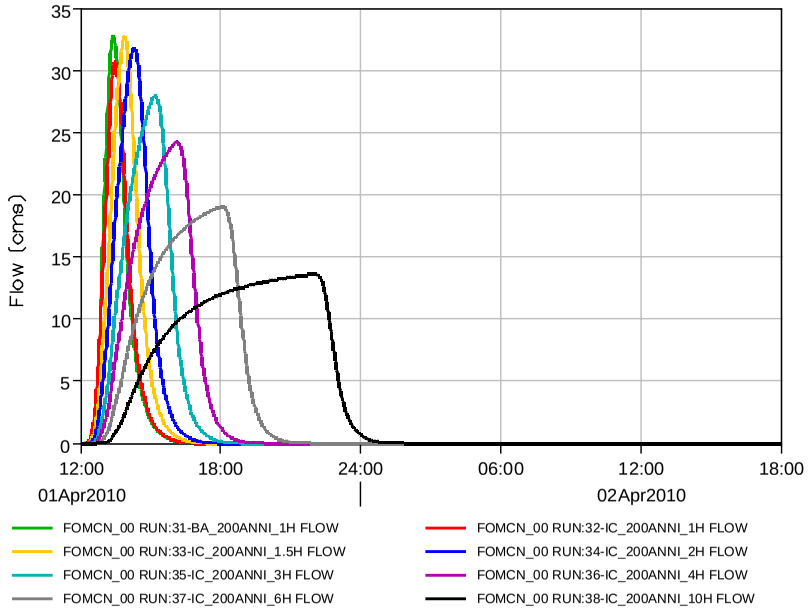


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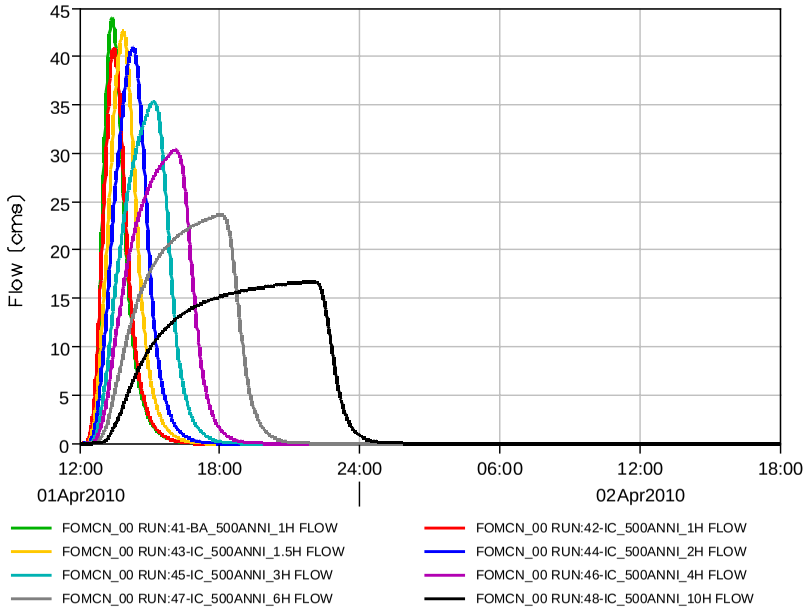


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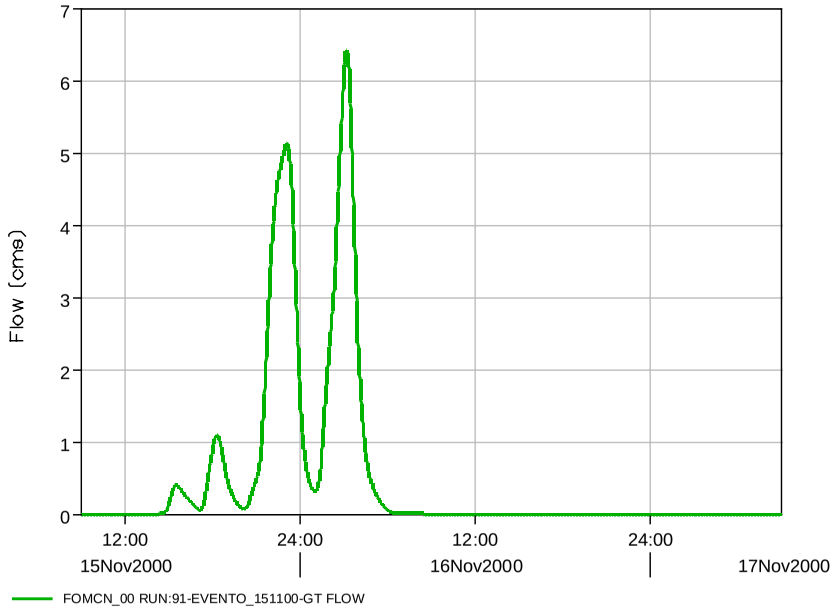


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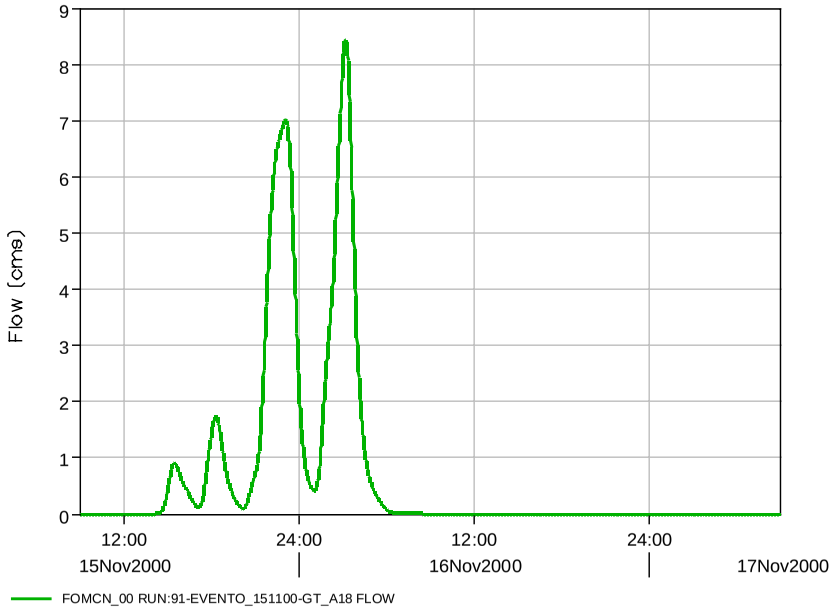


## *T. Parce a monte della confluenza del F.so delle Ribussolaie [TRPRC_01]*

### Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 18.3 | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 78 |
| **$H_{sc}$** - quota sezione di chiusura | [m] | 261 | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.20 |
| **$H_{mb}$** - altitudine media del bacino | [m] | 442 | **La** - lunghezza asta principale | | [km] | 13.5 |
| **$H_{ma}$** - quota massima asta principale | [m] | 592 | **$i_b$** - pendenza media del bacino | | [%] | 10.2% |
| **$H_{mb}$** - quota massima bacino | [m] | 709 | **i** - pendenza media della rete drenaggio | | [m/m] | - |

### Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 3.47 | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | 181 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 2.05 | **DH** - dislivello altimetrico estremi asta principale | [m] | 331 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 3.48 | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | 448 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 4.58 | **Trr** - tempo di ritardo di Rosso | [h] | 2.41 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | - |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 1.43 |
| **Tca** - tempo di corrivazione di riferimento | [h] | 2.38 | **Tra** - tempo di ritardo adottato | [h] | 2.41 |

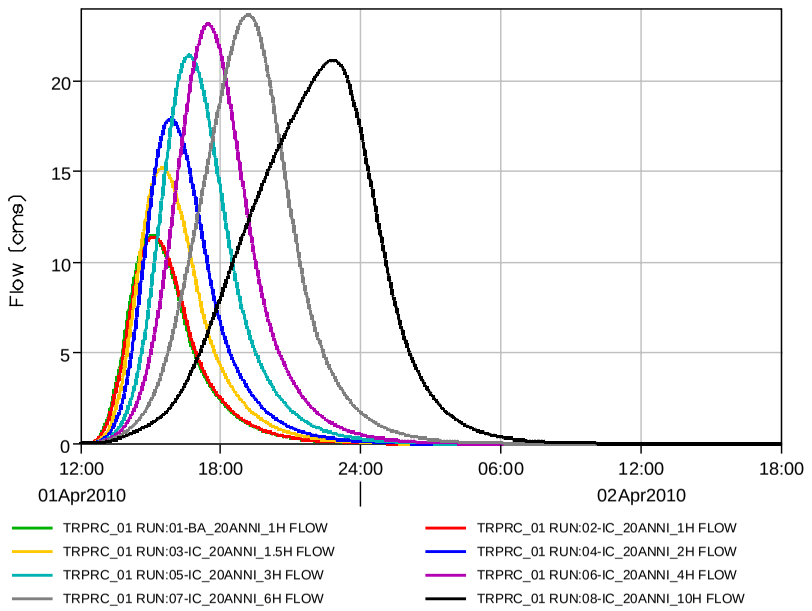
### Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 18.30 |
| Loss / **Initial Abstraction** | [mm] | 14.3 |
| Loss / **CN** | [-] | 78 |
| Transform / **Lag Time** | [min] | 145 |

### Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | 23.7 | 26.6 | 30.2 | 41.5 | 49.4 |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 1.3 | 1.5 | 1.7 | 2.3 | 2.7 |
| **Al.To.** | **Apor** – superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

//TRPRC_01/FLOW/01APR2010/1MIN/RUN:01-BA_20ANNI_1H/

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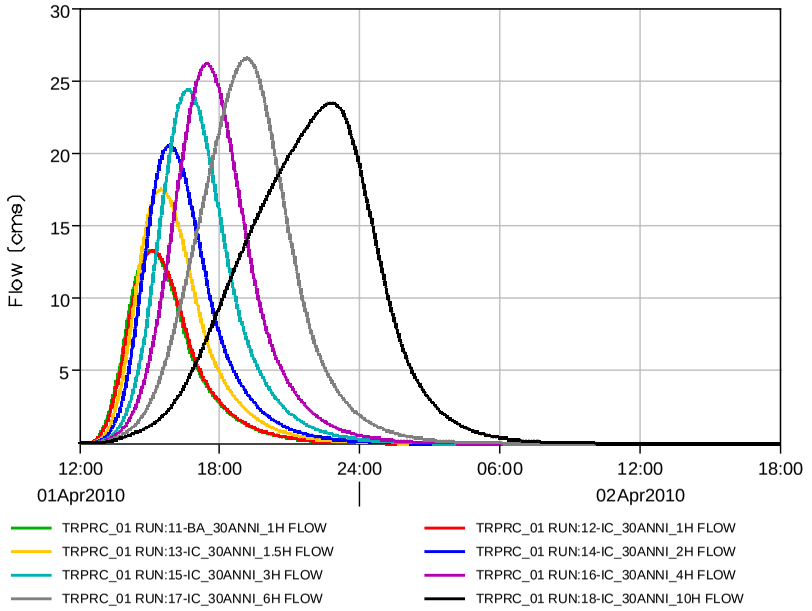


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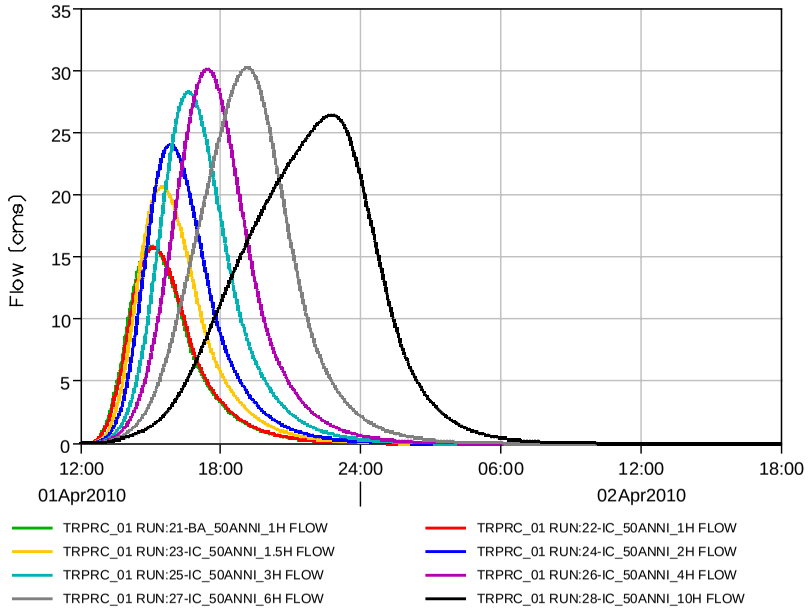


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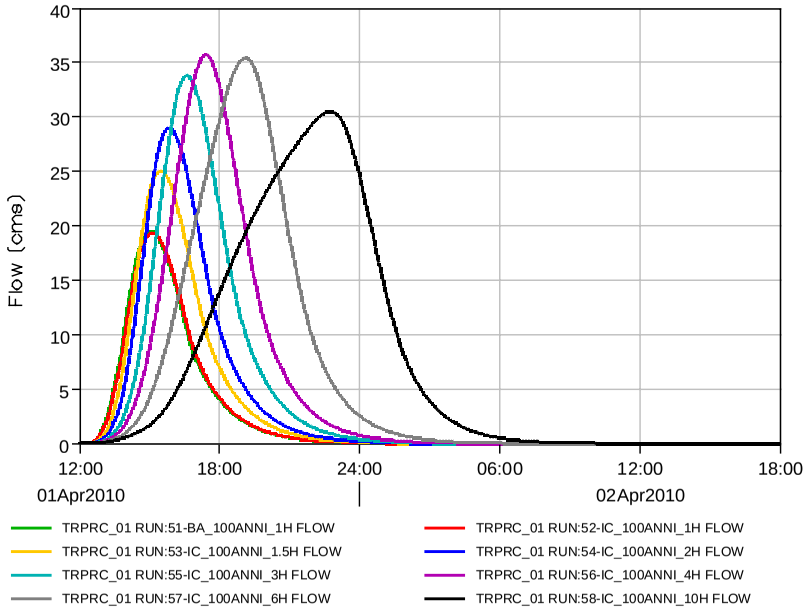

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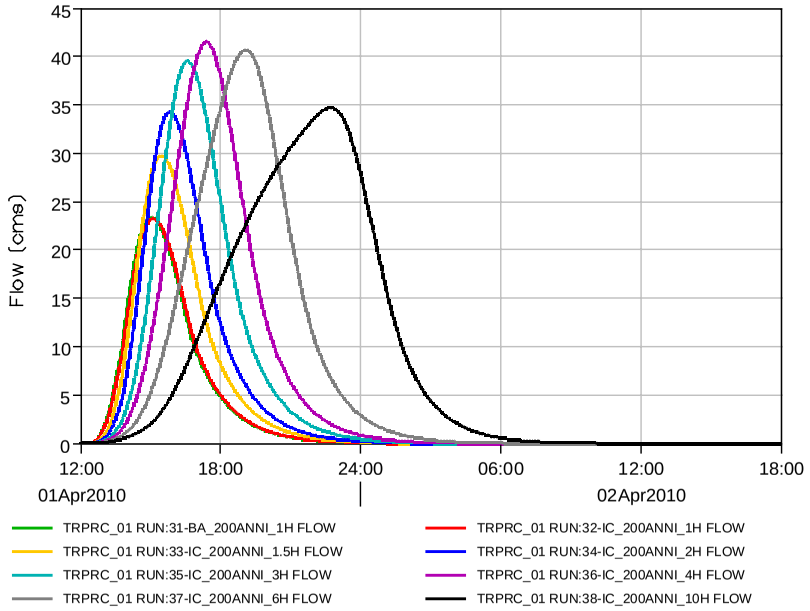


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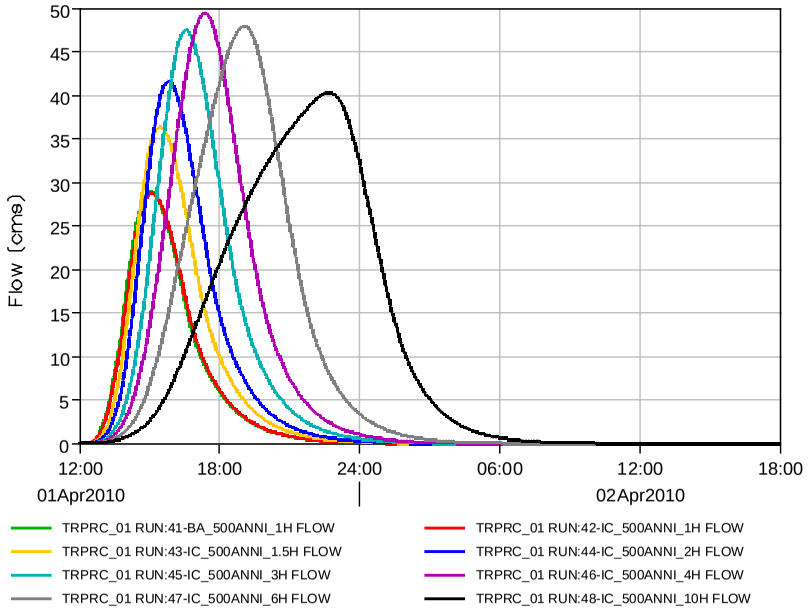


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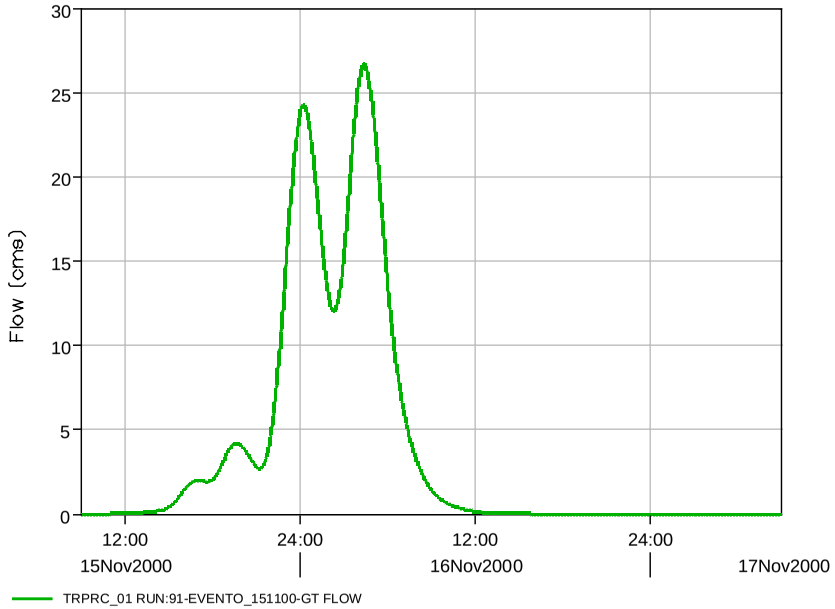


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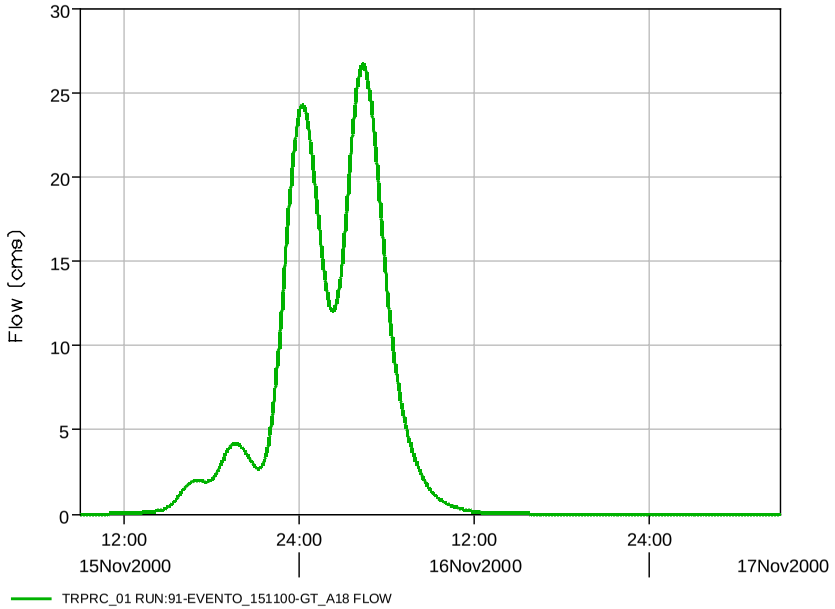

# *F.so di San Savino alla confluenza nel T. Parce [FOSSV_00]*

## Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | 1.6 | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | 78 |
| **Hsc** - quota sezione di chiusura | [m] | 258 | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | 0.20 |
| **Hmb** - altitudine media del bacino | [m] | 281 | **La** - lunghezza asta principale | | [km] | 2.2 |
| **Hma** - quota massima asta principale | [m] | 312 | **ib** - pendenza media del bacino | | [%] | 5.6 % |
| **Hmb** - quota massima bacino | [m] | 333 | **i** - pendenza media della rete drenaggio | | [m/m] | - |

## Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **Tcg** - tempo di corrivazione di Giandotti | [h] | 2.17 | **Hm** - altitudine media sulla sez. di chiusura | [m] | 23 |
| **Tck** - tempo di corrivazione di Kirpich | [h] | 0.51 | **DH** - dislivello altimetrico estremi asta principale | [m] | 54 |
| **Tcv** - tempo di corrivazione di Ventura | [h] | 1.02 | **HM** - altitudine massima sulla sez. di chiusura | [m] | 75 |
| **Tcpu** - tempo di corrivazione di Puglisi | [h] | 2.45 | **Trr** - tempo di ritardo di Rosso | [h] | 0.61 |
| **Tcpa** - tempo di corrivazione di Pasini | [h] | - | **TrRT** - tempo di ritardo region. Al.To. | [h] | - |
| | | | **Trc** - tempo di ritardo dal tempo di corrivazione | [h] | 0.31 |
| **Tca** - tempo di corrivazione di riferimento | [h] | 0.52 | **Tra** - tempo di ritardo adottato | [h] | 0.61 |

## Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | 1.58 |
| Loss / **Initial Abstraction** | [mm] | 14.3 |
| Loss / **CN** | [-] | 78 |
| Transform / **Lag Time** | [min] | 37 |

## Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | 20 | 30 | 50 | 200 | 500 |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **7.3** | **9.6** | **13.1** | **24.7** | **33.2** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 4.6 | 6.1 | 8.3 | 15.6 | 21.0 |
| **Al.To.** | **Apor** – superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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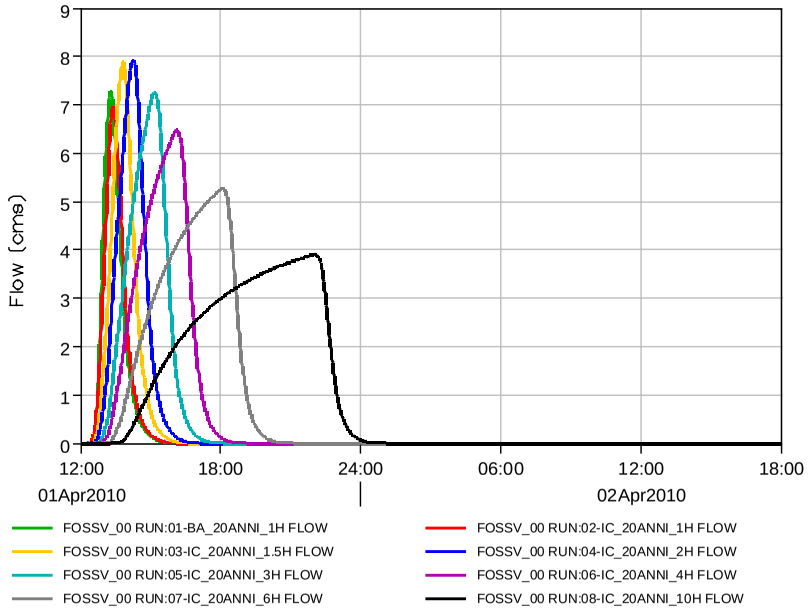


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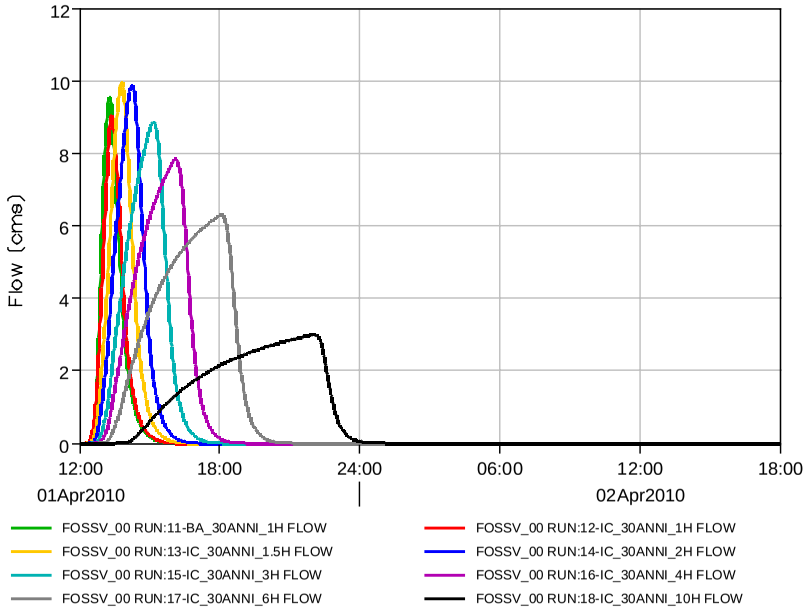


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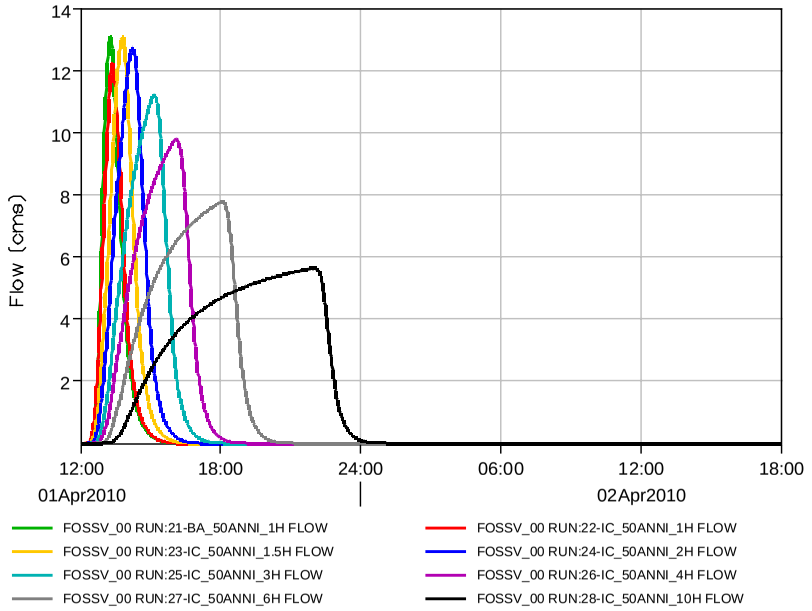


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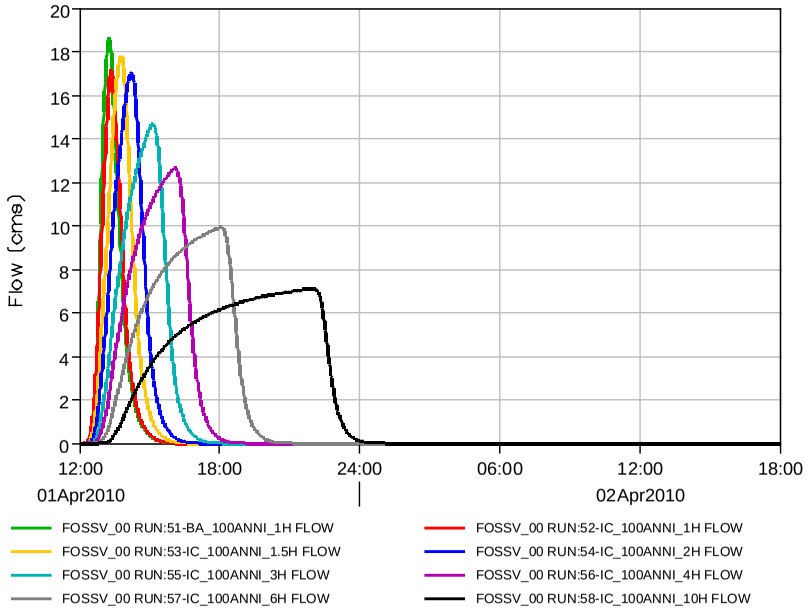

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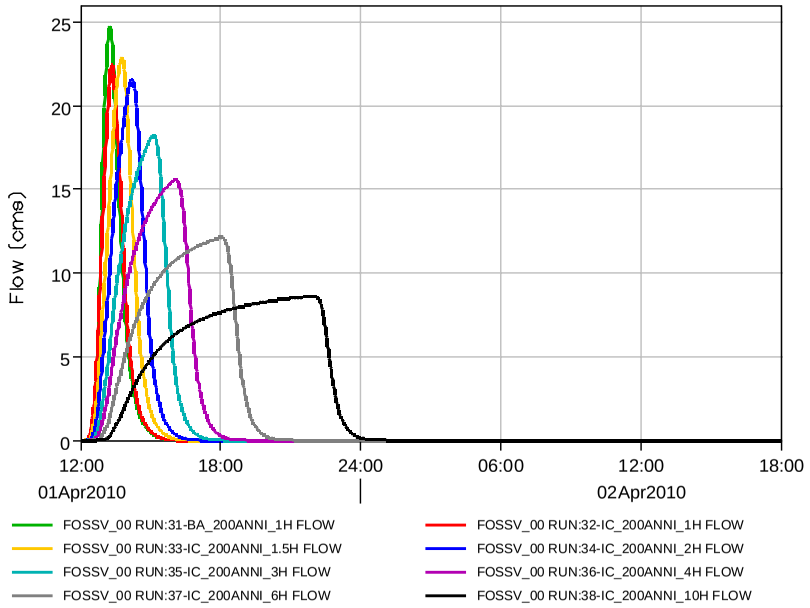


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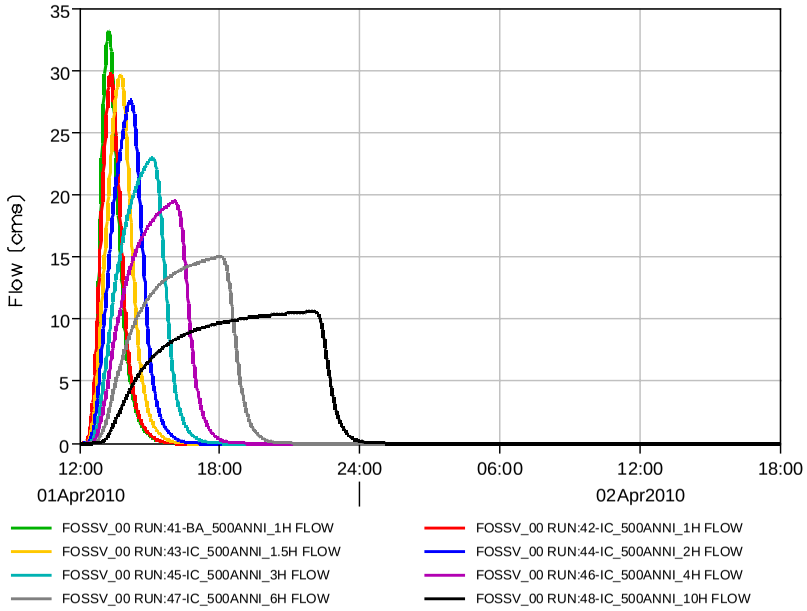


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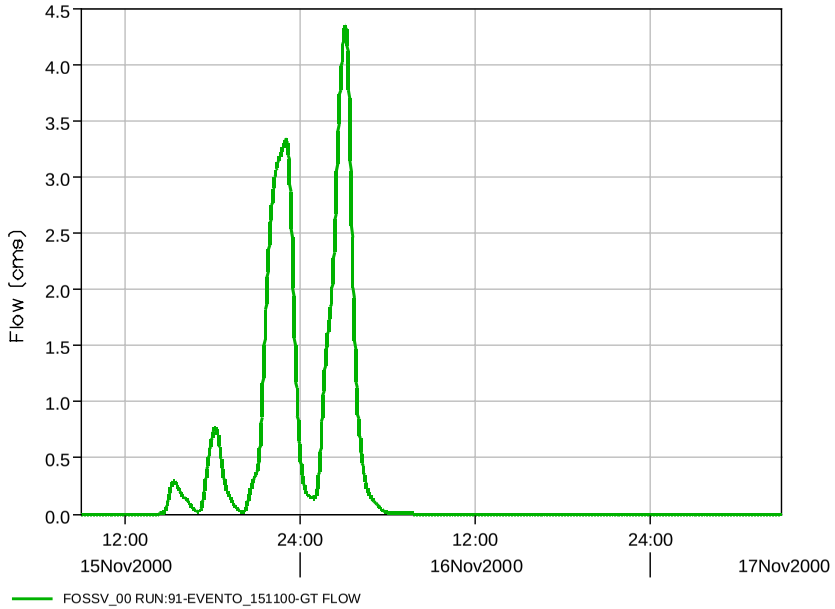


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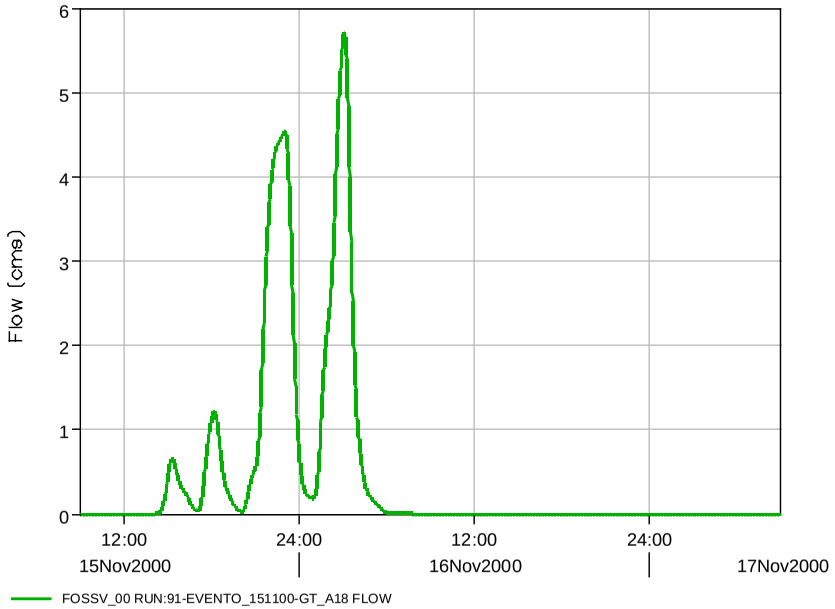

## *F.so Monaco alla confluenza nel T. Parce [FOMNC_J00]*

### Dati caratteristici del bacino idrografico

**S** - superficie complessiva del bacino [kmq] **11.5**

### Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **41.4** | **51.3** | **66.0** | **112.1** | **146.0** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 3.6 | 4.5 | 5.8 | 9.8 | 12.7 |
| **Al.To.** | **Apor** - superficie del bacino | [kmq] | 13.0 | 13.0 | | 13.0 | |
| | **Qmax** – portata al colmo | [mc/s] | **59.0** | **65.0** | | **100.0** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 4.5 | 5.0 | | 7.7 | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | 12.7 | | 12.7 | |
| | **Qmax** – portata al colmo | [mc/s] | | **51.0** | | **69.0** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | 4.0 | | 5.4 | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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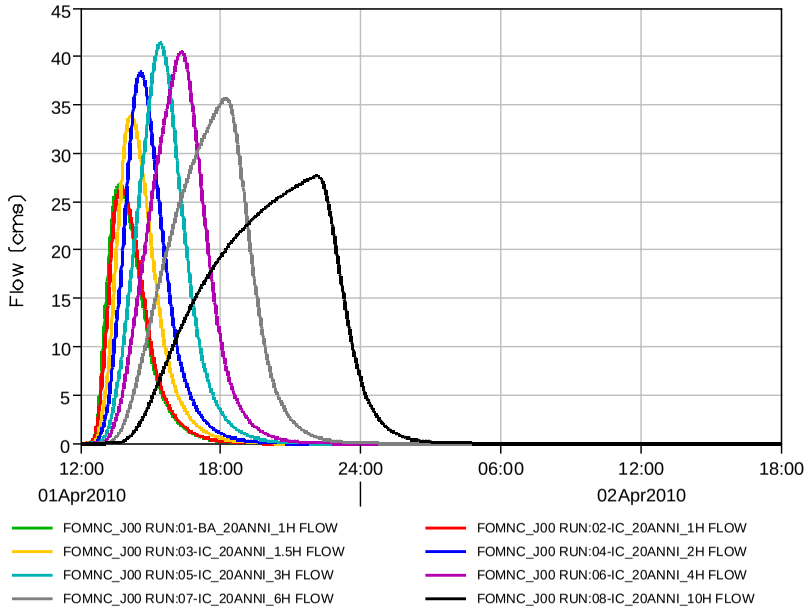


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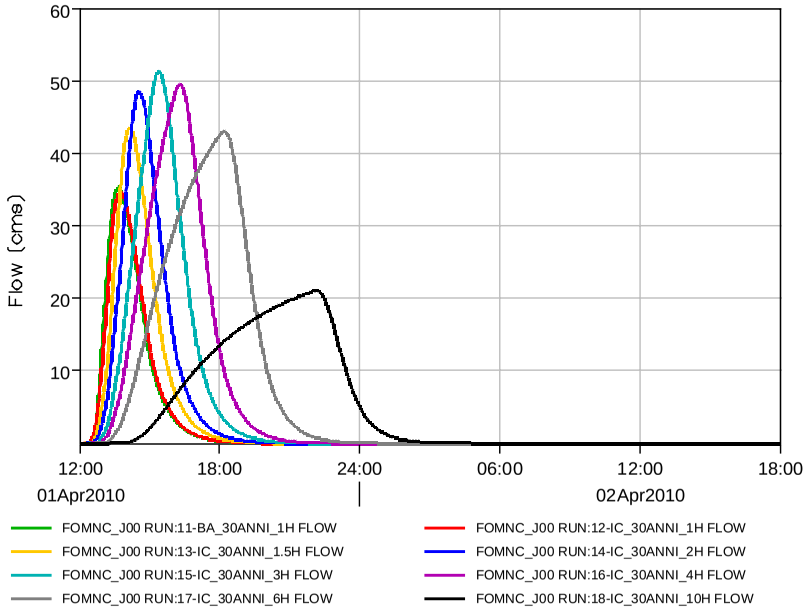


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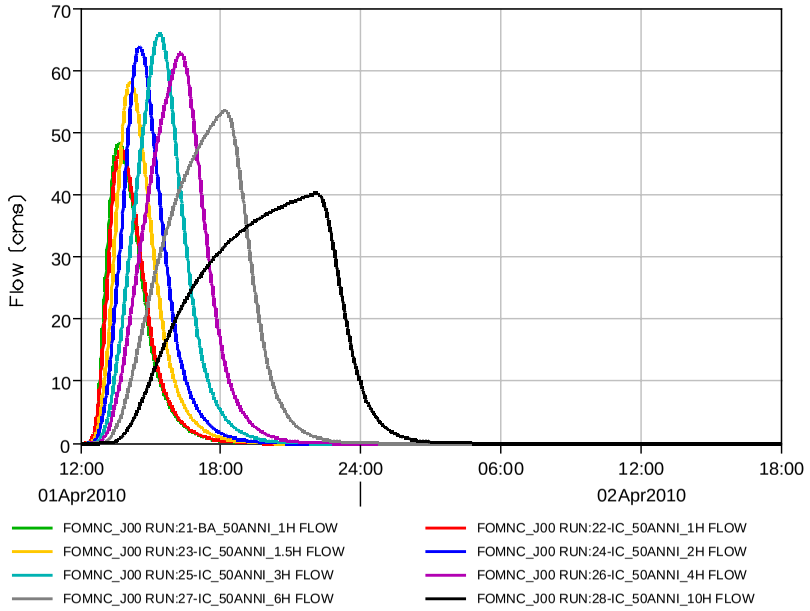


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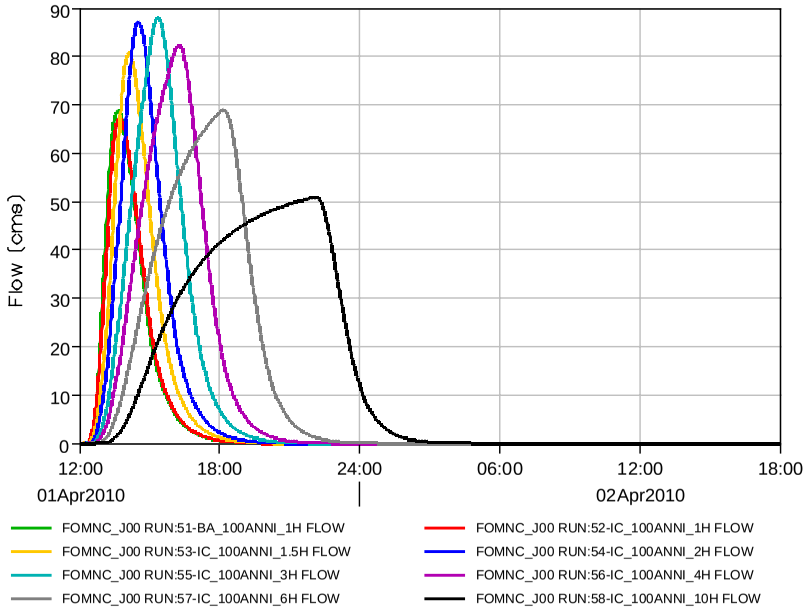

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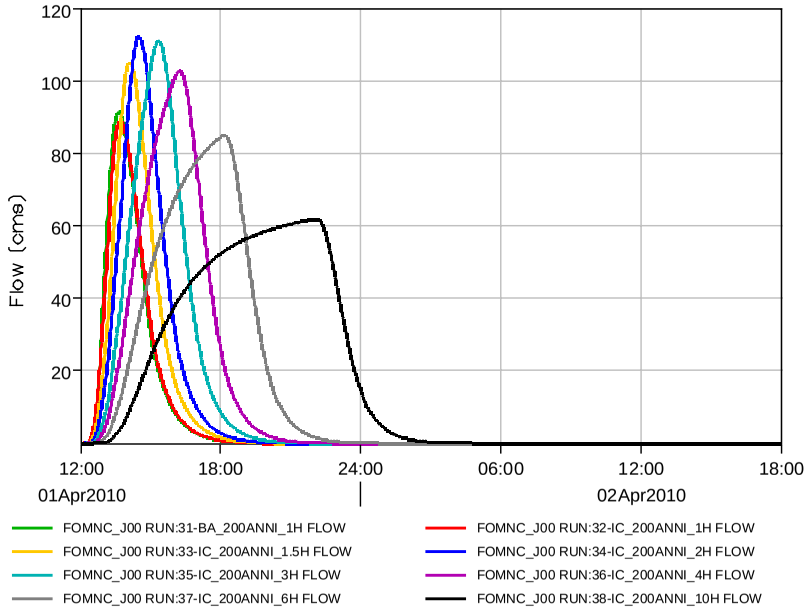


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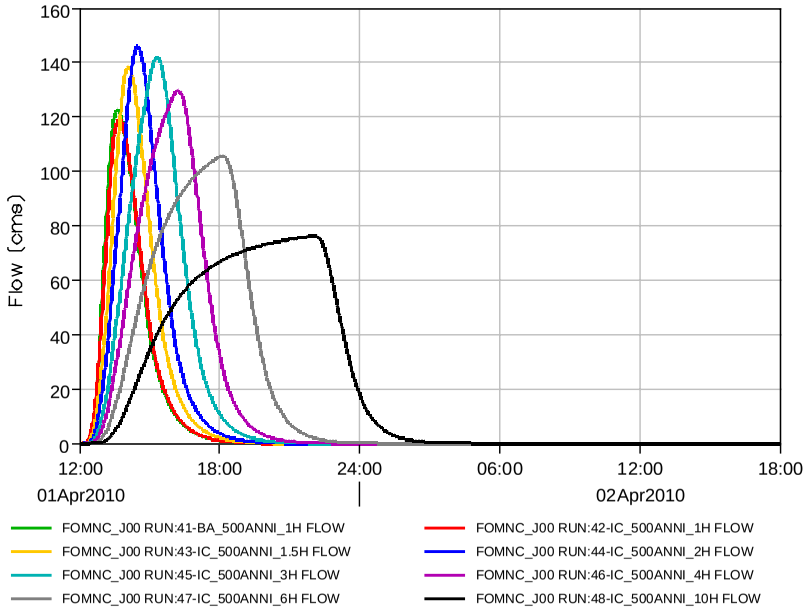


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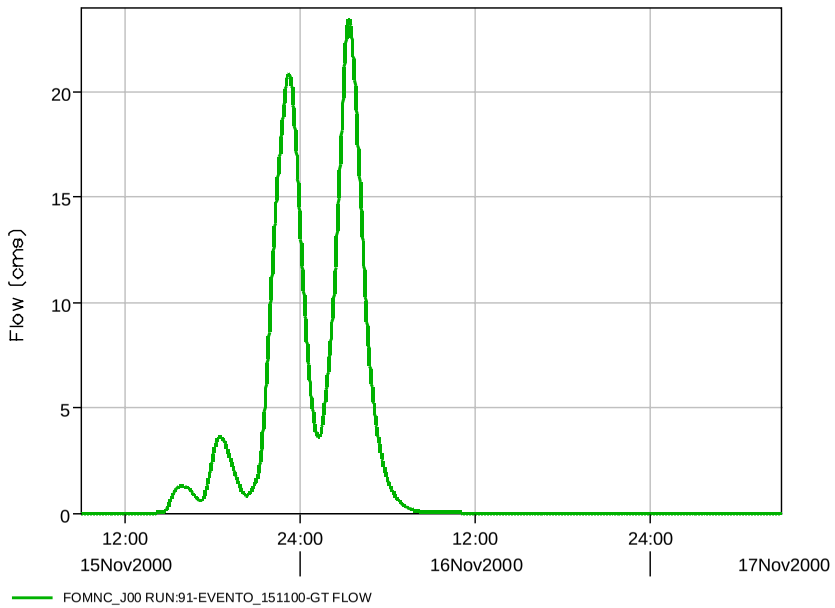


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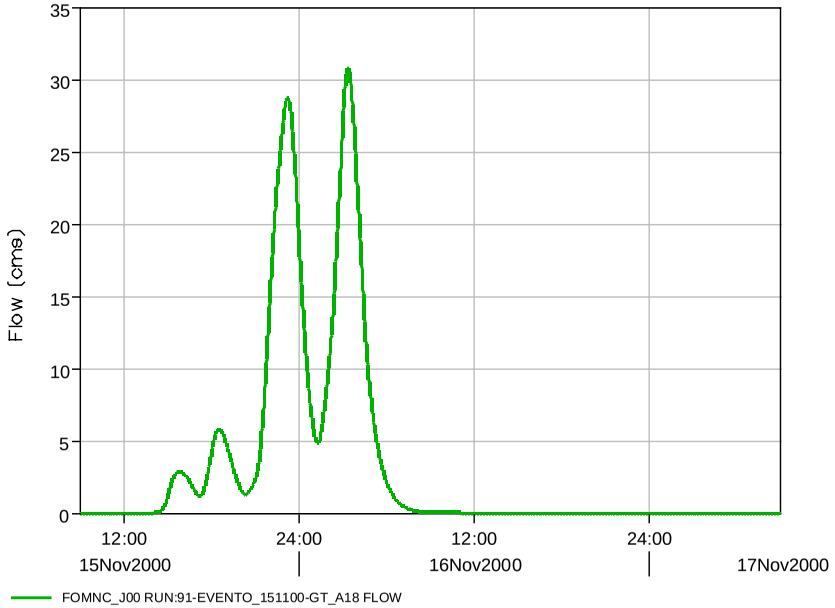

## *T. Parce a valle del F.so delle Ribussolaie [TRPRC_J01]*

### Dati caratteristici del bacino idrografico

**S** - superficie complessiva del bacino [kmq] **31.1**

### Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **ilDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **61.8** | **73.0** | **89.0** | **136.9** | **169.7** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 2.0 | 2.3 | 2.9 | 4.4 | 5.5 |
| **Al.To.** | **Apor** – superficie del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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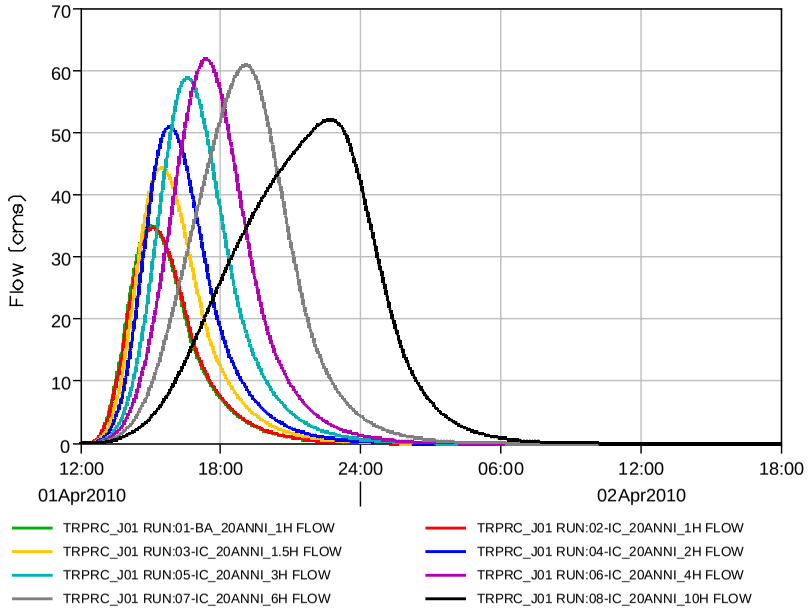


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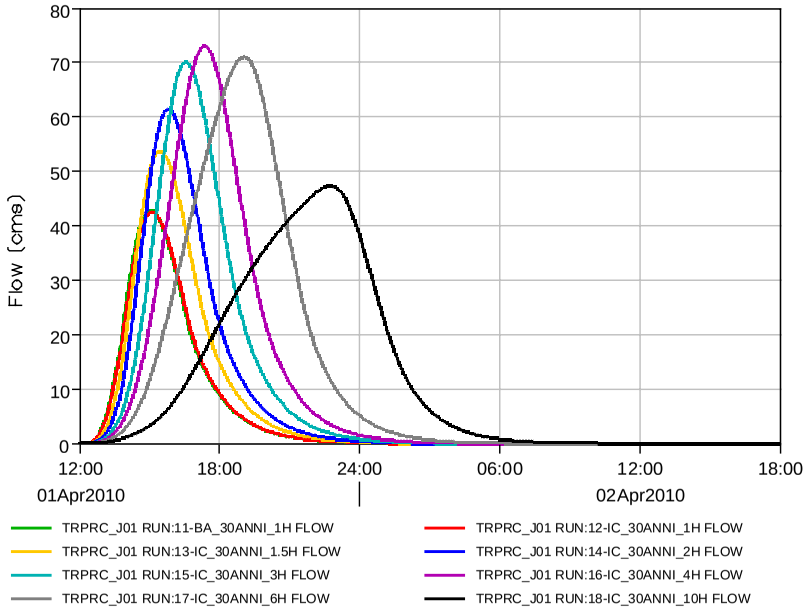


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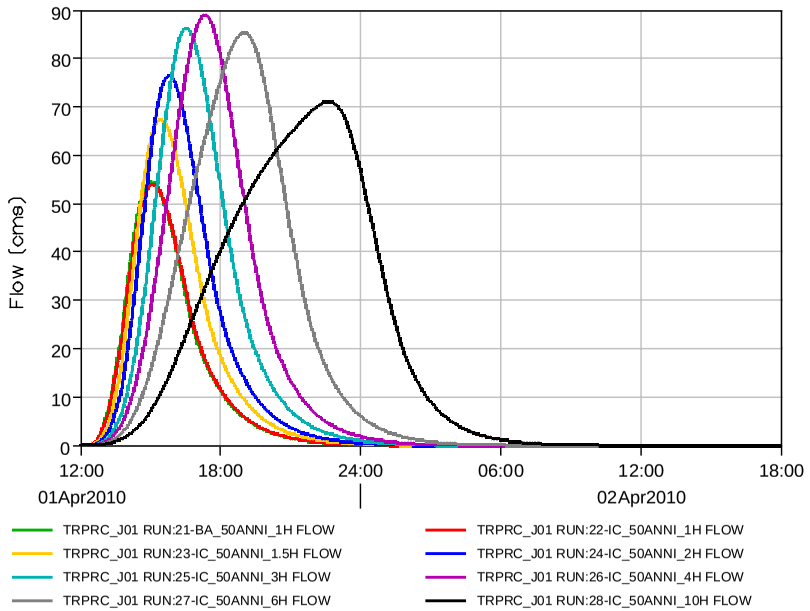


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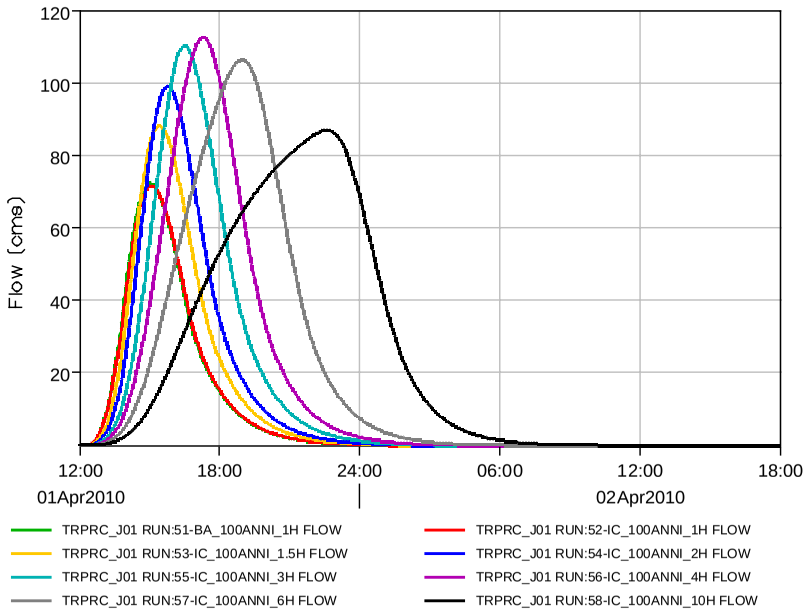

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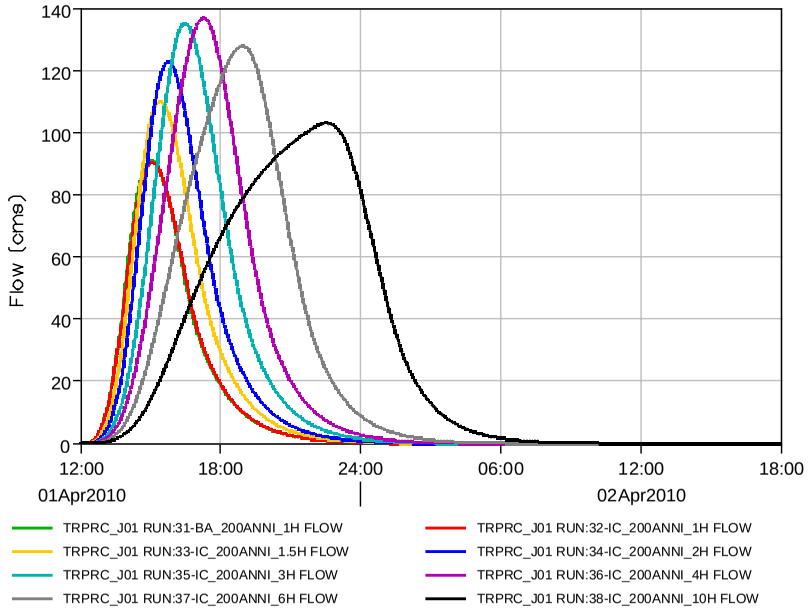


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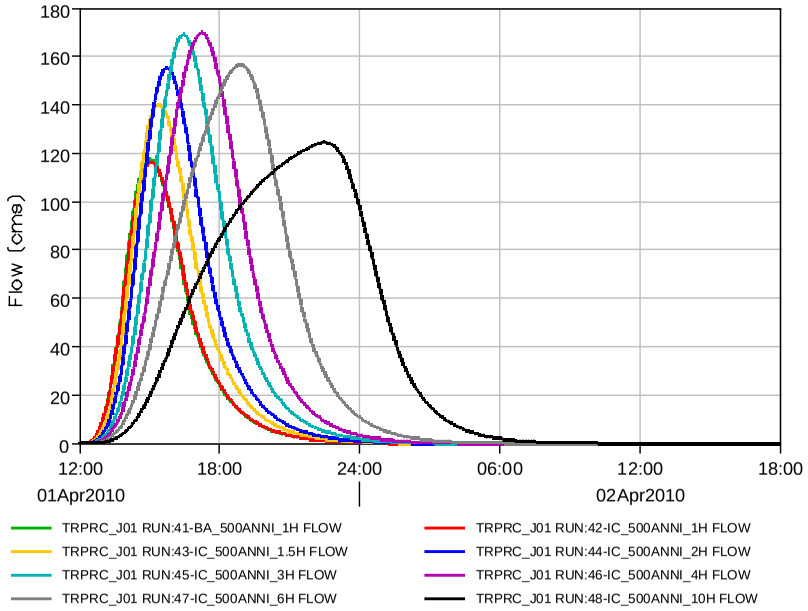


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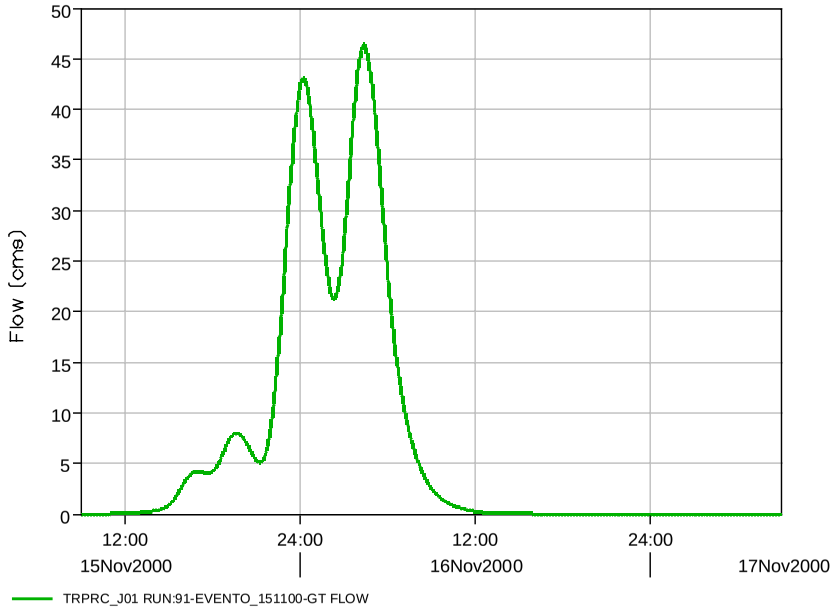


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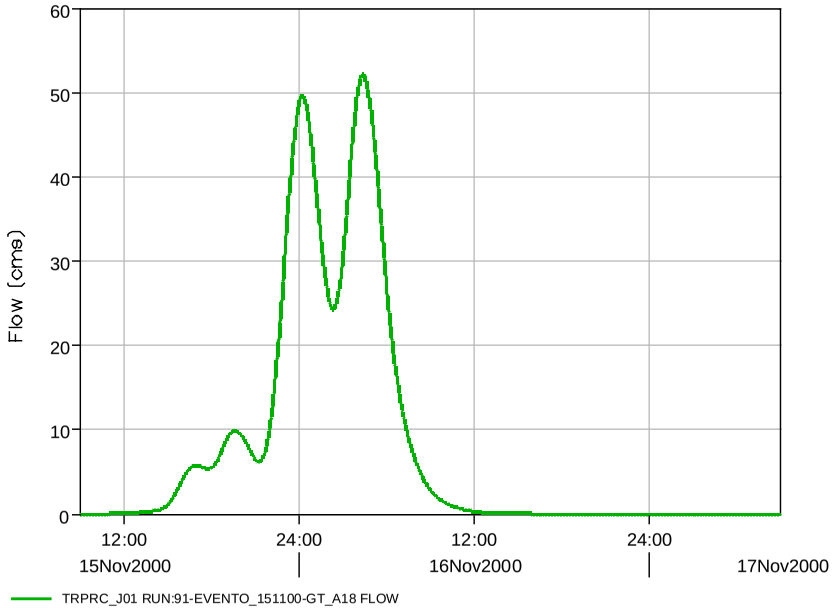

## *T. Parce a valle della confluenza del F.so Monaco [TRPRC_J00]*

### Dati caratteristici del bacino idrografico

**S** - superficie complessiva del bacino [kmq] **42.6**

### Valori delle portate al colmo e Confronti con altri studi di carattere ufficiale

| **Tr** - tempo di ritorno | | [anni] | **20** | **30** | **50** | **200** | **500** |
|---|---|---|---|---|---|---|---|
| **iIDeA (2009)** | **Qmax** – portata al colmo | [mc/s] | **96.1** | **116.1** | **145.0** | **232.8** | **293.0** |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 2.3 | 2.7 | 3.4 | 5.5 | 6.9 |
| **Al.To.** | **Apor** – superficie del bacino | [kmq] | 41.0 | 41.0 | | 41.0 | |
| | **Qmax** – portata al colmo | [mc/s] | **119.0** | **131.0** | | **207.0** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 2.9 | 3.2 | | 5.0 | |
| **Bavecchi (2004, 2007)** | **S** - superficie complessiva del bacino | [kmq] | | 46.0 | | 46.0 | |
| | **Qmax** – portata al colmo | [mc/s] | | **166.0** | | **222.0** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | 3.6 | | 4.8 | |
| **Terrosi (2000, 2003)** | **S** - superficie complessiva del bacino | [kmq] | 44.5 | | | 44.5 | |
| | **Qmax** – portata al colmo | [mc/s] | **85.0** | | | **120.0** | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | 1.9 | | | 2.7 | |
| **Cretella (2002)** | **S** - superficie complessiva del bacino | [kmq] | | | | | |
| | **Qmax** – portata al colmo | [mc/s] | | | | | |
| | **umax** – contributo unitario al colmo | [mc/s kmq] | | | | | |

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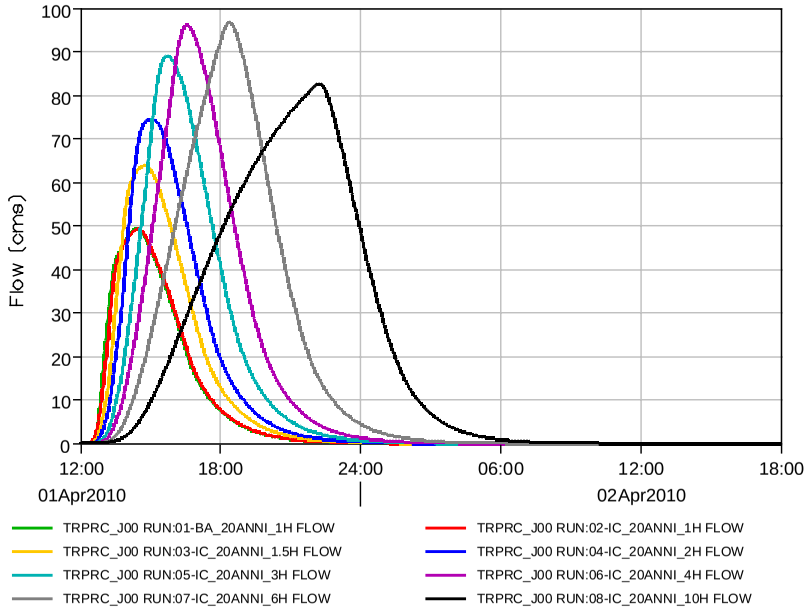


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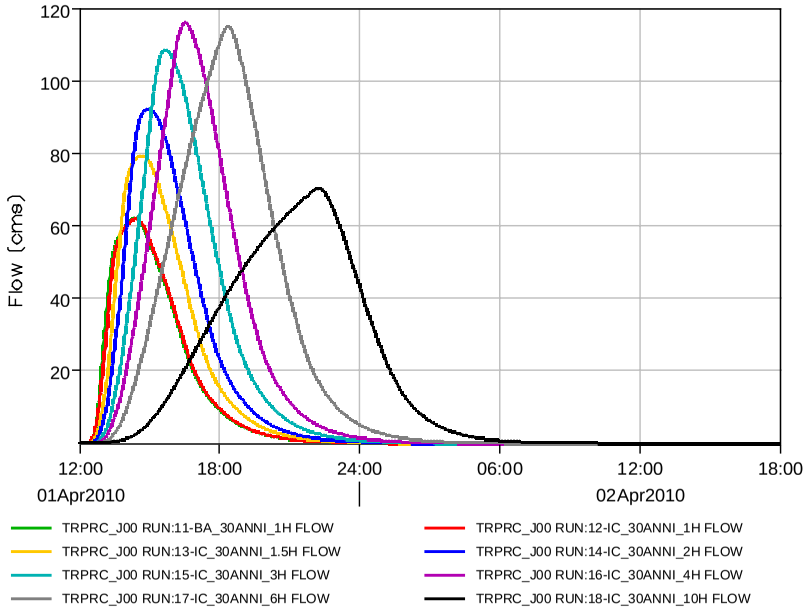


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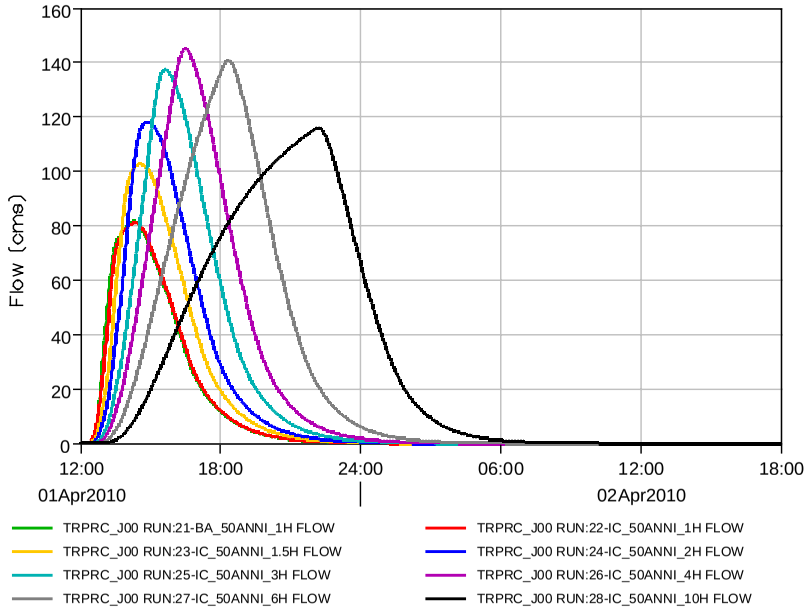


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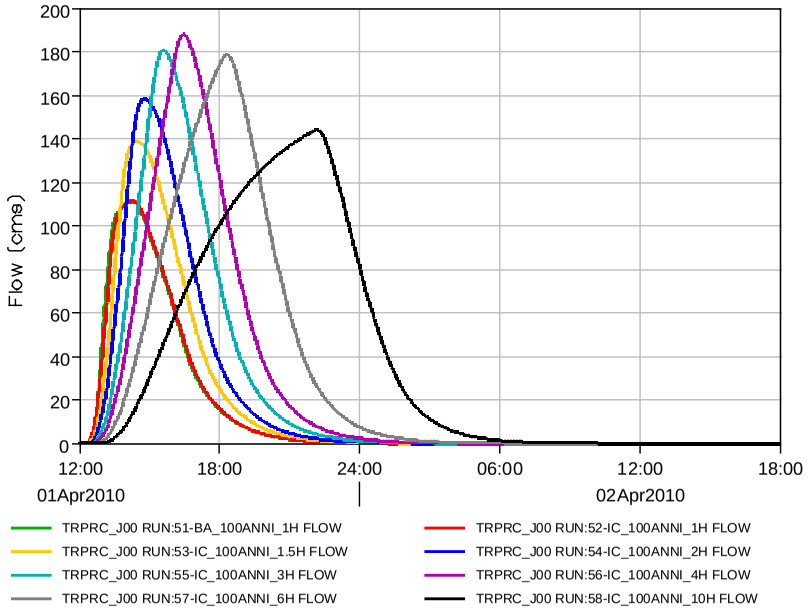

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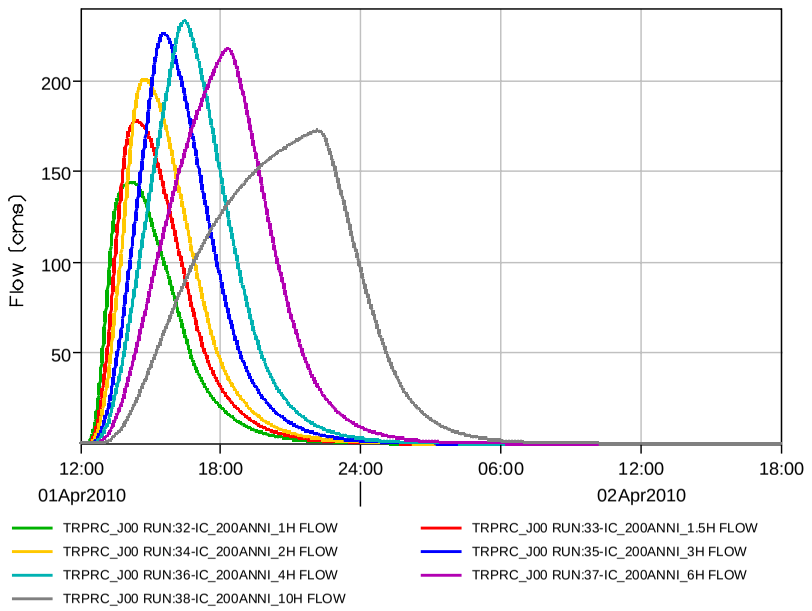


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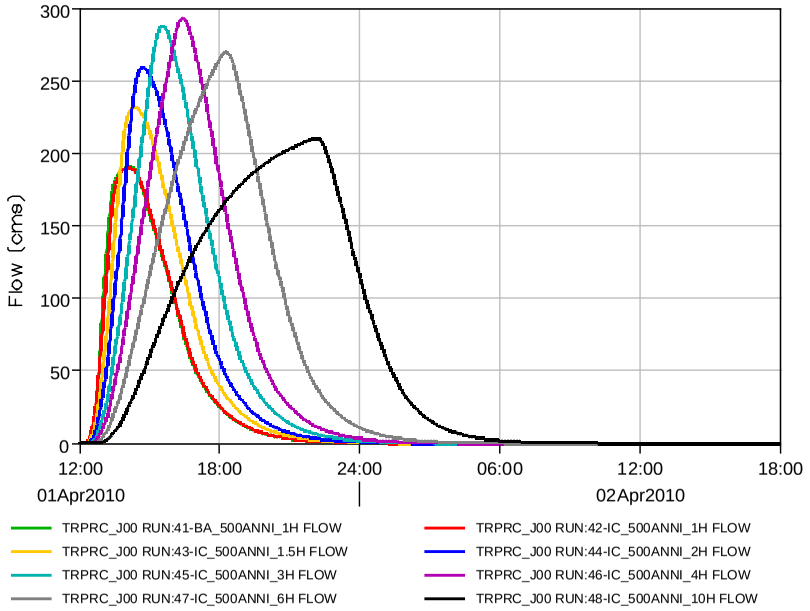


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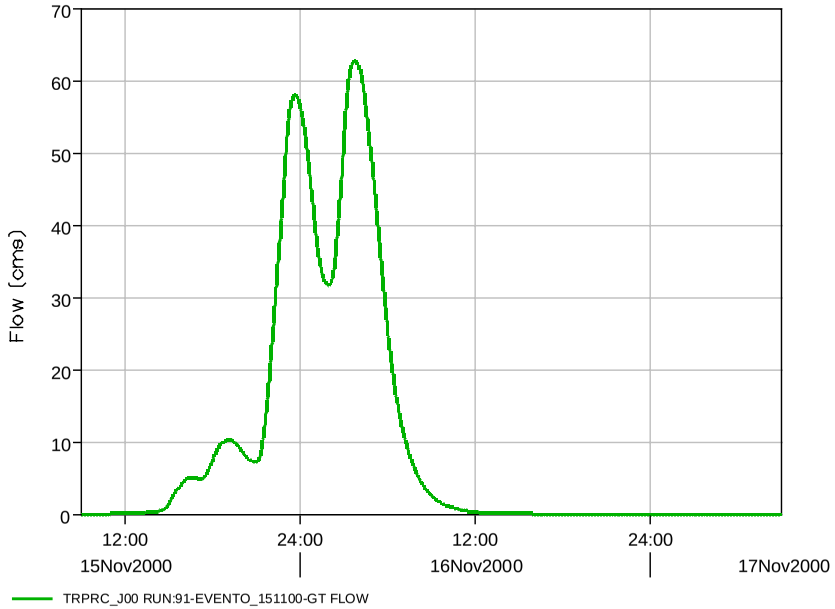


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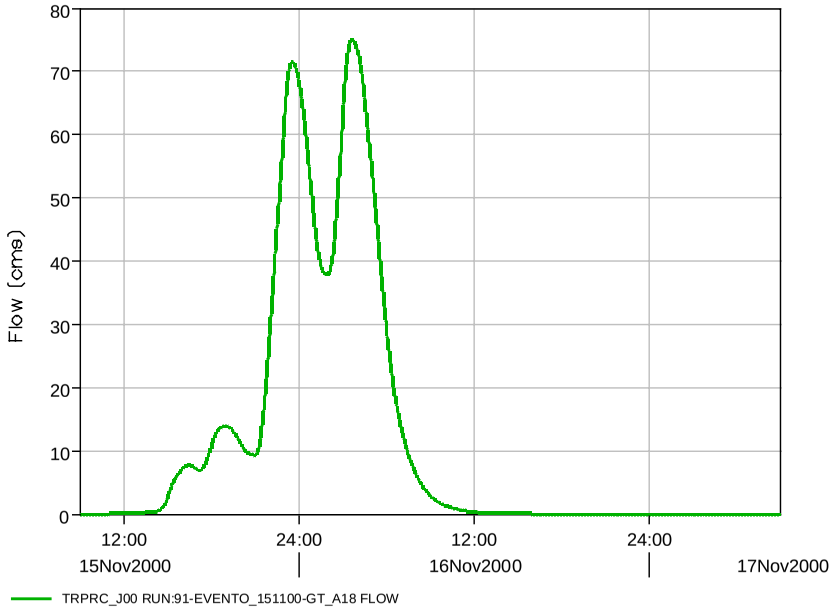

## *C.le Circondariale (agricolo) [CLCDR_01]*

### Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **1.0** | **CN II** - RunOff Num. U.S. S.C.S. | 2 | [-] | **79** |
| **$H_{sc}$** - quota sezione di chiusura | [m] | **247** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.20** |
| **$H_{mb}$** - altitudine media del bacino | [m] | **251** | **La** - lunghezza asta principale | | [km] | **1.0** |
| **$H_{ma}$** - quota massima asta principale | [m] | **253** | **$i_b$** - pendenza media del bacino | | [%] | **0.8%** |
| **$H_{mb}$** - quota massima bacino | [m] | **255** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

### Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **$T_{cg}$** - tempo di corrivazione di Giandotti | [h] | **3.44** | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | **4** |
| **$T_{ck}$** - tempo di corrivazione di Kirpich | [h] | **0.47** | **DH** - dislivello altimetrico estremi asta principale | [m] | **6** |
| **$T_{cv}$** - tempo di corrivazione di Ventura | [h] | **1.64** | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | **8** |
| **$T_{cpu}$** - tempo di corrivazione di Puglisi | [h] | **3.02** | **$T_{rr}$** - tempo di ritardo di Rosso | [h] | **0.47** |
| **$T_{cpa}$** - tempo di corrivazione di Pasini | [h] | **-** | **$T_{rRT}$** - tempo di ritardo region. Al.To. | [h] | **-** |
| | | | **$T_{rc}$** - tempo di ritardo dal tempo di corrivazione | [h] | **1.18** |
| **$T_{ca}$** - tempo di corrivazione adottato | [h] | **1.97** | **$T_{ra}$** - tempo di ritardo di riferimento | [h] | **0.47** |

### Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **1.00** |
| Loss / **Initial Abstraction** | [mm] | **13.5** |
| Loss / **CN** | [-] | **79** |
| **UH Y hight** | [mc/s] | **0.141** |
| **UH X lenght** | [min] | **120** |

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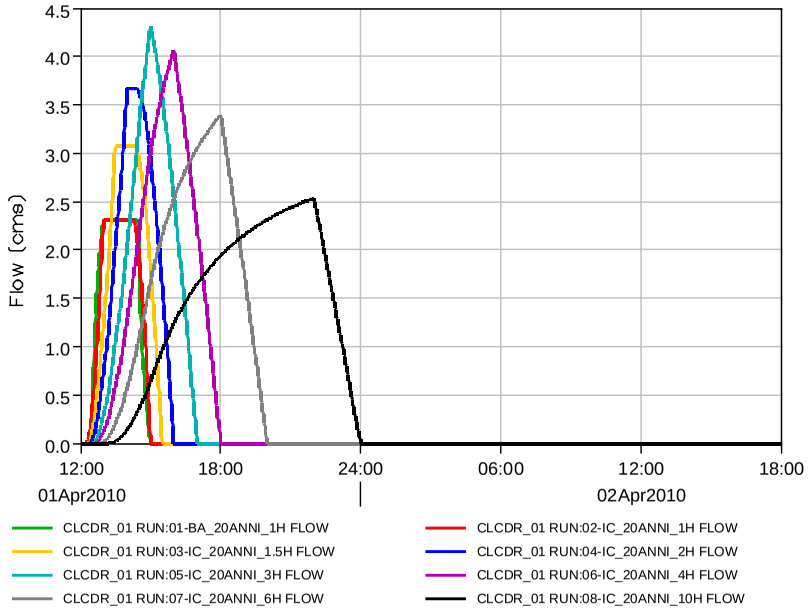


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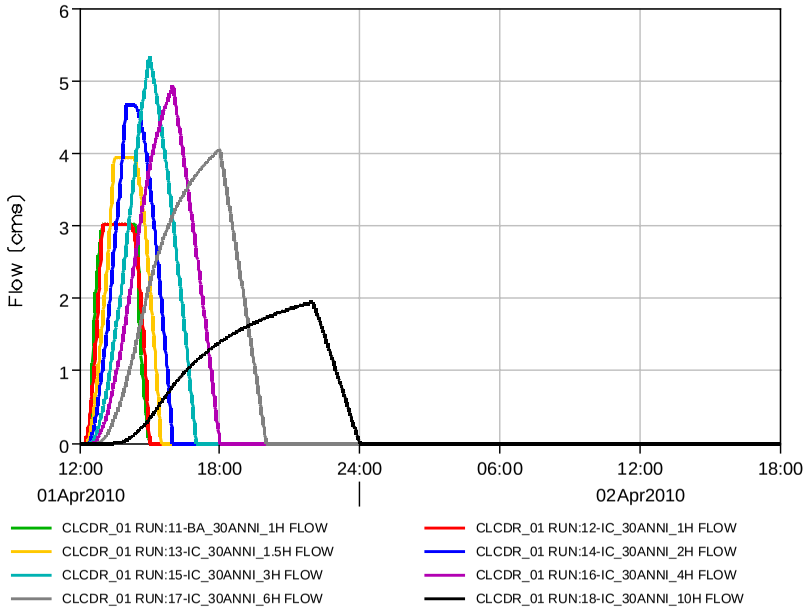


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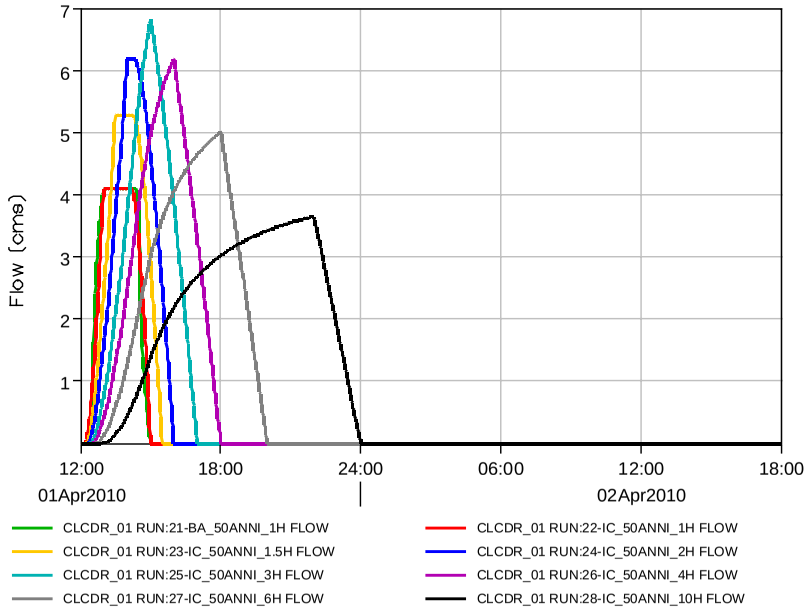


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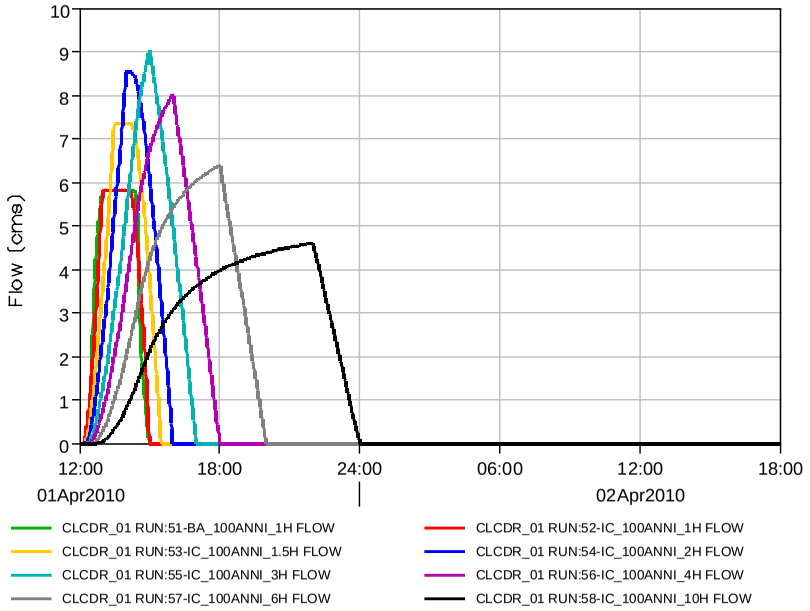

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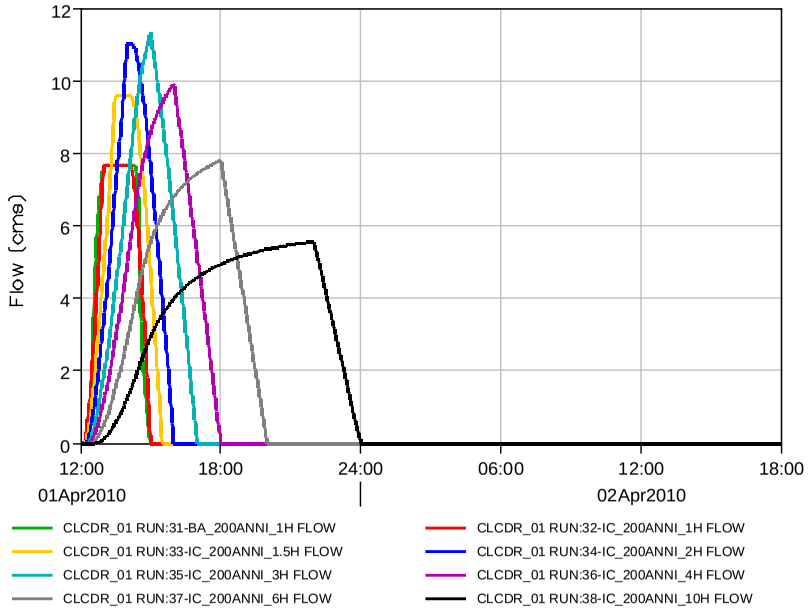


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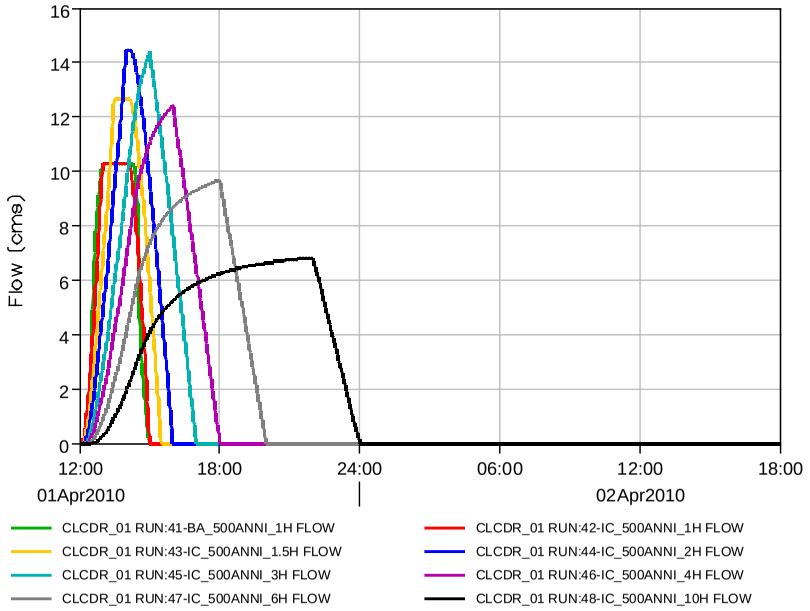


## *C.le Circondariale (agricolo+urbano) [CLCDR_02]*

### Dati caratteristici del bacino idrografico

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **S** - superficie complessiva del bacino | [kmq] | **0.9** | **CN II** - RunOff Num. U.S. S.C.S. | **2** | [-] | **81** |
| **$H_{sc}$** - quota sezione di chiusura | [m] | **247** | **b** - coeff. perdita iniziale U.S. S.C.S. | | [-] | **0.20** |
| **$H_{mb}$** - altitudine media del bacino | [m] | **259** | **La** - lunghezza asta principale | | [km] | **1.5** |
| **$H_{ma}$** - quota massima asta principale | [m] | **256** | **$i_b$** - pendenza media del bacino | | [%] | **4.4%** |
| **$H_{mb}$** - quota massima bacino | [m] | **285** | **i** - pendenza media della rete drenaggio | | [m/m] | **-** |

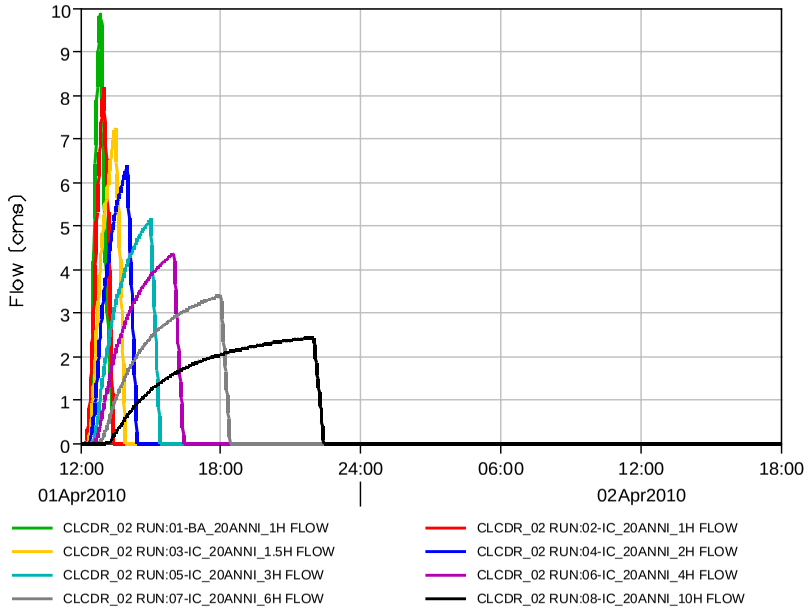
### Parametri calcolati

| | | | | | |
|---|---|---|---|---|---|
| **$T_{cg}$** - tempo di corrivazione di Giandotti | [h] | **2.20** | **$H_m$** - altitudine media sulla sez. di chiusura | [m] | **12** |
| **$T_{ck}$** - tempo di corrivazione di Kirpich | [h] | **0.65** | **DH** - dislivello altimetrico estremi asta principale | [m] | **9** |
| **$T_{cv}$** - tempo di corrivazione di Ventura | [h] | **1.58** | **$H_M$** - altitudine massima sulla sez. di chiusura | [m] | **38** |
| **$T_{cpu}$** - tempo di corrivazione di Puglisi | [h] | **2.37** | **$T_{rr}$** - tempo di ritardo di Rosso | [h] | **0.46** |
| **$T_{cpa}$** - tempo di corrivazione di Pasini | [h] | **-** | **$T_{rRT}$** - tempo di ritardo region. Al.To. | [h] | **-** |
| | | | **$T_{rc}$** - tempo di ritardo dal tempo di corrivazione | [h] | **0.95** |
| **$T_{ca}$** - tempo di corrivazione adottato | [h] | **1.58** | **$T_{ra}$** - tempo di ritardo di riferimento | [h] | **0.46** |

### Parametri utilizzati in HEC-HMS

| | | |
|---|---|---|
| Subbasin / **Area** | [kmq] | **0.92** |
| Loss / **Initial Abstraction** | [mm] | **11.9** |
| Loss / **CN** | [-] | **81** |
| **UH Y hight** | [mc/s] | **0.162** |
| **UH X lenght** | [min] | **95** |

//CLCDR_02/FLOW/01APR2010/1MIN/RUN:01-BA_20ANNI_1H/

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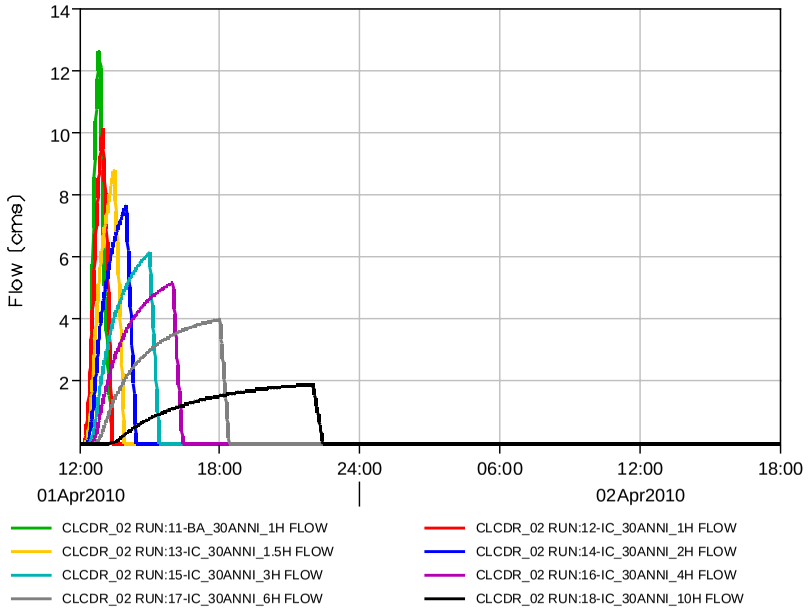


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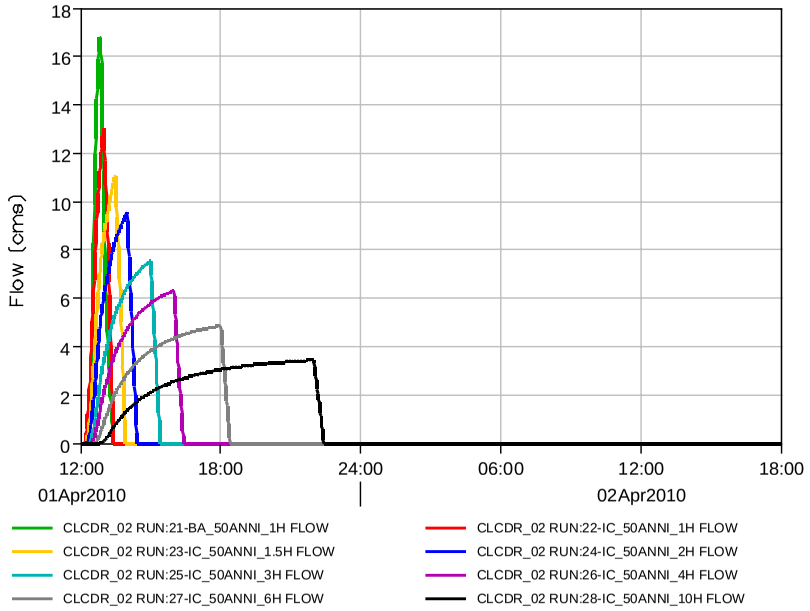


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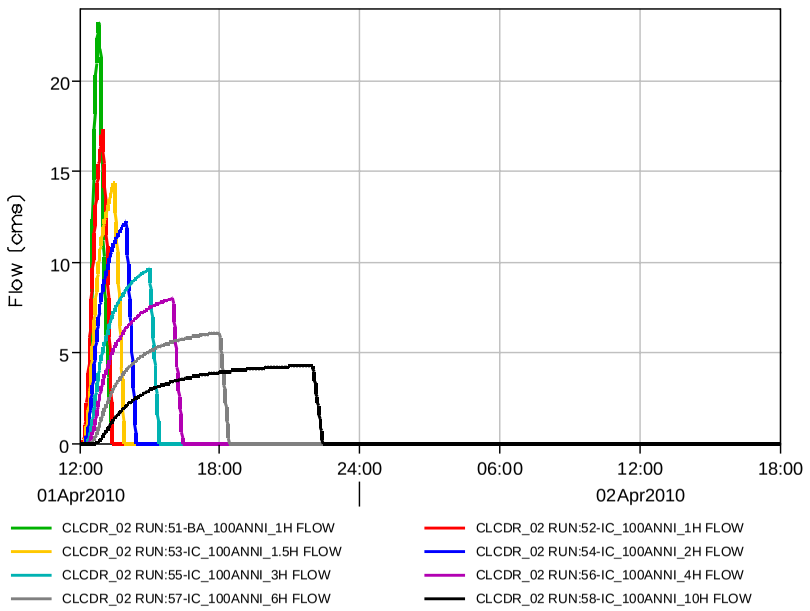

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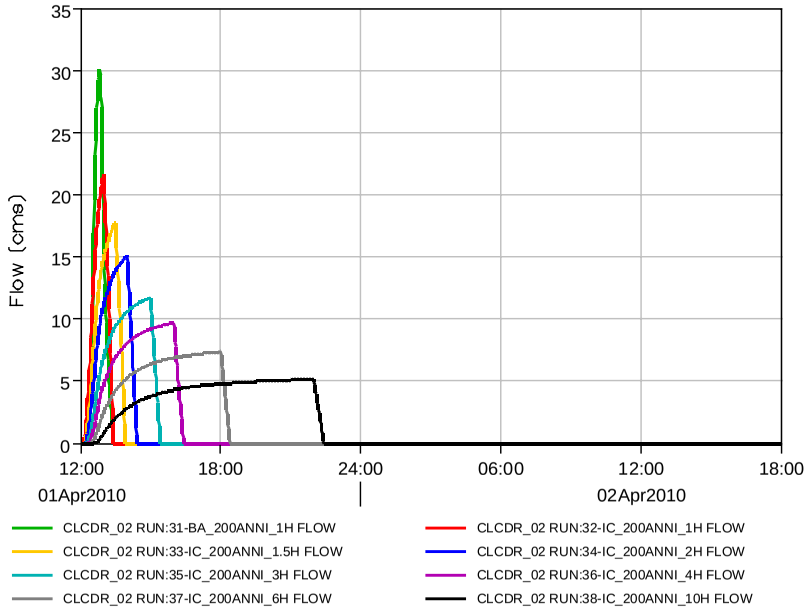


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