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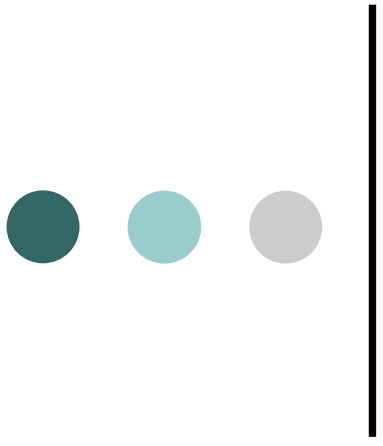
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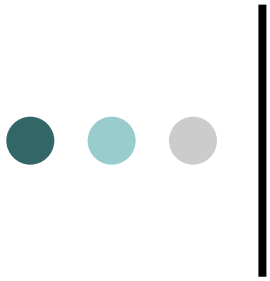
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1500 ~ 2000 Km<sup>2</sup>),

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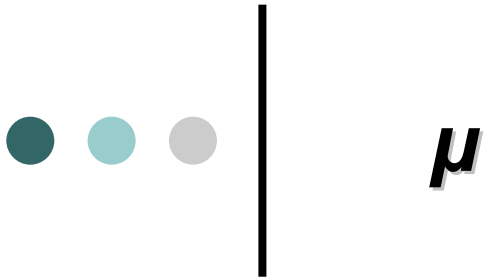
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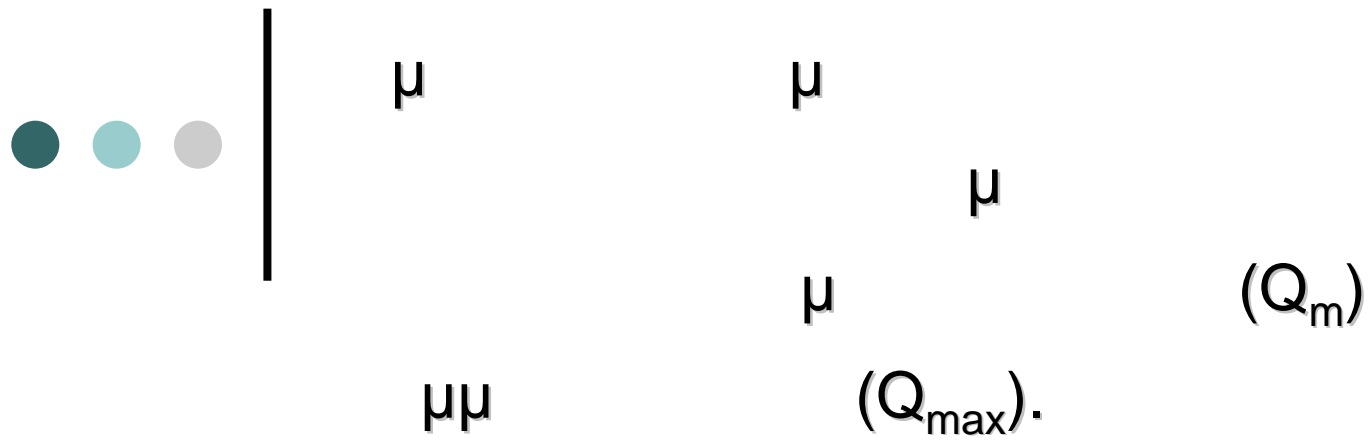
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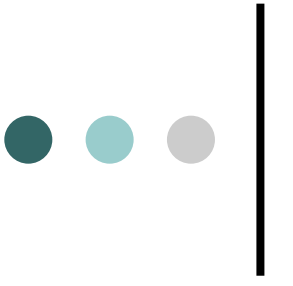
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- $\mu$  ,
- $\mu$  (  $300\text{Km}^2$ ),
- ,
- $\mu$   $\mu$   $\mu$  ,
- $Q$ ,
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$\mu$		(Km <sup>2</sup> )	$Q_{\max}/Q_m$
Thur	$\mu$	160,6	24
Erlentobel	$\mu$	1,7	220



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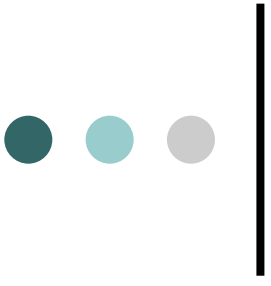
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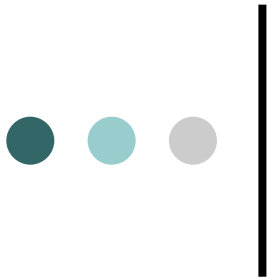
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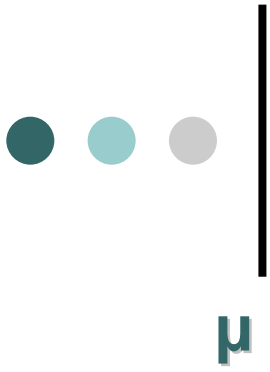
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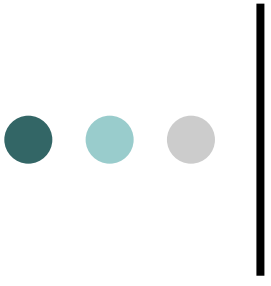
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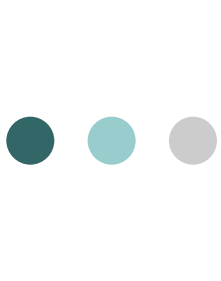
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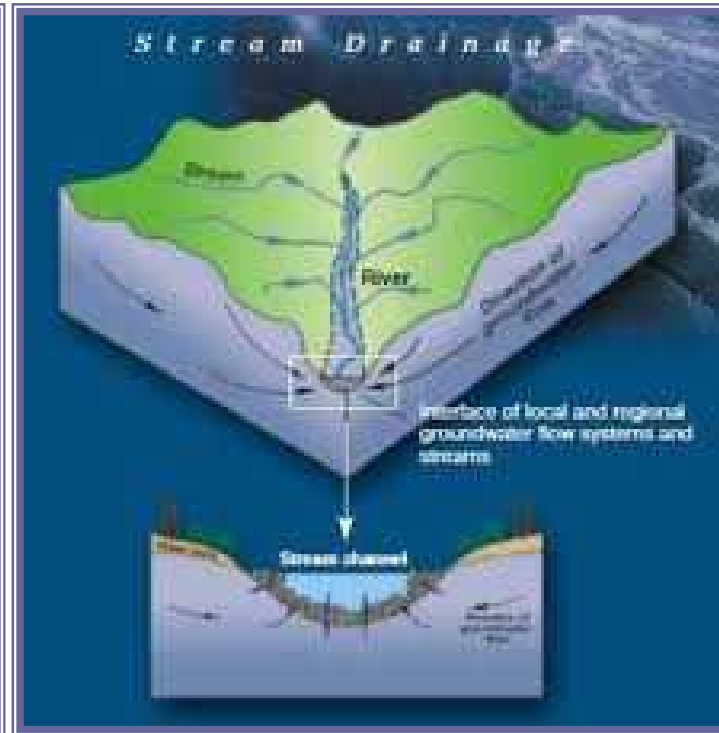


$\mu$   $\mu$   $\mu$

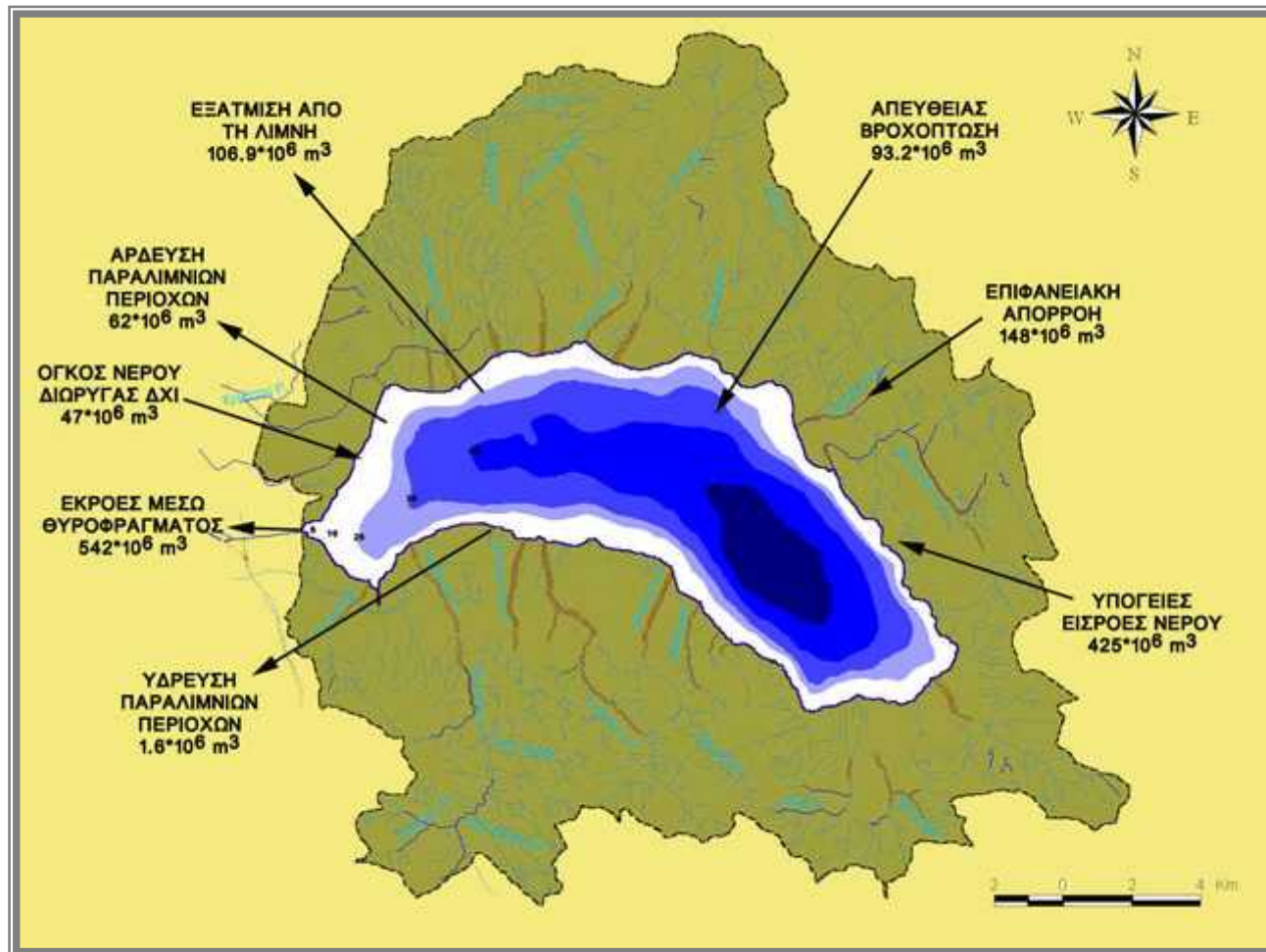
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(  $\mu$  ,  $\mu$  ) .

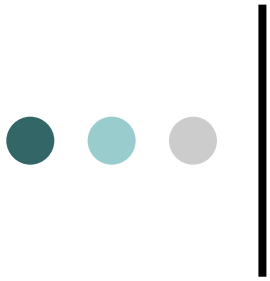












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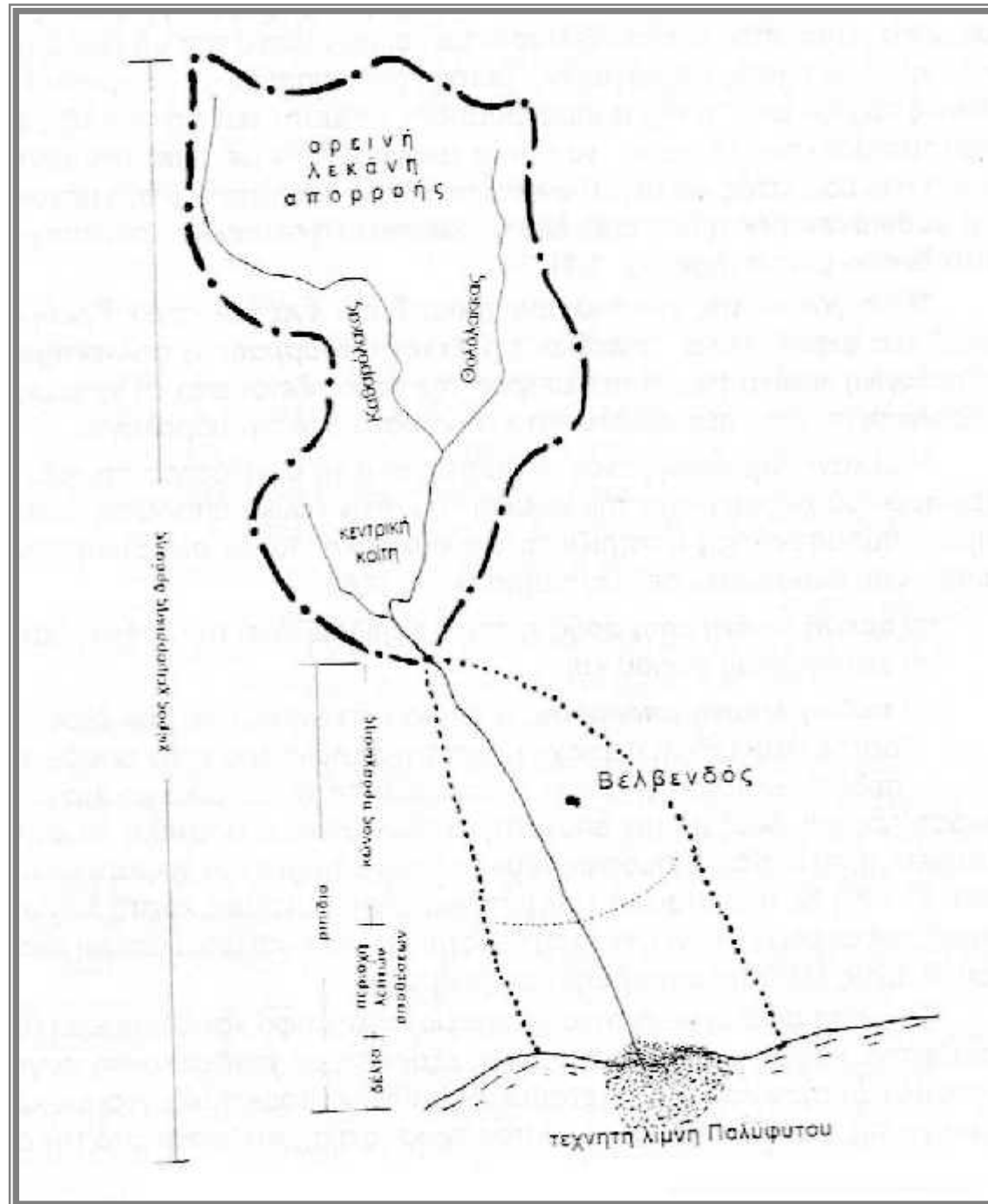
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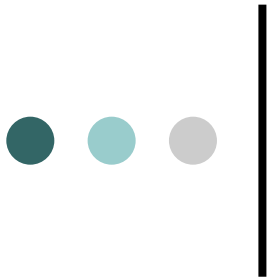
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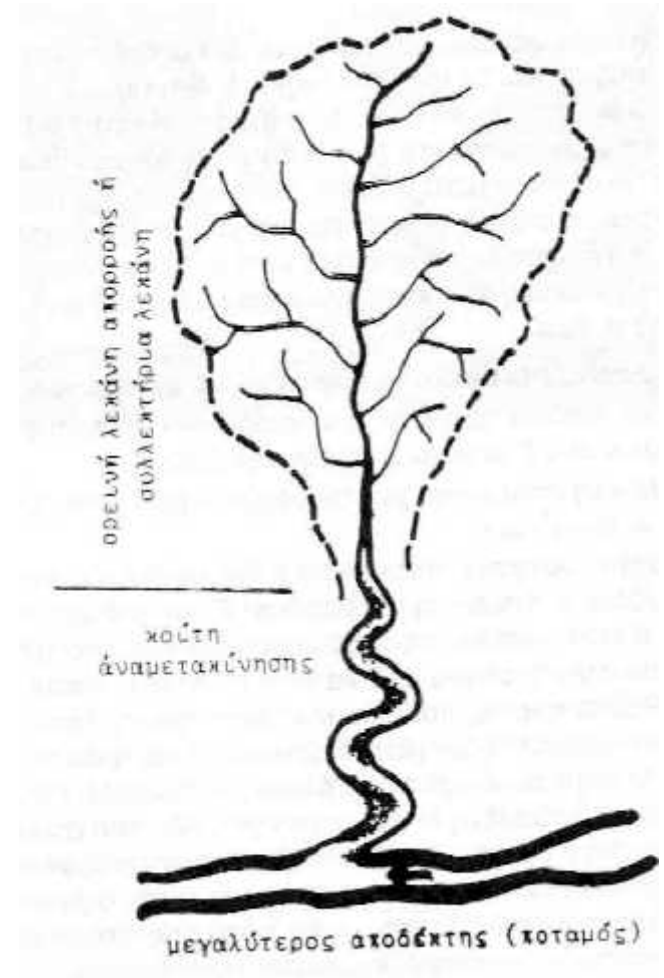
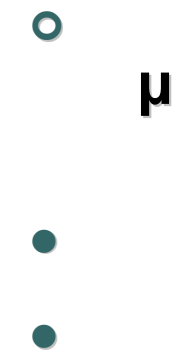
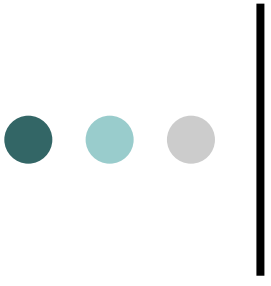
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$\mu$  ( $\sim 1000\text{m}$ ),  
 $\mu$  ( $1001\text{m} - 2000 \text{m}$ ),  
 $\mu$  ( $2001\text{m} - 3000\text{m}$ )  
 $\mu$  ( $> 3000\text{m}$ ).

(  $\mu$   $\mu$   $\mu$   $\mu$   $\mu$  ( $H_r$ )  
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 $\mu$  3 – 5 %  
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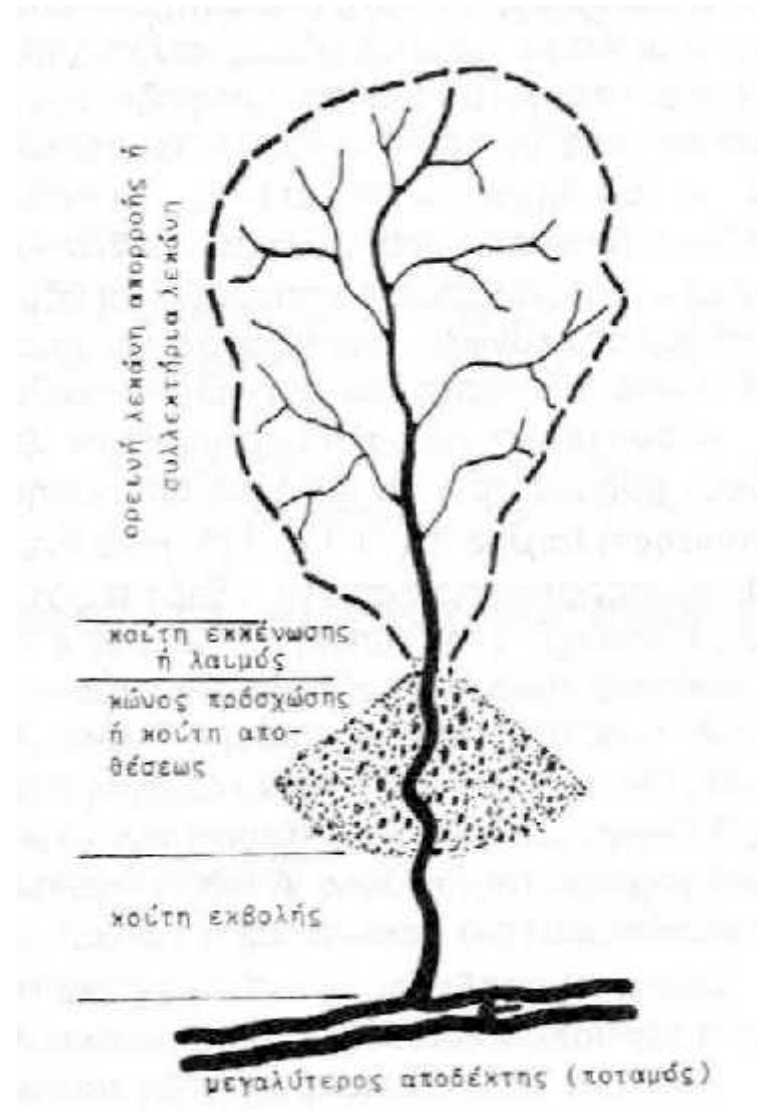
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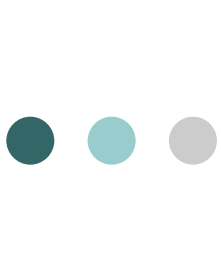
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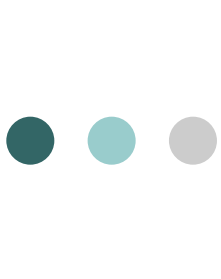
$\mu$  -  $\mu$

1.  $\mu$  (F, Km<sup>2</sup>),
2.  $\mu$  (  $\mu$  )

•  $F_N: \mu$  (Km<sup>2</sup>)

$U_N: \mu$  (Km)  $\frac{F_N}{U_N}$





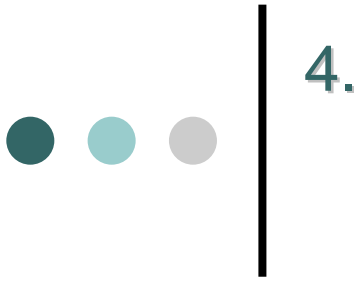
3.

$\mu$

- $\mu$   $(H_{\max}, m)$ ,
- $\mu$   $(H_{\min}, m)$ ,
- $\mu$   $(H_m, m)$

$$H_m = \frac{\sum (I_i \cdot H_i)}{\sum I}$$

$H_m$ :  $\mu$  (m)  
 $i$ :  $\mu$   $\mu$   $\mu$  (km)  
 $i$ :  $\mu$   $\mu$



(m)

$$J_{me} = \frac{\Delta H \cdot \sum I}{F}$$

$J_{me}$ :

$\mu$

$H$ :

$\mu$

$\mu$

(Km)

:

$\mu$

$\mu$

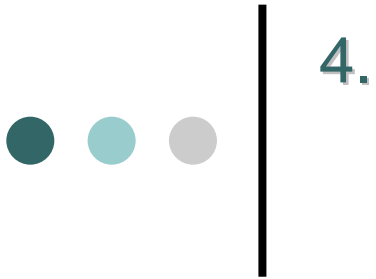
$\mu$

$\mu$

(Km)

$F$ :  $\mu$

(Km<sup>2</sup>)



(m)

$$J_{ms} = \frac{\sum (L \cdot J_s)}{\sum L}$$

$J_{ms}:$

$L:$

$J_s:$

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(m)





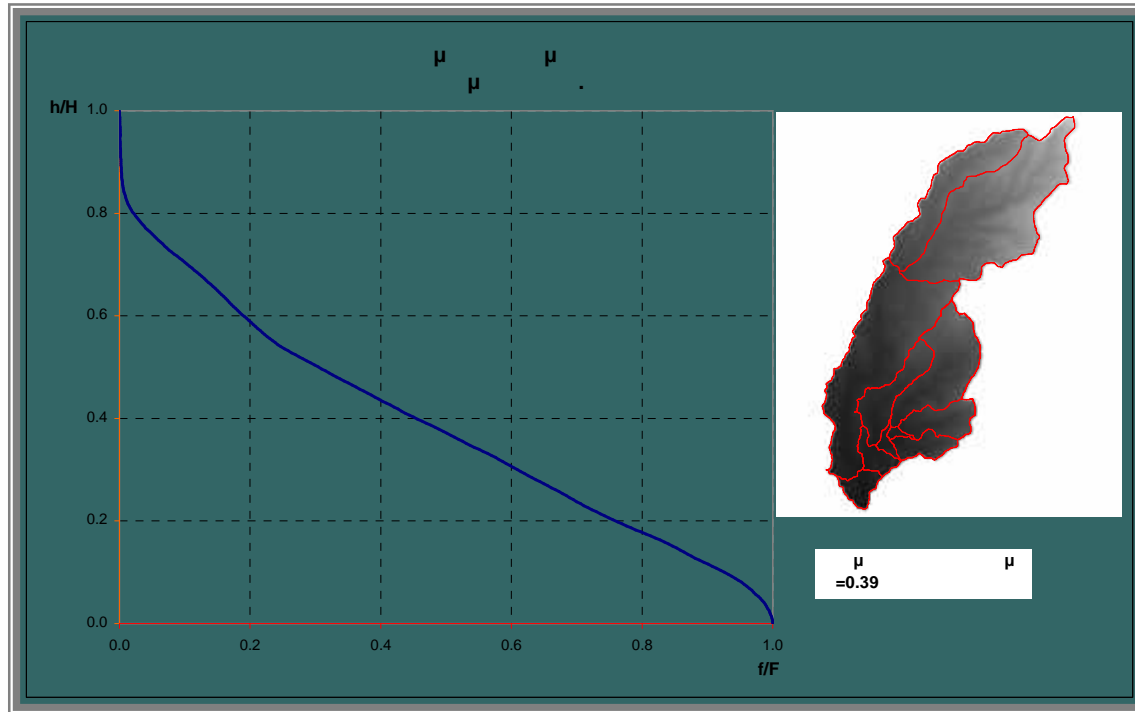
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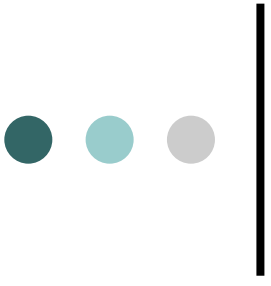
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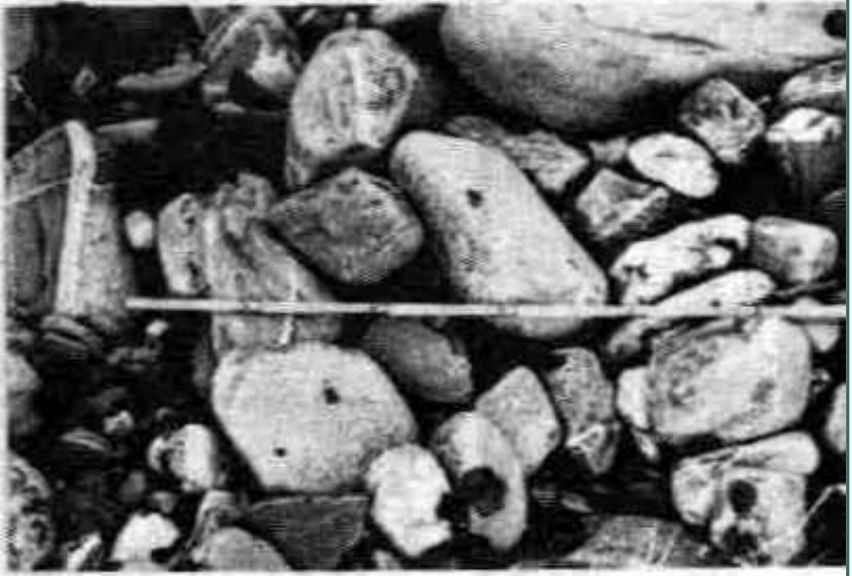
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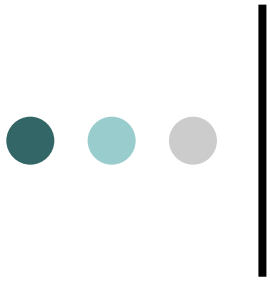
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ογκόλιθοι,  
κροκάλλες  
( $\geq 6,4$  cm)

πολύ μεγάλοι ογκόλιθοι	$400 \div 200$	cm
μεγάλοι ογκόλιθοι	$200 \div 100$	cm
μέσοι ογκόλιθοι	$100 \div 50$	cm
μικροί ογκόλιθοι	$50 \div 25$	cm
μεγάλες κροκάλλες	$25 \div 12,5$	cm
μικρές κροκάλλες	$12,5 \div 6,4$	cm

χάλικες  
( $6,4 \div 0,2$  cm)

πολύ μεγάλοι χονδροί	$6,4 \div 3,2$	cm
μέσοι	$3,2 \div 1,6$	cm
λεπτοί	$1,6 \div 0,8$	cm
πολύ λεπτοί	$0,8 \div 0,4$	cm
	$0,4 \div 0,2$	cm

άμμος  
( $0,2$ cm  $\div$   $62$ )

πολύ χονδρή	$0,2 \div 0,1$	cm
χονδρή	$0,1 \div 0,05$	cm
μέση	$0,05 \div 0,025$	cm
λεπτή	$250 \div 125$	$\mu$
πολύ λεπτή	$125 \div 62$	$\mu$

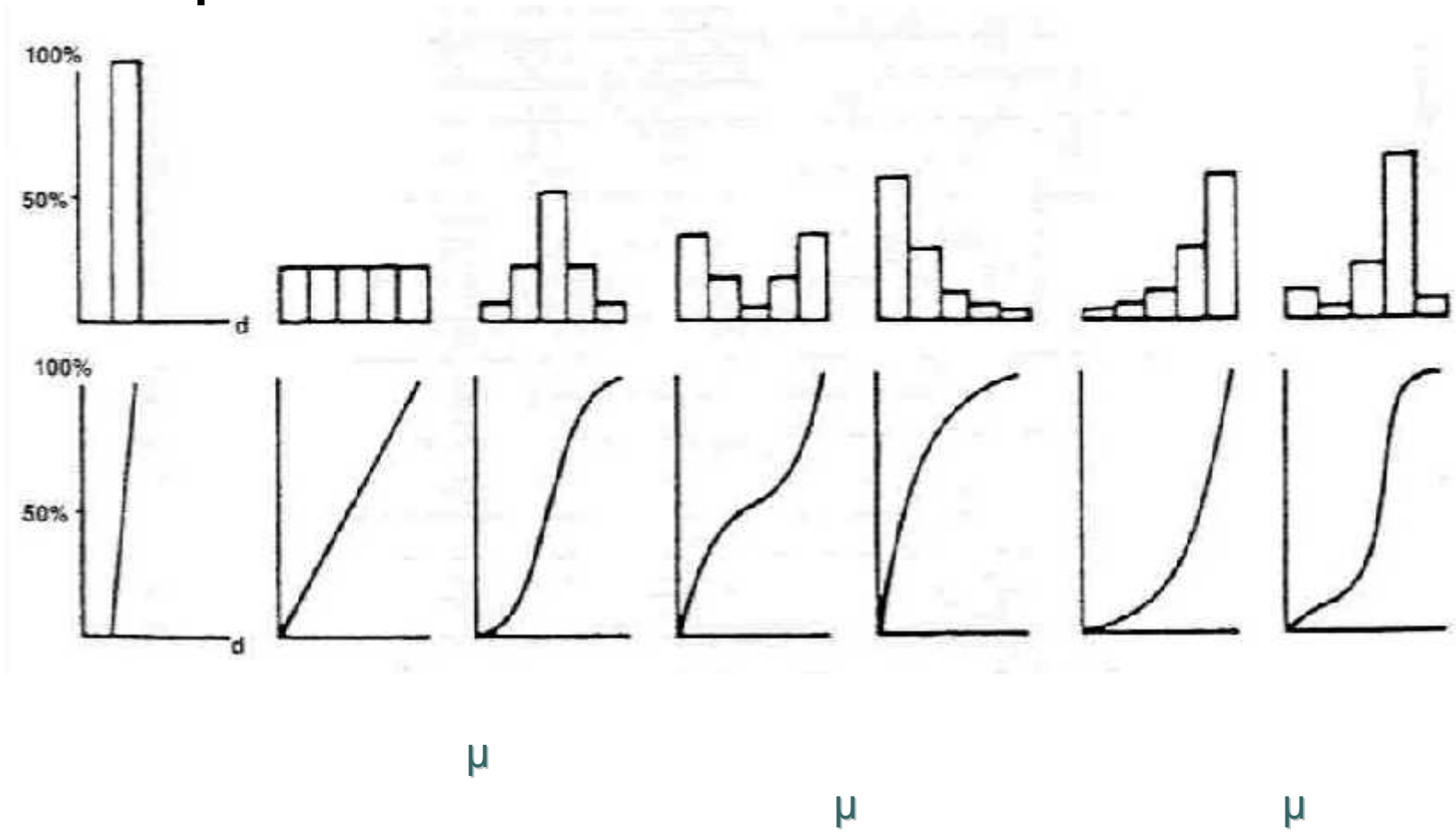
ιλύς  
( $62\mu \div 4\mu$ )

χονδρή	$62 \div 31$	$\mu$
μέση	$31 \div 16$	$\mu$
λεπτή	$16 \div 8$	$\mu$
πολύ λεπτή	$8 \div 4$	$\mu$

άργιλος  
( $4\mu \div 0,24 \mu$ )

χοντρή	$4 \div 2$	$\mu$
μέση	$2 \div 1$	$\mu$
λεπτή	$1 \div 0,5$	$\mu$
πολύ λεπτή	$0,5 \div 0,24$	$\mu$







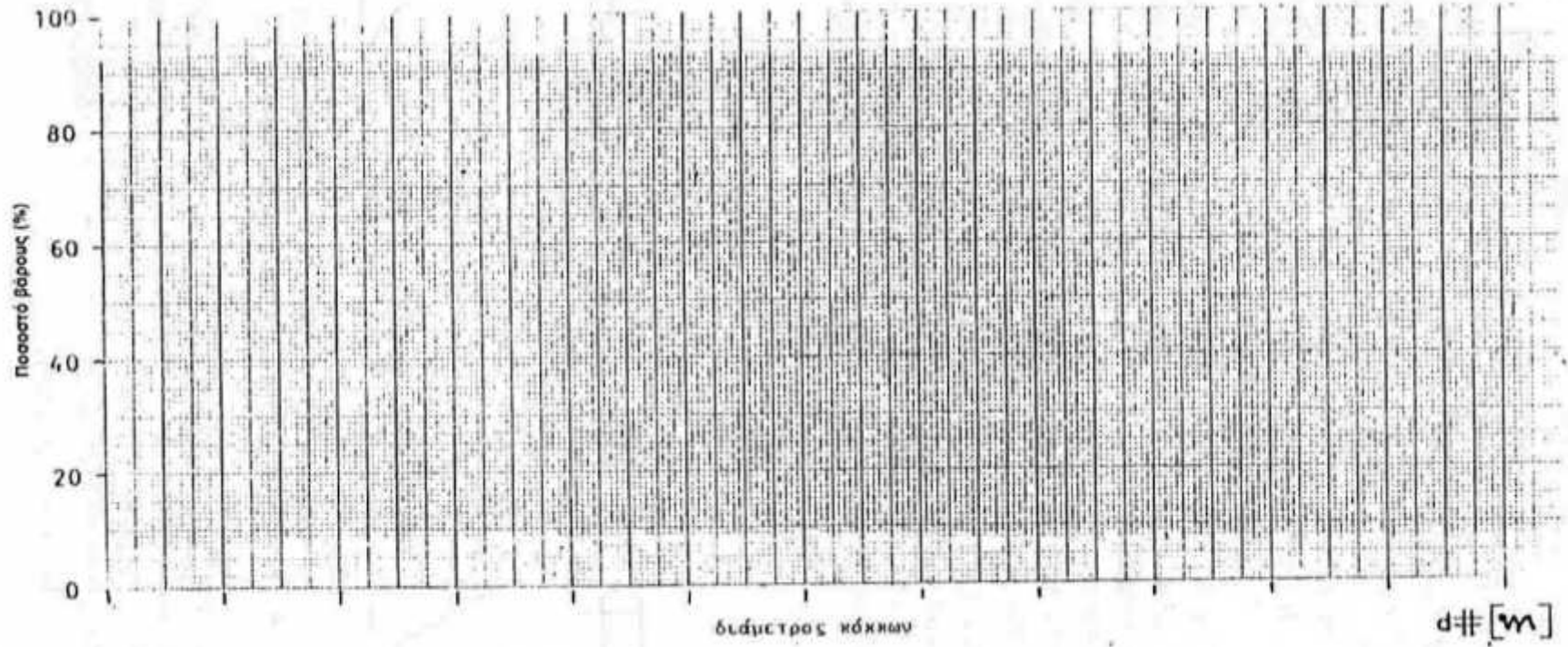
Προέλευση δείγματος:  
α/α εκσκαφής

Κατανομή φερτών υλών

Βαθμός εκσκαφής (m)  
Ημερομηνία:

$d_{max} =$   
 $d_{90} =$   
 $d_{10} =$

Παρατηρήσεις:



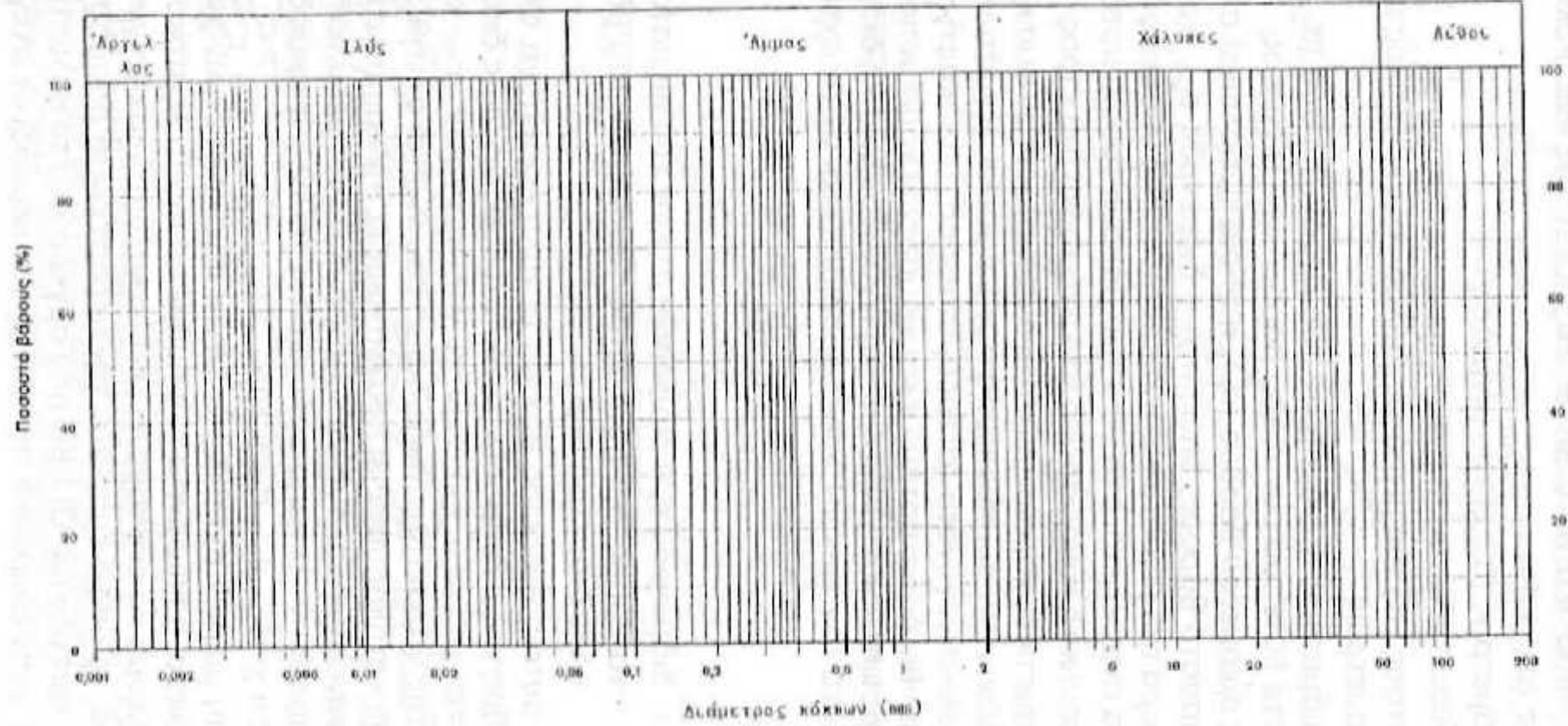
μ

μ

Παράθεση δείγματος:  
σ/σ σκαφής

Κατανομή φερτών υλών

Βαθμός εκσκαφής (m)  
Ημερομηνία:

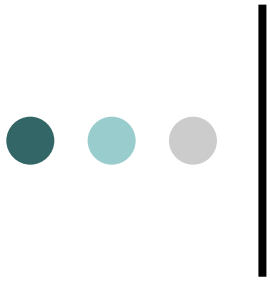


Ημερομηνία

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$\mu$   $d_m$ ,

Meyer – Petter

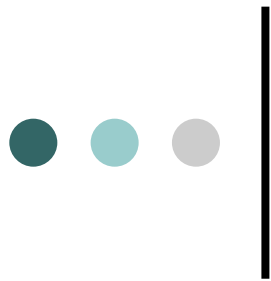
$\mu$  :

$$d_m = \frac{\sum d \cdot p}{100}$$

$d$ :  $\mu$   $\mu \mu$  (m)

$p$ :  
 $\mu \mu$   $\mu$





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d<sub>60</sub>

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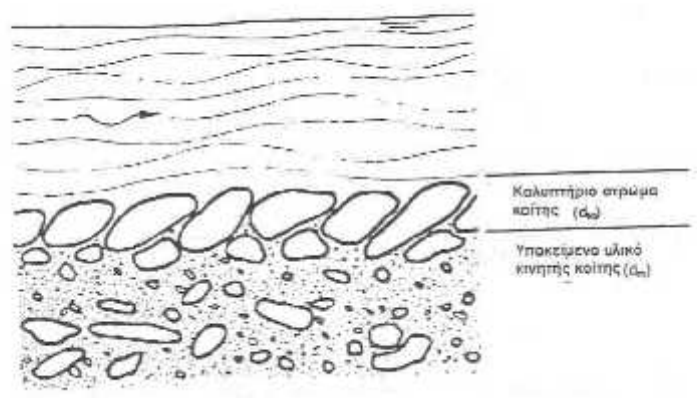
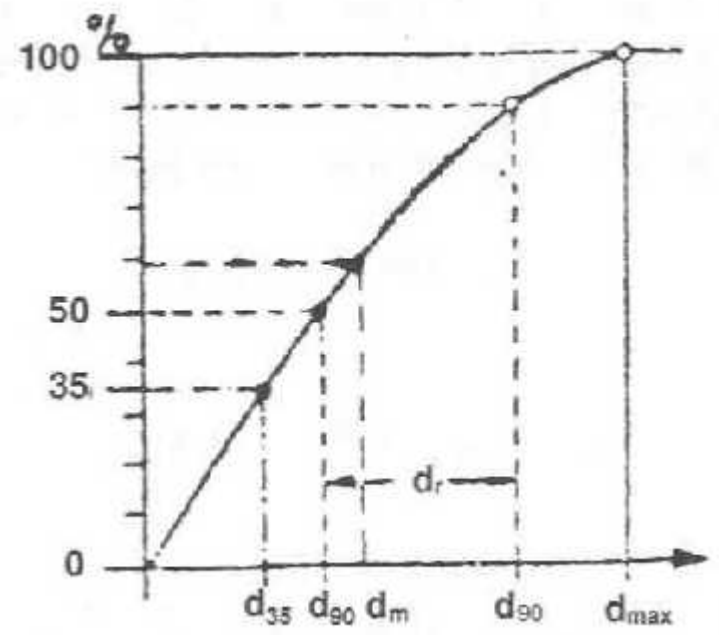
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d<sub>50</sub>, d<sub>90</sub>, .).

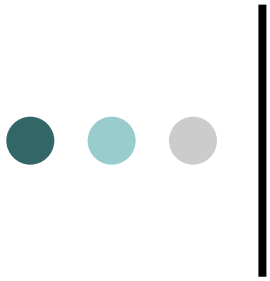




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Θέση δειγματοληψίας	Διάμετρος (mm)							
	καλυπτήριο στρώμα				αρχικό στρώμα			
	d <sub>max</sub>	d <sub>90</sub>	d <sub>m</sub>	d <sub>50</sub>	d <sub>max</sub>	d <sub>90</sub>	d <sub>m</sub>	d <sub>50</sub>
1. Συμβάλλοντες:								
- Σταυρούπολης (Γέρακα)	300	294	188	188	190	175	89	79
- Σμίνθης	420	378	249	253	300	182	161	
- Γλαύκης	400	373	202	190	290	270	137	
2. Κεντρική κοίτη:								
- άνω τμήμα	390	360	236	243	220	158	121	60
- κάτω τμήμα	590	561	291	274	490	211	102	80
3. Πεδινή περιοχή:								
- γέφυρα	420	405	270	380	380	325	117	63
- κατάντη φράγματος	160	142	64	60	180	110	29	2
- Πολύσιτος	63	58	33	32	100	46	24	16
- Αναστασιούπολη (δέλτα)	96	24	14	8	80	5	2	1
- όχθες δέλτα	14	2,1	1,1	0,9	0,9	1,5	0,9	0,8



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1.  $\mu$   $\mu$  ( $\mu$  , , ),

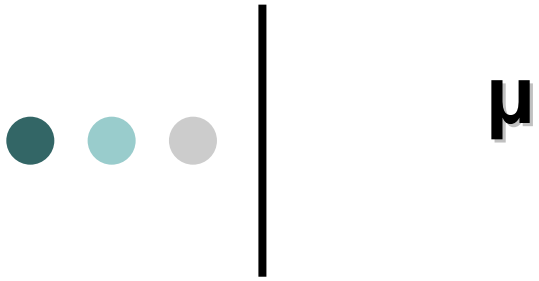
2. ,  $\mu$  ,

3. ,

4. ( $\mu$  )

5.  $\mu$  .





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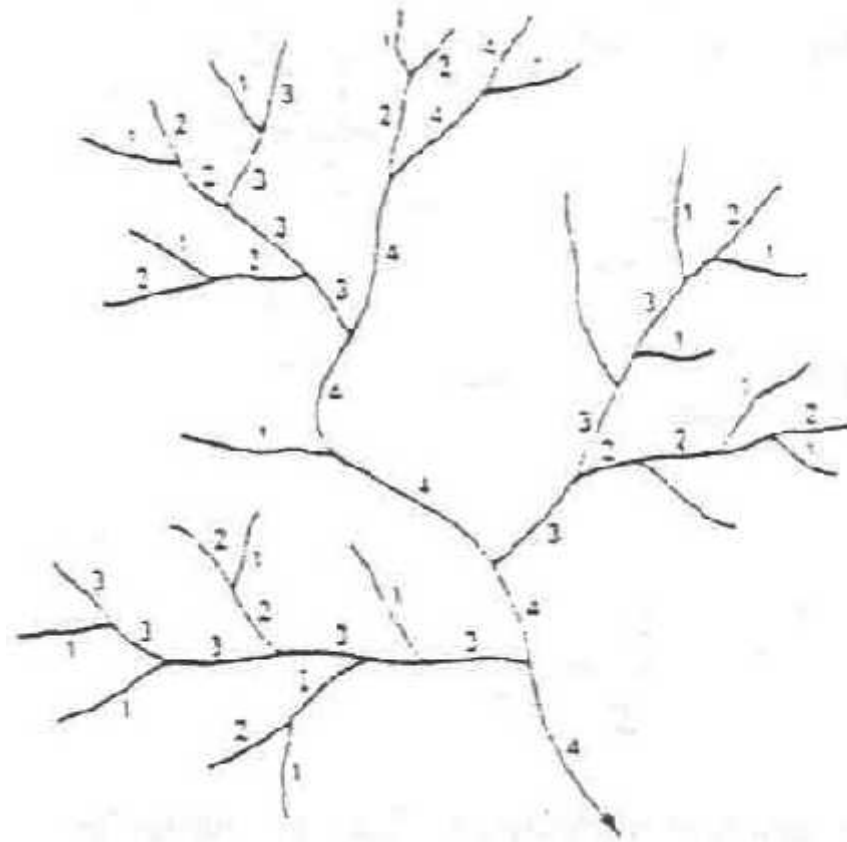
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Horton

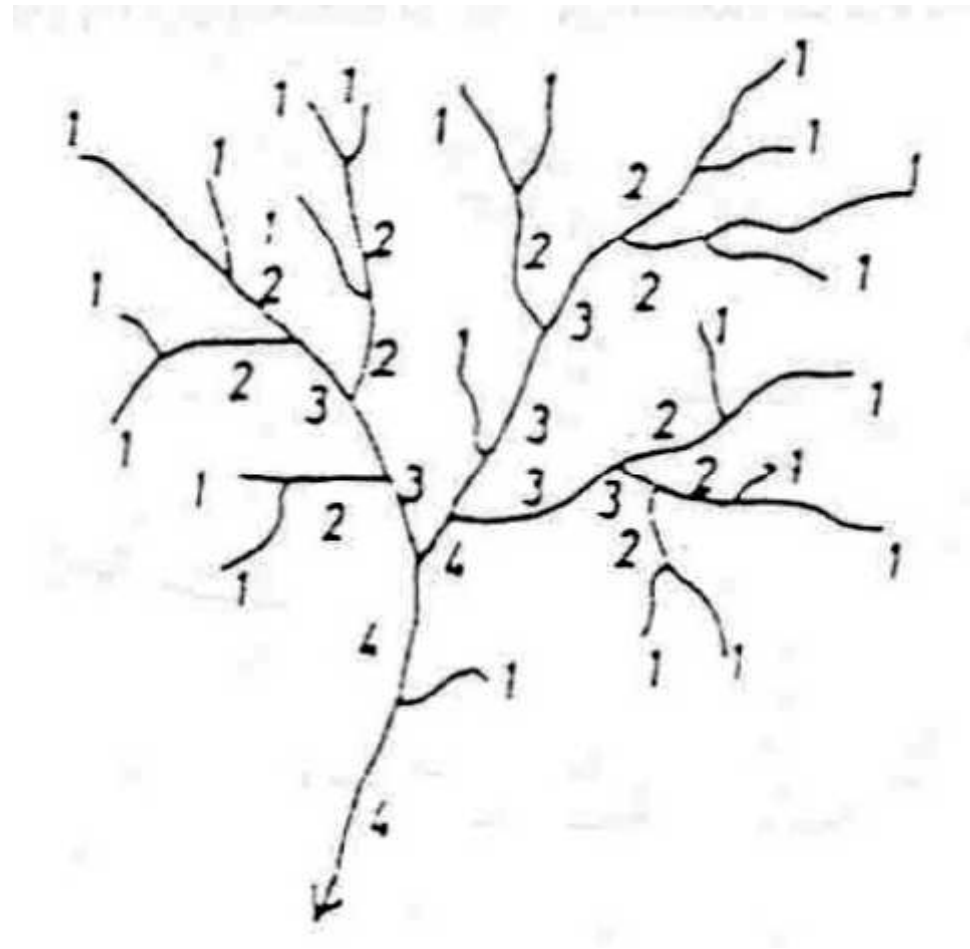




2.

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Strahler

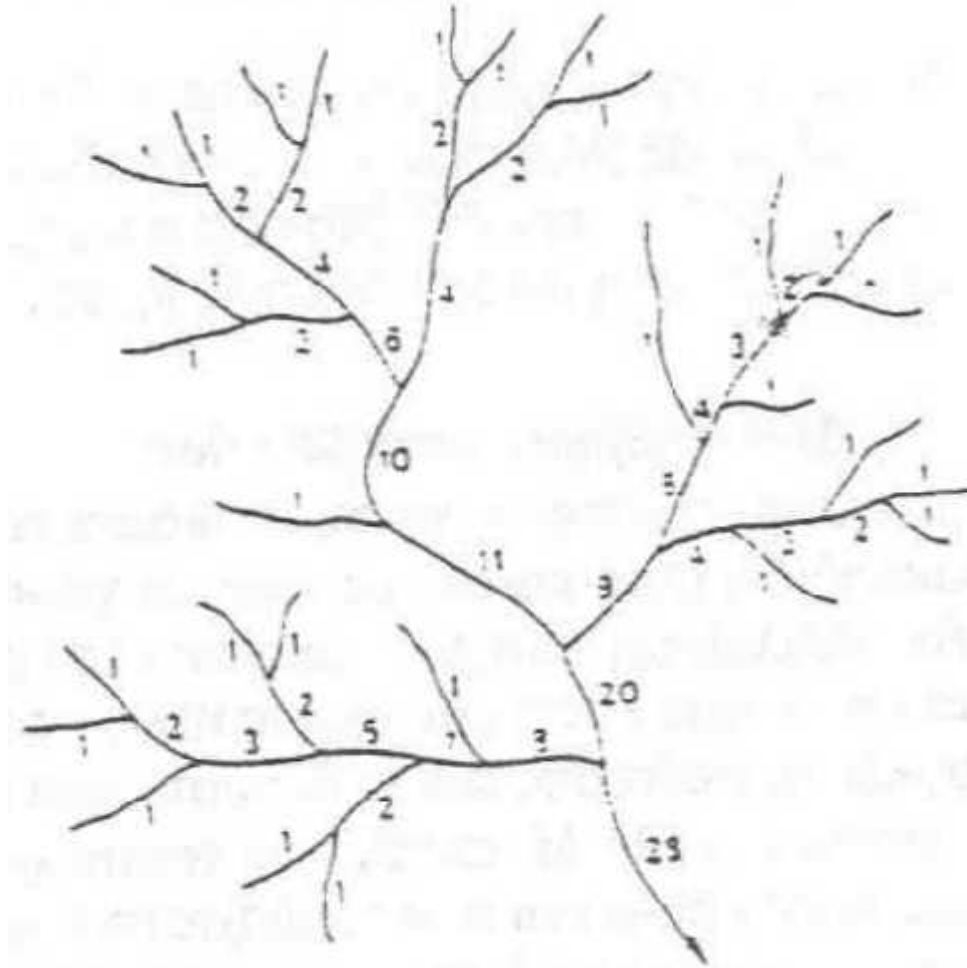




3.

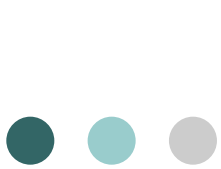
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Shreve









○

**n:**

(n = 1,2,3,...., ,

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$\mu$

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$\mu$

**$F_n$ :**

$\mu$

$\mu$

○

$\mu$

**$N_n$**

**n:**

$\mu$

n,

$\mu$

$\mu$

,

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$N_2=3, N_1=7.$

○

$\mu$

**$L_n$**

**n:**

$\mu$

$\mu$

( km)  $\mu$

$\mu$

n

$\mu$

$\mu$

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$L_1$

$\mu$

$\mu$

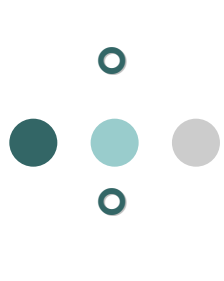
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$\mu$

**$L_n$**

**n (Km):**

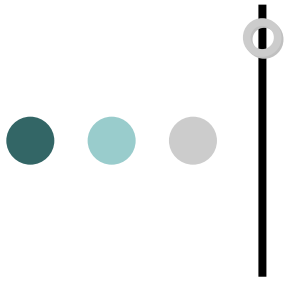
$$\overline{L_n} = \frac{L_n}{N_n}$$



$$(\Sigma L)_n = L_1 + L_2 + L_3 + \dots + L_n$$

$$(R_b) = \frac{N_n}{N_{n+1}}$$

$$R_L = \frac{\sum \bar{L}_n}{\sum \bar{L}_{n-1}}$$



⋮

$\mu$

$R_F$

⋮

$$R_F = \frac{\bar{F}_n}{\bar{F}_{n-1}}$$



$n$

⋮

$\mu$

$\mu$

$\mu$

$n$

⋮

$$E_n = \frac{(\sum N)_n}{F_n} \quad (\text{Km}^{-2})$$



$D_n$

⋮

$\mu$

$\mu$

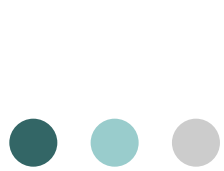
$n$

$\mu$

$F_n$

$\mu$

$$D_n = \frac{(\sum L)_n}{F_n} \quad (\text{Km}^{-1})$$



$\mu$

# Horton

1.

$\mu$

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$\mu$

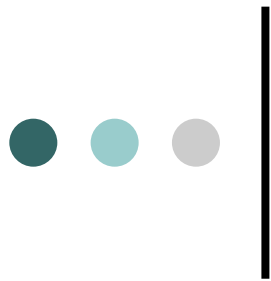
Horton)

$$N_n = R_b^{(k-n)}$$

- $N_n$ :  $\mu$   $\mu$   $\mu$   $n$
- $K$ :  $\mu$
- $n$ : ,  $\mu$   $\mu$
- $R_b$ :

$$R_b = \frac{n \cdot N_n}{N_{n+1}}$$





$\mu$

# Horton

3.

$\mu$

(3

$\mu$

Horton)

$$\bar{F}_n = \bar{F}_1 \cdot R_{F^{(n-1)}}$$



$F_n:$

$\mu$

$\mu$

n

$$\bar{F}_n = \frac{F_n}{N_n}$$



$F_1:$

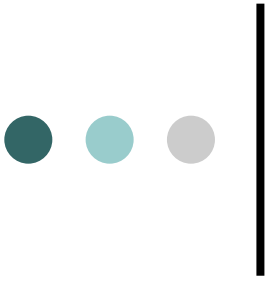
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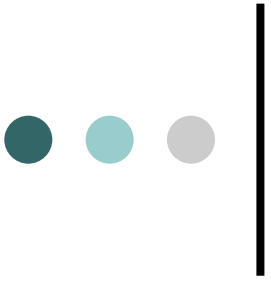
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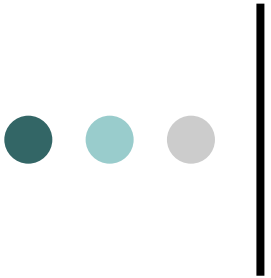
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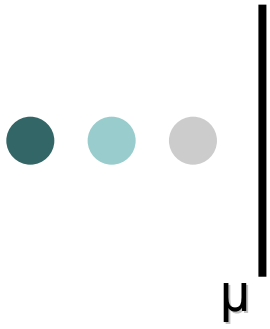
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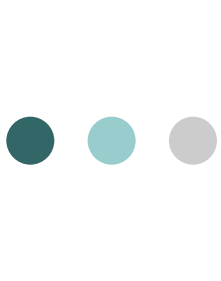
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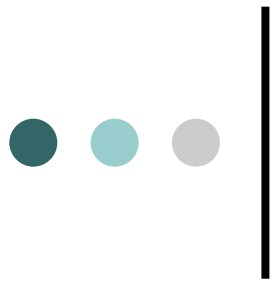
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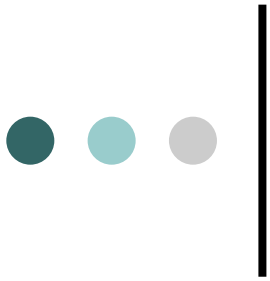


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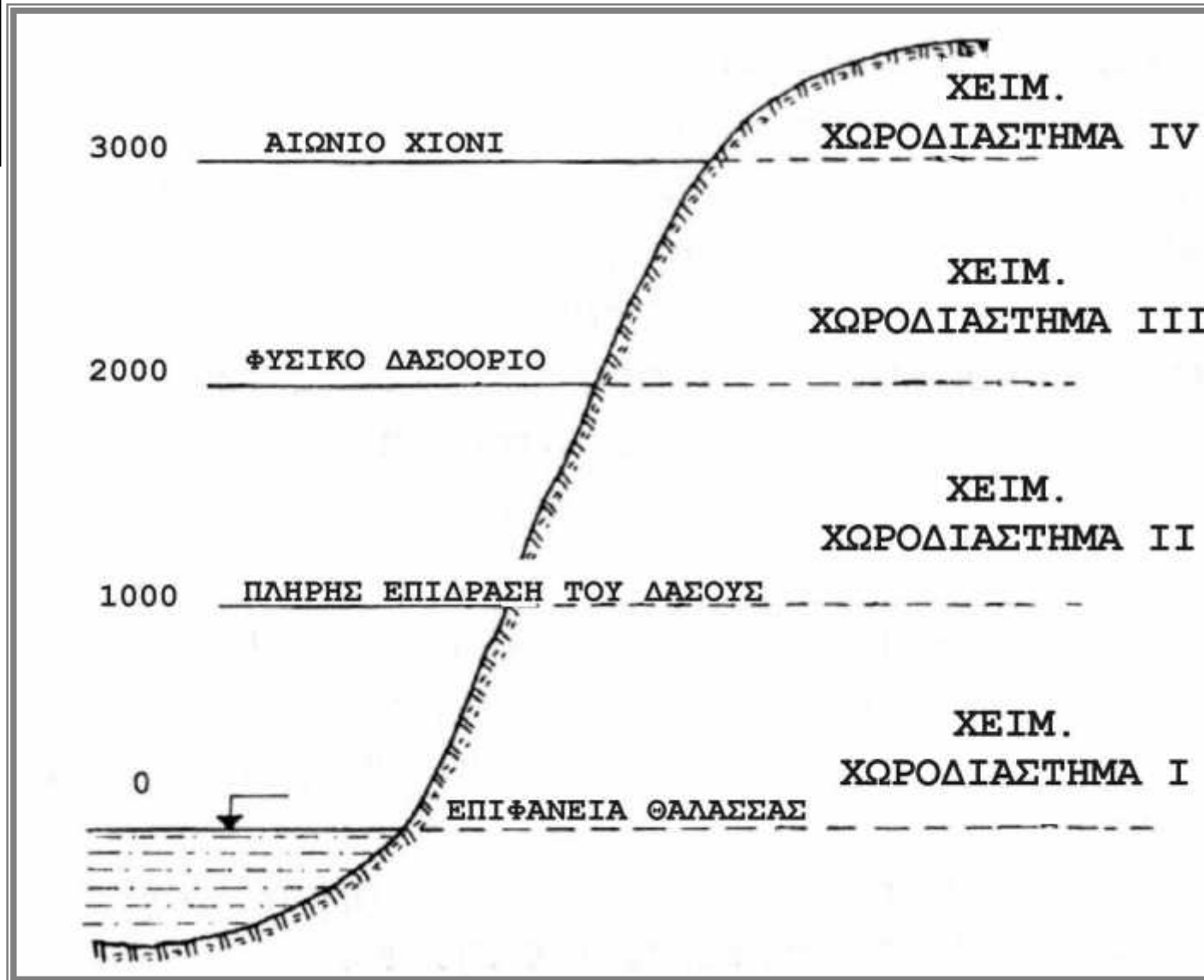
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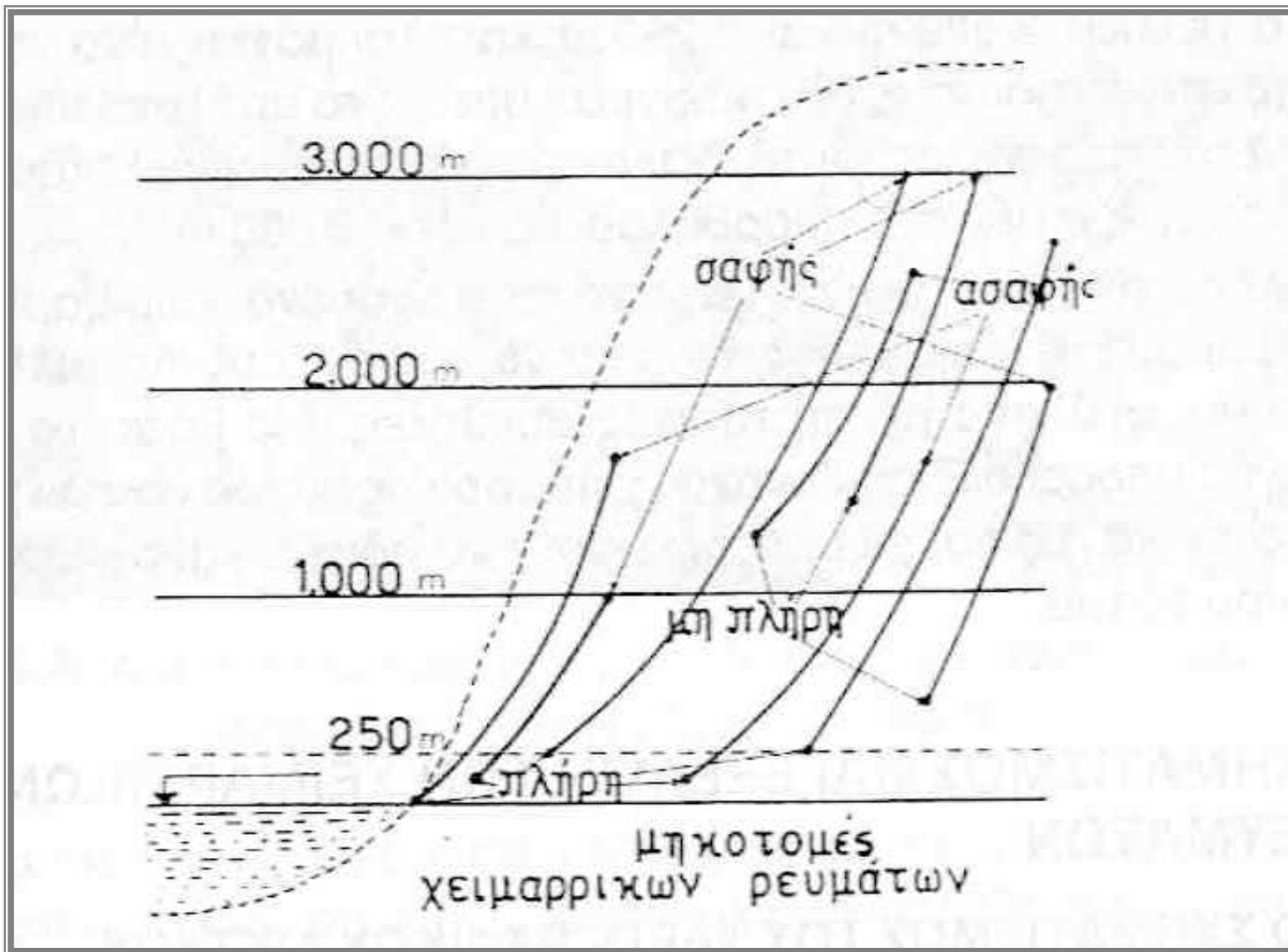


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2.  $\mu$  ( $\mu$ ): 1000 ~ 2000m.
3.  $\mu$  ( $\mu$ ): 2000 ~ 3000m.
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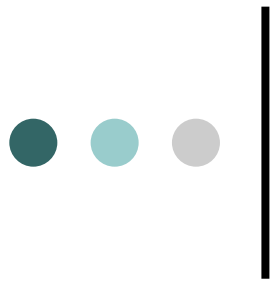








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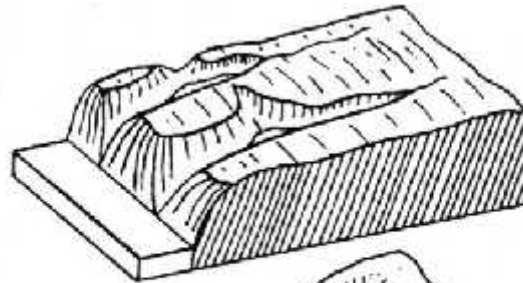
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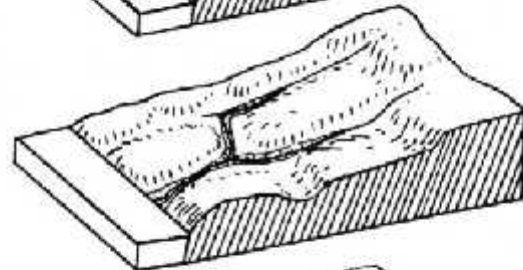
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(Derrua, 1958)

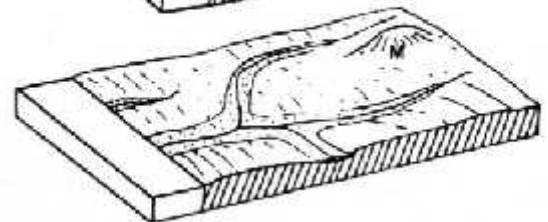
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Α. Στάδιο νεότητας



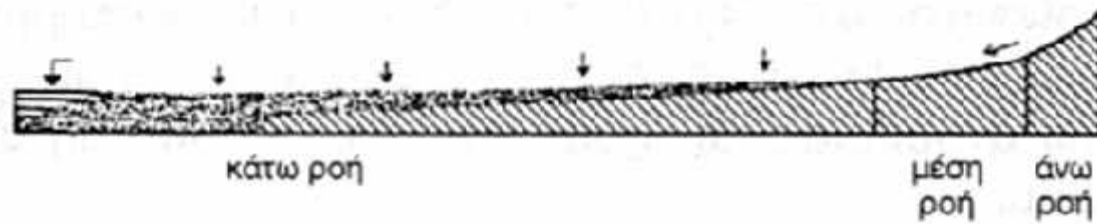
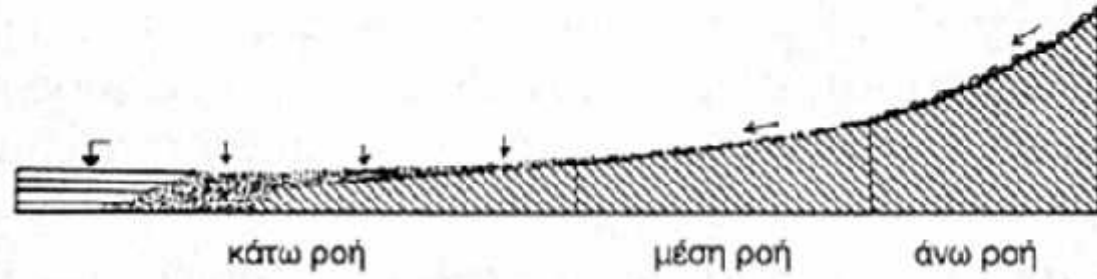
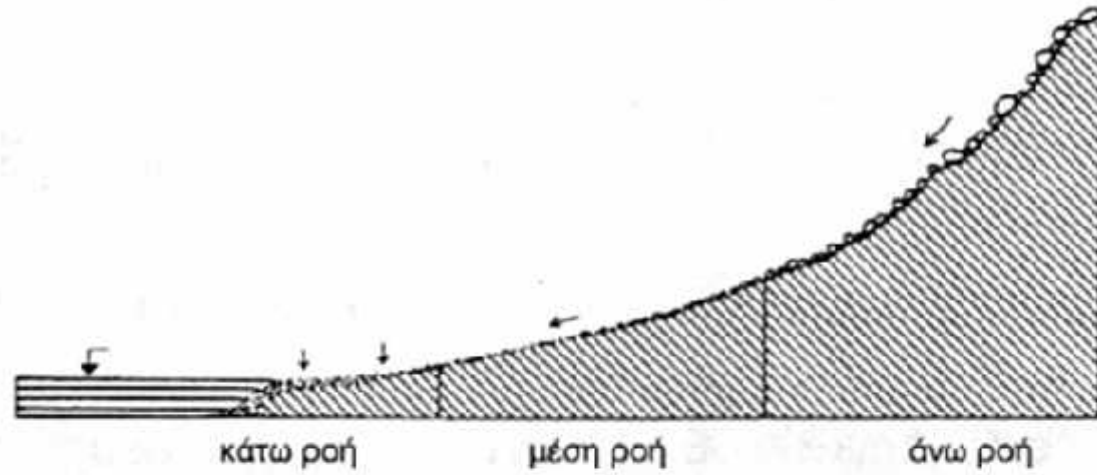
Β. Στάδιο ωριμότητας



Γ. Στάδιο γήρατος

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(Wagner, 1960)

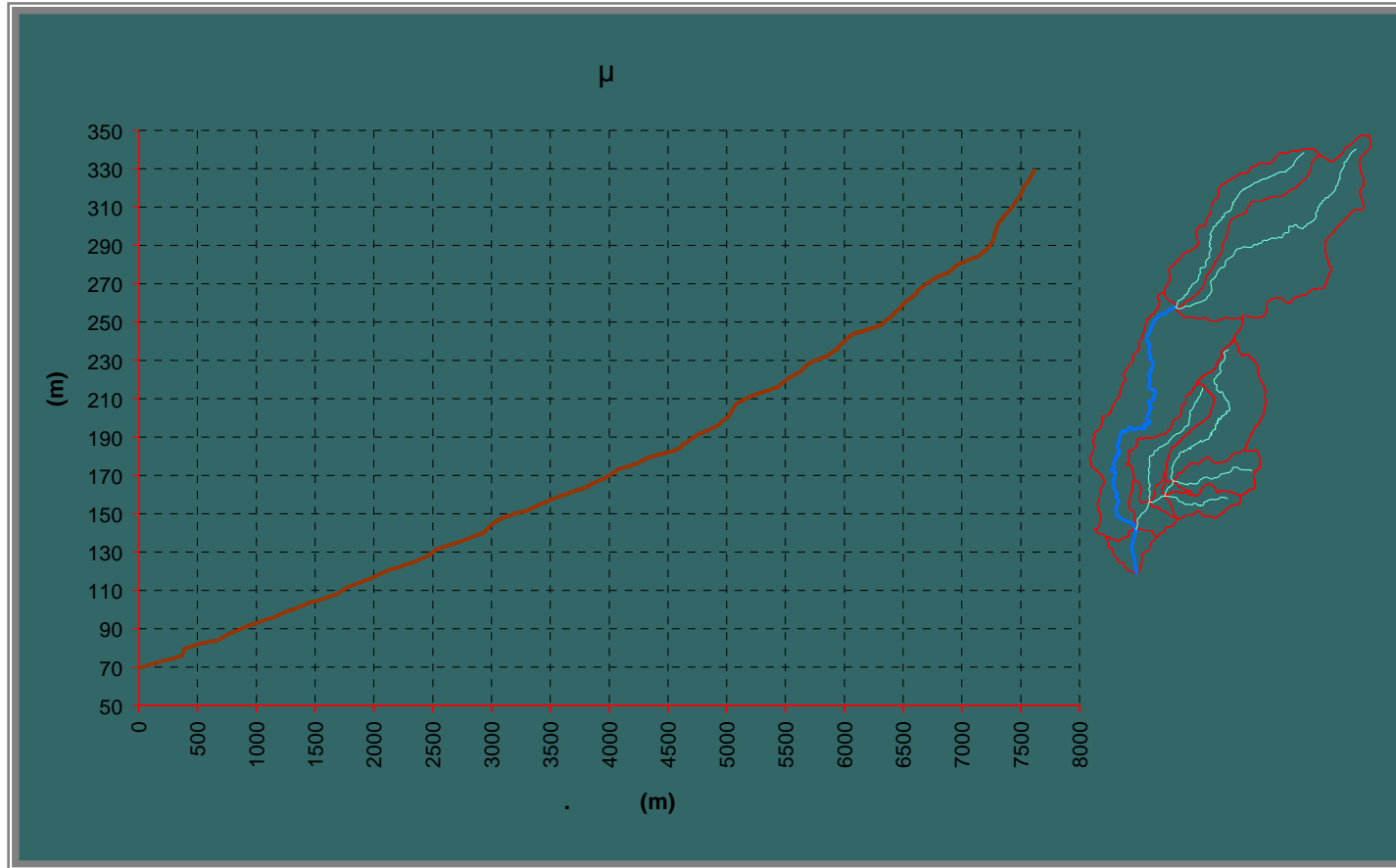
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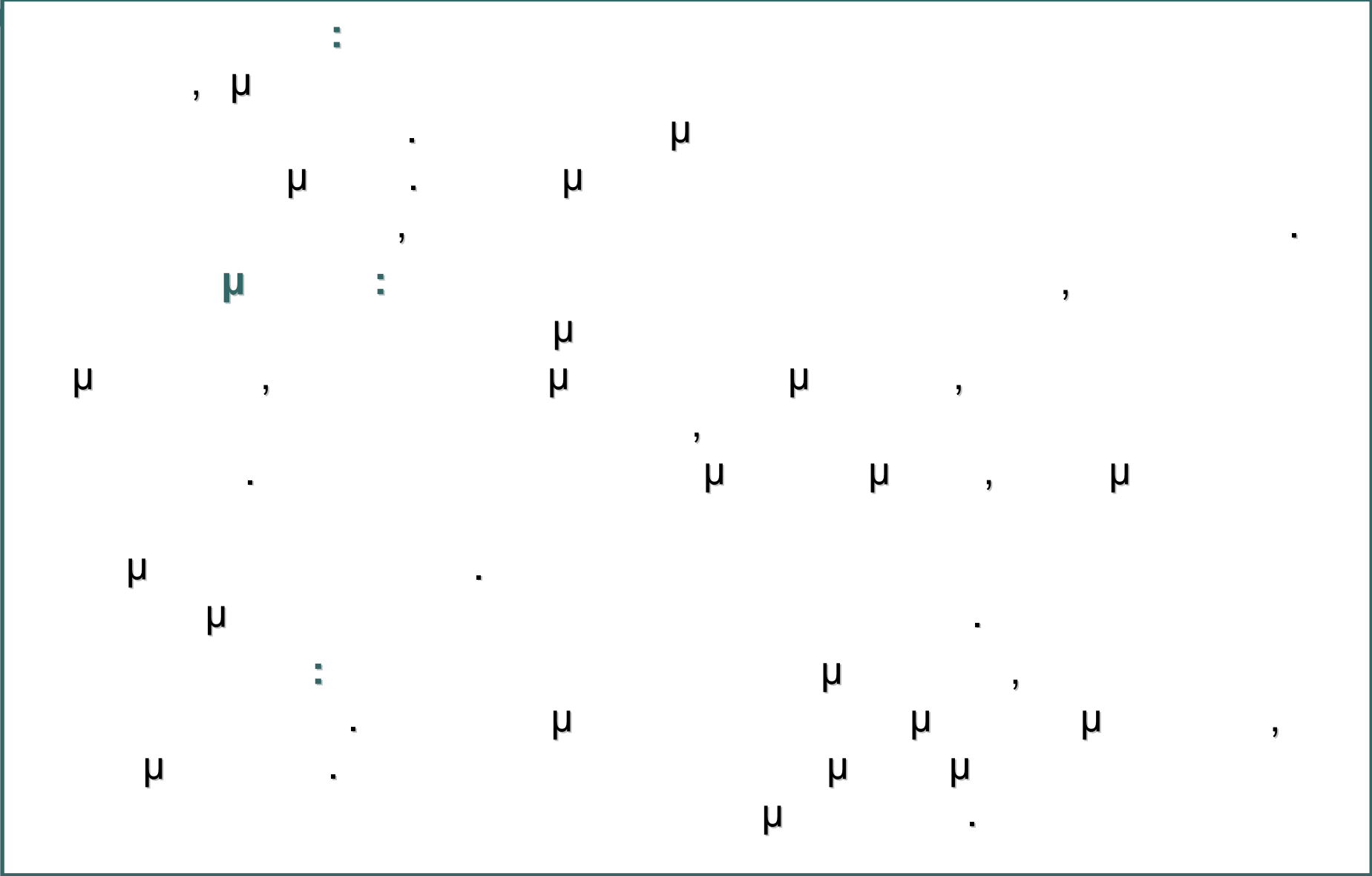


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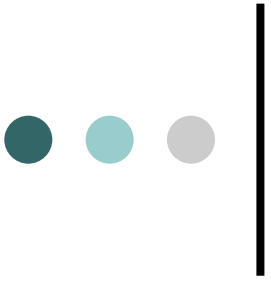












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Βαθμίδες υψομέτρου (m)	Είδος χώρου	Ποσοστό επιφάνειας (%)	Μέση κλίση εδάφους (%)
<200	πεδινός	34,58	<3
201 ÷ 600	λοφώδης	34,83	<8
601 ÷ 1000	ημιορεινός	19,61	9 ÷ 15
1001 ÷ 1500	ορεινός	6,93	16 ÷ 30
1501 ÷ 2000	πολύ ορεινός	3,55	30 ÷ 40
2001 ÷ 2500	κάτω αλπικός	0,35	41 ÷ 65
2501 ÷ 3000	άνω αλπικός	0,15	>65

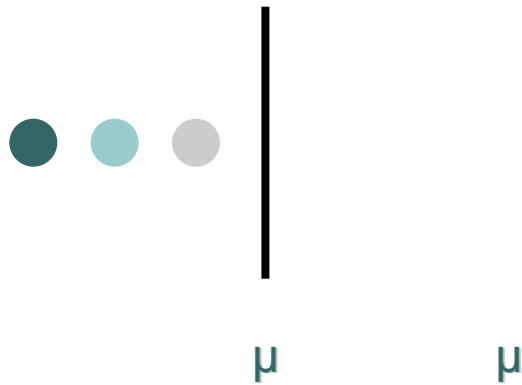


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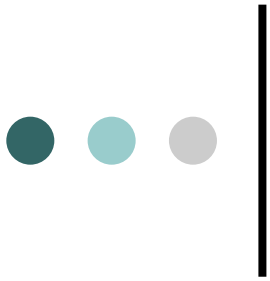
Βαθμίδες υψομέτρου (m)	Μέσο ετήσιο ύψος βροχής (mm)	Μέσος ετήσιος αριθμός ημερών με τουλάχιστον 10 mm βροχής	Μέση ετήσια θερμοκρασία αέρα (°C)	Ετήσιο θερμομετρικό εύρος (°C)
<200	<760	<23	>16,2	<29,0
201 + 600	761 ÷ 1050	23 + 30	16,1 + 13,6	29,0 + 30,0
601 + 1000	1051 ÷ 1320	30 + 37	13,5 + 10,8	30,0 + 30,7
1001 + 1500	1321 ÷ 1680	38 + 46	10,7 + 7,6	30,7 + 31,8
1500 + 2000	1681 ÷ 2020	47 + 55	7,5 + 4,3	31,8 + 33,0
>2000	>2021	>55	>4,3	>33,0



Βαθμίδες μέσου ετήσιου ύψους βροχής (mm)	Ποσοστό έκτασης %
<400	1,72
401 + 600	21,76
601 + 800	32,74
801 + 1000	17,84
1001 + 1400	22,32
> 1401	3,62



Χειμαρρικός πετρολογικός σχηματισμός	Ποσοστό έκτασης (%)
ασβεστολιθικός	19,50
φλυσχικός	8,48
σχιστολιθικός	18,35
νεογενής	24,00
πυριγενής	12,58
προσχώσεις	15,87
διάφορα	1,22



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