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(wetland)





[ ]

$$A = -\left(\frac{Q}{\lambda}\right) \ln\left(\frac{P_t - P_b}{P_i - P_b}\right) \quad (1)$$

A
 $P_b$ 
 $t$ 
 $\lambda$ 
 $P_t$ 
Q

[ ]  $P_t$

(Plug-flow)

$$\ln\left(\frac{C - C^*}{C_i - C^*}\right) = \frac{-K_a}{q} \quad (2)$$

$C^*$ 
 $C$ 
 $C_i$ 
q
 $K_a$

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$$C_{end} = C_{start} \exp\left(\frac{-k_{at} A_{wet} \Delta t}{V_{wet}}\right) \quad ( )$$

$K_{at}$        $C_{start}$        $C_{end}$        $A_{wet}$   
 [ ]       $V_{wet}$        $\Delta t$

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(Coastal Wetland)

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(Holocene)

(Pleistocene)

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(Hypereutrication)

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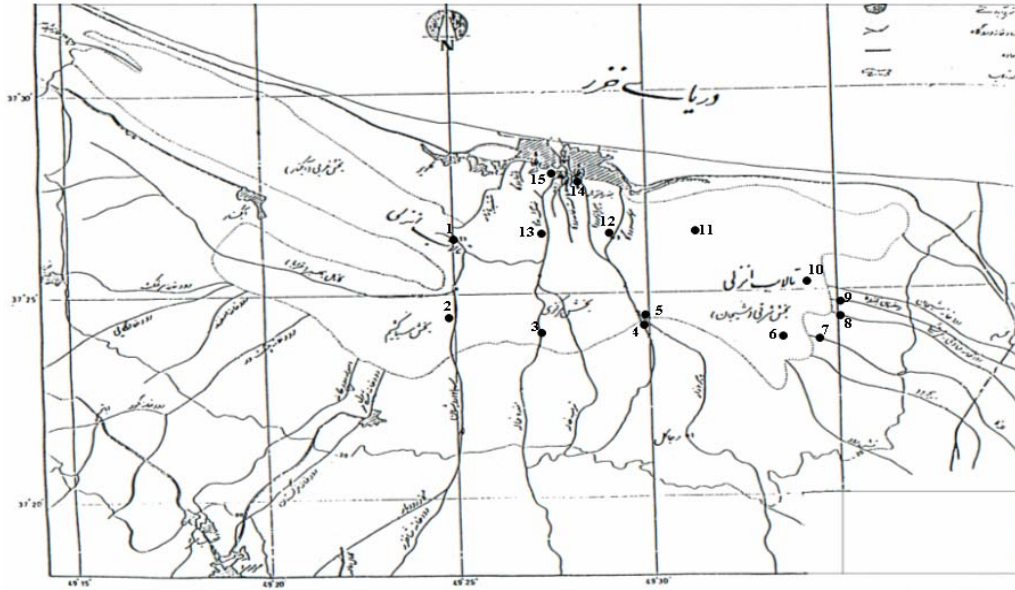
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(GPS)

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 pH EC TDS DO BOD<sub>5</sub> COD

[ ]

Cluster )

(Principal Component Analysis)

(Analysis

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(PCA)



"

( )

P

( )

q

( )

PCA

( )

%

) PC

PC

(

%

Biplot

( )

PC<sub>2</sub> PC<sub>1</sub>

Biplot

PC<sub>2</sub> PC<sub>1</sub>

(Ward)

SPSS

[ ]

STATGRAPHICS SAS EXCEL



\*  
SAS  
%  
%  
%  
( )  
Cu Ni Cd TP BOD<sub>5</sub> Cr Pb  
" COD  
TDS EC pH DO  
TDS EC  
PC<sub>2</sub> PC<sub>1</sub>  
COD BOD<sub>5</sub>  
PC<sub>2</sub>  
% PC<sub>1</sub>  
PC<sub>2</sub>  
PC<sub>2</sub> PC<sub>1</sub>  
" COD BOD<sub>5</sub>  
PC<sub>2</sub> PC<sub>1</sub> ( )



PC<sub>2</sub> PC<sub>1</sub> :

/	/	/	/	/	/	/	PC <sub>1</sub>
- /	- /	- /	- /	- /	- /	- /	PC <sub>2</sub>
	BOD <sub>5</sub>	COD			DO	EC	
/	/	/	/	/	- /	/	PC <sub>1</sub>
- /	/	/	- /	- /	- /	/	PC <sub>2</sub>
		TDS				pH	
/	/	/	/	/	/	- /	PC <sub>1</sub>
- /	- /	/	/	/	/	- /	PC <sub>2</sub>

PC<sub>2</sub> PC<sub>1</sub>

PC<sub>1</sub>= / TP + / Pb + / Ortho.P + / O.N + / NO<sub>2</sub> - / DO +  
 / Cu + / Cr + / COD + / BOD<sub>5</sub> + / NH<sub>3</sub> + / Zn  
 + / Cd  
 PC<sub>2</sub>= - / NO<sub>3</sub> + / EC + / COD + / K + / Na + / TDS -  
 / Cu

PC<sub>1</sub> "

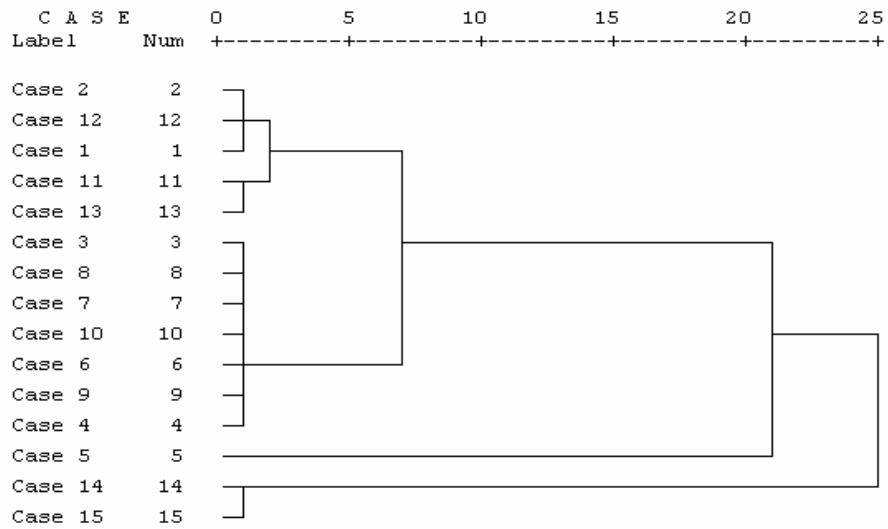
( ) . PC<sub>1</sub>

PC<sub>2</sub> PC<sub>1</sub> Biplot ( ) PC<sub>2</sub> PC<sub>1</sub>

PC<sub>2</sub> PC<sub>1</sub>



Squared Euclidean Distance



PC<sub>2</sub> PC<sub>1</sub>

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Biplot  
PC<sub>1</sub>

PC<sub>1</sub>

PC<sub>1</sub>

PC<sub>1</sub>

PC<sub>1</sub>

PC<sub>2</sub>

TDS EC

PC<sub>2</sub>

TDS EC

PC<sub>2</sub>

EC

PC<sub>2</sub>

TDS

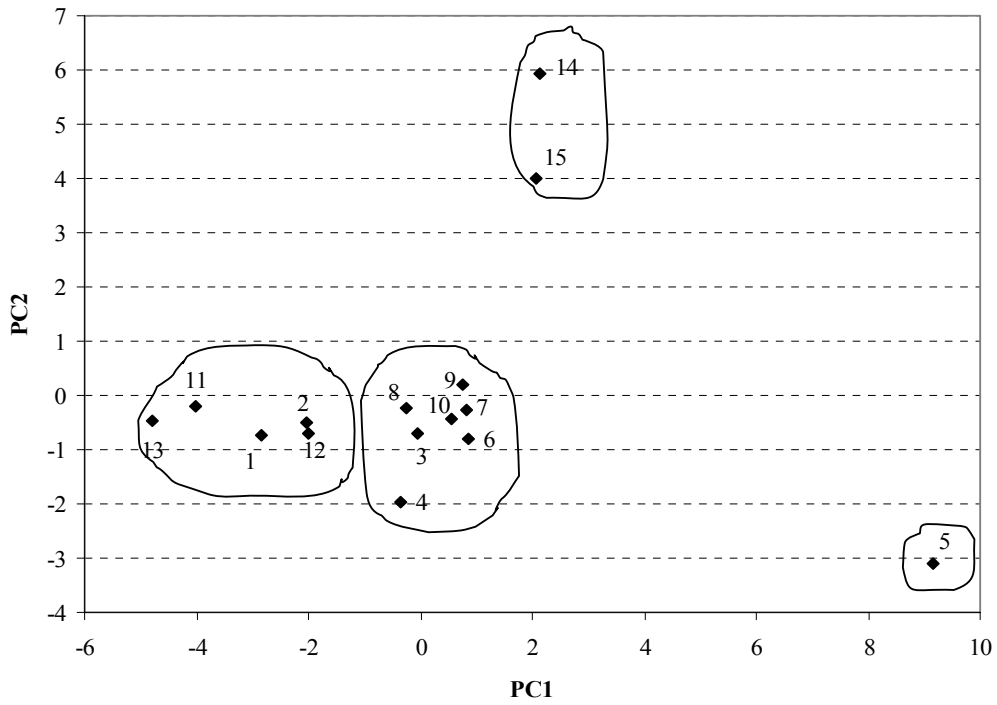
PC<sub>1</sub>



Biplot

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PC<sub>2</sub> PC<sub>1</sub> Biplot :  
PC<sub>2</sub> PC<sub>1</sub>

Cd TP BOD Cr Pb

COD Cu Ni

BOD<sub>5</sub> COD BOD<sub>5</sub> EC TDS

COD



DO

DO

DO

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Biplot

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