( ) , ( )

LISS_III

*

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IRS

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EC

. . SAR

. Ca^{2+} Mg^{2+} Na$^+$ pH .

NDVI) .

. (NDSI BI SI SAVI PVI SRVI

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EC BI SI .

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.GIS IRS :

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.(Mougenot et al., 1993)

m_khodadadi@ut.ac.ir : *

، ( )

/ / . .

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( )

.(Farifteh et al., 2005)

(NaCl)

( ) Metternicht .

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( )

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/

NDVI

(Hunt and Salisbory,

.1972)

( ) Moreau

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. .

.(Wang et al., 2002) .

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(

( ) Wang et al. .(AL-khaier, 2005)

( ) Ghassemi et al. .

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NIR

(Seal) .

VIS . SRVI

.

( ) Metternicht

( ) Masoud and kike

(nm)

.

PCA1 OIF .

PCA1 . .

... :

IRS ( ) Khan et al.

LISS-II

SI .( )

NDSI (BI)

)

(

NDVI NDSI

Weak Aridic (Thermic)

.

: LISS_III
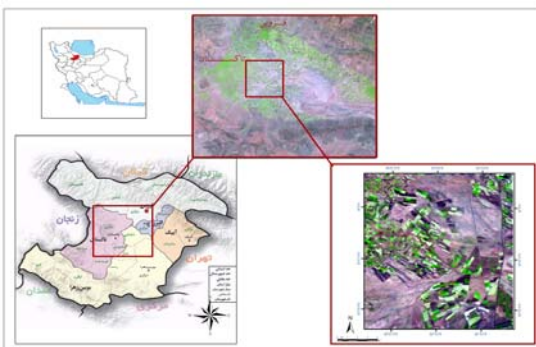
( ) Dwivedi et al.

PCA

PC2 PC1 .

PC4 PC3

PC1

PC3

PC4

Khan et al.,)

)

.(2001

Metternicht .

(:

/ ( ) and Zinck

%

GIS

(DEM)

DEM ( ) Liu et al. .

(Stratified random sampling)

, ( )

B3 B2

LISS_III

F3 F10 F9 ( )
S2 S1
(S3 S4,S5)

F8 F6 F5 F4

F1 Ca^{2+} Mg^{2+} Na^+ pH

F12 F11 F2
$dS/m >$

$>$ SAR

( )

( )
( )

(Mask)
(Fatahi, 2006).

( )

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F7 _

الف   ب

(B2   B3   (B1   B3 .

(S1   S2)

(S3   S4   S5)

(الف)   (ب)

(   )   (   )

(   )
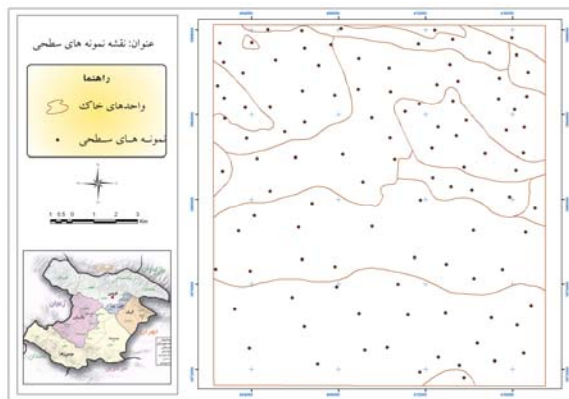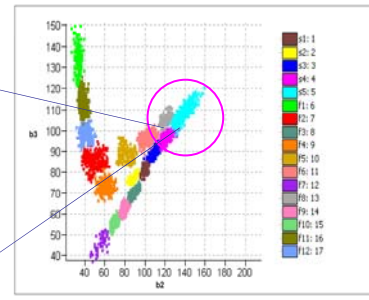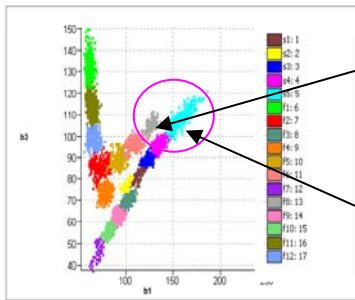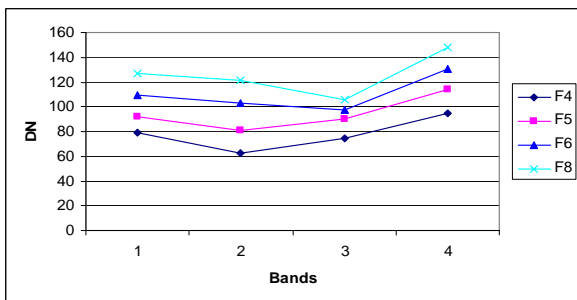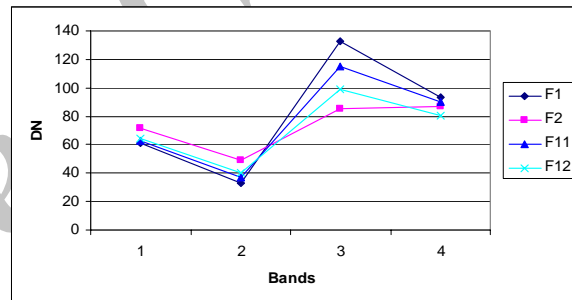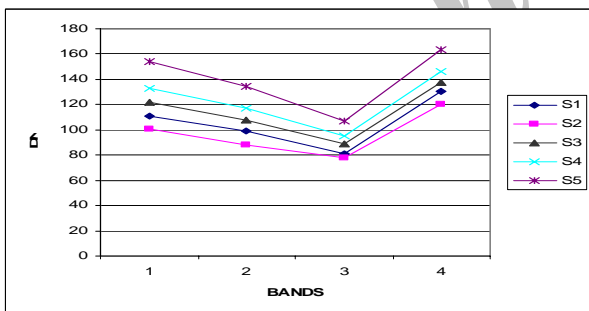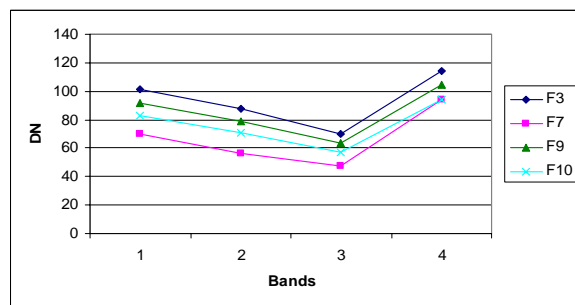
(Optimum Index Factor)   (   )

DEM .   (Minimum distance to

DEM   Parallelepiped or Box)   (mean

.(Liu et al., 2005)   (Maximum likelihood)   (classifier

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SI SAVI PVI SRVI NDVI

.(   )   BI NDSI   .

.

. –

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Eliminate   (Majority)   .   . Box Classifier

.   .

.(   )

. DEM

(NDSI BI SI SAVI PVI SRVI NDVI)

( )   .

–

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soil4

S5   (   )

(%) S4   (%)

%

f3   .   S4

/   /   S2 S1 S0

%   )

.   f3 (

.EC_e

SI$_1$	$\sqrt{G \times R}$	.695**
SI$_2$	$\sqrt{G^2 + R^2 + NIR^2}$	.694**
SI$_3$	$\sqrt{G^2 + R^2}$	.690**
BI	$\sqrt{R^2 + NIR^2}$	.614**
NDVI	$\frac{NIR - R}{NIR + R}$	-.357**
SAVI	$\frac{NIR - R}{NIR + R + L}(L+1)$	-.310**
PVI	$\frac{NIR - aR - b}{\sqrt{1+a^2}}$ (a=0.9, b=0.1)	-.287**
NDSI	$\frac{R - NIR}{R + NIR}$	.222*
SRVI	$\frac{NIR}{R}$	-.358 **

/

.(   )   (Cross)

%

.

LISS

% /   (Box Classifier)   .

Undefined   % /

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(   )

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'

DEM

(Kappa coefficient)

/   (Overall accuracy)   .

Producer)   / (User accuracy)

.

/   / (accuracy

DEM   (   )

.

.

(PCA)   .

.**EC**   **LISS**

–	EC		s0%	s1%	s2%	s3%	s4%	s5%	EC
soil1	s3								s3
soil2	s4					/	/		s3
	s3								
soil3	s4					/	/		s4
	s3								
soil4	s5						/	/	s4
	s4								
soil5	s5								s5
f1	s0								s0
f2	s1								s0
	s0								
f3	s2				/	/			s2,s1
	s1								
	s0								
f4	s2				/	/			s2
	s1								
f5	s0		/	/	/				s0,s1
	s1								
	s2								
f6	s2		/	/	/				s1,s0
	s1								
	s0								
f7	s0								s0
f8	s2								s1
	s1								
f9	s1		/	/					s0
	s0								
f10	s0		/	/					s0,s1
	s1								
f11	s0								s0
f12	s1								s0
	s0								

.

(PCA)

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S1

.**EC**			
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
( )			

S5   .   S0   S2 S0

. - S5

S5 .

LISS

( ) McGowen and Mallyon . S5 .

. S4 (%)

S3 S4

.

. S1

.LISS_III.

	s0	s1	s2	s3	s4	s5		
s0							/	/
s1							/	/
s2							/	/
s3							/	/
s4							/	/
s5							/	/
	/	/	/	/	/			
	/	/	/	/				
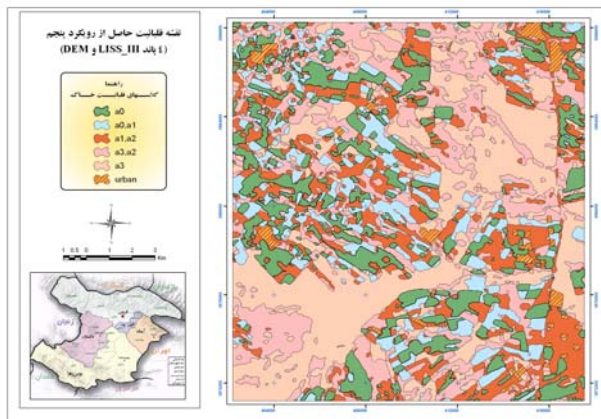
.LISS
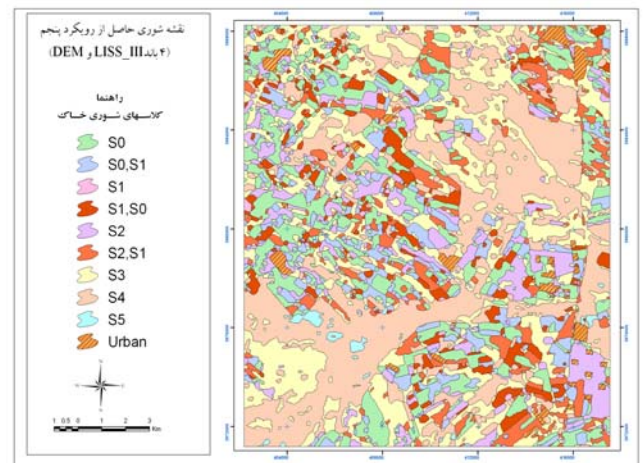
.LISS_III

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/ / /

a2 . / .

a1 a3 ( )

a2 . .

a3 . .

. .

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... :

LISS . a1

. a0 . S3 S4 S5

. SAR **LISS**

_	EC		a0%	a1%	a2%	a3%	SAR
s1	a3	18					a2,a3
	a2	18					
s2	a3				/	/	a3,a2
	a2						
s3	a2				/	/	a3
	a3						
s4	a3						a3
s5	a3						a3
f1	a0						a0
f2	a0						a0
f3	a1		/	/	/		a1.a2
	a0						
	a2						
f4	a0		/	/			a1,a2
	a1						
	a2						
f5	a2		/	/	/		a0,a1
	a1						
	a0						
f6	a0		/	/			a0,a1
	a1						
f7	a0						a0
f8	a1						a0,a1
	a0						
f9	a0		/	/			a0
	a1						
f10	a1		/	/			a0
	a0						
f11	a0						a0
f12	a0						a0

.

	a0	a1	a2	a3		
a0					/	/
a1					/	/
a2					/	/
a3					/	/
	/	/	/	/		
	/	/	/	/		

www.SID.ir

( )

( ) Farifteh et al.

DEM

S5 ( )

Masoud and kike

- ( )Matinfar ( ) Liu et al. ( )

( )

S1

(Alavipanah and Pouafar, 1998)

Dwivedi et al. ( ) Masoud and kike

BI SI . ( )

EC

SRVI PVI NDVI SAVI

Rao et al., ; Moreau, 1996)

EC

(1995

EC

BI SI NDSI

( )

.(Metternicht and Zinck, 1997)

BI: Brightness Index
DEM: Digital Elevation Model
EC: Electrical Conductivity
GIS: Geographic Information System
NDSI: Normalized Differential Salinity Index
NDVI: Normalize Differential Vegetation Index
OIF: Optimum Index Factor
PCA: Principal Component Analysis
PVI: Perpendicular Vegetation Index
SAR: Sodium Absorption Ratio
SAVI: Soil Adjusted Vegetation Index
SI: Salinity Index
SRVI: Simple Ratio Vegetation Index

( )Matinfar ( ) Masoud and kike

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