

NDVI

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NDVI

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NDVI

NDVI

MODIS -NDVI

(Kogan, 2000; Legates, 2000)

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Wigneron, et '1996 'Metternicht & Zinck

(Tucker, 1996)

◦ (AVHRR)² ◦
) (NDVI)³

(al., 1998

(

(Wilson, et al., 2003)

(Sandholt, et al., 2002)

(Mohler, et al., 1986; Henricksen, et al., 1986; Townshend, 1987; Tucker & Choudhury, 1987; Tucker, 1989; Gutman, 1990; Wang, 2005).

(Terra/MODIS)⁴

NDVI

NDVI

NDVI

(Wang, et al., 2001)

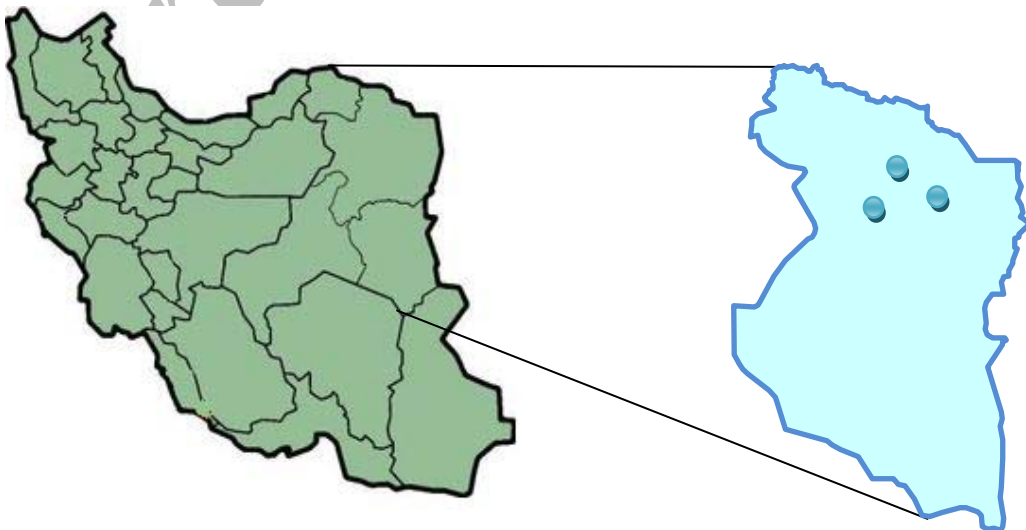
(Farrar, et al., 1994; Adegok and Carleton, 2002; Wang, 2000)

(Justice, et al., NDVI

1986; Malo & Nicholson, 1990; Davenport & Nicholson, 1993; Nicholson & Farrar, 1994; Wang, 2000; Wang, et al., 2001).

(2002) Carleton Adegok

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$$Y = \beta_0 + \beta_1 X + \varepsilon$$

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β_0

X Y
 ε

β_1

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NDVI

NDVI

$$SM = \beta_0 + \beta_1 NDVI$$

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SAS 9.0

$(R^2\text{-adj})^6$

$(RMSE)^7$

(NDVI)

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t

(Red)

(Simpson & Still,

(NIR)

:1998)

$$NDVI = \frac{NIR - Red}{NIR + Red}$$

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(NDVI)

NDVI)

NDVI

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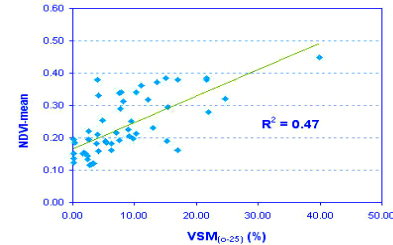
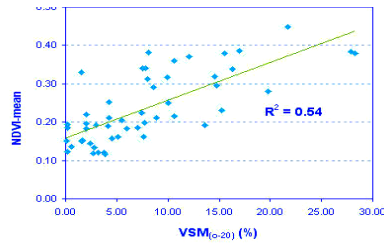
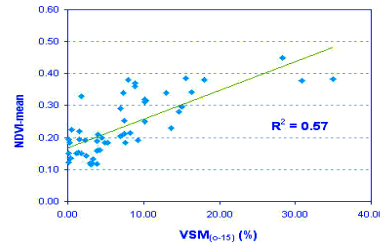
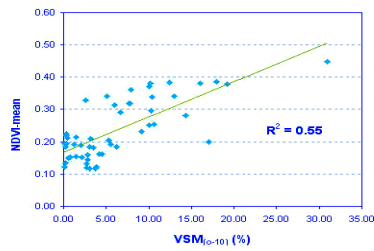
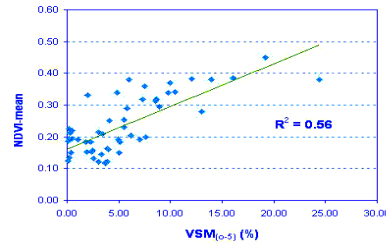
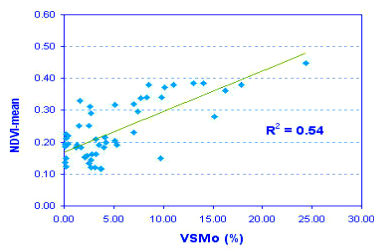
(VSM)¹⁰

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F_o

(NDVI-mean)



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NDVI

VSM₍₀₋₅₎% :

(NDVI)

NDVI

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RMSE	R ² -adj	R ²	R		
/	/	/	/	SM ₀ = -4.896 + 42.735 NDVI	
/	/	/	/	SM ₍₀₋₅₎ = -4.292 + 41.675 NDVI	
/	/	/	/	SM ₍₀₋₁₀₎ = -5.704 + 50.588 NDVI	
/	/	/	/	SM ₍₀₋₁₅₎ = -7.236 + 62.843 NDVI	
/	/	/	/	SM ₍₀₋₂₀₎ = -5.219 + 55.164 NDVI	
/	/	/	/	SM ₍₀₋₂₅₎ = -5.236 + 58.074 NDVI	

..... NDVI

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(R^2) (R)
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$SM_{(0-15)} = -7.236 + 62.843 \text{ NDVI}$

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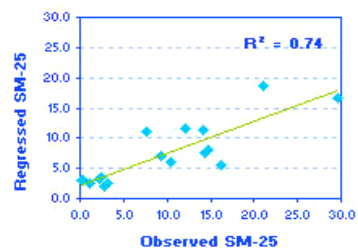
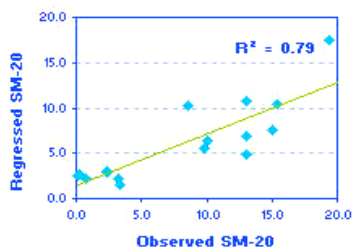
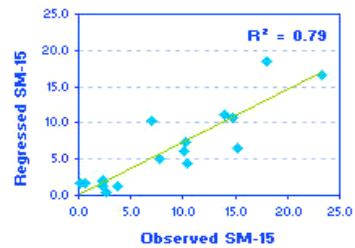
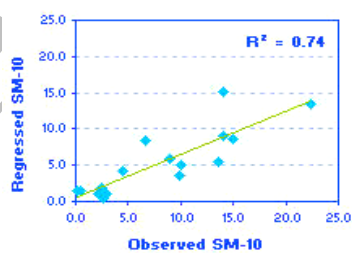
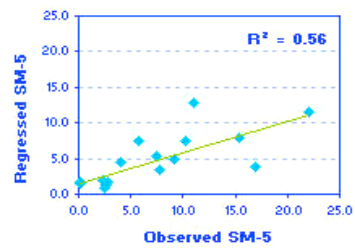
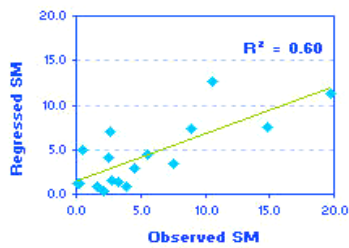
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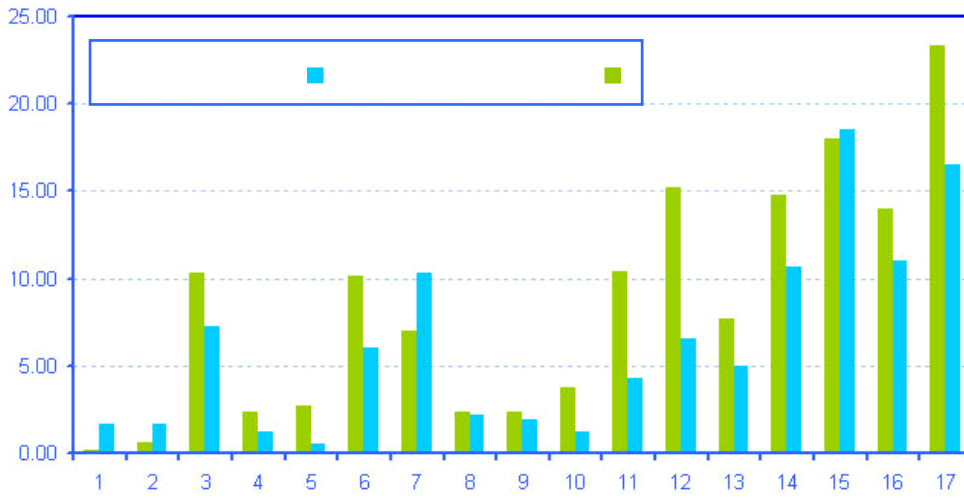
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RMSE	R ² -adj	R ²	R
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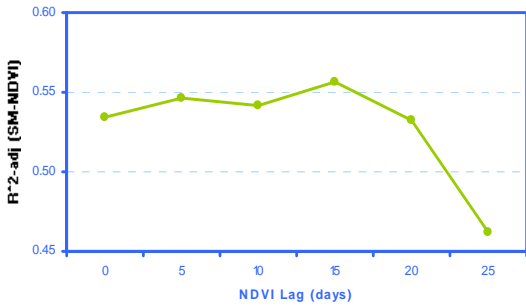


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(Wang, 2005)

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- 5- Dark Pixel
 - 6- Adjusted coefficient of determination
 - 7- Root of Mean Squares Errors
 - 8- t-experiment
 - 9- Observed soil moisture
 - 10- Volumetric Soil Moisture
 - 11- Regressed Soil Moisture
 - 12- Estimated error
 - 13- Ephemeral

- 1- Sensor
- 2- Advanced Very High Resolution Radiometer
- 3- Normalized Difference Vegetation Index
- 4- Moderate Resolution Imaging Spectrometer

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