



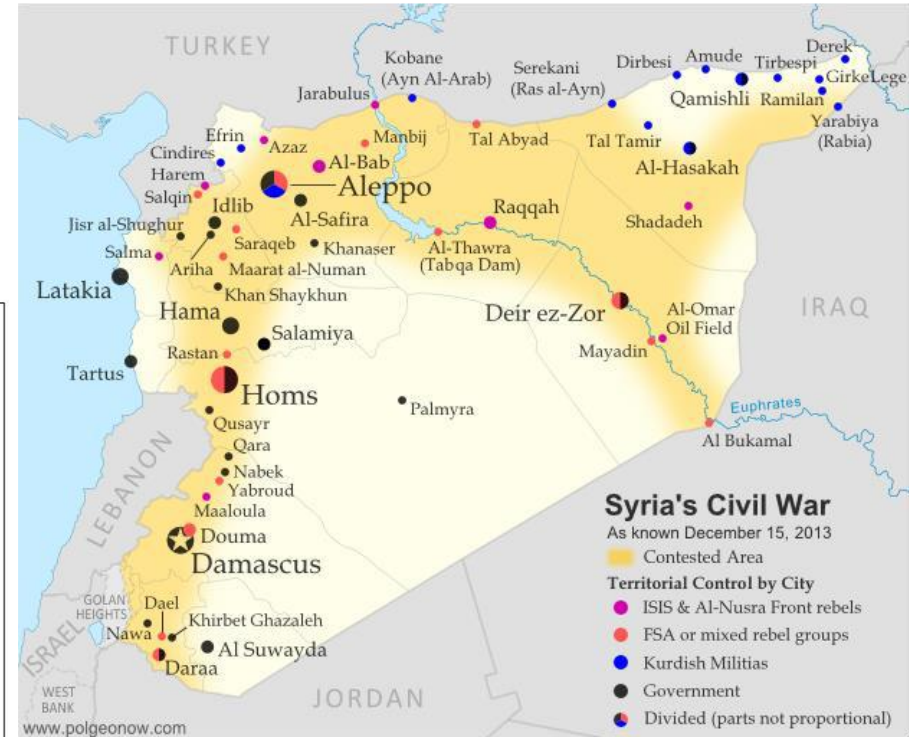
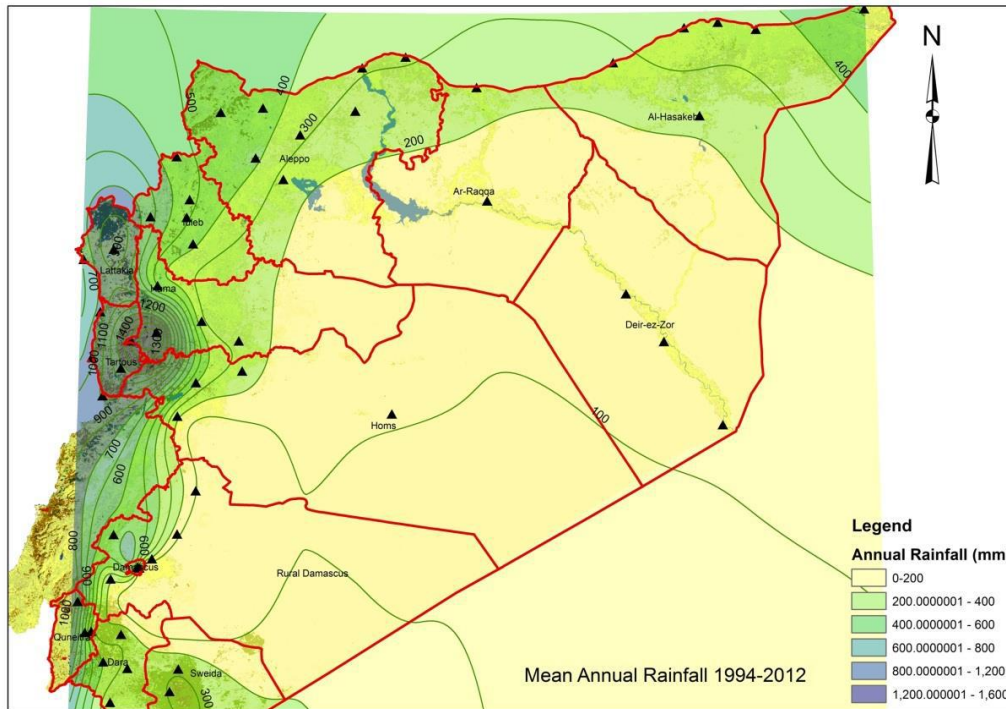
OCP Policy Center Conference series

Food security from space :
The effect of the Syrian conflict on agriculture

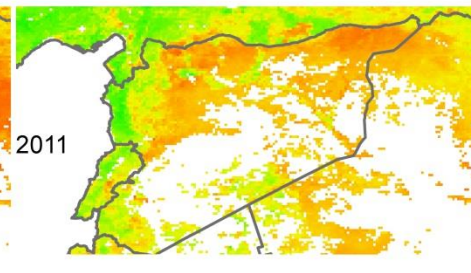
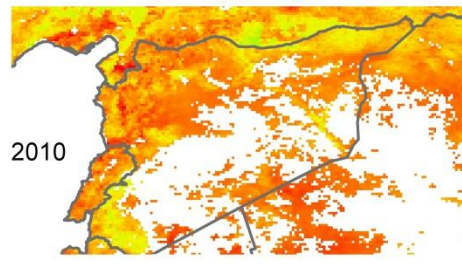
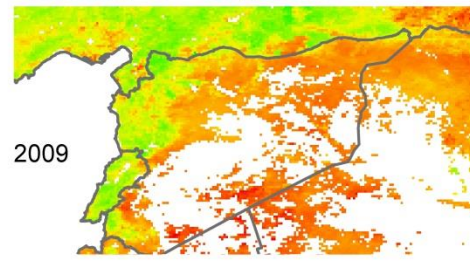
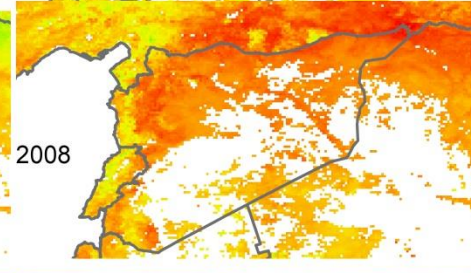
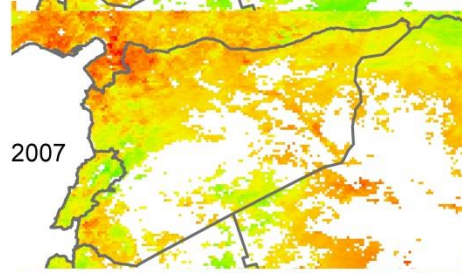
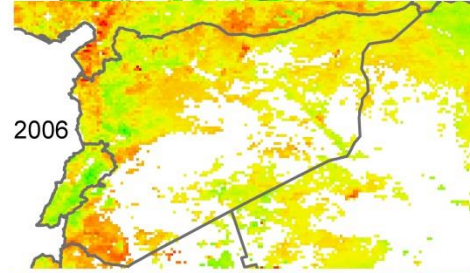
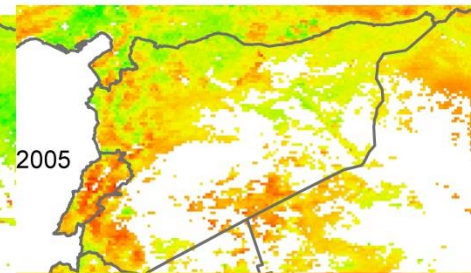
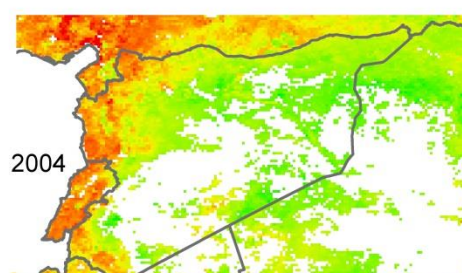
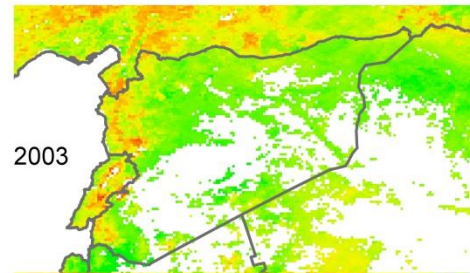
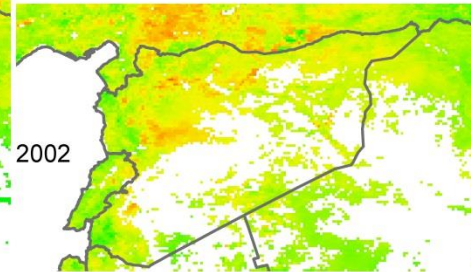
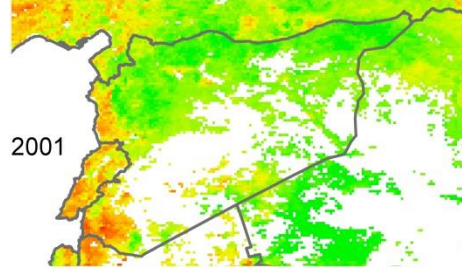
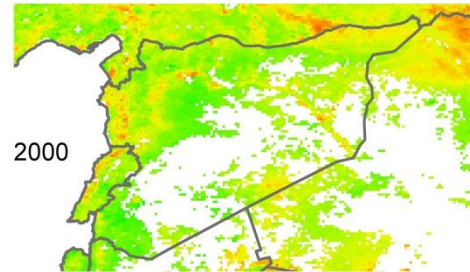
Dr. Hadi Jaafar

11-13 June 2014

Food Security from Space : The Effect of the Syrian Conflict on Agriculture



Annual DSI (2000-2011)



Standardized NPP g.C/m² (1-km)

$$NPP = \sum PSN_{net} - R_g - F$$

$$PSN_{net} = GPP - R_{LR}$$

$$GPP = e * NDVI * PAR$$

$$\text{For all } i, Z(i) = \frac{\{v_{it} - \mu(v_{it})\}}{\sigma(v_{it})}$$

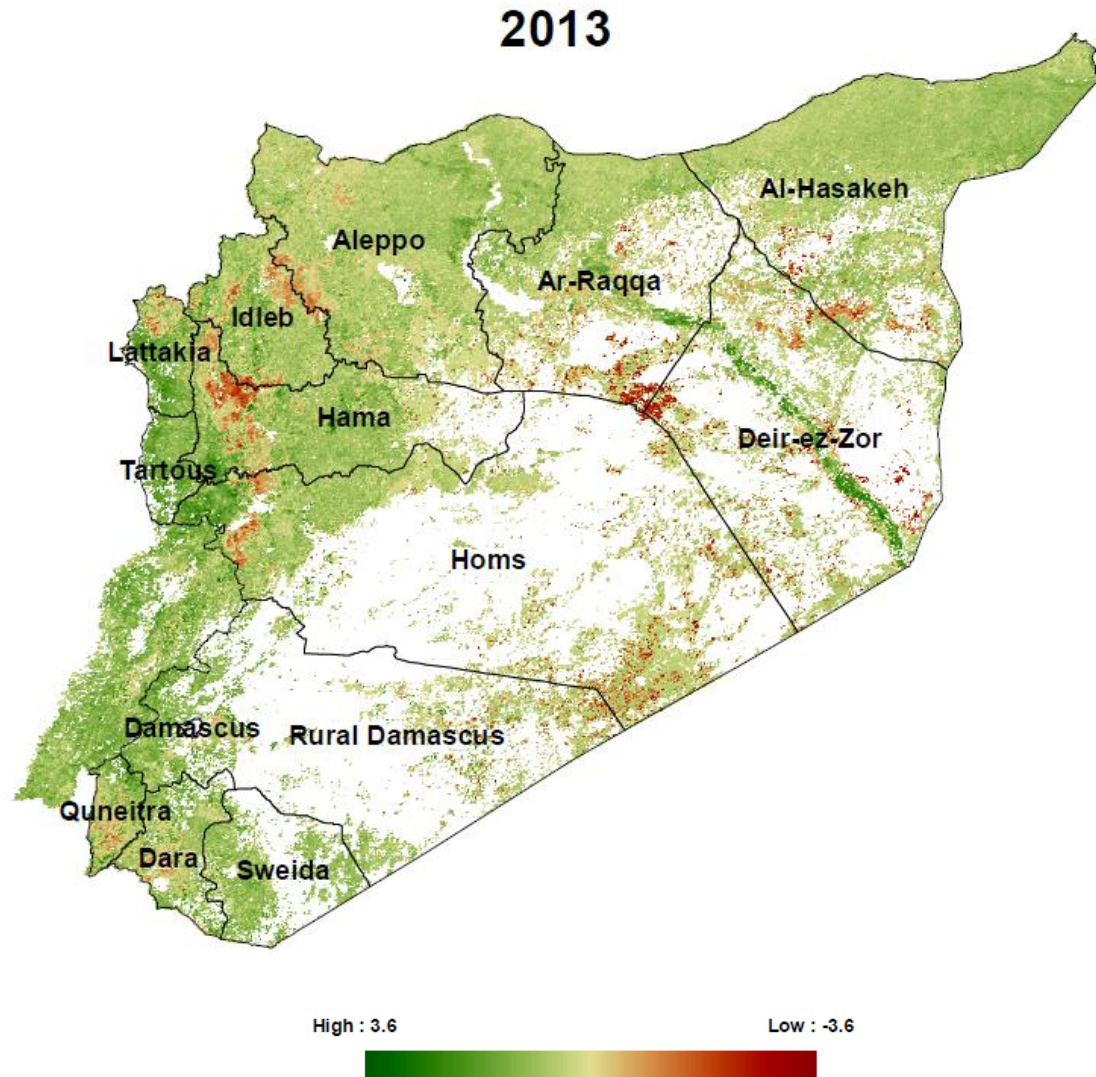
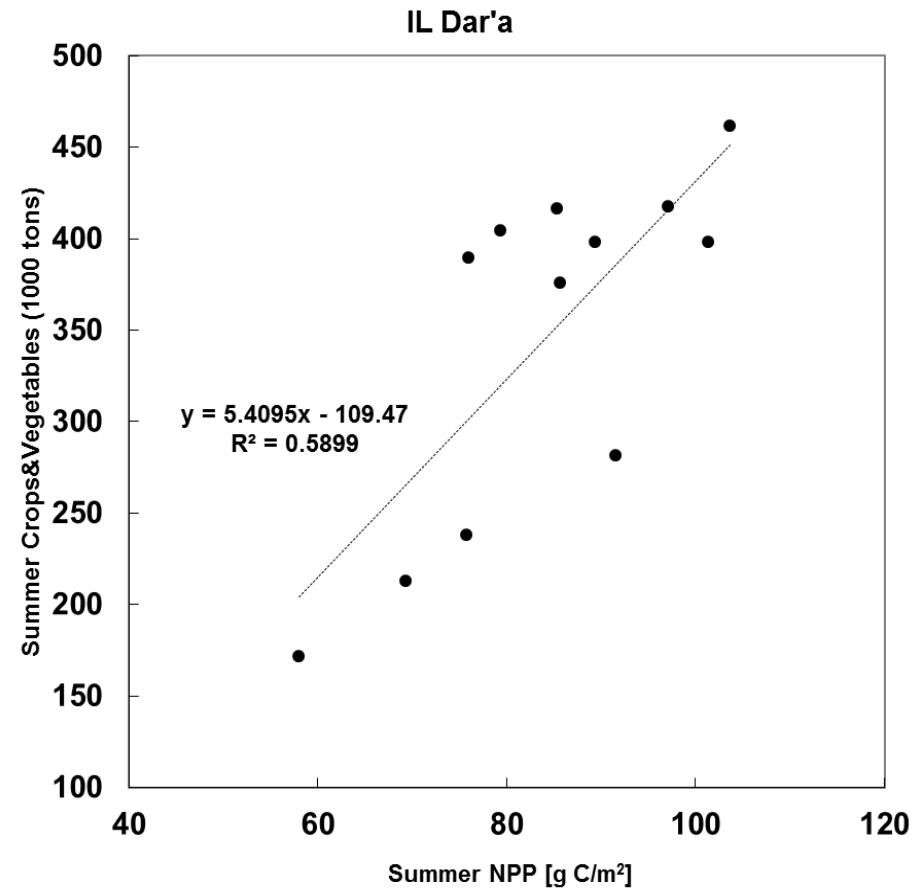


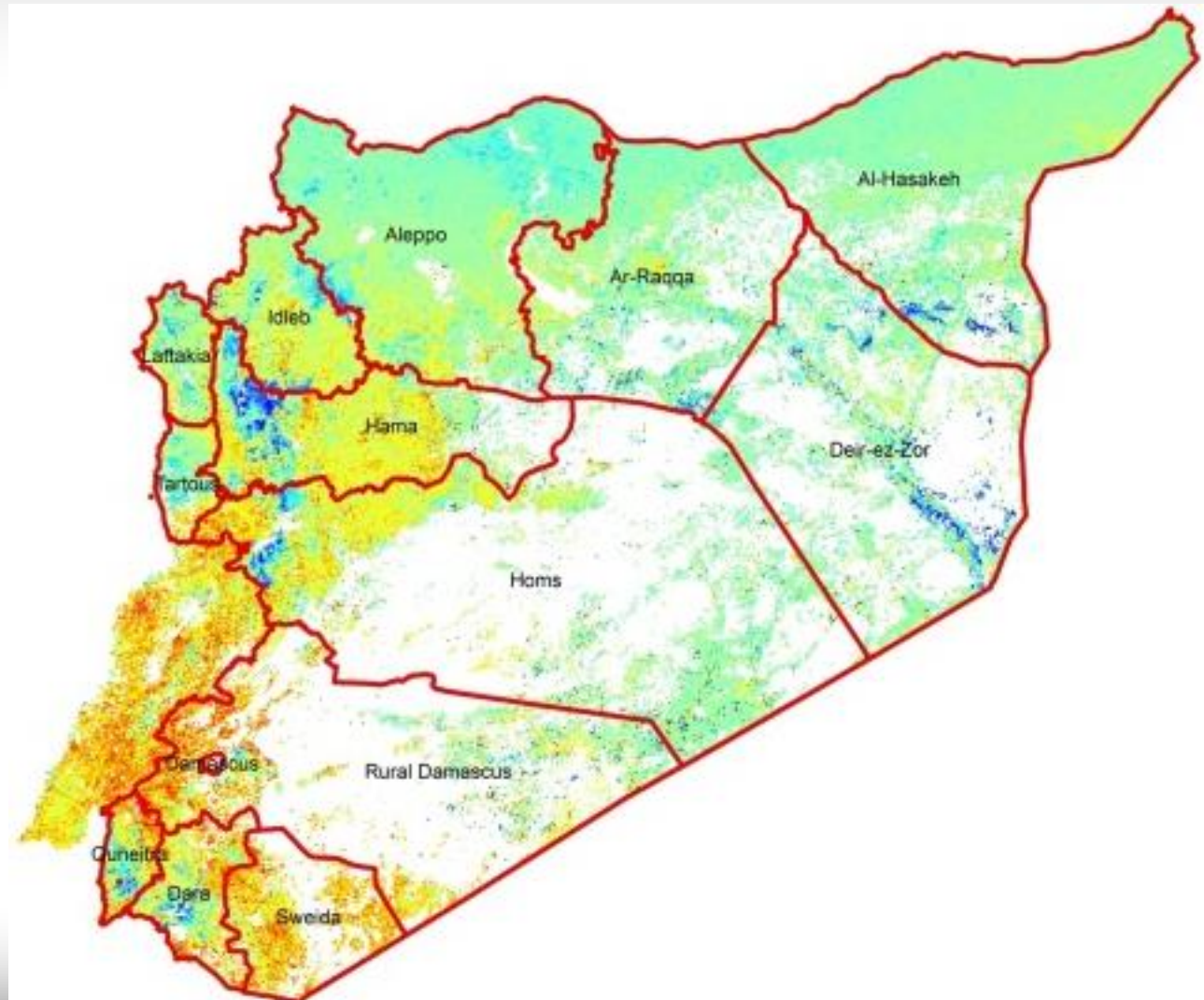
Table 6. Spring GPP

Average 2012-2013

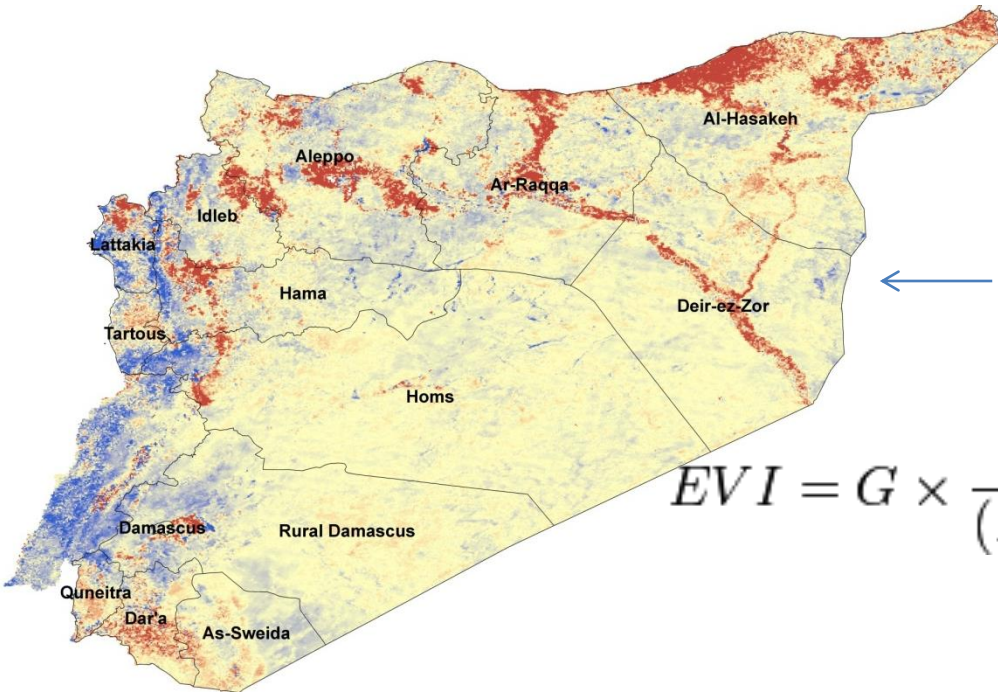
Governorate	t	Sig. (2-tailed)	% Mean Diff	95% Confidence Interval of the Difference	
				Lower	Upper
I_Idleb	-3.0	0.01	-8.62	-54.0	-8.2
I_Al_Hasakeh	-0.3	0.81	-1.44	-32.1	25.5
I_Ar_Raqqa	3.1	0.01	12.51	6.3	36.0
I_As_Sweida	-0.6	0.59	-3.19	-19.2	11.4
I_Quneitra	-2.6	0.02	-9.06	-55.6	-4.8
I_Aleppo	0.8	0.43	2.34	-10.4	23.0
I_Hama	-0.2	0.88	-0.49	-29.2	25.4
I_Homs	2.8	0.02	7.45	5.2	42.6
I_Dara	1.0	0.32	4.82	-14.0	38.8
I_Deir_ez_Zor	-2.4	0.03	-9.65	-28.7	-1.4
I_Rural_Damascus	-0.2	0.82	-0.80	-19.2	15.5
Upper_Orontes	2.8	0.02	6.23	2.7	22.6
Lower_Orontes	1.0	0.36	3.79	-8.9	22.5
Litani	0.5	0.63	1.46	-13.4	21.2
Lebanon	0.0	0.98	0.04	-12.9	13.1
Syria	0.0	0.96	-0.20	-11.5	11.0
Idleb	-2.2	0.05	-5.18	-46.5	-0.3



Spatial Correlation SSNPP - 2012 and 2013



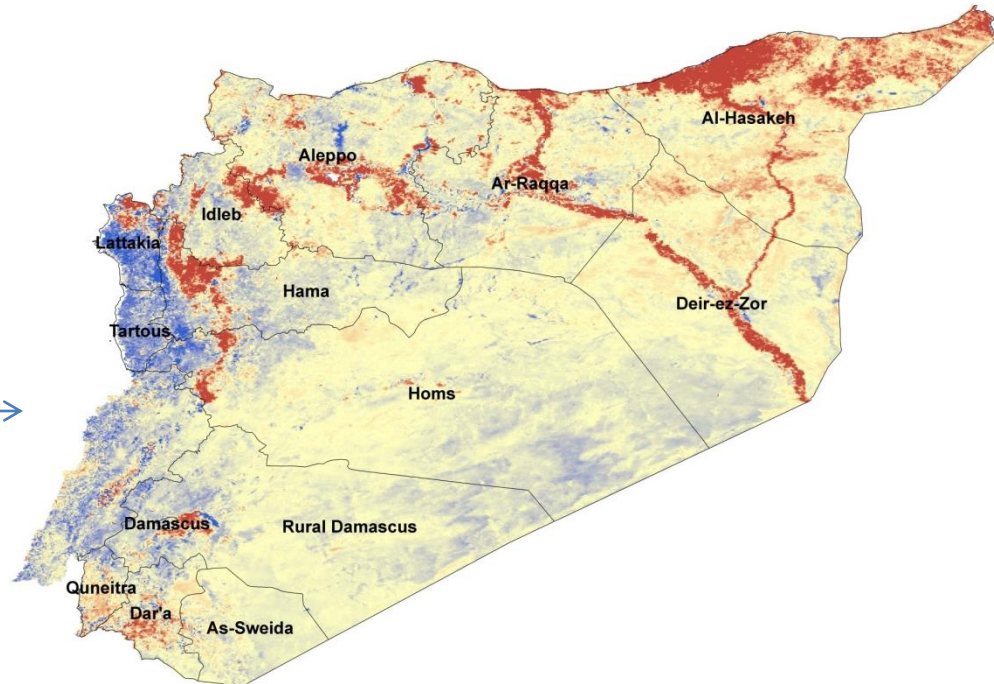
Summer EVI



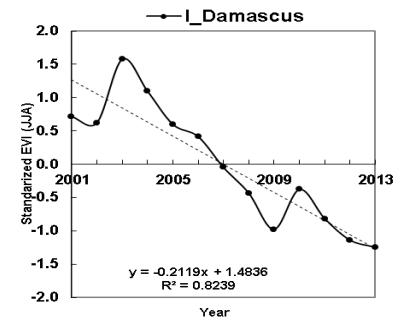
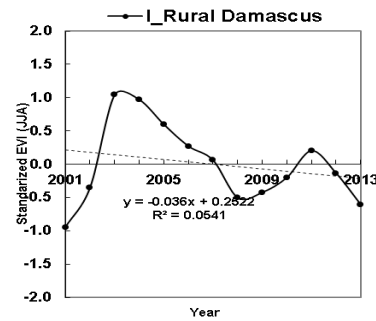
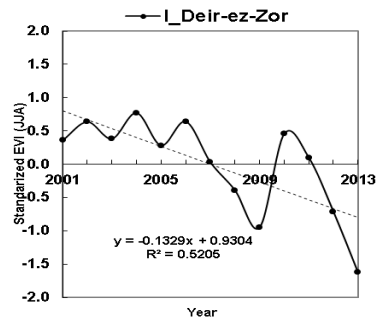
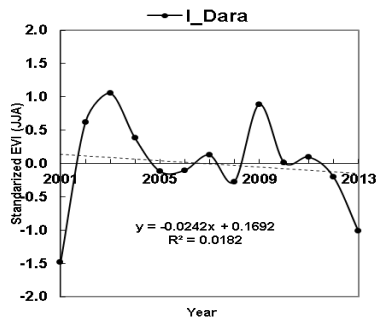
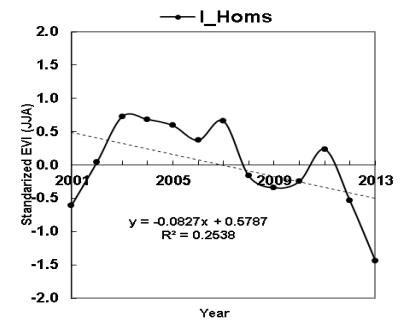
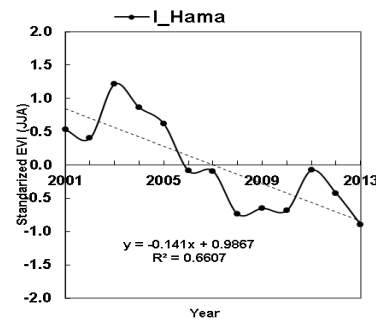
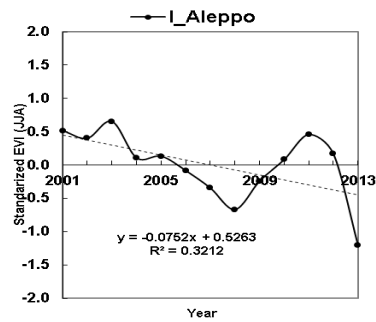
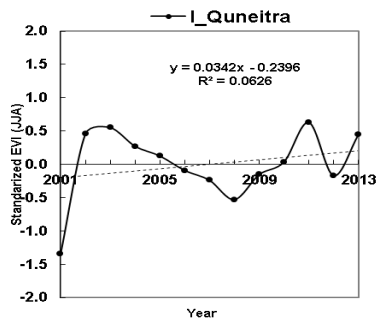
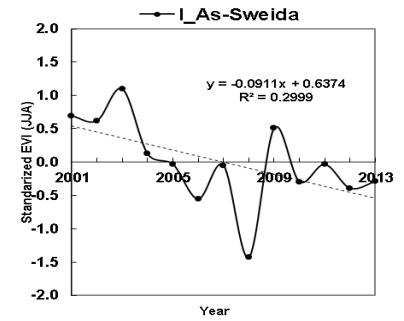
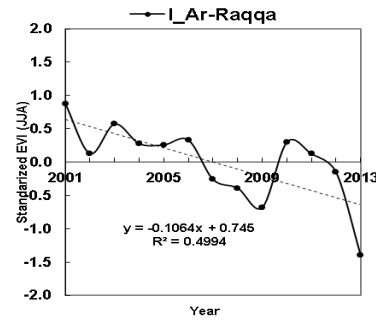
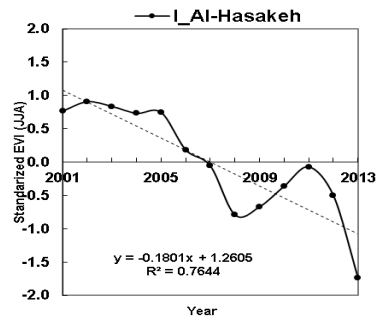
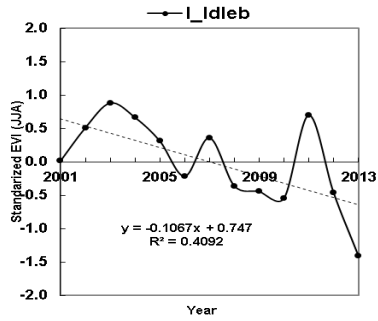
Mean 2013 – Mean 2012

$$EVI = G \times \frac{(NIR - RED)}{(NIR + C1 \times RED - C2 \times Blue + L)}$$

Mean 2013 minus
Mean 2000-2011



Standardized EVI



Estimation of Yield Reduction

