Supplementary Materials:

Table S1. Phenology of major crops in HID.

Month	**March**		**April**			**May**			**June**			**July**			**August**			**September**		
A Period of Ten Days	Last	Early	Middle	Last	Early	Middle	Last	Early	Middle	Last	Early	Middle	Last	Early	Middle	Last	Early	Middle	Last	Early	Middle	Last
Corn			Sowing		Emergence			Elongation		Tasseling	Flowering		Silking		Filling			Maturation		
Spring Wheat	Sowing	Emergence		Tillering		Elongation		Booting	Heading	Flowering	Filling		Maturation							
Sunflower						Sowing		Seedling			Squaring			Flowering			Maturation			
Cocozelle					Sowing		Emergence		Flowering			Fruit Swelling				Maturation				

Table S2. The accuracies of each dataset in the different time intervals during wet and dry season.

Datasets	Dry season		Wet season	
	Mar	Mar to Apr	Aug	Aug to Sep
Sentinel-1 PolSAR	62.16	67.95	52.9	58.3
Textures of Sentinel-2 red band	65.25	72.59	66.21	66.99
Spectral bands of Sentinel-2	69.11	88.22	68.73	70.46
Indices built based on Sentinel-2	68.92	87.64	62.55	67.95
Combined dataset of Sentinel-1 and Sentinel-2	74.32	89.96	71.81	72.39

Table S3. Classification accuracies of each variable and datasets for saline cropland mapping.

Bands	Overall accuracy	User accuracy		Producers accuracy		F1 Score	
		Non-saline	Saline	Non-saline	Saline	Non-saline	Saline
VV	0.5811	0.6530	0.4677	0.6592	0.4608	0.6561	0.4642
VH	0.6622	0.7324	0.5662	0.6975	0.6078	0.7145	0.5863
savg	0.6042	0.6799	0.4977	0.6561	0.5245	0.6677	0.5107
idm	0.5463	0.6312	0.4286	0.6051	0.4559	0.6179	0.4418
ent	0.5309	0.6263	0.4177	0.5605	0.4853	0.5916	0.4490
dent	0.5367	0.6186	0.4126	0.6146	0.4167	0.6166	0.4146
shade	0.4961	0.5892	0.3710	0.5573	0.4020	0.5728	0.3859
asm	0.5386	0.6280	0.4222	0.5860	0.4657	0.6063	0.4429
corr	0.5444	0.6242	0.4216	0.6242	0.4216	0.6242	0.4216
dvar	0.5270	0.6194	0.4105	0.5701	0.4608	0.5937	0.4342
diss	0.5039	0.5947	0.3779	0.5701	0.4020	0.5821	0.3895
imcorr1	0.5270	0.6154	0.4064	0.5860	0.4363	0.6003	0.4208
imcorr2	0.5212	0.6031	0.3889	0.6146	0.3775	0.6088	0.3831
svar	0.5251	0.6083	0.3971	0.6083	0.3971	0.6083	0.3971
contrast	0.5232	0.6218	0.4115	0.5446	0.4902	0.5806	0.4474
prom	0.5116	0.6109	0.3992	0.5350	0.4755	0.5705	0.4340
var	0.4710	0.5735	0.3577	0.4968	0.4314	0.5324	0.3911
inertia	0.5232	0.6218	0.4115	0.5446	0.4902	0.5806	0.4474
sent	0.5212	0.6154	0.4052	0.5605	0.4608	0.5867	0.4312
B2	0.6911	0.7601	0.5991	0.7166	0.6520	0.7377	0.6244
B3	0.7876	0.8312	0.7238	0.8153	0.7451	0.8232	0.7343
B4	0.7703	0.8197	0.6995	0.7962	0.7304	0.8078	0.7146
B5	0.7297	0.8042	0.6379	0.7325	0.7255	0.7667	0.6789
B6	0.6969	0.7735	0.6017	0.7070	0.6814	0.7388	0.6391
B7	0.6795	0.7721	0.5772	0.6688	0.6961	0.7167	0.6311
B8	0.6776	0.7673	0.5761	0.6720	0.6863	0.7165	0.6264
B8A	0.6448	0.7355	0.5413	0.6465	0.6422	0.6881	0.5874
B11	0.5753	0.6516	0.4615	0.6433	0.4706	0.6474	0.4660
B12	0.6506	0.7166	0.5545	0.7006	0.5735	0.7085	0.5639
NDVI	0.7085	0.7820	0.6157	0.7197	0.6912	0.7496	0.6513

SAVI	0.7085	0.7820	0.6157	0.7197	0.6912	0.7496	0.6513
OSAVI	0.7066	0.7893	0.6092	0.7038	0.7108	0.7441	0.6561
MSAVI	0.7162	0.7869	0.6256	0.7293	0.6961	0.7570	0.6589
SI	0.7896	0.8317	0.7273	0.8185	0.7451	0.8250	0.7361
NDSI	0.7027	0.7817	0.6068	0.7070	0.6961	0.7425	0.6484
DVI	0.7046	0.7639	0.6197	0.7420	0.6471	0.7528	0.6331
Sentinel-1	0.6853	0.7559	0.5919	0.7102	0.6471	0.7323	0.6183
Sentinel-2	0.8900	0.9241	0.8419	0.8917	0.8873	0.9076	0.8640
S1_S2 combined	0.8996	0.9309	0.8551	0.9013	0.8971	0.9159	0.8756