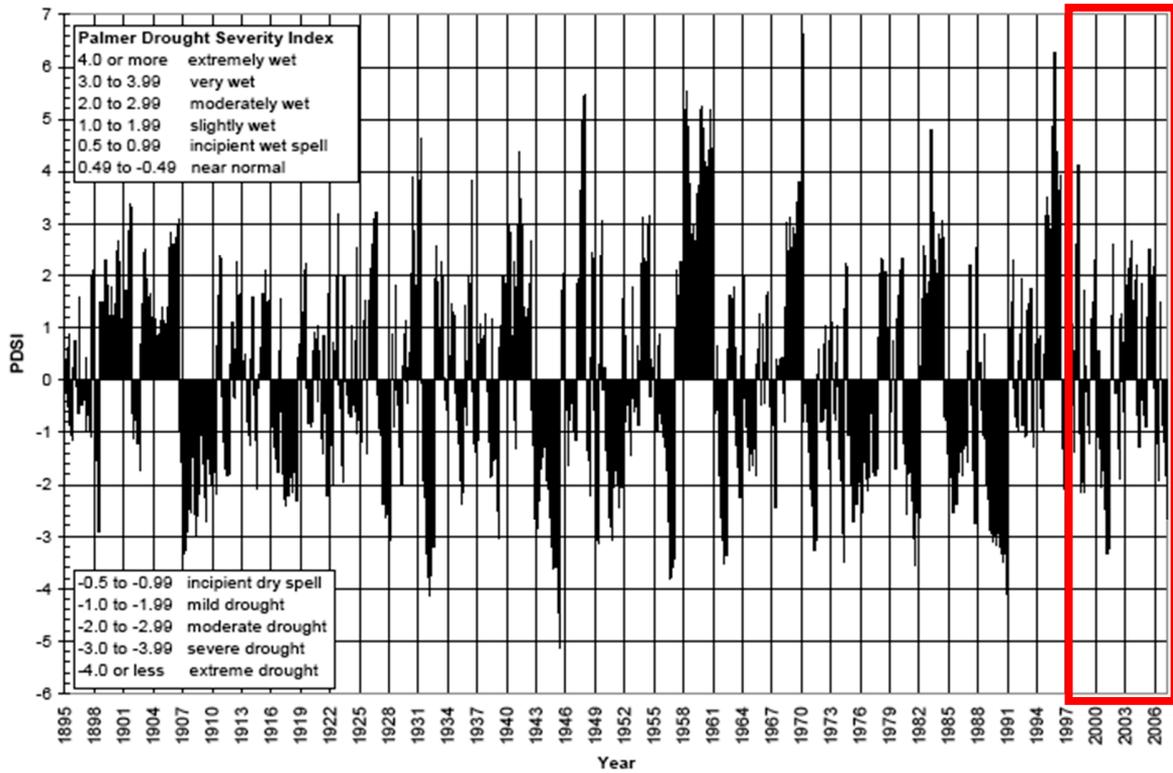
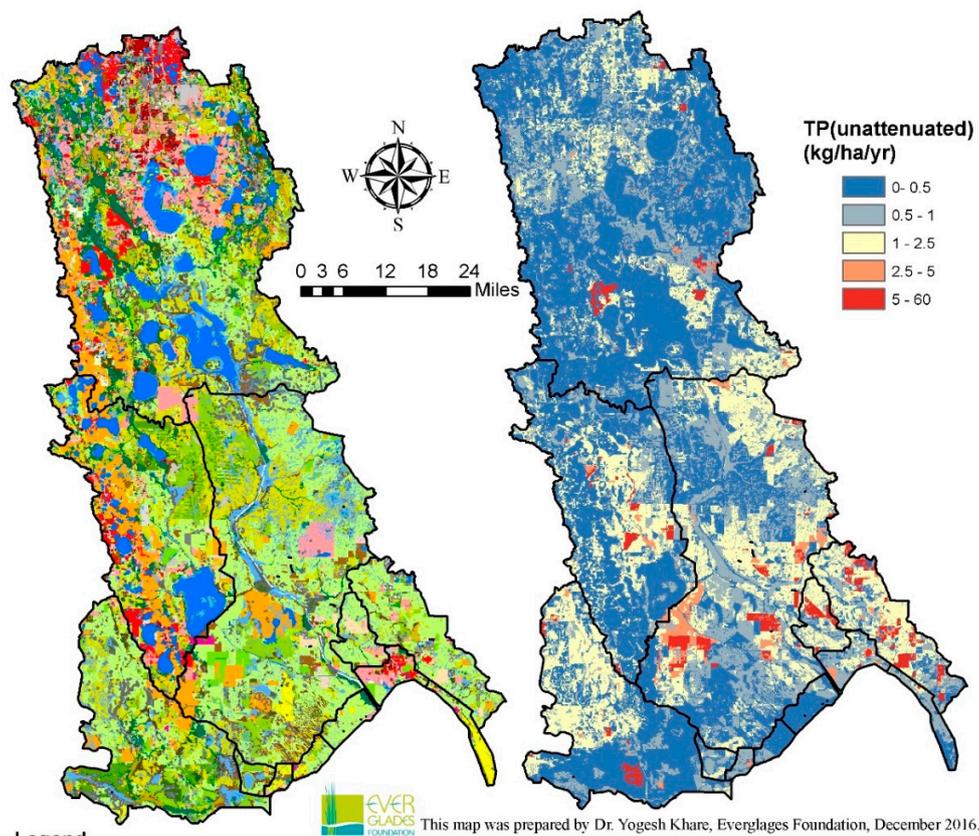


Supplementary Material



**Figure S1.** Historical Palmer Drought Severity Index for central-south Florida that includes Lake Okeechobee, the Everglades Agricultural Area, and the Everglades [25].

This figure indicates the long-term variability of Palmer Drought Severity Index (PDSI) in our study area. The PDSI is a well-established metric for hydroclimatic conditions such as drought. The figure shows that the PDSI in our study period (1998–2007) is quite comparable to the long-term variability, indicating the period captures a wide range of climatic conditions from very wet to severe drought.



**Legend**

**Land Use**

<all other values>

**Name**

- Aquaculture
- Barren Land
- Bay Swamps
- Citrus Groves
- Commercial and Services
- Cypress
- Dairies
- Emergent Aquatic Vegetation
- Field Crops
- Freshwater Marshes

- Groves and Orchards
- Hardwood Conifer Mixed
- Hardwoods
- High Density Residential
- Horse Farms
- Improved Pasture
- Industrial
- Low Density Residential
- Managed Landscape
- Mangrove Swamp
- Medium Density Residential
- Mining
- Multiple Dwelling Units
- Open Water
- Ornamental Nurseries
- Poultry Feeding Operatio
- Row Crops
- Rural Land in Transition
- Saltmarshes
- Scrub and Brushland
- Sewage Treatment
- Shrub Swamps
- Sod Farms
- Solid Waste Disposal
- Stream and Lake Swamps
- Transportation Corridors

- Tree Nurseries
- Undeveloped Urban Land
- Unimproved Pasture
- Veg. Non-Forested Wetland
- Wet Flatwoods
- Wet Prairies
- Wetland Coniferous Forest
- Wetland Forested Mixed
- Wetland Hardwoods
- Woodland Pasture

This map was prepared by Dr. Yogesh Khare, Everglades Foundation, December 2016.

**Figure S2.** Maps of land use and source level phosphorus loading.

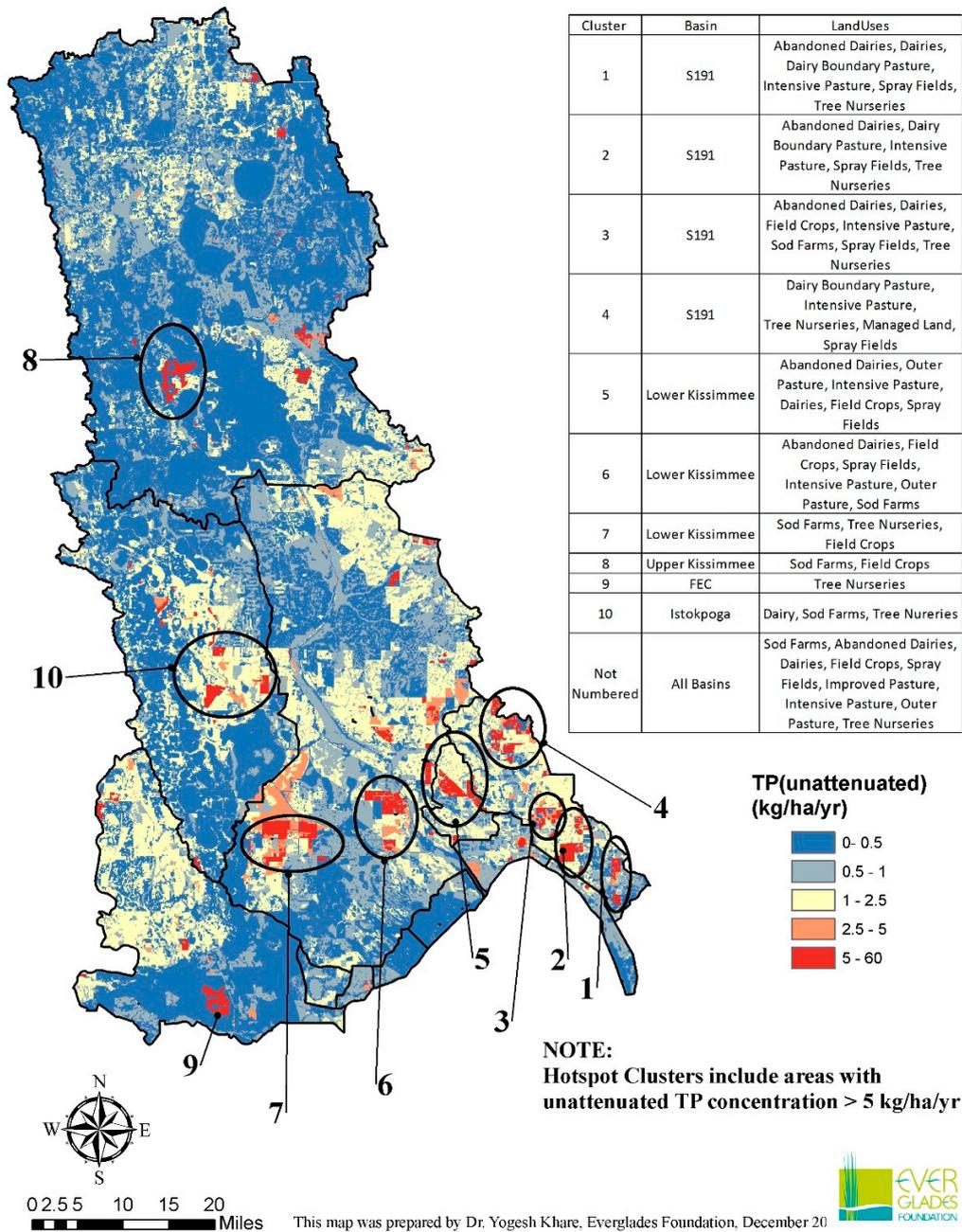


Figure S3. Phosphorus hot-spots in northern Lake Okeechobee basins under Base (1998–2007) conditions.

**Table S1.** Land use wise source level phosphorus loading summary for the northern Lake Okeechobee basins.

<b>Landuse</b>	<b>Average Annual TP load (kg/ha/year)</b>
Abandoned Dairies	8.3
Animal Race Tracks	2.4
Aquaculture	4.2
Barren Land	0.8
Bay Swamps	0.6
Bays and Estuaries	0.3
Citrus Groves	0.7
Commercial and Services	1.6
Coniferous Plantation	0.2
Cypress	0.3
Dairies	4.5
Dairies HIA - Treated	0.0
Dairy Boundary Pasture	17.0
Emergent Aquatic Vegetation	0.3
Field Crops	4.4
Forested	0.9
Freshwater Marshes	0.6
Groves and Orchards	3.7
Hardwood Conifer Mixed	0.1
Hardwoods	0.1
High Density Residential	0.8
Horse Farms	0.9
Improved Pasture	1.1
Industrial	1.6
Intensive Pasture	13.5
Low Density Residential	0.6
Managed Landscape	3.1
Mangrove Swamps	0.3
Medium Density Residential	0.7
Mining	0.0
Mixed Wetland Hardwood	0.4
Multiple Dwelling Units	1.1
Open Water	0.1
Ornamental Nurseries	0.9
Other Urban	1.0
Poultry Feeding Operations	0.8
Prisons	3.0
Ranchettes	0.6
Row Crops	2.3
Rural Lad in Transition	0.5
Saltmarshes	0.5
Scrub and Brushland	0.1
Sewage Treatment	0.7
Shrub Swamps	0.6
Sod Farms	5.8
Solid Waste Disposal	0.8
Spray Fields	7.0
Stream and Lake Swamps	0.6
Sugarcane	0.5
Transportation Corridors	0.8

Tree Nurseries	10.2
Undeveloped Urban Land	0.3
Unimproved Pasture	0.5
Veg. Non-Forested Wetland	0.2
Water Bodies	0.2
Wet Flatwoods	0.5
Wet Prairies	0.2
Wetland Coniferous Forest	0.3
Wetland Forested Mixed	0.6
Wetland Hardwoods	0.6
Wetlands	0.8
Woodland Pasture	0.6

**Table S2.** Summary of existing dispersed water management projects modeled under the DWP scenario (based on [60]).

<b>Basin</b>	<b>DWP Project</b>	<b>PWRM Estimated Annual Runoff Reduced (m<sup>3</sup> year<sup>-1</sup>)</b>
UK	Sumica Tract	346,608
	Lost Oak Ranch	461,322
	Lykes West Waterhole	5,979,914
	Buck Island Ranch	1,940,265
	Dixie Ranch	1,055,859
	Dixie West	388,546
LK	Triple A Ranch	489,692
	Willaway Cattle and Sod	282,467
	Buck Island Ranch 2	764,758
	Buck Island A, B, C	76,476
	Lazy O	308,370
Istokpoga	Rafter T	1,601,058
	Avon Park	12,334,806
	Lake Wales	271,366
	XL Ranch	1,094,097
FEC_L61W	Bluehead Ranch	4,270,310
	Boney Ranch	370,044
	Francis Creek	57,974
	Mary Creek	256,564
TCNS	Payne and Son Ranch	1,149,604
	Williamson Cattle Ranch	185,022
Total		34 × 10 <sup>6</sup>