# Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 01/16/2023 (ENSO Condition: La Niña)

#### Lake Okeechobee Net Inflow Outlook:

The Lake Okeechobee Net Inflow Outlook has been computed using methods described in the LORS2008 Water Control Plan: Croley's method, the SFWMD empirical method, a sub-sampling of La Niña years and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with La Niña ENSO years. The results for Croley's method and the SFWMD empirical method are based on the <u>CPC Outlook</u>.

Table of the Lake Okeechobee Net Inflow Outlooks in feet of equivalent depth. All methods are updated on a weekly basis with observed net inflow for the current month.

Season	Croley	's Method <sup>*</sup>	SFWMD Empirical Method		Sub-sampling of La Niña ENSO Years**		Sub-sampling of AMO Warm + La Niña ENSO Years***	
	Value (ft)	Condition	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>
Current (Jan-Jun)	N/A	N/A	0.17	Dry	0.14	Dry	0.13	Dry
Multi Seasonal (Jan-Oct)	N/A	N/A	2.34	Normal	2.51	Wet	2.07	Normal

\*Croley's Method Not Produced for This Report

See <u>Seasonal</u> and <u>Multi-Seasonal</u> tables for the classification of Lake Okeechobee Outlooks.

The recommended methods and values for estimating the Lake Okeechobee Net Inflow Outlook are shaded and should be used in the LORS2008 Release Guidance Flow Charts.

\*\*Sub-sampling is a weighted average of ENSO conditions based on the IRI ENSO forecast published.

\*\*\*Sub-sampling based on combination of ENSO and AMO conditions. For this predominant ENSO categorization is used instead of weights.

### **Tributary Hydrologic Conditions:**

**-1094 cfs** 14-day running average for Lake Okeechobee Net Inflow through 01/16/2023. According to the classification in <u>Tributary Hydrologic Conditions</u> table, this condition is Dry.

**0.30** for Palmer Drought Index on 01/14/2022.

According to the classification in <u>Tributary Hydrologic Conditions</u> table, this condition is Near Normal.

The wetter of the two conditions above is Normal.

### LORS2008 Classification Tables:

#### Lake Okeechobee Stage on 01/16/2023:

Lake Okeechobee Stage: 16.15 feet

	ee Management /Band	Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Manage	ement Band	17.25	
	High sub-band	16.82	
Operational Band	Intermediate sub-band	16.13	← 16.15 ft
	Low sub-band	13.84	
Base Flow sub-ba	nd	12.60	
Beneficial Use sub	o-band	12.08	
Water Shortage M	lanagement Band		

#### Part C of LORS2008: Discharge to WCAs

Maximum practicable to WCAs if "All downstream WCAs < max. of upper schedule + 0.25 ft". Currently, all WCAs have the potential to receive regulatory releases from Lake Okeechobee.

#### Part D of LORS2008: Discharge to Tide

Up to 4000 cfs at S-77 and up to 1800 cfs at S-80.

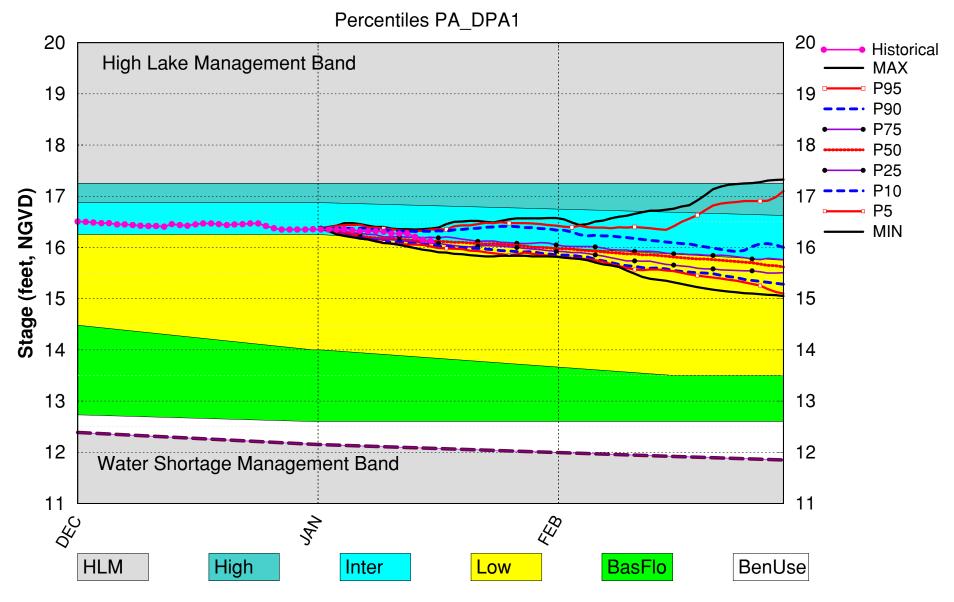
## LORS2008 Implementation on 01/16/2023 (ENSO Condition- La Niña Watch): Status for week ending 01/16/2023:

#### Water Supply Risk Evaluation

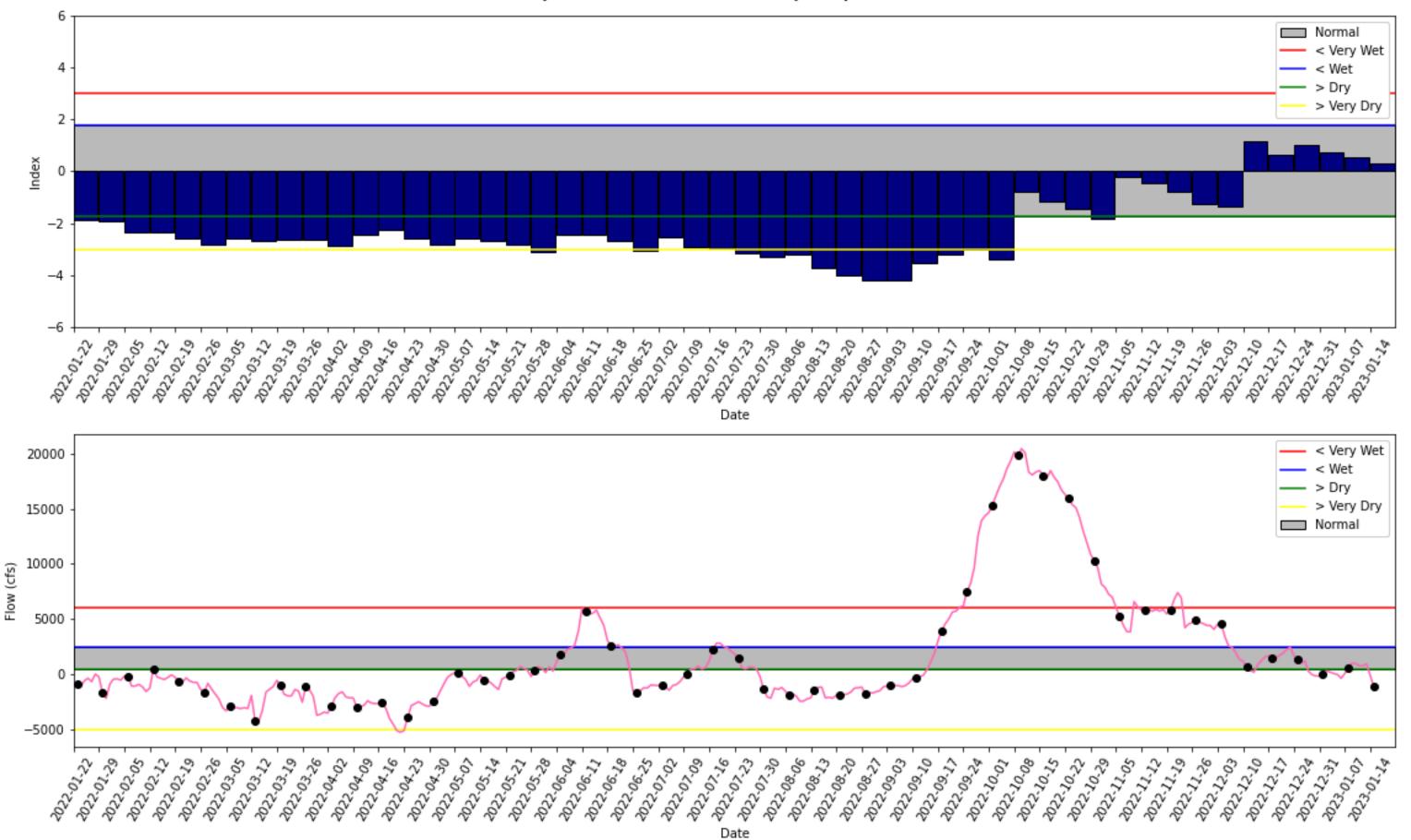
Area	Indicator	Value	Color Coded Scoring Scheme	
	Projected LOK Stage for the next two months	Low Sub-band	М	
	Palmer Drought Index for LOK Tributary Conditions	0.30 (Normal to Extremely Wet)	L	
	CPC Provinitation Outlook	1 month: Normal	L	
LOK	CPC Precipitation Outlook	3 months: Below Normal	М	
	LOK Seasonal Net Inflow Outlook	0.14 ft	М	
	ENSO Forecast	Dry		
	LOK Multi-Seasonal Net Inflow Outlook	2.51 ft	М	
	ENSO Forecast	cast Normal		
	WCA 1: 3 Station Average (Sites 1-8C)	Station Average (Sites 1-8C) Above Line 1 (17.19 ft)		
WCAs	WCA 2A: Site 2-17	Above Line 1 (12.19 ft)	L	
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (9.94 ft)	L	
	Service Area 1	Year-Round Irrigation Rule in effect	L	
LEC	Service Area 2	Year-Round Irrigation Rule in effect	L	
	Service Area 3	Year-Round Irrigation Rule in effect	L	

Note: The water supply risk classification based on the Palmer index, as well as the LOK seasonal and multi-seasonal net inflow outlooks use slightly different classification intervals than those used by the 2008-LORS.

### Lake Okeechobee SFWMM January 2023 Position Analysis

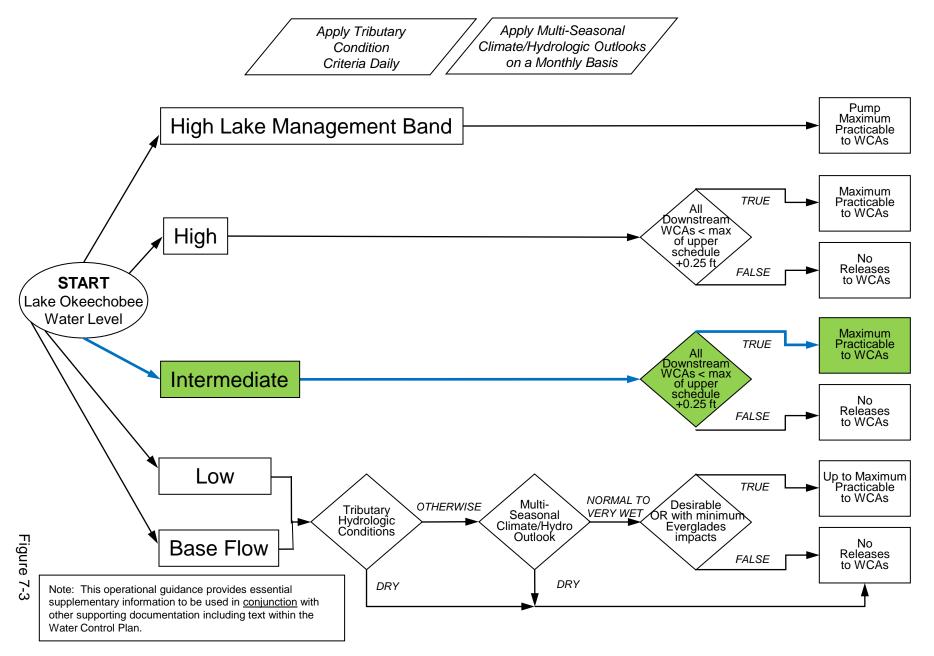


(See assumptions on the Position Analysis Results website)



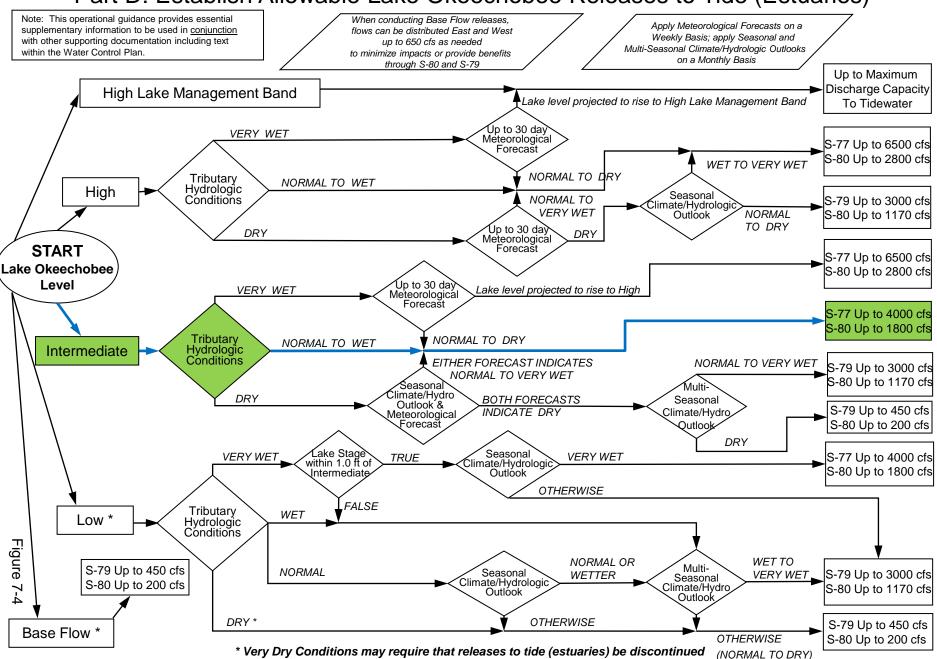
### 2008 LORS

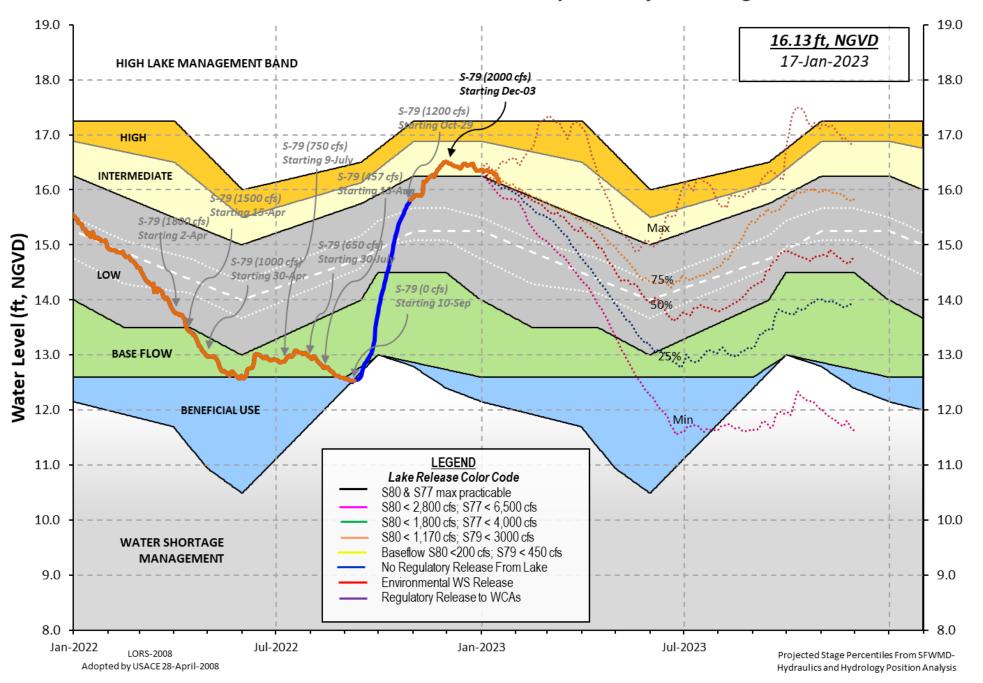
#### Part C: Establish Allowable Lake Okeechobee Releases to the Water Conservation Areas



### 2008 LORS

### Part D: Establish Allowable Lake Okeechobee Releases to Tide (Estuaries)





Lake Okeechobee Water Level History and Projected Stages

U. S. Army Corps of Engineers, Jacksonville District Lake Okeechobee and Vicinity Report \*\* Preliminary Data - Subject to Revision \*\*

Data Ending 2400 hours 15 JAN 2023

Okeechobee Lake Regulation Elevation Last Year 2YRS Ago (ft-NGVD) (ft-NGVD) (ft-NGVD) \*Okeechobee Lake Elevation 16.15 15.14 15.67 (Official Elv) Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 12.08 Currently in Operational Management Band Simulated Average LORS2008 [1965-2000] 13.57 Difference from Average LORS2008 2.58 15JAN (1965-2007) Period of Record Average 14.71 Difference from POR Average 1.44 Today Lake Okeechobee elevation is determined from the 4 Int & 4 Edge stations ++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 � 10.09' ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 � 8.29' Bridge Clearance = 63.39' 4 Interior and 4 Edge Okeechobee Lake Average (Avg-Daily values): S308 L001 L005 LZ40 L006 S4 S352 S133 16.17 16.15 16.20 16.23 16.20 16.33 15.85 16.06 \*Combination Okeechobee Avg-Daily Lake Average = 16.15 (\*See Note) Okeechobee Inflows (cfs): S65E S65EX1 0 Fisheating Cr 30 1406 S154 0 S191 0 S135 Pumps 0 0 S133 Pumps 0 S2 Pumps S84 0 S84X 0 S127 Pumps 0 S3 Pumps 0 S71 0 S129 Pumps 0 S4 Pumps 0 S72 0 S131 Pumps 0 C5 0 Total Inflows: 1436 Okeechobee Outflows (cfs): S135 Culverts S354 211 S77 981 0 0 -NR-S127 Culverts S351 669 S308 S129 Culverts 0 S352 178 L8 Canal Pt S131 Culverts 0 -4 Total Outflows: No Report Due To Missing S77 or S308 Discharge Data \*\*\*\*S77 structure flow is being used to compute Total Outflow. \*\*\*\*S308 structure flow is being used to compute Total Outflow. Okeechobee Pan Evaporation (inches): S77 0.06 S308 0.15 Average Pan Evap x 0.75 Pan Coefficient = 0.08" = 0.01' Lake Average Precipitation using NEXRAD: = -NR-" = -NR-' Evaporation - Precipitation: = -NR - " = -NR - "Evaporation - Precipitation using Lake Area of 730 square miles

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		Tailwater				Gat	e Pos	sitio	1s	
	Elevation	Elevation	Disch	#1	#2	#3	#4	#5	#6 #7	7 #8
	(ft-msl)	(ft-msl)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft) (f1	t) (ft)
		(1	) see	note at	: bott	com				
North East Sh	iore									
S133 Pumps:	13.55	16.12	0	0	0	0	0	0	(cfs)	
S193:										
S191:	19.28	16.10	0	0.0	0.0	0.0				
S135 Pumps:		16.04	0	0		0	0		(cfs)	
S135 Culver		10101	õ	-	0.0	Ũ	Ũ		(0.5)	
SISS CUIVE			U	0.0	0.0					
North West Sh	ore									
S65E:	20.97	15.92	1406	Q 7	1 1	0.5	1 1	Q 4	<u>9</u> 4	
S65EX1:	20.97	15.92	00+1	0.7	<b>T · T</b>	0.5	1.1	0.4	0.4	
			-	~	~	•	•	•	(	
S127 Pumps:		16.08	0	0	0	0	0	0	(cfs)	
S127 Culver	יד:		0	0.0						
6100 D	40.05	46.45	•	•	•	•				
S129 Pumps:		16.15	0	0	0	0			(cfs)	
S129 Culver	't:		0	0.0						
6434 B	10.01								( ( )	
S131 Pumps:		16.17	0	0	0				(cfs)	
S131 Culver	·t:		0							
Fisheating										
nr Palmda	le	29.18	30							
nr Lakepo	ort									
C5:		- NR -	0	-NR	2 – NF	RNF	۲-			
South Shore										
S4 Pumps:	12.06	-NR-	0	0	0	0			(cfs)	
S169:		-NR-	- NR -	- NR -	-NR-	-NR-				
S310:	16.11		11							
S3 Pumps:	10.68	16.13	0	0	0	0			(cfs)	
S354:	16.13	10.68	211	0.2		-			()	
S2 Pumps:	10.59	16.15	0	0.2	0.4	0	0		(cfs)	
S351:			669	0.6			0		((13)	
	16.15	10.59				0.7				
S352:	16.24	10.55	178	0.0						
C10A:	-NR-	- NR -		- NR -	-NR-	NF	( r	NK-	-NR-	
L8 Canal PT		13.59	-4							
		4 4 6 9 5 9								
	535	1 and S352	Tempor	ary Pum	ips/S:	354 Sp	DITIMS	ау		
6251.	10 50	16 15	660		ייא סו					
S351:	10.59	16.15	669					- NK -		
S352:	10.55	16.24	178							
S354:	10.68	16.13	211	-NR N	IR – – NF	RNR-	-			
C-1	- Di (	c77 c70 c								
Caloosahatche	•		(9)	o =						
S47B:	14.65	12.10		0.7	1.2					
S47D:	12.08	11.09	0	0.0						
S77:										
Spillway	and Secto	r Preferred	Flow:							
-	15.95	10.95	973	0.5 3	.0 0	9.5 @	0.0			
Flow Due	to Lockag	es+:	8							
	0									

Spillway and Sector Flow: 10.98 1162 1.0 2.5 0.0 0.5 2.79 Flow Due to Lockages+: 10 S79: Spillway and Sector Flow: 2.95 1262 0.0 0.0 0.0 2.0 2.0 2.0 0.0 0.0 1.42 Flow Due to Lockages+: 5 77% Percent of flow from S77 Chloride (ppm) 0 St. Lucie Canal (S308, S80) S308: Spillway and Sector Preferred Flow: 15.82 0 0.0 0.0 0.0 0.0 0.11 Flow Due to Lockages+: -NR-S153: 19.02 13.81 0 0.0 0.0 S80: Spillway and Sector Flow: 14.07 0.66 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Flow Due to Lockages+: 24 Percent of flow from S308 NA % (mg/ml) \*\*\*\* Steele Point Top Salinity Steele Point Bottom Salinity (mg/ml) \*\*\*\* Speedy Point Top Salinity (mg/ml) \*\*\*\* Speedy Point Bottom Salinity (mg/ml) \*\*\*\*

+ Flow Due to lockages is computed utilizing average daily headwater and tailwater along with total number of lockages for the day to calculate a volume which is then converted to an average discharge in cfs.

++ Preferred flow is determined from either the spillway discharge or the below flow meter daily

				Wi	nd
Daily Precipitation Totals	1-Day	3-Day	7-Day	Directio	n Speed
	(inches)	(inches)	(inches)	(Deg�)	(mph)
S133 Pump Station:	- NR -	0.00	0.00		
S193:	- NR -	0.00	0.00	- NR -	- NR -
Okeechobee Field Station:	- NR -	0.00	0.00		
S135 Pump Station:	- NR -	0.00	0.00		
S127 Pump Station:	- NR -	0.00	0.00		
S129 Pump Station:	- NR -	0.00	0.00		
S131 Pump Station:	- NR -	0.00	0.00		
S77:	- NR -	0.00	0.00	283	2
S78:	- NR -	0.00	0.00	315	1
S79:	- NR -	0.00	0.00	3	1
S4 Pump Station:	- NR -	0.00	0.00		
Clewiston Field Station:	- NR -	0.00	0.00		
S3 Pump Station:	- NR -	0.00	0.00		
S2 Pump Station:	- NR -	0.00	0.00		
\$308:	- NR -	0.00	0.00	84	2
S80:	- NR -	0.00	0.00	45	1
Okeechobee Average	- NR -	0.00	0.00		
(Sites S78, S79 and	S80 not inc	luded)			
Oke Nexrad Basin Avg	 -NR-	0.00	0.00		

15JAN23	-2	Davs =	13	JAN	2023		16.28		0.13
15JAN23					2023		16.27		0.12
15JAN23		Days =			2023		16.28		0.13
15JAN23		Days =			2023		16.31		0.16
15JAN23		Days =			2023		16.32		0.17
15JAN23		Days =			2023		16.32		0.17
15JAN23	-30	Days =	16	DEC	2022		16.47		0.32
15JAN23	-1	Year =	15	JAN	2022		15.14		-1.01
15JAN23					2021		15.67		-0.48
			_		-				
ng Term M	lean	30day A	vearge E	Г for	r Lake	Alfred (	Inches)	= -	NR -
						Net Inflo			A D 11 F1
	-					previous			Avg-Daily Flow
15JAN23		Today =			2023	-1092		!	-11581
15JAN23		Day =			2023		SUN		-13385
15JAN23	-2	Days =	13	JAN	2023	958	SAT		5236
15JAN23	-3	Days =	12	JAN	2023	792	FRI		1228
15JAN23		Days =			2023	789		i	-2696
15JAN23		Days =			2023	1002			928
		-			2023	1002			2121
15JAN23		Days =							
15JAN23		Days =			2023	441			1405
15JAN23		Days =			2023	86		ļ	-2748
15JAN23	-9	Days =	06	JAN	2023	-340	SAT		-2985
15JAN23	-10	Days =	05	JAN	2023	5	FRI	l l	3345
15JAN23					2023	97		i	1238
15JAN23					2023	213		i	2019
15JAN23		-			2023	329		ł	591
								•	
				Se	55E				
						previous		5	Avg-Daily Flow
15JAN23		Today=	15	JAN	2023	1604	MON	l l	1546
15JAN23		Day =			2023		SUN	i	1605
15JAN23		Days =			2023		SAT	i i	1487
15JAN23		Days =			2023	1630		ł	1839
		-							
15JAN23		Days =			2023	1618			1301
15JAN23		Days =			2023	1638	WED	ļ	1808
15JAN23					2023	1621			1691
15JAN23	-7	Days =	08	JAN	2023	1624	MON		1561
15JAN23					2023		SUN	i	1582
15JAN23					2023		SAT		1589
15JAN23					2023	1664			1602
15JAN23					2023	1676		ļ	1603
15JAN23					2023	1689		ļ	1624
15JAN23	-13	Days =	02	JAN	2023	1696	TUE		1623
			Avenage		55EX1	previous	14 days	· I	Avg-Daily Flow
1		Tada						י י	
15JAN23		Today=			2023	0			0
15JAN23		Day =			2023	0			0
15JAN23	-2	Days =	13	JAN	2023	0	SAT		0
15JAN23		Days =			2023	0		i	0
15JAN23		Days =			2023	0			0
					2023	0			0
15JAN23		Davs =	09		2023	0		ļ	0
15JAN23 15JAN23					2022	0	MON		0
15JAN23			08	JAN	2023	0	PION	I	0
15JAN23 15JAN23 15JAN23	-7	Days =				0			0
15JAN23 15JAN23 15JAN23 15JAN23	-7 -8	Days = Days =	07	JAN	2023	0	SUN		0
15JAN23 15JAN23 15JAN23 15JAN23 15JAN23	-7 -8 -9	Days = Days = Days =	07 06	JAN JAN	2023 2023	0 0	SUN SAT		0 0
15JAN23 15JAN23 15JAN23 15JAN23 15JAN23 15JAN23	-7 -8 -9 -10	Days = Days = Days = Days =	07 06 05	JAN JAN JAN	2023 2023 2023	0 0 0	SUN SAT FRI		0 0 0
15JAN23 15JAN23 15JAN23 15JAN23 15JAN23 15JAN23 15JAN23	-7 -8 -9 -10 -11	Days = Days = Days = Days = Days =	07 06 05 04	JAN JAN JAN JAN	2023 2023 2023 2023 2023	0 0 0 0	SUN SAT FRI THU		0 0 0 0
15JAN23 15JAN23 15JAN23 15JAN23 15JAN23 15JAN23	-7 -8 -9 -10 -11 -12	Days = Days = Days = Days = Days = Days =	07 06 05 04 03	JAN JAN JAN JAN JAN	2023 2023 2023	0 0 0	SUN SAT FRI THU WED		0 0 0

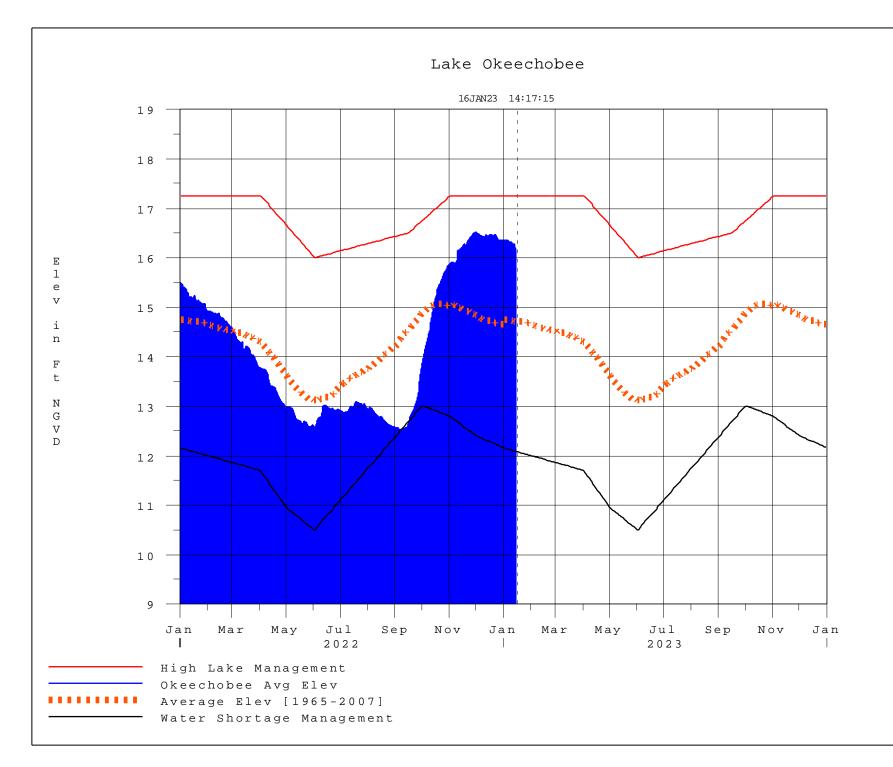
Lake Okeechobee Outlets Last 14 Days

c <b>77</b>	<b>D</b> 1 <i>C</i> 77	6 70	6 70		
S-77 Dischar	Below S-77	S-78 Dischange	S-79 Dischange		
Discharg (ALL DA)		Discharge (ALL DAY)	Discharge (ALL DAY)		
DATE (AC-FT)		(AC-FT)	(AC-FT)		
15 JAN 2023 1957	2564	2333	2515		
14 JAN 2023 2537	2999	1745	3136		
13 JAN 2023 3480	3674	2894	4470		
12 JAN 2023 4276	4651	4011	5105		
11 JAN 2023 4599	4741	4417	5070		
10 JAN 2023 3261 09 JAN 2023 13431	3347 2537	3113 2313	4103 3116		
08 JAN 2023 13431 08 JAN 2023 1475	2185	1865	2787		
07 JAN 2023 2146	2735	1787	3142		
06 JAN 2023 1471	1851	2119	2625		
05 JAN 2023 1412	2001	1955	3034		
04 JAN 2023 1600	2208	1918	3377		
03 JAN 2023 2806	3262	3024	4022		
02 JAN 2023 4663	5102	3793	5379		
S-310	S-351	S-352	S-354	L8 Canal Pt	
Dischar		Discharge	Discharge	Discharge	
(ALL DA)		(ALL DAY)	(ALL DAY)	(ALL DAY)	
DATE (AC-FT) 15 JAN 2023 22	(AC-FT) 1326	(AC-FT) 354	(AC-FT) 419	(AC-FT) -9	
15 JAN 2023 22 14 JAN 2023 20	1458	566	104	280	
13 JAN 2023 16	1446	203	367	403	
12 JAN 2023 15	1456	763	121	270	
11 JAN 2023 8	1760	929	580	307	
10 JAN 2023 11	2080	548	275	273	
09 JAN 2023 13	1390	0	260	17	
08 JAN 2023 9	1150	0	141	-1	
07 JAN 2023 7 06 JAN 2023 5	1309 1371	0 0	149 252	0 - 3	
05 JAN 2023 5	508	0	220	-0	
04 JAN 2023 7	616	0	231	1	
03 JAN 2023 10	757	0	450	2	
02 JAN 2023 -4	905	0	22	7	
S-308	Below S-30	08 S-80			
Dischar					
(ALL DA)		•			
DATE (AC-FT)	• •	(AC-FT)			
15 JAN 2023 -NR- 14 JAN 2023 -NR-	- NR - - NR -	47 23			
14 JAN 2023 -NR- 13 JAN 2023 -NR-	-NR-	19			
12 JAN 2023 13	-NR-	37			
11 JAN 2023 5	-NR-	29			
10 JAN 2023 7	-NR-	34			
09 JAN 2023 5	-NR-	31			
08 JAN 2023 7	-NR-	39			
07 JAN 2023 7	-NR-	27			
06 JAN 2023 9 05 JAN 2023 8	- NR - - NR -	43 53			
04 JAN 2023 9	-NR-	36			
03 JAN 2023 11	-NR-	35			
02 JAN 2023 7	- NR -	35			
*** NOTE: Disc	harge (All DA	V) is compu	ited lising S	pillway, Secto	or Gate and
NOTE: D130	ages Discharg				, sace and
	-				

\* On 11 May 1999, Lake Okeechobee Elevation was switched from Instantaneous 2400 value to an average-daily lake average.
On 14 Mar 2001, due to the isolation of various gages within the standard 10 stations, the average of the interior 4 station gages was used as the Lake Okeechobee Elevation.
On 05 November 2010, Lake Okeechobee Elevation was switched to a 9 gage mix of interior and edge gages to obtain a more reliable representation of the lake level.
On 09 May 2011, Lake Okeechobee Elevation was switched to a 8 gage mix of interior and edge gages to obtain a more reliable representation of the lake level.
On 09 May 2011, Lake Okeechobee Elevation was switched to a 8 gage mix of interior and edge gages to obtain a more reliable representation of the lake level due to isolation of S135 from low lake levels. Today Lake Okechobee elevation is determined from the 4 Int & 4 Edge stations
++ For more information see the Jacksonville District Navigation website at http://www.saj.usace.army.mil/

\$ For information regarding Lake Okeechobee Service Area water restrictions
please refer to www.sfwmd.gov

Report Generated 16JAN2023 @ 14:15 \*\* Preliminary Data - Subject to Revision \*\*



### **Classification Tables**

Supplemental Tables used in conjunction with the LORS2008 Release

Guidance Flow Charts

• <u>Class Limits for Tributary Hydrologic Conditions</u>

Table K-2 in the Lake Okeechobee Water Control Plan

• <u>6-15 Day Precipitation Outlook Categories</u>

Table ?? in the Lake Okeechobee Water Control Plan

• <u>Classification of Lake Okeechobee Net Inflow for Seasonal</u>

<u>Outlook</u>

 Table K-3 in the Lake Okeechobee Water Control Plan

<u>Classification of Lake Okeechobee Net Inflow for Multi-</u>

Seasonal Outlook

Table K-4 in the Lake Okeechobee Water Control Plan

### Back to Lake Okeechobee Operations Main Page

Back to U.S. Army Corps of Engineers Lake Okeechobee Operations Homepage

Tributary Hydrologic	Palmer Index	2-wk Mean L.O. Net
Classification*	Class Limits	Inflow Class Limits
Very Wet	3.0 or greater	Greater >= 6000 cfs
Wet	1.5 to 2.99	2500 - 5999 cfs
Near Normal	-1.49 to 1.49	500 - 2499 cfs
Dry	-2.99 to -1.5	-5000 – 500 cfs
Very Dry	-3.0 or less	Less than -5000 cfs

\* use the wettest of the two indicators

### **Classification of Lake Okeechobee Net Inflow Seasonal Outlook**\*

Lake Net Inflow Prediction	Equivalent Depth**	Lake Okeechobee
[million acre-feet]	[feet]	Net Inflow
	[1001]	Seasonal Outlook
> 0.93	> 2.0	Very Wet
0.71 to 0.93	1.51 to 2.0	Wet
0.35 to 0.70	0.75 to 1.5	Normal
< 0.35	< 0.75	Dry

\*\*Volume-depth conversion based on average lake surface area of 467,000 acres

Classification of Lake Okeechobee Net Inflow Multi-Seasonal Outlook\*

Lake Net Inflow Prediction	Equivalent Depth**	Lake Okeechobee
[million acre-feet]	[feet]	Net Inflow
		Multi-Seasonal Outlook
> 2.0	> 4.3	Very Wet
1.18 to 2.0	2.51 to 4.3	Wet
0.5 to 1.17	1.1 to 2.5	Normal
< 0.5	< 1.1	Dry

\*\*Volume-depth conversion based on average lake surface area of 467,000 acres

### 6-15 Day Precipitation Outlook Categories\*

6-15 Day Precipitation Outlook Categories	WSE Decision Tree Categories
Above Normal	Wet to Very Wet
Normal	Normal
Below Normal	Dry

\* Corresponds to Table 7-6 in the Lake Okeechobee Water Control Plan