Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 07/03/2023 (ENSO Condition: El Niño)

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 El Niño years and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with El Niño 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 [*]	SFWMD Empirical Method		Sub-sampling of El Niño ENSO Years**		Sub-sampling of AMO Warm + El Niño ENSO Years***	
	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>
Current (Jul-Dec)	N/A	N/A	2.75	Very Wet	2.67	Very Wet	3.82	Very Wet
Multi Seasonal (Jul-Apr)	N/A	N/A	3.17	Wet	3.36	Wet	5.07	Very Wet

*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:

7612 cfs 14-day running average for Lake Okeechobee Net Inflow through 07/02/2023. According to the classification in <u>Tributary Hydrologic Conditions</u> table, this condition is Very Wet.

-2.40 for Palmer Drought Index on 07/01/2023.

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

The wetter of the two conditions above is Very Wet.

LORS2008 Classification Tables:

Lake Okeechobee Stage on 07/03/2023:

Lake Okeechobee Stage: 14.66 feet

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.15	
	High sub-band	15.68	
Operational Band	Intermediate sub-band	15.22	
	Low sub-band	13.30	← 14.66 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.14	
Water Shortage M	lanagement Band		

Part C of LORS2008: Discharge to WCAs

Up to Maximum Practicable to the WCAs if desirable or with minimum Everglades impact; otherwise no releases to WCAs.

Part D of LORS2008: Discharge to Tide

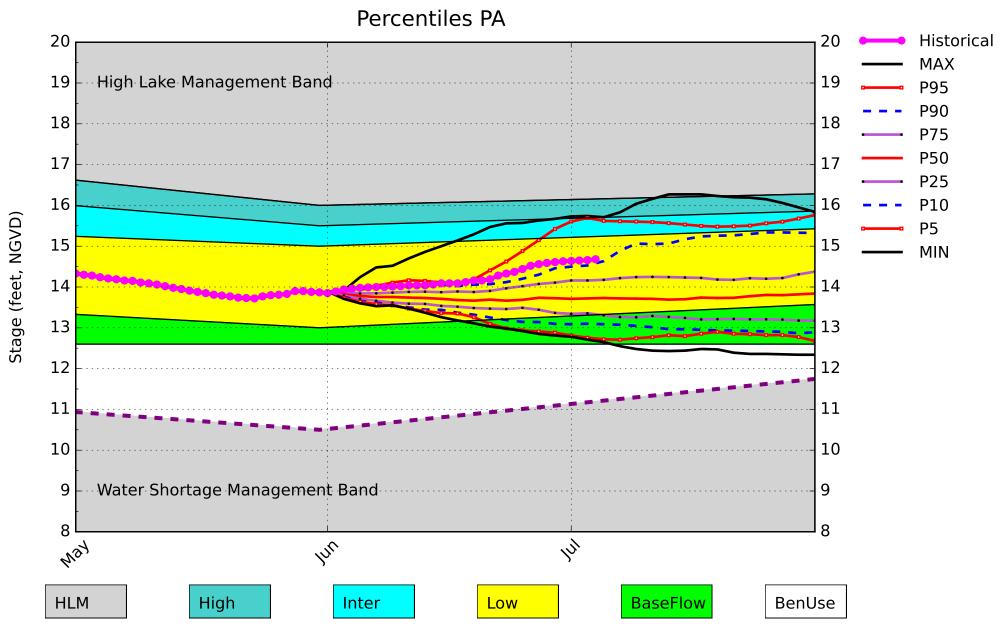
Up to 4000 cfs at S-77 and up to 1800 cfs at S-80.

LORS2008 Implementation on 07/03/2023 (ENSO Condition- El Niño): Status for week ending 07/03/2023:

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
	Projected LOK Stage for the next two months	Low Sub-band	L
	Palmer Drought Index for LOK Tributary Conditions	-2.40 (Extremely Dry)	н
	CPC Procinitation Outlook	1 month: Equal Chances	L
LOK	CPC Precipitation Outlook	3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	2.67 ft	
	ENSO Forecast	Normal to Extremely Wet	- -
	LOK Multi-Seasonal Net Inflow Outlook	3.36 ft	
	ENSO Forecast	Wet	L
	WCA 1: 3 Station Average (Site 1-8C)	Above Line 1 (16.28 ft)	L
WCAs	WCA 2A: Site 2-17	Above Line 1 (13.08 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (10.29 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

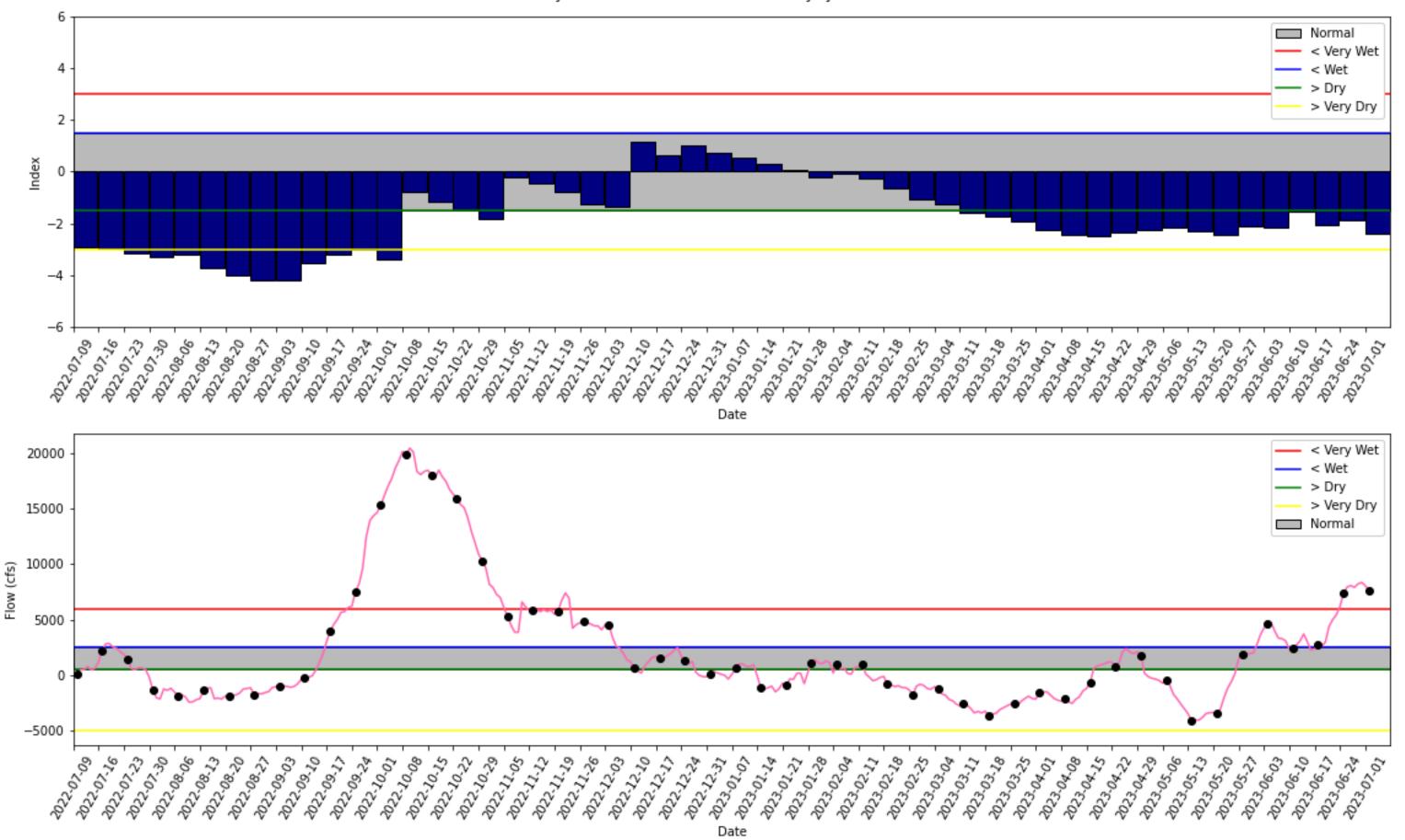
Note: The water supply risk classification based on the Palmer index, as well as the LOK seasonal and multi-seasonal net inflow outlooks use slightly different classification intervals than those used by the 2008-LORS.



Lake Okeechobee SFWMM June 2023 Position Analysis

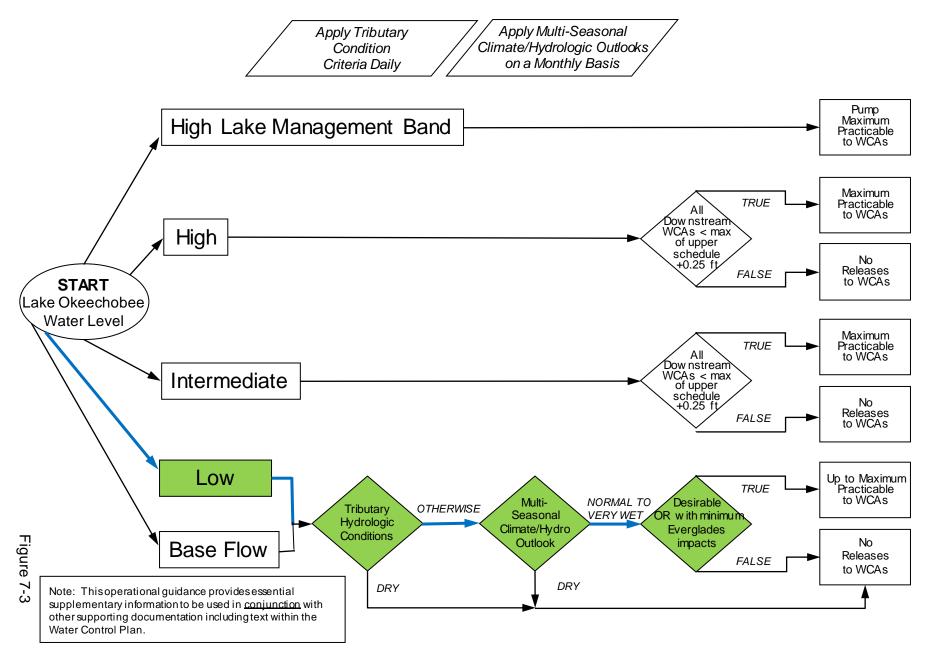
(See assumptions on the Position Analysis Results website)

07/05/23 09:27:40



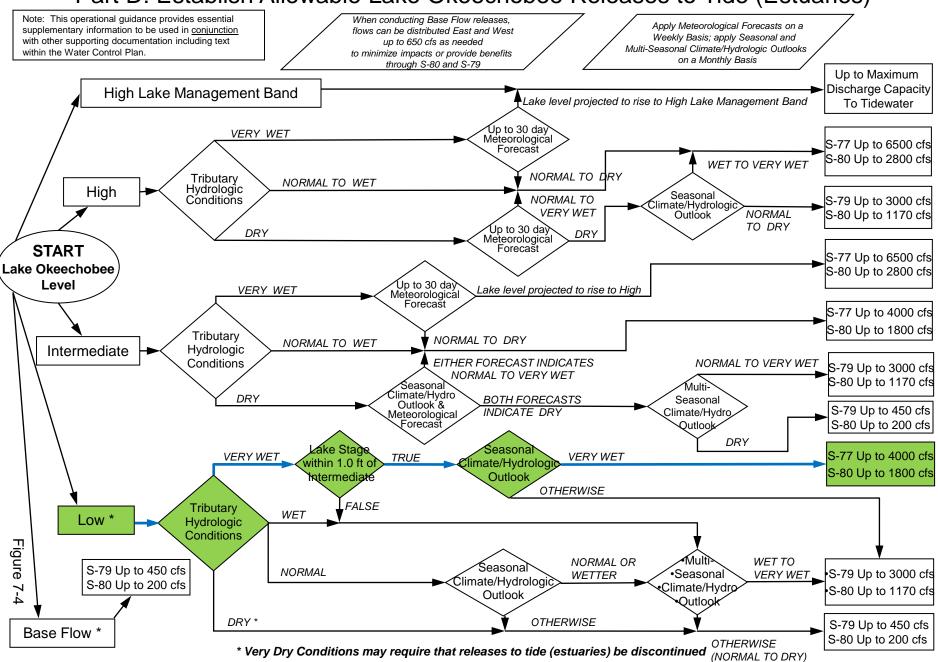
2008 LORS

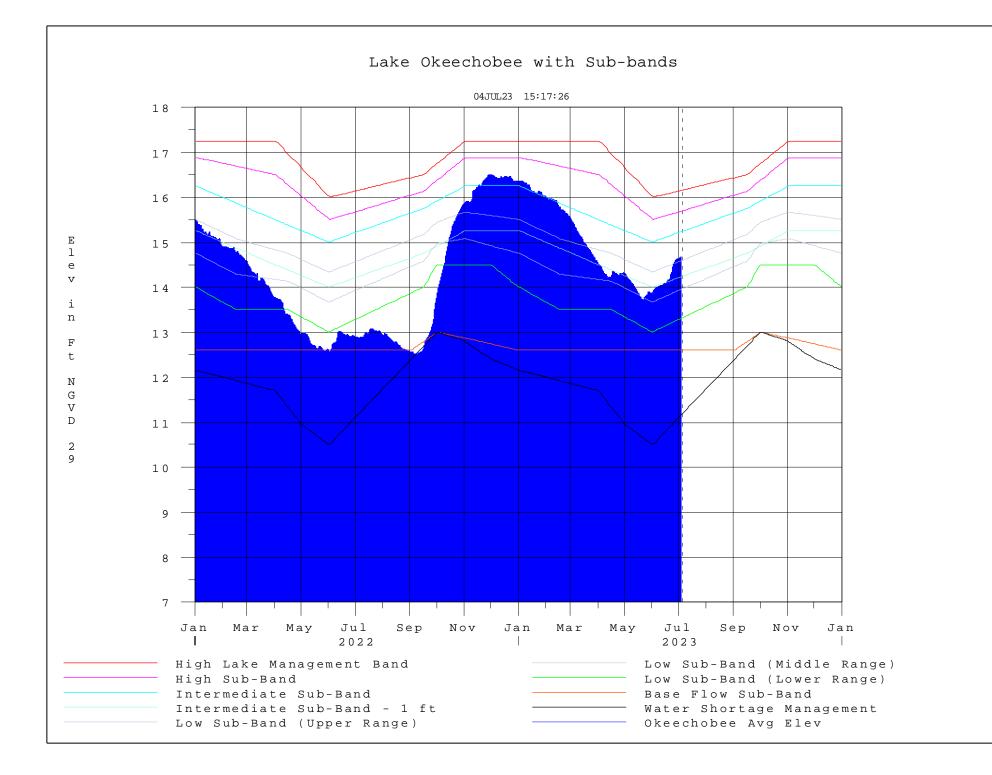
Part C: Establish Allowable Lake Okeechobee Releases to the Water Conservation Areas



2008 LORS

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





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U. S. Army Corps of Engineers, Jacksonville District Lake Okeechobee and Vicinity Report ** Preliminary Data - Subject to Revision ** Data Ending 2400 hours 02 JUL 2023 Okeechobee Lake Regulation Elevation Last Year 2YRS Ago (ft-NGVD) (ft-NGVD) (ft-NGVD) *Okeechobee Lake Elevation 14.66 12.89 12.84 (Official Elv) Bottom of High Lake Mngmt= 16.15 Top of Water Short Mngmt= 11.14 Currently in Operational Management Band Simulated Average LORS2008 [1965-2000] 12.30 Difference from Average LORS2008 2.36 02JUL (1965-2007) Period of Record Average 13.44 Difference from POR Average 1.22 Today Lake Okeechobee elevation is determined from the 4 Int & 4 Edge stations

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 � 8.60' ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 � 6.80' Bridge Clearance = 49.83'

4 Interior and 4 Edge Okeechobee Lake Average (Avg-Daily values):

L001 L005 L006 LZ40 S4 S308 S133 S352 14.70 14.61 14.65 14.60 14.61 14.77 14.74 14.66

*Combination Okeechobee Avg-Daily Lake Average = 14.66

(*See Note))
------------	---	---

Okeechobee Inflo	ows (cfs):				
S65E	3292	S65EX1	0	Fisheating Cr	909
S154	21	S191	0	S135 Pumps	175
S84	54	S133 Pumps	36	S2 Pumps	0
S84X	20	S127 Pumps	59	S3 Pumps	0
S71	214	S129 Pumps			0
S72	355	S131 Pumps		C5	0
Total Inflows:					
Okeechobee Outf]	Lows (cfs):				
S135 Culverts	0	S354	0	S77	-NR-
S127 Culverts	0	S351	0	S308	1
S129 Culverts			0		
		L8 Canal Pt	- NR -		
Total Outflows:				808 Discharge Da	ta
focur ouclions.	no nepor e	546 10 112552118	577 61 55		cu
****S77 below f]	ow mater i	s haing used to	compute T	otal Outflow	
****\$308 structu		-	•		
	ILE ITOM IS	Defing used to	compute it	Juai Outriow.	
Okeechobee Pan E	Evaporation	(inches):			
S77	0.35	\$308	0.32		
Average Pan Fy		Pan Coefficient	= 0.25"	= 0.02'	
Average Pan Evap x 0.75 Pan Coefficient = 0.25" = 0.02'					
Lake Average Precipitation using NEXRAD: = -NR-" = -NR-'					

= -NR - " = -NR - "Evaporation - Precipitation: Evaporation - Precipitation using Lake Area of 730 square miles

7/5/23, 8:32 AM

is equal to -NR-

Lake Okeechobee (Change in Storage) Flow is 2118 cfs or 4200 AC-FT

	Hoodwatan	Tailwater				Gat	Do Do	ition	ıs	
		Elevation	Disch			- Gat #3	#4	#5	#6 #7	#8
		(ft-msl)							-	-
	(note at			()	()	(/ (/	(/
North East Sh	iore									
S133 Pumps:	13.28	14.77	36	0	0	0	12	6	(cfs)	
S193:										
S191:	18.56	14.72	0	0.0		0.0				
S135 Pumps:		14.57	175	56		56	56		(cfs)	
S135 Culver	ts:		0	0.0	0.0					
North West Sh	000									
S65E:	20.90	14.79	3292	1.8	1 1	1 1	1 2	1.7	1.8	
S65EX1:	20.90	14.79	5252 0	1.0	1.1	1.1	1.2	1./	1.0	
S127 Pumps:		14.64	59	30	19	0	0	0	(cfs)	
S127 Culver		1.101	0	0.0		Ũ	Ũ	Ũ	((()))	
011/ 00110			· ·							
S129 Pumps:	12.88	14.67	52	37	12	0			(cfs)	
S129 Culver			0	0.0						
S131 Pumps:	12.92	- NR -	38	0	- NR -				(cfs)	
S131 Culver	·t:		0							
Fisheating		22.04								
nr Palmda	-	32.81	909							
nr Lakepo	ort		٥				,			
C5:		- NR -	0	- NF	R− −NF	(NF	(-			
South Shore										
S4 Pumps:	11.59	-NR-	0	0	0	0			(cfs)	
S169:	14.59	-NR-	-NR-		-NR-	-			((()))	
S310:	14.61		-21							
S3 Pumps:	10.60	14.60	0	0	0	0			(cfs)	
S354:	14.60	10.60	0	0.0	0.0					
S2 Pumps:	10.40	14.69	0	0	0	0	0		(cfs)	
S351:	14.69	10.40	0	0.0	0.0	0.0				
S352:	14.73	10.39	0	0.0	0.0					
C10A:	- NR -	- NR -		- NR -	- NR -	- NF	11	NR- ·	- NR –	
L8 Canal PT	•	14.69	- NR -							
			_				• • • •			
	535	1 and S352	lempor	ary Pun	nps/S:	54 Sp	DITIMS	ау		
S351:	10.40	14.69	Q	-NRN			ND	ND		
S352:	10.40	14.09	-	-NRN				- MIX -		
S354:	10.60	14.60	0							
5554.	10.00	14.00	Ū							
Caloosahatche	e River (S77, S78, S	79)							
S47B:	11.95	11.38	•	2.0	2.0					
S47D:	11.19	11.13	184	6.5						
S77:										
Spillway		r Preferred								
	14.61	- NR -	157	0.0 0	9.0 0	0.0 0	0.0			
Flow Due	to Lockag	es+:	- NR -							
670										

7/5/23, 8:32 AM Spillway and Sector Flow: 1544 0.0 2.5 2.5 0.0 11.03 3.08 Flow Due to Lockages+: 13 S79: Spillway and Sector Flow: 3.25 0.93 3425 0.0 0.0 2.0 3.0 3.0 3.0 2.0 2.0 Flow Due to Lockages+: -NR-Percent of flow from S77 5% Chloride (ppm) – N St. Lucie Canal (S308, S80) S308: Spillway and Sector Preferred Flow: 14.82 0 0.0 0.0 0.0 0.0 13.67 Flow Due to Lockages+: 1 S153: 18.81 13.42 29 0.0 0.5 S80: Spillway and Sector Flow: 13.67 2.07 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Flow Due to Lockages+: 15 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	175	2
S78:	- NR -	0.00	0.00	94	2
S79:	- NR -	0.00	0.00	3	0
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		
S308:	- NR -	0.00	0.00	74	1
S80:	- NR -	0.00	0.00	111	0
Okeechobee Average	- NR -	0.00	0.00		
(Sites S78, S79 and	S80 not inc	luded)			
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

14.66 Difference from 02JUL23 14.65 -0.01

7/5/23, 8:32 AM		oke		
02JUL23 -2 Days =	30 JUN 2023	14.64	-0.02	
02JUL23 -3 Days =	29 JUN 2023	14.63	-0.03	
02JUL23 -4 Days =	28 JUN 2023	14.61	-0.05	
02JUL23 -5 Days =	27 JUN 2023	14.59	-0.07	
02JUL23 -6 Days =	26 JUN 2023	14.56	-0.10	
02JUL23 -7 Days =	25 JUN 2023	14.52	-0.14	
02JUL23 -30 Days =	02 JUN 2023	13.94	-0.72	
02JUL23 -1 Year =	02 JUL 2022	12.89	-1.77	
02JUL23 -2 Year =	02 JUL 2021	12.84	-1.82	
Long Term Mean 30day Av	vearge ET for Lake	Alfred (Inches) =	- NR -	
		Net Inflow (LONIN)		
	rage Flow over the		Avg-Daily Flow	
02JUL23 Today =	02 JUL 2023	7772 MON	2274	
02JUL23 -1 Day = 02JUL23 -2 Days =	01 JUL 2023	8229 SUN	2361	
02JUL23 -2 Days = 02JUL23 -3 Days =	30 JUN 2023 29 JUN 2023	8522 SAT 8370 FRI	2118 4235	
02JUL23 -4 Days =	28 JUN 2023	8068 THU	4235	
02JUL23 -5 Days =	27 JUN 2023	8219 WED	6353	
02JUL23 -6 Days =	26 JUN 2023	8068 TUE	8470	
02JUL23 -7 Days =	25 JUN 2023	7463 MON	17243	
02JUL23 -8 Days =	24 JUN 2023	6259 SUN	15024	
02JUL23 -9 Days =	23 JUN 2023	5538 SAT	8470	
02JUL23 -10 Days =	22 JUN 2023	5085 FRI	10588	
02JUL23 -11 Days =	21 JUN 2023	4480 THU	19772	
02JUL23 -12 Days =	20 JUN 2023	3067 WED	7670	
02JUL23 -13 Days =	19 JUN 2023	2671 TUE	0	
	S65E			
	Average Flow over	previous 14 days	Avg-Daily Flow	
02JUL23 Today=	02 JUL 2023	2648 MON	3547	
02JUL23 -1 Day =	01 JUL 2023	2483 SUN	3653	
02JUL23 -2 Days =	30 JUN 2023	2288 SAT	3372	
02JUL23 -3 Days =	29 JUN 2023	2119 FRI	3213	
02JUL23 -4 Days =	28 JUN 2023	1934 THU	2946	
02JUL23 -5 Days =	27 JUN 2023	1737 WED	2720	
02JUL23 -6 Days =	26 JUN 2023	1543 TUE	2642	
02JUL23 -7 Days =	25 JUN 2023 24 JUN 2023	1387 MON 1254 SUN	2444 2502	
02JUL23 -8 Days = 02JUL23 -9 Days =	23 JUN 2023	1254 SUN 1116 SAT	2397	
02JUL23 -10 Days =	22 JUN 2023	990 FRI	2306	
02JUL23 -11 Days =	21 JUN 2023	873 THU	2289	
02JUL23 -12 Days =	20 JUN 2023	755 WED	1873	
02JUL23 -13 Days =	19 JUN 2023	661 TUE	1168	
	CCETV4			
	S65EX1	provious 14 days	Avg_Daily Flow	
02JUL23 Today=	Average Flow over 02 JUL 2023	0 MON	Avg-Daily Flow 0	
02JUL23 -1 Day =	02 JUL 2023 01 JUL 2023	0 SUN	0	
02JUL23 -2 Days =	30 JUN 2023	0 SAT	0	
02JUL23 -3 Days =	29 JUN 2023	0 FRI	0	
02JUL23 -4 Days =	28 JUN 2023	0 THU	0	
02JUL23 -5 Days =	27 JUN 2023	32 WED	0	
02JUL23 -6 Days =	26 JUN 2023	76 TUE	0	
02JUL23 -7 Days =	25 JUN 2023	90 MON	0	
02JUL23 -8 Days =	24 JUN 2023	90 SUN	0	
02JUL23 -9 Days =	23 JUN 2023	90 SAT	0	
02JUL23 -10 Days =	22 JUN 2023	90 FRI	0	
02JUL23 -11 Days =	21 JUN 2023	90 THU	0	
02JUL23 -12 Days =	20 JUN 2023	90 WED	0	
02JUL23 -13 Days =	19 JUN 2023	90 TUE	0	

https://w3.saj.usace.army.mil/h2o/reports/r-oke.0703.html

Lake Okeechobee Outlets Last 14 Days

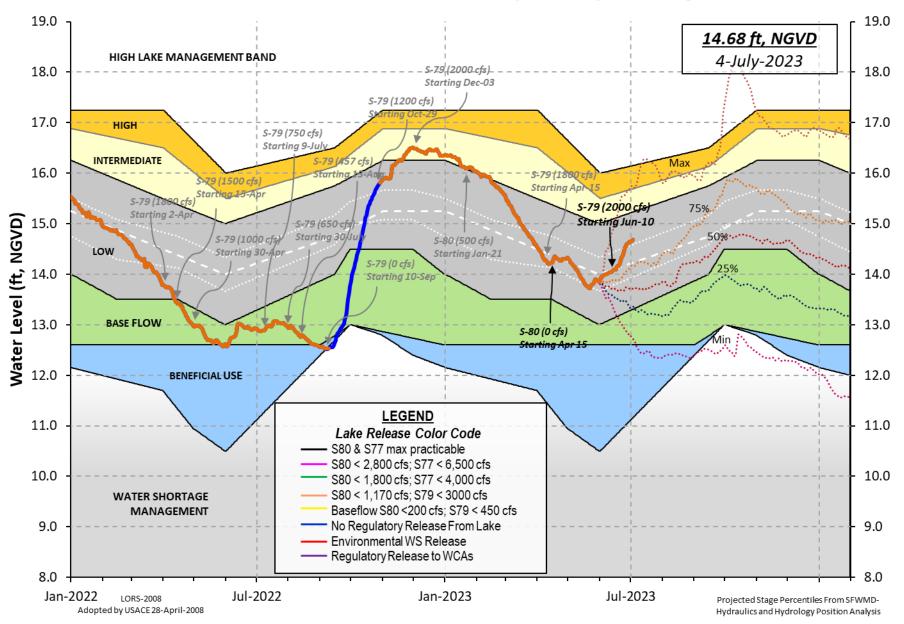
DATE	S-77 Discharge (ALL DAY) (AC-FT)	(ALL-DAY) (AC-FT)	S-78 Discharge (ALL DAY) (AC-FT)	S-79 Discharge (ALL DAY) (AC-FT)	
02 JUL 2023		310	3081	-NR-	
01 JUL 2023 30 JUN 2023		483 430	4149 4123	8356 8855	
29 JUN 2023		707	3009	7370	
28 JUN 2023		963	2576	4973	
27 JUN 2023		1236	3996	6882	
26 JUN 2023	3 5	985	4406	8758	
25 JUN 2023		513	2657	5660	
24 JUN 2023		497	2117	5829	
23 JUN 2023		1231	3167	5267	
22 JUN 2023		1106	2937	5234	
21 JUN 2023		1317	3235	5911	
20 JUN 2023 19 JUN 2023		2313 952	3413 2182	4233 3054	
19 JUN 2023	0 0	952	2102	5054	
	S-310 Discharge	S-351 Dischange	S-352	S-354	L8 Canal Pt
	Discharge (ALL DAY)	-	Discharge (ALL DAY)	Discharge (ALL DAY)	
DATE	(ALL DAY) (AC-FT)	(ALL DAY) (AC-FT)	(ALL DAY) (AC-FT)	(ALL DAY) (AC-FT)	(AC-FT)
02 JUL 2023	• •	(AC-11) 0	(AC-II) 0	(AC-IT) 0	-NR-
01 JUL 2023		0	0	0	-NR-
30 JUN 2023		0	0	0	-NR-
29 JUN 2023		0	0	0	- NR -
28 JUN 2023		0	0	0	- NR -
27 JUN 2023	3 - 385	0	0	0	- NR -
26 JUN 2023		0	0	0	- NR -
25 JUN 2023		0	0	0	-NR-
24 JUN 2023		0	0	0	- NR -
23 JUN 2023		0	0	0	-NR-
22 JUN 2023 21 JUN 2023		0 0	0 0	0 0	-315
20 JUN 2023		0	0	0	– NR – – NR –
19 JUN 2023		0	0	0	-256
		D 1 C 20			
	S-308 Discharge	Below S-30 Discharge		<u>م</u>	
	(ALL DAY)	(ALL-DAY)			
DATE	(AC-FT)	(AC-FT)	(AC-FT)		
02 JUL 2023	• •	-NR-	` 30		
01 JUL 2023	3 2	-NR-	38		
30 JUN 2023	31	- NR -	38		
29 JUN 2023		- NR -	23		
28 JUN 2023		- NR -	35		
27 JUN 2023		-NR-	34		
26 JUN 2023		-NR-	875		
25 JUN 2023 24 JUN 2023		- NR - - NR -	890 244		
24 JUN 2023 23 JUN 2023		-NR- -NR-	244 654		
22 JUN 2023		-NR-	1274		
21 JUN 2023		-NR-	39		
20 JUN 2023		-NR-	908		
19 JUN 2023		- NR -	39		
*** NOTE:		arge (ALL DA ges Discharg			pillway, Sector 00 hrs.

(I) - Flows preceeded by "I" signify an instantaneous flow computed from the single value reported for the day Gate 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

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

Report Generated 03JUL2023 @ 23:38 ** Preliminary Data - Subject to Revision **



Lake Okeechobee Water Level History and Projected Stages

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
	[]	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