Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 1/8/2024 (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 subsampling 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 CPC Outlook.

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	Croley's Method*		roley's Method* Empirical Method		Sub-sampling of El Niño ENSO Years**		Sub-sampling of AMO Warm + EI Niño ENSO Years***	
	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	
Current (Jan-Jun)	N/A	N/A	0.76	Normal	1.53	Wet	1.85	Wet	
Multi Seasonal (Jan-Oct)	N/A	N/A	2.97	Wet	3.84	Wet	5.11	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:

2664 cfs 14-day running average for Lake Okeechobee Net Inflow through 1/8/2024. According to the classification in <u>Tributary Hydrologic Conditions</u> table, this condition is Wet.

0.86 for Palmer Drought Index on 1/6/2024. According to the classification in <u>Tributary Hydrologic Conditions</u> table, this condition is Near Normal.

The wetter of the two conditions above is Wet.

LORS2008 Classification Tables:

Lake Okeechobee Stage on 1/8/2024:

Lake Okeechobee Stage: 16.00 feet

Lake Okeechobe Zone	ee Management Band	Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Manage	ement Band	17.25	
On and the sail	High sub-band	16.85	
Operational Band	Intermediate sub-band	16.20	
	Low sub-band	13.93	← 16.00 ft
Base Flow sub-ba	nd	12.60	
Beneficial Use sub	o-band	12.12	
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 3000 cfs at S-79 and up to 1170 cfs at S-80.

LORS2008 Implementation on 1/8/2024 (ENSO Condition- El Niño):

Status for week ending 1/8/2024*:

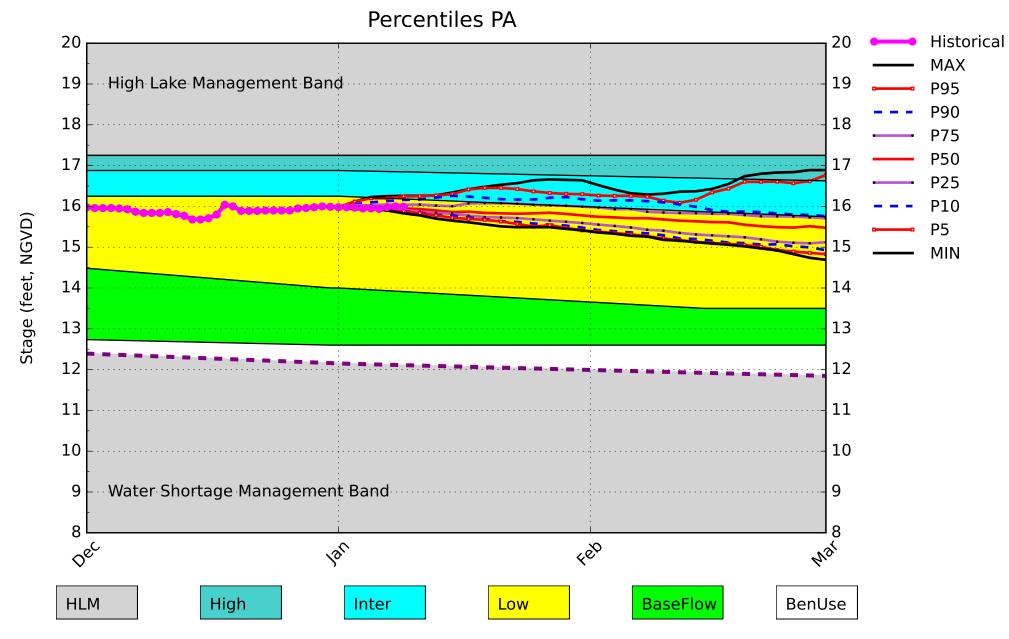
Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
	Projected LOK Stage for the next two months	Low Sub-band	M
	Palmer Drought Index for LOK Tributary Conditions	0.86 (Normal to Extremely Wet)	L
	CPC Procinitation Outlook	1 month: Above Normal	L
LOK	CPC Precipitation Outlook	3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.53 ft	
	ENSO Forecast	Normal to Extremely Wet	_
	LOK Multi-Seasonal Net Inflow Outlook	3.84 ft	
	ENSO Forecast	Wet	L
	WCA 1: Site 1-8C	Above Line 1 (17.47 ft)	L
WCAs	WCA 2A: Site 2-17	Above Line 1 (12.51 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (10.67 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

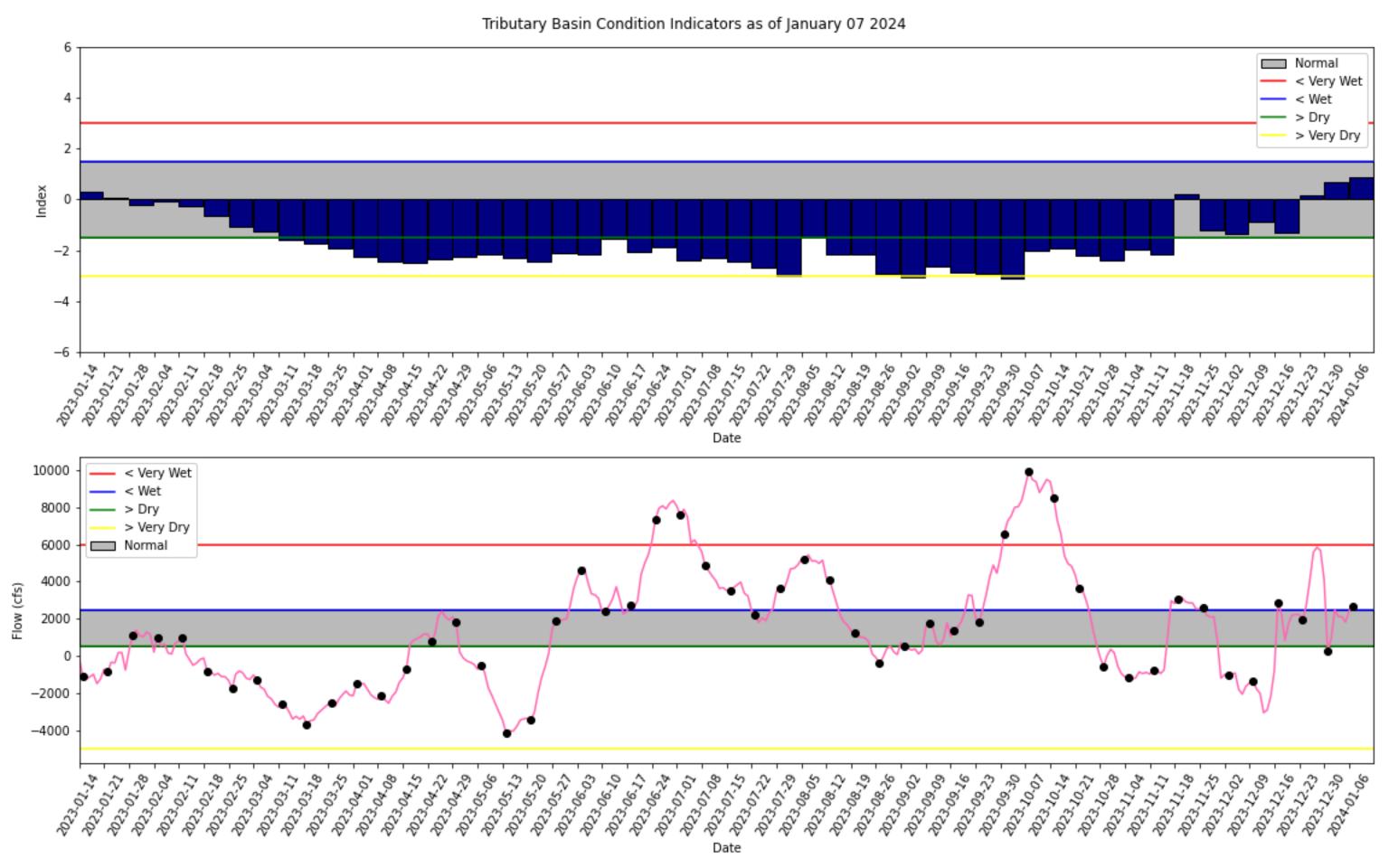
Note: The water supply risk classification based on the Palmer index, as well as the LOK seasonal and multi-seasonal net inflow outlooks use slightly different classification intervals than those used by the 2008-LORS.

 $^{^*}$ - S80 flow data for January 3rd and 4th 2023, is not available from USACE Daily Reports and was assumed to be 0.

Lake Okeechobee SFWMM January 2024 Position Analysis

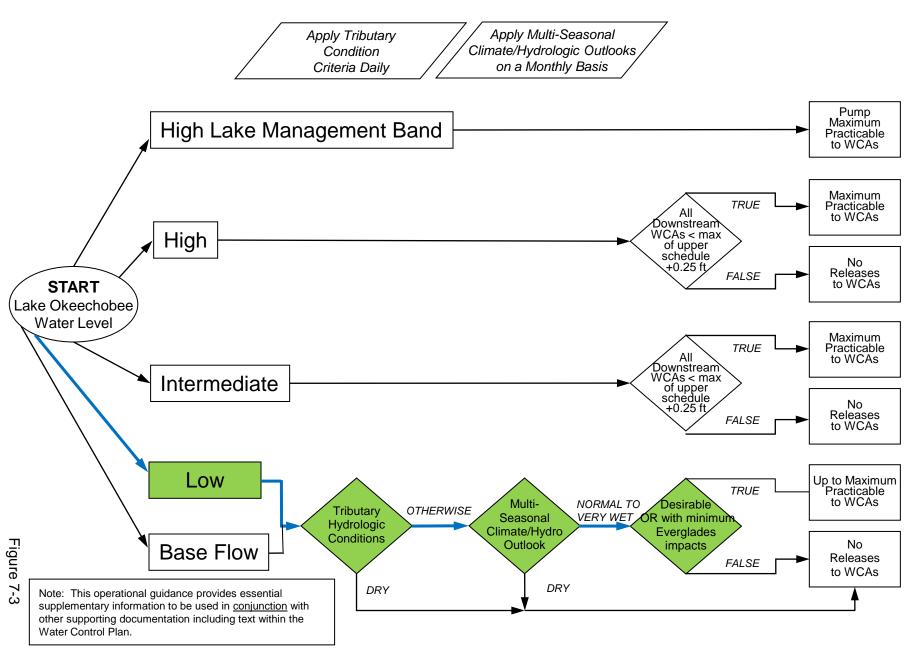


(See assumptions on the Position Analysis Results website)



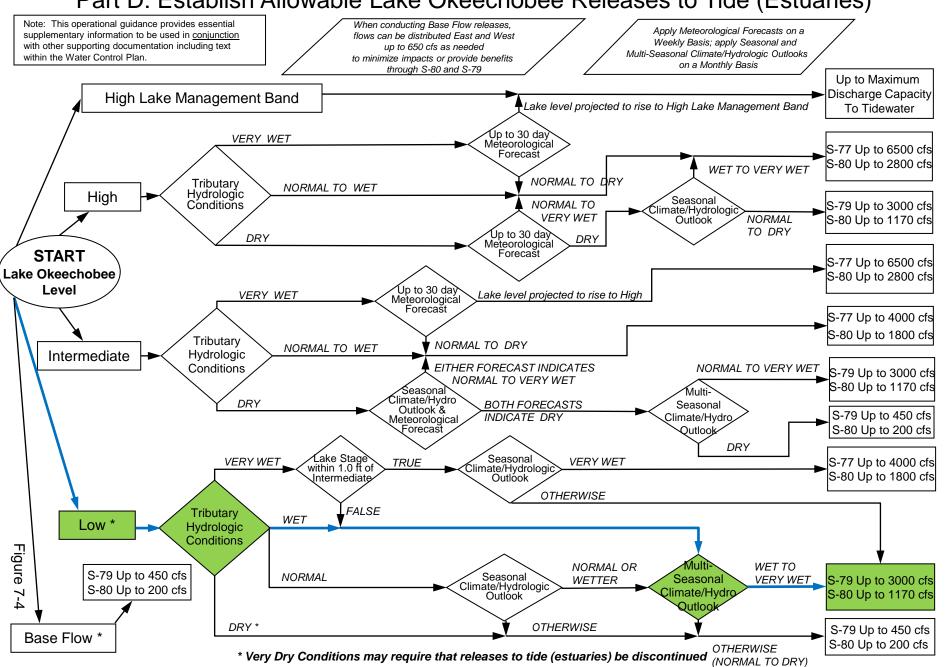
2008 LORS

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

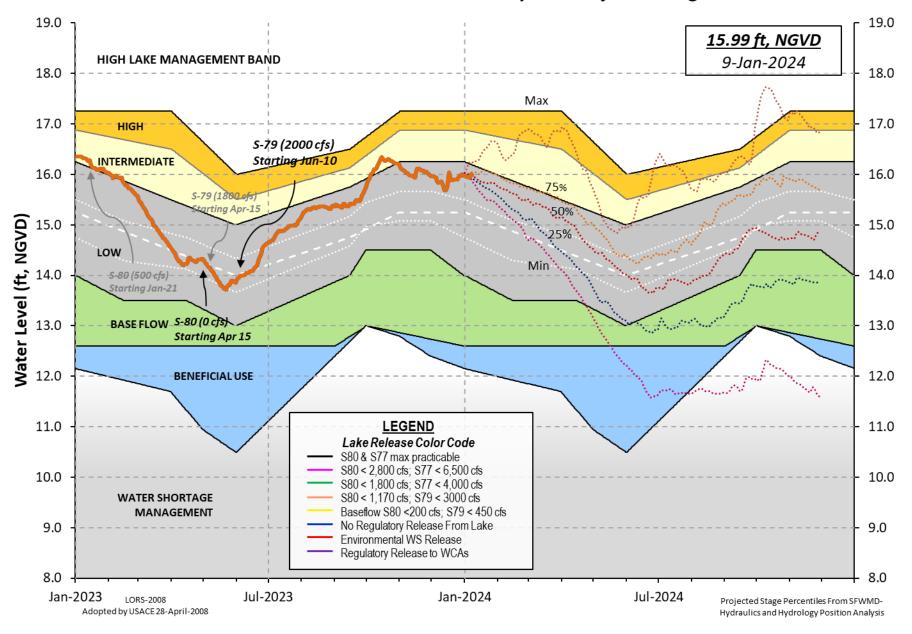


2008 LORS

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



Lake Okeechobee Water Level History and Projected Stages



1/8/24. 1:21 PM oke

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

Data Ending 2400 hours 07 JAN 2024

Okeechobee Lake Regulation Elevation Last Year 2YRS Ago (ft-NGVD) (ft-NGVD) (ft-NGVD)

15.37 (Official Elv) *Okeechobee Lake Elevation 16.00 16.32

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 12.12

Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.60 Difference from Average LORS2008 2.40

07JAN (1965-2007) Period of Record Average 14.73 1.27 Difference from POR Average

Today Lake Okeechobee elevation is determined from the 4 Int & 4 Edge stations

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 � 9.94' ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 � 8.14' Bridge Clearance = 49.49'

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

L001 L005 L006 LZ40 **S4** S352 S308 S133 15.99 16.02 16.01 15.94 15.99 16.13 16.07 15.87

*Combination Okeechobee Avg-Daily Lake Average = 16.00 (*See Note)

Okeechobee Inflows (cfs): S65E 197 881 S65EX1 0 Fisheating Cr S154 0 S191 0 S135 Pumps 0 S84 312 S133 Pumps 0 S2 Pumps 0 S84X 110 S127 Pumps 0 S3 Pumps 0 152 S129 Pumps 0 S4 Pumps 0 S71 0 S72 50 S131 Pumps C5 Total Inflows: 1702

Okeechobee Outflows (cfs): 0 S135 Culverts 0 S354 S77 921 0 S127 Culverts 0 S351 S308 6 S129 Culverts a 5352 26 S131 Culverts 0 L8 Canal Pt 103

Total Outflows: 1056

****S77 below flow meter is being used to compute Total Outflow. ****S308 structure flow is being used to compute Total Outflow.

Okeechobee Pan Evaporation (inches):

S77 0.18 S308 0.09

Average Pan Evap x 0.75 Pan Coefficient = 0.10" = 0.01'

Lake Average Precipitation using NEXRAD: = -NR-" = -NR-"

= -NR-" = -NR-"Evaporation - Precipitation: Evaporation - Precipitation using Lake Area of 730 square miles 1/8/24. 1:21 PM oke

is equal to -NR-

Lake Okeechobee (Change in Storage) Flow is 4336 cfs or 8600 AC-FT

```
----- Gate Positions ------
            Headwater Tailwater
            Elevation Elevation Disch #1 #2 #3 #4 #5 #6 #7 #8
            (ft-msl) (ft-msl) (cfs) (ft) (ft) (ft) (ft) (ft) (ft) (ft)
                             (I) see note at bottom
North East Shore
 S133 Pumps: 13.52
                       15.76
                                   0
                                        0
                                              0
                                                 0
                                                        0
                                                            0 (cfs)
 S193:
 S191:
              19.15
                       15.76
                                   0
                                       0.0 0.0 0.0
 S135 Pumps: 13.41
                       15.73
                                   0
                                        0
                                            0
                                                   0
                                                               (cfs)
 S135 Culverts:
                                   0
                                       0.0 0.0
North West Shore
 S65E:
              21.03
                       15.49
                                 881
                                       0.8 0.5 0.4 0.4 0.4 0.1
 S65EX1:
              21.03
                       15.49
                                   0
 S127 Pumps: 13.51
                       15.88
                                   0
                                        0
                                              0
                                                   0
                                                        0
                                                            0 (cfs)
                                   0
 S127 Culvert:
                                       0.0
 S129 Pumps: 13.19
                       15.96
                                   0
                                         0
                                                   0
                                              0
                                                               (cfs)
 S129 Culvert:
                                       0.0
                                   0
 S131 Pumps: 13.14
                        -NR-
                                   0
                                         0
                                              0
                                                               (cfs)
 S131 Culvert:
                                   0
 Fisheating Creek
   nr Palmdale
                                 197
                       31.65
   nr Lakeport
                       15.91
  S282
              15.95
                                         0.0 0.0 0.1
South Shore
 S4 Pumps:
              11.30
                        -NR-
                                   0
                                         0
                                              0
                                                   0
                                                               (cfs)
 S169:
                        -NR-
                                -NR-
                                       -NR- -NR- -NR-
 S310:
              16.03
                                  7
 S3 Pumps:
              10.19
                       16.24
                                   0
                                        0
                                              0
                                                   0
                                                               (cfs)
              16.24
                       10.19
                                   0
                                       0.0 0.0
 S354:
                       16.18
                                   0
                                                   0
 S2 Pumps:
              10.22
                                        0
                                            0
                                                               (cfs)
 S351:
              16.18
                       10.22
                                   0
                                       0.0 0.0 0.0
 S352:
              16.06
                        9.57
                                  26
                                       0.1 0.0
 S271:
              16.24
                       14.94
                                       0.0 0.0
                                                   0.0 -NR-
 L8 Canal PT
                       14.63
                                 103
                  S351 and S352 Temporary Pumps/S354 Spillway
                       16.18
                                  0 -NR--NR--NR--NR--NR-
 S351:
              10.22
 S352:
              9.57
                       16.06
                                  26 -NR--NR--NR-
              10.19
                       16.24
                                 Ø -NR--NR--NR--NR-
 S354:
Caloosahatchee River (S77, S78, S79)
 S47B:
              13.44
                                       0.5 1.0
                       11.08
  S47D:
              11.12
                       11.11
                                  28
                                       5.0
 S77:
   Spillway and Sector Preferred Flow:
              15.84
                     10.96 913 0.0 0.5 3.0 0.0
   Flow Due to Lockages+:
                                   8
```

S78:

1/8/24, 1:21 PM oke

Spillway and Sector Flow:

10.99 2.98 1422 2.0 0.0 3.0 0.0

Flow Due to Lockages+: 10

S79:

Spillway and Sector Flow:

3.14 1.69 2825 0.0 0.0 2.0 2.0 3.0 2.0 0.0 0.0

Flow Due to Lockages+: 8
Percent of flow from S77 32%
Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Preferred Flow:

16.03 14.01 0 0.0 0.0 0.0 0.0

Flow Due to Lockages+: 6

S153: 18.64 13.81 48 0.0 0.0

S80:

Spillway and Sector Flow:

14.05 0.26 0 0.0 0.0 0.0 0.0 0.0 0.0

Flow Due to Lockages+: 23 Percent of flow from S308 NA %

Steele Point Top Salinity (mg/ml) ****
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
aily 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:	0.00	0.54	0.54	178	2
S78:	3.39	3.40	3.41	95	-NR-
S79:	4.99	7.24	7.24	17	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		
S308:	0.00	0.00	0.00	340	1
S80:	0.13	0.26	0.26	18	2
Okeechobee Average	0.00	0.04	0.04		
(Sites S78, S79 and					
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations 07 JAN 2024 07JAN24 -1 Day = 06 JAN 2024 16.00 Difference from 07JAN24 15.98 -0.02 1/8/24, 1:21 PM ok

/8/24, 1:21 PM			oke	
07JAN24 -2	2 Days =	05 JAN 2024	15.94 -	0.06
07JAN24 -	B Days =	04 JAN 2024	15.95 -	0.05
07JAN24 -4	4 Days =	03 JAN 2024	15.95 -	0.05
07JAN24 -!	5 Days =	02 JAN 2024	15.97 -	0.03
07JAN24 -	6 Days =	01 JAN 2024	15.98 -	0.02
07JAN24 -	7 Days =	31 DEC 2023	15.98 -	0.02
07JAN24 -30	Days =	08 DEC 2023	15.84 -	0.16
07JAN24 -:	1 Year =	07 JAN 2023	16.32	0.32
07JAN24 -2	2 Year =	07 JAN 2022	15.37 -	0.63

Long Term Mean 30day Avearge ET for Lake Alfred (Inches) = -NR-

			L	ake (Okeed	hobee	Net Inf	Low (L	ONIN)		
		Δ	verage	Flow	v ove	er the	previous	s 14 d	ays	Avg-Daily	Flow
07JAN24	To	day	=	07	JAN	2024	2670	MON 6		5274	
07JAN24	-1 D	ay a	=	06	JAN	2024	2406	5 SUN		9253	
07JAN24	-2 D	ays	=	05	JAN	2024	1827	7 SAT		-1324	
07JAN24	-3 D	ays	=	04	JAN	2024	2114	4 FRI		1222	
07JAN24	-4 D	ays	=	03	JAN	2024	2123	3 THU		-2870	
07JAN24	-5 D	ays	=	02	JAN	2024	250	7 WED		-431	
07JAN24	-6 D	ays	=	01	JAN	2024	2752	2 TUE		1368	
07JAN24	-7 D	ays	=	31	DEC	2023	197	5 MON	i	-928	
07JAN24		-		30	DEC	2023	647	7 SUN	i	-1619	
07JAN24	-9 D	ays	=	29	DEC	2023	8283	SAT	i	4883	
07JAN24		-		28	DEC	2023	8489	FRI	i	5204	
07JAN24	-11 D	ays	=	27	DEC	2023	6556	THU	i	3257	
07JAN24	-12 D	ays	=	26	DEC	2023	6622	2 WED	i	12206	
07JAN24	-13 D	ays	=	25	DEC	2023	4862	2 TUE	i	1892	
										•	

			S65E			
		Average	Flow over	previous	14 days	Avg-Daily Flow
07JAN24	Today=	07	JAN 2024	1008	MON	988
07JAN24	-1 Day =	06	JAN 2024	1003	SUN	1002
07JAN24	-2 Days =	05	JAN 2024	994	SAT	968
07JAN24	-3 Days =	04	JAN 2024	986	FRI	987
07JAN24	-4 Days =	03	JAN 2024	978	THU	991
07JAN24	-5 Days =	02	JAN 2024	969	WED	1008
07JAN24	-6 Days =	01	JAN 2024	959	TUE	998
07JAN24	-7 Days =	31	DEC 2023	958	MON	1008
07JAN24	-8 Days =	30	DEC 2023	962	SUN	1026
07JAN24	-9 Days =	29	DEC 2023	953	SAT	1049
07JAN24	-10 Days =	28	DEC 2023	942	FRI	1057
07JAN24	-11 Days =	27	DEC 2023	926	THU	999
07JAN24	-12 Days =	26	DEC 2023	916	WED	1126
07JAN24	-13 Days =	25	DEC 2023	900	TUE	906

					S6	5EX1					
				Average	Flow	over	previous	14 days		Avg-Daily Fi	low
07JAN24		Today	/=	07	JAN	2024	0	MON		0	
07JAN24	-1	Day	=	06	JAN	2024	0	SUN		0	
07JAN24	-2	Days	=	05	JAN	2024	0	SAT	- 1	0	
07JAN24	-3	Days	=	04	JAN	2024	0	FRI	- 1	0	
07JAN24	-4	Days	=	03	JAN	2024	0	THU	- 1	0	
07JAN24	-5	Days	=	02	JAN	2024	0	WED	ĺ	0	
07JAN24	-6	Days	=	01	JAN	2024	0	TUE	ĺ	0	
07JAN24	-7	Days	=	31	DEC	2023	0	MON	ĺ	0	
07JAN24	-8	Days	=	30	DEC	2023	0	SUN	ĺ	0	
07JAN24	-9	Days	=	29	DEC	2023	0	SAT	ĺ	0	
07JAN24	-10	Days	=	28	DEC	2023	0	FRI	ĺ	0	
07JAN24	-11	Days	=	27	DEC	2023	0	THU	ĺ	0	
07JAN24	-12	Days	=	26	DEC	2023	0	WED	ĺ	0	
07JAN24	-13	Days	=	25	DEC	2023	0	TUE	ĺ	0	
		-									

Lake Okeechobee Outlets Last 14 Days

DATE 07 JAN 2024 06 JAN 2024 05 JAN 2024 04 JAN 2024 03 JAN 2024 01 JAN 2024 31 DEC 2023 30 DEC 2023 29 DEC 2023 27 DEC 2023 26 DEC 2023 25 DEC 2023	434 1146 2047 2580 -NR- -NR- -NR- -NR- -NR- -NR-	Below S-77 Discharge (ALL-DAY) (AC-FT) 1811 1102 1613 2377 2862 2838 2665 2409 1037 1035 1675 2117 2665 3706	S-78 Discharge (ALL DAY) (AC-FT) 2847 1764 1634 2215 2977 3239 3159 2723 1731 1450 2153 2326 2665 3389	S-79 Discharge (ALL DAY) (AC-FT) 5656 3978 2981 3447 4066 4813 5049 4786 3419 2814 3565 3661 5024 4318	
DATE 07 JAN 2024 06 JAN 2024 05 JAN 2024 04 JAN 2024 03 JAN 2024 01 JAN 2024 31 DEC 2023 30 DEC 2023 29 DEC 2023 27 DEC 2023 25 DEC 2023	9 -8 0 4 3 1 5 16 13 12 12	S-351 Discharge (ALL DAY) (AC-FT) 0 0 0 0 0 0 0 0 0 0 0 0 0	S-352 Discharge (ALL DAY) (AC-FT) 51 50 47 45 47 48 49 51 50 47 43 44	S-354 Discharge (ALL DAY) (AC-FT) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	L8 Canal Pt Discharge (ALL DAY) (AC-FT) 205 199 205 201 201 190 194 204 199 194 209 195 205 197
DATE 07 JAN 2024 06 JAN 2024 05 JAN 2024 04 JAN 2024 03 JAN 2024 01 JAN 2024 31 DEC 2023 30 DEC 2023 29 DEC 2023 27 DEC 2023 26 DEC 2023 25 DEC 2023	5 10 7 9 531 7 3 6 12 6 5	Below S-308 Discharge (ALL-DAY) (AC-FT) -NRNRNRNRNRNRNRNR			

*** NOTE: Discharge (ALL DAY) is computed using Spillway, Sector Gate and Lockages Discharges from 0015 hrs to 2400 hrs.

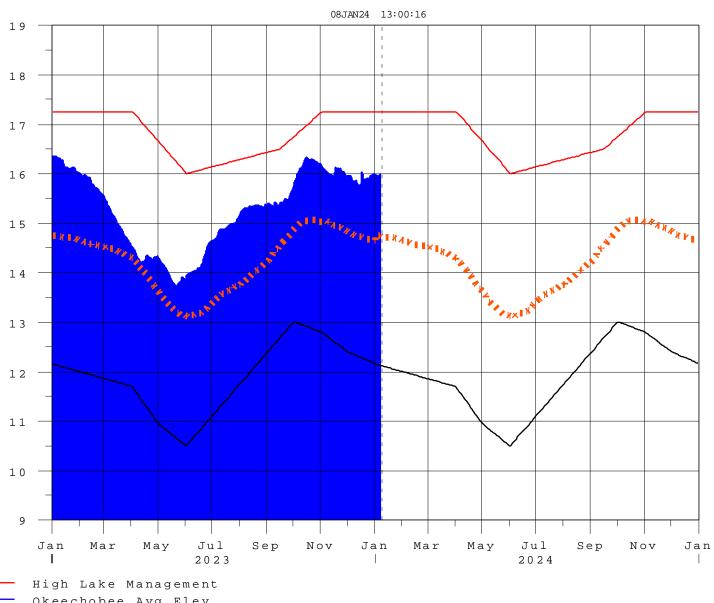
⁽I) - Flows preceded by "I" signify an instantaneous flow computed from the single value reported for the day

1/8/24, 1:21 PM o

- * 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 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 08JAN2024 @ 13:15 ** Preliminary Data - Subject to Revision **





Okeechobee Avg Elev
Average Elev [1965-2007]
Water Shortage Management

E 1 e

i n

F t N

G V D

Classification Tables

Supplemental Tables used in conjunction with the LORS2008

Release

Guidance Flow Charts

• Class Limits for Tributary Hydrologic Conditions

Table K-2 in the Lake Okeechobee Water Control Plan

• 6-15 Day Precipitation Outlook Categories

Table ?? in the Lake Okeechobee Water Control Plan

Classification of Lake Okeechobee Net Inflow for Seasonal

Outlook

Table K-3 in the Lake Okeechobee Water Control Plan

Classification of Lake Okeechobee Net Inflow for Multi-

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

<u>Classification of Lake Okeechobee Net Inflow Multi-Seasonal Outlook</u>*

Lake Net Inflow Prediction	Equivalent Depth**	Lake Okeechobee
[million acre-feet]	[feet]	Net Inflow
[[root]	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