Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 03/06/2023 (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 subsampling 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 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	's Method [*]	_	WMD cal Method	La Ni	ampling of ña ENSO ears**	Sub-sampling of AMO Warm + La Niña ENSO Years***	
	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Mar-Aug)	N/A	N/A	1.09	Normal	1.22	Normal	0.96	Normal
Multi Seasonal (Mar-Oct)	N/A	N/A	2.21	Normal	2.62	Wet	2.21	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:

- **-1027 cfs** 14-day running average for Lake Okeechobee Net Inflow through 03/06/2023. According to the classification in <u>Tributary Hydrologic Conditions</u> table, this condition is Dry.
- **-1.27** for Palmer Drought Index on 03/04/2023. 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 03/06/2023:

Lake Okeechobee Stage: 15.37 feet

	ee Management /Band	Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Manage	ement Band	17.25	
	High sub-band	16.61	
Operational Band	Intermediate sub-band	15.72	
	Low sub-band	13.50	← 15.58 ft
Base Flow sub-ba	nd	12.60	
Beneficial Use sub	o-band	11.83	
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.

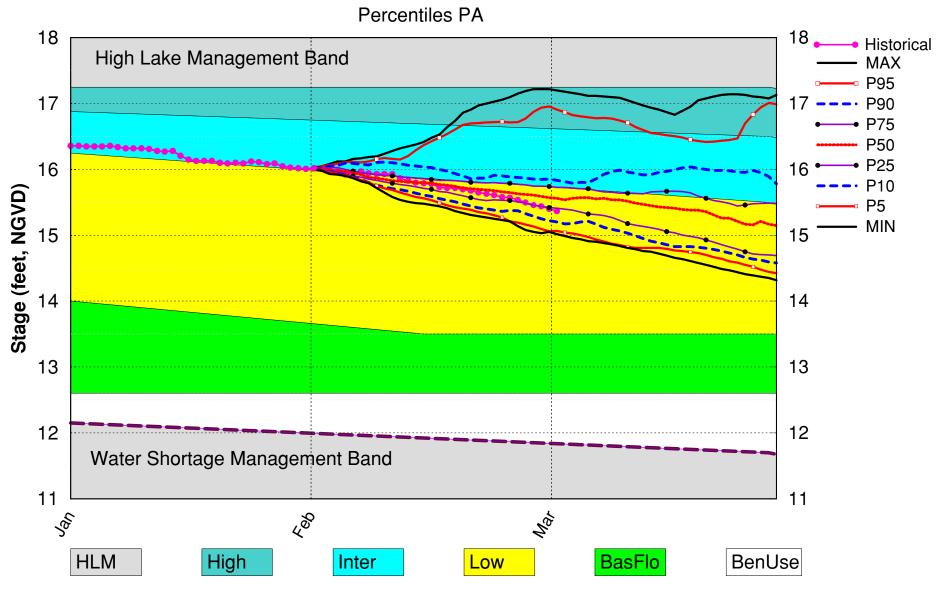
LORS2008 Implementation on 03/06/2023 (ENSO Condition- La Niña Watch): Status for week ending 03/06/2023:

Water Supply Risk Evaluation

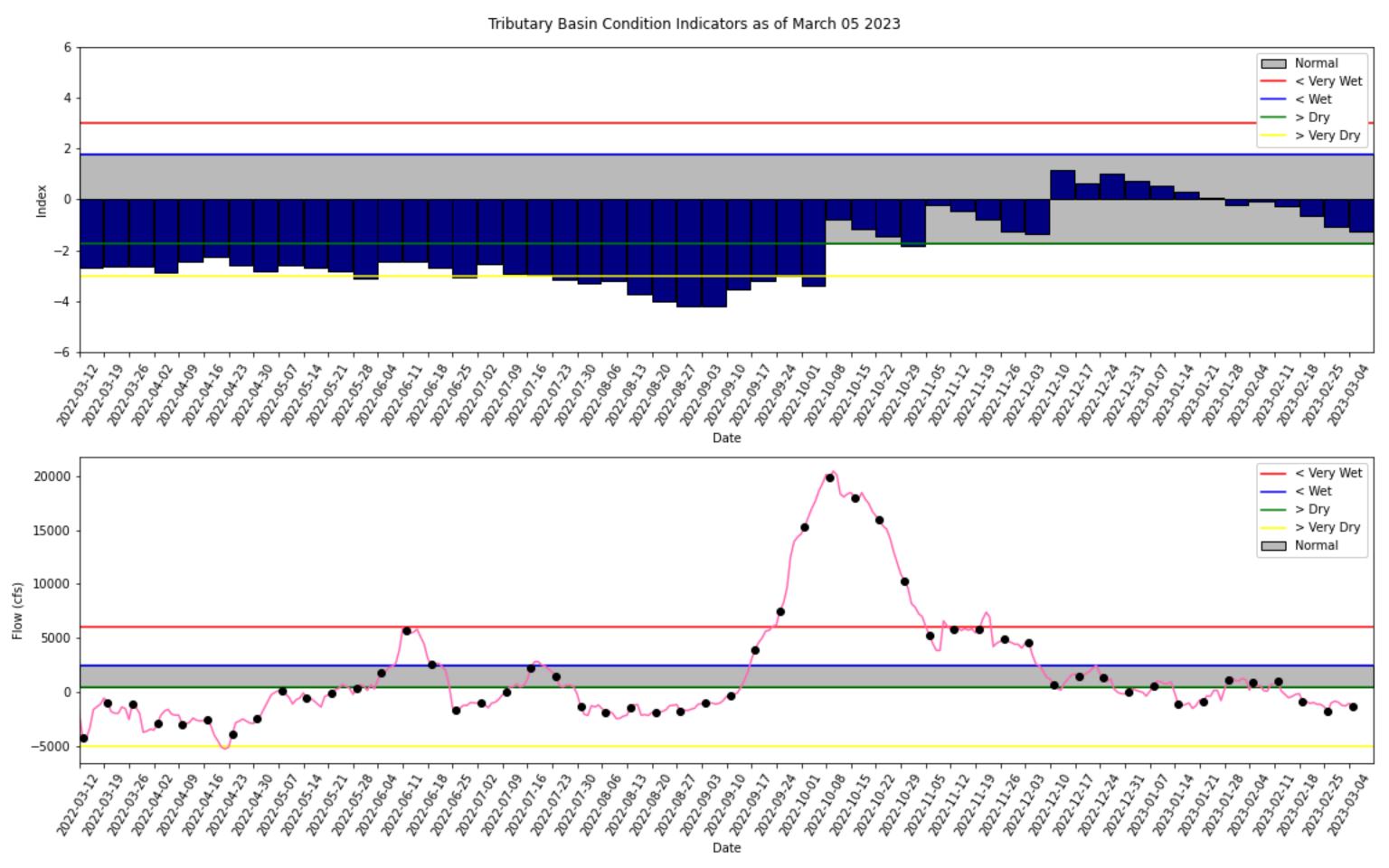
Area	Indicator	Value	Color Coded Scoring Scheme
	Projected LOK Stage for the next two months	Low Sub-band	M
	Palmer Drought Index for LOK Tributary Conditions	-1.27 (Dry)	M
	CPC Precipitation Outlook	1 month: Equal Chances	L
LOK	CPC Precipitation Outlook	3 months: Below Normal	M
	LOK Seasonal Net Inflow Outlook	1.22 ft	
	ENSO Forecast	Normal	_
	LOK Multi-Seasonal Net Inflow Outlook	2.62 ft	M
	ENSO Forecast	Normal	IVI
	WCA 1: 3 Station Average (Sites 1-8C)	Above Line 1 (16.42 ft)	L
WCAs	WCA 2A: Site S11B	Above Line 1 (11.97 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (9.22 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 February 2023 Position Analysis

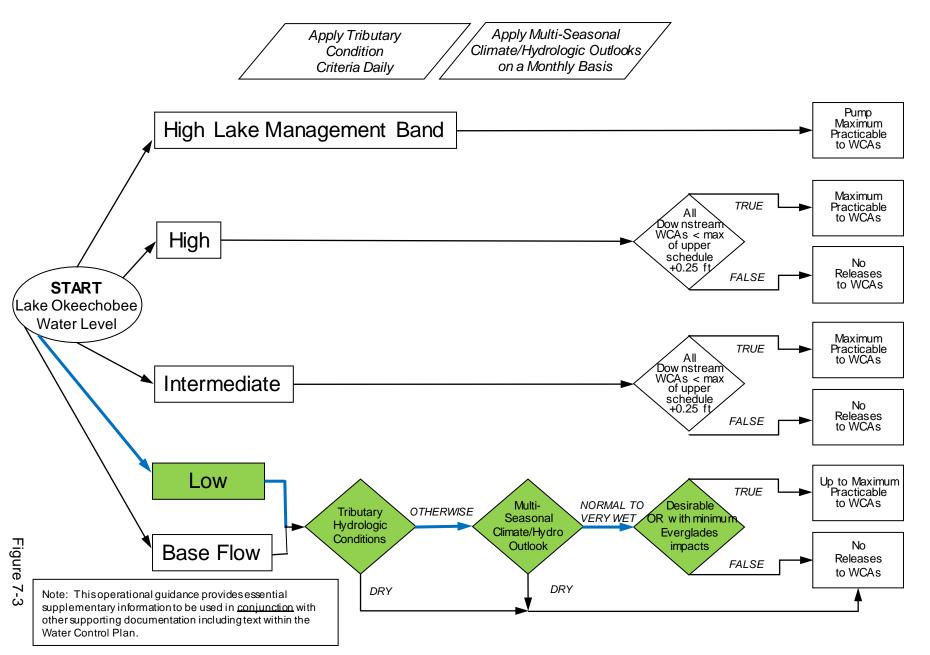


(See assumptions on the Position Analysis Results website)



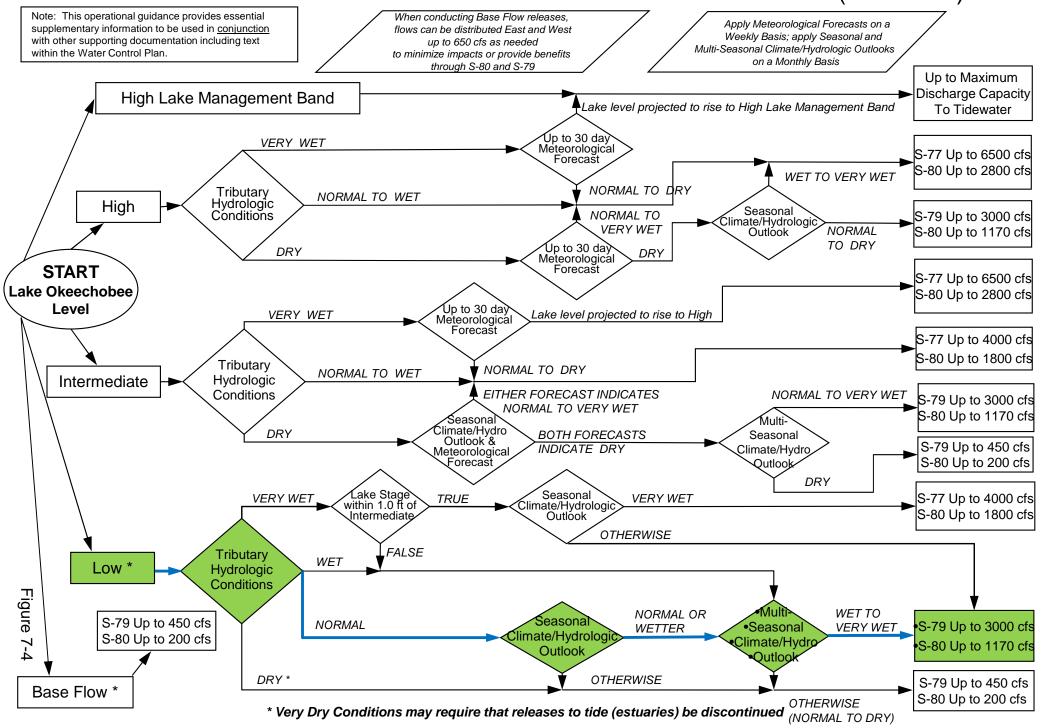
2008 LORS

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

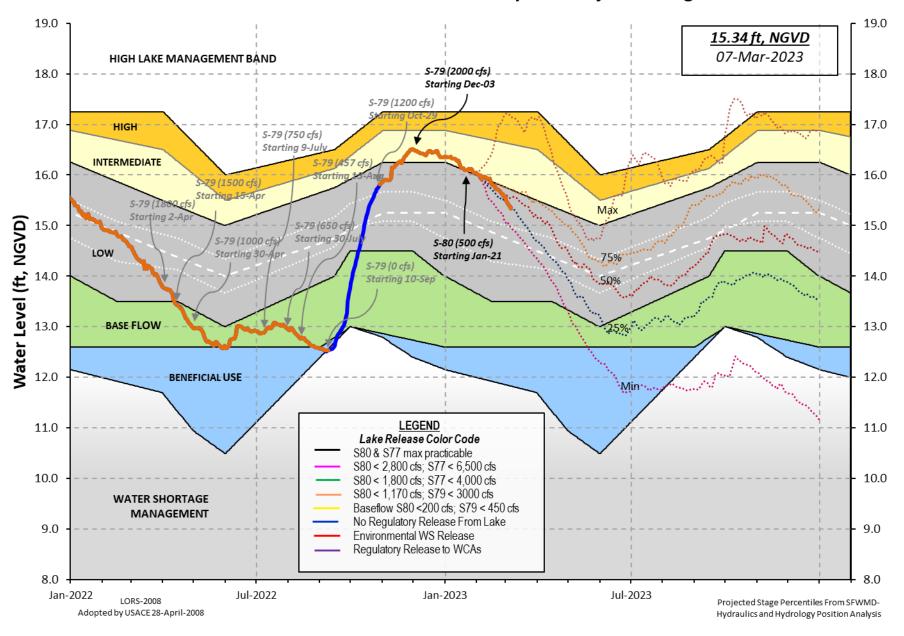


2008 LORS

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



Lake Okeechobee Water Level History and Projected Stages



Data Ending 2400 hours 05 MAR 2023

Okeechobee Lake Regulation Elevation Last Year 2YRS Ago (ft-NGVD) (ft-NGVD) (ft-NGVD) *Okeechobee Lake Elevation 15.37 14.36 15.23 (Official Elv) Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.83 Currently in Operational Management Band Simulated Average LORS2008 [1965-2000] 13.28 Difference from Average LORS2008 2.09 05MAR (1965-2007) Period of Record Average 14.50 Difference from POR Average 0.87 Today Lake Okeechobee elevation is determined from the 4 Int & 4 Edge stations ++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 � 9.31' ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 � 7.51' Bridge Clearance = 63.69' 4 Interior and 4 Edge Okeechobee Lake Average (Avg-Daily values): L001 L005 L006 LZ40 S4 S352 S308 S133 15.44 15.37 15.33 15.39 15.27 15.45 15.16 15.33 *Combination Okeechobee Avg-Daily Lake Average = 15.37 (*See Note) Okeechobee Inflows (cfs): S65E 862 S65EX1 Fisheating Cr 0 S154 S191 S135 Pumps 0 0 S84 0 S133 Pumps S2 Pumps S84X S127 Pumps S3 Pumps S71 0 S129 Pumps 0 S4 Pumps 0 S72 0 S131 Pumps C5 Total Inflows: 862 Okeechobee Outflows (cfs):

467

S77

1250

S354

S135 Culverts -NR-

S127 Culverts 0 S351 841 S308 -NR-S129 Culverts 0 S352 408
S131 Culverts 0 L8 Canal Pt 429
Total Outflows: No Report Due To Missing S77 or S308 Discharge Data

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

Okeechobee Pan Evaporation (inches):

S77 0.25 S308 0.28

Average Pan Evap x 0.75 Pan Coefficient = 0.20" = 0.02'

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

Evaporation - Precipitation: = -NR-" = -NR-"

Evaporation - Precipitation using Lake Area of 730 square miles

is equal to -NR-

Lake Okeechobee (Change in Storage) Flow is -6504 cfs or -12900 AC-FT

	Headwater	Tailwater				Gat	te Pos	sitio	ıs		
	Elevation	Elevation	Disch	#1	#2	#3	#4	#5	#6	#7	#8
	(ft-msl)	(ft-msl)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
) see n								
North East Sl	nore	·									
S133 Pumps	13.72	15.34	0	0	0	0	0	0	(cfs)	
S193:									•	•	
S191:	19.00	15.33	0	0.0	0.0	0.0					
S135 Pumps	13.39	15.20	0	0	0	0	0		(cfs)	
S135 Culve	rts:		-NR-	-NR-	2.6				•	•	
North West Sl	nore										
S65E:	20.90	15.06	862	0.5	0.5	0.4	0.5	0.4	0.0		
S65EX1:	20.90	15.06	0								
S127 Pumps	13.44	15.30	0	0	0	0	0	0	(cfs)	
S127 Culve	rt:		0	0.0							
S129 Pumps	: 13.16	15.35	0	0	0	0			(cfs)	
S129 Culve	rt:		0	0.0							
S131 Pumps	: 13.08	13.49	0	0	0				(cfs)	
S131 Culve	rt:		0								
Fisheating	Creek										
nr Palmda	ale	27.92	0								

```
nr Lakeport
                         -NR-
                                     0
                                           -NR- -NR- -NR-
 C5:
South Shore
                                                                   (cfs)
 S4 Pumps:
              12.45
                          -NR-
                                                 0
                                     0
 S169:
              14.81
                                         -NR- -NR- -NR-
                          -NR-
                                  -NR-
              15.27
 S310:
                                    15
                                                                   (cfs)
 S3 Pumps:
              11.17
                         15.34
                                     0
                                            0
                                                 0
 S354:
              15.34
                         11.17
                                   467
                                          0.9
                                               0.9
                                                                   (cfs)
 S2 Pumps:
              11.02
                         15.33
                                     0
                                                 0
                                                           0
 S351:
              15.33
                         11.02
                                   841
                                          0.8
                                              0.9 0.8
 S352:
              15.44
                         11.07
                                   408
                                          0.0
                                               1.0
                                         -NR- -NR-
 C10A:
                -NR-
                         -NR-
                                                    -NR- -NR-
                                                                 -NR-
 L8 Canal PT
                         15.00
                                   429
                  S351 and S352 Temporary Pumps/S354 Spillway
 S351:
              11.02
                         15.33
                                   841 -NR--NR--NR--NR--NR-
 S352:
              11.07
                         15.44
                                   408 -NR--NR--NR-
                         15.34
 S354:
              11.17
                                   467 -NR--NR--NR-
Caloosahatchee River (S77, S78, S79)
                         12.88
 S47B:
              13.44
                                          2.5 2.5
 S47D:
              12.81
                                          1.0
                         11.43
                                     3
 S77:
    Spillway and Sector Preferred Flow:
              15.05
                         11.29
                                  1244 0.0 2.5 2.5 0.0
    Flow Due to Lockages+:
                                     6
 S78:
    Spillway and Sector Flow:
              11.28
                                  1067
                                          0.0 0.0 2.5 0.5
                          2.64
    Flow Due to Lockages+:
                                  -NR-
 S79:
    Spillway and Sector Flow:
                2.88
                                  1678
                          1.76
                                          0.0 0.0 1.0 1.5 2.0 1.5 1.0 0.0
    Flow Due to Lockages+:
                                    11
    Percent of flow from S77
                                    74%
    Chloride
                        (ppm)
                                   0
St. Lucie Canal (S308, S80)
 S308:
   Spillway and Sector Preferred Flow:
              15.19
                         -0.19
                                   404 0.0 0.0 0.0 0.0
                                  -NR-
    Flow Due to Lockages+:
```

S153: 18.75 13.60 0 0.0 0.0 S80: Spillway and Sector Flow:

13.77 0.80 284 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Flow Due to Lockages+: 15 Percent of flow from S308 142%

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

				Wir	nd
aily Precipitation Totals	1-Day	3-Day	7-Day	Direction	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	227	2
S78:	-NR-	0.00	0.00	313	1
S79:	-NR-	0.00	0.00	283	4
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	143	4
S80:	-NR-	0.00	0.00	231	2
Okeechobee Average	-NR-	0.00	0.00		
(Sites S78, S79 and	S80 not inc	:luded)			
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevation	s 05 MAR 2023	15.37 Differ	ence from 05MAR23
05MAR23 -1 Day =	04 MAR 2023	15.40	0.03
05MAR23 -2 Days =	03 MAR 2023	15.44	0.07

05MAR23	-3	Days	=	02	MAR	2023	15.46	0.09
05MAR23	-4	Days	=	01	MAR	2023	15.50	0.13
05MAR23	-5	Days	=	28	FEB	2023	15.54	0.17
05MAR23	-6	Days	=	27	FEB	2023	15.57	0.20
05MAR23	-7	Days	=	26	FEB	2023	15.58	0.21
05MAR23	-30	Days	=	03	FEB	2023	15.97	0.60
05MAR23	-1	Year	=	05	MAR	2022	14.36	-1.01
05MAR23	-2	Year	=	05	MAR	2021	15.23	-0.14

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

			Lake 0	keec	hobee	Net Inflo	ow (LONIN)	
		Avera	ge Flow	ove	r the	previous	14 days	Avg-Daily Flow
05MAR23	Today	/ =	05	MAR	2023	-1264	MON	-2713
05MAR23	-1 Day	=	04	MAR	2023	-1027	SUN	-4424
05MAR23	-2 Days	s =	03	MAR	2023	-1266	SAT	471
05MAR23	-3 Day	s =	02	MAR	2023	-1200	FRI	-2553
05MAR23	-4 Days	s =	01	MAR	2023	-914	THU	-3447
05MAR23	-5 Day	s =	28	FEB	2023	-810	WED	-2300
05MAR23	-6 Days	s =	27	FEB	2023	-982	TUE	929
05MAR23	-7 Days	s =	26	FEB	2023	-1749	MON	-3383
05MAR23	-8 Day	s =	25	FEB	2023	-1319	SUN	-37
05MAR23	-9 Day	s =	24	FEB	2023	-1119	SAT	130
05MAR23	-10 Day	s =	23	FEB	2023	-1109	FRI	-1917
05MAR23	-11 Day	s =	22	FEB	2023	-942	THU	-445
05MAR23	-12 Days	s =	21	FEB	2023	-1029	WED	-888
05MAR23	-13 Days	s =	20	FEB	2023	-833	TUE	2874

					Se	55E			
				Average	Flov	v over	previous	14 days	Avg-Daily Flow
05MAR23		Today	/=	05	MAR	2023	1292	MON	974
05MAR23	-1	Day	=	04	MAR	2023	1322	SUN	1074
05MAR23	-2	Days	=	03	MAR	2023	1347	SAT	1021
05MAR23	-3	Days	=	02	MAR	2023	1386	FRI	1202
05MAR23	-4	Days	=	01	MAR	2023	1402	THU	1332
05MAR23	-5	Days	=	28	FEB	2023	1409	WED	1233
05MAR23	-6	Days	=	27	FEB	2023	1424	TUE	1328
05MAR23	-7	Days	=	26	FEB	2023	1436	MON	1350
05MAR23	-8	Days	=	25	FEB	2023	1448	SUN	1371
05MAR23	-9	Days	=	24	FEB	2023	1457	SAT	1390
05MAR23	-10	Days	=	23	FEB	2023	1466	FRI	1401
05MAR23	-11	Days	=	22	FEB	2023	1476	THU	1434
05MAR23	-12	Days	=	21	FEB	2023	1489	WED	1547
05MAR23	-13	Days	=	20	FEB	2023	1492	TUE	1432

S65EX1

Average Flow over previous 14 days | Avg-Daily Flow

05MAR23		Today	/=	05	MAR	2023	0	MON	1	0	
05MAR23	-1	Day	=	04	MAR	2023	0	SUN	ĺ	0	
05MAR23	-2	Days	=	03	MAR	2023	0	SAT	ĺ	0	
05MAR23	-3	Days	=	02	MAR	2023	0	FRI	1	0	
05MAR23	-4	Days	=	01	MAR	2023	0	THU	1	0	
05MAR23	-5	Days	=	28	FEB	2023	0	WED	I	0	
05MAR23	-6	Days	=	27	FEB	2023	0	TUE	1	0	
05MAR23	-7	Days	=	26	FEB	2023	0	MON	I	0	
05MAR23	-8	Days	=	25	FEB	2023	0	SUN	I	0	
05MAR23	-9	Days	=	24	FEB	2023	0	SAT	I	0	
05MAR23	-10	Days	=	23	FEB	2023	0	FRI	I	0	
05MAR23	-11	Days	=	22	FEB	2023	0	THU	I	0	
05MAR23	-12	Days	=	21	FEB	2023	0	WED	I	0	
05MAR23	-13	Days	=	20	FEB	2023	0	TUE		0	

Lake Okeechobee Outlets Last 14 Days

	S-77	Below S-77	S-78	S-79	
	Discharge	Discharge	Discharge	Discharge	
	(ALL DAY)	(ALL-DAY)	(ALL DAY)	(ALL DAY)	
DATE	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	
05 MAR 2023	3 2479	3049	-NR-	3362	
04 MAR 2023	3 2735	3275	-NR-	3107	
03 MAR 2023	3659	4079	-NR-	4087	
02 MAR 2023		5879	-NR-	5433	
01 MAR 2023	3 4922	5239	4936	5480	
28 FEB 2023		3639	2641	3778	
27 FEB 2023	3 2137	2320	2222	2762	
26 FEB 2023	3 1471	1970	1778	2712	
25 FEB 2023	3 4138	4758	2189	2964	
24 FEB 2023		4060	3791	4279	
23 FEB 2023	3 5119	4100	4484	5471	
22 FEB 2023	3 5206	4878	4075	5601	
21 FEB 2023	3 5864	3677	3207	4009	
20 FEB 2023	3 5679	2522	2205	3079	
	S-310	S-351	S-352	S-354	L8 Canal Pt
	Discharge	Discharge	Discharge	Discharge	Discharge
	(ALL DAY)	(ALL DAY)	(ALL DAY)	(ALL DAY)	(ALL DAY)
DATE	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)
05 MAR 2023	3 29	1667	809	925	852
04 MAR 2023	3 308	1949	1291	621	912
03 MAR 2023	3 6	2064	1551	502	894
02 MAR 2023	3 8	2755	1597	546	888
01 MAR 2023	3 0	2464	1156	911	931
28 FEB 2023	3 33	1988	795	887	873
27 FEB 2023	3 -0	1351	523	559	851
26 FEB 2023	3 -6	1660	707	597	850
25 FEB 2023	3 -6	1454	674	639	835

24	FEB	2023	3 -9	1476	727	534	792
23	FEB	2023	3 -2	1693	600	306	610
22	FEB	2023	3 1	1434	454	125	485
21	FEB	2023	-4	1576	537	320	725
20	FEB	2023	3	1304	274	269	552
			S-308	Below S-308	S-80		
			Discharge	Discharge	Discharge		
			(ALL DAY)	(ALL-DAY)	(ALL-DAY)		
	DATE	=	(AC-FT)	(AC-FT)	(AC-FT)		
05	MAR	2023	B -NR-	-NR-	647		
04	MAR	2023	B -NR-	-NR-	768		
03	MAR	2023	850	-NR-	877		
02	MAR	2023	870	-NR-	365		
01	MAR	2023	10	-NR-	58		
28	FEB	2023	10	-NR-	55		
27	FEB	2023	729	-NR-	574		
26	FEB	2023	826	-NR-	967		
25	FEB	2023	764	-NR-	774		
24	FEB	2023	739	-NR-	862		
23	FEB	2023	823	-NR-	972		
22	FEB	2023	5	-NR-	757		
21	FEB	2023	3 4	-NR-	953		
20	FEB	2023	731	-NR-	359		

*** 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

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.

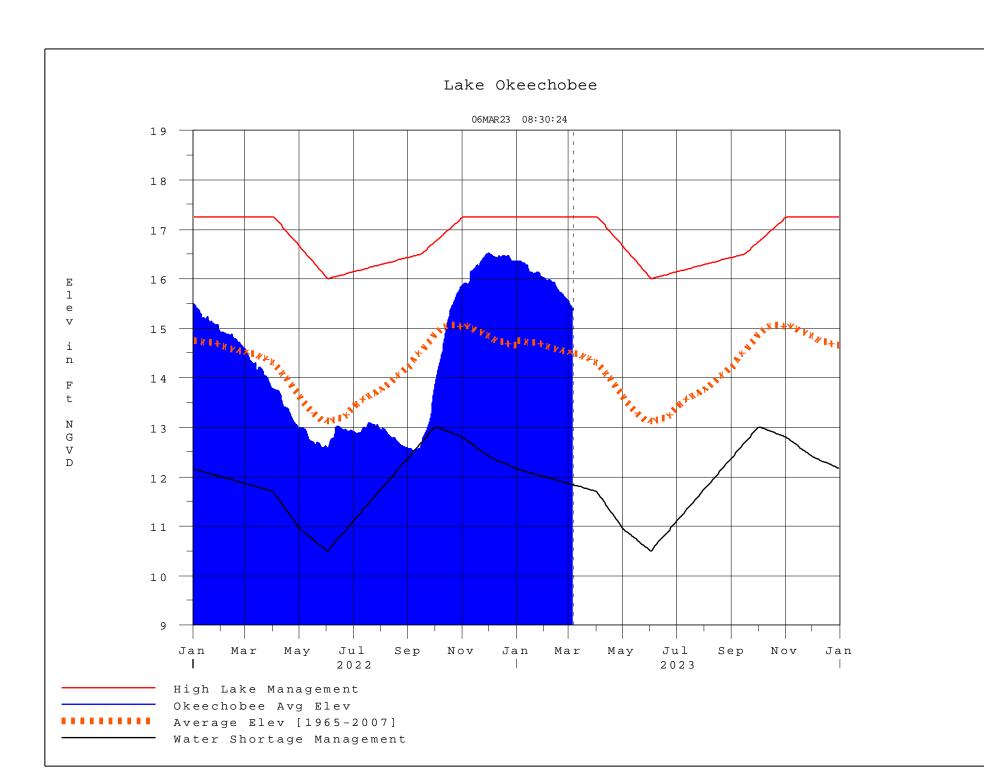
On 09 May 2011, Lake Okeechobee Elevation was switched to a 8 gage mix of interior and edge gages to obtain a more reliable representation of the lake level due to isolation of S135 from low lake levels.

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

^{*} On 11 May 1999, Lake Okeechobee Elevation was switched from Instantaneous 2400 value to an average-daily lake average.

Report Generated 06MAR2023 @ 23:39 ** Preliminary Data - Subject to Revision **



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
[[1000]	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

Under Construction