Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 02/13/2023 (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*		SFWMD Empirical Method		Sub-sampling of La Niña ENSO Years**		Sub-sampling of AMO Warm + La Niña ENSO Years***	
	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Feb-Jul)	N/A	N/A	0.59	Dry	0.73	Dry	0.60	Dry
Multi Seasonal (Feb-Oct)	N/A	N/A	2.33	Normal	2.68	Wet	2.22	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:

996 cfs 14-day running average for Lake Okeechobee Net Inflow through 02/13/2023. According to the classification in <u>Tributary Hydrologic Conditions</u> table, this condition is Near Normal.

-0.28 for Palmer Drought Index on 02/11/2023.

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 02/13/2023:

Lake Okeechobee Stage: 15.93 feet

	ee Management /Band	Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Manage	ement Band	17.25	
	High sub-band	16.70	
Operational Band	Intermediate sub-band	15.90	← 15.93 ft
	Low sub-band	13.53	
Base Flow sub-ba	nd	12.60	
Beneficial Use sub	o-band	11.94	
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 02/13/2023 (ENSO Condition- La Niña Watch): Status for week ending 02/13/2023*:

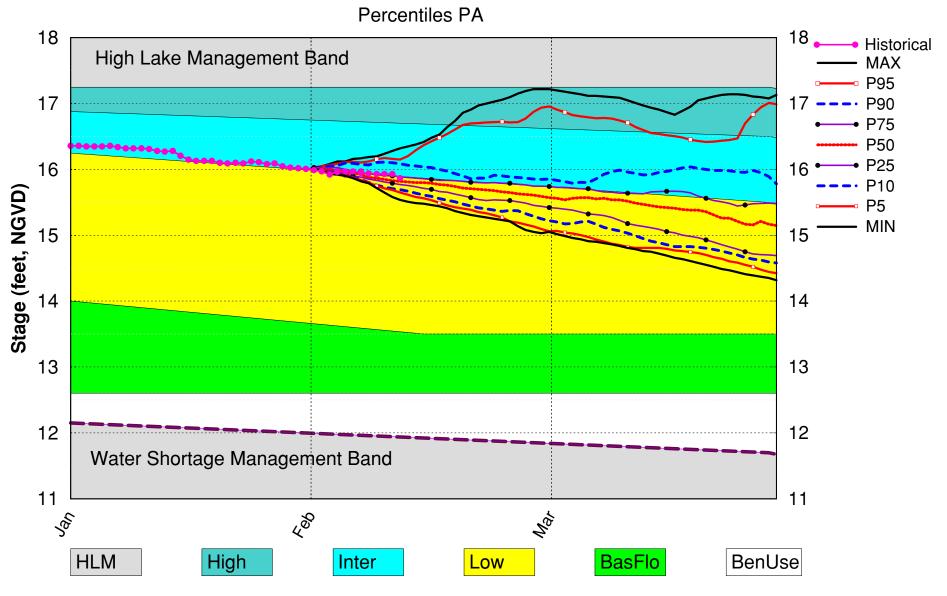
Water Supply Risk Evaluation

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	-0.28 (Normal to Extremely Wet)	П.		
	CDC Procinitation Outlank	1 month: Below Normal	M		
LOK	CPC Precipitation Outlook	3 months: Below Normal	M		
	LOK Seasonal Net Inflow Outlook	0.73 ft	M		
	ENSO Forecast	Dry	IVI		
	LOK Multi-Seasonal Net Inflow Outlook	2.68 ft	M		
	ENSO Forecast	Normal	IVI		
	WCA 1: 3 Station Average (Sites 1-8C)	Above Line 1 (17.02 ft)	L		
WCAs	WCA 2A: Site S11B	Above Line 1 (12.03 ft)	П		
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Low Sub-band For LOK Ins (Normal to Extremely Wet) 1 month: Below Normal 3 months: Below Normal Outlook Dry Low Outlook Signature 1 (17.02 ft) Above Line 1 (12.03 ft) Verage Above Line 1 (9.57 ft)	L		
	Service Area 1		L		
LEC	Service Area 2		L		
	Service Area 3		П		

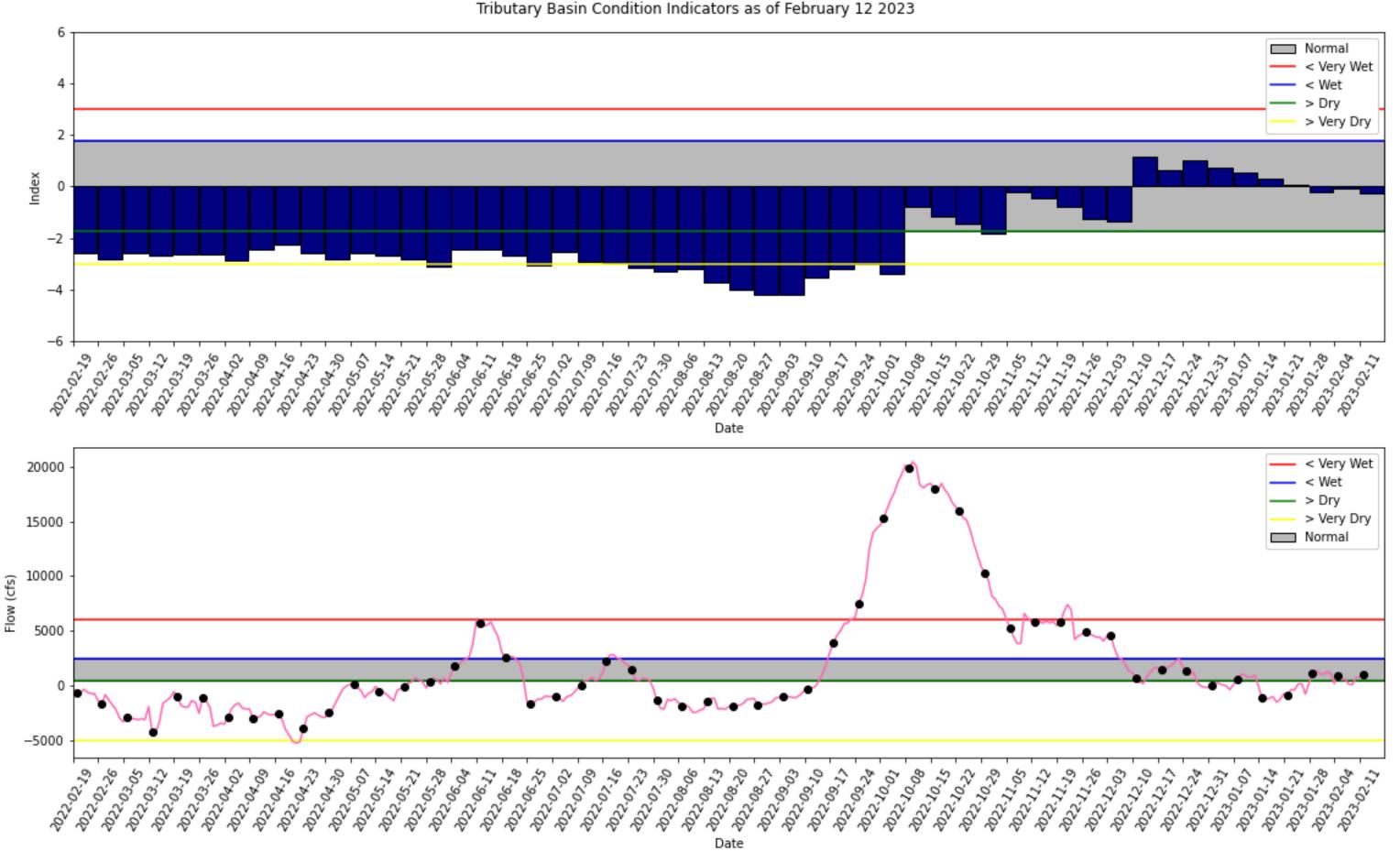
Note: The water supply risk classification based on the Palmer index, as well as the LOK seasonal and multi-seasonal net inflow outlooks use slightly different classification intervals than those used by the 2008-LORS.

^{*-} S77 flow data for Feb 12 is not available from the USACE Daily Reports and was substituted with alternative data sources on DBHYDRO

Lake Okeechobee SFWMM February 2023 Position Analysis

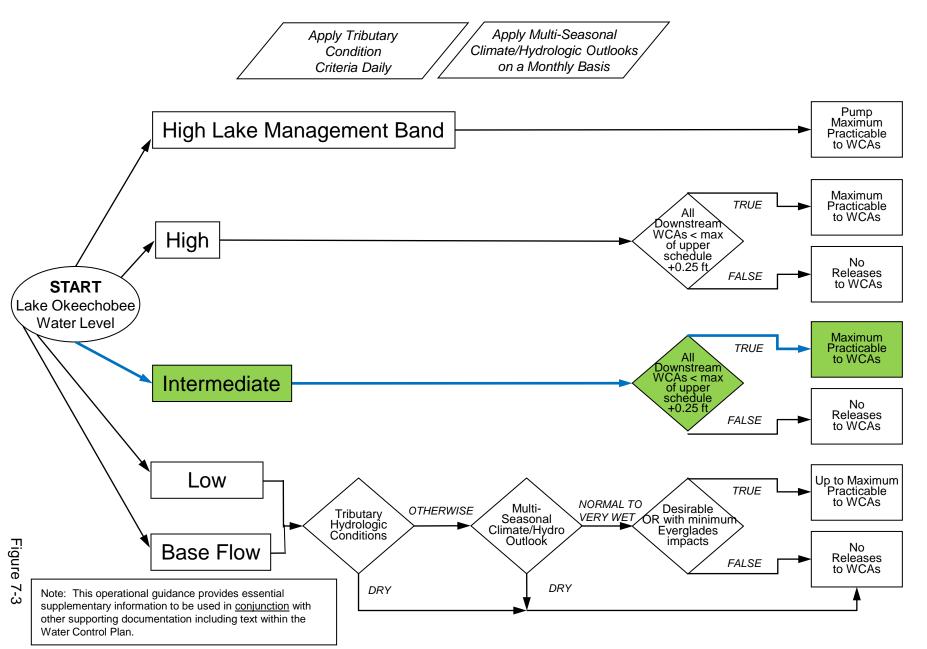


(See assumptions on the Position Analysis Results website)



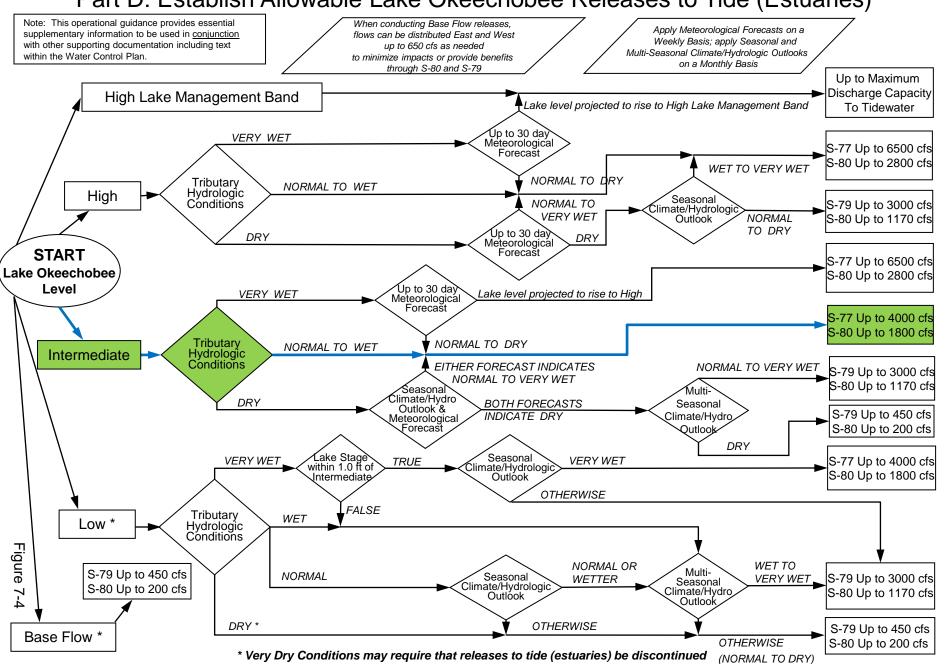
2008 LORS

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

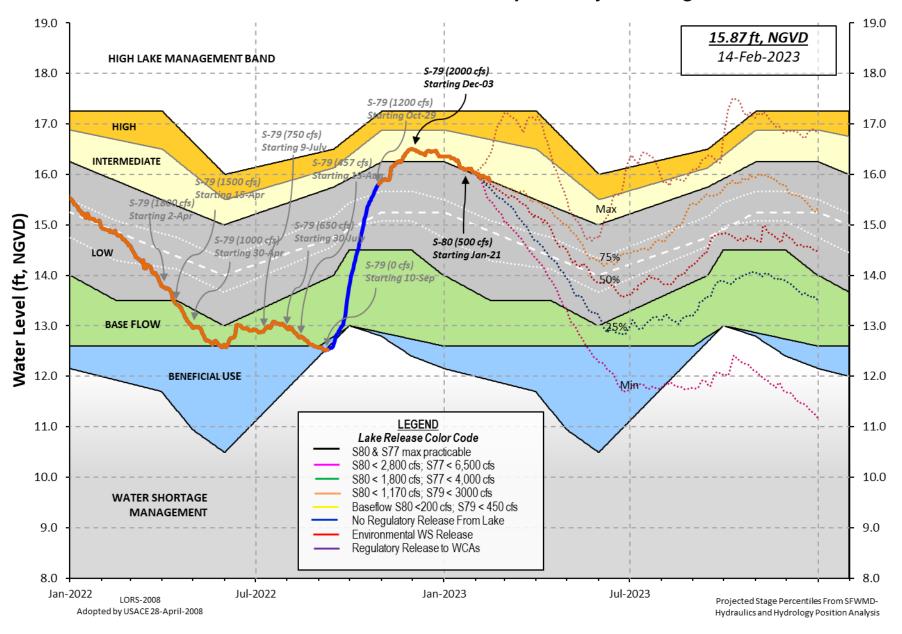


2008 LORS

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



Lake Okeechobee Water Level History and Projected Stages



Data Ending 2400 hours 12 FEB 2023

Okeechobee Lake Regulation Elevation Last Year 2YRS Ago (ft-NGVD) (ft-NGVD) (ft-NGVD) *Okeechobee Lake Elevation 15.93 14.86 15.39 (Official Elv) Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.94 Currently in Operational Management Band Simulated Average LORS2008 [1965-2000] 13.42 Difference from Average LORS2008 2.51 12FEB (1965-2007) Period of Record Average 14.58 Difference from POR Average 1.35 Today Lake Okeechobee elevation is determined from the 4 Int & 4 Edge stations ++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 � 9.87' ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 � 8.07' Bridge Clearance = 49.32' 4 Interior and 4 Edge Okeechobee Lake Average (Avg-Daily values): L001 L005 L006 LZ40 S4 S352 S308 S133 16.04 15.66 15.93 15.98 15.66 16.31 16.06 15.91 *Combination Okeechobee Avg-Daily Lake Average = 15.93 (*See Note) Okeechobee Inflows (cfs): S65E 1378 S65EX1 Fisheating Cr 8 S154 S191 S135 Pumps 0 0 S84 3 S133 Pumps S2 Pumps S84X 1 S127 Pumps S3 Pumps S71 0 S129 Pumps 0 S4 Pumps 0 S72 30 S131 Pumps C5 Total Inflows: 1419 Okeechobee Outflows (cfs): S135 Culverts -NR-S354 65 S77 -NR-

S127 Culverts 290 S308 513 S351 S129 Culverts S352 0 S131 Culverts L8 Canal Pt 193 0 Total Outflows: No Report Due To Missing S77 or S308 Discharge Data ****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): S308 S77 -NR-0.41 Average Pan Evap x 0.75 Pan Coefficient = -NR-" = -NR-" 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 0 cfs or 0 AC-FT

	Headwater	Tailwater	Gate Positions							
	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 Shore										
S133 Pumps	13.57	15.52	0	0	0	0	0	0	(cfs)	
S193:										
S191:	19.10	15.61	0	0.0	0.0	0.0				
S135 Pumps	13.37	15.94	0	0	0	0	0		(cfs)	
S135 Culver	rts:		-NR-	-NR-	0.0					
North West Sh	nore									
S65E:	20.87	15.38	1378	1.1	0.4	0.6	1.1	0.4	0.4	
S65EX1:	20.87	15.38	0							
S127 Pumps	13.55	15.67	0	0	0	0	0	0	(cfs)	
S127 Culver	rt:		0	0.0						
S129 Pumps		15.58	0	0	0	0			(cfs)	
S129 Culver	rt:		0	0.0						
S131 Pumps		15.42	0	0	0				(cfs)	
S131 Culve	rt:		0							
Fisheating		00.44	•							
nr Palmda	aTe	28.41	8							

```
nr Lakeport
                         -NR-
                                     0
                                           -NR- -NR- -NR-
 C5:
South Shore
                                                                    (cfs)
 S4 Pumps:
               12.06
                          -NR-
                                                 0
                                     0
                                         -NR- -NR- -NR-
 S169:
                          -NR-
                                  -NR-
              15.75
 S310:
                                                                    (cfs)
 S3 Pumps:
               10.54
                         16.21
                                     0
                                            0
                                                 0
 S354:
               16.21
                         10.54
                                    65
                                          0.1
                                               0.1
                                                                    (cfs)
 S2 Pumps:
               10.44
                         16.36
                                     0
                                                 0
                                                           0
 S351:
               16.36
                         10.44
                                   290
                                          0.2
                                               0.4 0.2
 S352:
               16.63
                         10.40
                                          0.0
                                               0.0
 C10A:
                -NR-
                          -NR-
                                          -NR-
                                               -NR-
                                                     -NR- -NR-
                                                                  -NR-
 L8 Canal PT
                         14.60
                                   193
                   S351 and S352 Temporary Pumps/S354 Spillway
 S351:
               10.44
                         16.36
                                   290 -NR--NR--NR--NR--NR-
 S352:
               10.40
                         16.63
                                        -NR - -NR - -NR - -NR -
                         16.21
 S354:
               10.54
                                    65 -NR--NR--NR-
Caloosahatchee River (S77, S78, S79)
 S47B:
               14.39
                         11.90
                                          0.5 1.0
 S47D:
               11.93
                                          0.0
                         10.89
 S77:
    Spillway and Sector Preferred Flow:
                -NR-
                          -NR-
                                  -NR- 0.0 2.5 3.0 0.0
    Flow Due to Lockages+:
                                  -NR-
 S78:
    Spillway and Sector Flow:
               10.73
                                  1557
                                          0.0 2.5 2.5 0.5
                          3.21
    Flow Due to Lockages+:
                                     4
 S79:
    Spillway and Sector Flow:
                3.25
                                  2043
                          1.33
                                          0.0 0.0 2.0 2.0 2.0 2.0 1.0 0.0
    Flow Due to Lockages+:
                                     2
    Percent of flow from S77
                                  -NR-%
    Chloride
                        (ppm)
St. Lucie Canal (S308, S80)
 S308:
   Spillway and Sector Preferred Flow:
               16.13
                                   512 0.0 0.0 0.0 0.0
                         14.18
    Flow Due to Lockages+:
                                     1
```

S153: 18.62 14.05 45 0.0 0.0 S80: Spillway and Sector Flow:

14.31 0.23 483 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Flow Due to Lockages+: 4
Percent of flow from S308 106%

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	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	-NR-	-NR-
S78:	-NR-	0.00	0.00	300	5
S79:	-NR-	0.00	0.00	305	10
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	295	28
S80:	-NR-	0.00	0.00	310	10
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	e Elevations	12 FEB	2023	15.93 Difference	from 12FEB23
12FEB23 -1	Day =	11 FEB	2023	15.93	0.00
12FEB23 -2	Days =	10 FEB	2023	15.93	0.00

2/13/23, 10:57 AM

oke

12FEB23 12FEB23 12FEB23	-4 -5	Days Days	= =	08 07	FEB FEB	2023 2023 2023	15.94 15.95 15.97	0.01 0.02 0.04
		-		-				
		-		07	FEB	2023	15.97	0.04
12FEB23		-		06	FEB	2023	15.97	0.04
12FEB23		-		05	FEB	2023	15.96	0.03
12FEB23		-		13	JAN	2023	16.28	0.35
12FEB23		-		12	FEB	2022	14.86	-1.07
12FEB23	-2	Year	=	12	FEB	2021	15.39	-0.54

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

	Lake Okeechobee	Net Inflow (LONIN)	
Av	erage Flow over the	previous 14 days	Avg-Daily Flow
12FEB23 Today =	12 FEB 2023	860 MON	-NR -
12FEB23 -1 Day =	11 FEB 2023	811 SUN	2764
12FEB23 -2 Days =	10 FEB 2023	686 SAT	266
12FEB23 -3 Days =	99 FEB 2023	104 FRI	421
12FEB23 -4 Days =	08 FEB 2023	162 THU	-1663
12FEB23 -5 Days =	97 FEB 2023	313 WED	1861
12FEB23 -6 Days =	96 FEB 2023	375 TUE	3111
12FEB23 -7 Days =	95 FEB 2023	972 MON	10358
12FEB23 -8 Days =	94 FEB 2023	206 SUN	-8743
12FEB23 -9 Days =	93 FEB 2023	1153 SAT	-1327
12FEB23 -10 Days =	02 FEB 2023	1286 FRI	-185
12FEB23 -11 Days =	01 FEB 2023	1034 THU	2411
12FEB23 -12 Days =	31 JAN 2023	1091 WED	-596
12FEB23 -13 Days =	30 JAN 2023	1221 TUE	2498
<u> </u>			

	S65E		
	Average Flow over	previous 14 days	Avg-Daily Flow
12FEB23 Today=	12 FEB 2023	1550 MON	1512
12FEB23 -1 Day =	11 FEB 2023	1556 SUN	1504
12FEB23 -2 Days =	10 FEB 2023	1558 SAT	1510
12FEB23 -3 Days =	09 FEB 2023	1560 FRI	1553
12FEB23 -4 Days =	08 FEB 2023	1561 THU	1609
12FEB23 -5 Days =	07 FEB 2023	1563 WED	1601
12FEB23 -6 Days =	06 FEB 2023	1556 TUE	1533
12FEB23 -7 Days =	05 FEB 2023	1555 MON	1585
12FEB23 -8 Days =	04 FEB 2023	1548 SUN	1532
12FEB23 -9 Days =	03 FEB 2023	1544 SAT	1555
12FEB23 -10 Days =	02 FEB 2023	1539 FRI	1544
12FEB23 -11 Days =	01 FEB 2023	1531 THU	1522
12FEB23 -12 Days =	31 JAN 2023	1526 WED	1379
12FEB23 -13 Days =	30 JAN 2023	1533 TUE	1754

S65EX1

Average Flow over previous 14 days | Avg-Daily Flow

12FEB23		Today	/=	12	FEB	2023	0	MON		0
12FEB23	-1	Day	=	11	FEB	2023	0	SUN		0
12FEB23	-2	Days	=	10	FEB	2023	0	SAT		0
12FEB23	-3	Days	=	09	FEB	2023	0	FRI		0
12FEB23	-4	Days	=	98	FEB	2023	0	THU		0
12FEB23	-5	Days	=	07	FEB	2023	0	WED		0
12FEB23	-6	Days	=	06	FEB	2023	0	TUE		0
12FEB23	-7	Days	=	05	FEB	2023	0	MON		0
12FEB23	-8	Days	=	04	FEB	2023	0	SUN		0
12FEB23	-9	Days	=	03	FEB	2023	0	SAT		0
12FEB23	-10	Days	=	02	FEB	2023	0	FRI		0
12FEB23	-11	Days	=	01	FEB	2023	0	THU		0
12FEB23	-12	Days	=	31	JAN	2023	0	WED		0
12FEB23	-13	Days	=	30	JAN	2023	0	TUE		0

Lake Okeechobee Outlets Last 14 Days

DATE	Ē	S-77 Discharge (ALL DAY) (AC-FT)	Below S-77 Discharge (ALL-DAY) (AC-FT)	S-78 Discharge (ALL DAY) (AC-FT)	S-79 Discharge (ALL DAY) (AC-FT)	
12 FEB			3355	3103	4079	
11 FEB			3169	2624	3338	
10 FEB			3571	2682	3809	
09 FEB			4273	3853	4965	
08 FEB			4582	3816	5559	
07 FEB			2269	2169	4014	
06 FEB			1800	1741	3297	
05 FEB			2478	2074	2811	
04 FEB			2982	2420	3082	
03 FEB		_	3285	2569	3937	
02 FEB	2023	4709	5356	3907	5215	
01 FEB	2023	4380	4799	4238	5127	
31 JAN			3218	2765	3922	
30 JAN	2023	1348	2072	2085	3157	
		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)
12 FEB		_	575	0	130	382
11 FEB		-	805	35	374	296
10 FEB			0	0	221	334
09 FEB			0	0	147	324
08 FEB	2023	692	0	0	192	260
07 FEB	2023	110	0	0	0	564
06 FEB	2023	18	0	0	0	40
05 FEB	2023	15	0	0	0	388
04 FEB	2023	22	547	74	291	552

600

767

03	FFR	2023	3 16	1213	115	609	/6/
02	FEB	2023	3 10	1159	254	358	882
01	FEB	2023	3 0	2042	638	397	821
31	JAN	2023	3 2	1748	598	786	-NR-
30	JAN	2023	9	1223	415	436	690
			S-308	Below S-308	S-80		
			Discharge	Discharge	Discharge		
			(ALL DAY)	(ALL-DAY)	(ALL-DAY)		
	DATE	=	(AC-FT)	(AC-FT)	(AC-FT)		
12	FEB	2023	1109	-NR-	940		
11	FEB	2023	955	-NR-	859		
10	FEB	2023	B -NR-	-NR-	957		
09	FEB	2023	B -NR-	-NR-	768		
80	FEB	2023	B -NR-	-NR-	551		
07	FEB	2023	B -NR-	-NR-	105		
06	FEB	2023	B -NR-	-NR-	961		
05	FEB	2023	B -NR-	-NR-	743		
04	FEB	2023	3 2	-NR-	11		
03	FEB	2023	3 224	-NR-	122		
02	FEB	2023	1025	-NR-	854		
01	FEB	2023	1020	-NR-	748		
31	JAN	2023	- NR -	-NR-	956		
30	JAN	2023	3 2491	-NR-	858		

1212

03 EEB 2023

Discharge (ALL DAY) is computed using Spillway, Sector Gate and NOTE: 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.

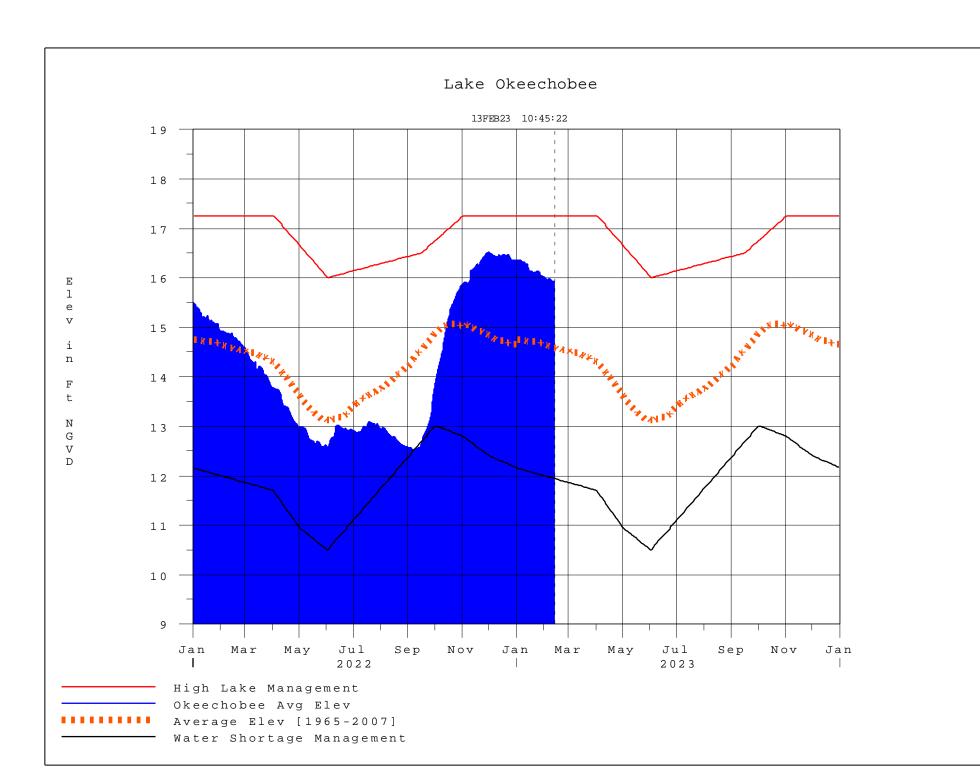
On 09 May 2011, Lake Okeechobee Elevation was switched to a 8 gage mix of interior and edge gages to obtain a more reliable representation of the lake level due to isolation of S135 from low lake levels.

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 13FEB2023 @ 10:38 ** 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