

Kosrae Island Resource Management Authority

Dates of very high tides – 2010

On Kosrae high tides are a major contributor to coastal flooding, particularly if they coincide with large waves or swell. The timing and height of the tide is governed by the positions of the Moon and Sun relative to Earth and these positions are well-known in advance. Hence, estimates are easily made of dates during the year when the potential for coastal flooding is greatest, they generally occur a few days after Full or New Moon when the Moon is also closest to the Earth (in its perigee). These tides are called perigean-spring tides.

- In 2010, the moon's closest perigee occurs on **30 January** and coincides with a Full Moon.
- Higher than normal tides tend to occur around December (November to February) and June (May to August) when the effect of the sun on tides is greatest.
- Water levels (and hence tide heights) tend to be higher between November and April due to the trade winds from the north-east.
- Water levels (and hence tide heights) tend to be **lower** during periods of strong **El Niño** but tend to be **higher** during periods of **La Niña**. Hence if La Niña conditions are occurring around December to February (as in 2007/08 and 1999/00) more coastal flooding is likely.

January 2010							February 2010							March 2010						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
					1	2		1	2	3	4	5	6		1	2	3	4	5	6
3	4	5	6	7	8	9	7	8	9	10	11	12	13	7	8	9	10	11	12	13
10	11	12	13	14	15	16	14	15	16	17	18	19	20	14	15	16	17	18	19	20
17	18	19	20	21	22	23	21	22	23	24	25	26	27	21	22	23	24	25	26	27
24	25	26	27	28	29	30	28							28	29	30	31			
31																				

April 2010							May 2010							June 2010						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
					1	2	3						1			1	2	3	4	5
4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12
11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19
18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26
25	26	27	28	29	30		23	24	25	26	27	28	29	27	28	29	30			
							30	31												

July 2010							August 2010							September 2010								
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa		
					1	2	3												1	2	3	4
4	5	6	7	8	9	10	8	9	10	11	12	13	14	5	6	7	8	9	10	11		
11	12	13	14	15	16	17	15	16	17	18	19	20	21	12	13	14	15	16	17	18		
18	19	20	21	22	23	24	22	23	24	25	26	27	28	19	20	21	22	23	24	25		
25	26	27	28	29	30	31	29	30	31					26	27	28	29	30				

October 2010							November 2010							December 2010							
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	
					1	2							6					1	2	3	4
3	4	5	6	7	8	9	7	8	9	10	11	12	13	5	6	7	8	9	10	11	
10	11	12	13	14	15	16	14	15	16	17	18	19	20	12	13	14	15	16	17	18	
17	18	19	20	21	22	23	21	22	23	24	25	26	27	19	20	21	22	23	24	25	
24	25	26	27	28	29	30	28	29	30					26	27	28	29	30	31		
31																					

Note:

1. The dates of very high tides are shown in **orange** with the very highest tides shown in **red**.
2. Coastal flooding on Kosrae is not limited to the dates indicated above. Particular weather conditions, e.g. a typhoon or storm conditions that create large waves or swell, can cause flooding and coastal damage at any time. Such weather conditions are generally only predictable a few days in advance.