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2019 年港灣環境資訊網

海氣象觀測資料年報

(高雄海域風浪潮流觀測資料)



交通部運輸研究所

中華民國 110 年 2 月

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著者：蔣敏玲、蘇青和、李俊穎、傅怡釗、
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摘要： 本港灣環境資訊網觀測海氣象資料年報，包括高雄海域2019年觀測風力、波浪、潮汐及海流等資料之觀測記錄表及逐時資料歷線圖。			
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誌 謝

2019 年港灣環境資訊網觀測風力資料，蒐集之高雄海域風力資料，除本中心自行觀測之外，在高雄氣象站(測站 E) 觀測風力資料，係交通部 中央氣象局(CWB)提供。彌陀海上浮標站(測站 Z)、小港氣象站(測站 H)等觀測風力資料，係經濟部 水利署(WRA)提供，謹致謝忱。

2019 年港灣環境資訊網觀測波浪資料，蒐集之高雄海域波浪資料，除本中心自行觀測之外，在彌陀海上浮標站(測站 Z)觀測波浪資料，係經濟部 水利署(WRA)提供，謹致謝忱。

2019 年港灣海氣象觀測潮汐資料，蒐集之高雄海域潮汐觀測資料，除本中心自行觀測之外，在高雄 1 港(測站 F)、高雄 2 港(測站 L)等觀測潮汐資料，係交通部 中央氣象局 提供，謹致謝忱。

2019 年港灣環境資訊網觀測海流資料，蒐集之高雄海域海流資料，除本中心自行觀測之外，在彌陀海上浮標(測站 Z)觀測海流資料，係經濟部 水利署(WRA)提供，謹致謝忱。

第 0 章 高雄海域觀測風浪潮流資料蒐集

本年報將彙整包括本所港研中心(IHMT)、氣象局(CWB)、水利署(WRA)、成功大學水文中心(COMC)、國立臺灣海洋大學(NTOC)、海科中心(TORI)、觀光局東北角管理處(TBRC)、台灣中油(CPC)等單位，於臺灣北苗海域、北端海域、宜蘭海域、花蓮海域、臺東海域、屏東海域、高雄海域、嘉南海域、中雲海域、澎湖海域、金門海域及馬祖海域等 12 個海域，海域區分如附圖 A1。

高雄海域觀測風力資料測站統計表如表 WH1，觀測波浪資料測站統計表如表 VH1，觀測潮汐資料測站統計表如表 TH1，觀測海流資料測站統計表如表 CH1。

表 WH1 高雄海域觀測風力資料測站統計表

海域名稱	測站總數	IHMT 測站	CWB 測站	WRA 測站	其他 測站	備註
高雄海域	6	3	2	1		

表 VH1 高雄海域觀測波浪資料測站統計表

海域名稱	測站總數	IHMT 測站	CWB 測站	WRA 測站	其他 測站	備註
高雄海域	7	4	2	1		

表 TH1 高雄海域觀測潮汐資料測站統計表

海域名稱	測站總數	IHMT 測站	CWB 測站	WRA 測站	其他 測站	備註
高雄海域	11	10	1	0	0	

表 CH1 高雄海域觀測海流資料測站統計表

海域名稱	測站總數	IHMT 測站	CWB 測站	WRA 測站	其他 測站	備註
高雄海域	5	4	0	1	0	

註:資料更新時間為 2019 年。

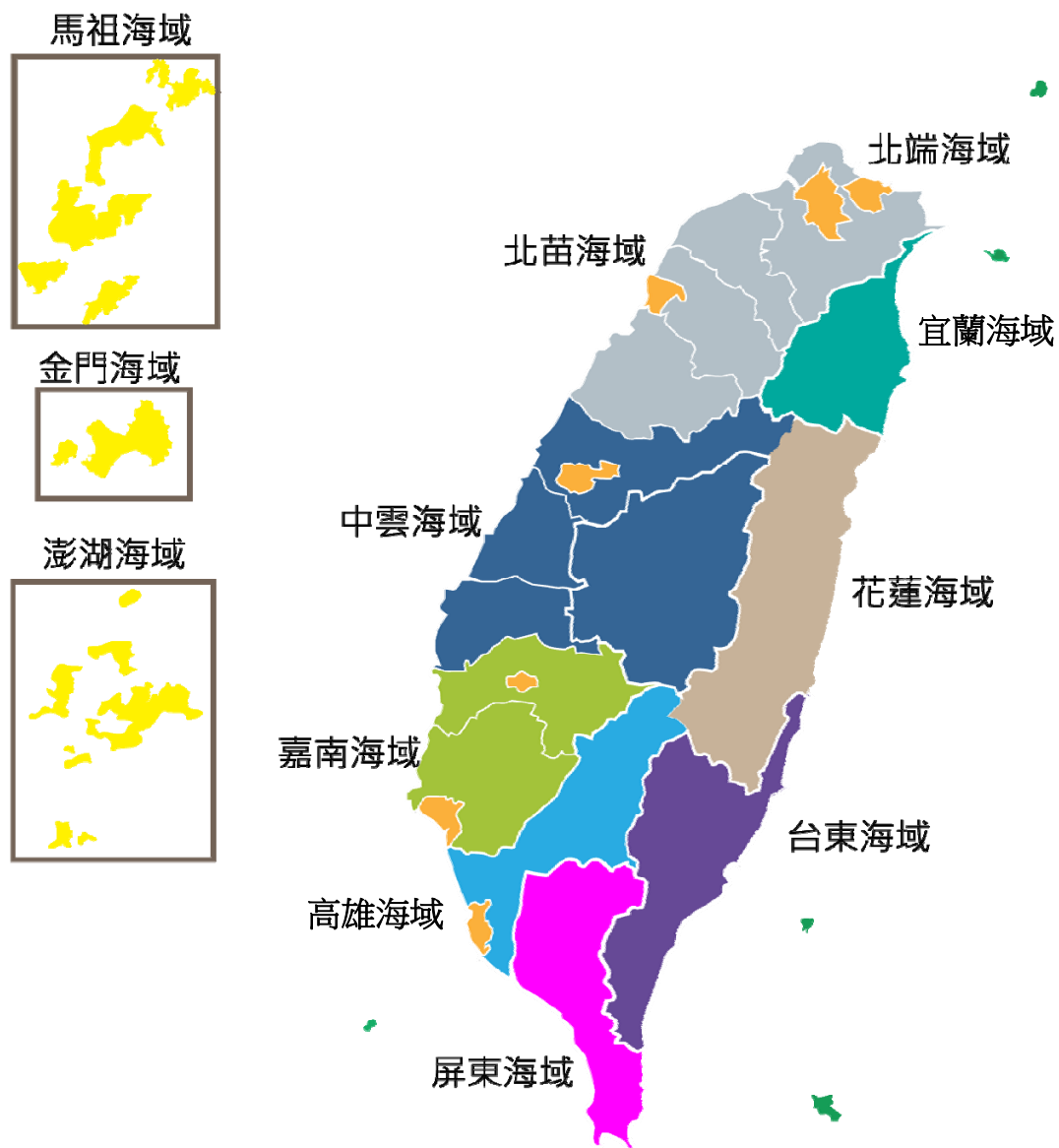


圖 A1 臺灣 12 海域區分示意圖

2019 年高雄海域觀測風力資料

高雄海域風之觀測係 2003 年 6 月本中心(IHMT)在高雄港十號碼頭安裝一具風速風向即時傳送監測系統(稱測站 B0)，本測站於 2010 年 9 月停止觀測。2010 年 10 月在第二港口南防坡堤堤頭，增設 Gill 二維超音波式風速計(測站 B1)，測站之位置如圖 WH1。另於 2007 年 4 月在高雄港二港口北防坡堤頭增設超音波風速風向儀(稱測站 W 及測站 C)。

高雄港附近風力觀測站 E 風速儀屬中央氣象局(CWB)所有，測站 Z(彌陀外海浮標站) 及小港氣象站測站 H 之風速儀則屬水利署(WRA)所有。各測站歷年觀測風資料蒐集概況如表 WH1。

本中心測站風資料之蒐集係採取每小時測定十分鐘之風速、風向數據加以平均，而得出該小時之平均風速、平均風向、最大陣風風速、最大陣風風向、最大陣風之發生時間。本中心之風力資料以取平均風速及平均風向為主。其他測站觀測風速、風向資料也是平均風速(m/s)及風向(度)。

表 WH1 高雄海域觀測風力資料蒐集概況表(統計時間至 2019 年 11 月)

測站	緯度	經度	觀測期間	觀測單位	備註
B	22°36'54"N	120°17'19"E	2002/06-2019/11(觀測中)	港研中心	高雄 1 港口
W	22°32'51"N	120°17'55"E	2010/09-2018/06	港研中心	高雄 2 港口
C	22°32'51"N	120°17'55"E	2007/04-2019/11(觀測中)	港研中心	高雄 2 港口
E	22°33'58"N	120°18'57"E	1999/01-2019/11(觀測中)	中央氣象局	高雄
Z	22°45'50"N	120°09'49"E	2012/09-2019/11(觀測中)	水利署	彌陀浮標站
H	23°09'32"N	121°24'12"E	2013/09-2019/11(觀測中)	中央氣象局	小港氣象站

高雄海域



圖 WH1 高雄海域風力觀測站位置示意圖

2019 年高雄海域觀測波浪資料

高雄海域波浪觀測係本中心(IHMT)2000 年 12 月於中區污水處理廠附近海域安置 NORTEK 公司之剖面海流與波浪即時監測系統(測站 X0)，如圖 VH1，以進行長期觀測。本站於 2005 年 8 月移至第二港口附近海(稱測站 X1)，水深約 18m;另於 2014 年 4 月及 12 月分別於第一港口及第二港口附近海(測站 A 及測站 1、測站 2)，增設潮波儀站。

測站 Z(彌陀外海浮標站)之波浪儀則屬水利署(WRA)所有。高雄海域各測站歷年觀測波浪資料蒐集概況如表 VH1。

波浪觀測 AWAC 系統有兩個分離波高量測模式：一個是對平靜波浪時，當資料由傳統式壓力感應器量測時將會因儀器佈放的深度而受很大的影響。此時，表面高度必須用一個聲波式的高度感應器量測波高。AWAC 波向量測範圍：波向的量測從海面下 3 米以上的流向資料與波高資料計算轉換而得。對攪動的海況來說；用於轉換波向的該層深度應該自動被調整為平均水位也就是 $H_{\max}/2$ 。量測的參數為：平均波向及波向分佈，波向單位為度。

表 VH1 高雄海域觀測波浪資料蒐集概況表(統計時間至 2019 年 11 月)

測站	緯度	經度	觀測期間	觀測單位	備註
X0	22°34'23"N	120°16'09"E	2000/12-2005/08	港研中心	高雄中洲外海
X1	22°32'34"N	120°17'38"E	2005/08-2019/11(觀測中)	港研中心	高雄 2 港口外海
A	22°38'36"N	120°14'13"E	2014/04-2015/03	港研中心	高雄 1 港口外海
1			2014/12-2015/12	港研中心	高雄 2 港口外海
2			2015/12-2019/10	港研中心	高雄 2 港口外海
Z	22°45'50"N	120°09'49"E	2012/09-2019/11(觀測中)	水利署	彌陀外海浮標站

高雄海域



IHMT 波潮流站



WRA 浮標波浪站

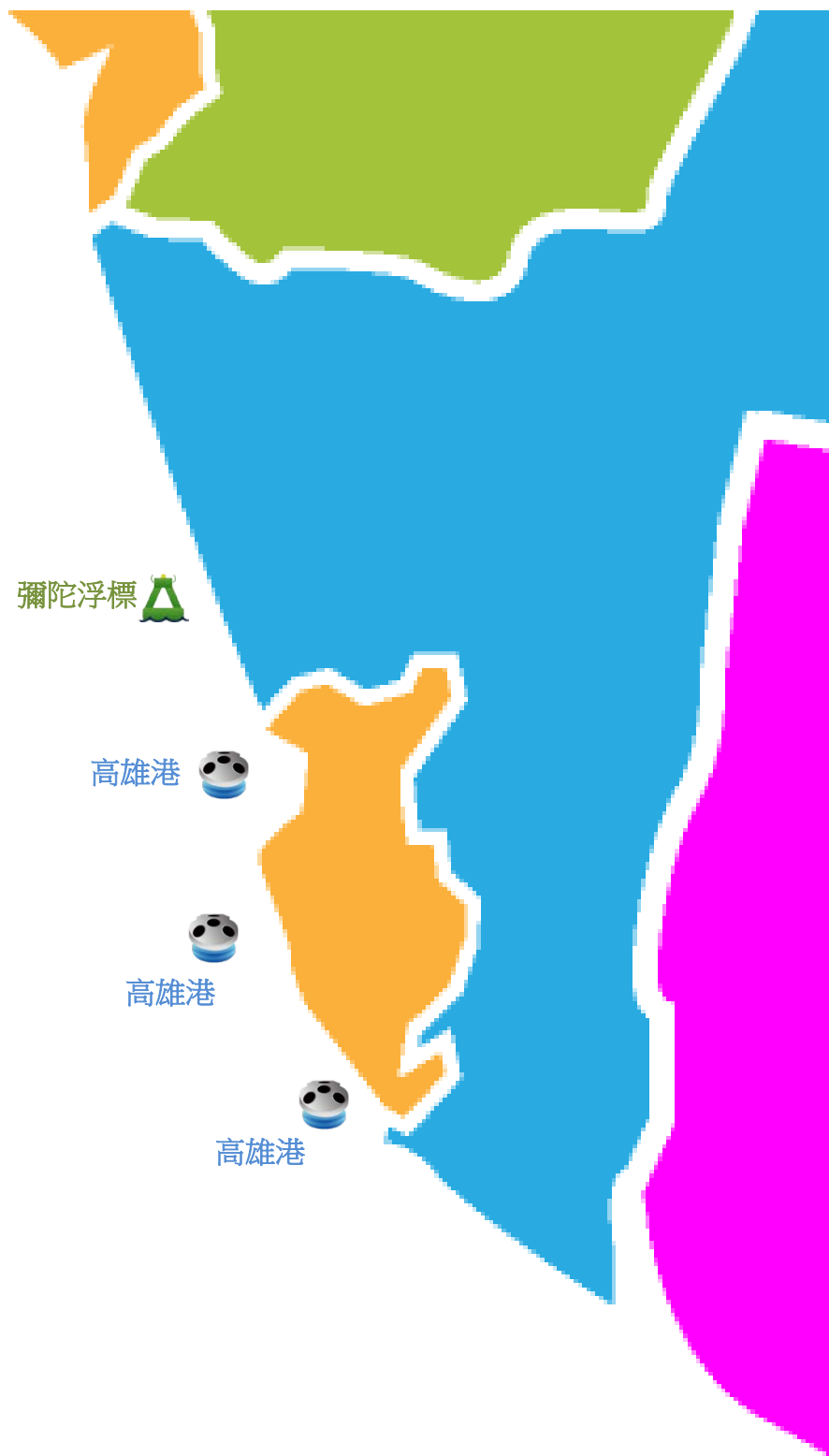


圖 VH1 高雄海域波浪觀測站位置示意圖

2019 年高雄海域觀測潮汐資料

高雄海域潮汐之觀測本中心於 2000 年 12 月在高雄一港口與二港口間海域(稱**測站 X0**)，其位置如附圖 TH1，安置 AWAC 具量測水位功能，本站於 2005 年 8 月移至第二港口附近海域(稱**測站 X1**)，另於 2013 年 12 月於第一港口及第二港口附近海域(**測站 A**、**測站 2** 及 **測站 1**)，增設潮波儀。早期 1992 年 1 月本中心於港區安置潮位站(稱**測站 L**)，2003 年 6 月本中心在 10 號碼頭(稱**測站 T**)，增加安裝壓力式潮位儀監測系統。2014 年於高雄港內增設潮位站(稱**測站 S**)。2018 年於高雄港內增設即時水深潮位站(稱**測站 P** 及 **測站 Q**)。高雄港附近潮汐**測站 F** 之潮汐儀屬中央氣象局所有。高雄海域各測站歷年觀測潮汐資料蒐集概況如表 TH1。

潮位**測站 X** 等潮波流儀，以壓力感測器測得水壓變化時間序列，取樣方式為每一小時取前 10 分鐘之水位變化，然後加以平均得出該小時之平均水位值。**測站 T** 潮位資料取樣方式為每 6 分鐘量測一次水位變化。**測站 F** 資料由中央氣象局提供。

表 TH1 高雄海域觀測潮汐資料蒐集概況表(統計時間至 2019 年 11 月)

測站	緯度	經度	觀測期間	觀測單位	備註
T	22°32'52"N	120°17'18"E	2003/06-2019/11(觀測中)	港研中心	高港 10 號碼頭
X0	22°34'23"N	120°16'09"E	2000/12-2005/08	港研中心	高雄中洲外海
X1	22°32'34"N	120°17'38"E	2005/08-2019/11(觀測中)	港研中心	高雄 2 港口外海
A	22°38'36"N	120°14'13"E	2014/04-2015/03	港研中心	高雄 1 港口外海
1			2014/12-2015/12	港研中心	高雄 2 港口外海
2			2015/12-2017/10	港研中心	高雄 2 港口外海
L			1992/06-2003/12	港研中心	高雄 2 港區
F	22°36'52"N	120°17'18"E	1971/01-2013/11	中央氣象局	高雄 1 港區
P	22°36'52"N	120°17'18"E	2018/10-2019/11(觀測中)	港研中心	高雄港潮位站
Q	22°33'03"N	120°29'06"E	2018/10-2019/11(觀測中)	港研中心	高雄港潮位站
S			2014/12-2019/08	港研中心	高雄港潮位站

高雄海域

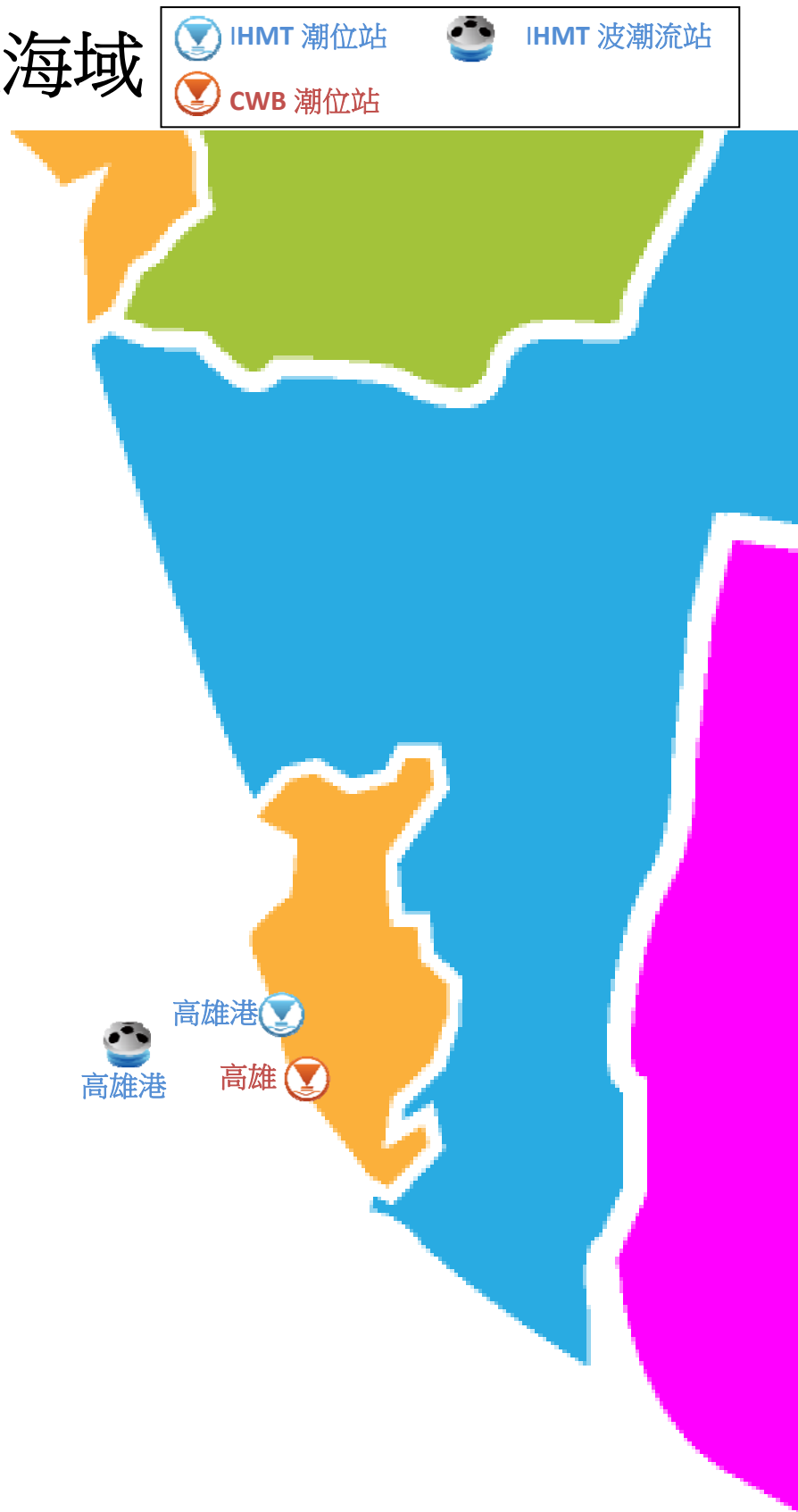


圖 TH1 高雄海域潮汐觀測站位置示意圖

2019 年高雄海域觀測海流資料

高雄海域海流觀測係本中心(IHMT)2000 年 12 月於中區污水處理廠附近海域安置 NORTEK 公司之剖面海流與海流即時監測系統(測站 X0)，如圖 CH1，以進行長期觀測。本站於 2005 年 8 月移至第二港口附近海(稱測站 X1)，水深約 18m;另於 2014 年 4 月及 12 月分別於第一港口及第二港口附近海(稱測站 A 及測站 1)，增設潮波流儀。

測站 Z(彌陀外海浮標站)之海流儀則屬水利署(WRA)所有。高雄海域各測站歷年觀測海流資料蒐集概況如表 CH1。

剖面海流流速的量測可以依照使用在不同水深即自固定在海床上之儀器位置到水表面來設定量測不同的間距，高雄港觀測站水深間距設定為 1 公尺；每小時連續量測 600 秒，再將總和平均代表其數樣每一間距層之海流流速、流向等資料，記錄在感應器內，並每隔 1 小時經由海底電纜傳訊回接收站之電腦中儲存。

表 CH1 高雄海域觀測海流資料蒐集概況表(統計時間至 2019 年 11 月)

測站	緯度	經度	觀測期間	觀測單位	備註
X0	22°34'23"N	120°16'09"E	2000/12-2005/08	港研中心	高雄中洲外海
X1	22°32'34"N	120°17'38"E	2005/08-2019/11(觀測中)	港研中心	高雄 2 港口外海
A	22°38'36"N	120°14'13"E	2014/04-2015/03	港研中心	高雄 1 港口外海
1			2014/12-2015/12	港研中心	高雄 2 港口外海
2			2015/12-2017/10	港研中心	高雄 2 港口外海
Z	22°45'50"N	120°09'49"E	2012/09-2019/11(觀測中)	水利署	彌陀外海浮標站

高雄海域



IHMT 波潮流站



WRA 浮標海流站

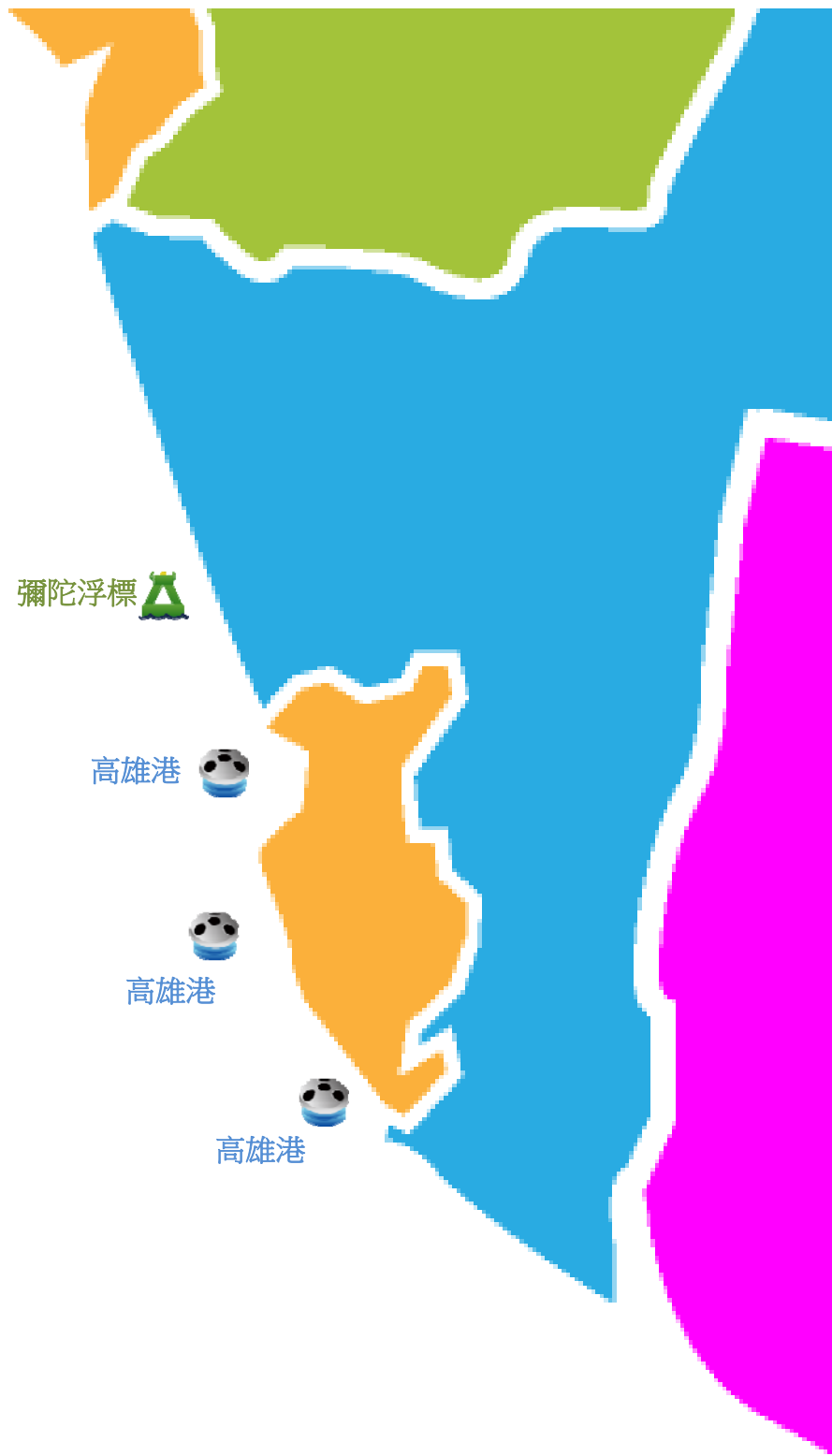


圖 CH1 高雄海域海流觀測站位置示意圖

第一章 2019 年高雄海域觀測風力資料

2019 年高雄海域風之觀測包括測站 **Z**、測站 **B**、測站 **C**、測站 **E** 及測站 **H** 等 5 個測站(測站位置如第 O 章圖 WH1，各測站觀測風資料蒐集概況如表 WH1)。本年報取經檢核及補遺之 **W 站** 資料作為主要測站 1，**Z 站** 資料作為主要測站 2。

1.1 2019 年高雄海域觀測風力資料年報圖表

本章第 1 節**風力**年報資料處理之圖表包括：

1. 表 1.1.1a 2019 年**各觀測站**每月**觀測風力**資料**修補前**記錄表。
2. 表 1.1.1b 2019 年**主要測站**每月**觀測風力**資料**修補後**記錄表。
3. 表 1.1.2 2019 年**主要測站 1** **修補後**每月(季)及整年風速及風向重要統計量統計表。
4. 表 1.1.3 2019 年**主要測站 2** **修補後**每月(季)及整年風速及風向重要統計量統計表。
5. 圖 1.1.1a 2019 年**主要測站 1** **修補前後**每月風速歷線比較圖。
6. 圖 1.1.1b 2019 年**主要測站 1** **修補前後**每月風向歷線比較圖。
7. 圖 1.1.2a 2019 年**主要測站 2** **修補前後**每月風速歷線比較圖。
8. 圖 1.1.2b 2019 年**主要測站 2** **修補前後**每月風向歷線比較圖。
9. 圖 1.1.3 2019 年**主要測站 1** **修補後**每月風力向量分佈圖。
10. 圖 1.1.4 2019 年**主要測站 2** **修補後**每月風力向量分佈圖。
11. 圖 1.1.5 2019 年**主要測站 1** **修補後**每月風力向量行進圖。
12. 圖 1.1.6 2019 年**主要測站 2** **修補後**每月風力向量行進圖。

第 2 節風力年報資料處理之統計表包括：2019 年高雄海域**各測站**
修補前每月(季)及整年風速及風向重要統計量統計表。

第 3 節風力年報資料處理之統計圖包括：2019 年高雄海域**主要測**
站 1 修補後與其他測站(修補前)每月風速及風向歷線比較圖。

第 4 節風力年報資料處理之統計圖包括：2019 年高雄海域**主要測**
站 2 修補後與其他測站(修補前)每月風速及風向歷線比較圖。

第 5 節風力年報資料處理之統計圖包括：2019 年高雄海域**各測站**
修補前每月風力向量分佈圖。

第 6 節風力年報資料處理之統計圖包括：2019 年高雄海域**各測站**
修補前每月風力向量行進圖。

表 1.1.1a 2019 年每月高雄海域修補前各測站觀測風力資料紀錄表

海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域
年月/測站		Z	B	C	E	H						
2018/12 月	*	577(77.6%)	744(100%)	346(46.5%)	744(100%)	633(85.1%)	*	*	*	*	*	*
2019/ 1 月	*	603(81.0%)	744(100%)	352(47.3%)	744(100%)	729(98.0%)	*	*	*	*	*	*
2019/ 2 月	*	517(76.9%)	672(100%)	338(50.3%)	672(100%)	639(95.1%)	*	*	*	*	*	*
2019/ 3 月	*	583(78.4%)	744(100%)	365(49.1%)	744(100%)	739(99.3%)	*	*	*	*	*	*
2019/ 4 月	*	575(79.9%)	720(100%)	369(51.3%)	720(100%)	719(99.9%)	*	*	*	*	*	*
2019/ 5 月	*	574(77.2%)	744(100%)	360(48.4%)	744(100%)	735(98.8%)	*	*	*	*	*	*
2019/ 6 月	*	554(76.9%)	720(100%)	354(49.2%)	720(100%)	658(91.4%)	*	*	*	*	*	*
2019/ 7 月	*	450(60.5%)	744(100%)	358(48.1%)	744(100%)	626(84.1%)	*	*	*	*	*	*
2019/ 8 月	*	501(67.3%)	670(90.1%)	329(44.2%)	744(100%)	684(91.9%)	*	*	*	*	*	*
2019/ 9 月	*	416(57.8%)	720(100%)	350(48.6%)	720(100%)	567(78.8%)	*	*	*	*	*	*
2019/10 月	*	525(70.6%)	744(100%)	394(53.0%)	744(100%)	701(94.2%)	*	*	*	*	*	*
2019/11 月	*	550(76.4%)	516(71.7%)	381(52.9%)	720(100%)	716(99.4%)	*	*	*	*	*	*
2019/冬季	*	1697(78.6%)	2160(100%)	1036(48.0%)	2160(100%)	2001(92.6%)	*	*	*	*	*	*
2019/春季	*	1732(78.4%)	2208(100%)	1094(49.5%)	2208(100%)	2193(99.3%)	*	*	*	*	*	*
2019/夏季	*	1505(68.2%)	2134(96.6%)	1041(47.1%)	2208(100%)	1968(89.1%)	*	*	*	*	*	*
2019/秋季	*	1491(68.3%)	1980(90.7%)	1125(51.5%)	2184(100%)	1984(90.8%)	*	*	*	*	*	*
2019/整年	*	6425(73.3%)	8482(96.8%)	4296(49.0%)	8760(100%)	8146(93.0%)	*	*	*	*	*	*
起始年月	*	2018/12	2018/12	2018/12	2018/12	2018/12	*	*	*	*	*	*
結束年月	*	2019/11	2019/11	2019/11	2019/11	2019/11	*	*	*	*	*	*

表 1.1.1b 2019 年每月高雄海域修補後各測站風力資料紀錄表

海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域
年月/測站	W	Z										
2018/12 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 1 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 2 月	672(100%)	672(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 3 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 4 月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 5 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 6 月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 7 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 8 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 9 月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/10 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/11 月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/冬季	2160(100%)	2160(100%)	*	*	*	*	*	*	*	*	*	*
2019/春季	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*	*
2019/夏季	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*	*
2019/秋季	2184(100%)	2184(100%)	*	*	*	*	*	*	*	*	*	*
2019/整年	8760(100%)	8760(100%)	*	*	*	*	*	*	*	*	*	*
起始年月	2018/12	2018/12	*	*	*	*	*	*	*	*	*	*
結束年月	2019/11	2019/11	*	*	*	*	*	*	*	*	*	*

表1.1.2 2019年高雄海域 W 站修補後風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2018/12	744(100%)	4.5	4.2/N	11.8/NNW	27.4	65.5	7.1	.0	39.7	.4	1.5	58.5	N /40.9%
2	2019/01	744(100%)	4.7	4.4/NNW	12.7/NNW	22.6	69.4	8.1	.0	35.5	.3	.0	64.2	N /50.1%
3	2019/02	672(100%)	5.1	3.7/NNW	14.1/NNW	22.0	65.0	12.6	.3	26.3	3.6	9.5	60.6	N /34.1%
4	2019/03	744(100%)	4.6	3.0/NNW	13.2/NNW	34.0	55.2	10.8	.0	37.6	8.1	7.3	47.0	NNW/25.5%
5	2019/04	720(100%)	4.1	2.6/NNW	13.1/NNW	46.4	46.8	6.8	.0	25.0	6.1	13.8	55.1	NNW/19.9%
6	2019/05	744(100%)	3.8	2.3/NW	12.2/S	46.2	50.1	3.6	.0	26.2	5.8	16.3	51.7	NNW/18.3%
7	2019/06	720(100%)	3.6	.8/S	12.6/WNW	53.2	41.9	4.9	.0	25.3	27.5	26.3	21.0	S /11.8%
8	2019/07	744(100%)	4.2	.4/SSW	17.1/SSW	46.5	41.9	11.4	.1	31.6	22.2	24.1	22.2	NE /14.0%
9	2019/08	744(100%)	4.7	.8/W	18.9/NNW	38.0	48.7	12.4	.9	26.2	19.1	25.9	28.8	NW /11.8%
10	2019/09	720(100%)	3.9	1.8/NW	18.1/NNW	48.6	44.0	5.1	2.2	28.2	7.2	28.5	36.1	NNE/11.0%
11	2019/10	744(100%)	3.7	2.3/NW	13.9/NNW	49.7	45.8	4.3	.1	21.1	3.0	24.3	51.6	NW /16.7%
12	2019/11	720(100%)	4.2	3.6/NNW	11.9/NNW	35.7	59.2	5.1	.0	36.1	.6	5.7	57.6	N /31.3%
13	2019/冬	2160(100%)	4.8	4.1/NNW	14.1/NNW	24.1	66.7	9.2	.1	34.1	1.3	3.5	61.1	N /41.9%
14	2019/春	2208(100%)	4.2	2.6/NNW	13.2/NNW	42.2	50.8	7.1	.0	29.7	6.7	12.4	51.3	NNW/21.2%
15	2019/夏	2208(100%)	4.1	.5/SW	18.9/NNW	45.8	44.2	9.6	.4	27.7	22.9	25.4	24.0	NE /11.7%
16	2019/秋	2184(100%)	3.9	2.5/NW	18.1/NNW	44.7	49.6	4.9	.8	28.4	3.6	19.6	48.5	NNW/17.2%
17	2019/年	8760(100%)	4.3	2.2/NNW	18.9/NNW	39.3	52.8	7.7	.3	29.9	8.7	15.3	46.1	N /18.3%

表1.1.3 2019年高雄海域 Z 站修補後風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2018/12	744(100%)	5.3	5.0/N	10.9/N	16.3	74.3	9.4	.0	61.4	1.1	.7	36.8	N /42.9%
2	2019/01	744(100%)	5.2	4.9/N	12.5/N	14.7	78.5	6.9	.0	64.1	.4	.1	35.3	N /48.1%
3	2019/02	672(100%)	5.0	4.0/N	11.4/NNW	22.3	67.9	9.8	.0	50.1	5.8	4.8	39.3	N /32.7%
4	2019/03	744(100%)	4.2	3.0/N	10.6/N	37.4	58.2	4.4	.0	48.1	8.7	7.9	35.2	N /32.4%
5	2019/04	720(100%)	3.6	2.1/NNW	11.8/NNW	48.9	47.4	3.8	.0	26.0	11.8	17.8	44.4	N /21.4%
6	2019/05	744(100%)	2.8	1.2/NNW	9.8/NNE	64.4	34.3	1.3	.0	30.1	11.6	20.3	38.0	N /14.2%
7	2019/06	720(100%)	2.9	1.3/S	11.9/WNW	62.8	36.8	.4	.0	11.8	44.4	28.1	15.7	S /15.7%
8	2019/07	744(100%)	3.6	1.0/S	12.4/SSW	48.4	48.8	2.8	.0	15.3	36.8	28.1	19.8	ESE/11.0%
9	2019/08	744(100%)	4.0	.8/SSW	17.3/SSE	48.7	40.7	9.7	.9	17.5	30.0	28.1	24.5	SW / 8.9%
10	2019/09	720(100%)	3.2	1.5/NNW	14.5/NNW	66.0	27.5	6.3	.3	31.5	12.2	21.3	35.0	NNW/11.9%
11	2019/10	744(100%)	3.1	2.2/NNW	13.1/NNW	63.7	32.9	3.4	.0	30.5	5.1	14.0	50.4	N /19.1%
12	2019/11	720(100%)	4.2	3.8/N	10.0/NNW	35.0	61.9	3.1	.0	52.6	1.8	1.5	44.0	N /37.9%
13	2019/冬	2160(100%)	5.2	4.7/N	12.5/N	17.6	73.8	8.7	.0	58.8	2.3	1.8	37.1	N /41.5%
14	2019/春	2208(100%)	3.5	2.1/N	11.8/NNW	50.2	46.6	3.2	.0	34.8	10.7	15.3	39.2	N /22.7%
15	2019/夏	2208(100%)	3.5	1.0/S	17.3/SSE	53.2	42.2	4.3	.3	14.9	37.0	28.1	20.0	S /10.1%
16	2019/秋	2184(100%)	3.5	2.5/NNW	14.5/NNW	55.0	40.7	4.2	.1	38.1	6.4	12.3	43.2	N /22.9%
17	2019/年	8760(100%)	3.9	2.0/N	17.3/SSE	44.1	50.7	5.1	.1	36.6	14.2	14.4	34.8	N /22.5%

Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

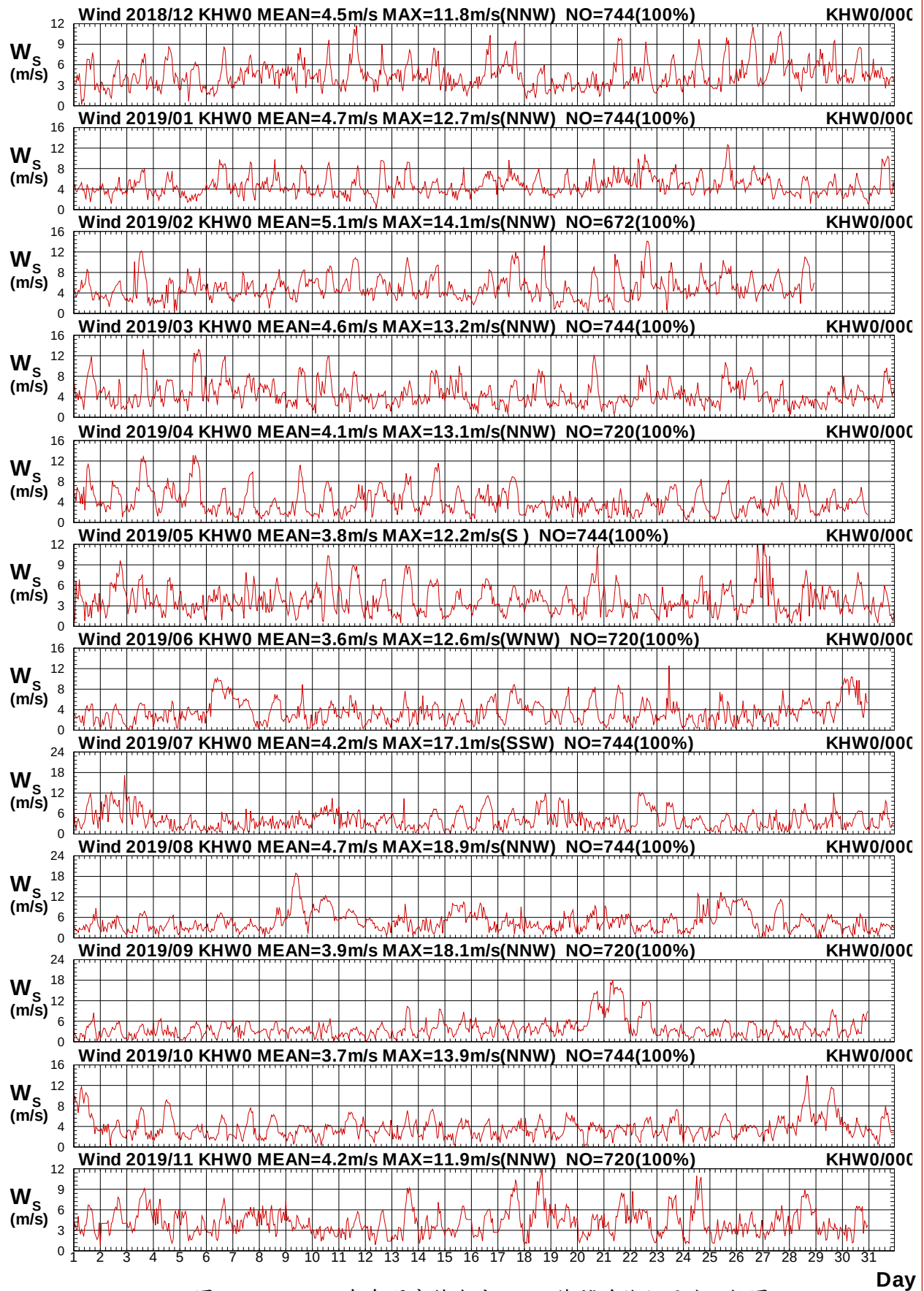


圖1.1.1a 2019年每月高雄海域 W 站修補前後之風速比較圖

W18CKHW0.1HA W18CKHW0.1H0 W191KHW0.1HA W191KHW0.1H0 W192KHW0.1HA W192KHW0.1H0

W193KHW0.1HA W193KHW0.1H0 W194KHW0.1HA W194KHW0.1H0 W195KHW0.1HA W195KHW0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

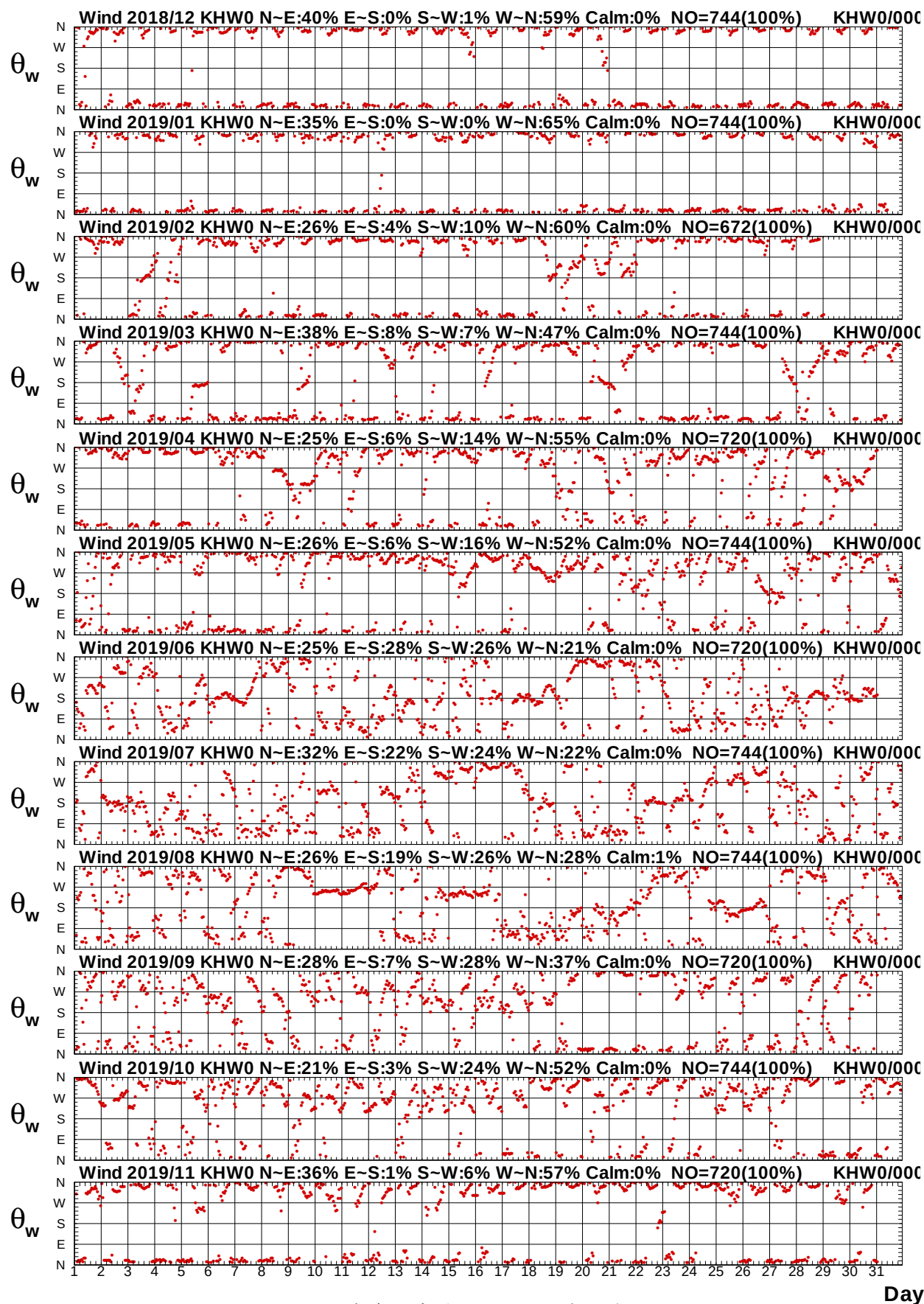


圖1.1.1b 2019年每月高雄海域 W 站修補前後之風向比較圖

W18CKHW0.1HA W18CKHW0.1H0 W191KHW0.1HA W191KHW0.1H0 W192KHW0.1HA W192KHW0.1H0

W193KHW0.1HA W193KHW0.1H0 W194KHW0.1HA W194KHW0.1H0 W195KHW0.1HA W195KHW0.1H0

Institute of Harbor & Marine Technology

Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

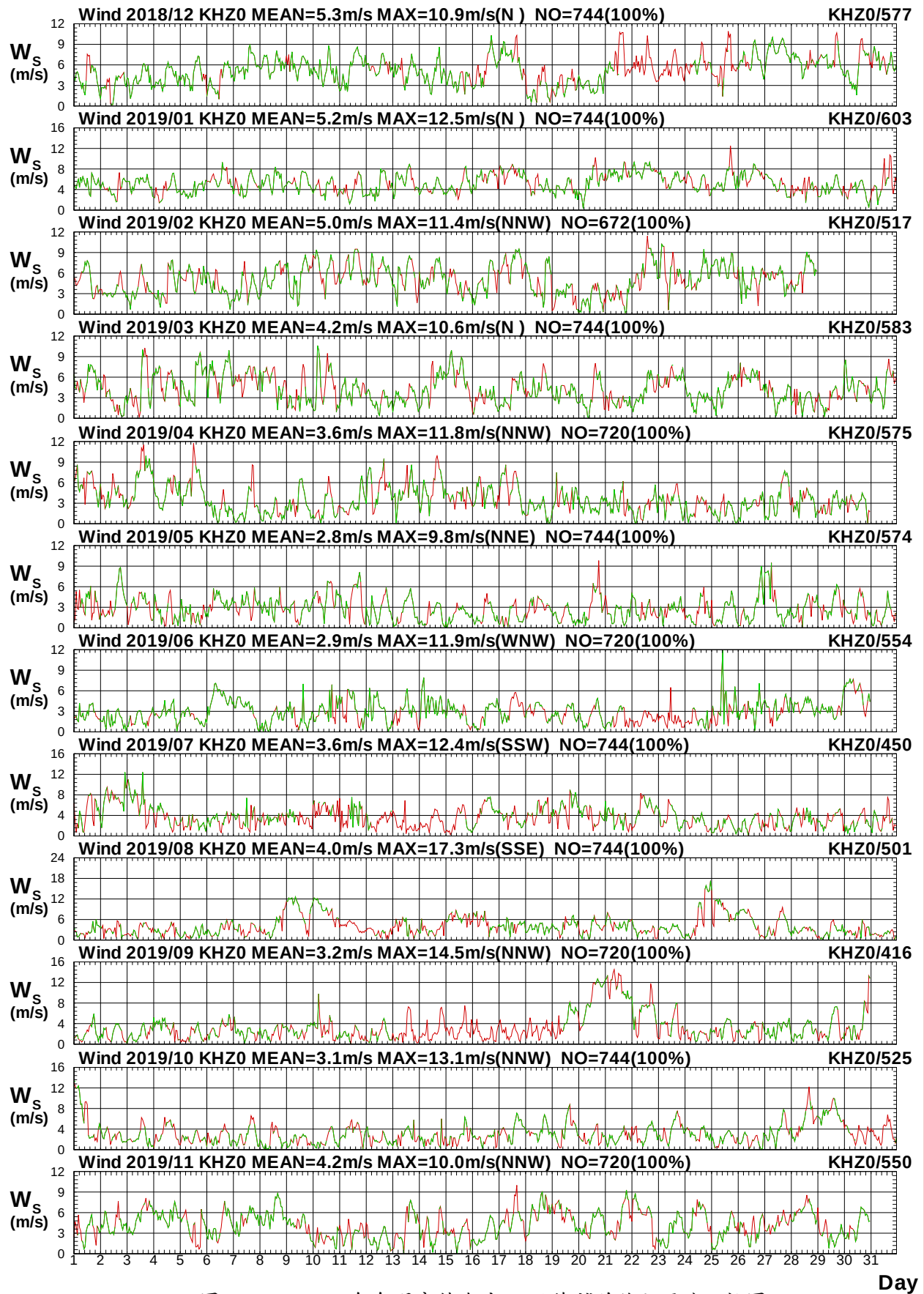


圖1.1.2a 2019年每月高雄海域 Z 站修補前後之風速比較圖

W18CKHZ0.1HA W18CKHZ0.1H0 W191KHZ0.1HA W191KHZ0.1H0 W192KHZ0.1HA W192KHZ0.1H0
W193KHZ0.1HA W193KHZ0.1H0 W194KHZ0.1HA W194KHZ0.1H0 W195KHZ0.1HA W195KHZ0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

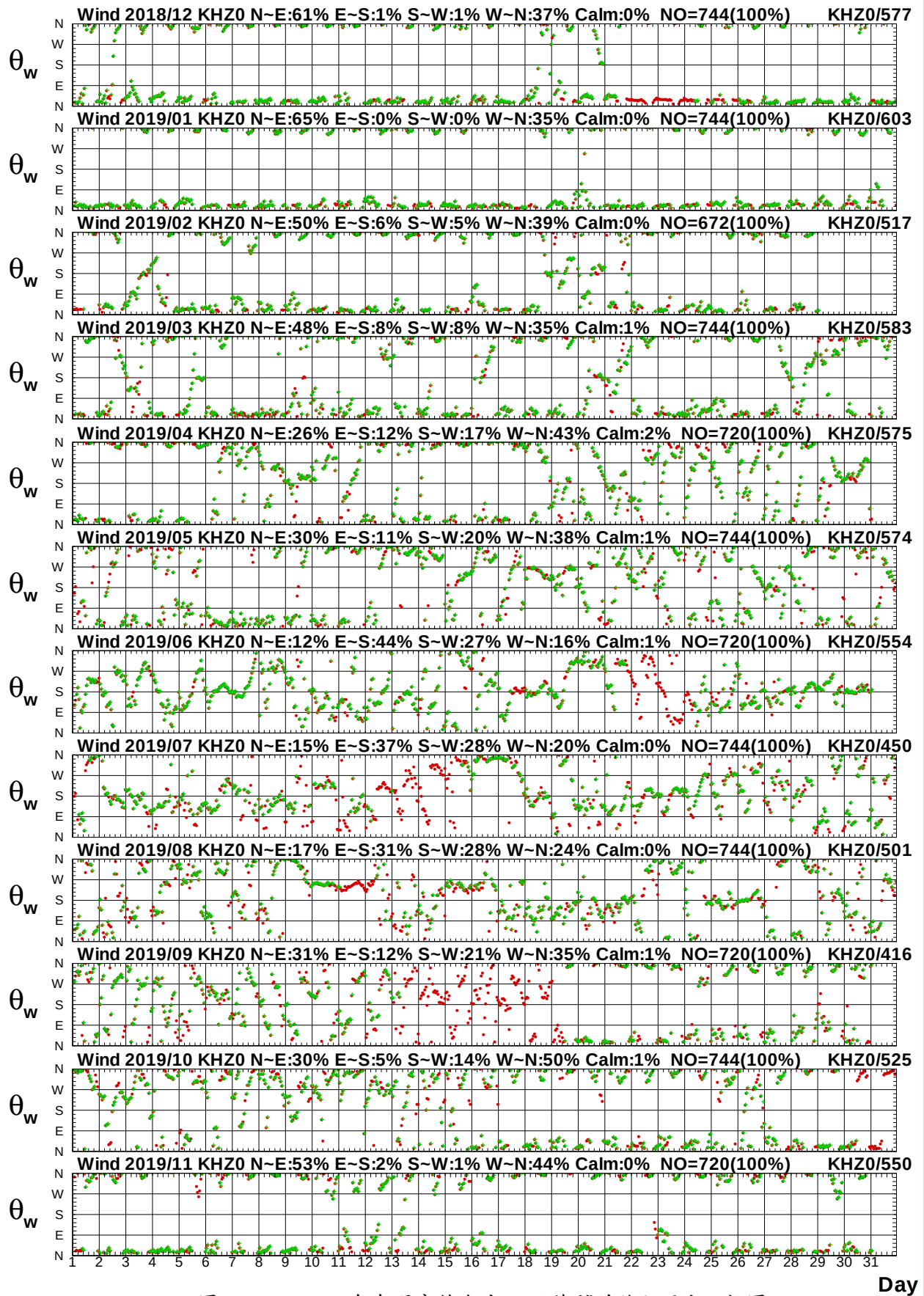


圖1.1.2b 2019年每月高雄海域 Z 站修補前後之風向比較圖

W18CKHZ0.1HA W18CKHZ0.1H0 W191KHZ0.1HA W191KHZ0.1H0 W192KHZ0.1HA W192KHZ0.1H0
W193KHZ0.1HA W193KHZ0.1H0 W194KHZ0.1HA W194KHZ0.1H0 W195KHZ0.1HA W195KHZ0.1H0

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Distribution of Wind Vectors

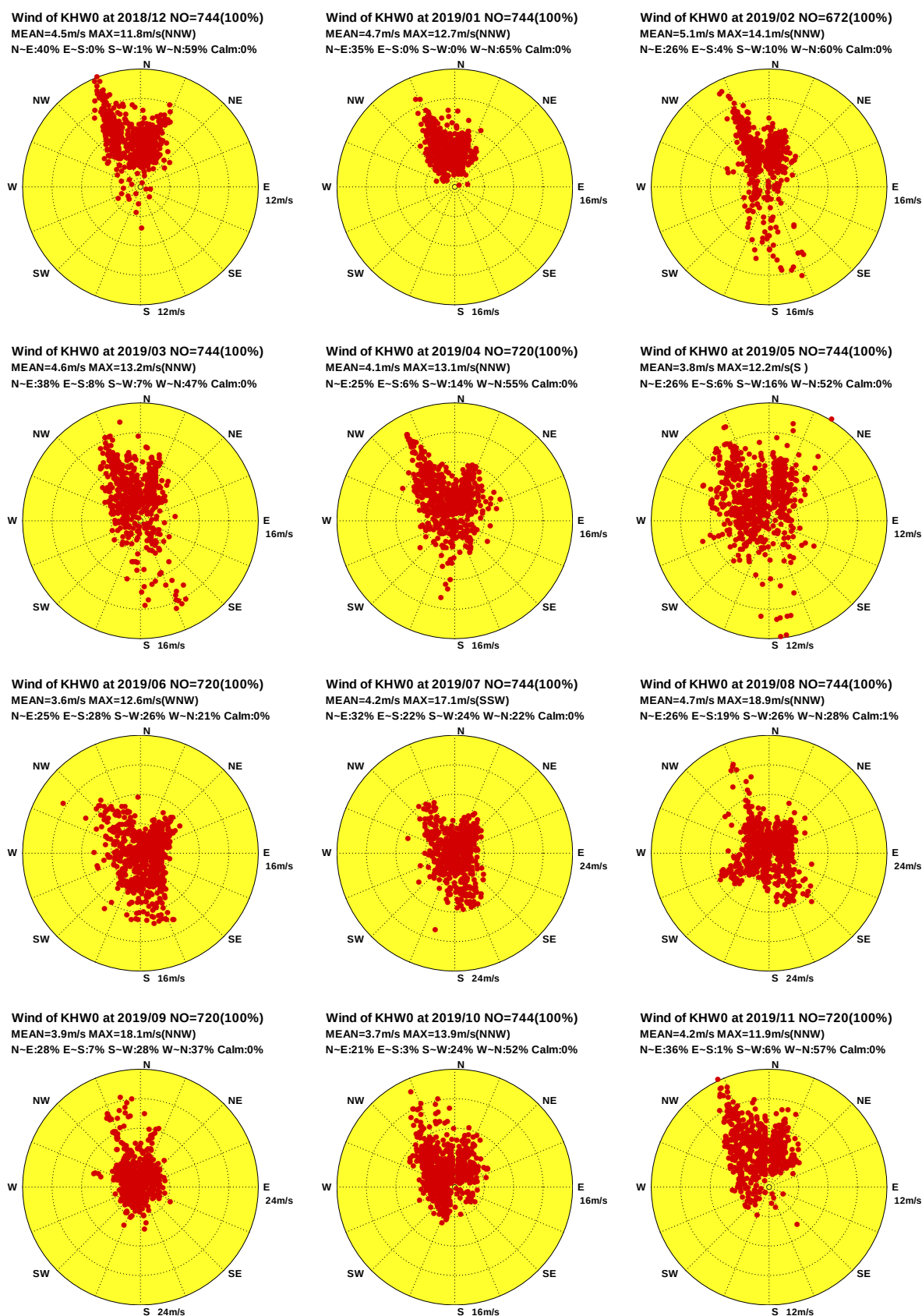


圖1.1.3 2019年高雄海域每月 W 站修補後觀測風力向量分佈圖

Distribution of Wind Vectors

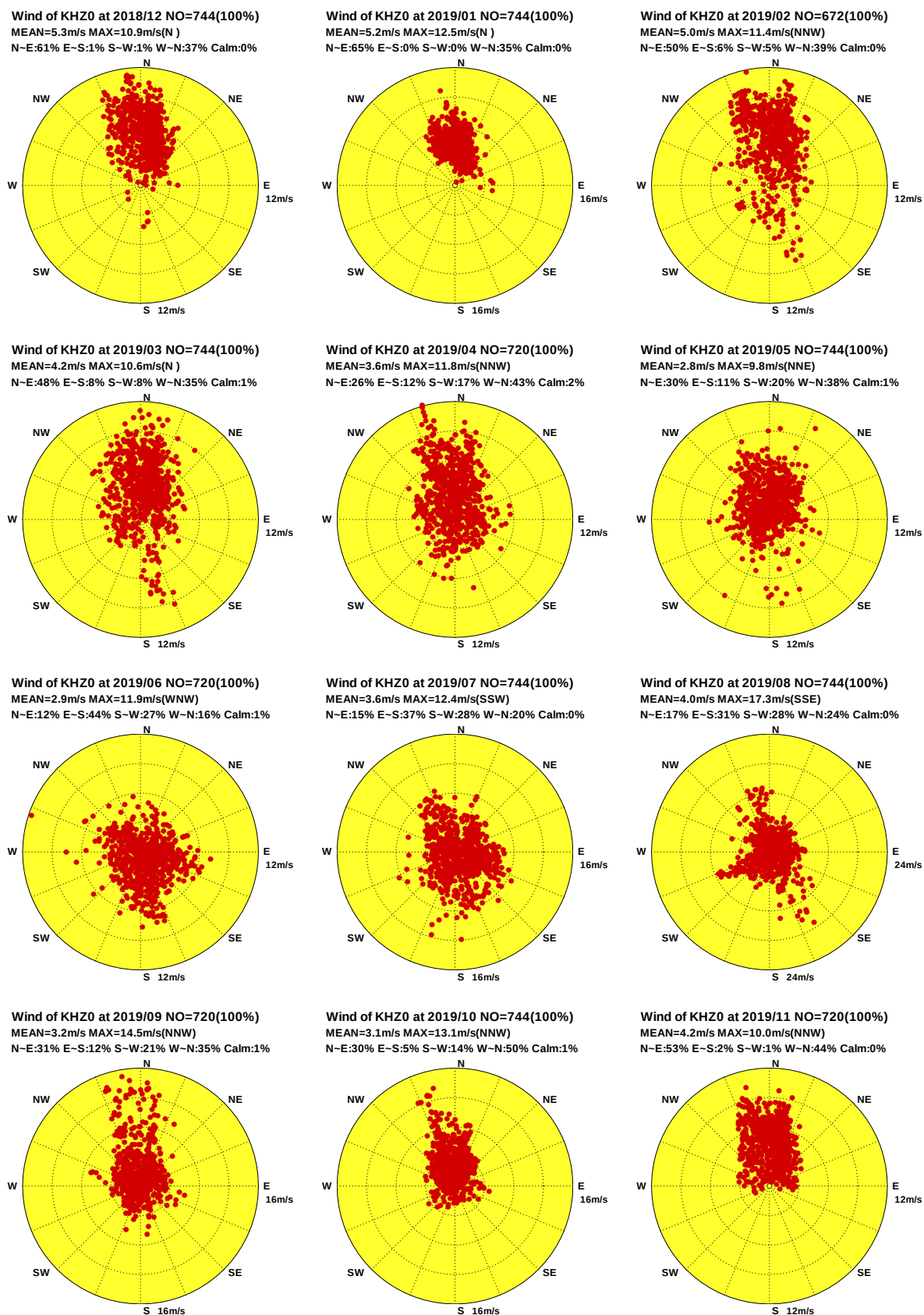


圖1.1.4 2019年高雄海域每月 Z 站修補後觀測風力向量分佈圖

W18CKHZ0.1HA W191KHZ0.1HA W192KHZ0.1HA W193KHZ0.1HA W194KHZ0.1HA W195KHZ0.1HA
W196KHZ0.1HA W197KHZ0.1HA W198KHZ0.1HA W199KHZ0.1HA W19AKHZ0.1HA W19BKHZ0.1HA

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Progressive Vector Diagram of Wind

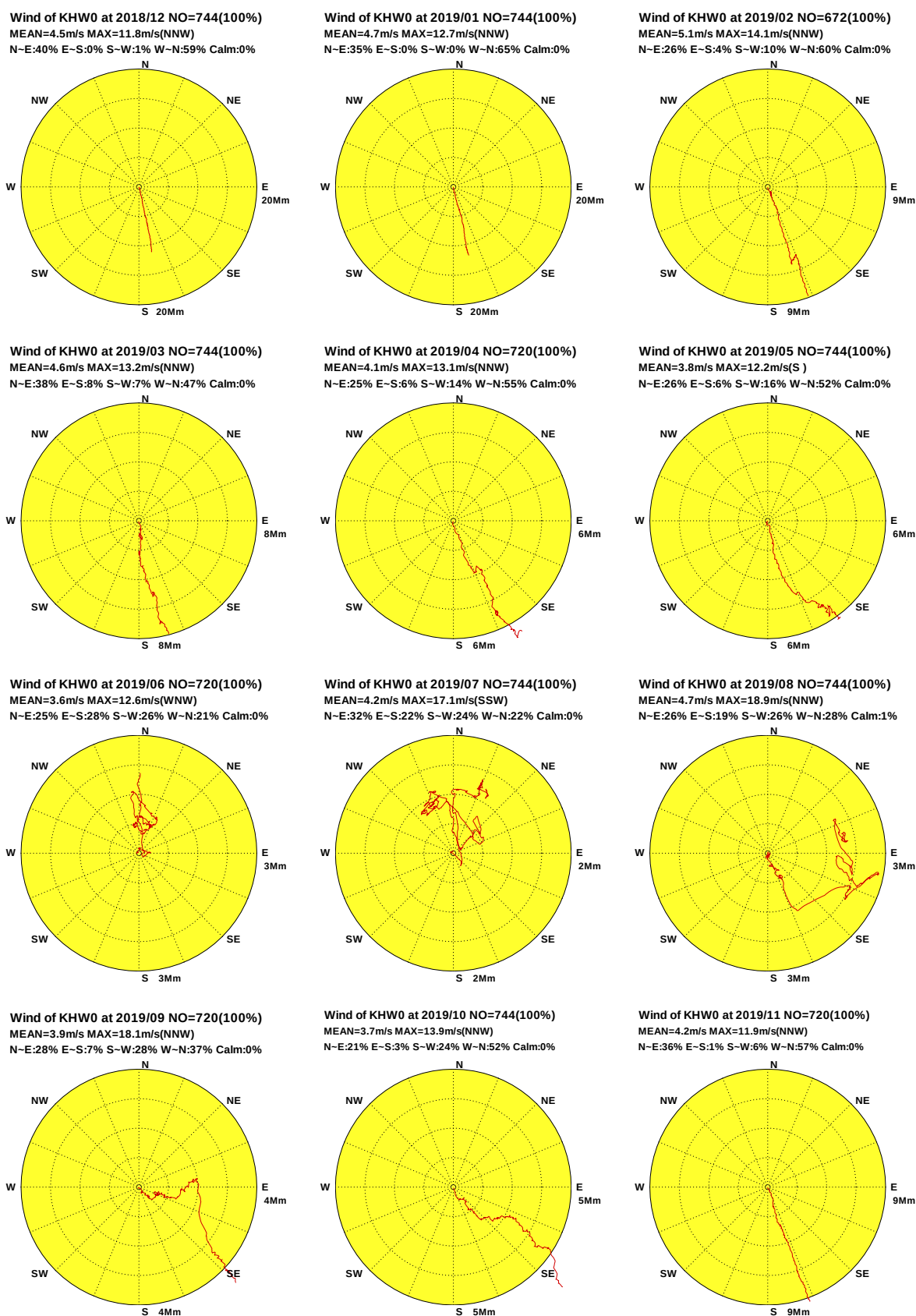
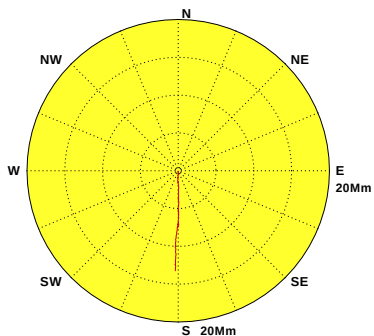


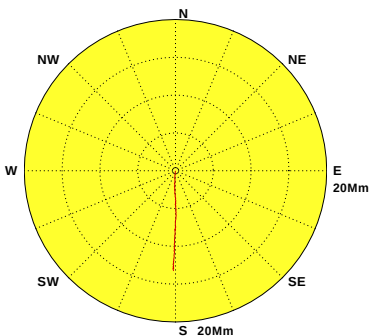
圖1.1.5 2019年高雄海域每月 W 站修補後觀測風力向量行進圖

Progressive Vector Diagram of Wind

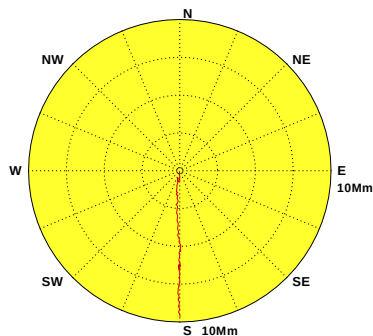
Wind of KHZ0 at 2018/12 NO=744(100%)
MEAN=5.3m/s MAX=10.9m/s(N)
N-E:61% E-S:1% S-W:1% W-N:37% Calm:0%



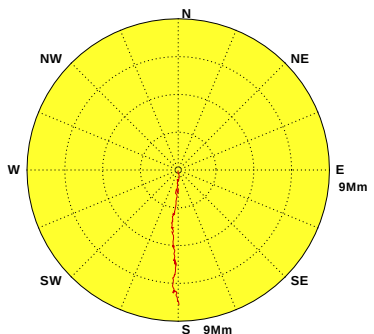
Wind of KHZ0 at 2019/01 NO=744(100%)
MEAN=5.2m/s MAX=12.5m/s(N)
N-E:65% E-S:0% S-W:0% W-N:35% Calm:0%



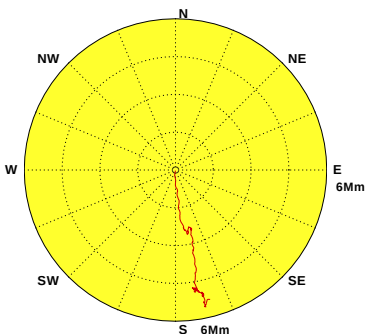
Wind of KHZ0 at 2019/02 NO=672(100%)
MEAN=5.0m/s MAX=11.4m/s(NNW)
N-E:50% E-S:6% S-W:5% W-N:39% Calm:0%



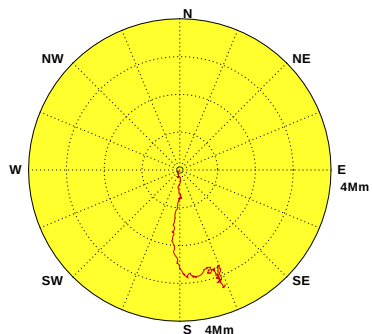
Wind of KHZ0 at 2019/03 NO=744(100%)
MEAN=4.2m/s MAX=10.6m/s(N)
N-E:48% E-S:8% S-W:8% W-N:35% Calm:1%



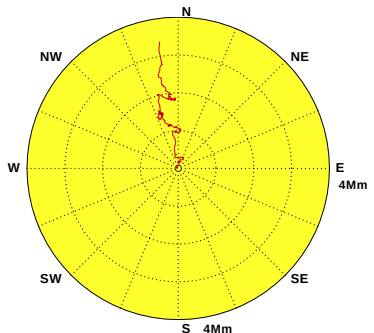
Wind of KHZ0 at 2019/04 NO=720(100%)
MEAN=3.6m/s MAX=11.8m/s(NNW)
N-E:26% E-S:12% S-W:17% W-N:43% Calm:2%



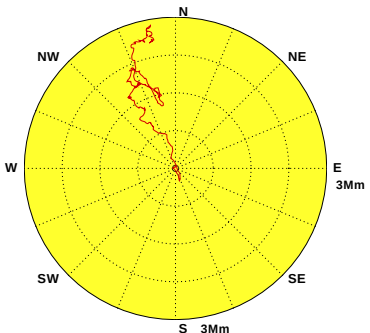
Wind of KHZ0 at 2019/05 NO=744(100%)
MEAN=2.8m/s MAX=9.8m/s(NNE)
N-E:30% E-S:11% S-W:20% W-N:38% Calm:1%



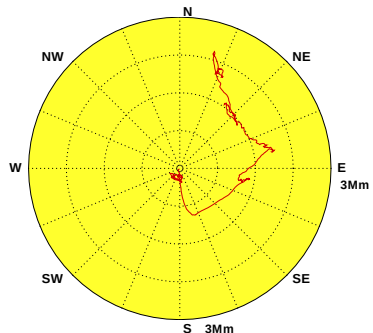
Wind of KHZ0 at 2019/06 NO=720(100%)
MEAN=2.9m/s MAX=11.9m/s(WNW)
N-E:12% E-S:44% S-W:27% W-N:16% Calm:1%



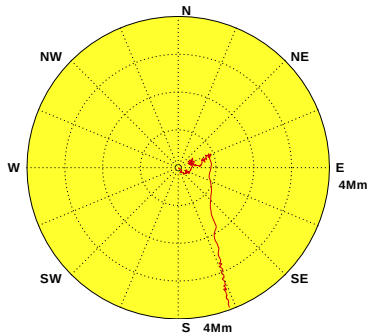
Wind of KHZ0 at 2019/07 NO=744(100%)
MEAN=3.6m/s MAX=12.4m/s(SSW)
N-E:15% E-S:37% S-W:28% W-N:20% Calm:0%



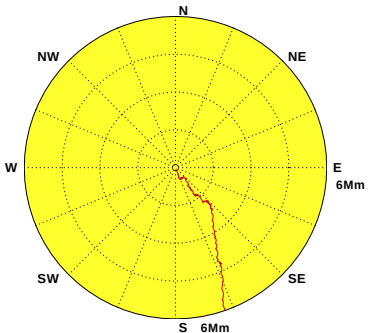
Wind of KHZ0 at 2019/08 NO=744(100%)
MEAN=4.0m/s MAX=17.3m/s(SSE)
N-E:17% E-S:31% S-W:28% W-N:24% Calm:0%



Wind of KHZ0 at 2019/09 NO=720(100%)
MEAN=3.2m/s MAX=14.5m/s(NNW)
N-E:31% E-S:12% S-W:21% W-N:35% Calm:1%



Wind of KHZ0 at 2019/10 NO=744(100%)
MEAN=3.1m/s MAX=13.1m/s(NNW)
N-E:30% E-S:5% S-W:14% W-N:50% Calm:1%



Wind of KHZ0 at 2019/11 NO=720(100%)
MEAN=4.2m/s MAX=10.0m/s(NNW)
N-E:53% E-S:2% S-W:1% W-N:44% Calm:0%

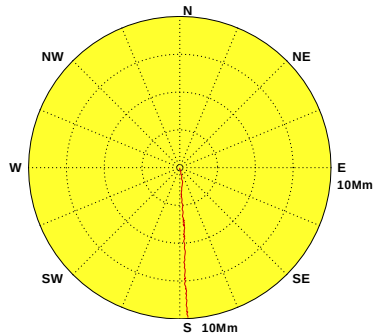


圖1.1.6 2019年高雄海域每月 Z 站修補後觀測風力向量行進圖

W18CKHZ0.1HA W191KHZ0.1HA W192KHZ0.1HA W193KHZ0.1HA W194KHZ0.1HA W195KHZ0.1HA
W196KHZ0.1HA W197KHZ0.1HA W198KHZ0.1HA W199KHZ0.1HA W19AKHZ0.1HA W19BKHZ0.1HA

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1.2 2019 年高雄海域各測站修補前 風力統計量統計表

表1.2.1 2019年高雄海域 W 站修補前風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2018/12													
2	2019/01													
3	2019/02													
4	2019/03													
5	2019/04													
6	2019/05													
7	2019/06													
8	2019/07													
9	2019/08													
10	2019/09													
11	2019/10													
12	2019/11													
13	2019/冬													
14	2019/春													
15	2019/夏													
16	2019/秋													
17	2019/年													

表1.2.2 2019年高雄海域 Z 站修補前風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2018/12	577(78%)	5.1	4.7/N	10.3/N	20.3	72.1	7.6	.0	59.4	1.4	.9	38.3	N /43.5%
2	2019/01	603(81%)	5.1	4.8/N	9.4/N	16.7	76.6	6.6	.0	61.9	.5	.2	37.5	N /48.8%
3	2019/02	517(77%)	5.0	4.0/N	10.2/N	23.6	64.8	11.6	.0	48.7	5.8	5.4	40.0	N /30.8%
4	2019/03	583(78%)	4.1	2.8/N	10.6/N	40.1	55.6	4.3	.0	46.1	8.4	9.4	36.0	N /27.4%
5	2019/04	575(80%)	3.4	1.7/NNW	9.9/NNW	49.7	47.5	2.8	.0	25.0	12.9	20.9	41.2	N /20.9%
6	2019/05	574(77%)	2.8	1.2/NNW	9.5/SSW	63.8	34.7	1.6	.0	31.4	10.8	19.9	38.0	N /13.1%
7	2019/06	554(77%)	3.1	1.4/SSE	11.9/WNW	57.2	42.2	.5	.0	10.5	46.6	27.8	15.2	S /15.9%
8	2019/07	450(61%)	3.9	1.4/SSE	12.4/SSW	40.9	55.1	4.0	.0	8.9	45.6	27.6	18.0	ESE/14.9%
9	2019/08	501(67%)	4.3	.7/SSW	17.3/SSE	47.3	39.1	12.2	1.4	17.4	33.3	22.8	26.5	WSW/ 8.8%
10	2019/09	416(58%)	3.6	2.0/NNW	13.4/N	57.2	34.9	7.9	.0	31.5	11.3	18.3	38.9	N /13.9%
11	2019/10	525(71%)	3.1	2.1/NNW	13.1/NNW	64.6	32.4	3.0	.0	30.1	6.3	15.2	48.4	N /19.8%
12	2019/11	550(76%)	4.2	3.7/N	9.3/N	36.9	60.4	2.7	.0	52.9	2.0	1.6	43.5	N /37.3%
13	2019/冬	1697(79%)	5.1	4.5/N	10.3/N	20.0	71.5	8.5	.0	57.0	2.4	2.0	38.5	N /41.5%
14	2019/春	1732(78%)	3.5	1.9/N	10.6/N	51.2	46.0	2.9	.0	34.2	10.7	16.7	38.4	N /20.5%
15	2019/夏	1505(68%)	3.7	1.2/S	17.3/SSE	49.0	45.0	5.4	.5	12.3	41.9	26.0	19.8	ESE/12.4%
16	2019/秋	1491(68%)	3.6	2.6/N	13.4/N	52.3	43.4	4.3	.0	38.9	6.1	11.1	43.9	N /24.6%
17	2019/年	6425(73%)	4.0	2.0/N	17.3/SSE	42.7	51.9	5.3	.1	36.2	14.7	13.7	35.4	N /23.0%

表1.2.3 2019年高雄海域 C 站修補前風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2018/12	346(47%)	5.3	4.8/NNW	11.8/NNW	19.1	66.5	14.5	.0	17.3	1.2	1.4	80.1	NW /45.7%
2	2019/01	352(47%)	5.3	4.8/NNW	12.9/NW	22.7	61.6	15.6	.0	17.9	.3	1.4	80.4	NW /39.8%
3	2019/02	338(50%)	5.9	4.0/NW	14.4/NW	17.8	58.0	23.7	.6	16.0	6.2	10.9	66.9	NW /40.5%
4	2019/03	365(49%)	5.3	3.1/NW	12.3/NNW	26.0	58.4	15.6	.0	13.4	11.0	12.3	63.3	NW /26.3%
5	2019/04	369(51%)	5.1	3.7/NW	12.9/NW	28.5	58.8	12.7	.0	11.1	4.9	16.8	67.2	NW /30.9%
6	2019/05	360(48%)	4.2	2.8/WNW	10.3/S	35.0	60.3	4.7	.0	12.8	4.7	25.3	57.2	NW /25.8%
7	2019/06	354(49%)	4.1	.9/SW	12.4/WNW	37.6	57.1	5.4	.0	20.6	22.9	30.8	25.7	S /11.9%
8	2019/07	358(48%)	4.8	1.2/WSW	11.6/NW	32.4	55.0	12.6	.0	19.6	21.5	29.1	29.9	WNW/11.5%
9	2019/08	329(44%)	5.6	2.3/W	17.9/NNW	24.3	53.2	20.7	1.8	15.8	15.8	26.1	42.2	NW /18.5%
10	2019/09	350(49%)	4.6	3.1/WNW	16.9/NNW	34.6	56.3	6.0	3.1	13.7	1.7	29.4	55.1	WNW/19.1%
11	2019/10	394(53%)	4.3	3.3/WNW	13.2/NNW	33.5	59.9	6.6	.0	12.2	2.8	24.9	60.2	NW /24.6%
12	2019/11	381(53%)	4.7	4.0/NW	11.9/NNW	24.4	66.7	8.9	.0	14.7	.3	10.8	74.3	NW /36.0%
13	2019/冬	1036(48%)	5.5	4.5/NW	14.4/NW	19.9	62.1	17.9	.2	17.1	2.5	4.5	75.9	NW /42.0%
14	2019/春	1094(50%)	4.9	3.2/NW	12.9/NW	29.8	59.1	11.1	.0	12.4	6.9	18.1	62.6	NW /27.7%
15	2019/夏	1041(47%)	4.8	1.3/WSW	17.9/NNW	31.6	55.1	12.7	.6	18.7	20.2	28.7	32.4	NW /13.1%
16	2019/秋	1125(52%)	4.5	3.4/NW	16.9/NNW	30.8	61.1	7.2	1.0	13.5	1.6	21.5	63.4	NW /25.8%
17	2019/年	4296(49%)	4.9	3.0/NW	17.9/NNW	28.1	59.4	12.1	.4	15.4	7.7	18.3	58.7	NW /27.1%

表1.2.4 2019年高雄海域 E 站修補前風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2018/12	744(100%)	2.2	1.8/NNW	6.1/N	84.9	15.1	.0	.0	44.6	1.9	1.6	51.9	N /39.4%
2	2019/01	744(100%)	2.3	1.9/NNW	5.9/NW	83.3	16.7	.0	.0	50.3	.1	1.3	48.3	N /38.8%
3	2019/02	672(100%)	2.4	1.5/NNW	6.9/NW	78.4	21.6	.0	.0	42.6	4.8	9.1	43.6	N /27.8%
4	2019/03	744(100%)	2.2	1.3/NNW	6.8/N	82.3	17.7	.0	.0	40.1	7.7	7.3	45.0	N /24.7%
5	2019/04	720(100%)	2.2	1.4/NW	6.0/NW	79.2	20.8	.0	.0	26.3	7.2	10.8	55.7	N /19.4%
6	2019/05	744(100%)	1.7	.8/NW	6.5/SSE	89.2	10.8	.0	.0	37.2	6.3	15.3	41.1	N /15.7%
7	2019/06	720(100%)	1.8	.2/SW	6.3/SSE	88.5	11.5	.0	.0	34.3	18.1	21.8	25.8	S /15.4%
8	2019/07	744(100%)	2.0	.1/WSW	7.0/S	84.9	15.1	.0	.0	39.4	16.1	21.0	23.5	ENE/13.7%
9	2019/08	744(100%)	2.3	.4/W	10.5/S	78.8	19.6	1.6	.0	34.3	15.6	22.2	28.0	N /12.1%
10	2019/09	720(100%)	2.0	.9/NW	9.3/N	87.8	11.0	1.3	.0	30.7	8.3	22.6	38.3	N /15.3%
11	2019/10	744(100%)	1.9	1.1/WNW	8.5/NNW	90.5	9.1	.4	.0	26.9	2.0	24.1	47.0	W /15.7%
12	2019/11	720(100%)	2.0	1.5/NNW	5.3/NW	91.3	8.8	.0	.0	42.4	.6	6.7	50.4	N /30.3%
13	2019/冬	2160(100%)	2.3	1.7/NNW	6.9/NW	82.4	17.6	.0	.0	45.9	2.2	3.8	48.1	N /35.6%
14	2019/春	2208(100%)	2.0	1.1/NW	6.8/N	83.6	16.4	.0	.0	34.6	7.1	11.1	47.2	N /20.0%
15	2019/夏	2208(100%)	2.0	.2/WSW	10.5/S	84.0	15.4	.5	.0	36.0	16.6	21.6	25.8	ENE/11.7%
16	2019/秋	2184(100%)	2.0	1.1/NW	9.3/N	89.8	9.6	.5	.0	33.2	3.6	17.9	45.3	N /19.6%
17	2019/年	8760(100%)	2.1	1.0/NNW	10.5/S	85.0	14.8	.3	.0	37.4	7.4	13.7	41.5	N /21.3%

表1.2.5 2019年高雄海域 B 站修補前風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2018/12	744(100%)	2.4	1.9/N	6.0/NNE	83.2	16.8	.0	.0	57.1	.5	4.2	38.2	N /38.8%
2	2019/01	744(100%)	2.4	2.0/N	5.7/WNW	79.7	20.3	.0	.0	65.2	.0	2.2	32.7	NNE/40.5%
3	2019/02	672(100%)	2.5	1.6/N	5.9/NW	76.3	23.7	.0	.0	48.7	3.1	11.6	36.6	N /30.1%
4	2019/03	744(100%)	2.4	1.3/NNW	6.6/SSE	78.5	21.5	.0	.0	46.0	6.3	11.4	36.3	N /28.2%
5	2019/04	720(100%)	2.2	1.2/NW	5.8/WNW	79.4	20.6	.0	.0	29.9	4.9	17.4	47.9	N /17.2%
6	2019/05	744(100%)	1.9	1.0/NW	7.1/S	87.2	12.8	.0	.0	26.7	5.5	19.8	48.0	N /17.9%
7	2019/06	720(100%)	2.2	.5/SSW	7.7/SSE	81.5	18.5	.0	.0	25.4	18.5	32.1	24.0	SSW/12.2%
8	2019/07	744(100%)	2.4	.3/SW	9.1/SSW	78.2	21.6	.1	.0	34.1	17.5	24.1	24.3	NE /13.2%
9	2019/08	670(90%)	2.5	.5/WSW	7.1/NW	72.1	27.9	.0	.0	28.4	17.2	28.2	26.3	NE /11.2%
10	2019/09	720(100%)	2.2	1.0/WNW	6.2/NNW	82.8	17.2	.0	.0	28.2	6.5	26.8	38.5	W /14.9%
11	2019/10	744(100%)	2.1	1.3/WNW	5.5/W	83.9	16.1	.0	.0	23.4	3.4	23.7	49.6	W /17.2%
12	2019/11	516(72%)	2.2	1.5/NNW	5.0/WNW	82.9	17.1	.0	.0	49.6	.6	6.6	43.2	NNE/27.5%
13	2019/冬	2160(100%)	2.4	1.8/N	6.0/NNE	79.9	20.1	.0	.0	57.3	1.2	5.8	35.8	N /33.7%
14	2019/春	2208(100%)	2.2	1.1/NW	7.1/S	81.7	18.3	.0	.0	34.2	5.6	16.2	44.0	N /21.2%
15	2019/夏	2134(97%)	2.3	.4/SW	9.1/SSW	77.4	22.5	.0	.0	29.4	17.7	28.1	24.8	NE /11.6%
16	2019/秋	1980(91%)	2.2	1.2/NW	6.2/NNW	83.2	16.8	.0	.0	32.0	3.8	20.4	43.9	N /17.8%
17	2019/年	8482(97%)	2.3	1.0/NNW	9.1/SSW	80.5	19.5	.0	.0	38.4	7.1	17.5	37.1	N /19.6%

表1.2.6 2019年高雄海域 H 站修補前風速及風向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	風速 平均值 (m/s)	平均風 風速/風向 (m/s)/(來向)	最大風 風速/風向 (m/s)/(來向)	輕風 <3.3 (%)	和風 ~7.9 (%)	強風 ~13.8 (%)	疾風 >13.8 (%)	風向 N~E (%)	風向 E~S (%)	風向 S~W (%)	風向 W~N (%)	主要風向 方向/百分比
1	2018/12	633(85%)	4.2	3.9/NNE	11.7/NNE	45.5	42.2	12.3	.0	60.5	1.7	1.4	36.3	NNE/35.2%
2	2019/01	729(98%)	3.4	3.0/N	10.4/NNE	59.1	33.6	7.3	.0	48.3	2.5	5.9	43.3	N /33.6%
3	2019/02	639(95%)	2.9	1.8/N	8.1/NNE	65.4	33.8	.8	.0	41.2	5.3	14.1	39.4	N /27.4%
4	2019/03	739(99%)	2.7	1.4/N	8.7/NNE	65.8	33.2	1.1	.0	34.6	6.8	15.2	43.4	N /25.0%
5	2019/04	719(100%)	2.3	1.2/NNE	8.7/NE	75.5	23.6	.8	.0	35.9	11.3	14.5	38.4	N /20.7%
6	2019/05	735(99%)	2.1	1.6/N	11.0/NNE	83.3	15.9	.8	.0	41.8	5.4	8.3	44.5	N /25.3%
7	2019/06	658(91%)	2.0	.1/N	7.4/SSW	81.5	18.5	.0	.0	31.3	12.2	27.1	29.5	NNE/13.1%
8	2019/07	626(84%)	2.5	.2/SSE	10.2/NNE	71.9	25.2	2.9	.0	29.1	18.1	30.2	22.7	NNE/12.5%
9	2019/08	684(92%)	2.2	.9/NNE	10.2/SSE	77.0	21.9	1.0	.0	35.4	13.5	18.7	32.5	NNE/16.4%
10	2019/09	567(79%)	2.8	2.1/N	11.8/NNW	72.8	23.5	3.7	.0	43.7	3.5	12.9	39.9	N /23.3%
11	2019/10	701(94%)	3.3	3.0/N	11.7/NNE	58.9	37.5	3.6	.0	45.4	2.0	2.3	50.4	N /29.8%
12	2019/11	716(99%)	4.4	4.2/NNE	12.5/NNE	42.6	44.8	12.6	.0	61.7	.0	.6	37.7	NNE/38.8%
13	2019/冬	2001(93%)	3.5	2.9/N	11.7/NNE	56.8	36.4	6.8	.0	49.9	3.1	7.1	39.9	N /30.6%
14	2019/春	2193(99%)	2.4	1.4/N	11.0/NNE	74.8	24.3	.9	.0	37.4	7.8	12.6	42.1	N /23.7%
15	2019/夏	1968(89%)	2.2	.3/NNE	10.2/NNE	76.9	21.8	1.3	.0	32.0	14.5	25.2	28.4	NNE/14.0%
16	2019/秋	1984(91%)	3.6	3.2/N	12.5/NNE	57.0	36.1	6.9	.0	50.8	1.7	4.7	42.8	N /29.8%
17	2019/年	8146(93%)	2.9	1.9/N	12.5/NNE	66.6	29.5	3.9	.0	42.4	6.8	12.4	38.4	N /24.2%

1.3 2019 年高雄海域**主要測站 1**(修補後)與 **其他測站**(修補前)風力歷線比較圖

Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

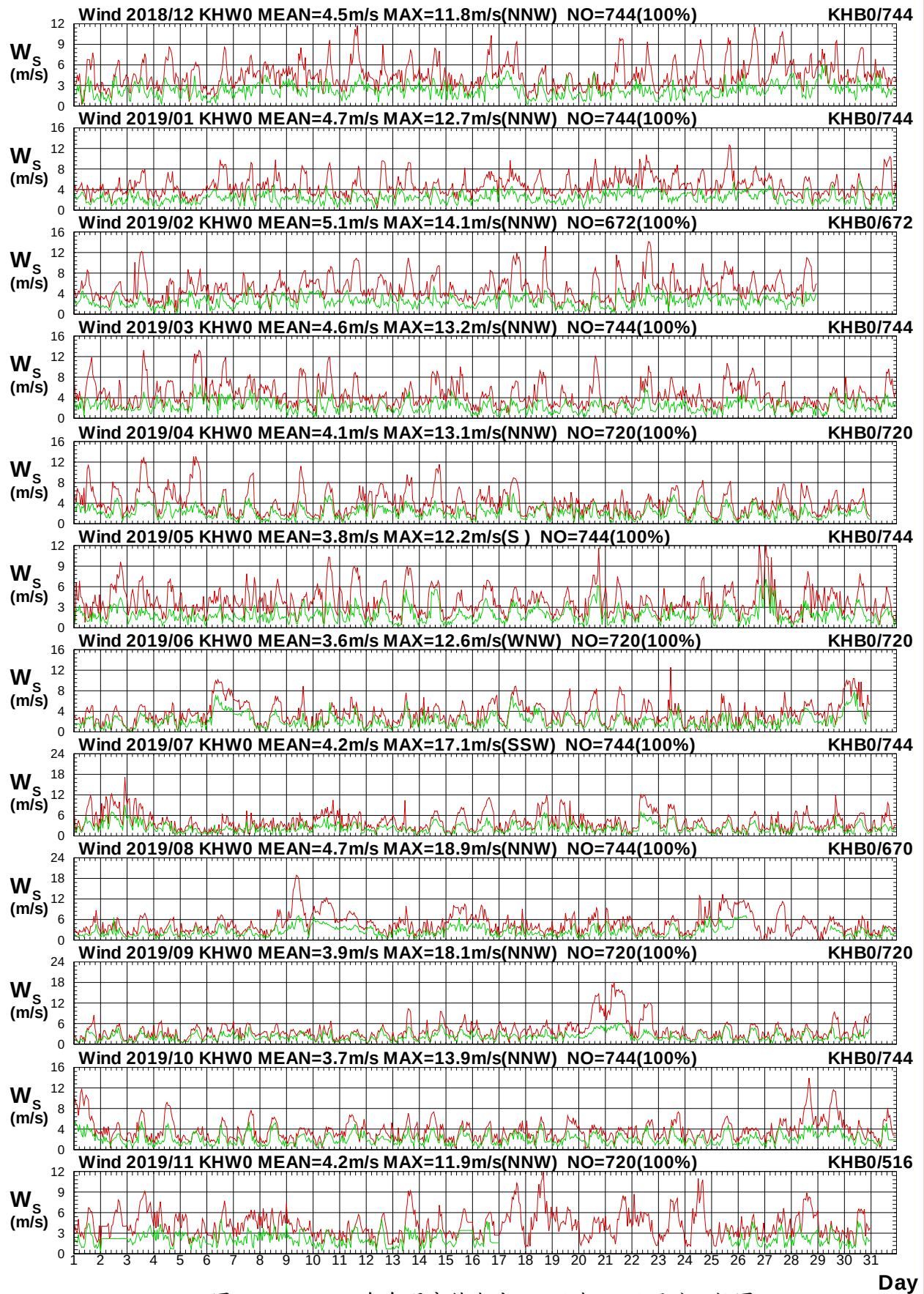


圖1.3.1a 2019年每月高雄海域 W 站與 B 站風速比較圖

W18CKHW0.1HA W18CKHB0.1H0 W191KHW0.1HA W191KHB0.1H0 W192KHW0.1HA W192KHB0.1H0
W193KHW0.1HA W193KHB0.1H0 W194KHW0.1HA W194KHB0.1H0 W195KHW0.1HA W195KHB0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

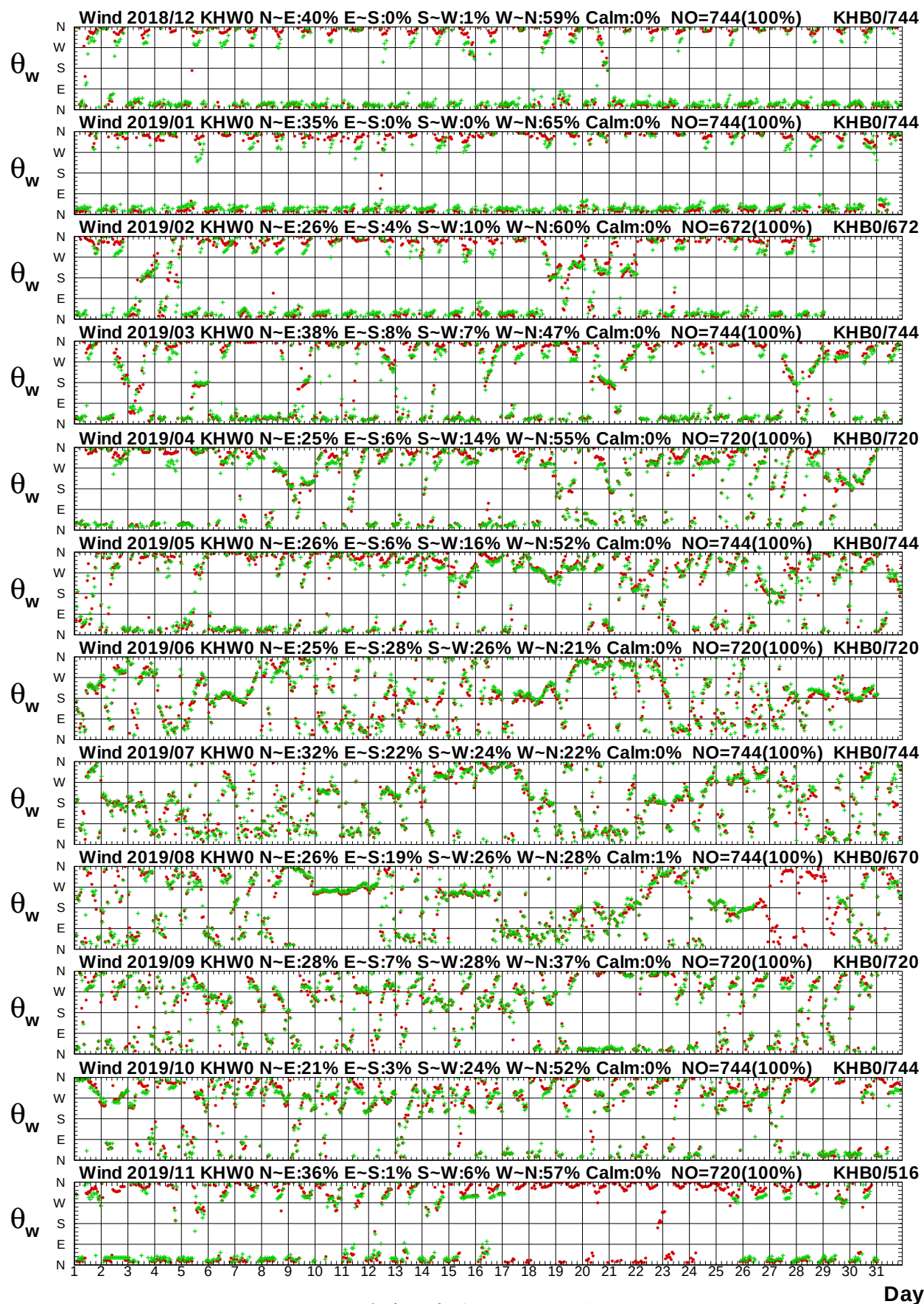


圖1.3.1b 2019年每月高雄海域 W 站與 B 站風向比較圖

W18CKHW0.1HA W18CKHB0.1H0 W191KHW0.1HA W191KHB0.1H0 W192KHW0.1HA W192KHB0.1H0
W193KHW0.1HA W193KHB0.1H0 W194KHW0.1HA W194KHB0.1H0 W195KHW0.1HA W195KHB0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

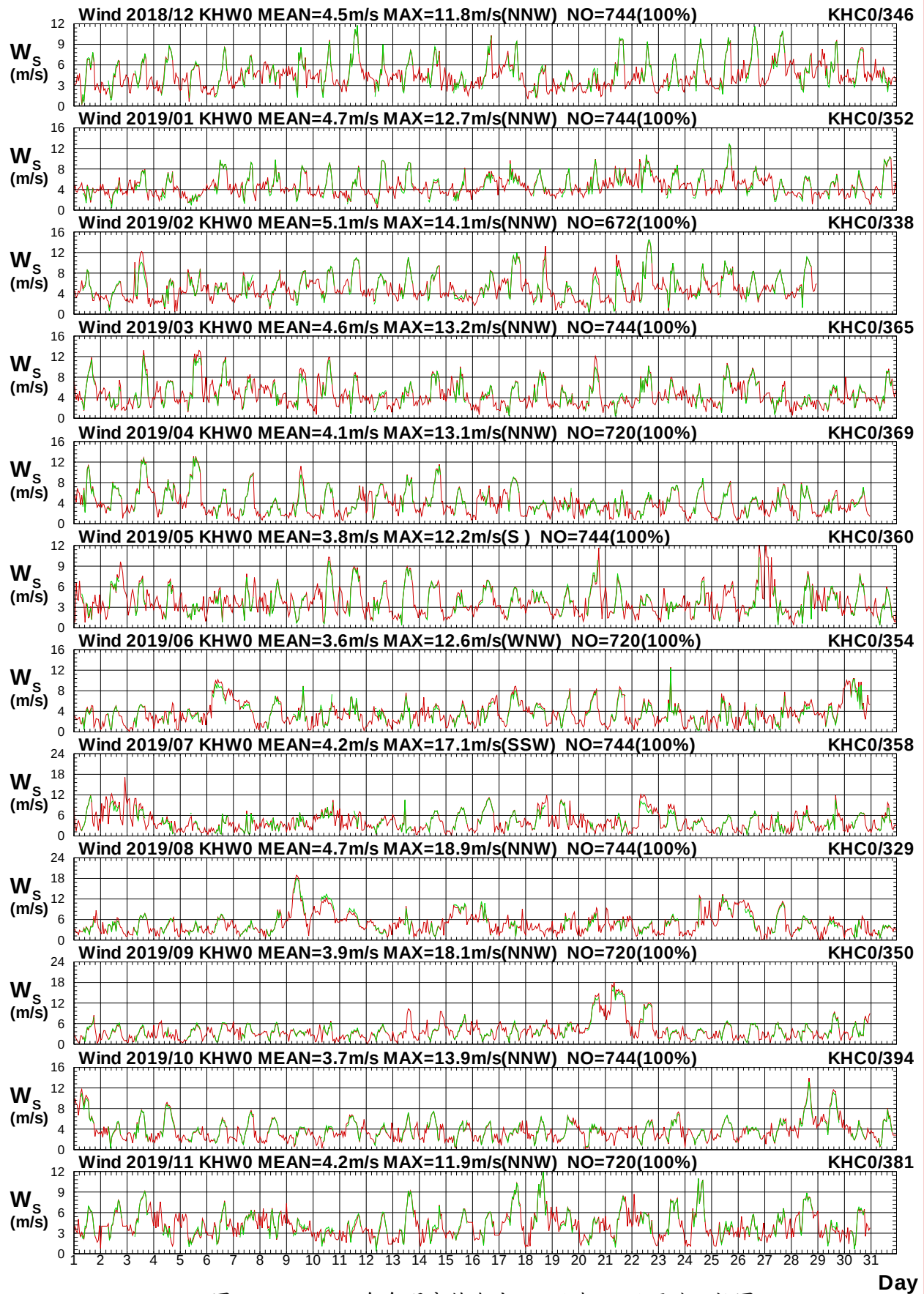


圖1.3.2a 2019年每月高雄海域 W 站與 C 站風速比較圖

W18CKHW0.1HA W18CKHC0.1H0 W191KHW0.1HA W191KHC0.1H0 W192KHW0.1HA W192KHC0.1H0
W193KHW0.1HA W193KHC0.1H0 W194KHW0.1HA W194KHC0.1H0 W195KHW0.1HA W195KHC0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

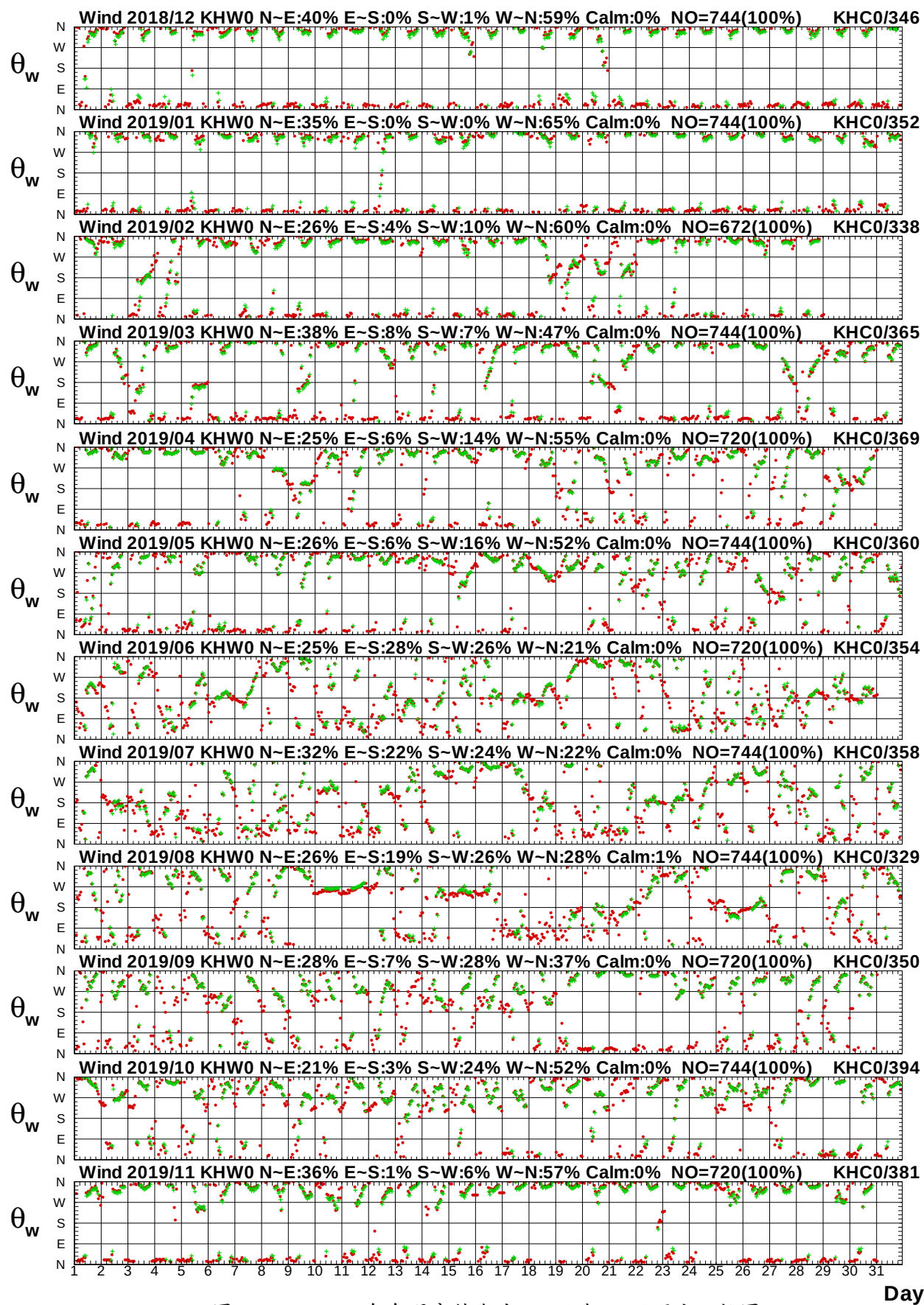


圖1.3.2b 2019年每月高雄海域 W 站與 C 站風向比較圖

W18CKHW0.1HA W18CKHC0.1H0 W191KHW0.1HA W191KHC0.1H0 W192KHW0.1HA W192KHC0.1H0
W193KHW0.1HA W193KHC0.1H0 W194KHW0.1HA W194KHC0.1H0 W195KHW0.1HA W195KHC0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

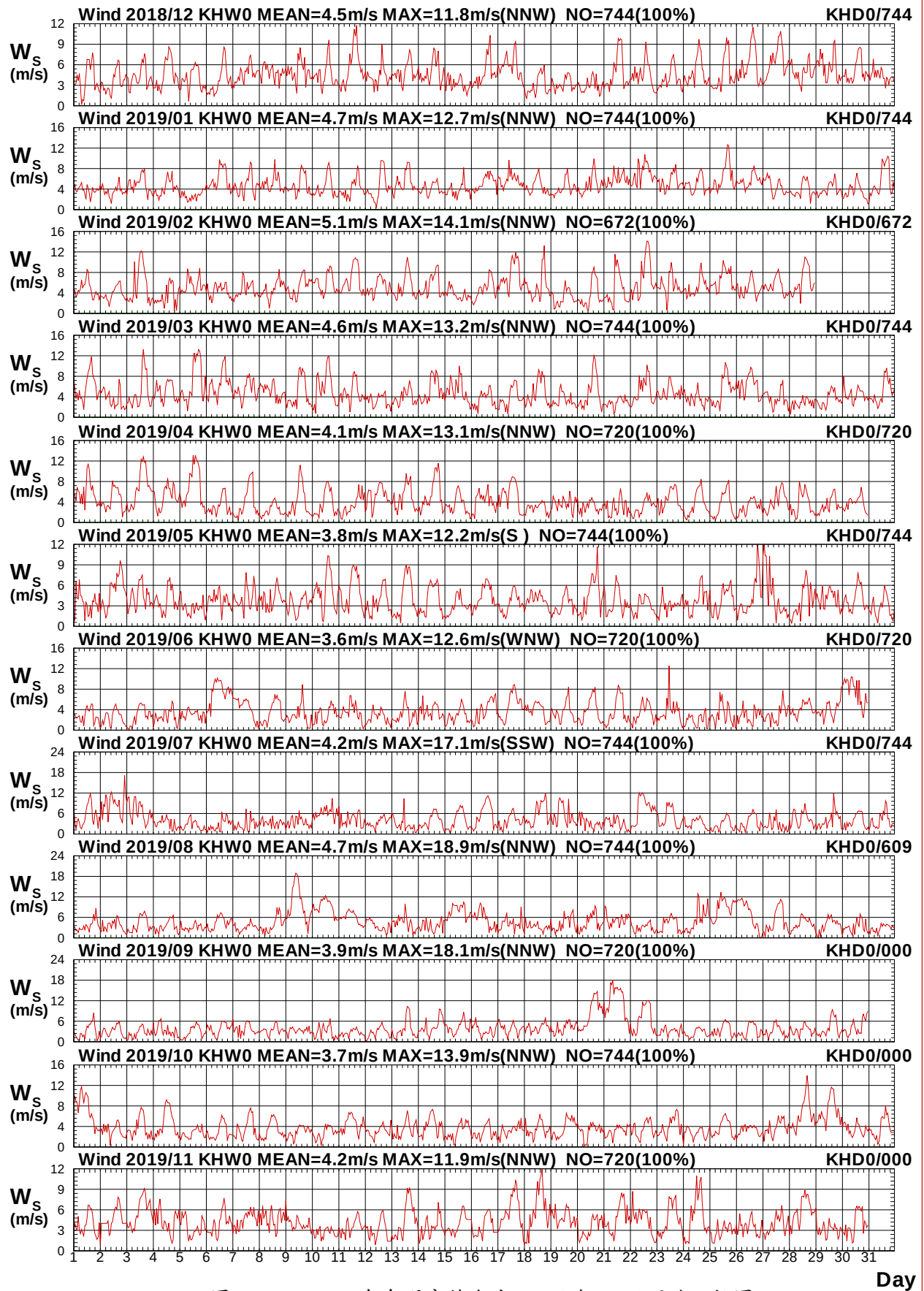


圖1.3.3a 2019年每月高雄海域 W 站與 D 站風速比較圖

W18CKHW0.1HA W18CKHD0.1H0 W191KHW0.1HA W191KHD0.1H0 W192KHW0.1HA W192KHD0.1H0
W193KHW0.1HA W193KHD0.1H0 W194KHW0.1HA W194KHD0.1H0 W195KHW0.1HA W195KHD0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

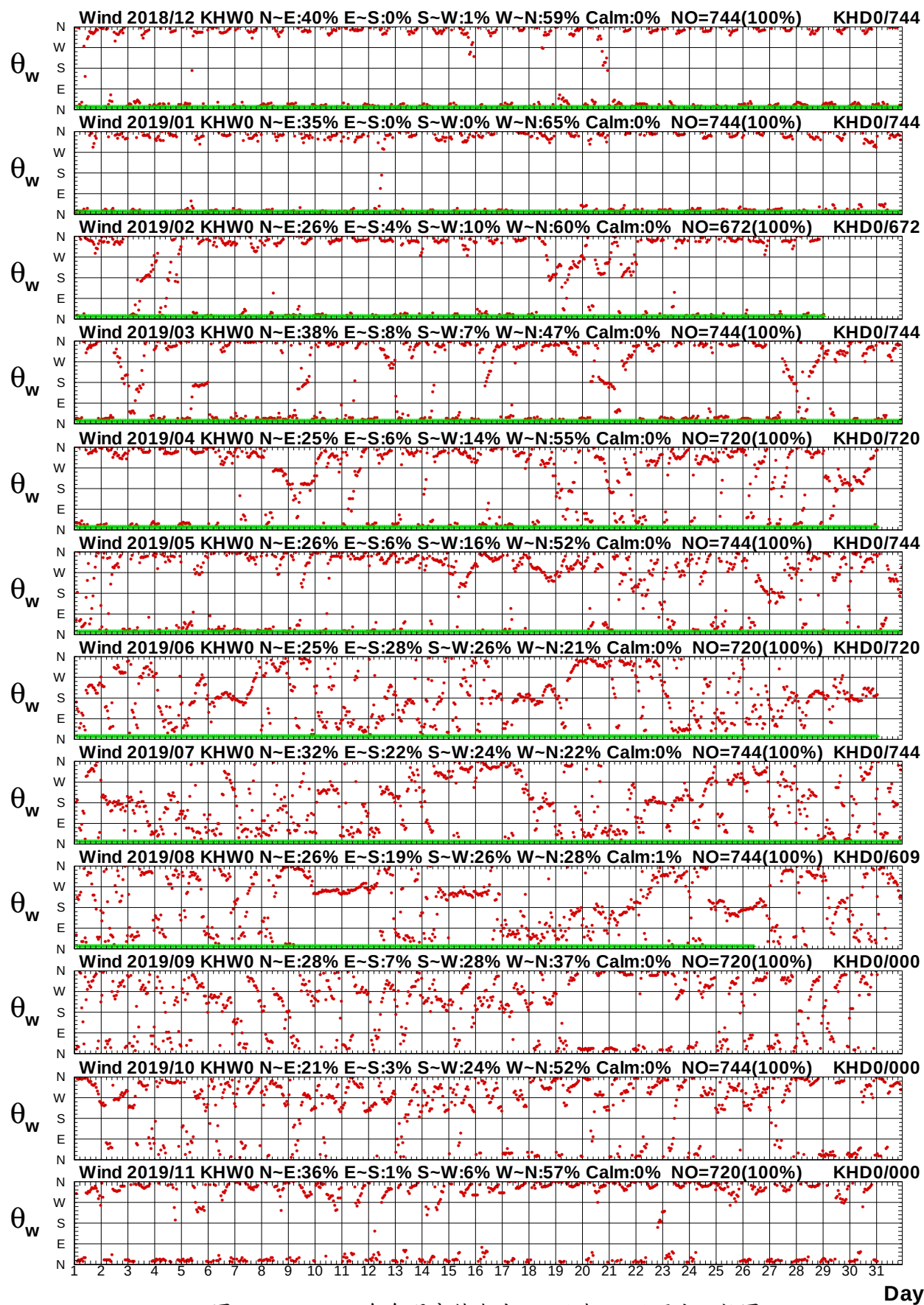


圖1.3.3b 2019年每月高雄海域 W 站與 D 站風向比較圖

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W193KHW0.1HA W193KHD0.1H0 W194KHW0.1HA W194KHD0.1H0 W195KHW0.1HA W195KHD0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

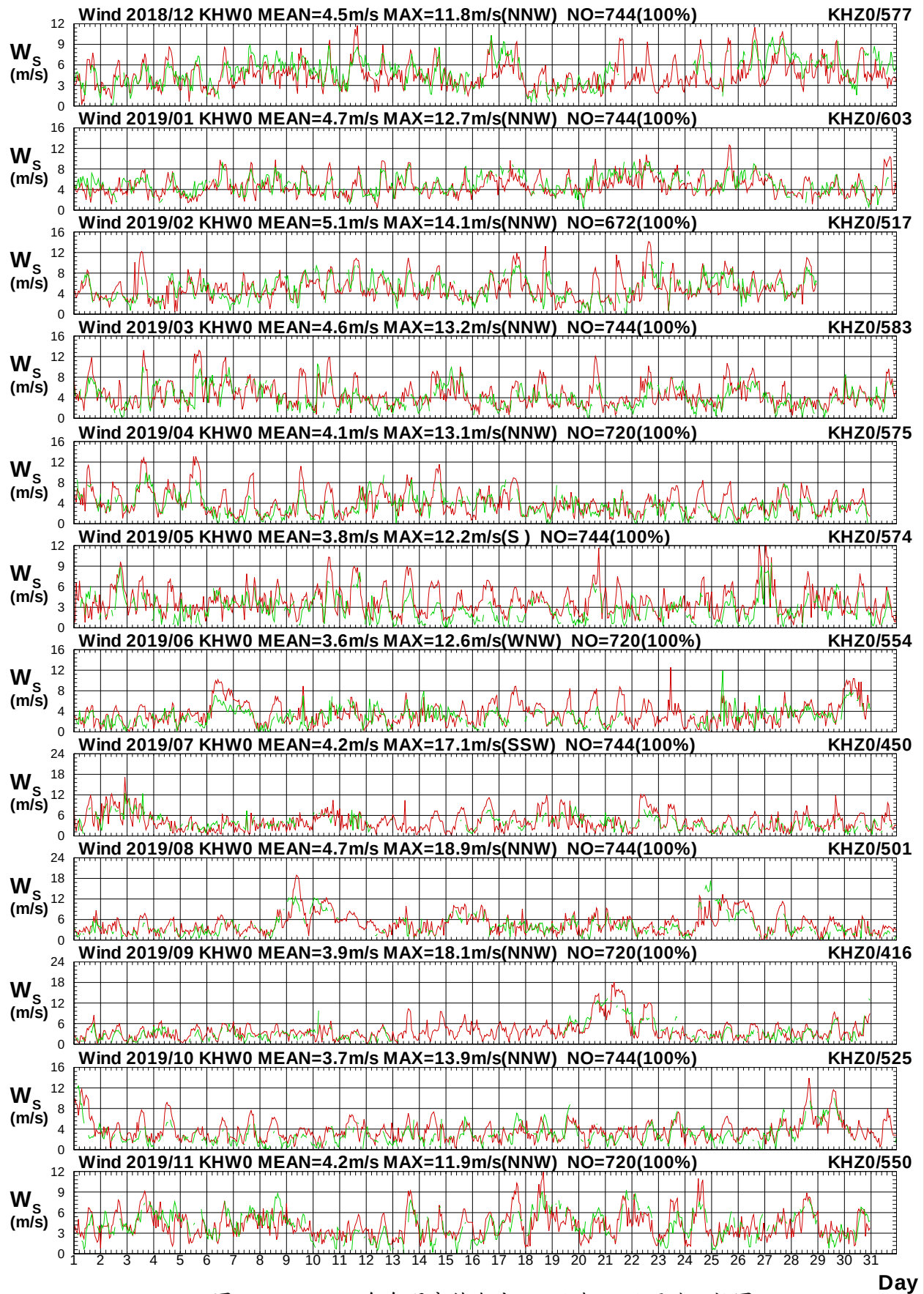


圖1.3.4a 2019年每月高雄海域 W 站與 Z 站風速比較圖

W18CKHW0.1HA W18CKHZ0.1H0 W191KHW0.1HA W191KHZ0.1H0 W192KHW0.1HA W192KHZ0.1H0
W193KHW0.1HA W193KHZ0.1H0 W194KHW0.1HA W194KHZ0.1H0 W195KHW0.1HA W195KHZ0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

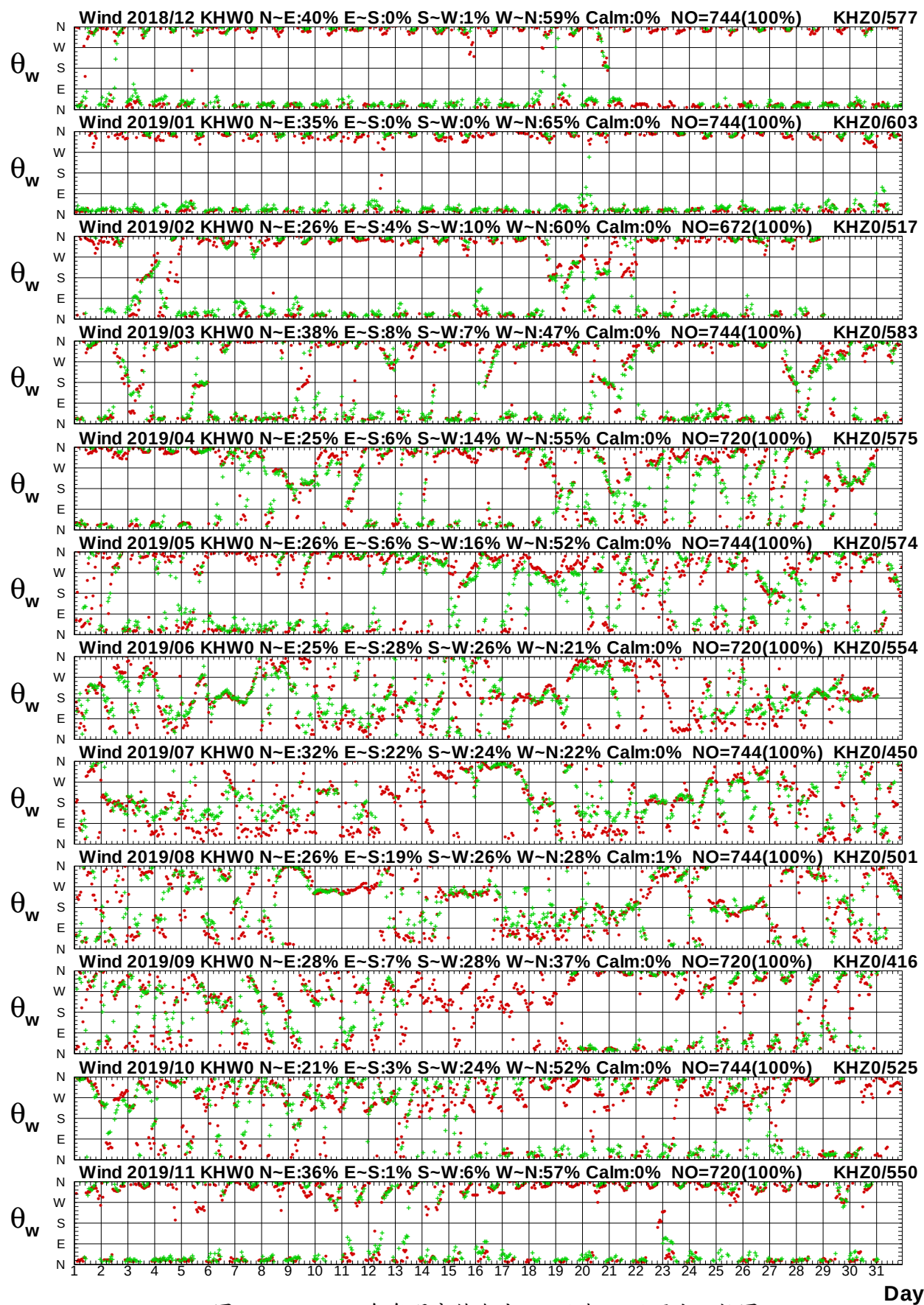


圖1.3.4b 2019年每月高雄海域 W 站與 Z 站風向比較圖

W18CKHW0.1HA W18CKHZ0.1H0 W191KHW0.1HA W191KHZ0.1H0 W192KHW0.1HA W192KHZ0.1H0
W193KHW0.1HA W193KHZ0.1H0 W194KHW0.1HA W194KHZ0.1H0 W195KHW0.1HA W195KHZ0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

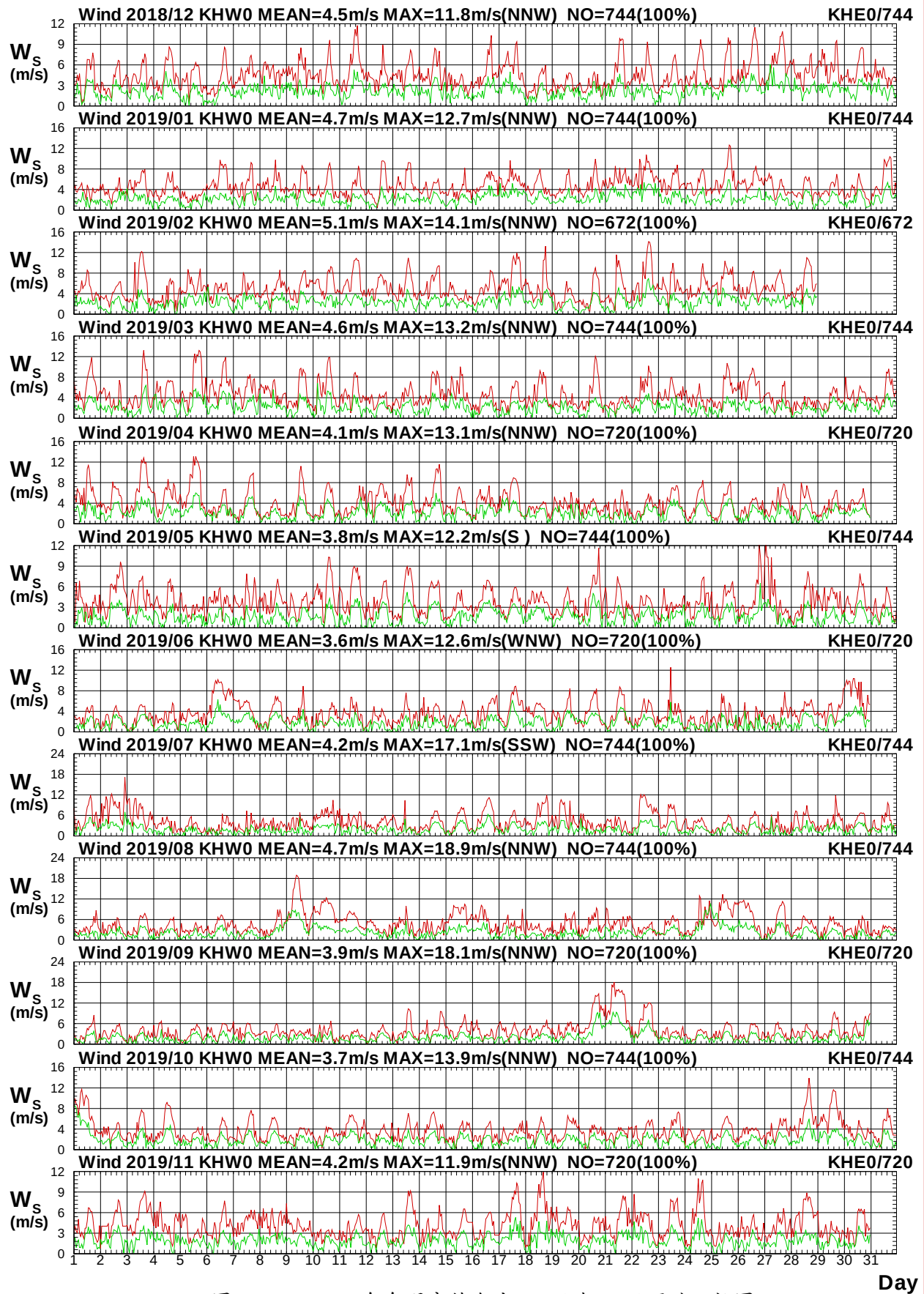


圖1.3.5a 2019年每月高雄海域 W 站與 E 站風速比較圖

W18CKHW0.1HA W18CKHE0.1H0 W191KHW0.1HA W191KHE0.1H0 W192KHW0.1HA W192KHE0.1H0
W193KHW0.1HA W193KHE0.1H0 W194KHW0.1HA W194KHE0.1H0 W195KHW0.1HA W195KHE0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

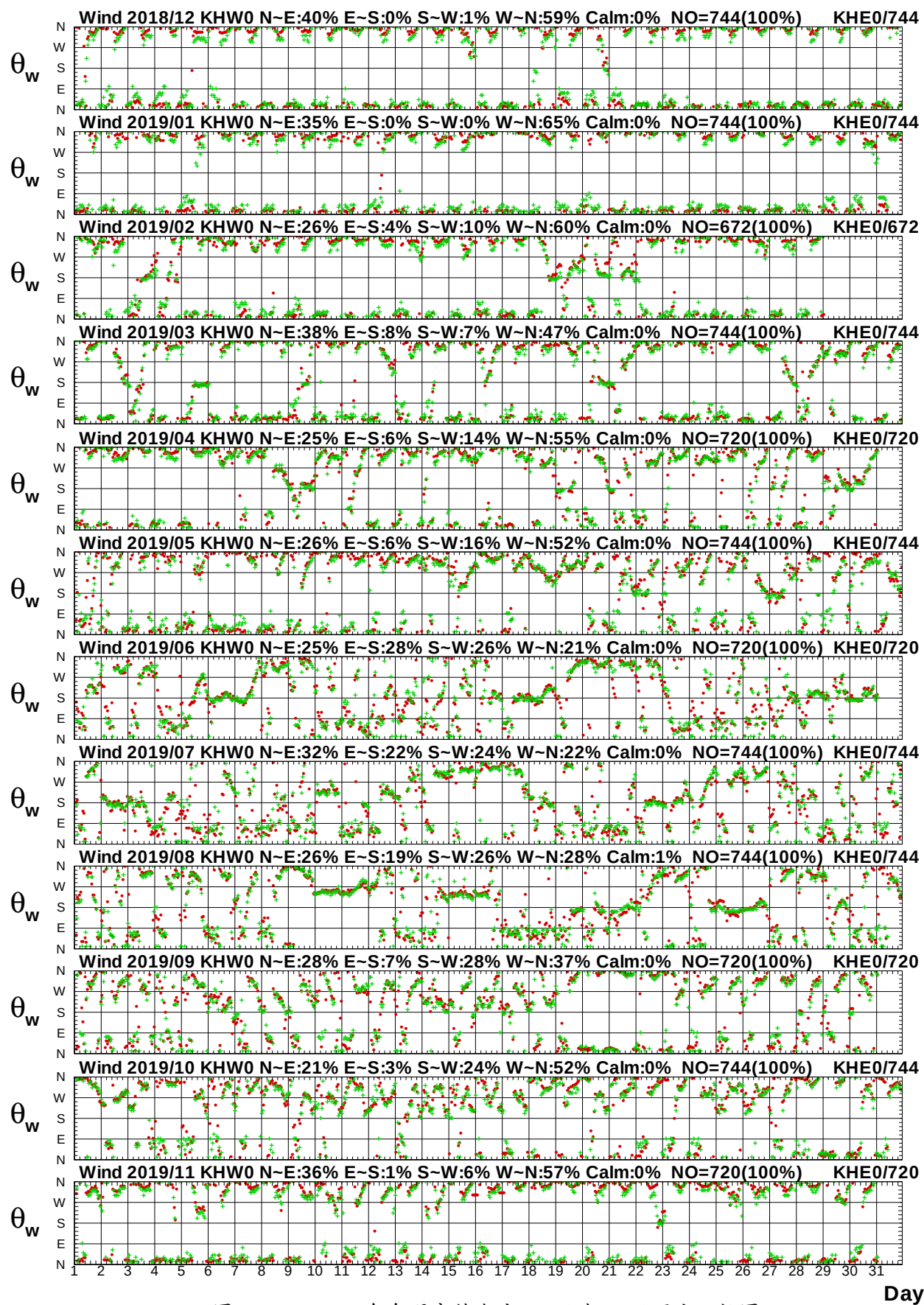


圖1.3.5b 2019年每月高雄海域 W 站與 E 站風向比較圖

W18CKHW0.1HA W18CKHE0.1H0 W191KHW0.1HA W191KHE0.1H0 W192KHW0.1HA W192KHE0.1H0
W193KHW0.1HA W193KHE0.1H0 W194KHW0.1HA W194KHE0.1H0 W195KHW0.1HA W195KHE0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

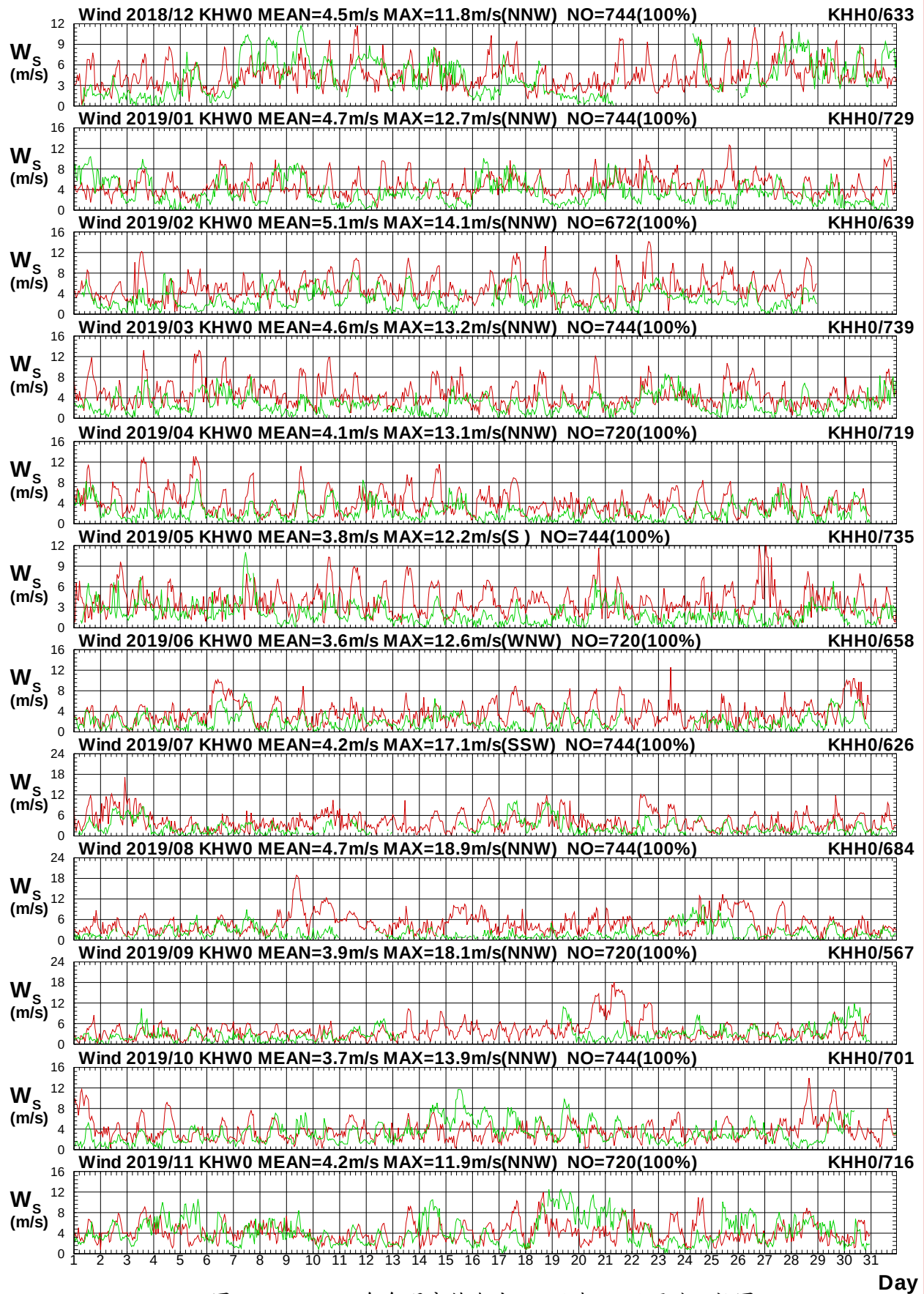


圖1.3.6a 2019年每月高雄海域 W 站與 H 站風速比較圖

W18CKHW0.1HA W18CKHH0.1H0 W191KHW0.1HA W191KHH0.1H0 W192KHW0.1HA W192KHH0.1H0
W193KHW0.1HA W193KHH0.1H0 W194KHW0.1HA W194KHH0.1H0 W195KHW0.1HA W195KHH0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

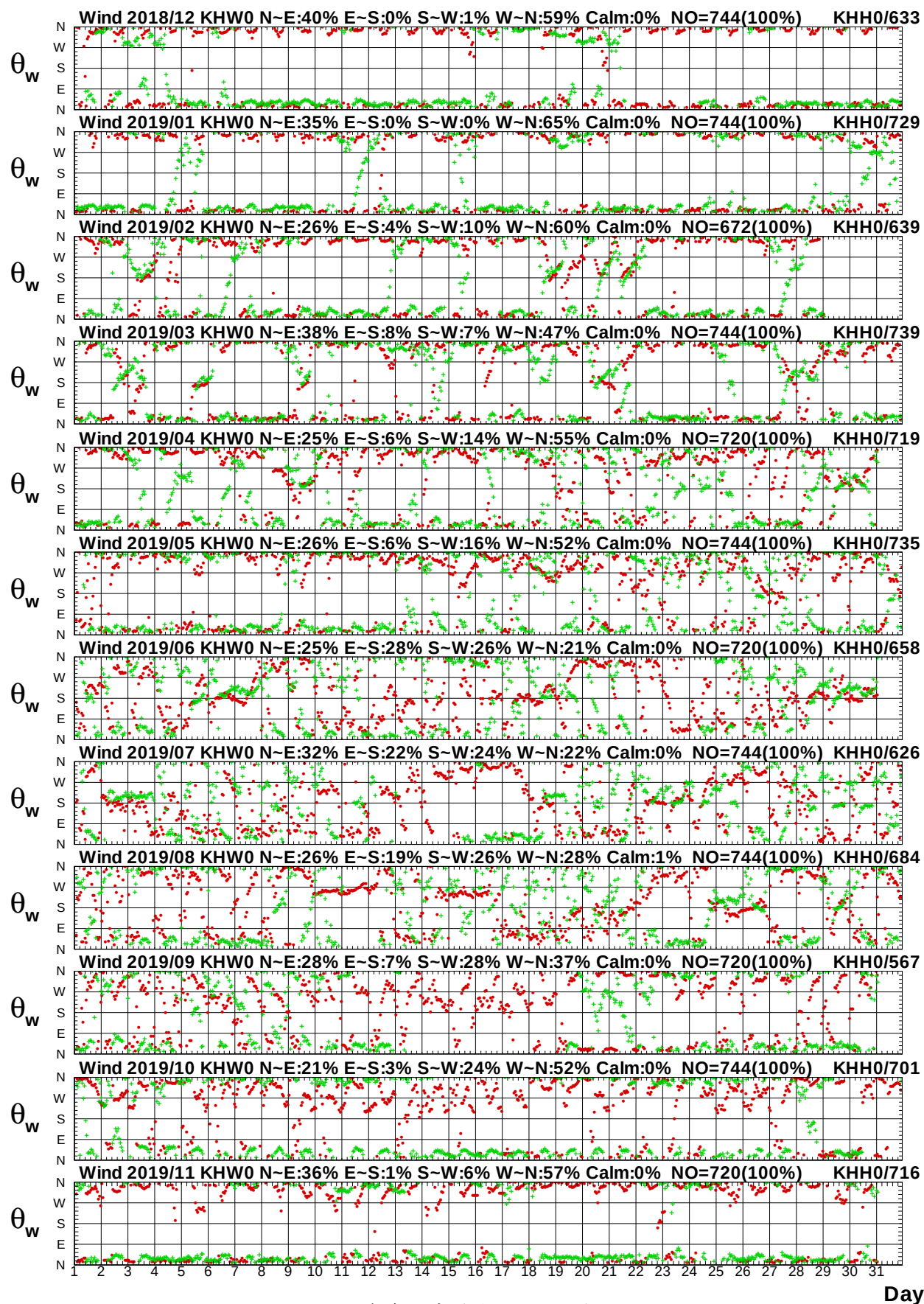


圖1.3.6b 2019年每月高雄海域 W 站與 H 站風向比較圖

W18CKHW0.1HA W18CKHH0.1H0 W191KHW0.1HA W191KHH0.1H0 W192KHW0.1HA W192KHH0.1H0
W193KHW0.1HA W193KHH0.1H0 W194KHW0.1HA W194KHH0.1H0 W195KHW0.1HA W195KHH0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

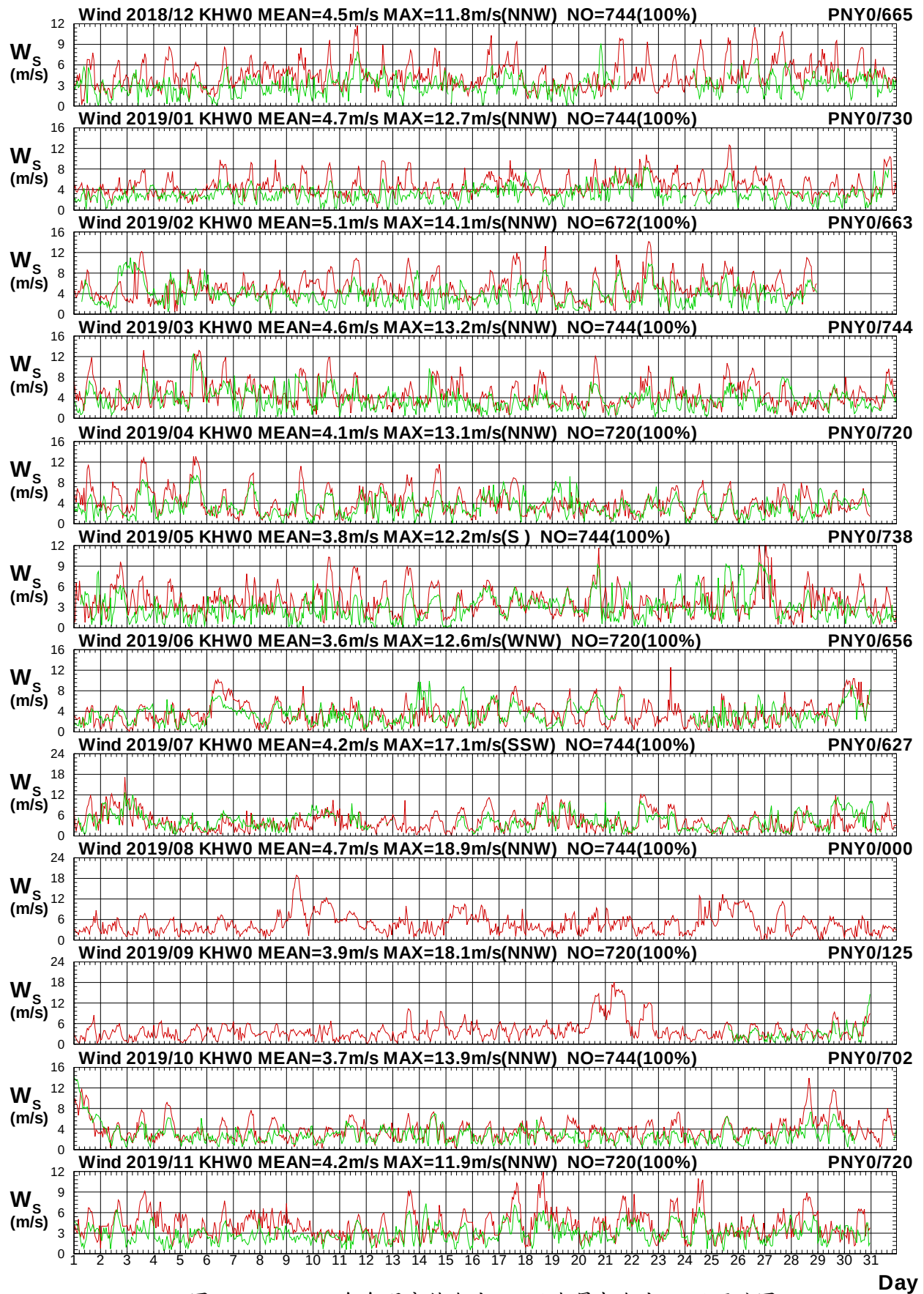


圖1.3.7a 2019年每月高雄海域 W 站與屏東海域 Y 站風速圖

W18CKHW0.1HA W18CPNY0.1H0 W191KHW0.1HA W191PNY0.1H0 W192KHW0.1HA W192PNY0.1H0
W193KHW0.1HA W193PNY0.1H0 W194KHW0.1HA W194PNY0.1H0 W195KHW0.1HA W195PNY0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

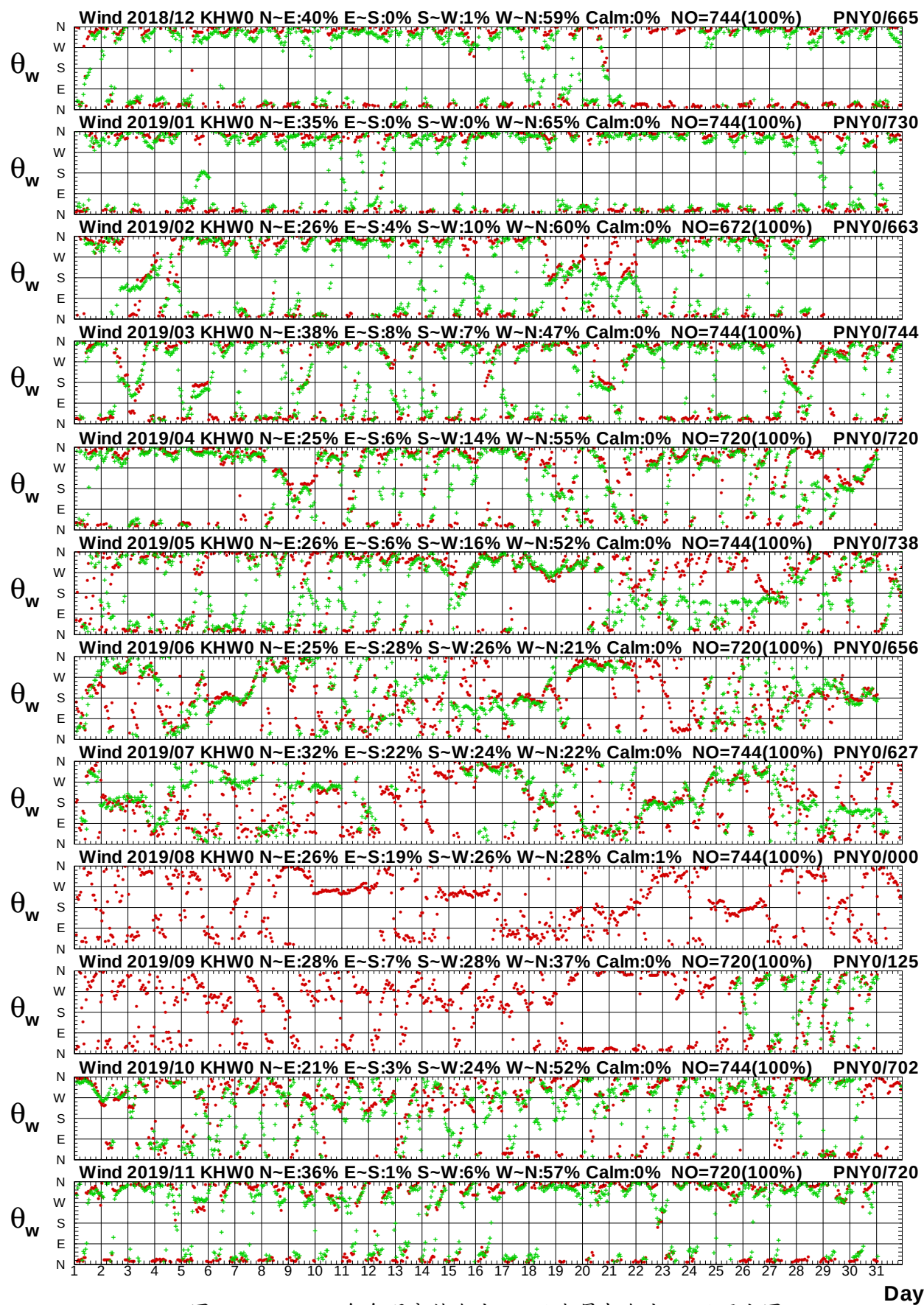


圖1.3.7b 2019年每月高雄海域 W 站與屏東海域 Y 站風向圖

W18CKHW0.1HA W18CPNY0.1H0 W191KHW0.1HA W191PNY0.1H0 W192KHW0.1HA W192PNY0.1H0
W193KHW0.1HA W193PNY0.1H0 W194KHW0.1HA W194PNY0.1H0 W195KHW0.1HA W195PNY0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

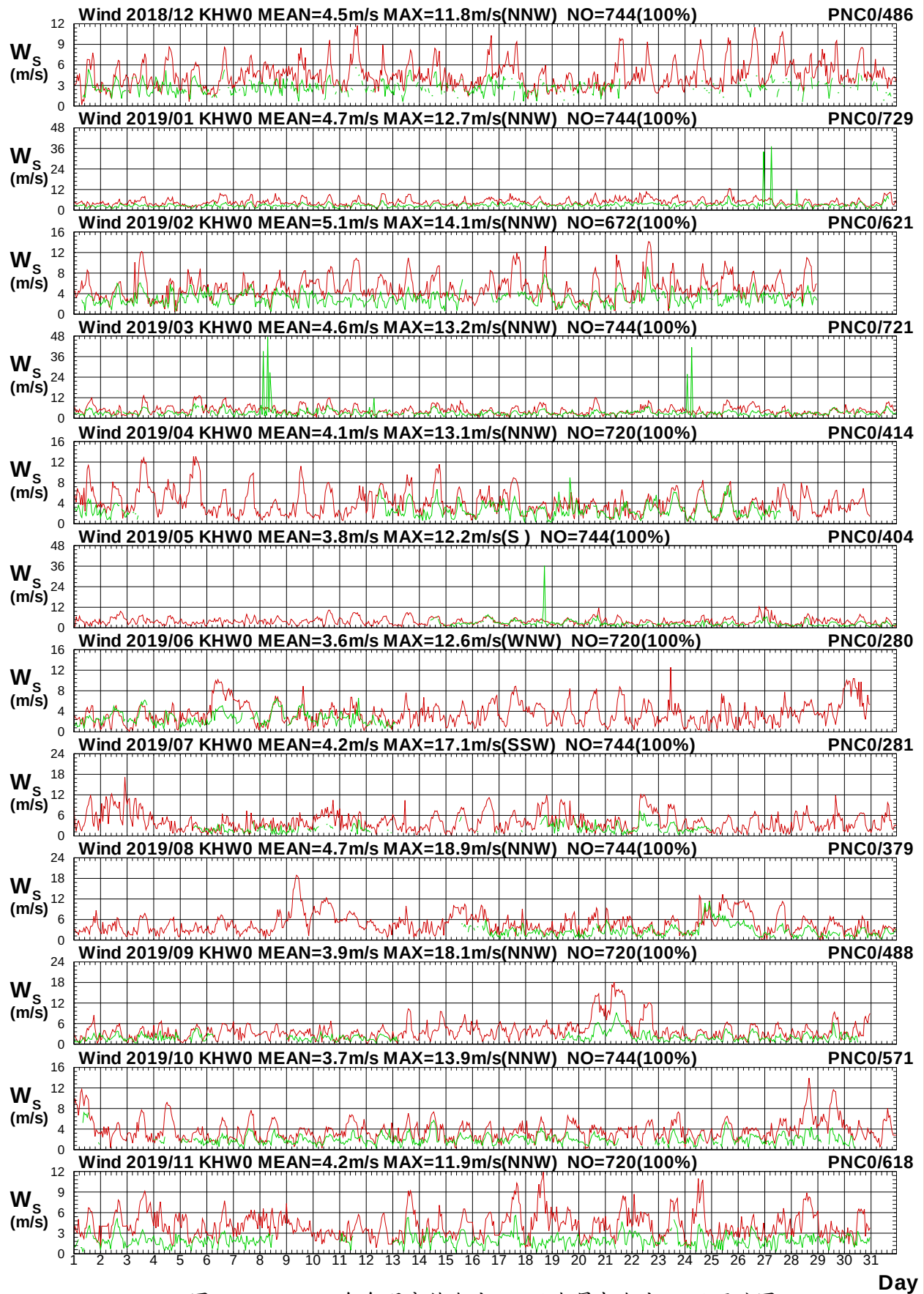


圖1.3.8a 2019年每月高雄海域 W 站與屏東海域 C 站風速圖

W18CKHW0.1HA W18CPNC0.1H0 W191KHW0.1HA W191PNC0.1H0 W192KHW0.1HA W192PNC0.1H0
W193KHW0.1HA W193PNC0.1H0 W194KHW0.1HA W194PNC0.1H0 W195KHW0.1HA W195PNC0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

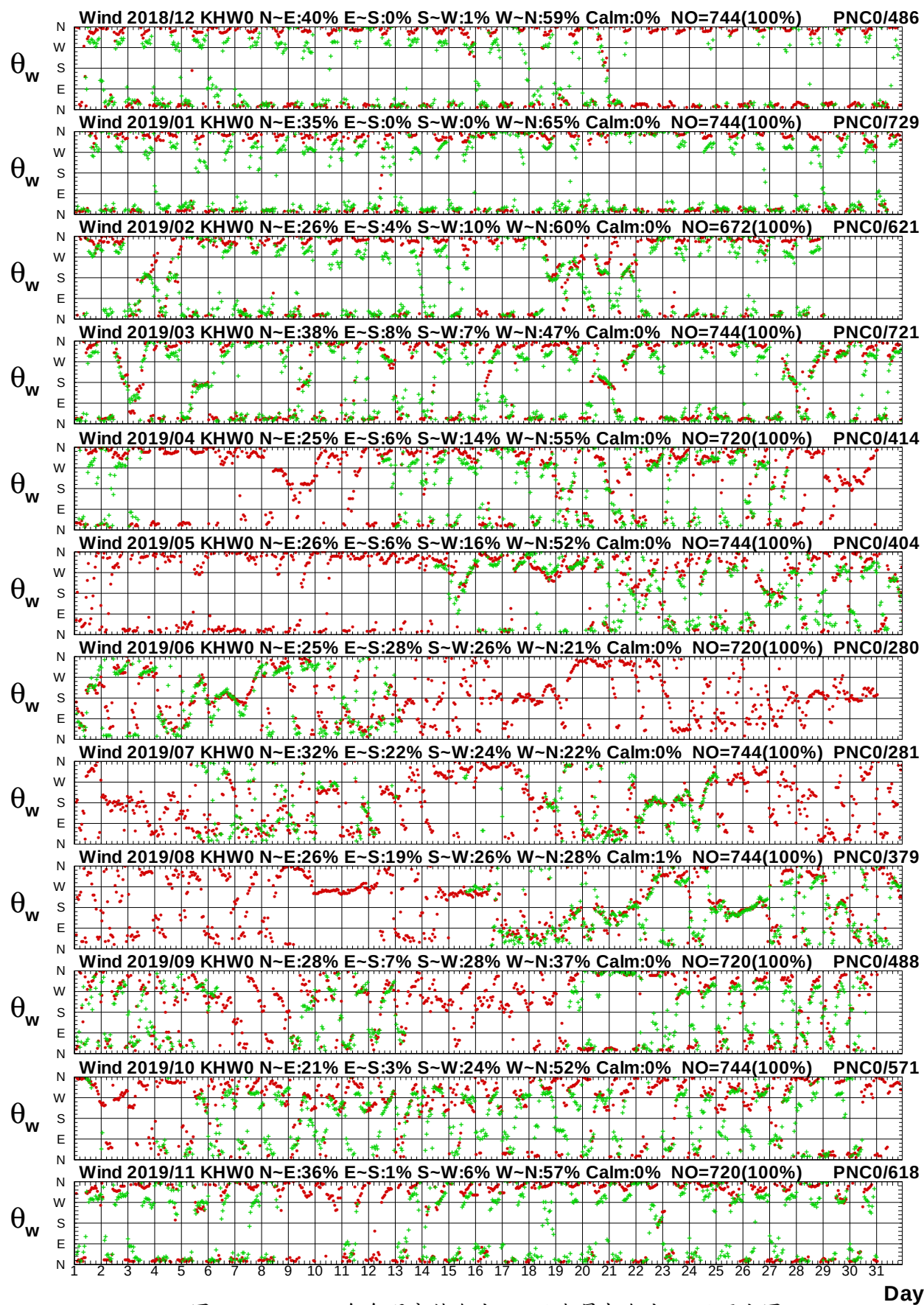


圖1.3.8b 2019年每月高雄海域 W 站與屏東海域 C 站風向圖

W18CKHW0.1HA W18CPNC0.1H0 W191KHW0.1HA W191PNC0.1H0 W192KHW0.1HA W192PNC0.1H0
W193KHW0.1HA W193PNC0.1H0 W194KHW0.1HA W194PNC0.1H0 W195KHW0.1HA W195PNC0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

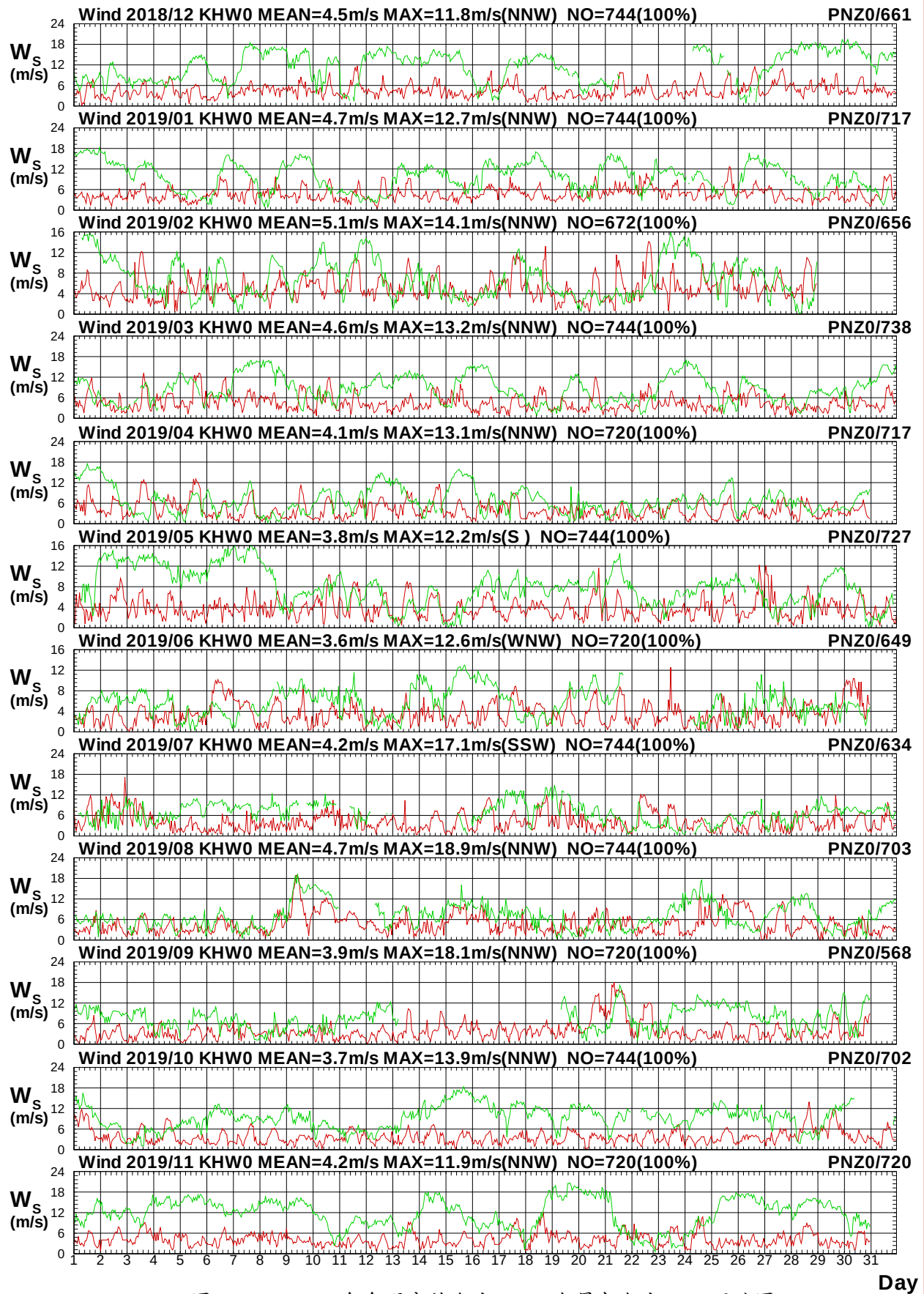


圖1.3.9a 2019年每月高雄海域 W 站與屏東海域 Z 站風速圖

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W193KHW0.1HA W193PNZ0.1H0 W194KHW0.1HA W194PNZ0.1H0 W195KHW0.1HA W195PNZ0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

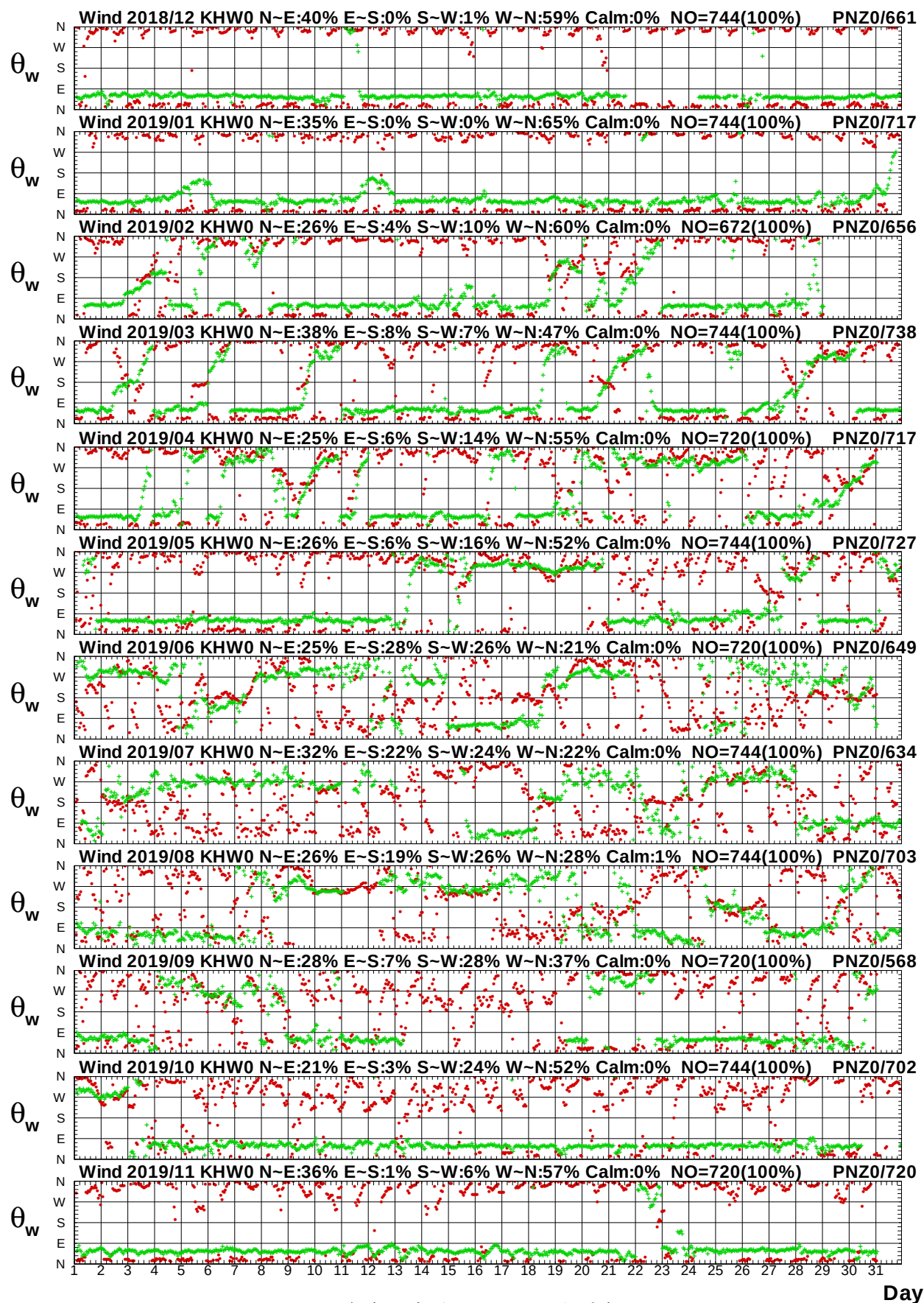


圖1.3.9b 2019年每月高雄海域 W 站與屏東海域 Z 站風向圖

W18CKHW0.1HA W18CPNZ0.1H0 W191KHW0.1HA W191PNZ0.1H0 W192KHW0.1HA W192PNZ0.1H0
W193KHW0.1HA W193PNZ0.1H0 W194KHW0.1HA W194PNZ0.1H0 W195KHW0.1HA W195PNZ0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

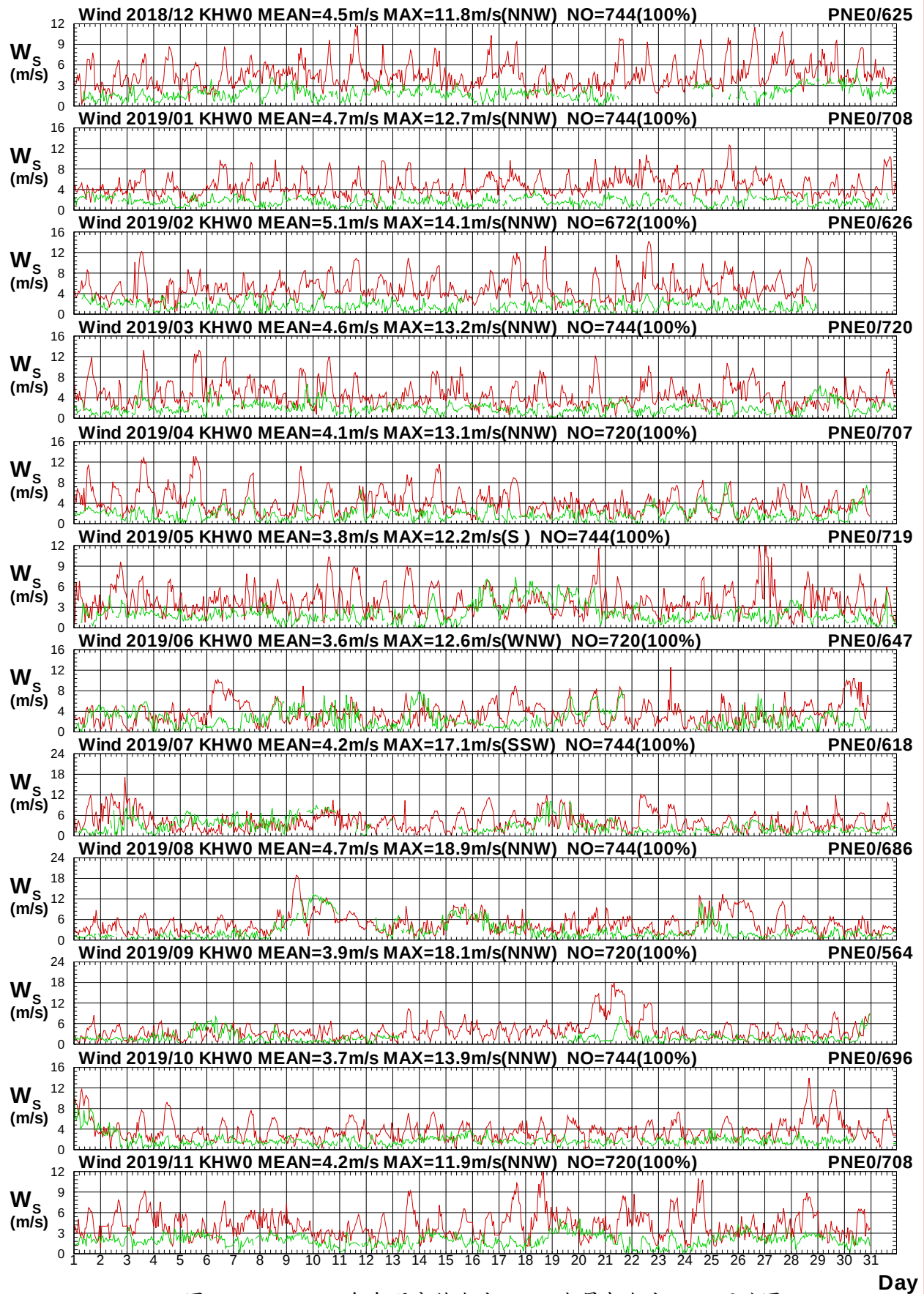


圖1.3.10a 2019年每月高雄海域 W 站與屏東海域 E 站風速圖

W18CKHW0.1HA W18CPNE0.1H0 W191KHW0.1HA W191PNE0.1H0 W192KHW0.1HA W192PNE0.1H0
W193KHW0.1HA W193PNE0.1H0 W194KHW0.1HA W194PNE0.1H0 W195KHW0.1HA W195PNE0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

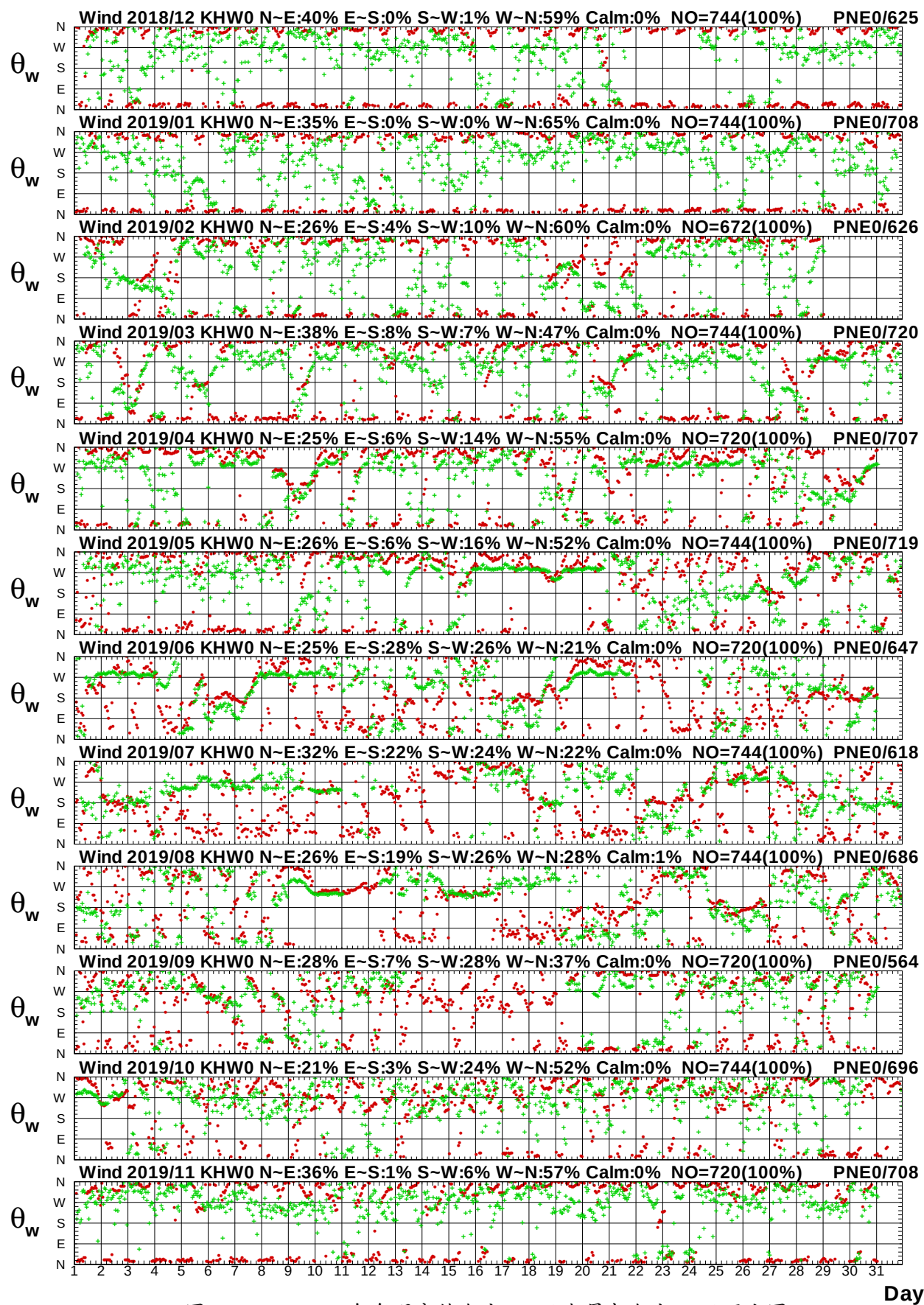


圖1.3.10b 2019年每月高雄海域 W 站與屏東海域 E 站風向圖

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W193KHW0.1HA W193PNE0.1H0 W194KHW0.1HA W194PNE0.1H0 W195KHW0.1HA W195PNE0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

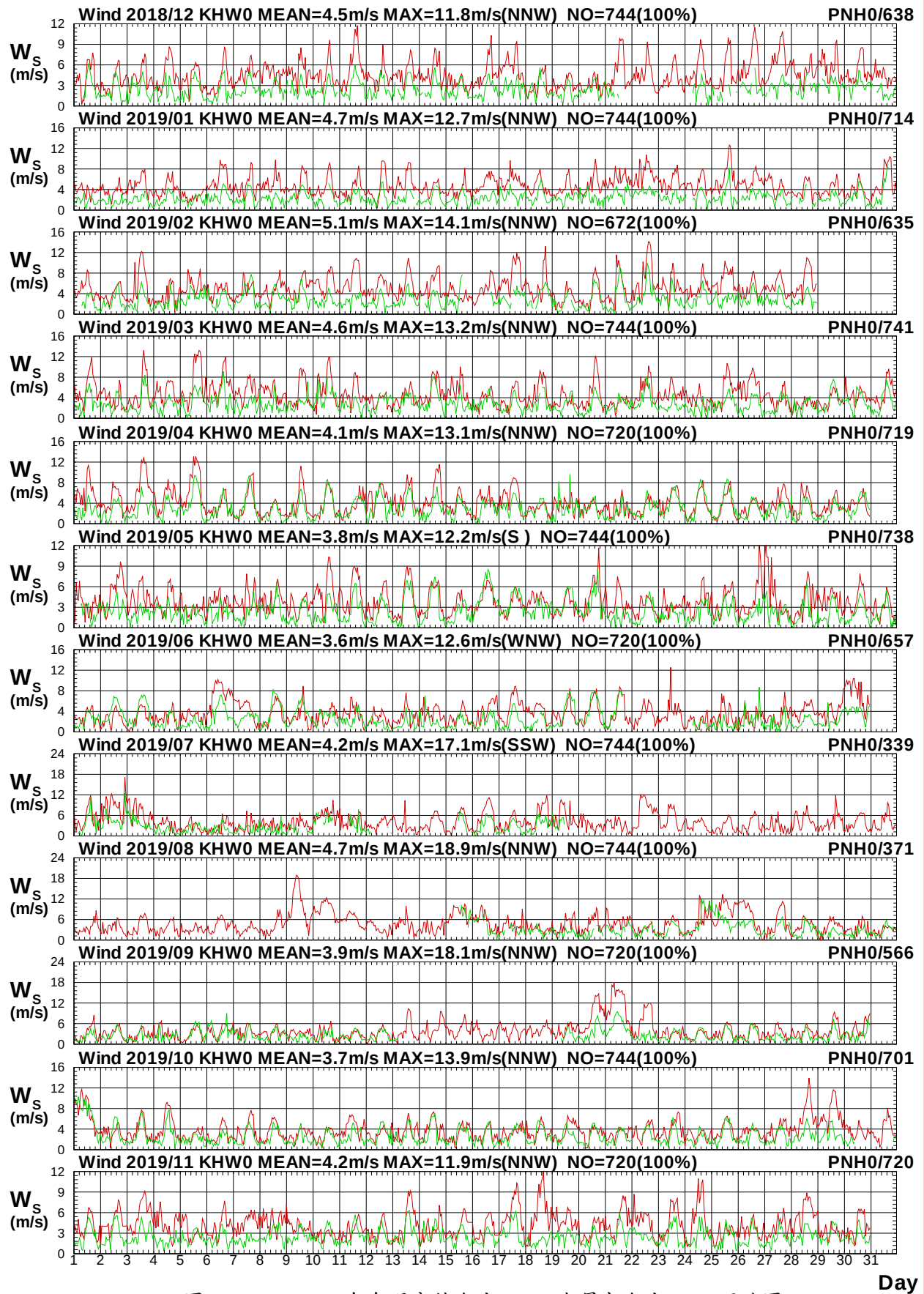


圖1.3.11a 2019年每月高雄海域 W 站與屏東海域 H 站風速圖

W18CKHW0.1HA W18CPNH0.1H0 W191KHW0.1HA W191PNH0.1H0 W192KHW0.1HA W192PNH0.1H0
W193KHW0.1HA W193PNH0.1H0 W194KHW0.1HA W194PNH0.1H0 W195KHW0.1HA W195PNH0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

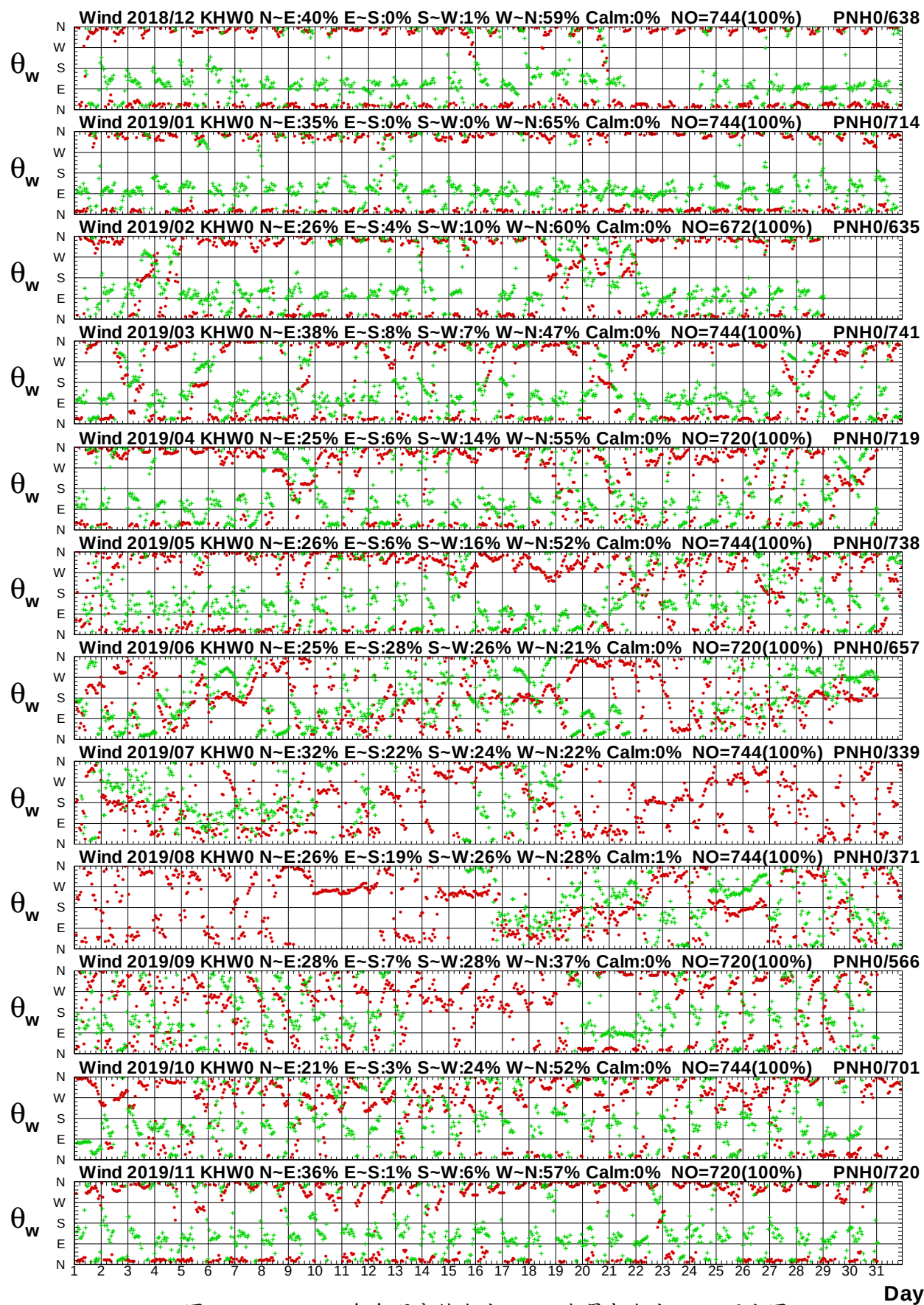


圖1.3.11b 2019年每月高雄海域 W 站與屏東海域 H 站風向圖

W18CKHW0.1HA W18CPNH0.1H0 W191KHW0.1HA W191PNH0.1H0 W192KHW0.1HA W192PNH0.1H0
W193KHW0.1HA W193PNH0.1H0 W194KHW0.1HA W194PNH0.1H0 W195KHW0.1HA W195PNH0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

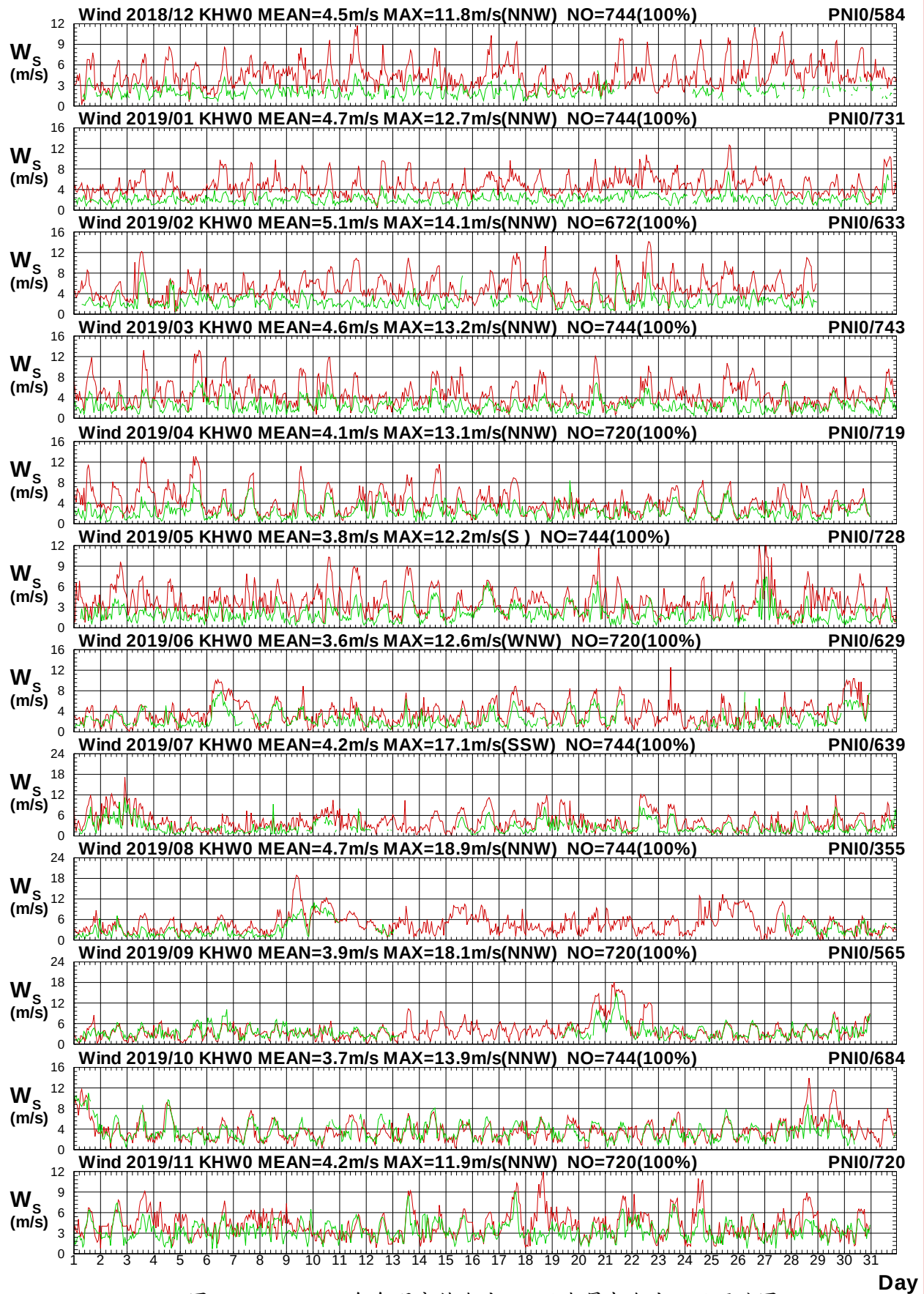


圖1.3.12a 2019年每月高雄海域 W 站與屏東海域 I 站風速圖

W18CKHW0.1HA W18CPNI0.1H0 W191KHW0.1HA W191PNI0.1H0 W192KHW0.1HA W192PNI0.1H0
W193KHW0.1HA W193PNI0.1H0 W194KHW0.1HA W194PNI0.1H0 W195KHW0.1HA W195PNI0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

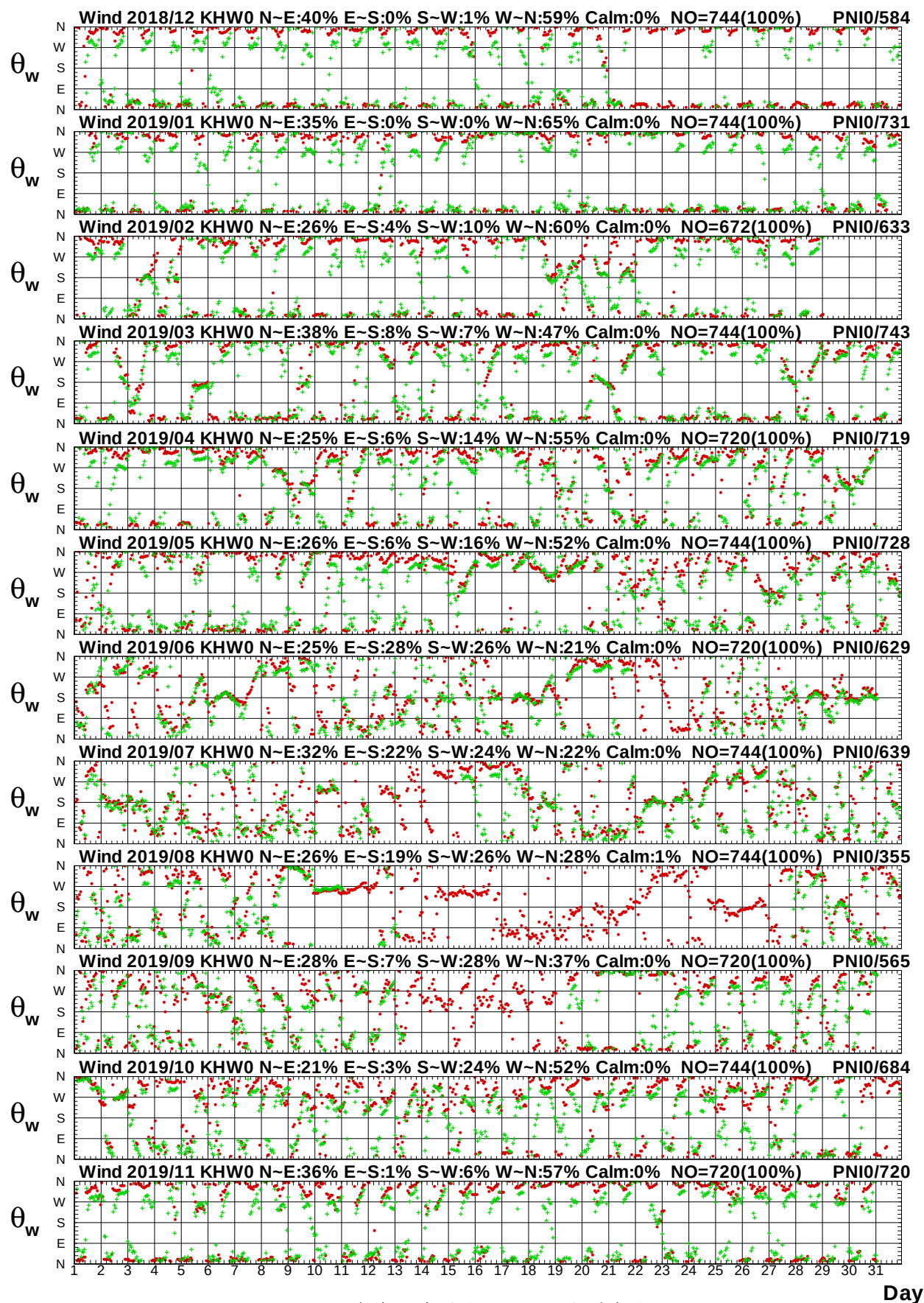


圖1.3.12b 2019年每月高雄海域 W 站與屏東海域 I 站風向圖

W18CKHW0.1HA W18CPNI0.1H0 W191KHW0.1HA W191PNI0.1H0 W192KHW0.1HA W192PNI0.1H0
W193KHW0.1HA W193PNI0.1H0 W194KHW0.1HA W194PNI0.1H0 W195KHW0.1HA W195PNI0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

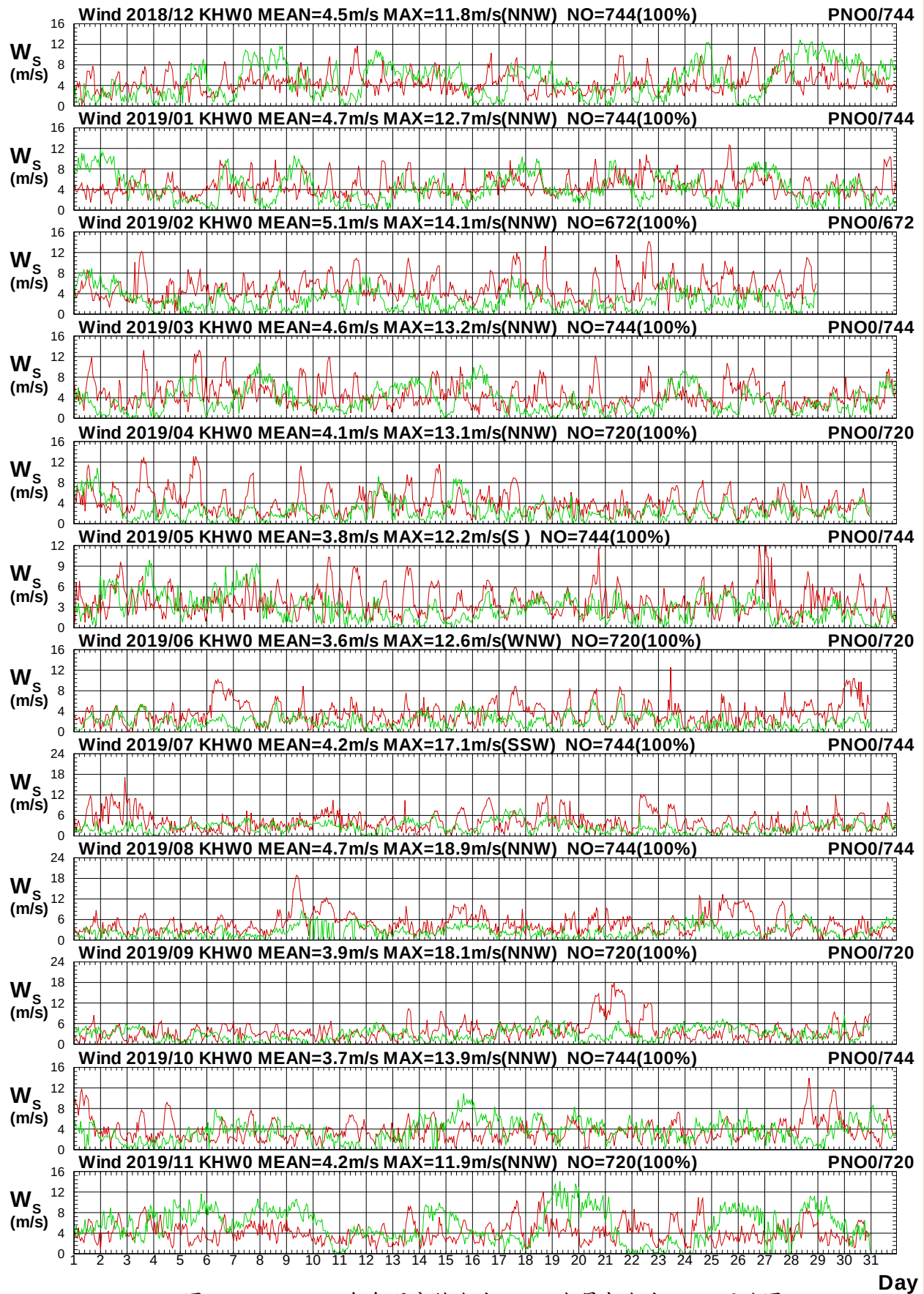


圖1.3.13a 2019年每月高雄海域 W 站與屏東海域 O 站風速圖

W18CKHW0.1HA W18CPNO0.1H0 W191KHW0.1HA W191PNO0.1H0 W192KHW0.1HA W192PNO0.1H0
W193KHW0.1HA W193PNO0.1H0 W194KHW0.1HA W194PNO0.1H0 W195KHW0.1HA W195PNO0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

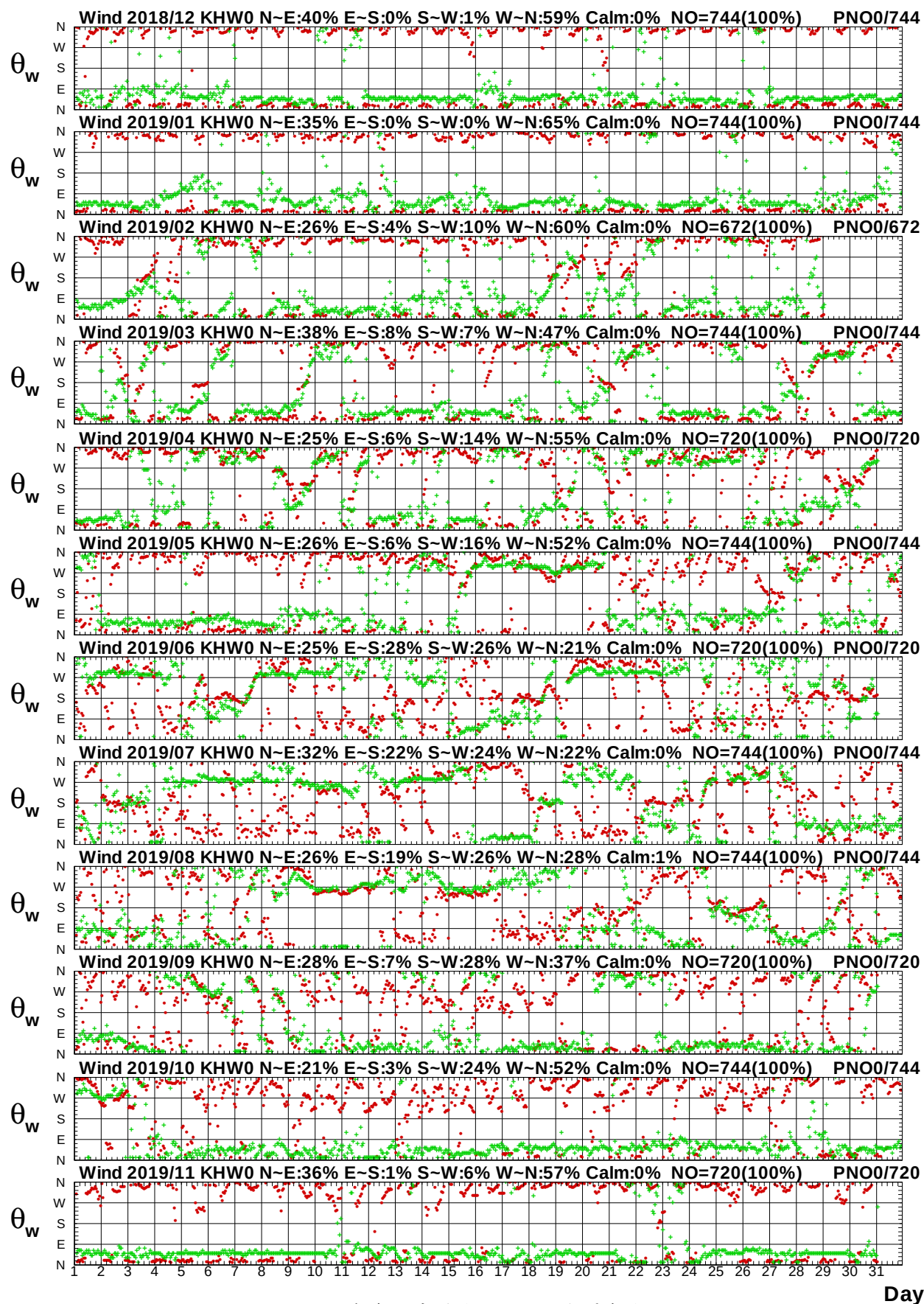


圖1.3.13b 2019年每月高雄海域 W 站與屏東海域 O 站風向圖

W18CKHW0.1HA W18CPNO0.1H0 W191KHW0.1HA W191PNO0.1H0 W192KHW0.1HA W192PNO0.1H0
W193KHW0.1HA W193PNO0.1H0 W194KHW0.1HA W194PNO0.1H0 W195KHW0.1HA W195PNO0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

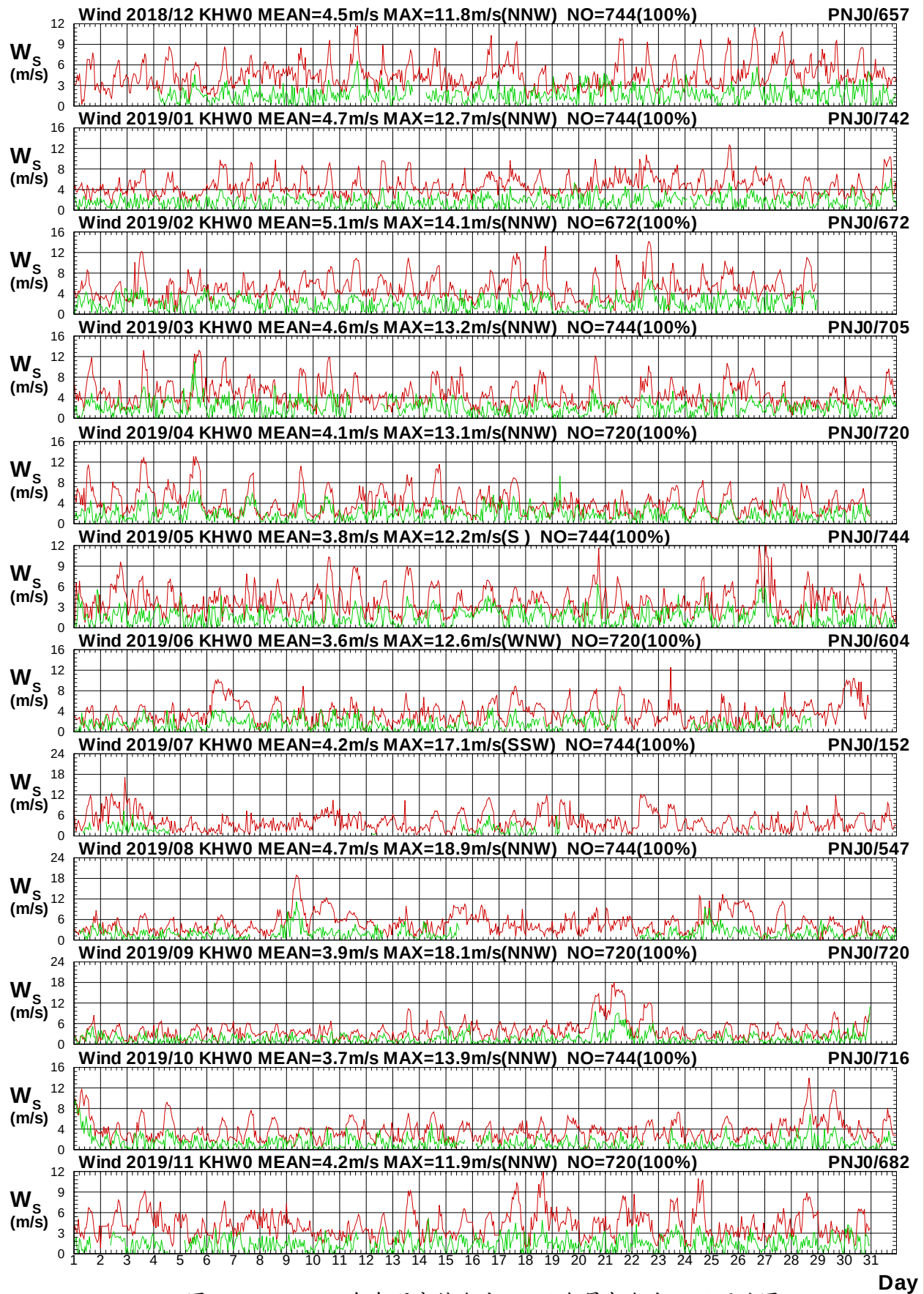


圖1.3.14a 2019年每月高雄海域 W 站與屏東海域 J 站風速圖

W18CKHW0.1HA W18CPNJ0.1H0 W191KHW0.1HA W191PNJ0.1H0 W192KHW0.1HA W192PNJ0.1H0
W193KHW0.1HA W193PNJ0.1H0 W194KHW0.1HA W194PNJ0.1H0 W195KHW0.1HA W195PNJ0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

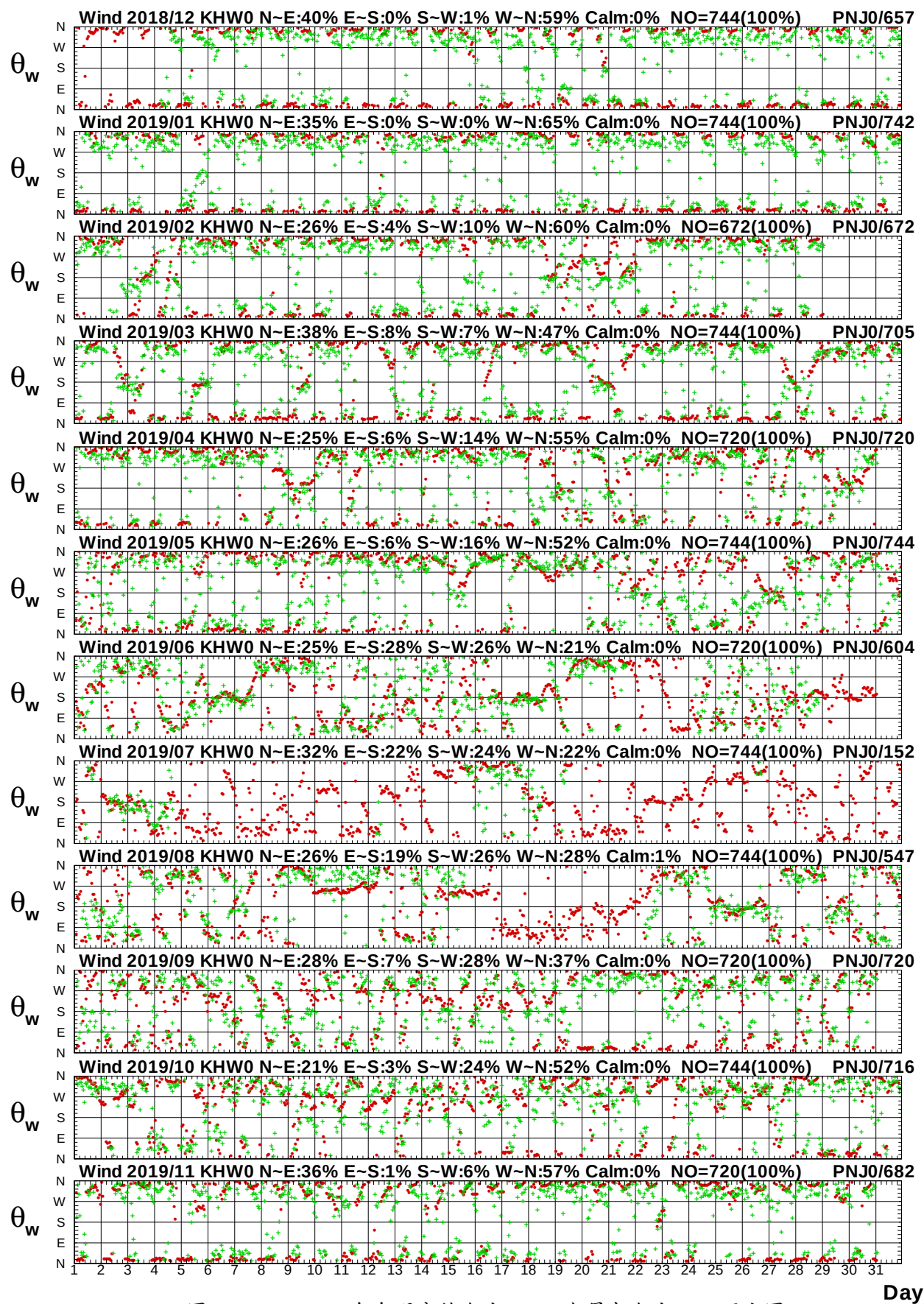


圖1.3.14b 2019年每月高雄海域 W 站與屏東海域 J 站風向圖

W18CKHW0.1HA W18CPNJ0.1H0 W191KHW0.1HA W191PNJ0.1H0 W192KHW0.1HA W192PNJ0.1H0
W193KHW0.1HA W193PNJ0.1H0 W194KHW0.1HA W194PNJ0.1H0 W195KHW0.1HA W195PNJ0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

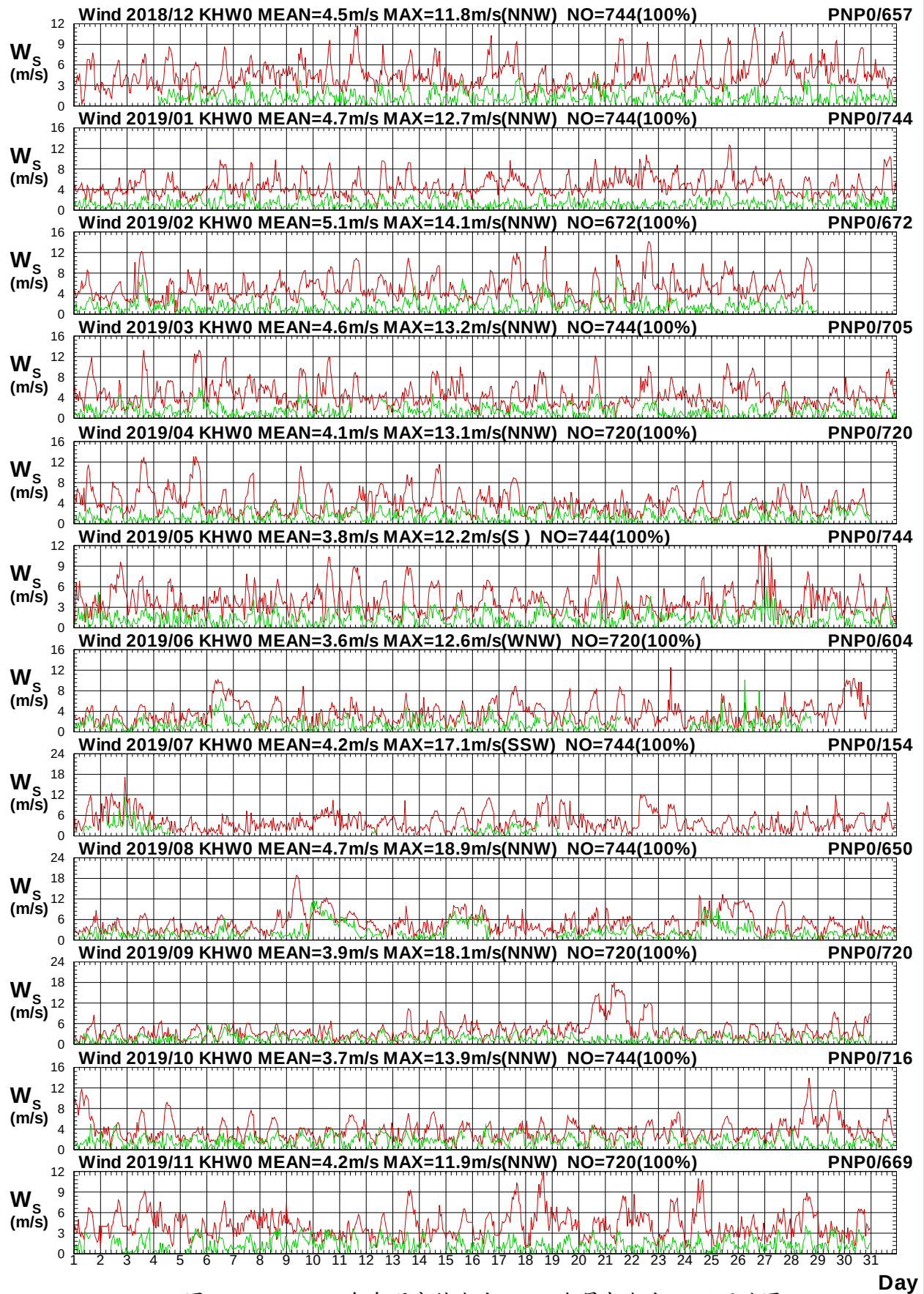


圖1.3.15a 2019年每月高雄海域 W 站與屏東海域 P 站風速圖

W18CKHW0.1HA W18CPNP0.1H0 W191KHW0.1HA W191PNP0.1H0 W192KHW0.1HA W192PNP0.1H0
W193KHW0.1HA W193PNP0.1H0 W194KHW0.1HA W194PNP0.1H0 W195KHW0.1HA W195PNP0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

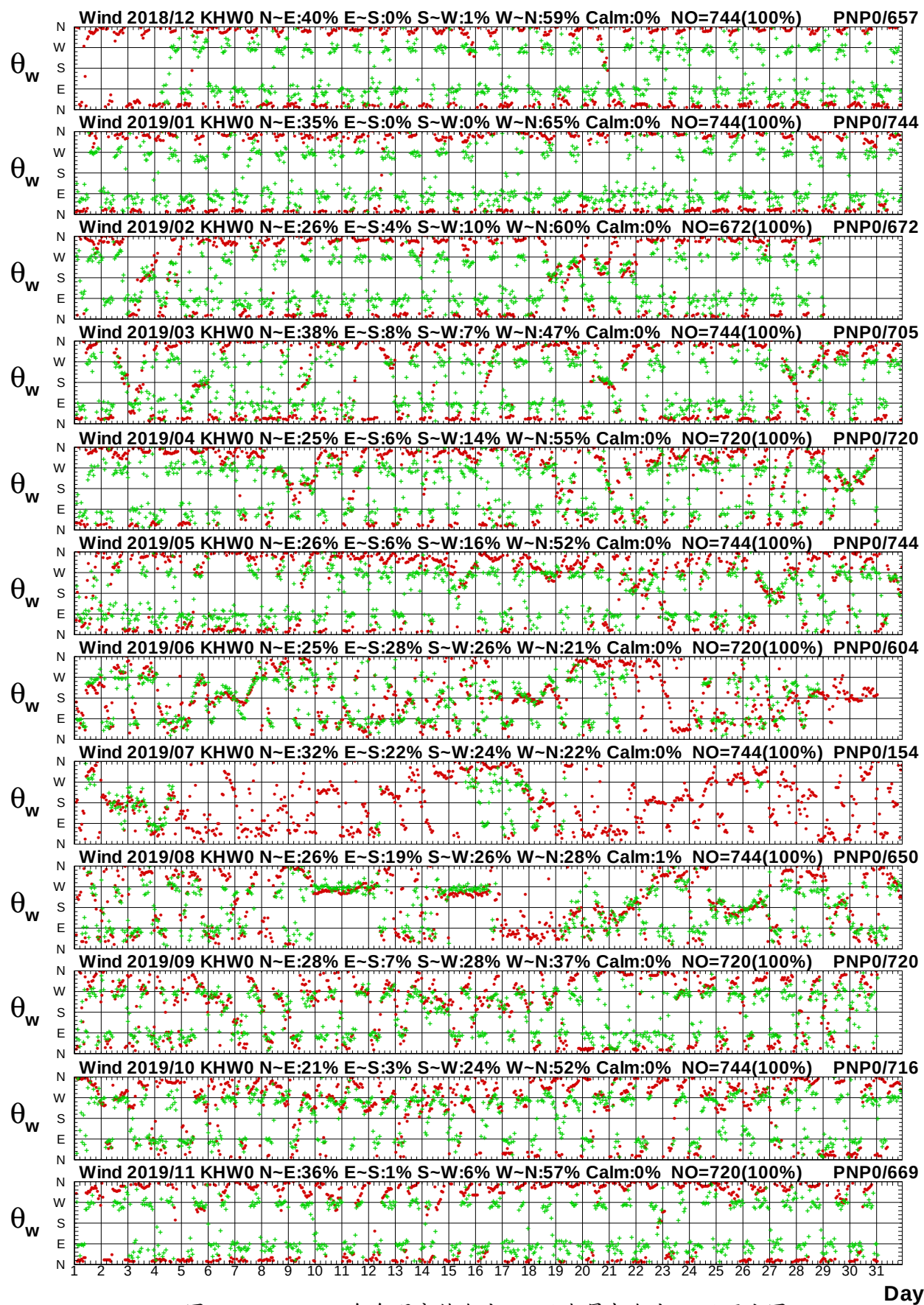


圖1.3.15b 2019年每月高雄海域 W 站與屏東海域 P 站風向圖

W18CKHW0.1HA W18CPNP0.1H0 W191KHW0.1HA W191PNP0.1H0 W192KHW0.1HA W192PNP0.1H0
W193KHW0.1HA W193PNP0.1H0 W194KHW0.1HA W194PNP0.1H0 W195KHW0.1HA W195PNP0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

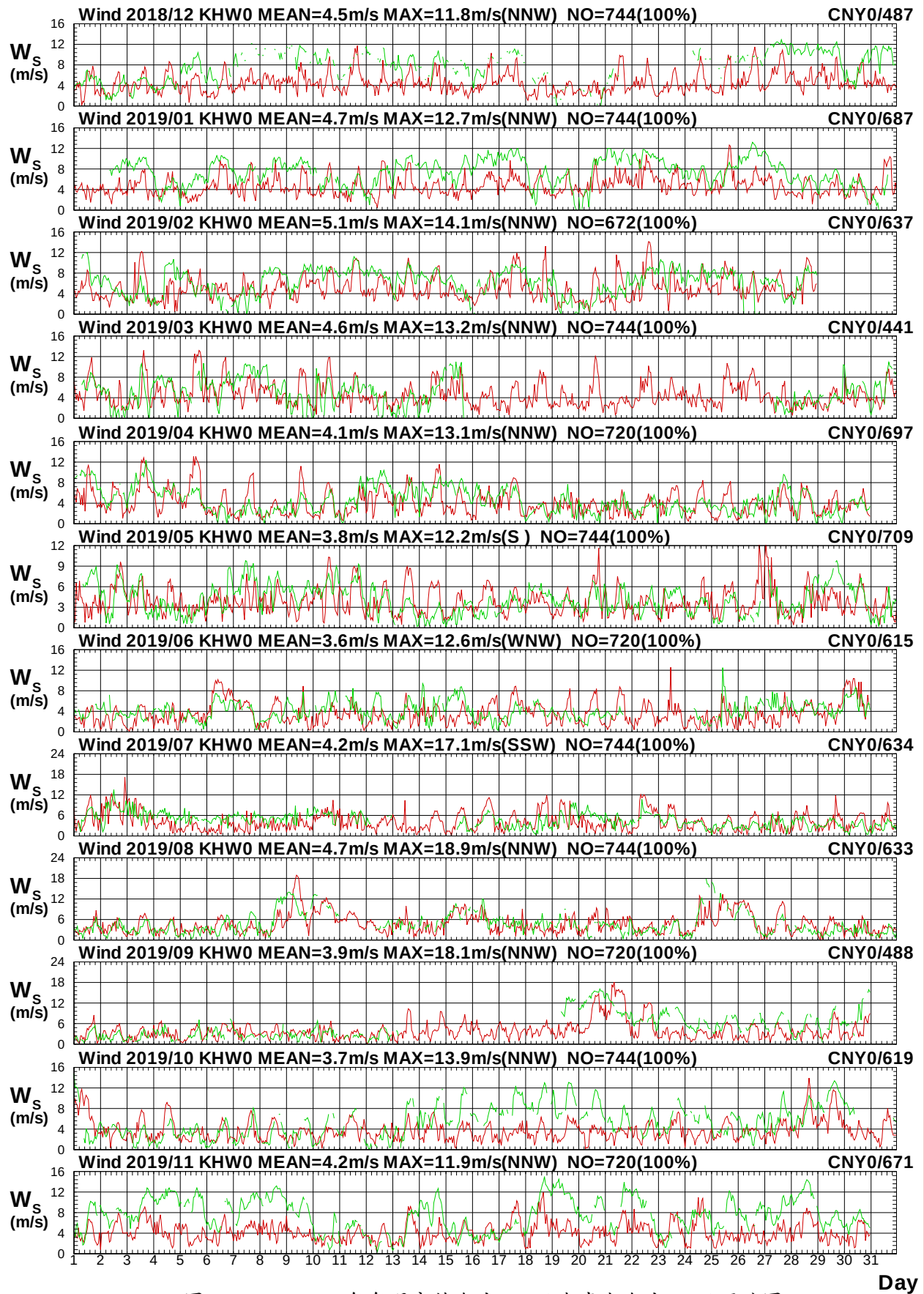


圖 1.3.16a 2019 年每月高雄海域 W 站與嘉南海域 Y 站風速圖

W18CKHW0.1HA W18CCNY0.1H0 W191KHW0.1HA W191CNY0.1H0 W192KHW0.1HA W192CNY0.1H0
W193KHW0.1HA W193CNY0.1H0 W194KHW0.1HA W194CNY0.1H0 W195KHW0.1HA W195CNY0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

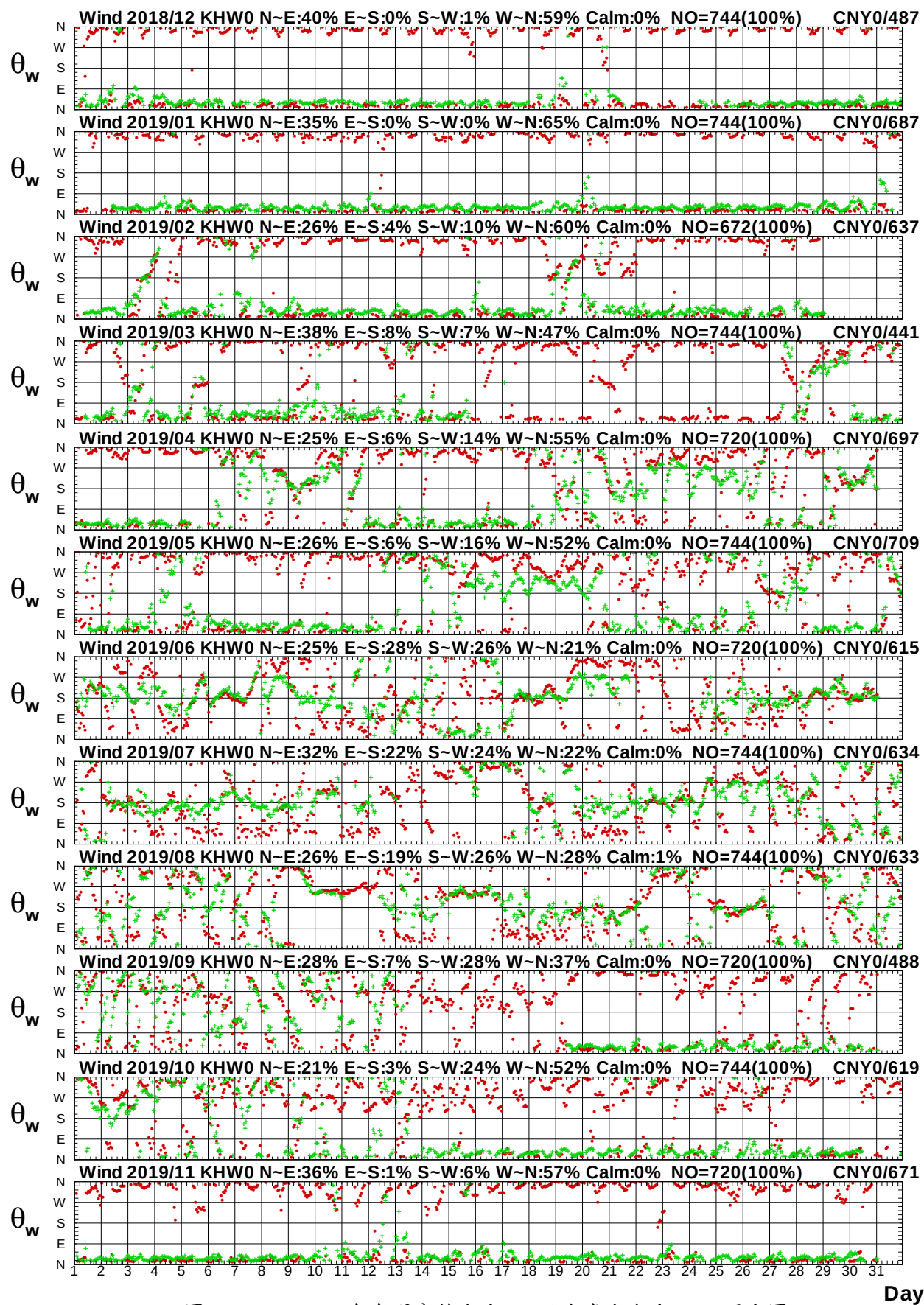


圖1.3.16b 2019年每月高雄海域 W 站與嘉南海域 Y 站風向圖

W18CKHW0.1HA W18CCNY0.1H0 W191KHW0.1HA W191CNY0.1H0 W192KHW0.1HA W192CNY0.1H0
W193KHW0.1HA W193CNY0.1H0 W194KHW0.1HA W194CNY0.1H0 W195KHW0.1HA W195CNY0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

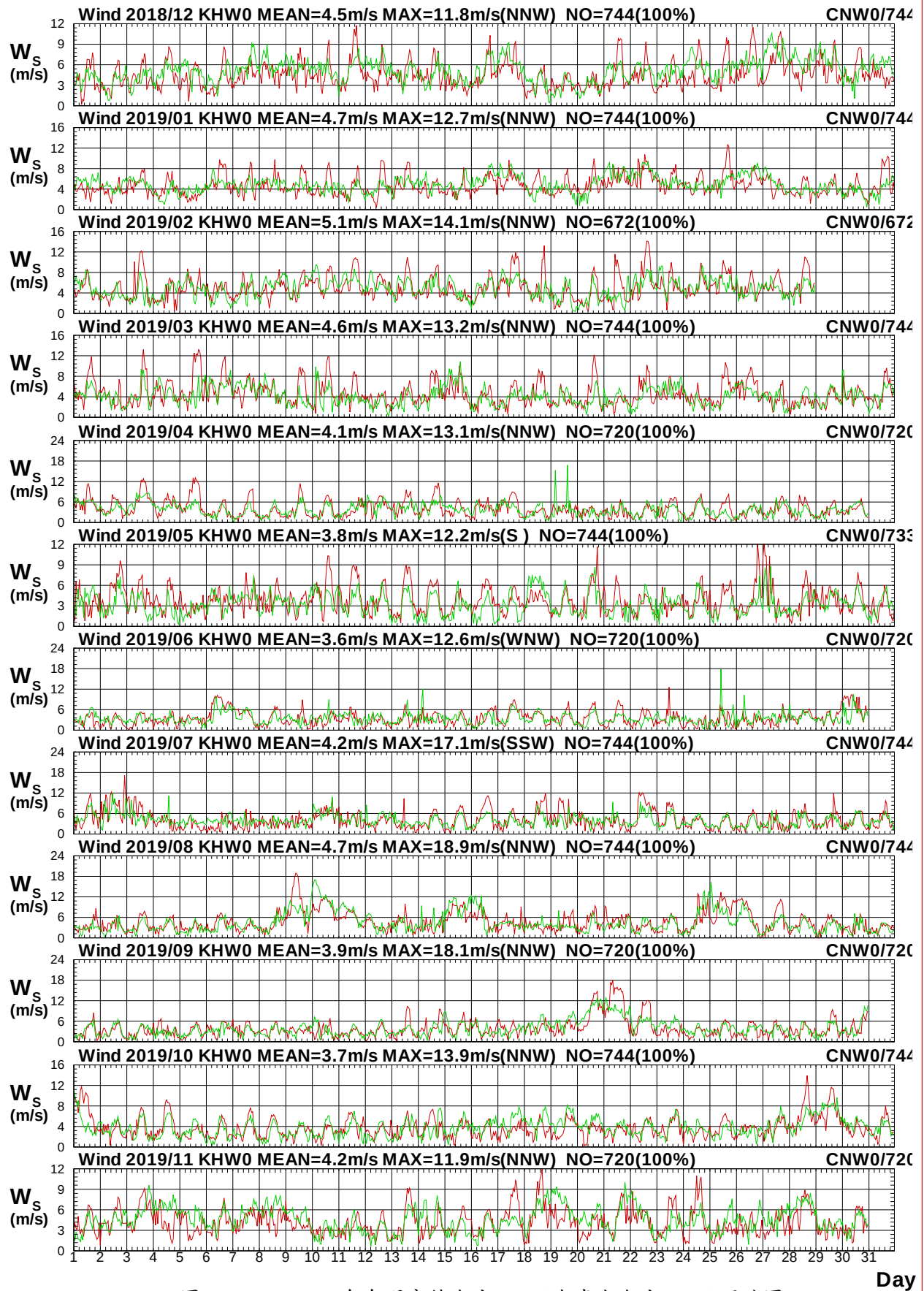


圖1.3.17a 2019年每月高雄海域 W 站與嘉南海域 W 站風速圖

W18CKHW0.1HA W18CCNW0.1H0 W191KHW0.1HA W191CNW0.1H0 W192KHW0.1HA W192CNW0.1H0

W193KHW0.1HA W193CNW0.1H0 W194KHW0.1HA W194CNW0.1H0 W195KHW0.1HA W195CNW0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

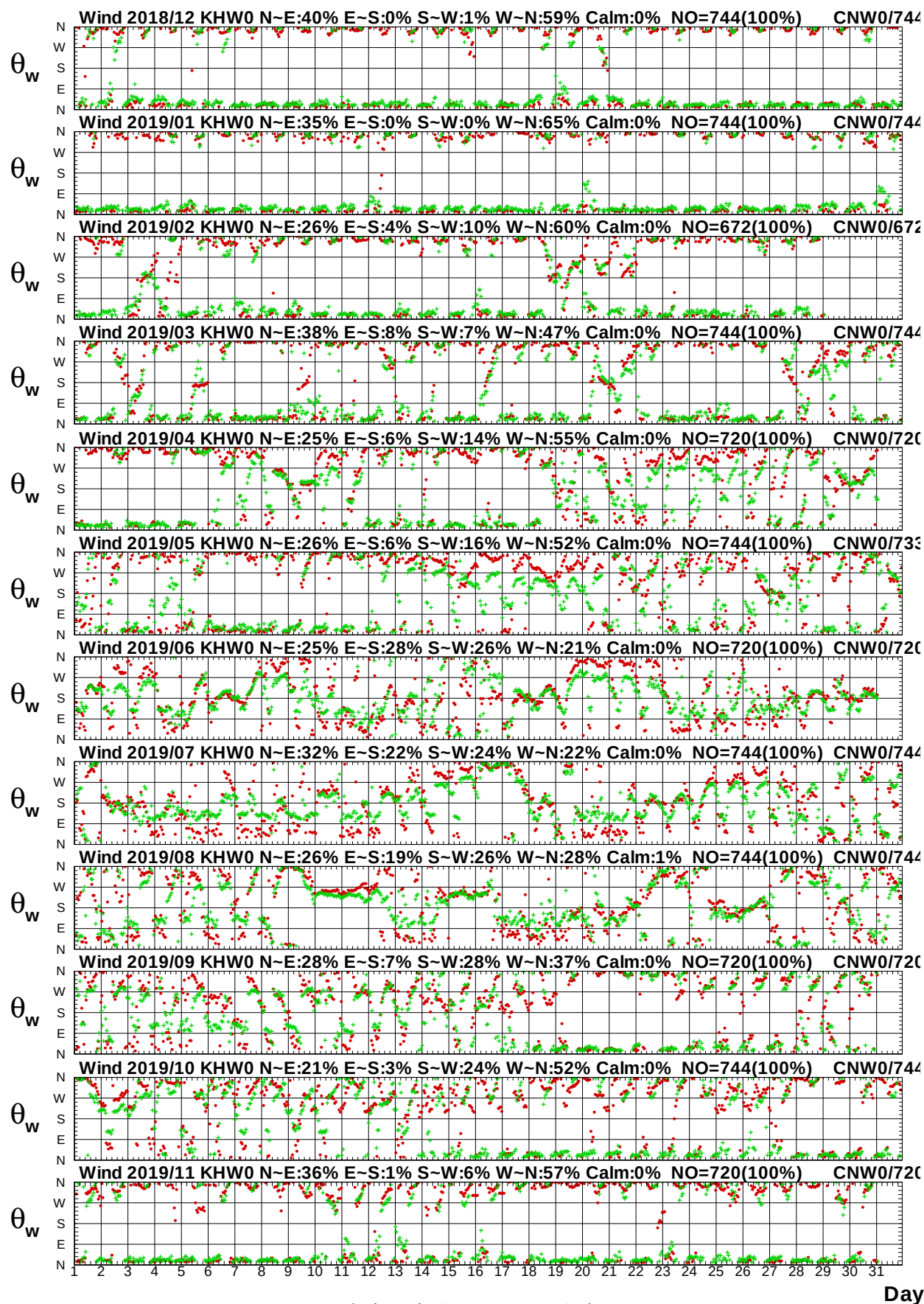


圖1.3.17b 2019年每月高雄海域 W 站與嘉南海域 W 站風向圖

W18CKHW0.1HA W18CCNW0.1H0 W191KHW0.1HA W191CNW0.1H0 W192KHW0.1HA W192CNW0.1H0

W193KHW0.1HA W193CNW0.1H0 W194KHW0.1HA W194CNW0.1H0 W195KHW0.1HA W195CNW0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

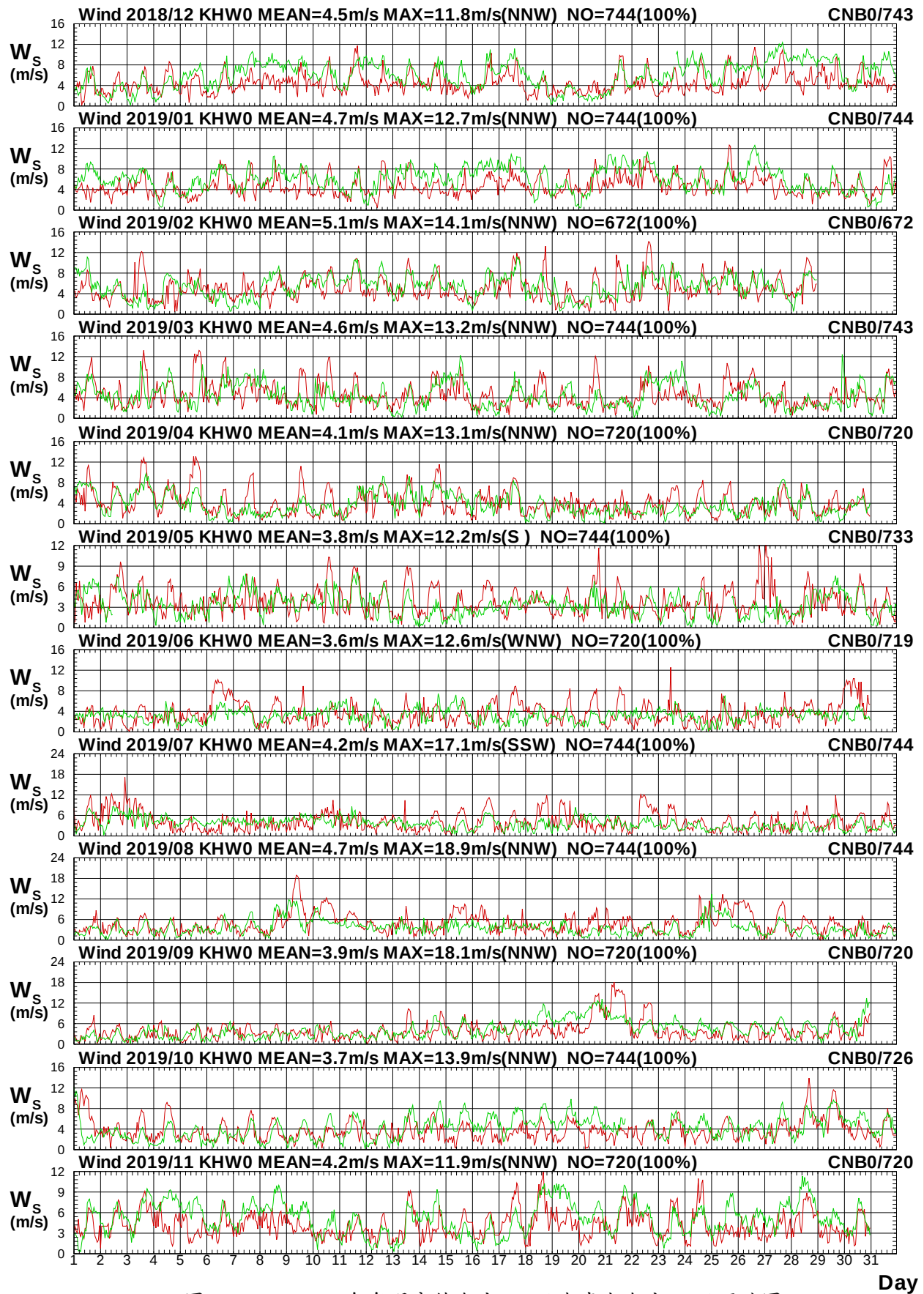


圖1.3.18a 2019年每月高雄海域 W 站與嘉南海域 B 站風速圖

W18CKHW0.1HA W18CCNB0.1H0 W191KHW0.1HA W191CNB0.1H0 W192KHW0.1HA W192CNB0.1H0
W193KHW0.1HA W193CNB0.1H0 W194KHW0.1HA W194CNB0.1H0 W195KHW0.1HA W195CNB0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

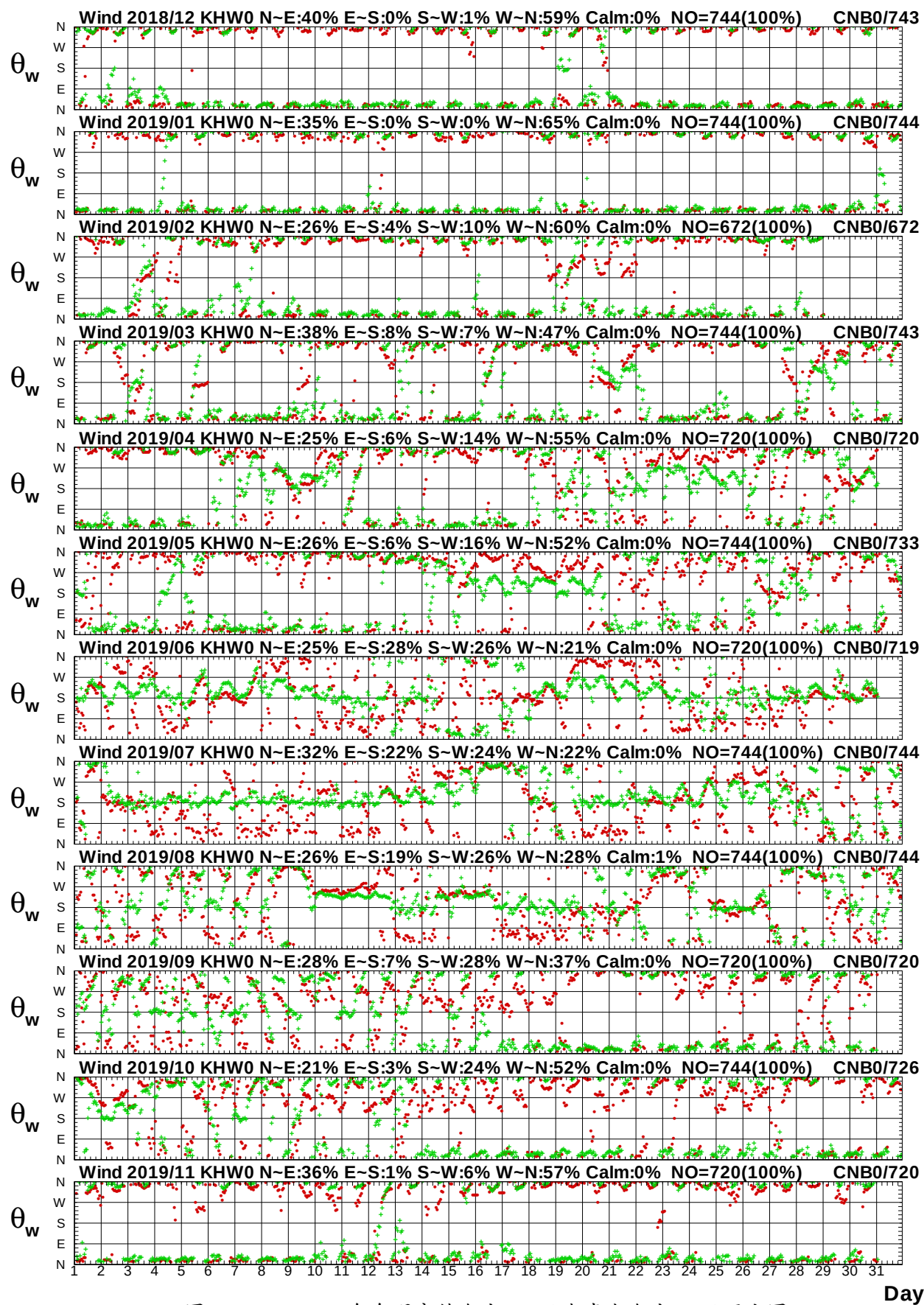


圖1.3.18b 2019年每月高雄海域 W 站與嘉南海域 B 站風向圖

W18CKHW0.1HA W18CCNB0.1H0 W191KHW0.1HA W191CNB0.1H0 W192KHW0.1HA W192CNB0.1H0
W193KHW0.1HA W193CNB0.1H0 W194KHW0.1HA W194CNB0.1H0 W195KHW0.1HA W195CNB0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

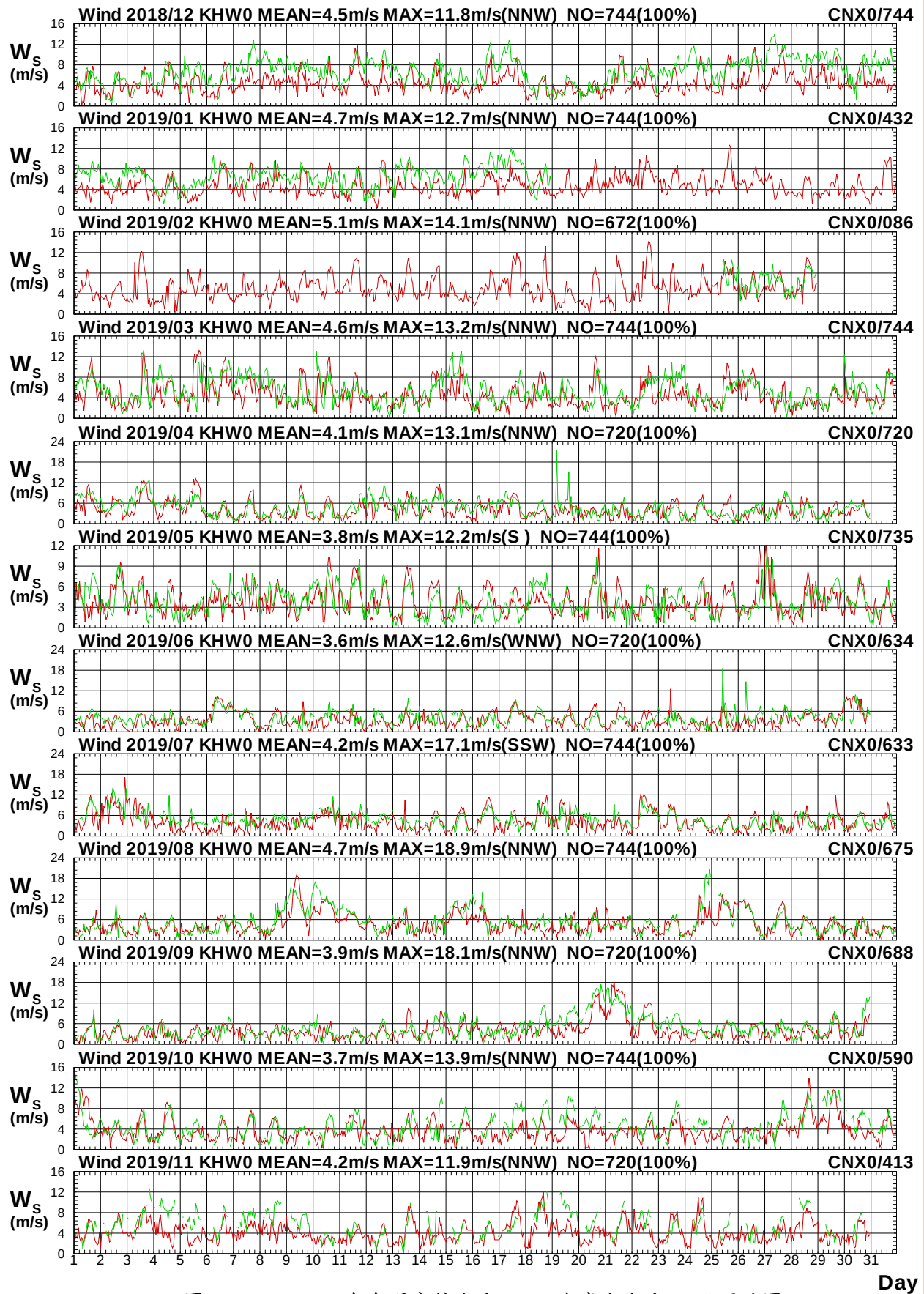


圖 1.3.19a 2019 年每月高雄海域 W 站與嘉南海域 X 站風速圖

W18CKHW0.1HA W18CCNX0.1H0 W191KHW0.1HA W191CNX0.1H0 W192KHW0.1HA W192CNX0.1H0
W193KHW0.1HA W193CNX0.1H0 W194KHW0.1HA W194CNX0.1H0 W195KHW0.1HA W195CNX0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

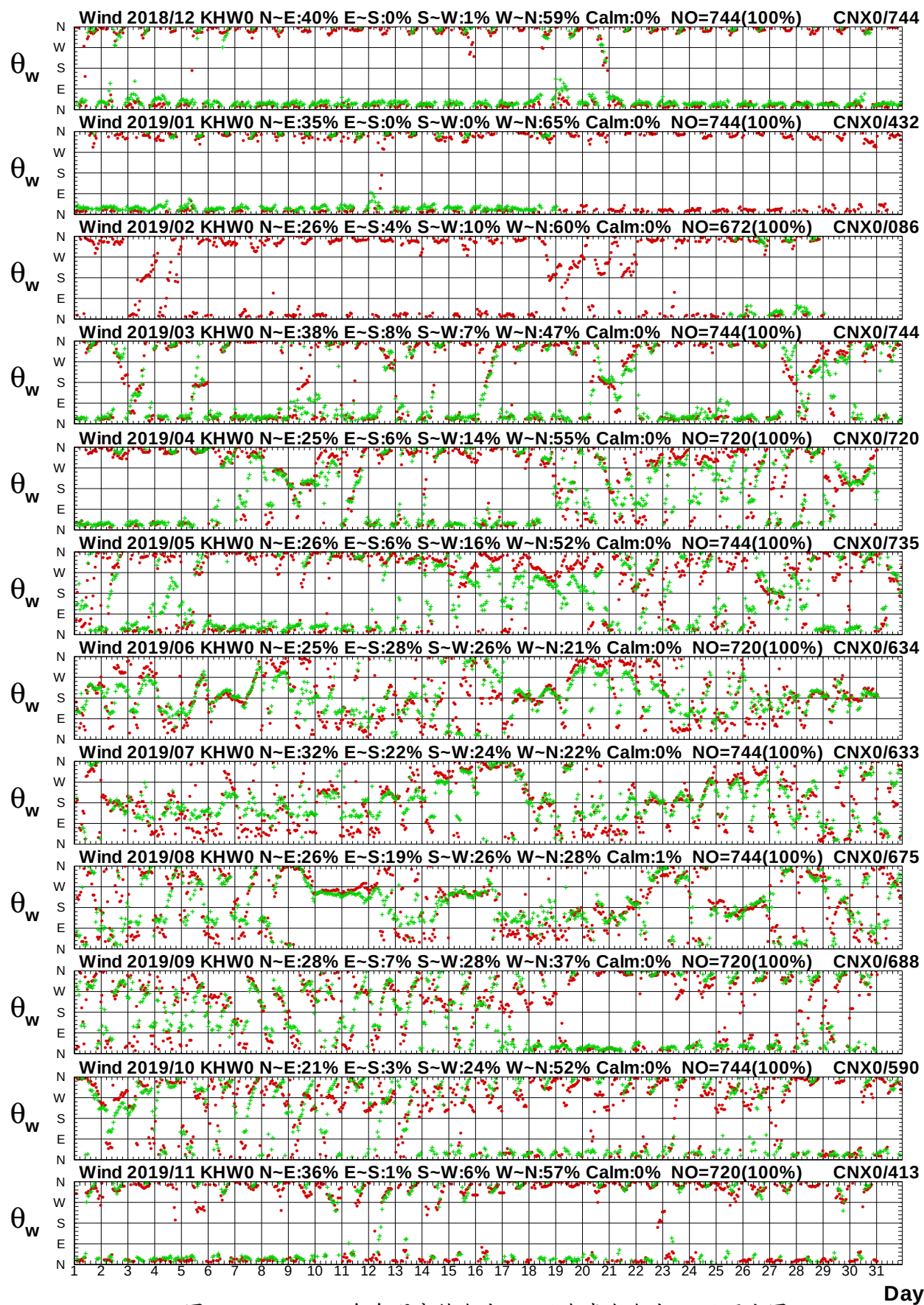


圖1.3.19b 2019年每月高雄海域 W 站與嘉南海域 X 站風向圖

W18CKHW0.1HA W18CCNX0.1H0 W191KHW0.1HA W191CNX0.1H0 W192KHW0.1HA W192CNX0.1H0
W193KHW0.1HA W193CNX0.1H0 W194KHW0.1HA W194CNX0.1H0 W195KHW0.1HA W195CNX0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

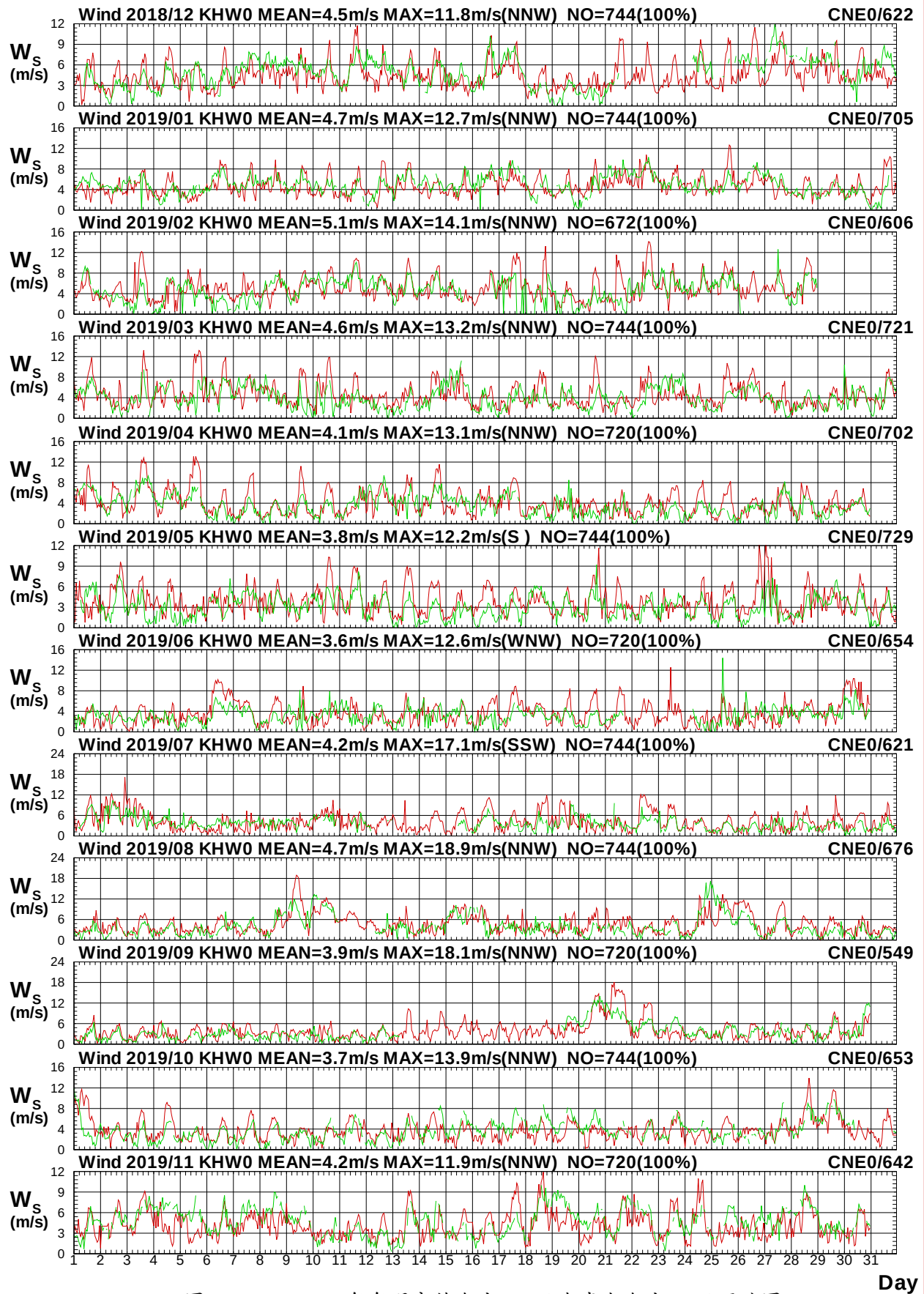


圖1.3.20a 2019年每月高雄海域 W 站與嘉南海域 E 站風速圖

W18CKHW0.1HA W18CCNE0.1H0 W191KHW0.1HA W191CNE0.1H0 W192KHW0.1HA W192CNE0.1H0
W193KHW0.1HA W193CNE0.1H0 W194KHW0.1HA W194CNE0.1H0 W195KHW0.1HA W195CNE0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

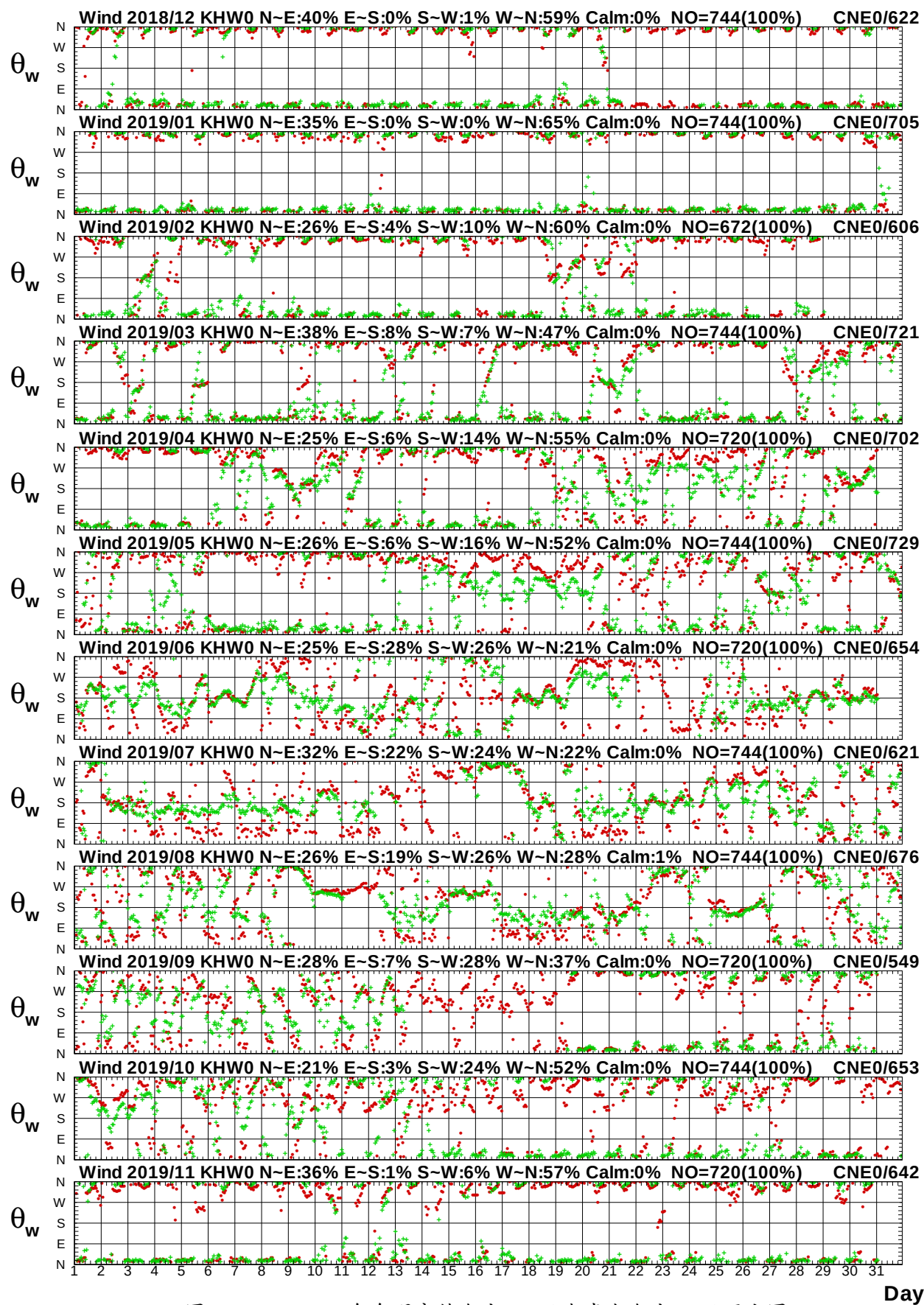


圖1.3.20b 2019年每月高雄海域 W 站與嘉南海域 E 站風向圖

W18CKHW0.1HA W18CCNE0.1H0 W191KHW0.1HA W191CNE0.1H0 W192KHW0.1HA W192CNE0.1H0
W193KHW0.1HA W193CNE0.1H0 W194KHW0.1HA W194CNE0.1H0 W195KHW0.1HA W195CNE0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

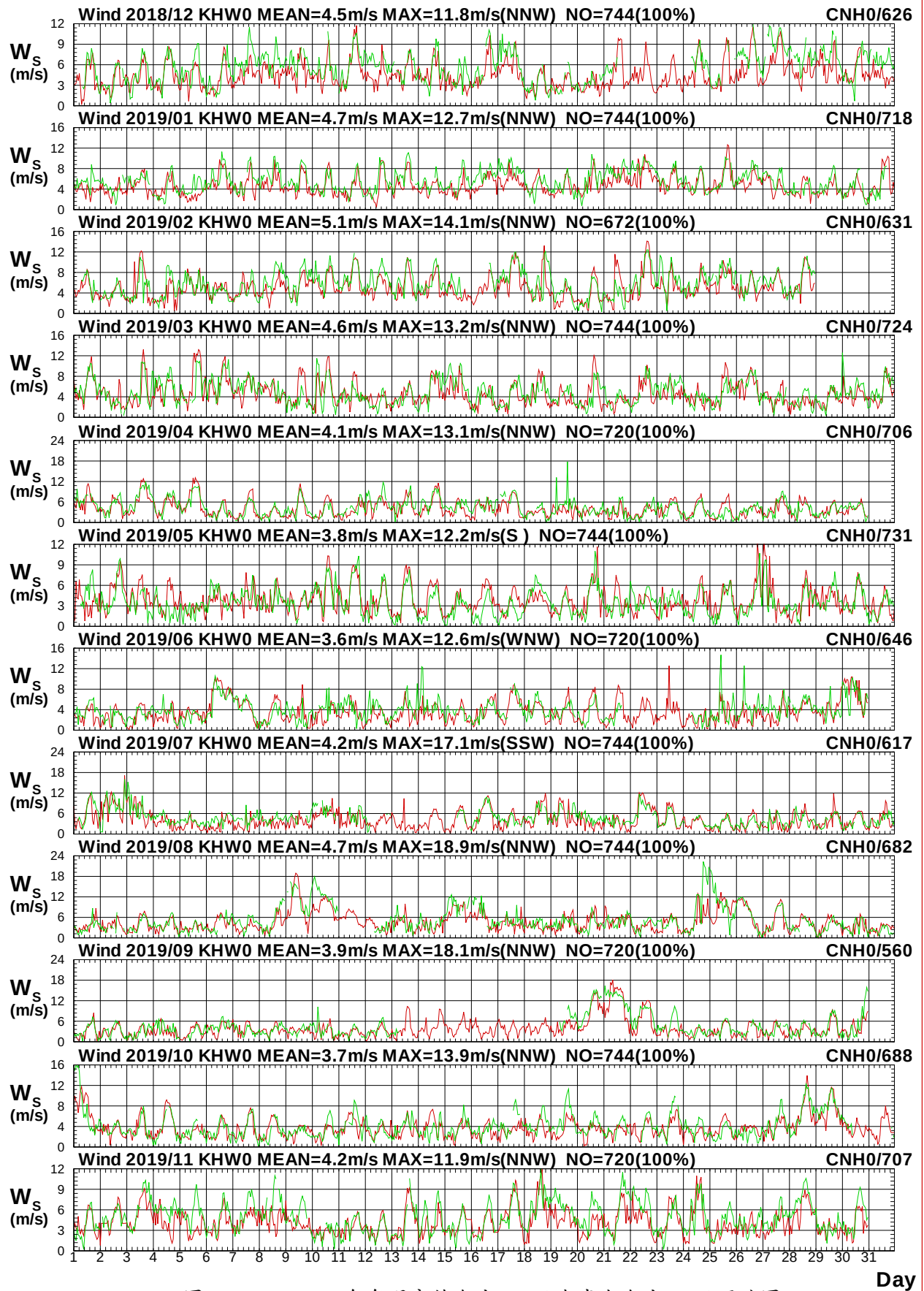


圖1.3.21a 2019年每月高雄海域 W 站與嘉南海域 H 站風速圖

W18CKHW0.1HA W18CCNH0.1H0 W191KHW0.1HA W191CNH0.1H0 W192KHW0.1HA W192CNH0.1H0
W193KHW0.1HA W193CNH0.1H0 W194KHW0.1HA W194CNH0.1H0 W195KHW0.1HA W195CNH0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

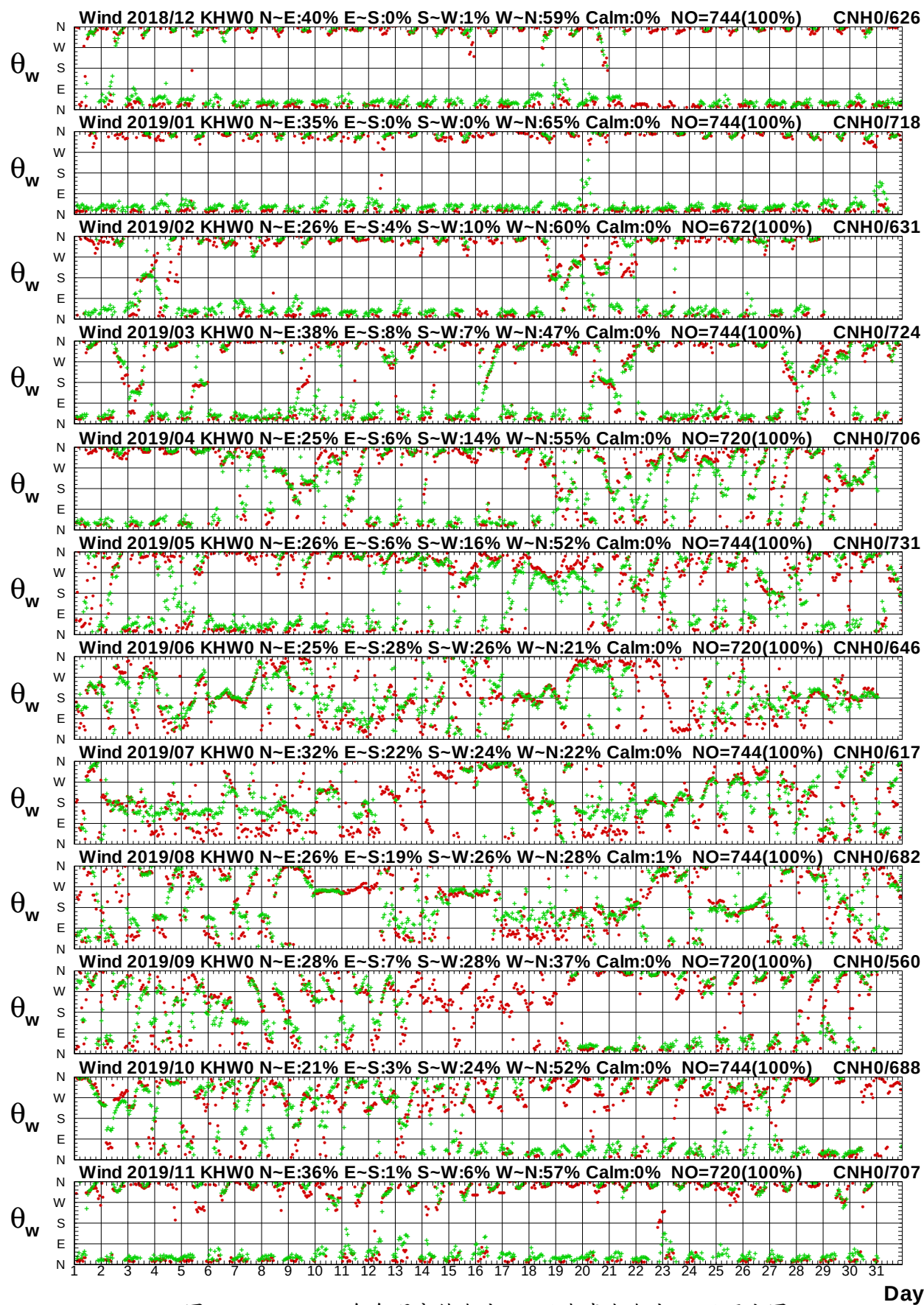


圖1.3.21b 2019年每月高雄海域 W 站與嘉南海域 H 站風向圖

W18CKHW0.1HA W18CCNH0.1H0 W191KHW0.1HA W191CNH0.1H0 W192KHW0.1HA W192CNH0.1H0
W193KHW0.1HA W193CNH0.1H0 W194KHW0.1HA W194CNH0.1H0 W195KHW0.1HA W195CNH0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

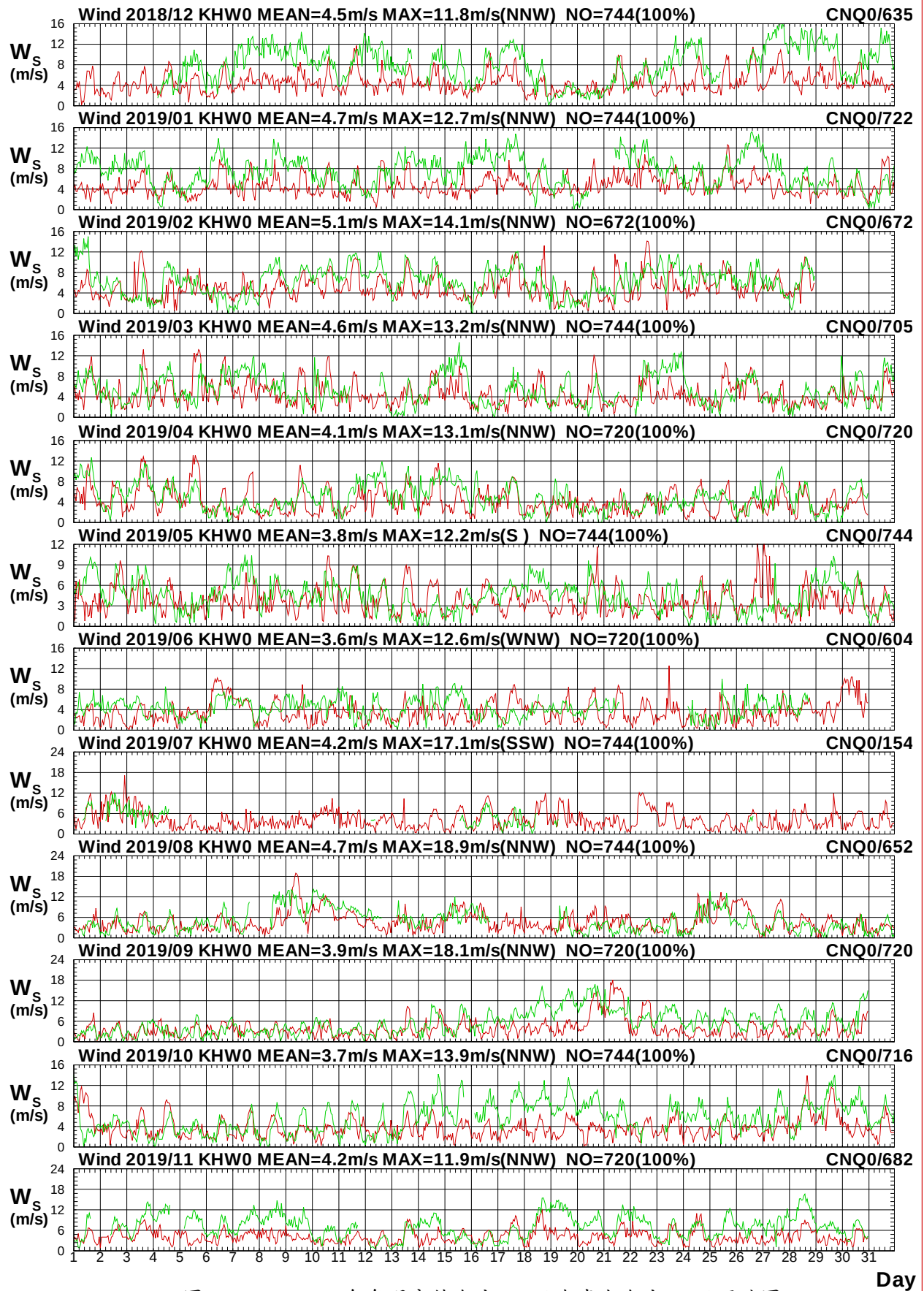


圖 1.3.22a 2019 年每月高雄海域 W 站與嘉南海域 Q 站風速圖

W18CKHW0.1HA W18CCNQ0.1H0 W191KHW0.1HA W191CNQ0.1H0 W192KHW0.1HA W192CNQ0.1H0
W193KHW0.1HA W193CNQ0.1H0 W194KHW0.1HA W194CNQ0.1H0 W195KHW0.1HA W195CNQ0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

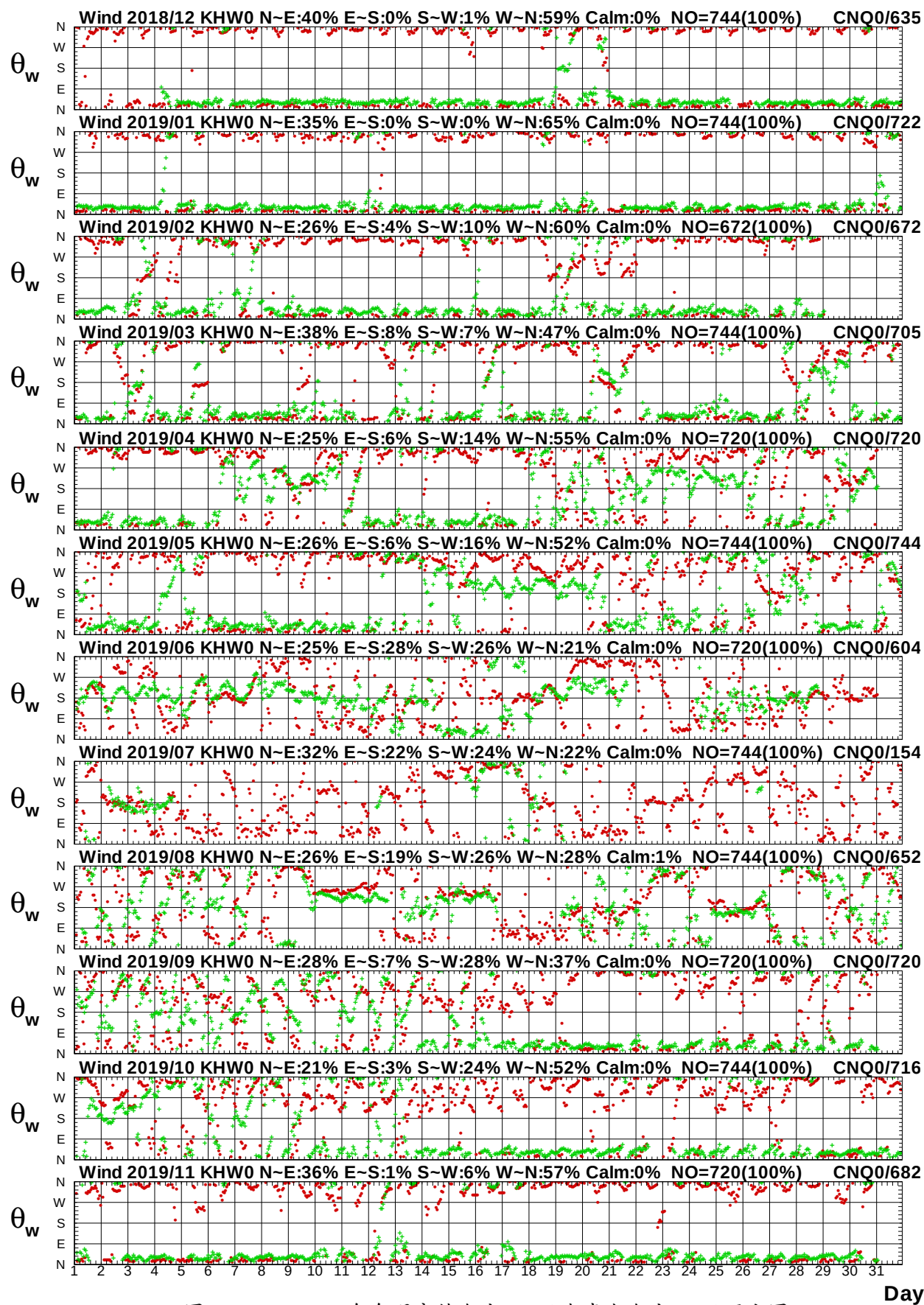


圖1.3.22b 2019年每月高雄海域 W 站與嘉南海域 Q 站風向圖

W18CKHW0.1HA W18CCNQ0.1H0 W191KHW0.1HA W191CNQ0.1H0 W192KHW0.1HA W192CNQ0.1H0
W193KHW0.1HA W193CNQ0.1H0 W194KHW0.1HA W194CNQ0.1H0 W195KHW0.1HA W195CNQ0.1H0

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Wind Speed in Kao-Hsiung Seas of KHW0 at 2019

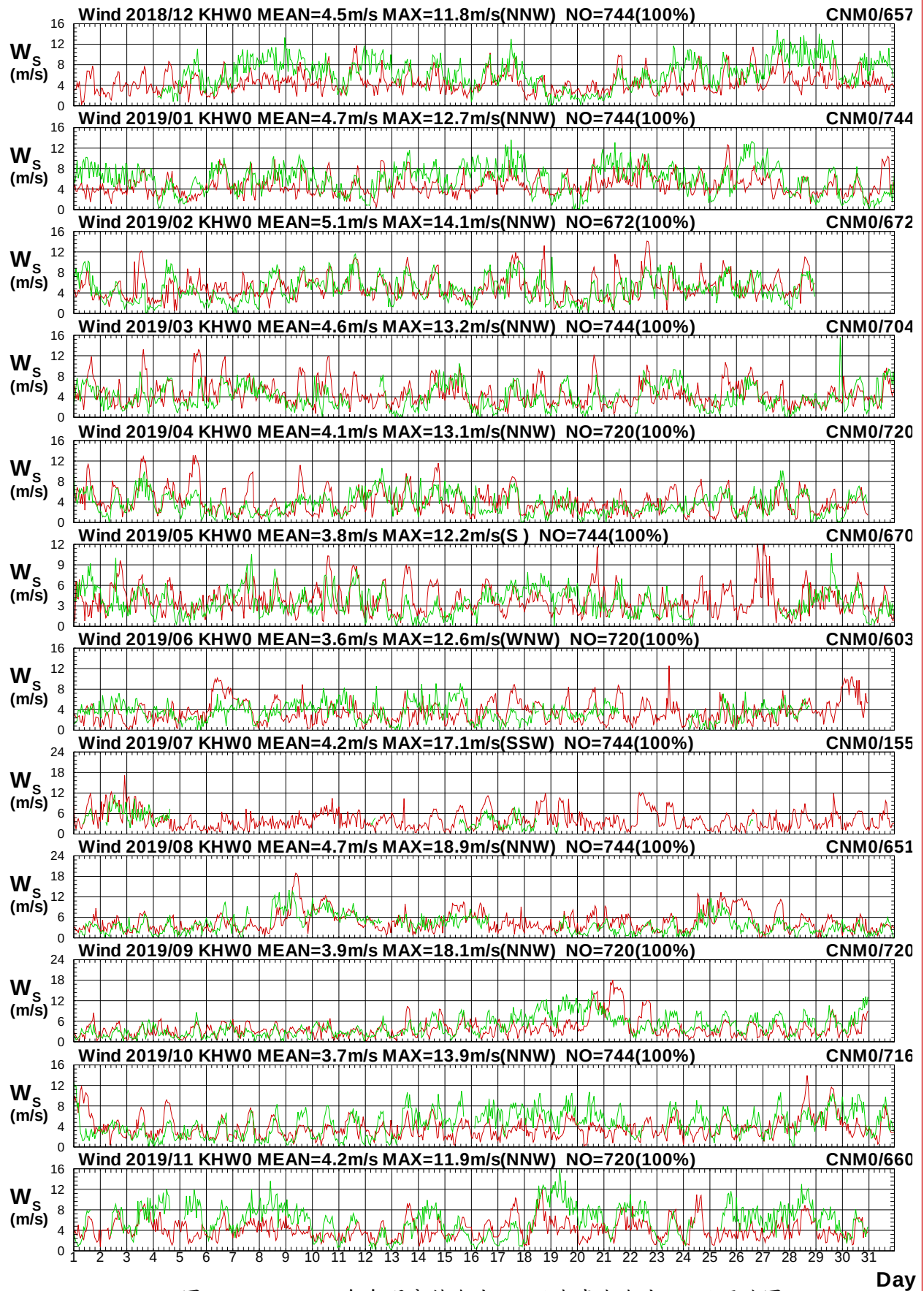


圖1.3.23a 2019年每月高雄海域 W 站與嘉南海域 M 站風速圖

W18CKHW0.1HA W18CCNM0.1H0 W191KHW0.1HA W191CNM0.1H0 W192KHW0.1HA W192CNM0.1H0

W193KHW0.1HA W193CNM0.1H0 W194KHW0.1HA W194CNM0.1H0 W195KHW0.1HA W195CNM0.1H0

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Wind Direction in Kao-Hsiung Seas of KHW0 at 2019

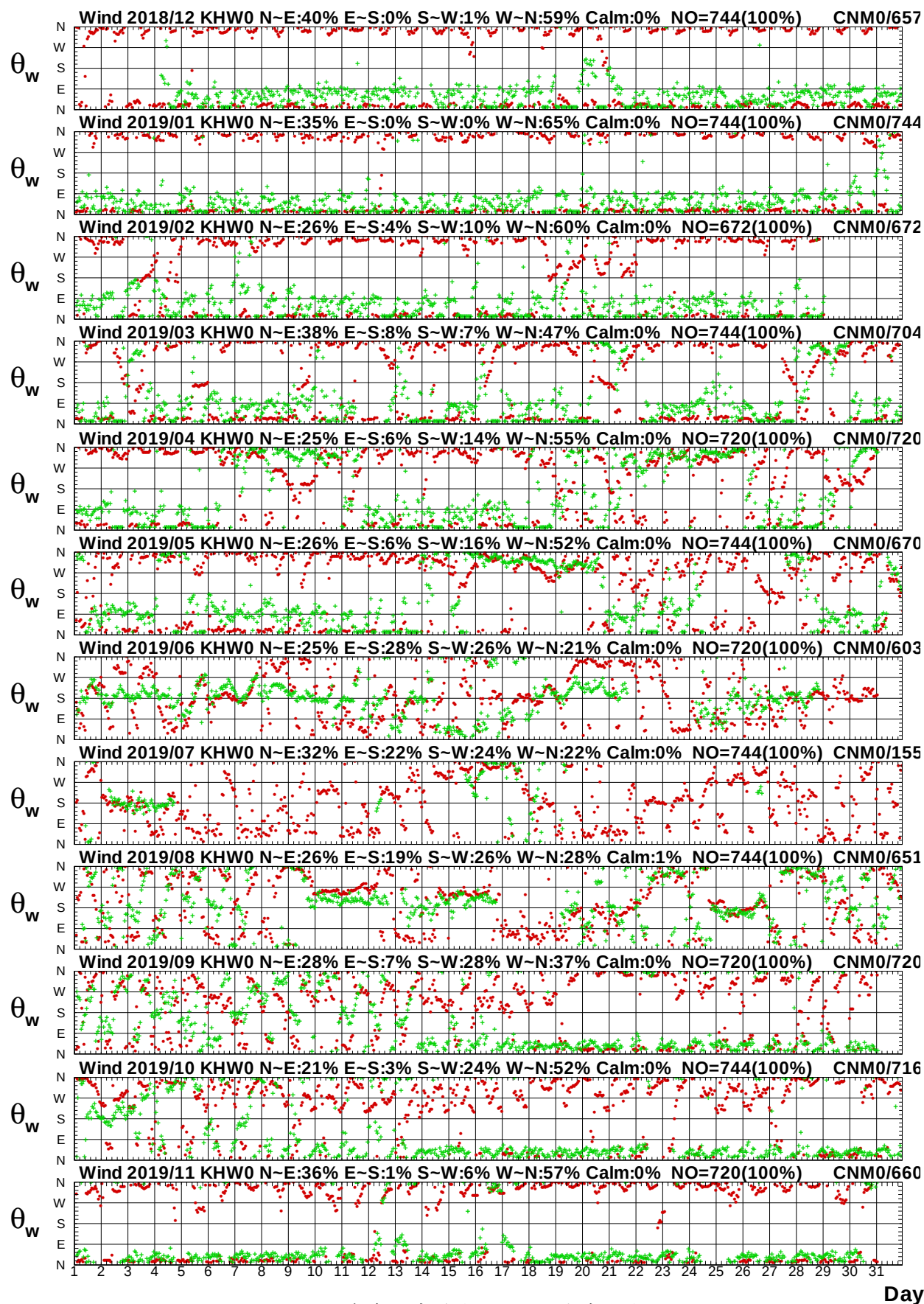


圖1.3.23b 2019年每月高雄海域 W 站與嘉南海域 M 站風向圖

W18CKHW0.1HA W18CCNM0.1H0 W191KHW0.1HA W191CNM0.1H0 W192KHW0.1HA W192CNM0.1H0

W193KHW0.1HA W193CNM0.1H0 W194KHW0.1HA W194CNM0.1H0 W195KHW0.1HA W195CNM0.1H0

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1.4 2019 年高雄海域風力主要測站 2(修補後) 與其他測站(修補前)每月風力歷線比較圖

Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

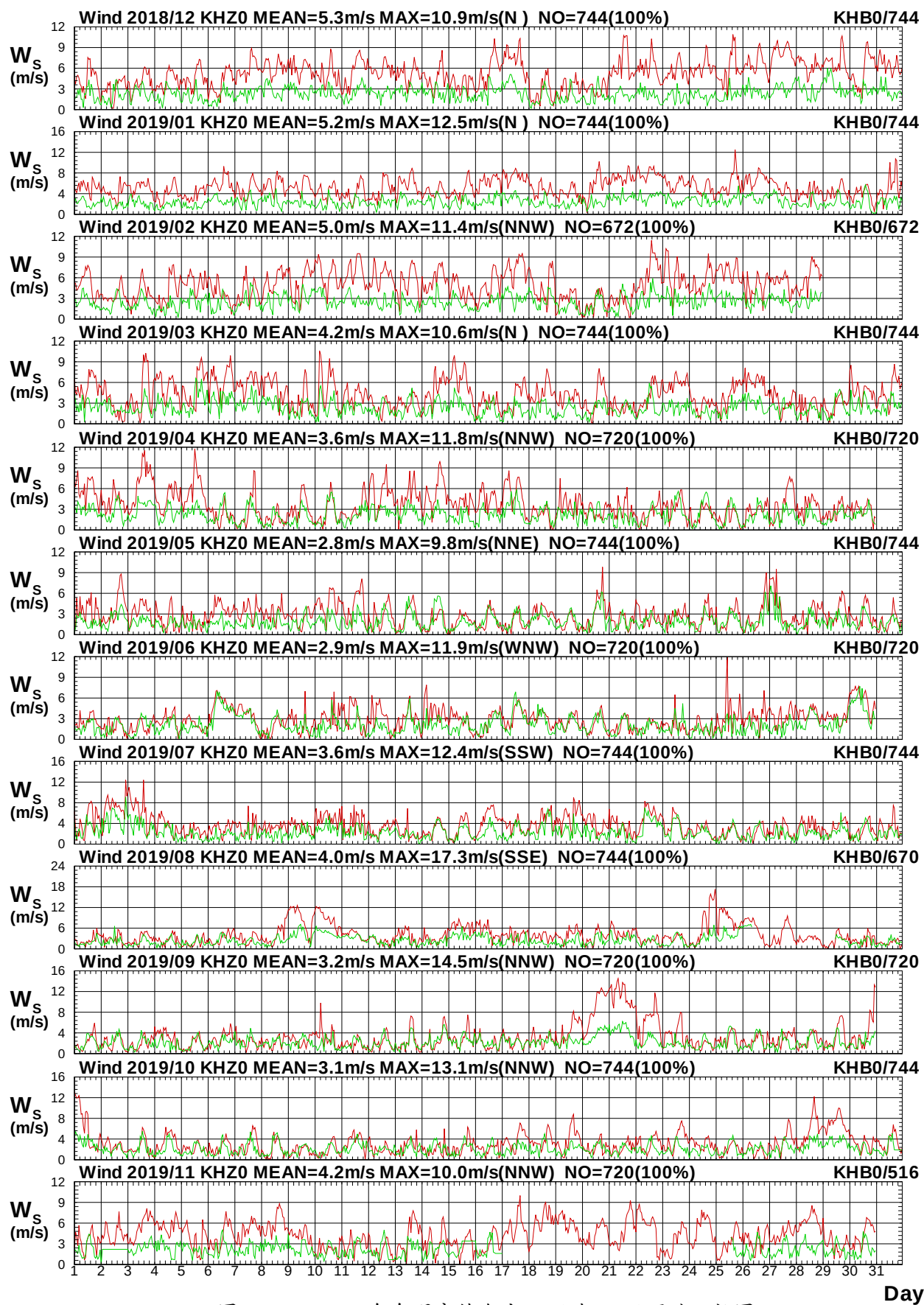


圖1.4.1a 2019年每月高雄海域 Z 站與 B 站風速比較圖

W18CKHZ0.1HA W18CKHB0.1H0 W191KHZ0.1HA W191KHB0.1H0 W192KHZ0.1HA W192KHB0.1H0
W193KHZ0.1HA W193KHB0.1H0 W194KHZ0.1HA W194KHB0.1H0 W195KHZ0.1HA W195KHB0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

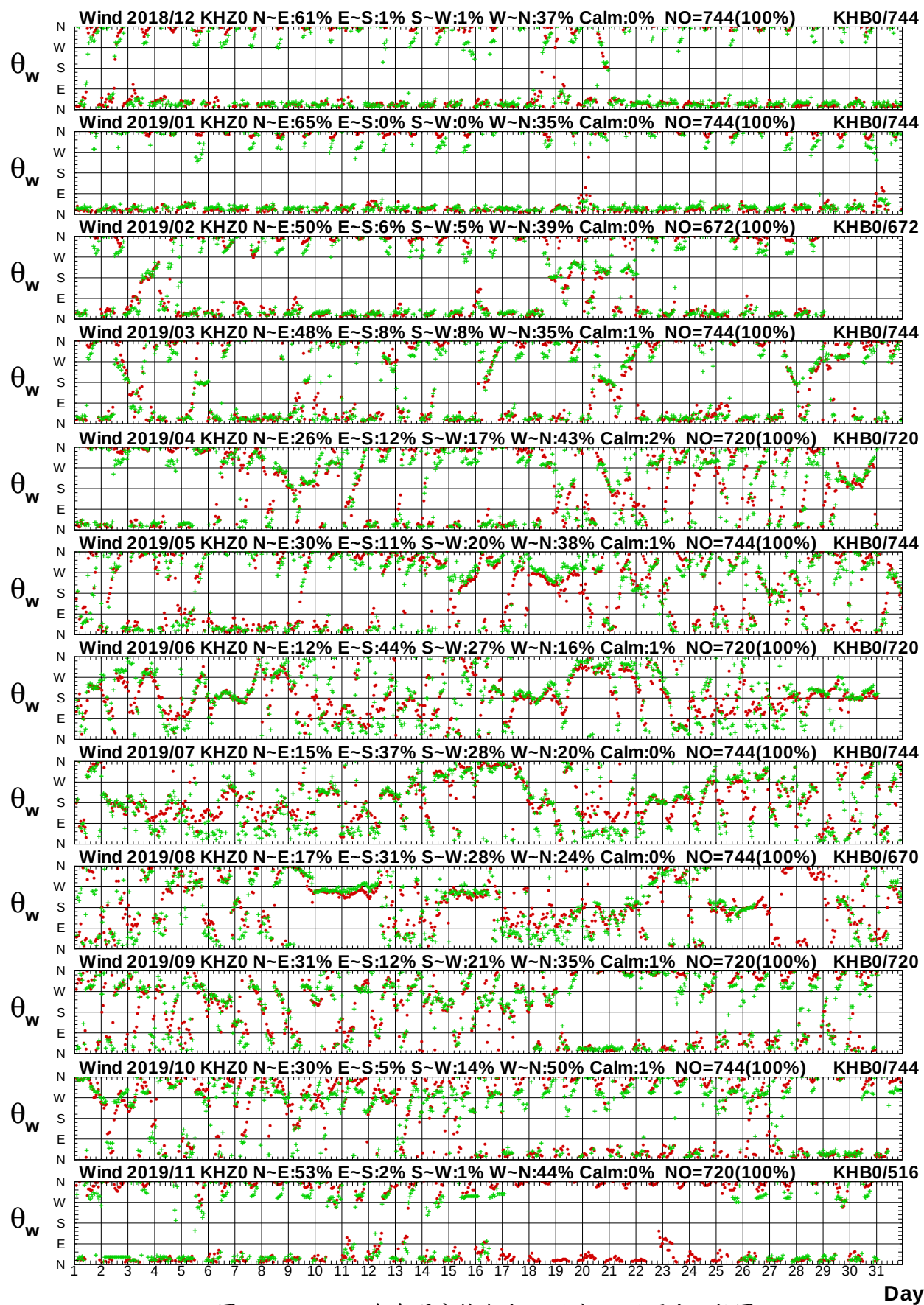


圖1.4.1b 2019年每月高雄海域 Z 站與 B 站風向比較圖

W18CKHZ0.1HA W18CKHB0.1H0 W191KHZ0.1HA W191KHB0.1H0 W192KHZ0.1HA W192KHB0.1H0
W193KHZ0.1HA W193KHB0.1H0 W194KHZ0.1HA W194KHB0.1H0 W195KHZ0.1HA W195KHB0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

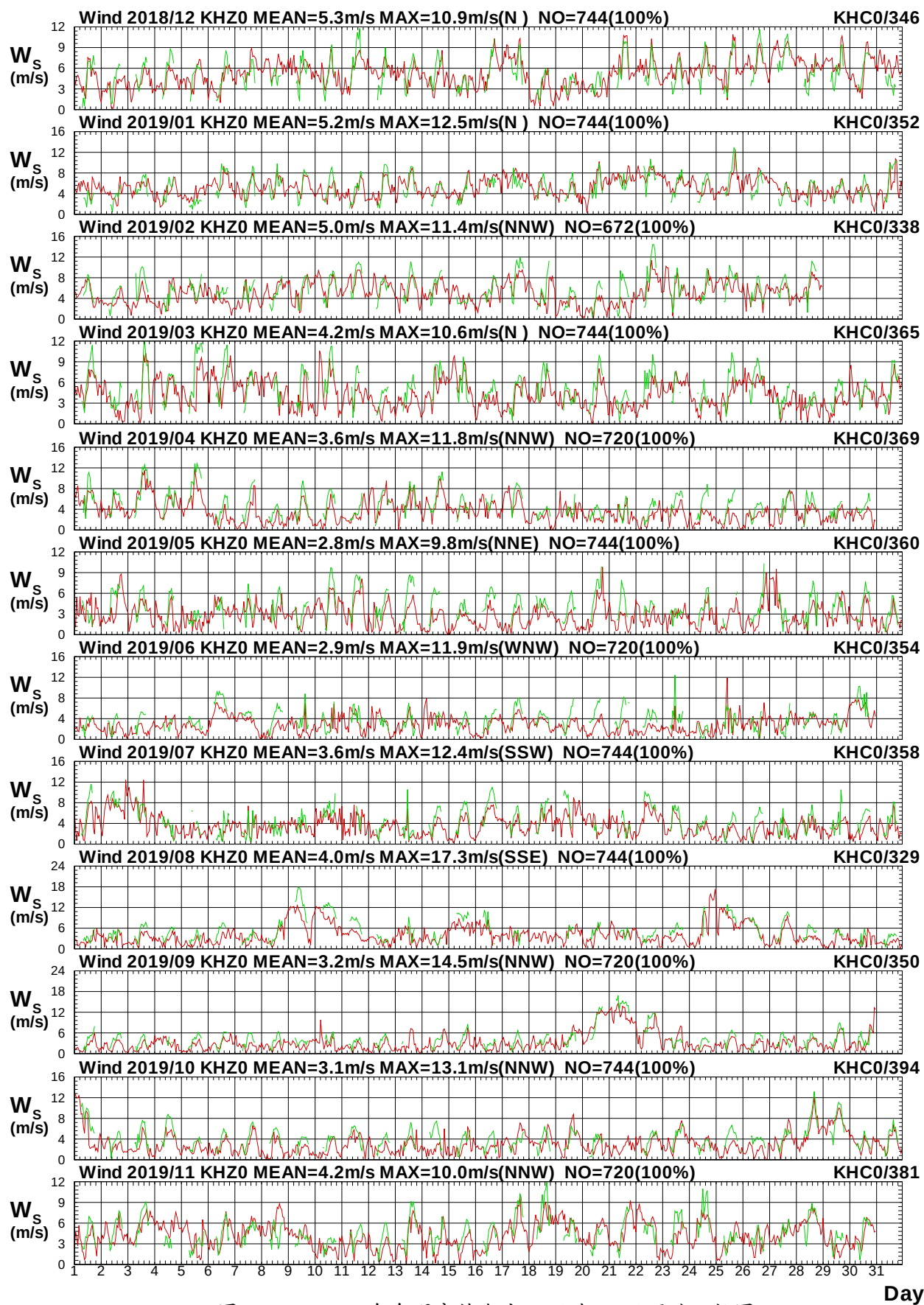


圖1.4.2a 2019年每月高雄海域 Z 站與 C 站風速比較圖

W18CKHZ0.1HA W18CKHC0.1H0 W191KHZ0.1HA W191KHC0.1H0 W192KHZ0.1HA W192KHC0.1H0
W193KHZ0.1HA W193KHC0.1H0 W194KHZ0.1HA W194KHC0.1H0 W195KHZ0.1HA W195KHC0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

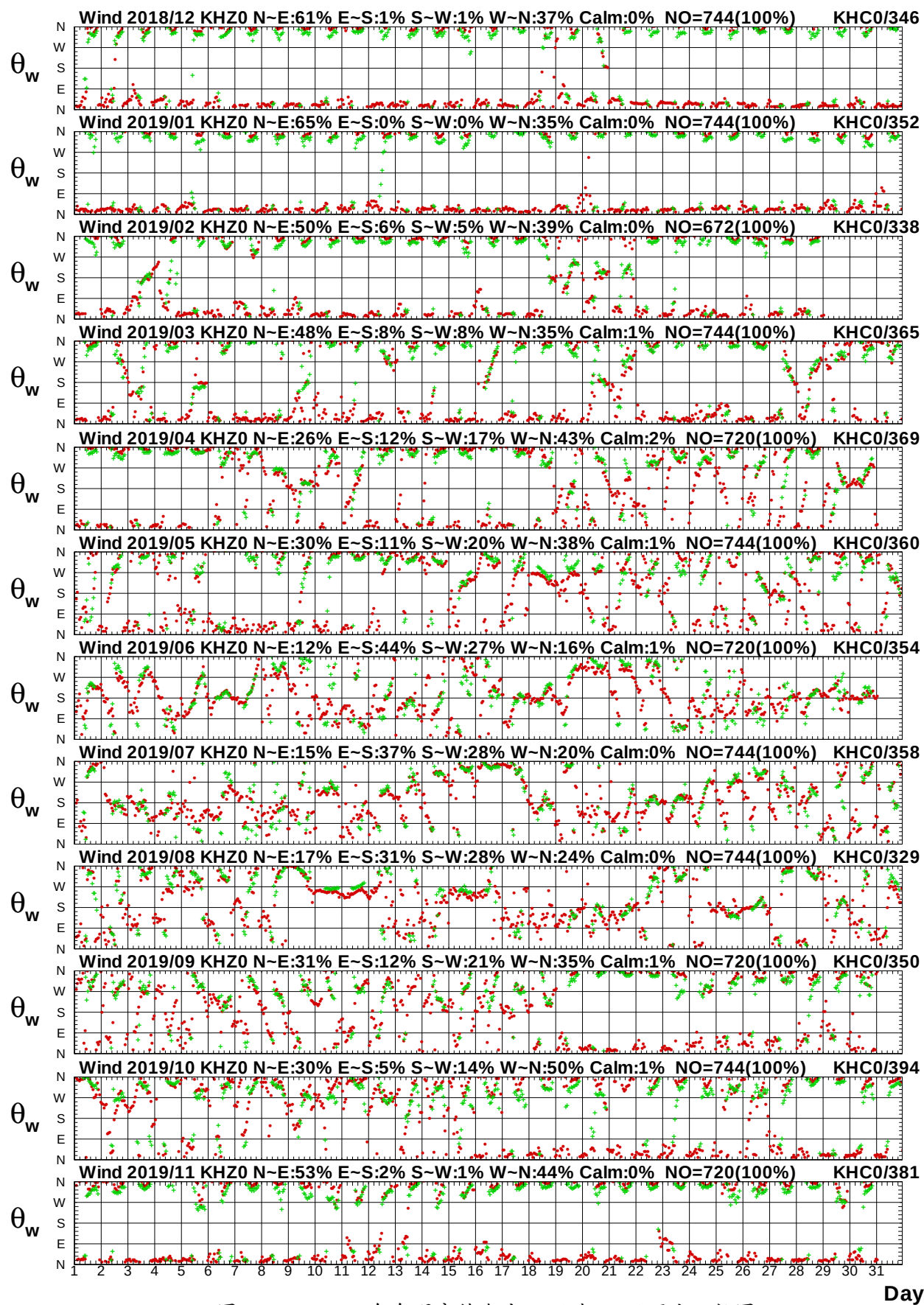


圖1.4.2b 2019年每月高雄海域 Z 站與 C 站風向比較圖

W18CKHZ0.1HA W18CKHC0.1H0 W191KHZ0.1HA W191KHC0.1H0 W192KHZ0.1HA W192KHC0.1H0
W193KHZ0.1HA W193KHC0.1H0 W194KHZ0.1HA W194KHC0.1H0 W195KHZ0.1HA W195KHC0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

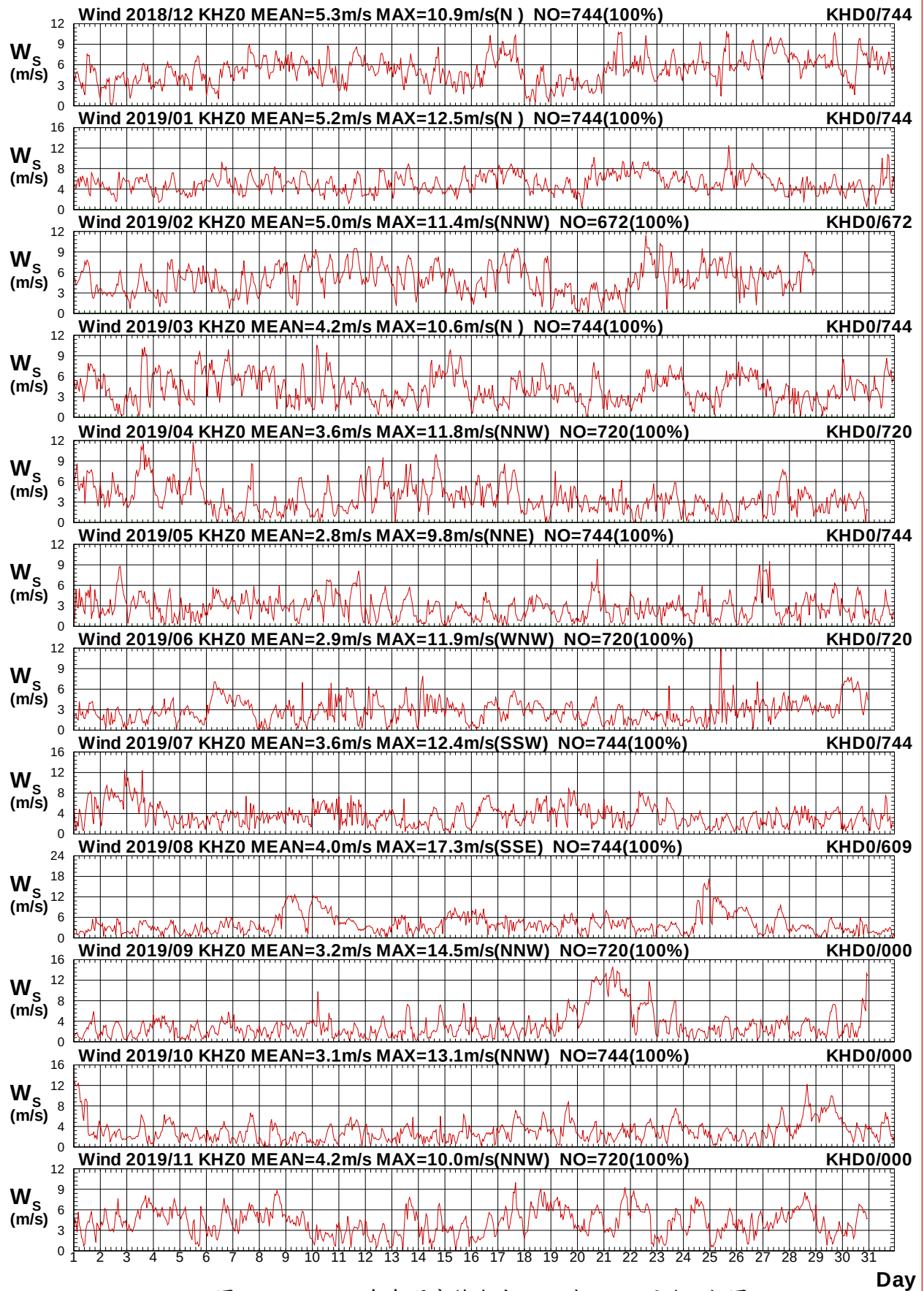


圖1.4.3a 2019年每月高雄海域 Z 站與 D 站風速比較圖

W18CKHZ0.1HA W18CKHD0.1H0 W191KHZ0.1HA W191KHD0.1H0 W192KHZ0.1HA W192KHD0.1H0
W193KHZ0.1HA W193KHD0.1H0 W194KHZ0.1HA W194KHD0.1H0 W195KHZ0.1HA W195KHD0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

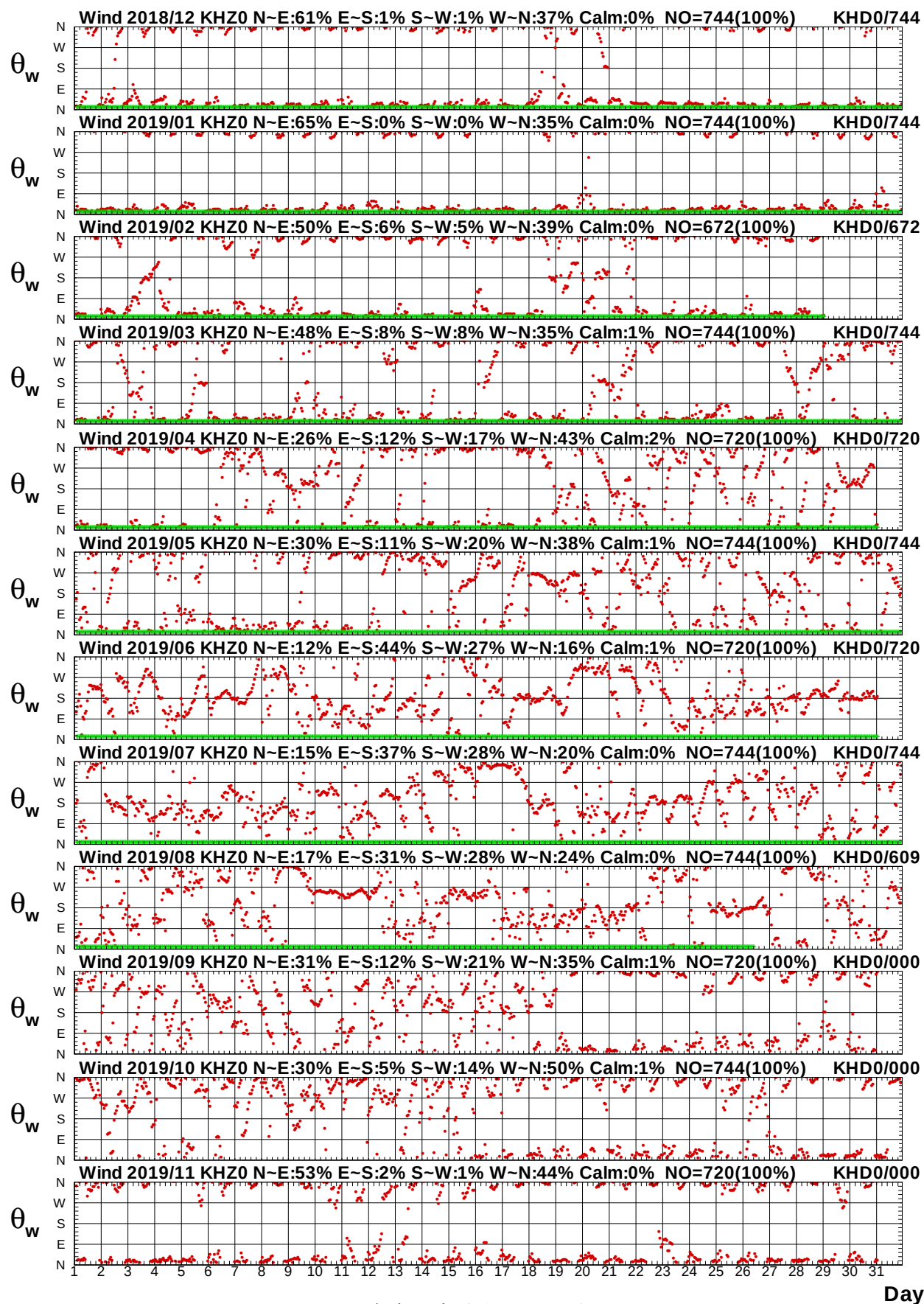


圖1.4.3b 2019年每月高雄海域 Z 站與 D 站風向比較圖

W18CKHZ0.1HA W18CKHD0.1H0 W191KHZ0.1HA W191KHD0.1H0 W192KHZ0.1HA W192KHD0.1H0
W193KHZ0.1HA W193KHD0.1H0 W194KHZ0.1HA W194KHD0.1H0 W195KHZ0.1HA W195KHD0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

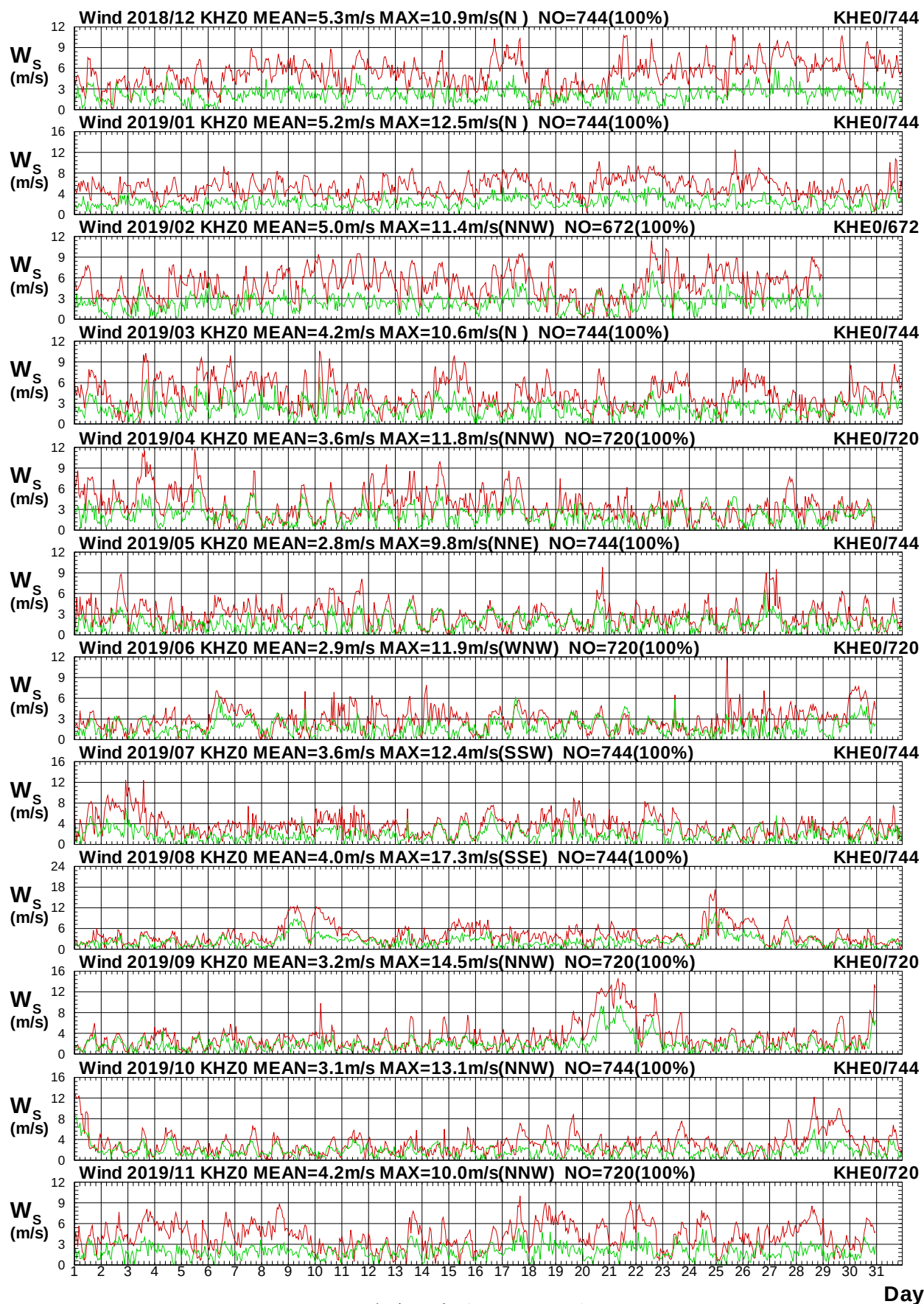


圖1.4.4a 2019年每月高雄海域 Z 站與 E 站風速比較圖

W18CKHZ0.1HA W18CKHE0.1H0 W191KHZ0.1HA W191KHE0.1H0 W192KHZ0.1HA W192KHE0.1H0
W193KHZ0.1HA W193KHE0.1H0 W194KHZ0.1HA W194KHE0.1H0 W195KHZ0.1HA W195KHE0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

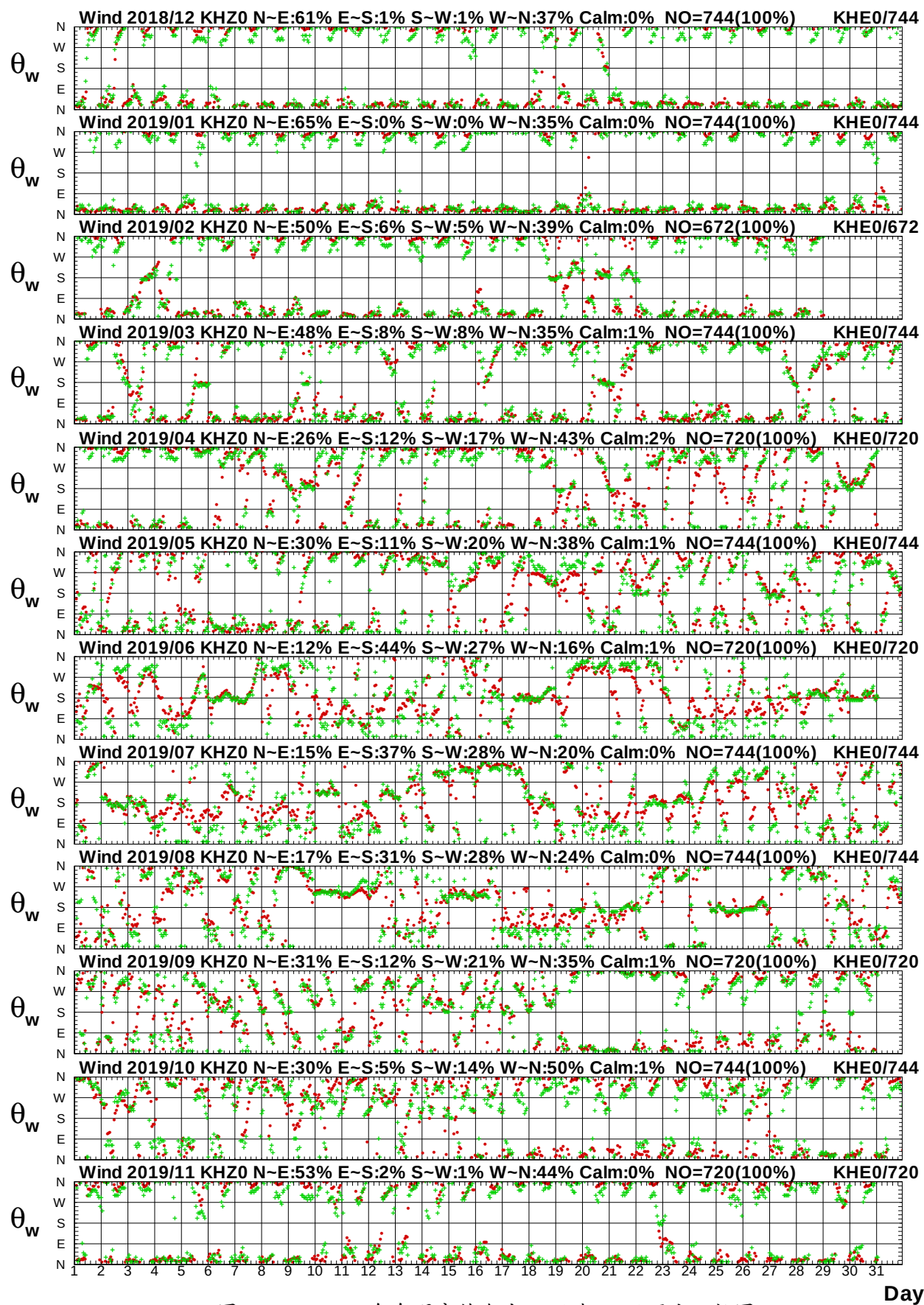


圖1.4.4b 2019年每月高雄海域 Z 站與 E 站風向比較圖

W18CKHZ0.1HA W18CKHE0.1H0 W191KHZ0.1HA W191KHE0.1H0 W192KHZ0.1HA W192KHE0.1H0
W193KHZ0.1HA W193KHE0.1H0 W194KHZ0.1HA W194KHE0.1H0 W195KHZ0.1HA W195KHE0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

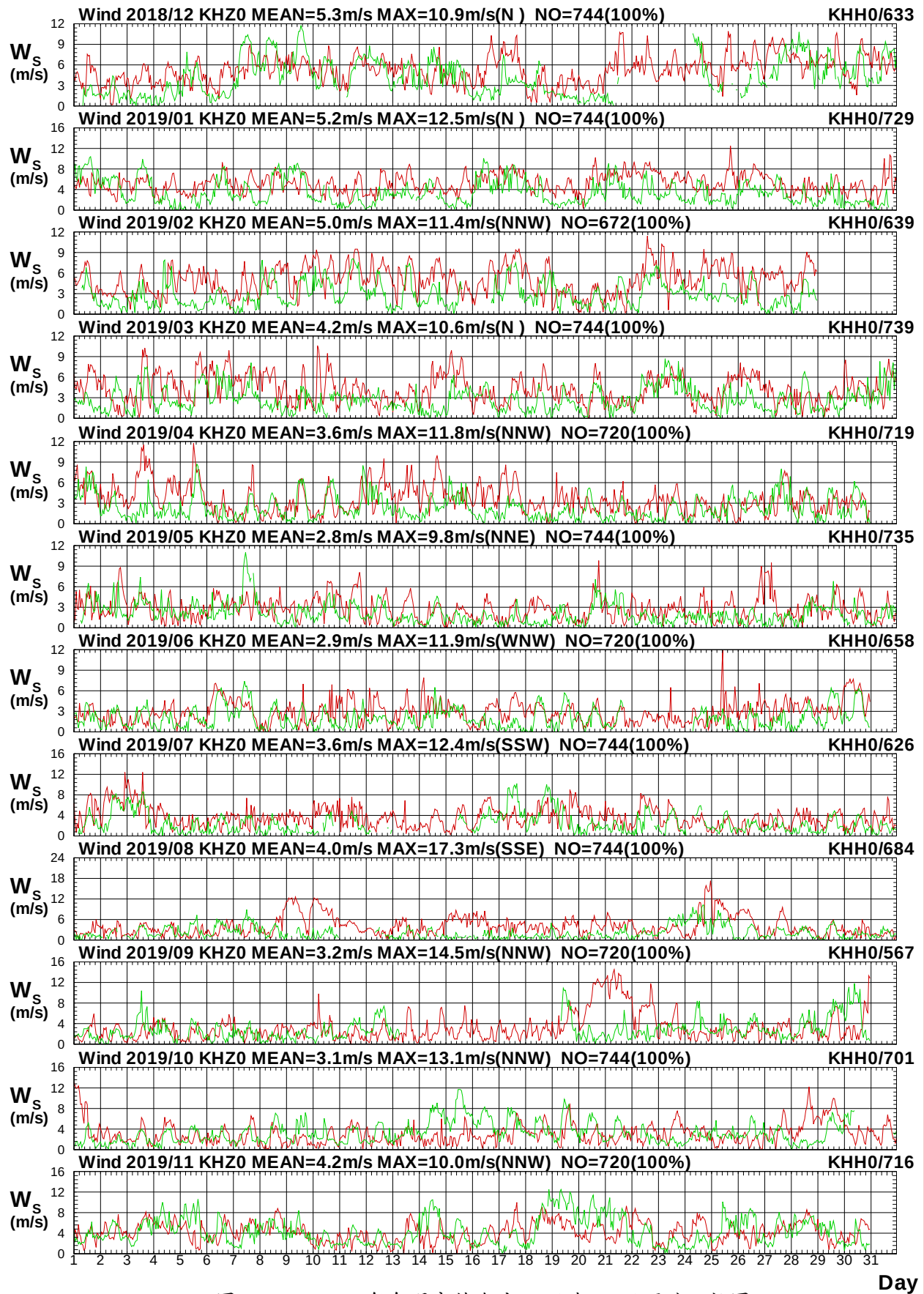


圖1.4.5a 2019年每月高雄海域 Z 站與 H 站風速比較圖

W18CKHZ0.1HA W18CKHH0.1H0 W191KHZ0.1HA W191KHH0.1H0 W192KHZ0.1HA W192KHH0.1H0
W193KHZ0.1HA W193KHH0.1H0 W194KHZ0.1HA W194KHH0.1H0 W195KHZ0.1HA W195KHH0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

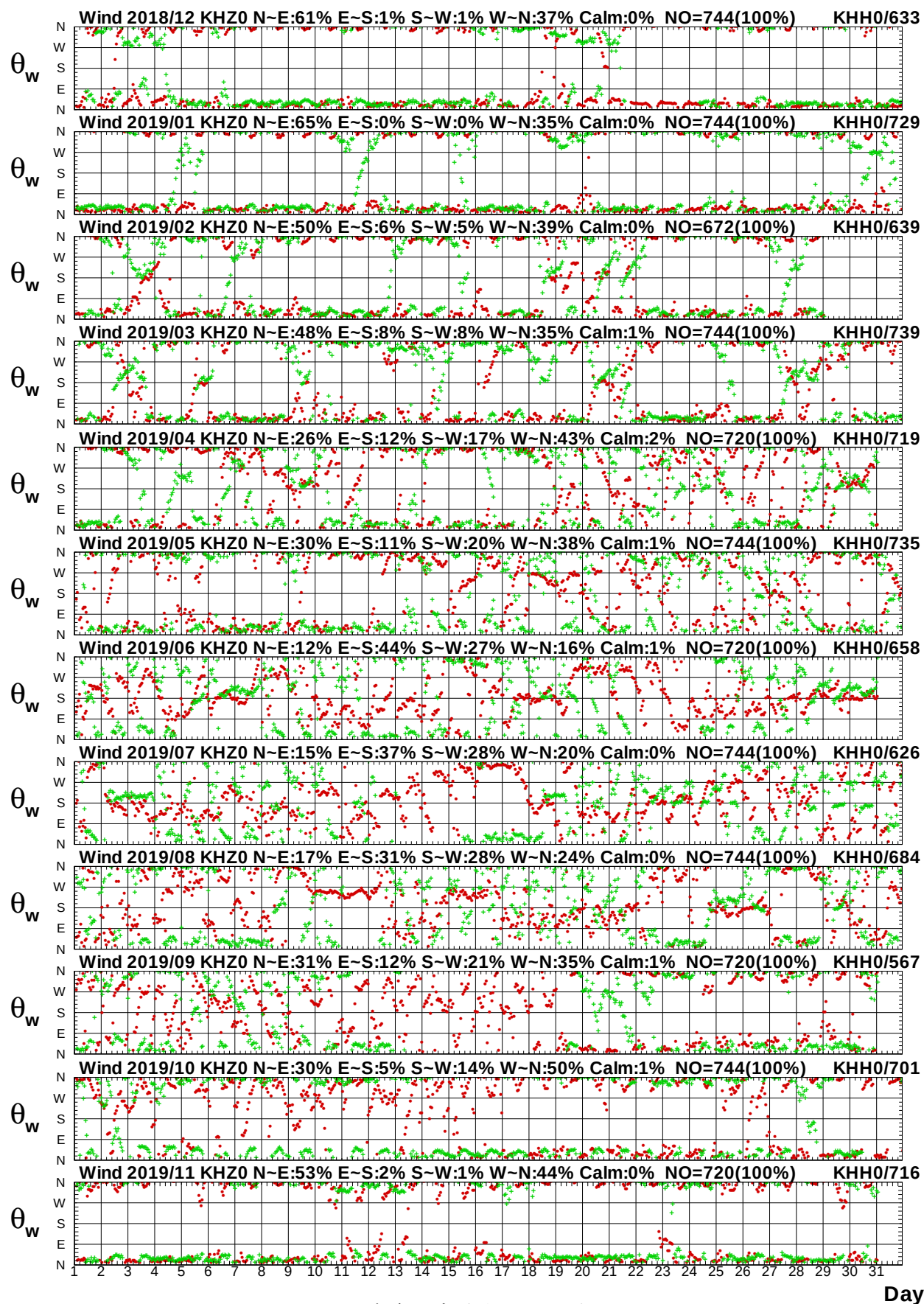


圖1.4.5b 2019年每月高雄海域 Z 站與 H 站風向比較圖

W18CKHZ0.1HA W18CKHH0.1H0 W191KHZ0.1HA W191KHH0.1H0 W192KHZ0.1HA W192KHH0.1H0
W193KHZ0.1HA W193KHH0.1H0 W194KHZ0.1HA W194KHH0.1H0 W195KHZ0.1HA W195KHH0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

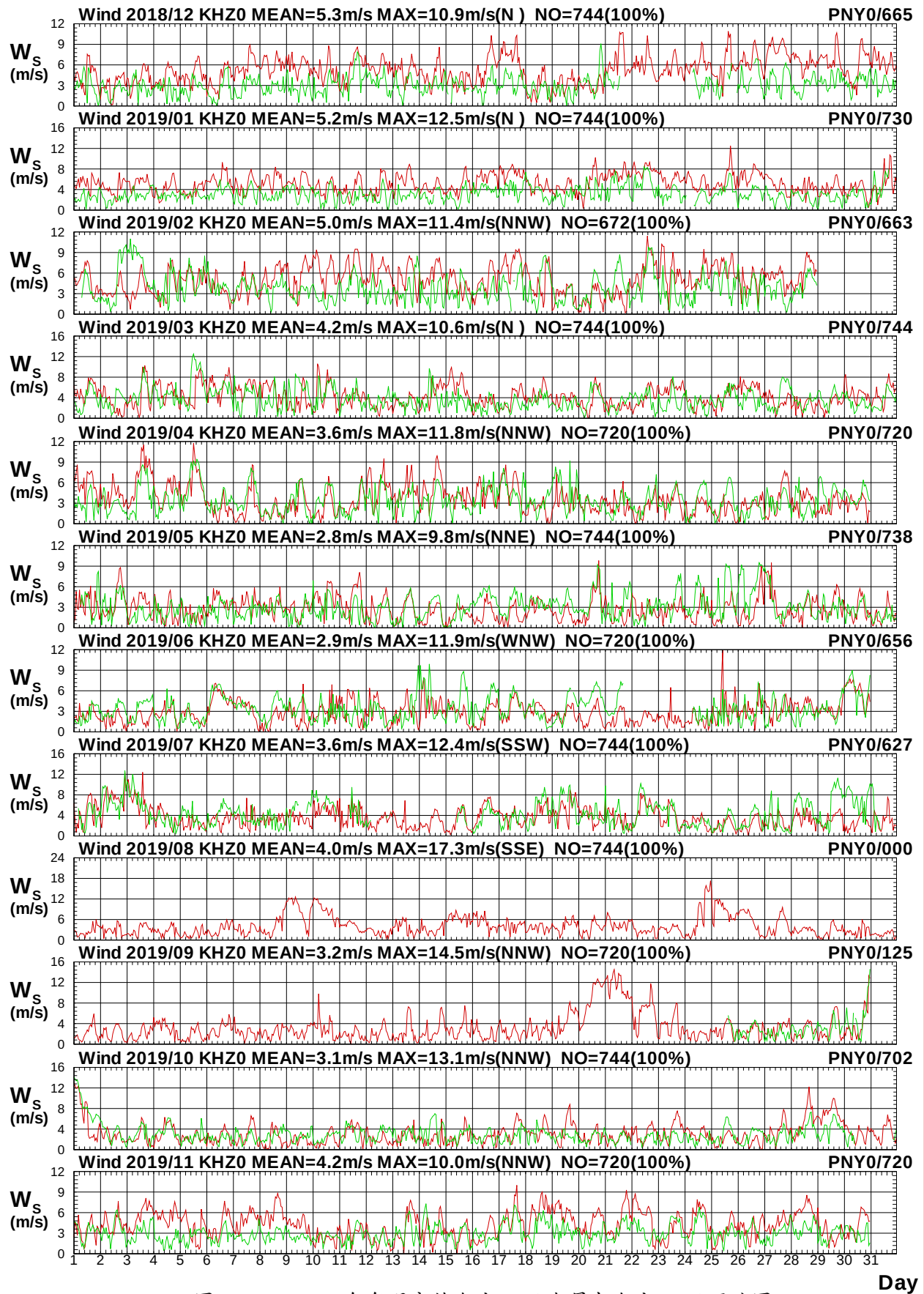


圖1.4.6a 2019年每月高雄海域 Z 站與屏東海域 Y 站風速圖

W18CKHZ0.1HA W18CPNY0.1H0 W191KHZ0.1HA W191PNY0.1H0 W192KHZ0.1HA W192PNY0.1H0
W193KHZ0.1HA W193PNY0.1H0 W194KHZ0.1HA W194PNY0.1H0 W195KHZ0.1HA W195PNY0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

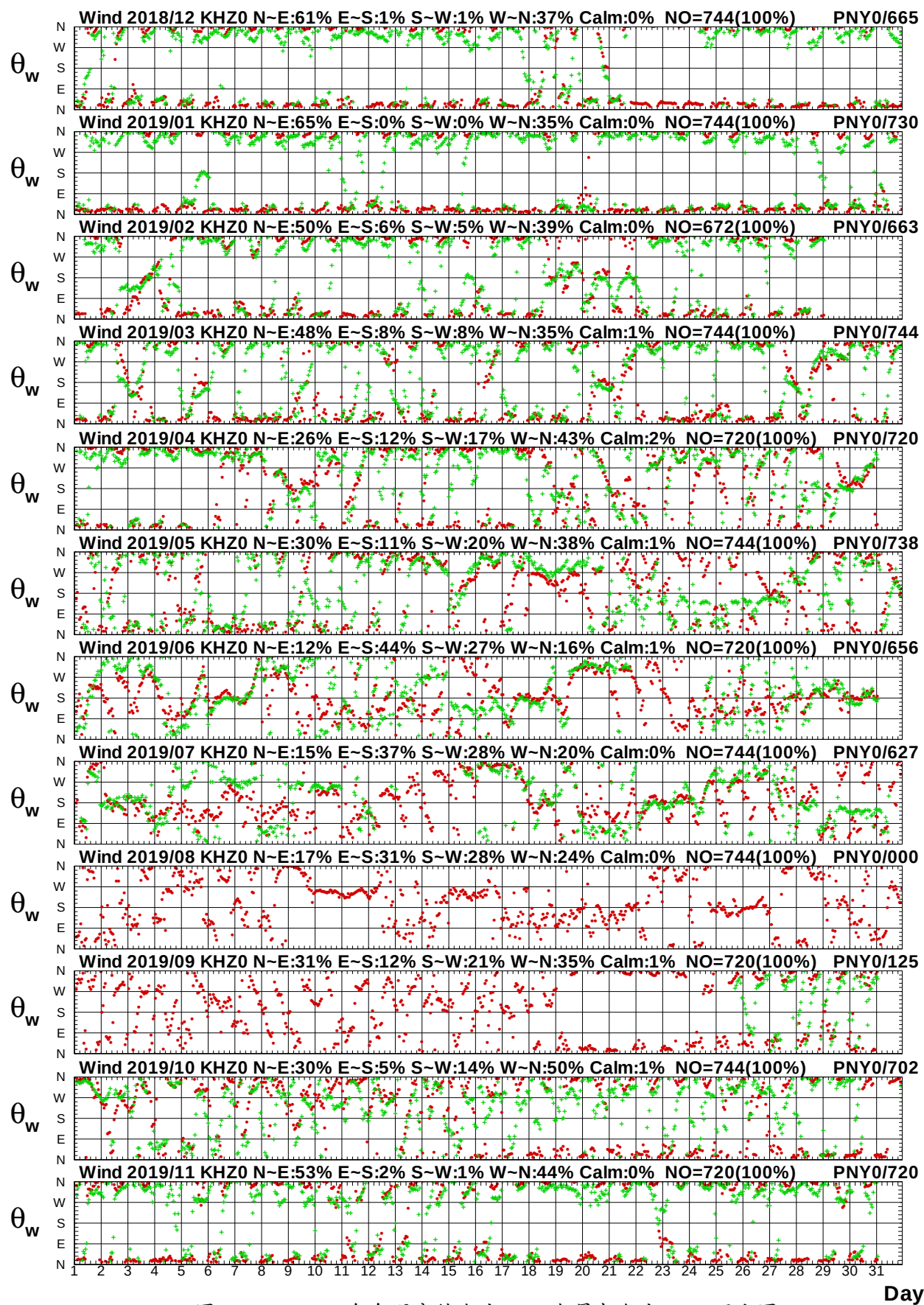


圖1.4.6b 2019年每月高雄海域 Z 站與屏東海域 Y 站風向圖

W18CKHZ0.1HA W18CPNY0.1H0 W191KHZ0.1HA W191PNY0.1H0 W192KHZ0.1HA W192PNY0.1H0
W193KHZ0.1HA W193PNY0.1H0 W194KHZ0.1HA W194PNY0.1H0 W195KHZ0.1HA W195PNY0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

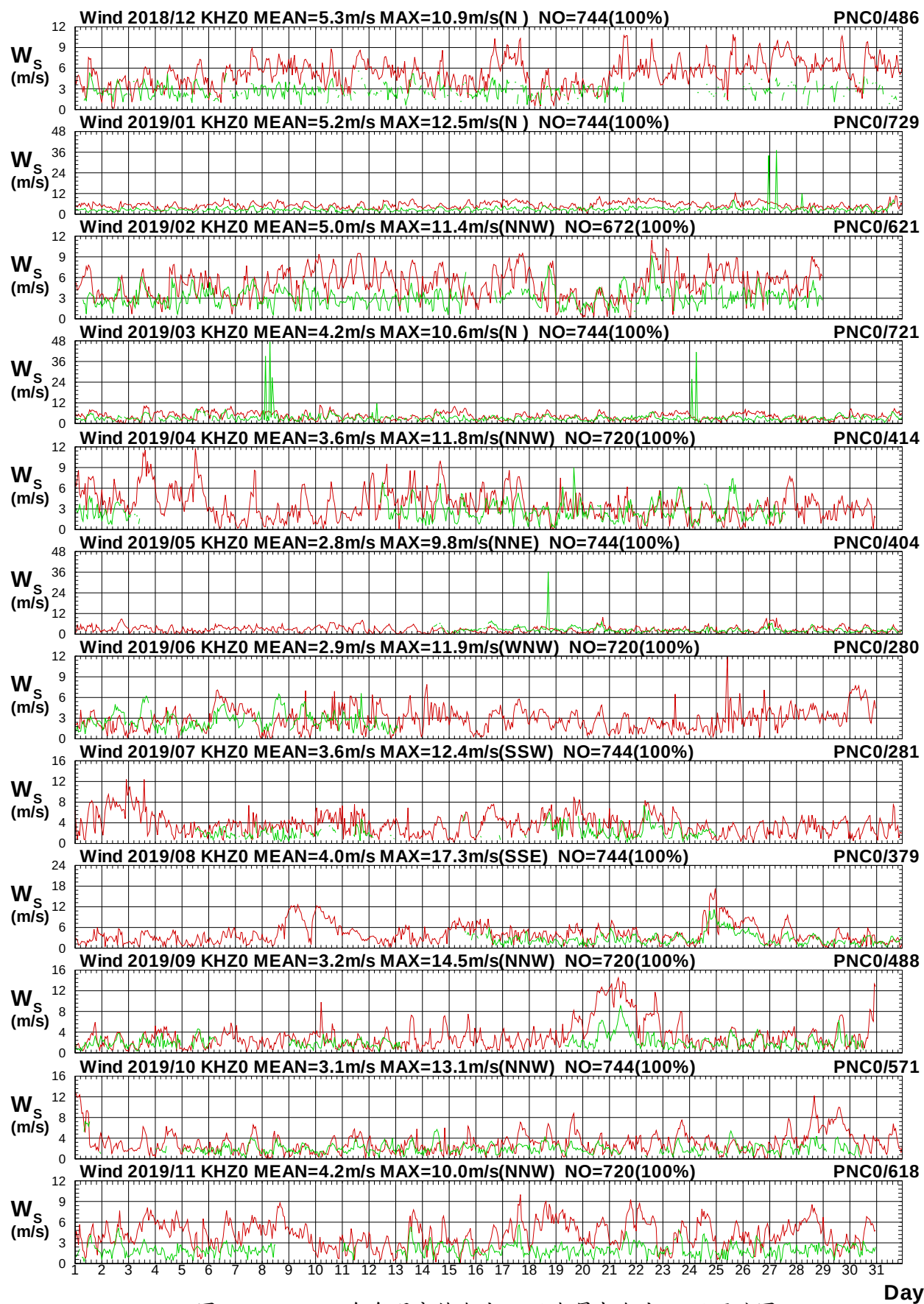


圖1.4.7a 2019年每月高雄海域 Z 站與屏東海域 C 站風速圖

W18CKHZ0.1HA W18CPNC0.1H0 W191KHZ0.1HA W191PNC0.1H0 W192KHZ0.1HA W192PNC0.1H0
W193KHZ0.1HA W193PNC0.1H0 W194KHZ0.1HA W194PNC0.1H0 W195KHZ0.1HA W195PNC0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

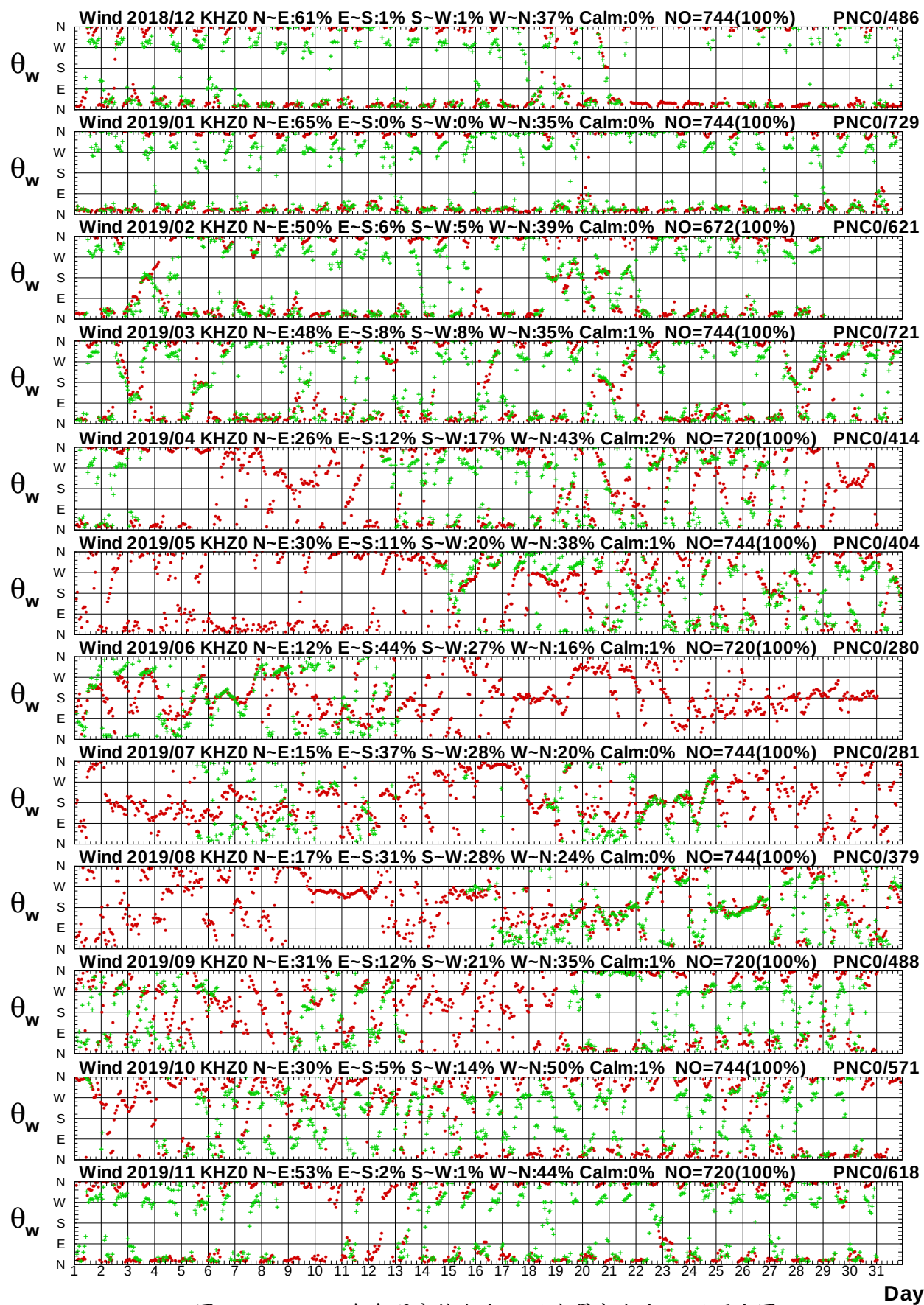


圖1.4.7b 2019年每月高雄海域 Z 站與屏東海域 C 站風向圖

W18CKHZ0.1HA W18CPNC0.1H0 W191KHZ0.1HA W191PNC0.1H0 W192KHZ0.1HA W192PNC0.1H0
W193KHZ0.1HA W193PNC0.1H0 W194KHZ0.1HA W194PNC0.1H0 W195KHZ0.1HA W195PNC0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

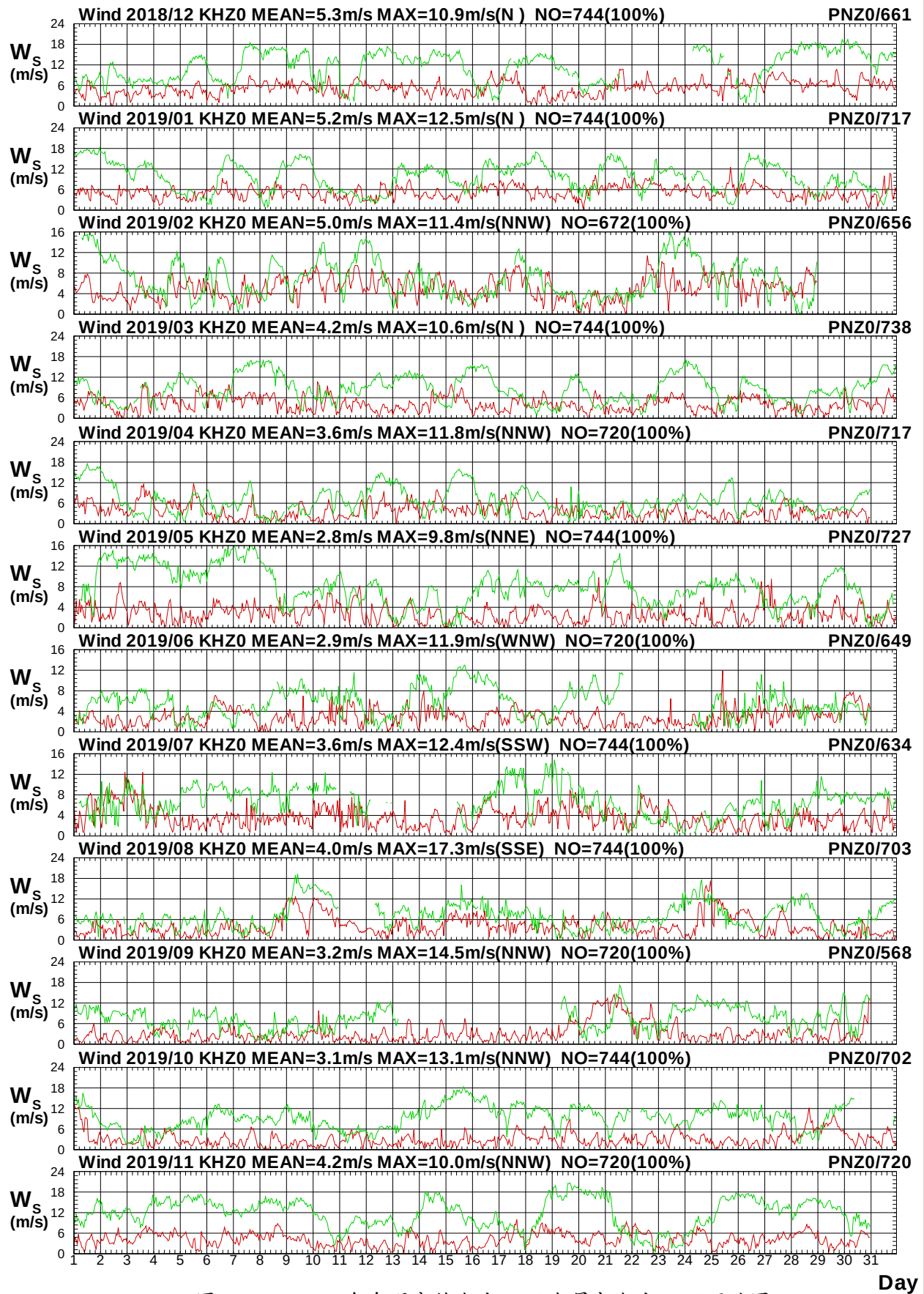


圖1.4.8a 2019年每月高雄海域 Z 站與屏東海域 Z 站風速圖

W18CKHZ0.1HA W18CPNZ0.1H0 W191KHZ0.1HA W191PNZ0.1H0 W192KHZ0.1HA W192PNZ0.1H0
W193KHZ0.1HA W193PNZ0.1H0 W194KHZ0.1HA W194PNZ0.1H0 W195KHZ0.1HA W195PNZ0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

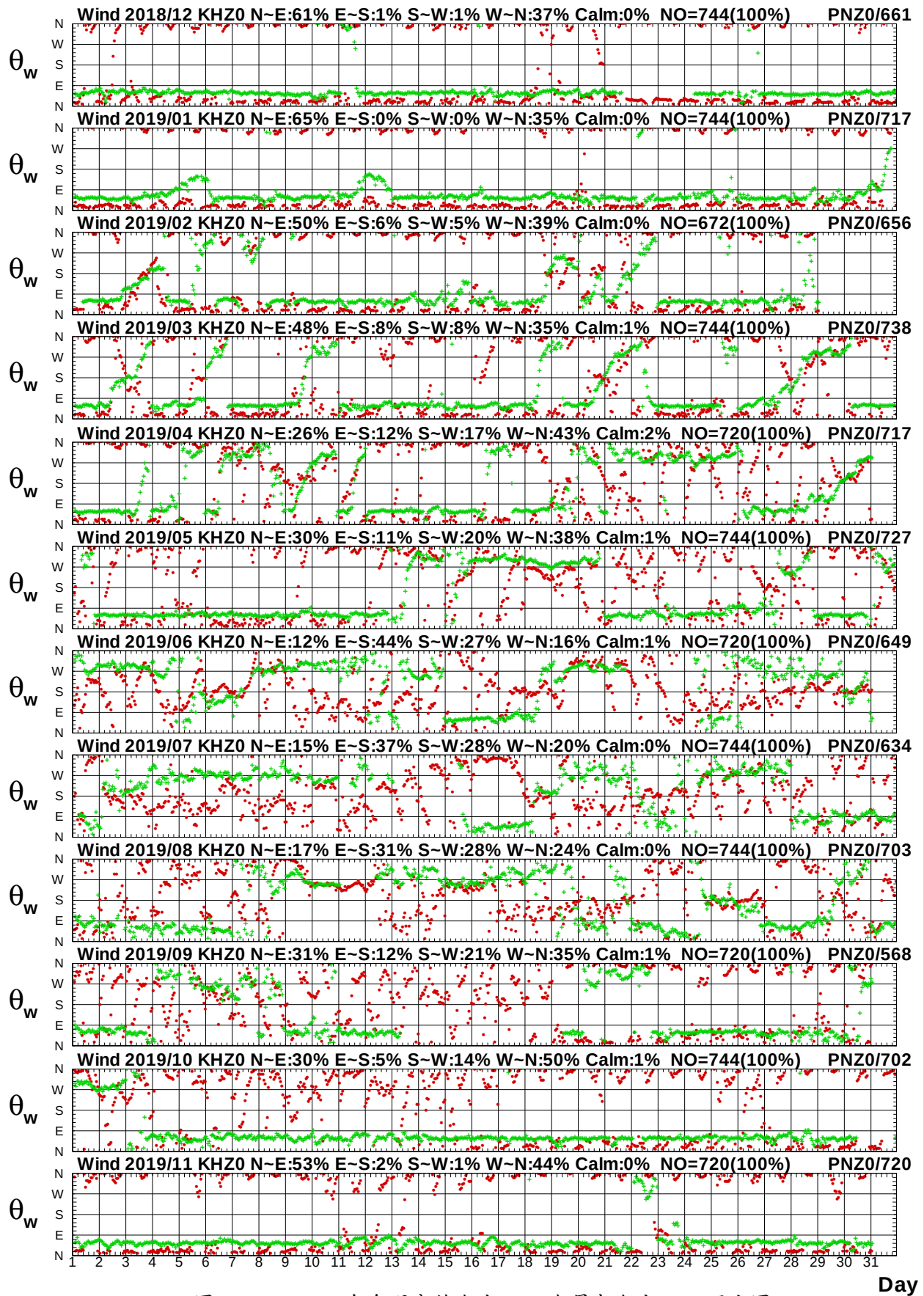


圖1.4.8b 2019年每月高雄海域 Z 站與屏東海域 Z 站風向圖

W18CKHZ0.1HA W18CPNZ0.1H0 W191KHZ0.1HA W191PNZ0.1H0 W192KHZ0.1HA W192PNZ0.1H0
W193KHZ0.1HA W193PNZ0.1H0 W194KHZ0.1HA W194PNZ0.1H0 W195KHZ0.1HA W195PNZ0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

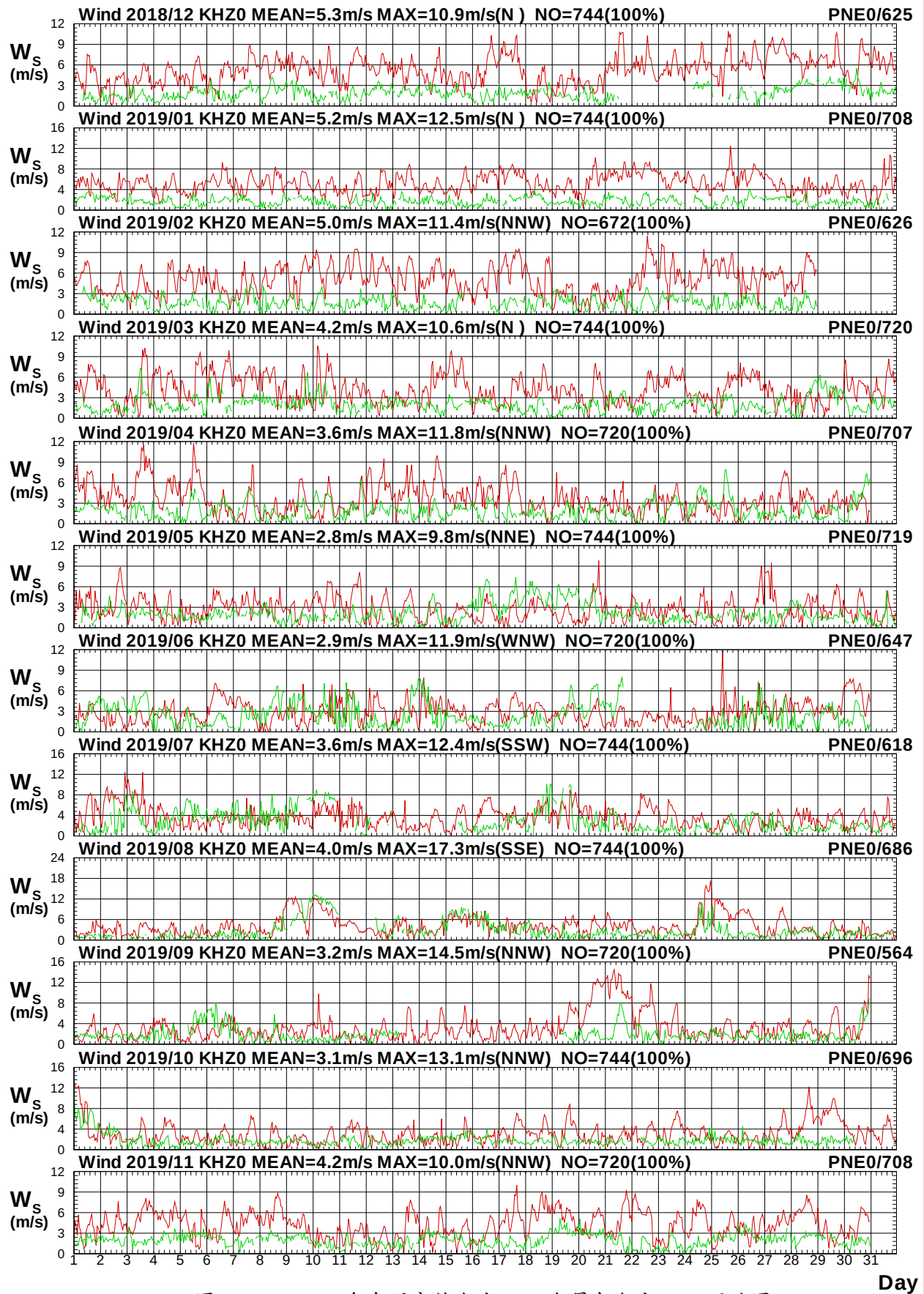


圖1.4.9a 2019年每月高雄海域 Z 站與屏東海域 E 站風速圖

W18CKHZ0.1HA W18CPNE0.1H0 W191KHZ0.1HA W191PNE0.1H0 W192KHZ0.1HA W192PNE0.1H0
W193KHZ0.1HA W193PNE0.1H0 W194KHZ0.1HA W194PNE0.1H0 W195KHZ0.1HA W195PNE0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

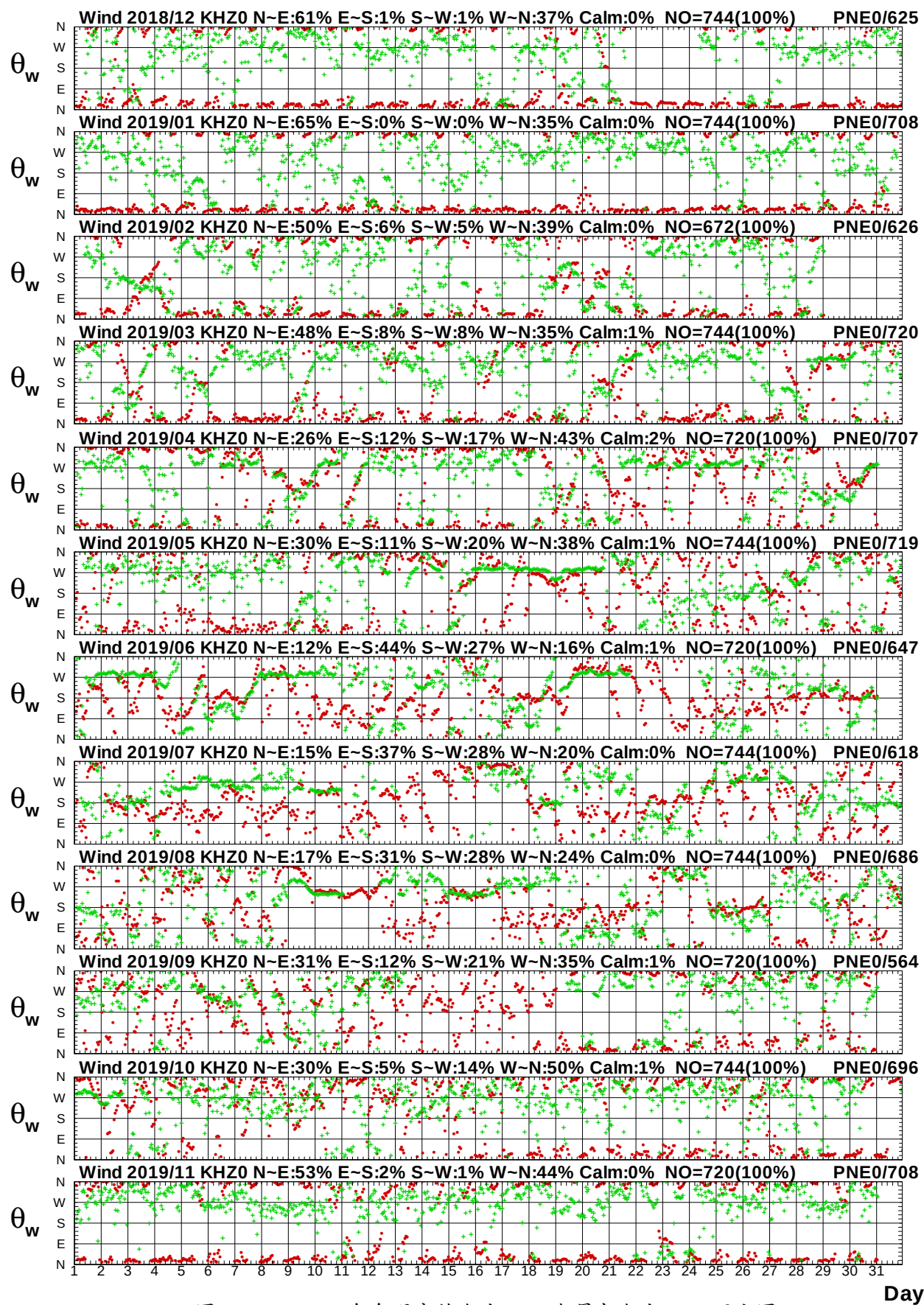


圖1.4.9b 2019年每月高雄海域 Z 站與屏東海域 E 站風向圖

W18CKHZ0.1HA W18CPNE0.1H0 W191KHZ0.1HA W191PNE0.1H0 W192KHZ0.1HA W192PNE0.1H0
W193KHZ0.1HA W193PNE0.1H0 W194KHZ0.1HA W194PNE0.1H0 W195KHZ0.1HA W195PNE0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

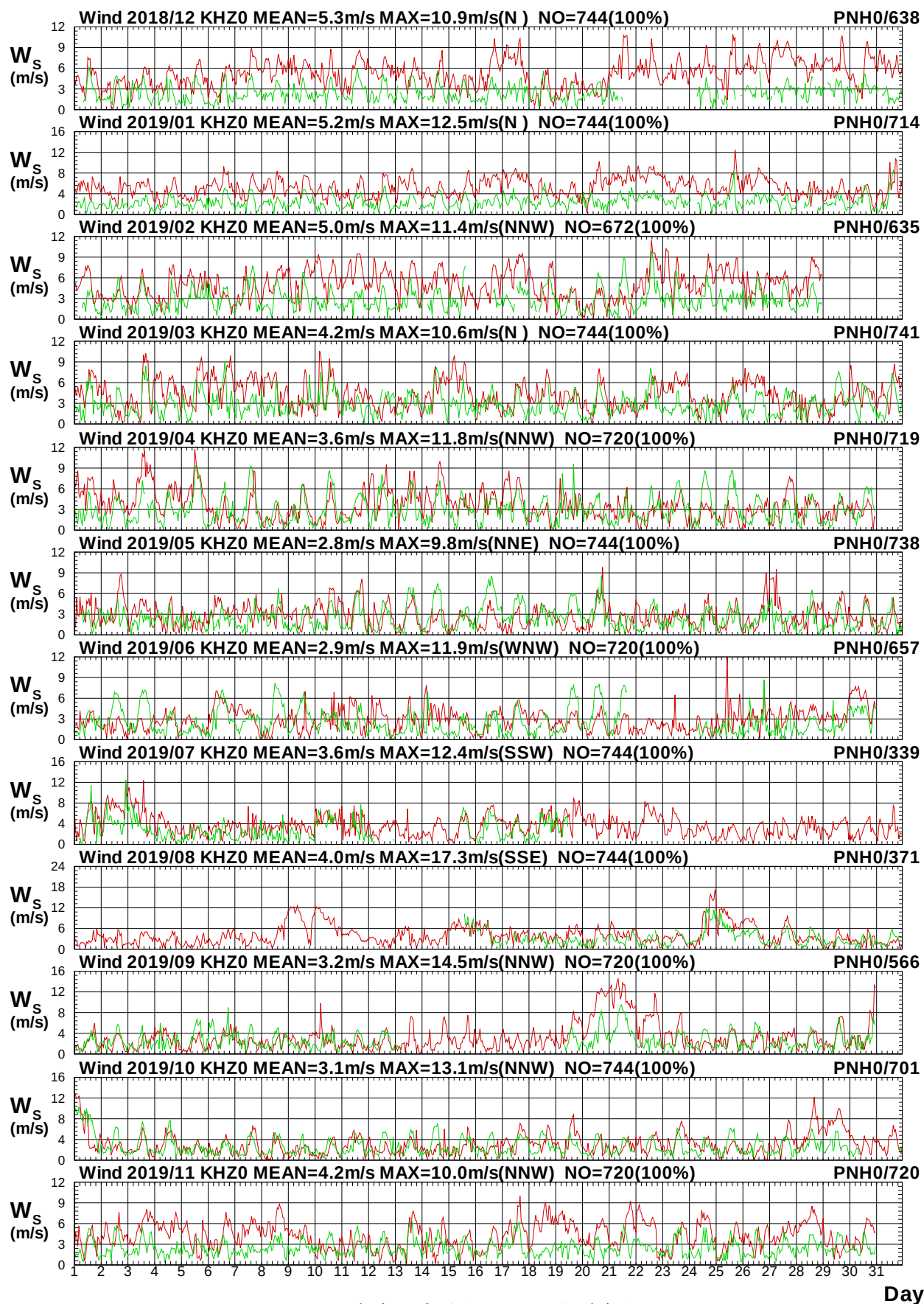


圖1.4.10a 2019年每月高雄海域 Z 站與屏東海域 H 站風速圖

W18CKHZ0.1HA W18CPNH0.1H0 W191KHZ0.1HA W191PNH0.1H0 W192KHZ0.1HA W192PNH0.1H0
W193KHZ0.1HA W193PNH0.1H0 W194KHZ0.1HA W194PNH0.1H0 W195KHZ0.1HA W195PNH0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

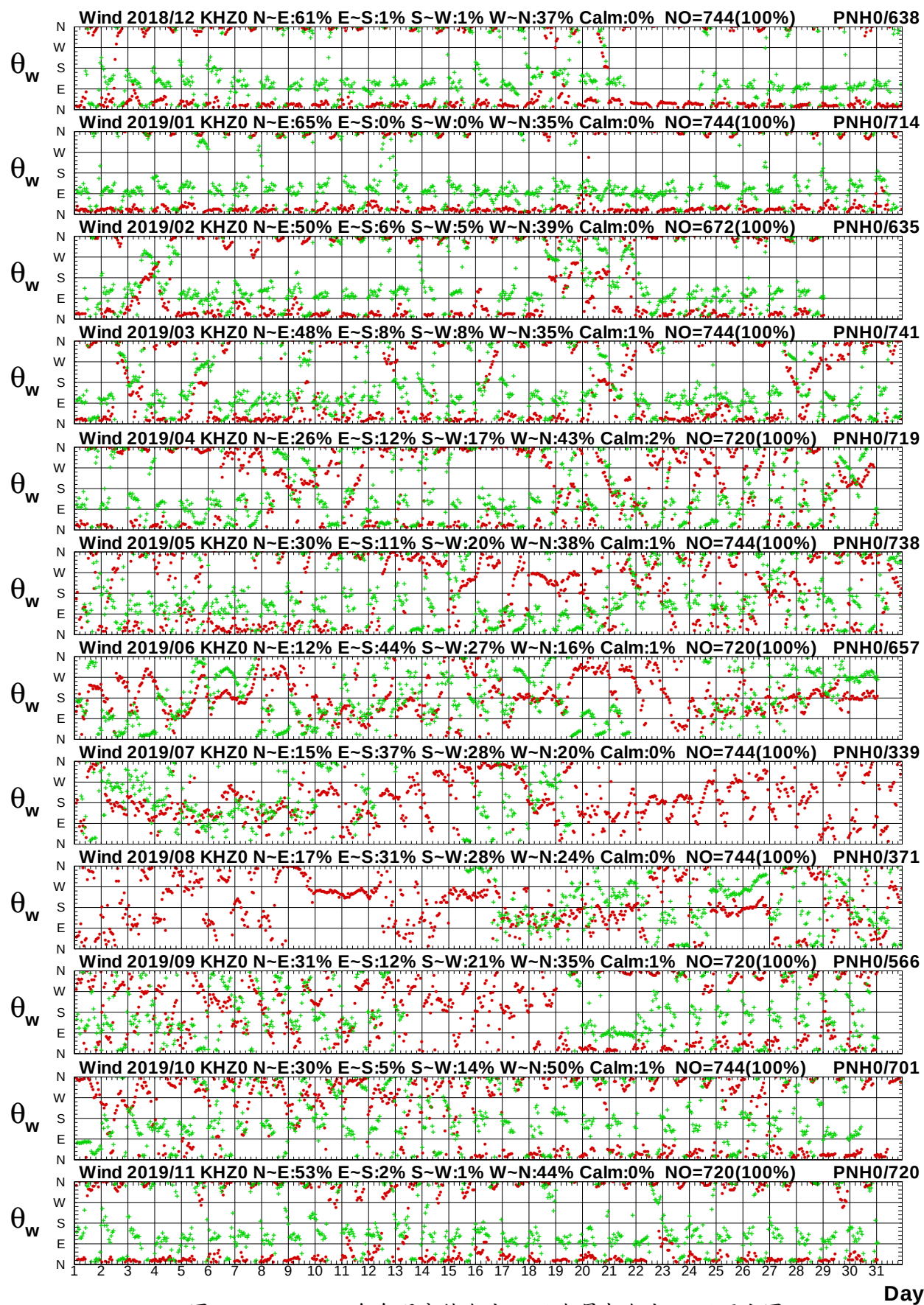


圖1.4.10b 2019年每月高雄海域 Z 站與屏東海域 H 站風向圖

W18CKHZ0.1HA W18CPNH0.1H0 W191KHZ0.1HA W191PNH0.1H0 W192KHZ0.1HA W192PNH0.1H0
W193KHZ0.1HA W193PNH0.1H0 W194KHZ0.1HA W194PNH0.1H0 W195KHZ0.1HA W195PNH0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

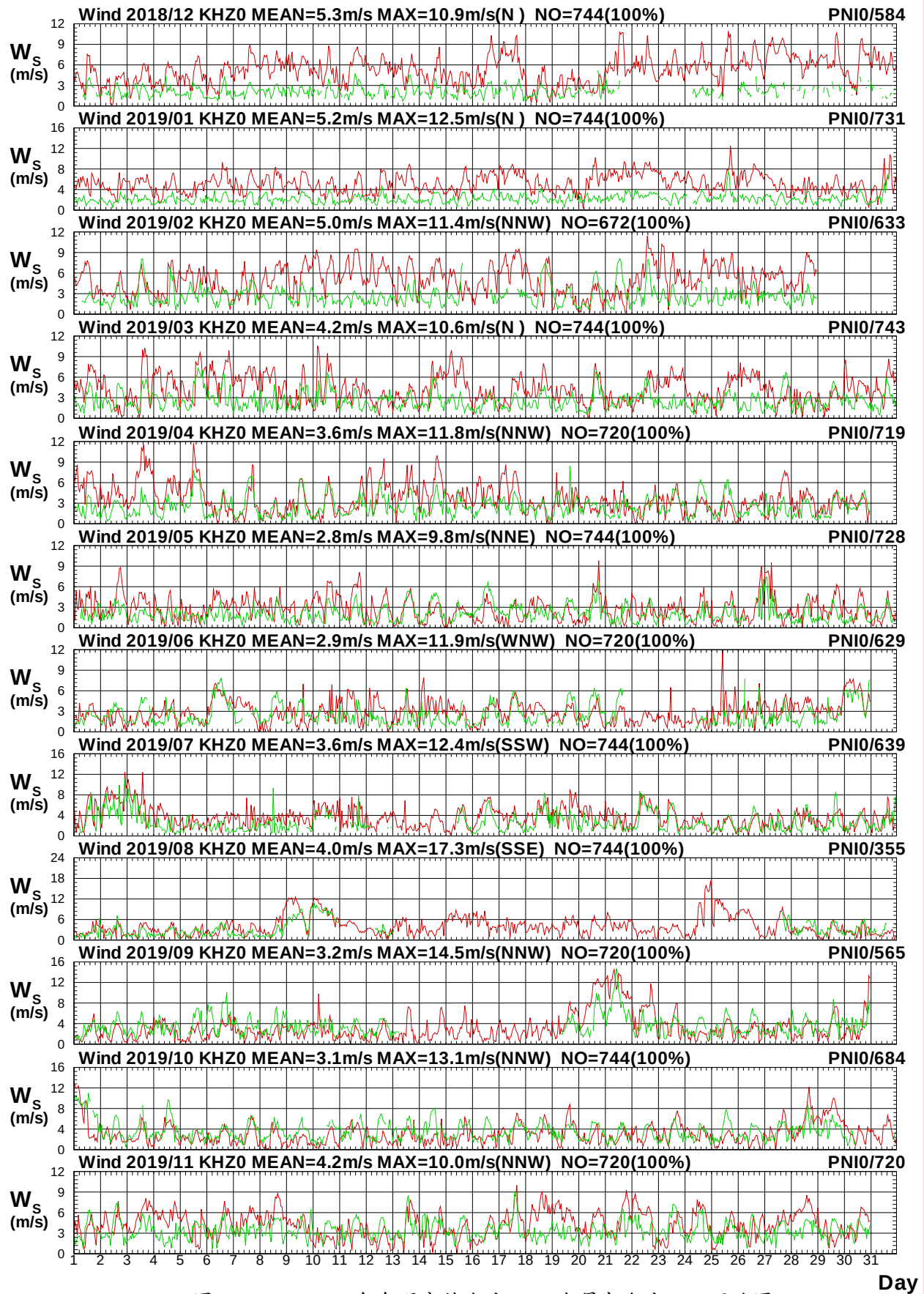


圖1.4.11a 2019年每月高雄海域 Z 站與屏東海域 I 站風速圖

W18CKHZ0.1HA W18CPNI0.1H0 W191KHZ0.1HA W191PNI0.1H0 W192KHZ0.1HA W192PNI0.1H0
W193KHZ0.1HA W193PNI0.1H0 W194KHZ0.1HA W194PNI0.1H0 W195KHZ0.1HA W195PNI0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

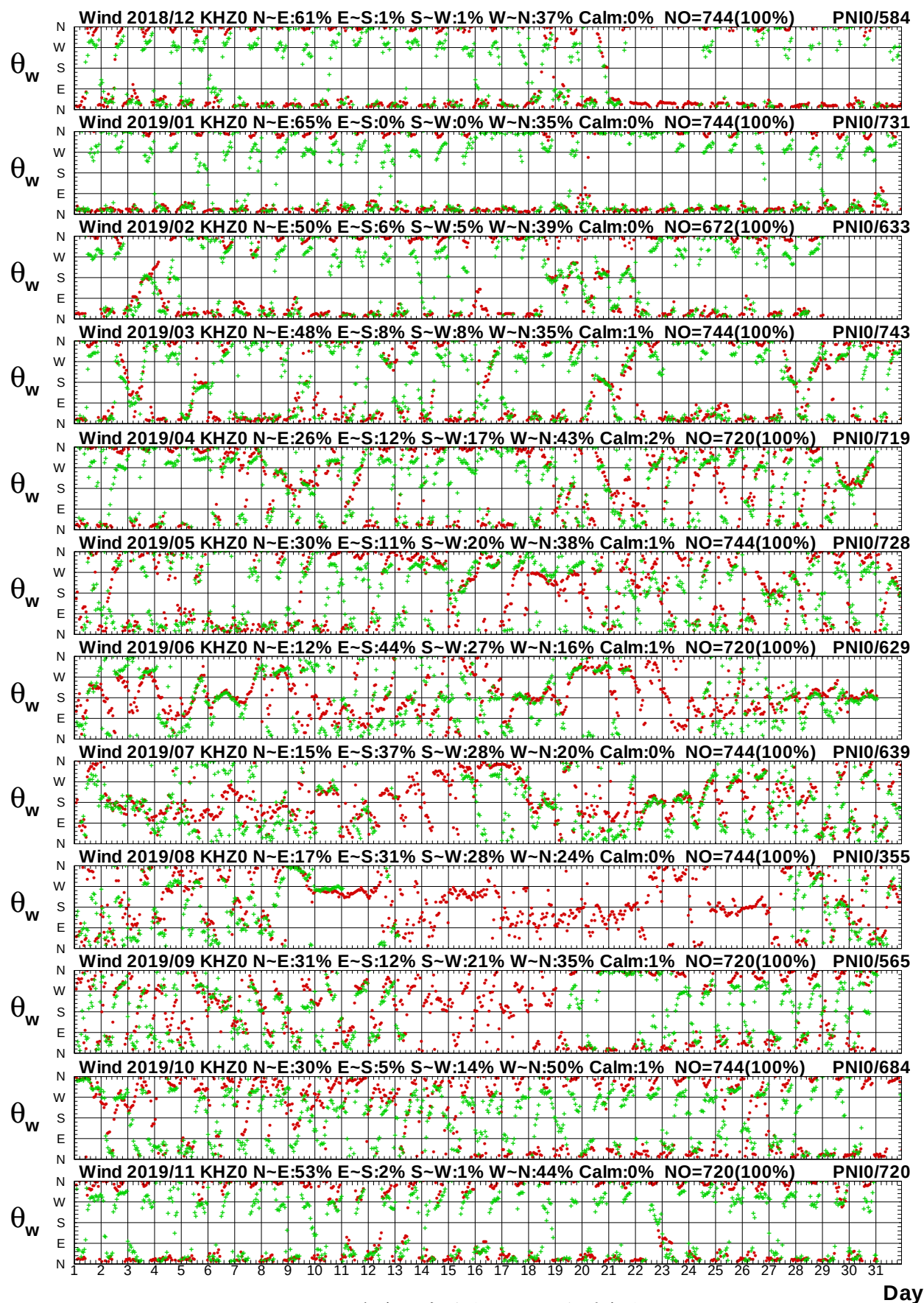


圖1.4.11b 2019年每月高雄海域 Z 站與屏東海域 I 站風向圖

W18CKHZ0.1HA W18CPNI0.1H0 W191KHZ0.1HA W191PNI0.1H0 W192KHZ0.1HA W192PNI0.1H0
W193KHZ0.1HA W193PNI0.1H0 W194KHZ0.1HA W194PNI0.1H0 W195KHZ0.1HA W195PNI0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

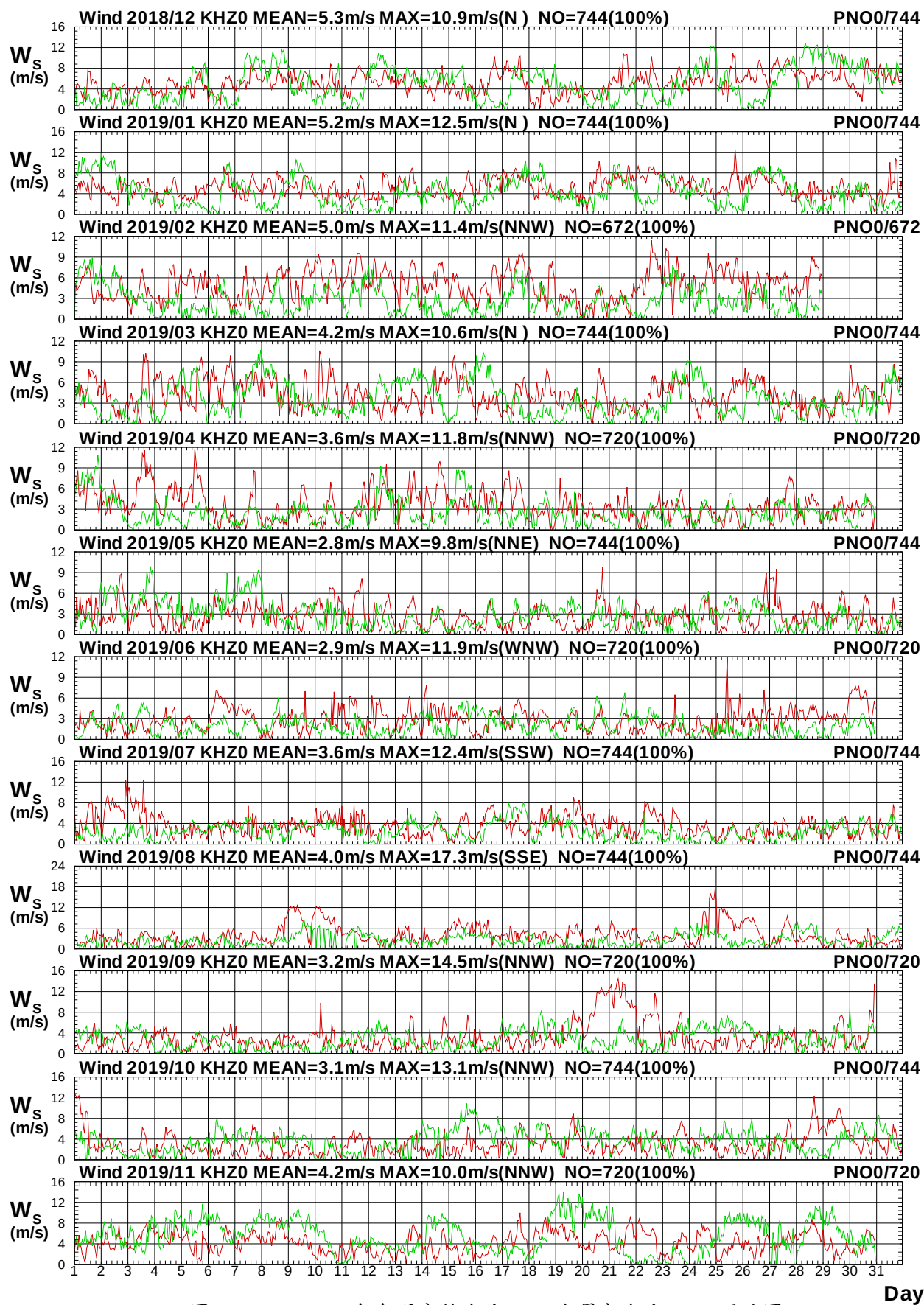


圖1.4.12a 2019年每月高雄海域 Z 站與屏東海域 O 站風速圖

W18CKHZ0.1HA W18CPNO0.1H0 W191KHZ0.1HA W191PNO0.1H0 W192KHZ0.1HA W192PNO0.1H0
W193KHZ0.1HA W193PNO0.1H0 W194KHZ0.1HA W194PNO0.1H0 W195KHZ0.1HA W195PNO0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

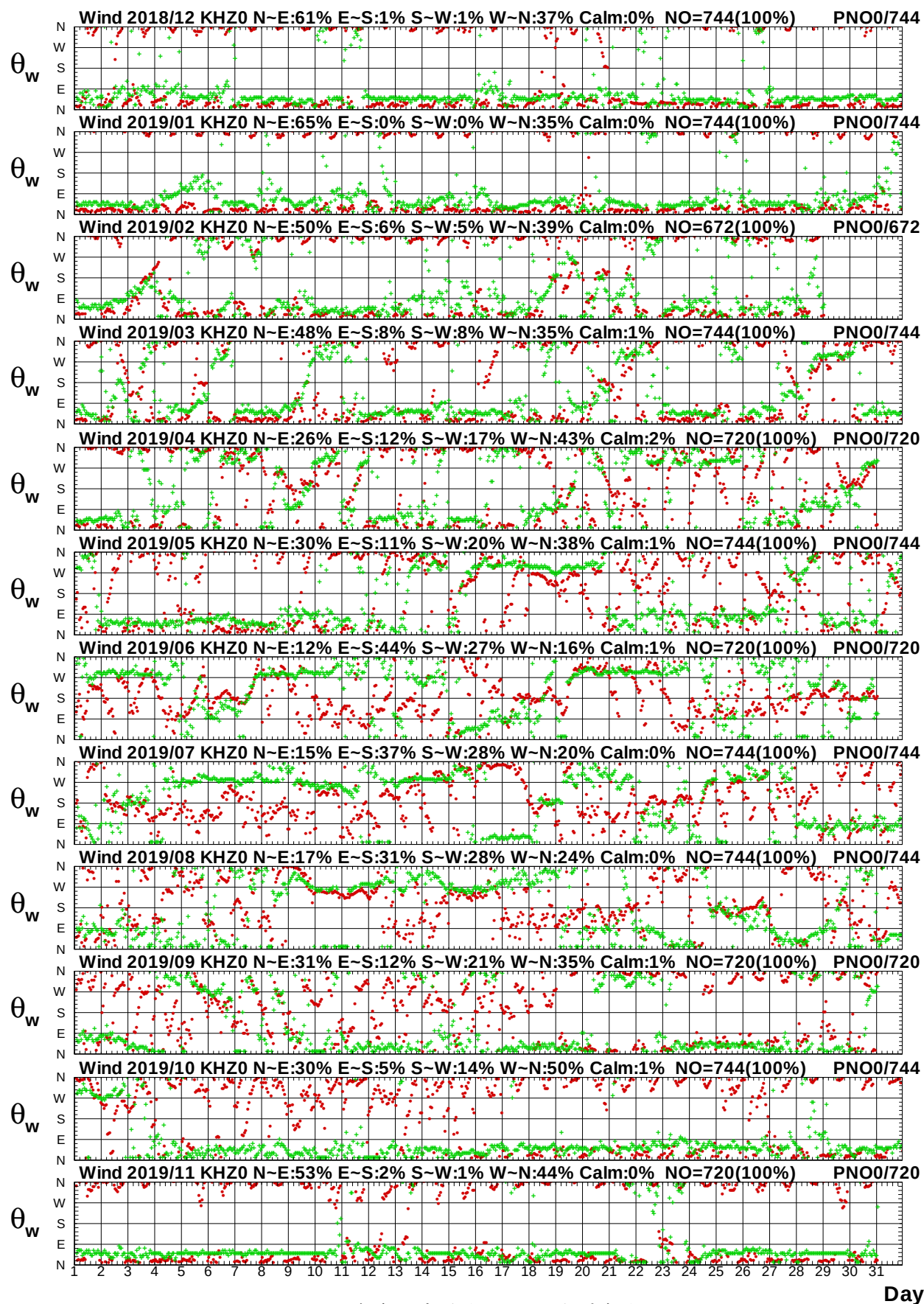


圖1.4.12b 2019年每月高雄海域 Z 站與屏東海域 O 站風向圖

W18CKHZ0.1HA W18CPNO0.1H0 W191KHZ0.1HA W191PNO0.1H0 W192KHZ0.1HA W192PNO0.1H0
W193KHZ0.1HA W193PNO0.1H0 W194KHZ0.1HA W194PNO0.1H0 W195KHZ0.1HA W195PNO0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

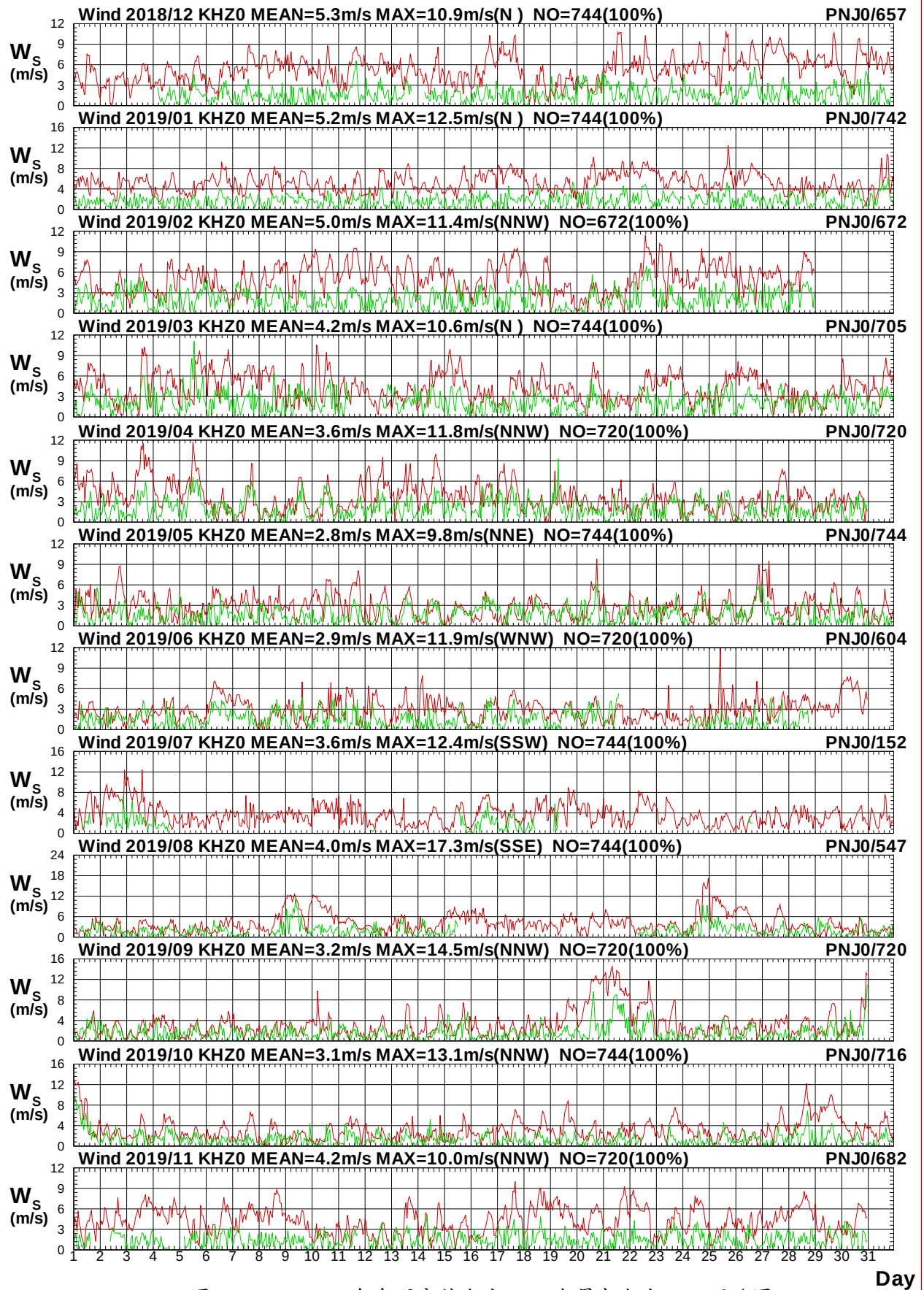


圖1.4.13a 2019年每月高雄海域 Z 站與屏東海域 J 站風速圖

W18CKHZ0.1HA W18CPNJ0.1H0 W191KHZ0.1HA W191PNJ0.1H0 W192KHZ0.1HA W192PNJ0.1H0
W193KHZ0.1HA W193PNJ0.1H0 W194KHZ0.1HA W194PNJ0.1H0 W195KHZ0.1HA W195PNJ0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

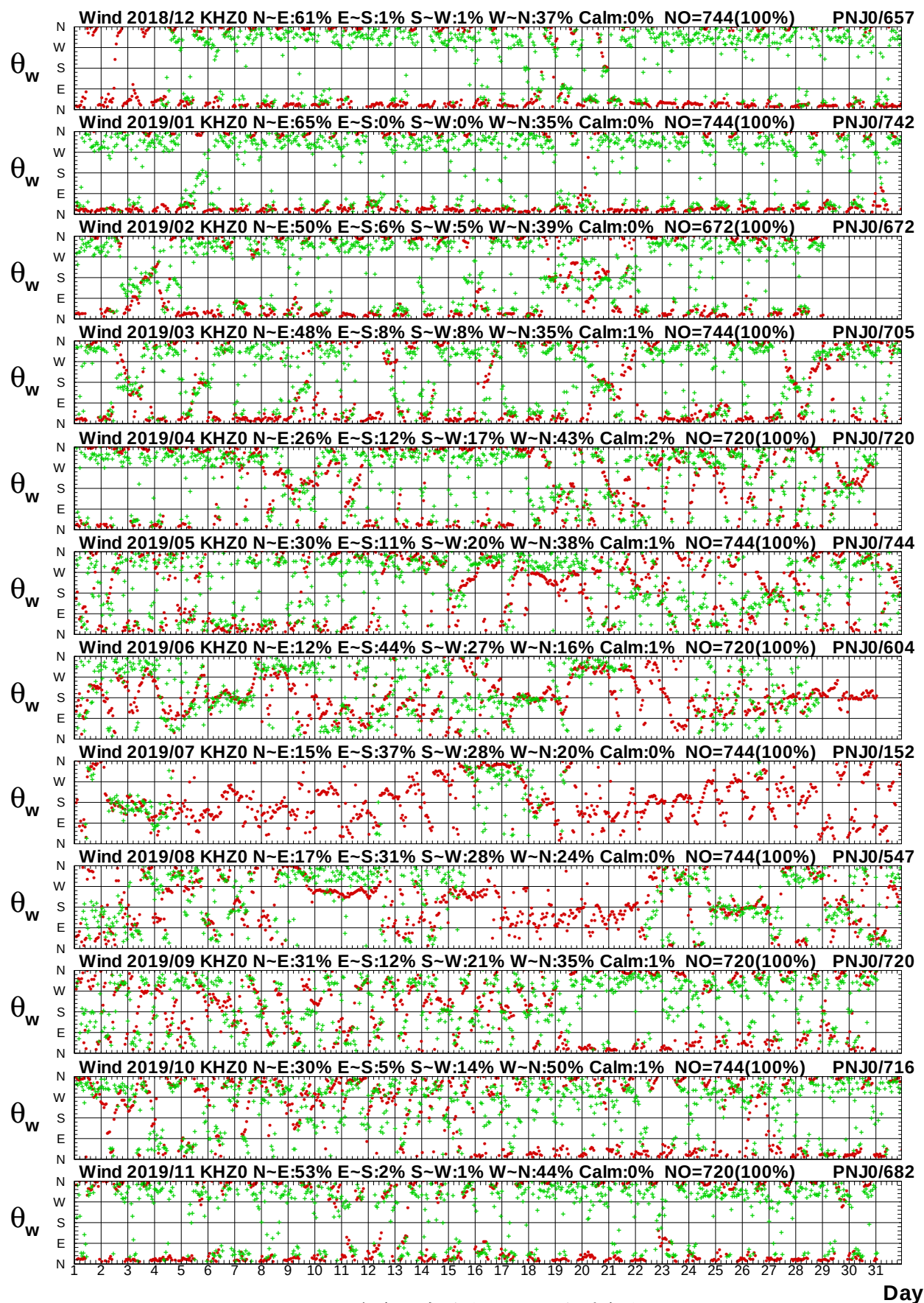


圖1.4.13b 2019年每月高雄海域 Z 站與屏東海域 J 站風向圖

W18CKHZ0.1HA W18CPNJ0.1H0 W191KHZ0.1HA W191PNJ0.1H0 W192KHZ0.1HA W192PNJ0.1H0
W193KHZ0.1HA W193PNJ0.1H0 W194KHZ0.1HA W194PNJ0.1H0 W195KHZ0.1HA W195PNJ0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

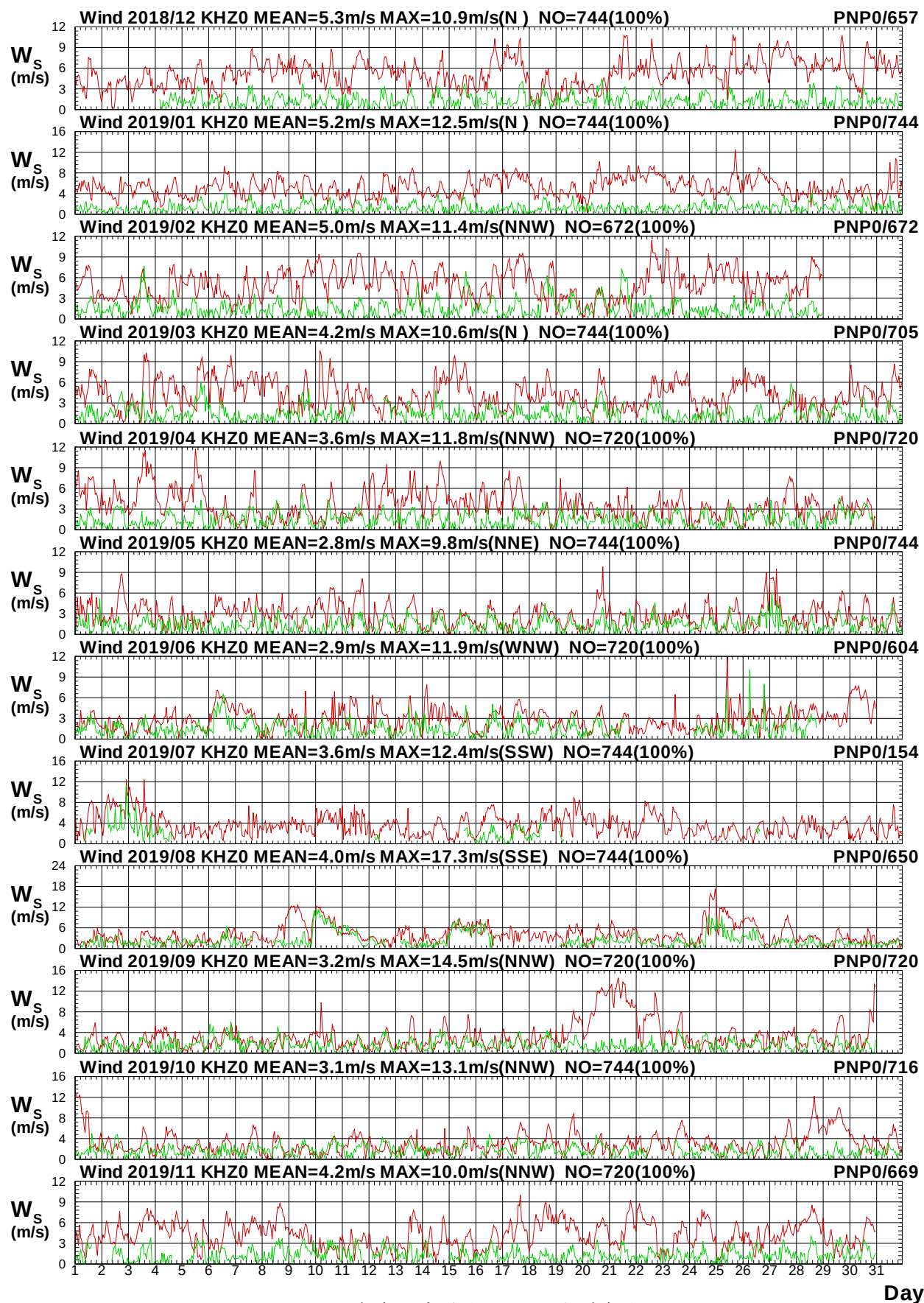


圖1.4.14a 2019年每月高雄海域 Z 站與屏東海域 P 站風速圖

W18CKHZ0.1HA W18CPNP0.1H0 W191KHZ0.1HA W191PNP0.1H0 W192KHZ0.1HA W192PNP0.1H0
W193KHZ0.1HA W193PNP0.1H0 W194KHZ0.1HA W194PNP0.1H0 W195KHZ0.1HA W195PNP0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

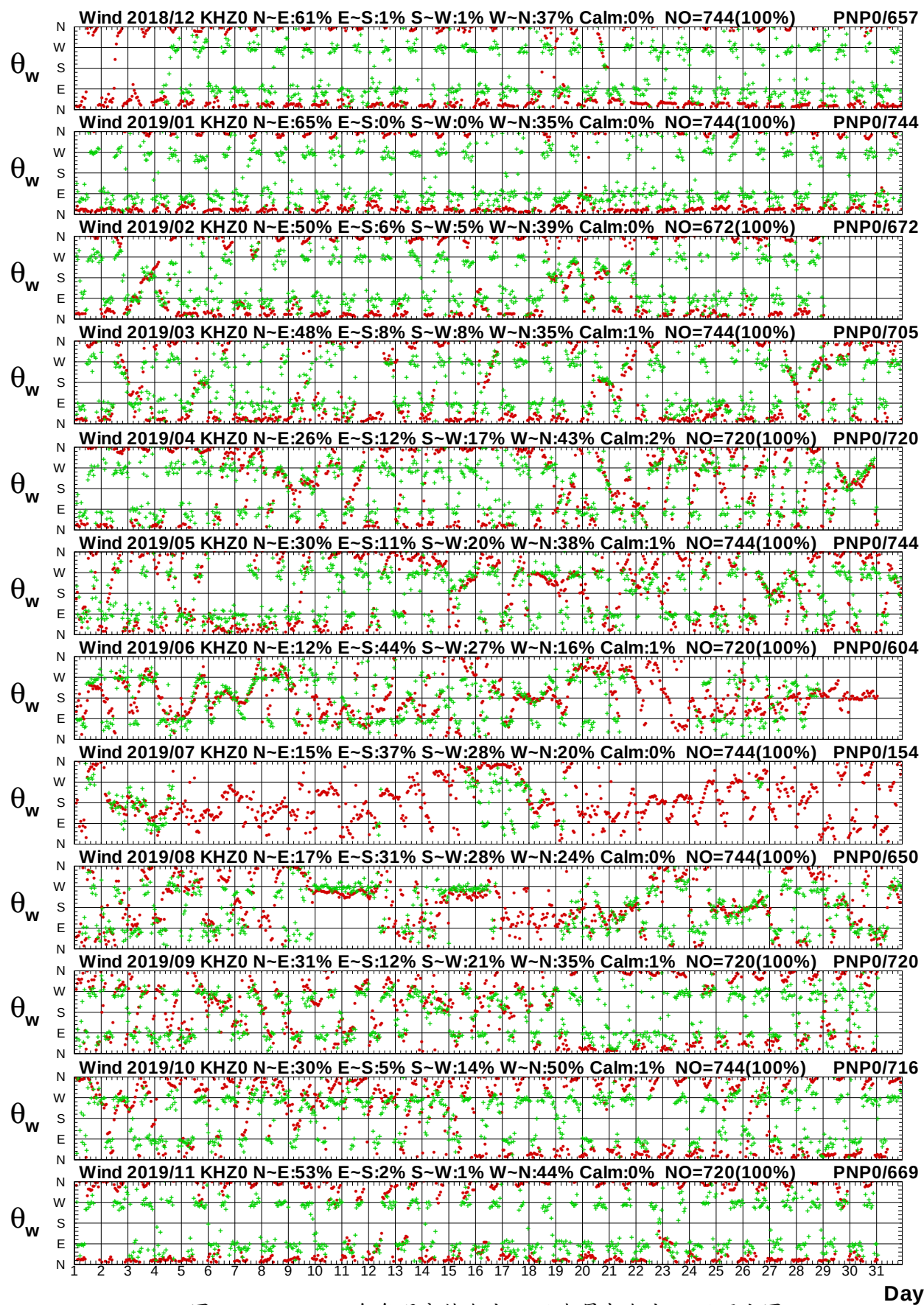


圖1.4.14b 2019年每月高雄海域 Z 站與屏東海域 P 站風向圖

W18CKHZ0.1HA W18CPNP0.1H0 W191KHZ0.1HA W191PNP0.1H0 W192KHZ0.1HA W192PNP0.1H0
W193KHZ0.1HA W193PNP0.1H0 W194KHZ0.1HA W194PNP0.1H0 W195KHZ0.1HA W195PNP0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

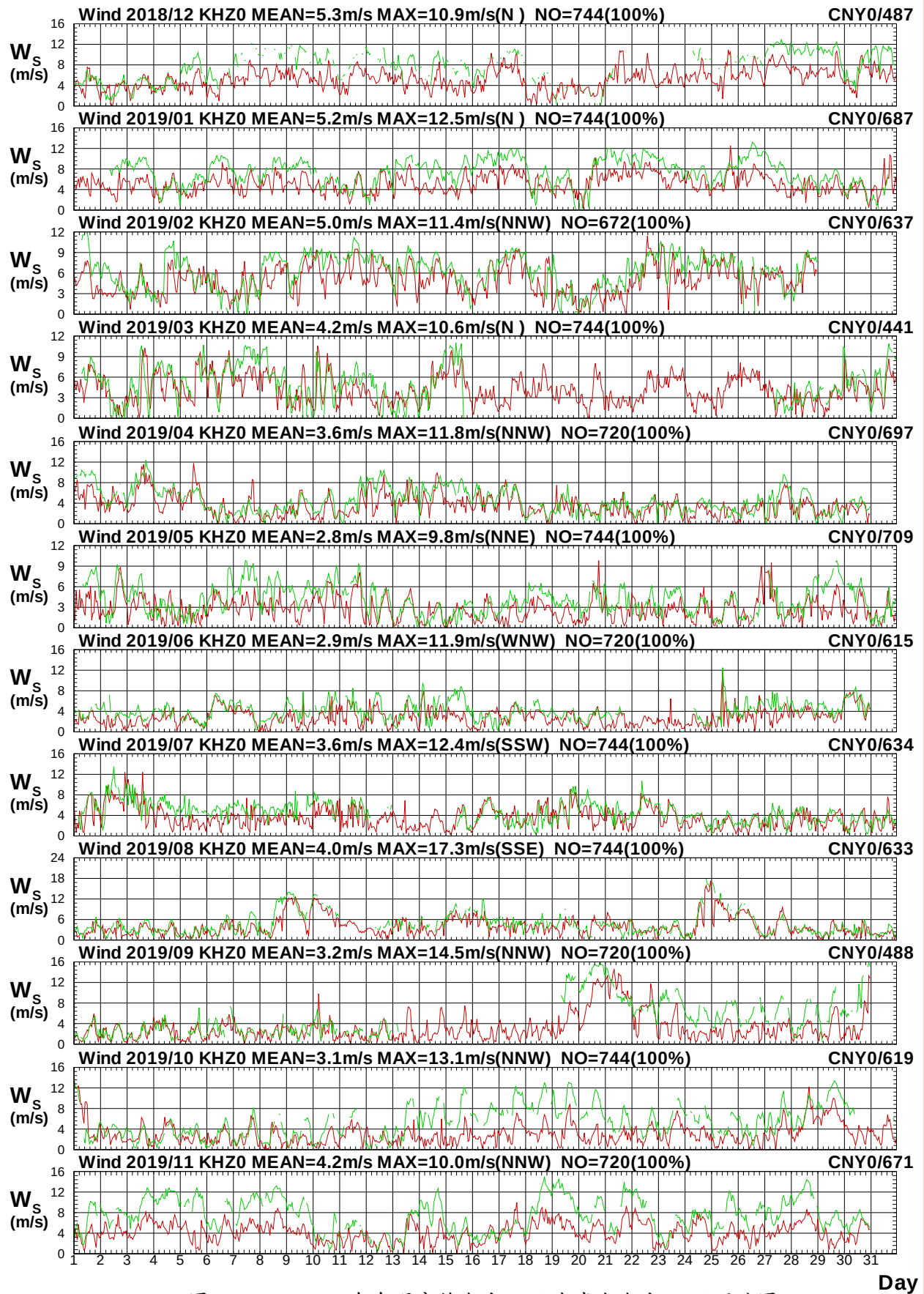


圖1.4.15a 2019年每月高雄海域 Z 站與嘉南海域 Y 站風速圖

W18CKHZ0.1HA W18CCNY0.1H0 W191KHZ0.1HA W191CNY0.1H0 W192KHZ0.1HA W192CNY0.1H0
W193KHZ0.1HA W193CNY0.1H0 W194KHZ0.1HA W194CNY0.1H0 W195KHZ0.1HA W195CNY0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

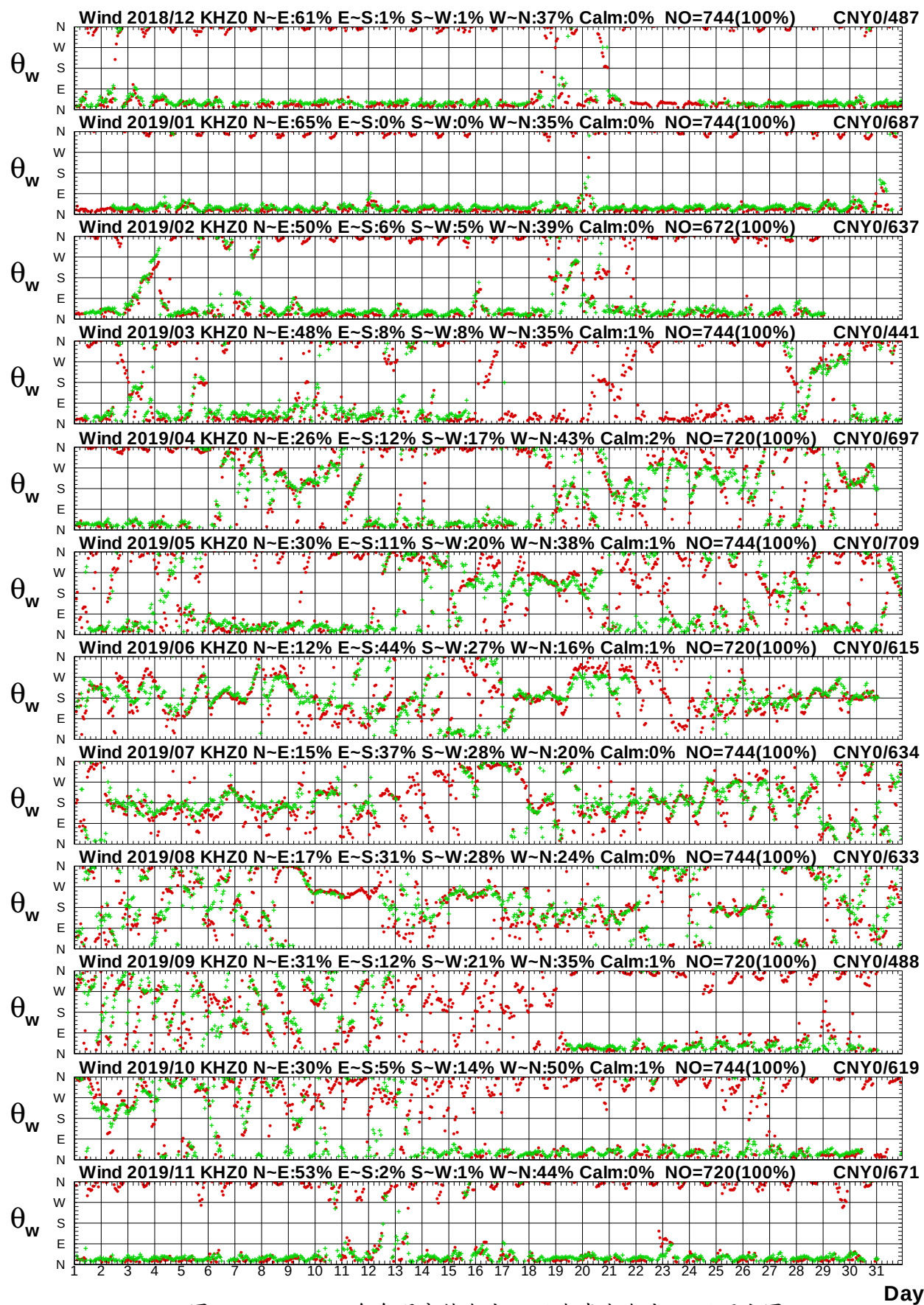


圖1.4.15b 2019年每月高雄海域 Z 站與嘉南海域 Y 站風向圖

W18CKHZ0.1HA W18CCNY0.1H0 W191KHZ0.1HA W191CNY0.1H0 W192KHZ0.1HA W192CNY0.1H0
W193KHZ0.1HA W193CNY0.1H0 W194KHZ0.1HA W194CNY0.1H0 W195KHZ0.1HA W195CNY0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

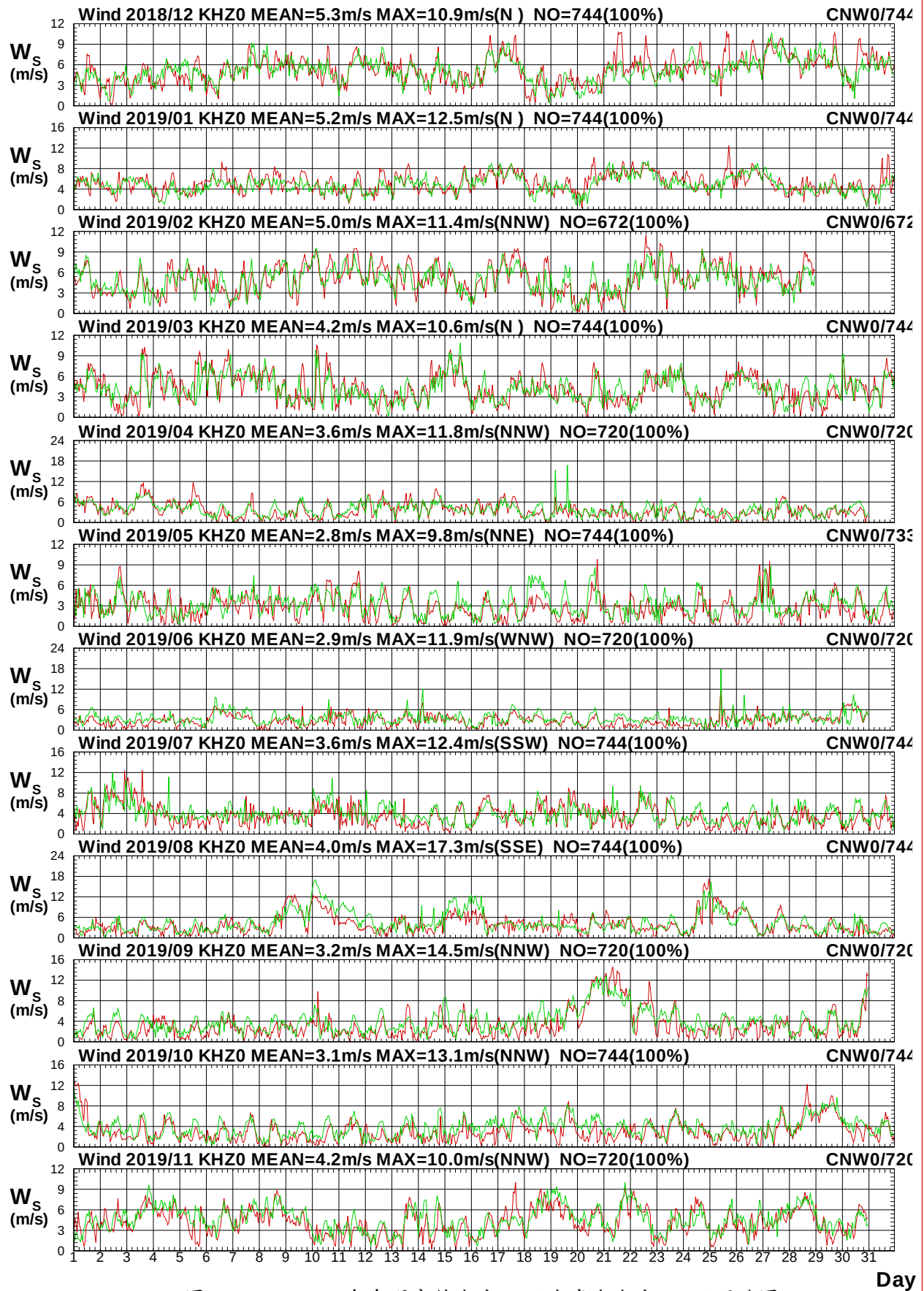


圖1.4.16a 2019年每月高雄海域 Z 站與嘉南海域 W 站風速圖

W18CKHZ0.1HA W18CCNW0.1H0 W191KHZ0.1HA W191CNW0.1H0 W192KHZ0.1HA W192CNW0.1H0
W193KHZ0.1HA W193CNW0.1H0 W194KHZ0.1HA W194CNW0.1H0 W195KHZ0.1HA W195CNW0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

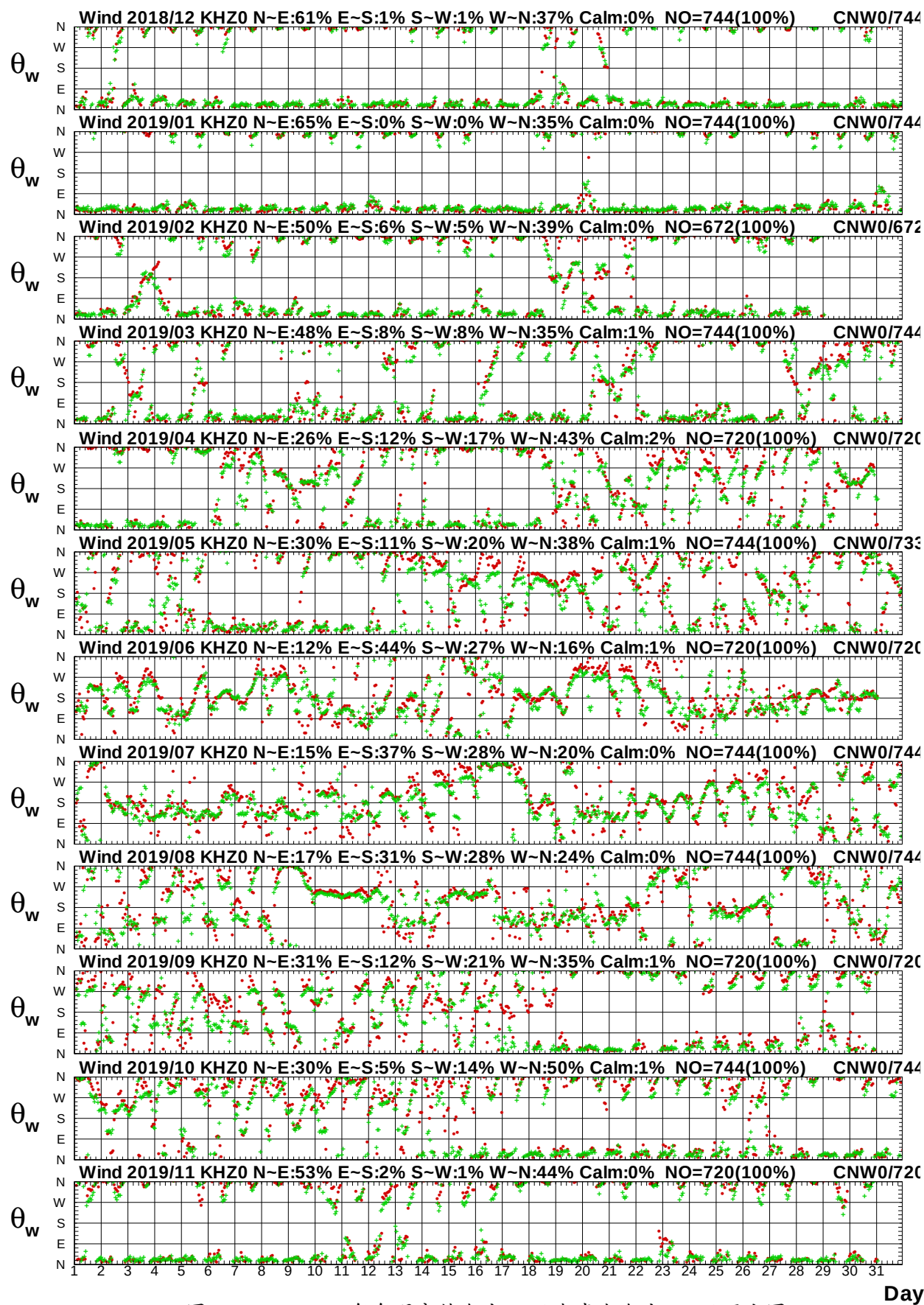


圖1.4.16b 2019年每月高雄海域 Z 站與嘉南海域 W 站風向圖

W18CKHZ0.1HA W18CCNW0.1H0 W191KHZ0.1HA W191CNW0.1H0 W192KHZ0.1HA W192CNW0.1H0
W193KHZ0.1HA W193CNW0.1H0 W194KHZ0.1HA W194CNW0.1H0 W195KHZ0.1HA W195CNW0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

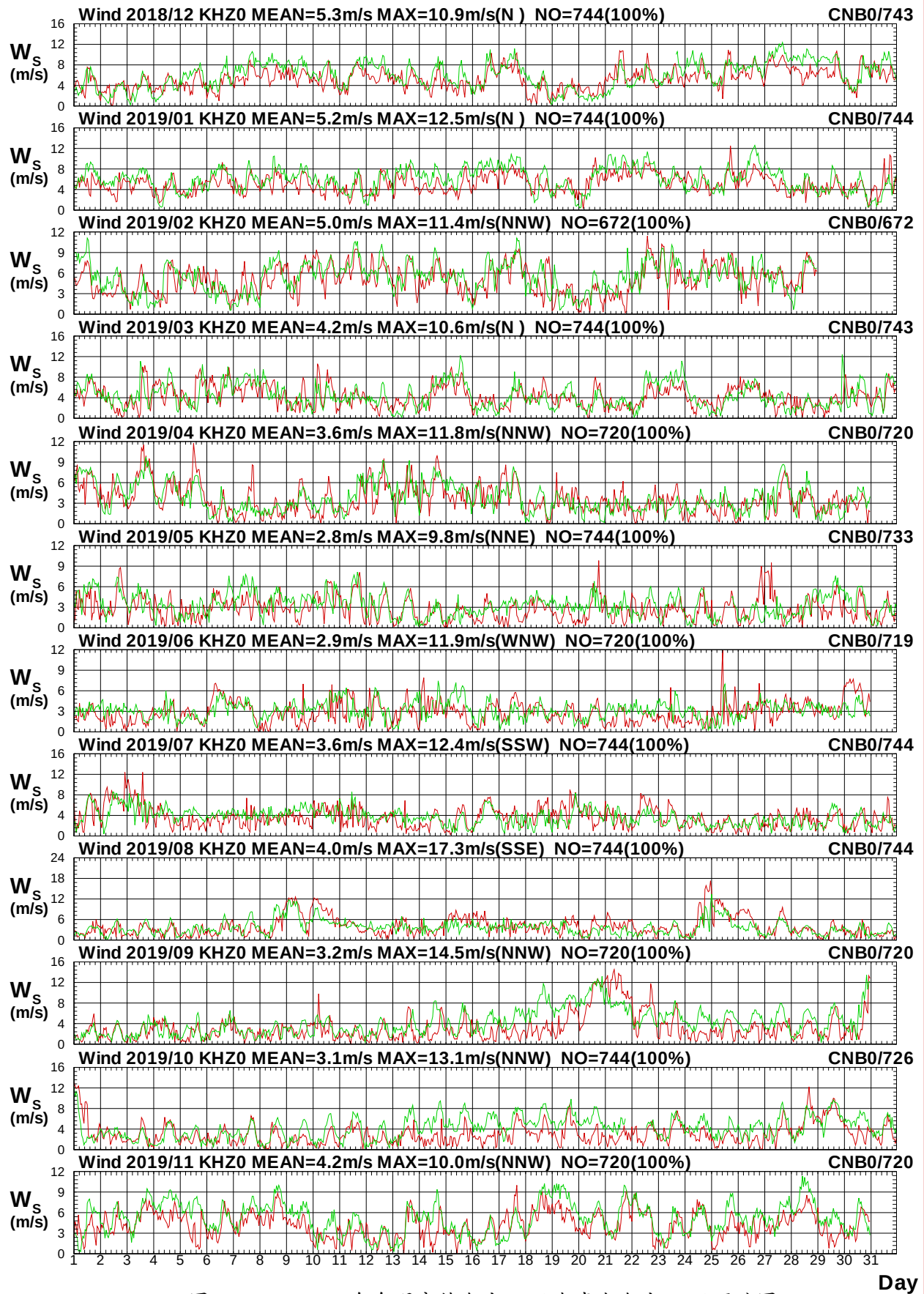


圖1.4.17a 2019年每月高雄海域 Z 站與嘉南海域 B 站風速圖

W18CKHZ0.1HA W18CCNB0.1H0 W191KHZ0.1HA W191CNB0.1H0 W192KHZ0.1HA W192CNB0.1H0
W193KHZ0.1HA W193CNB0.1H0 W194KHZ0.1HA W194CNB0.1H0 W195KHZ0.1HA W195CNB0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

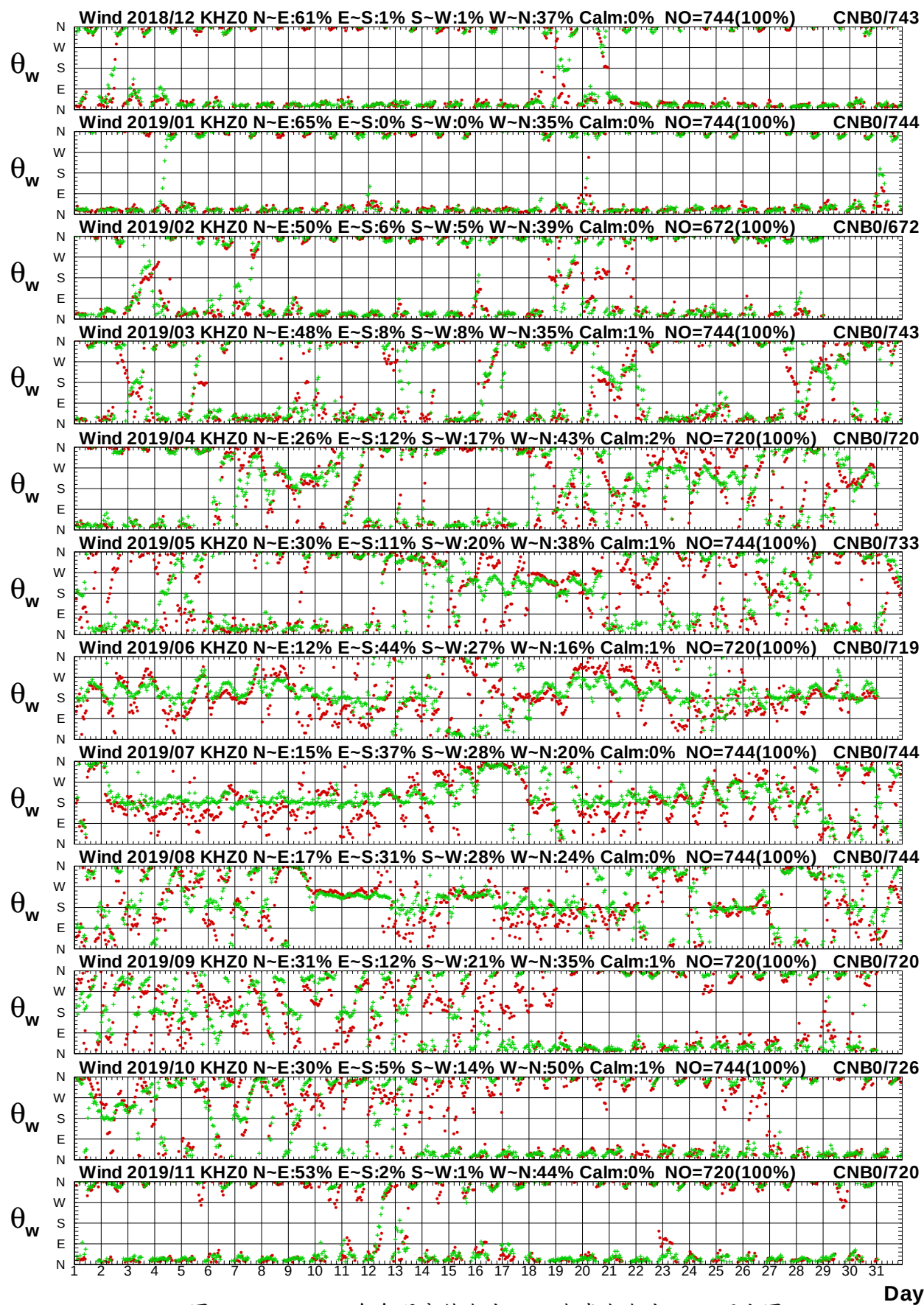


圖1.4.17b 2019年每月高雄海域 Z 站與嘉南海域 B 站風向圖

W18CKHZ0.1HA W18CCNB0.1H0 W191KHZ0.1HA W191CNB0.1H0 W192KHZ0.1HA W192CNB0.1H0
W193KHZ0.1HA W193CNB0.1H0 W194KHZ0.1HA W194CNB0.1H0 W195KHZ0.1HA W195CNB0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

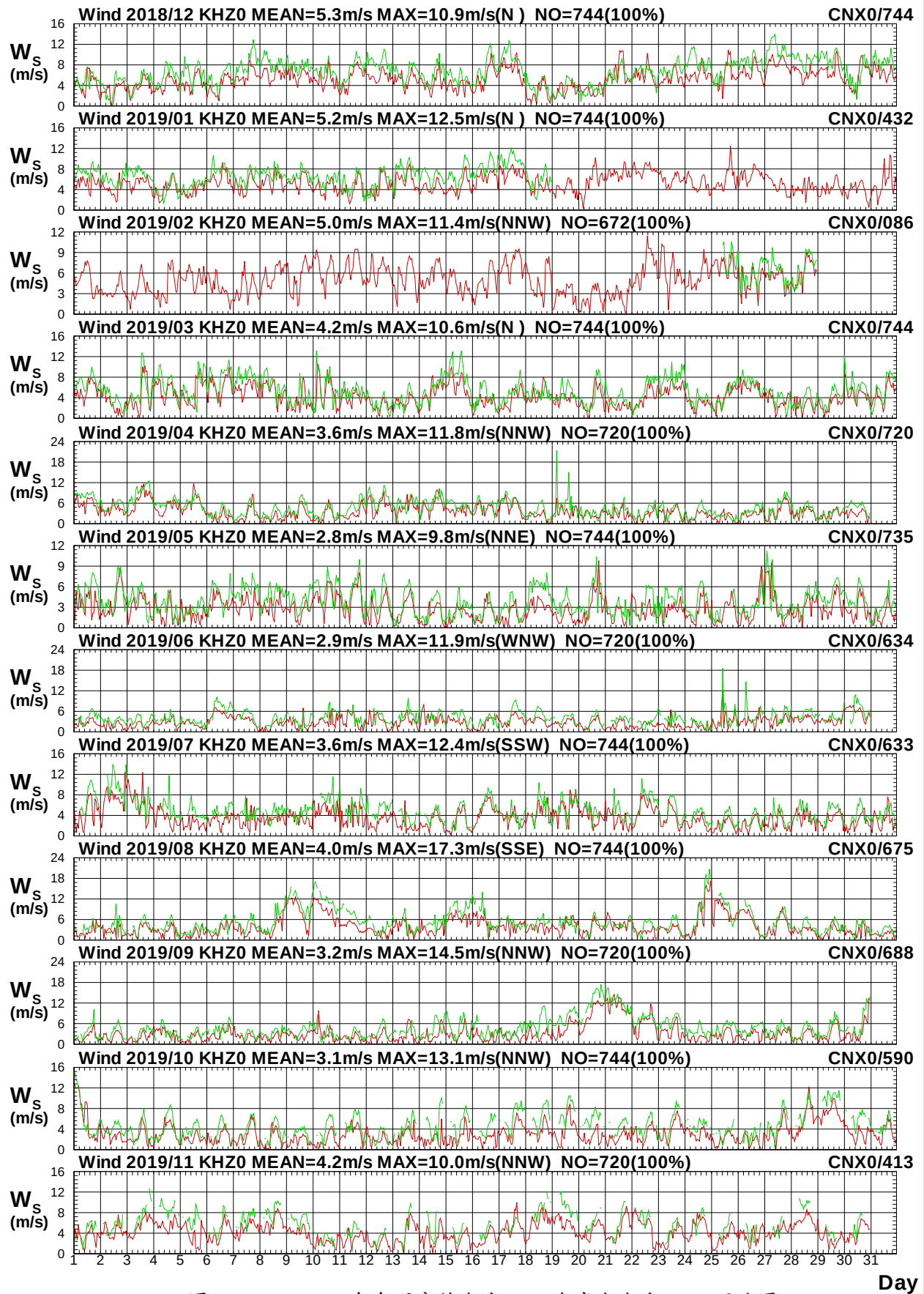


圖1.4.18a 2019年每月高雄海域 Z 站與嘉南海域 X 站風速圖

W18CKHZ0.1HA W18CCNX0.1H0 W191KHZ0.1HA W191CNX0.1H0 W192KHZ0.1HA W192CNX0.1H0
W193KHZ0.1HA W193CNX0.1H0 W194KHZ0.1HA W194CNX0.1H0 W195KHZ0.1HA W195CNX0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

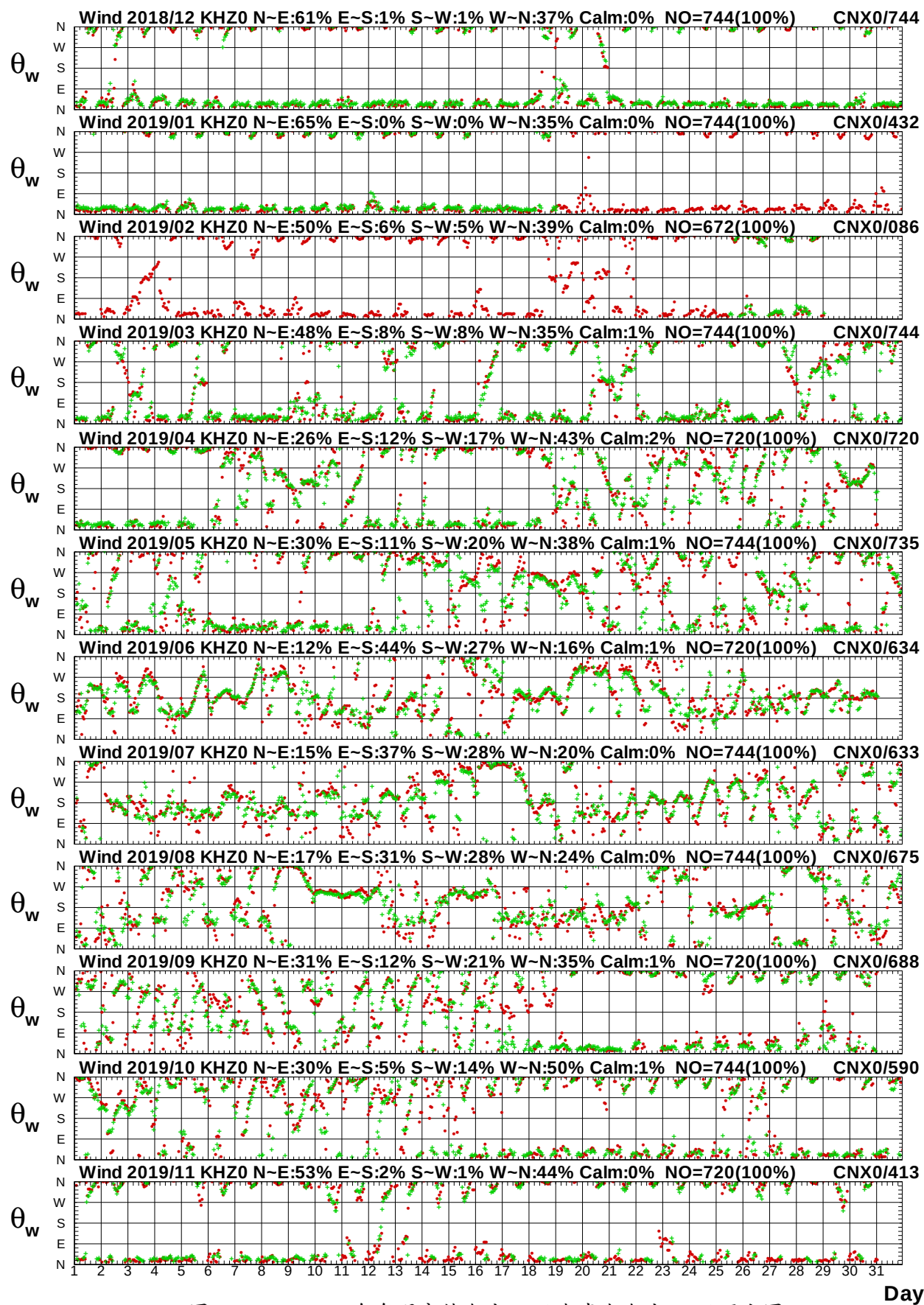


圖1.4.18b 2019年每月高雄海域 Z 站與嘉南海域 X 站風向圖

W18CKHZ0.1HA W18CCNX0.1H0 W191KHZ0.1HA W191CNX0.1H0 W192KHZ0.1HA W192CNX0.1H0
W193KHZ0.1HA W193CNX0.1H0 W194KHZ0.1HA W194CNX0.1H0 W195KHZ0.1HA W195CNX0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

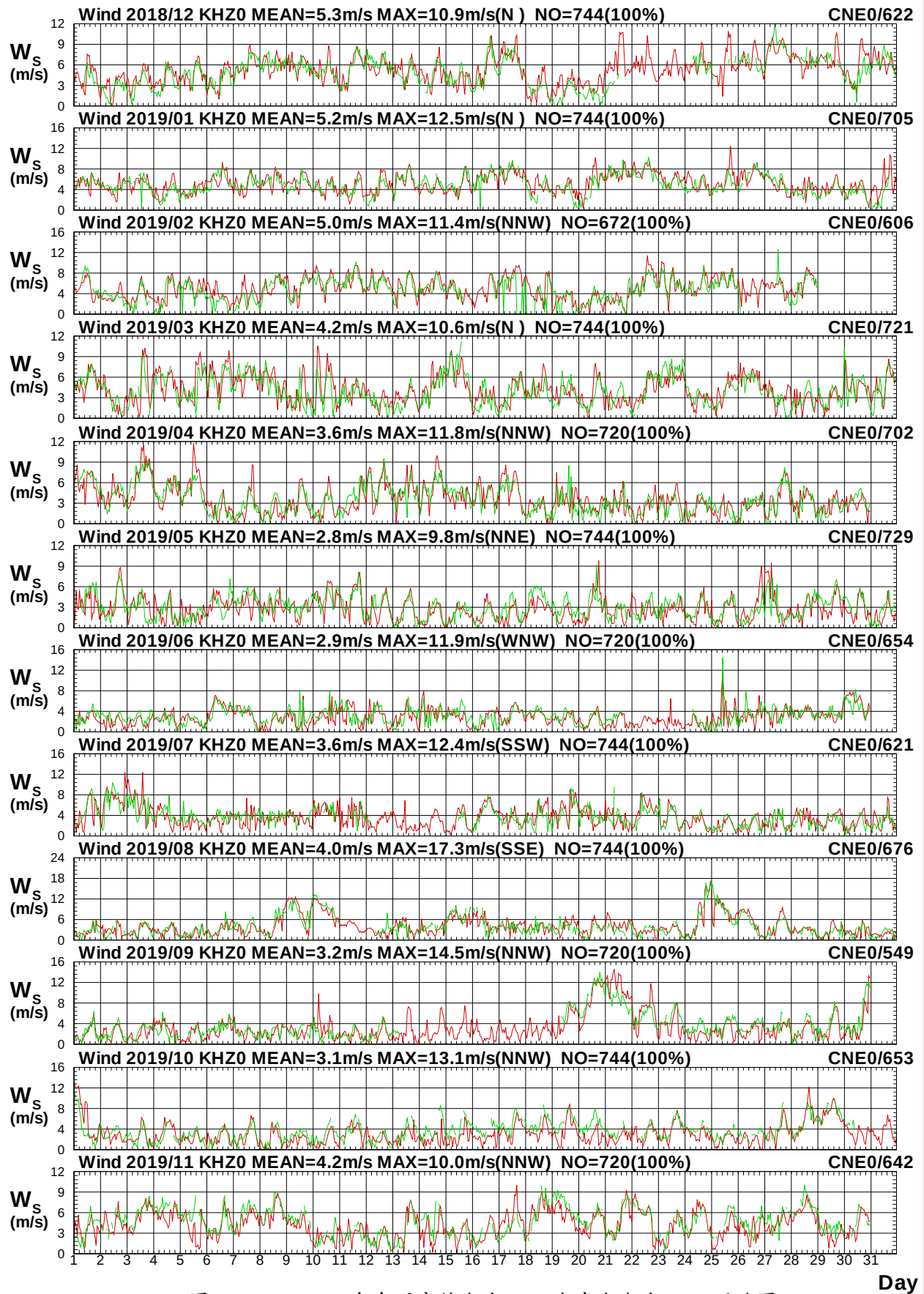


圖1.4.19a 2019年每月高雄海域 Z 站與嘉南海域 E 站風速圖

W18CKHZ0.1HA W18CCNE0.1H0 W191KHZ0.1HA W191CNE0.1H0 W192KHZ0.1HA W192CNE0.1H0
W193KHZ0.1HA W193CNE0.1H0 W194KHZ0.1HA W194CNE0.1H0 W195KHZ0.1HA W195CNE0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

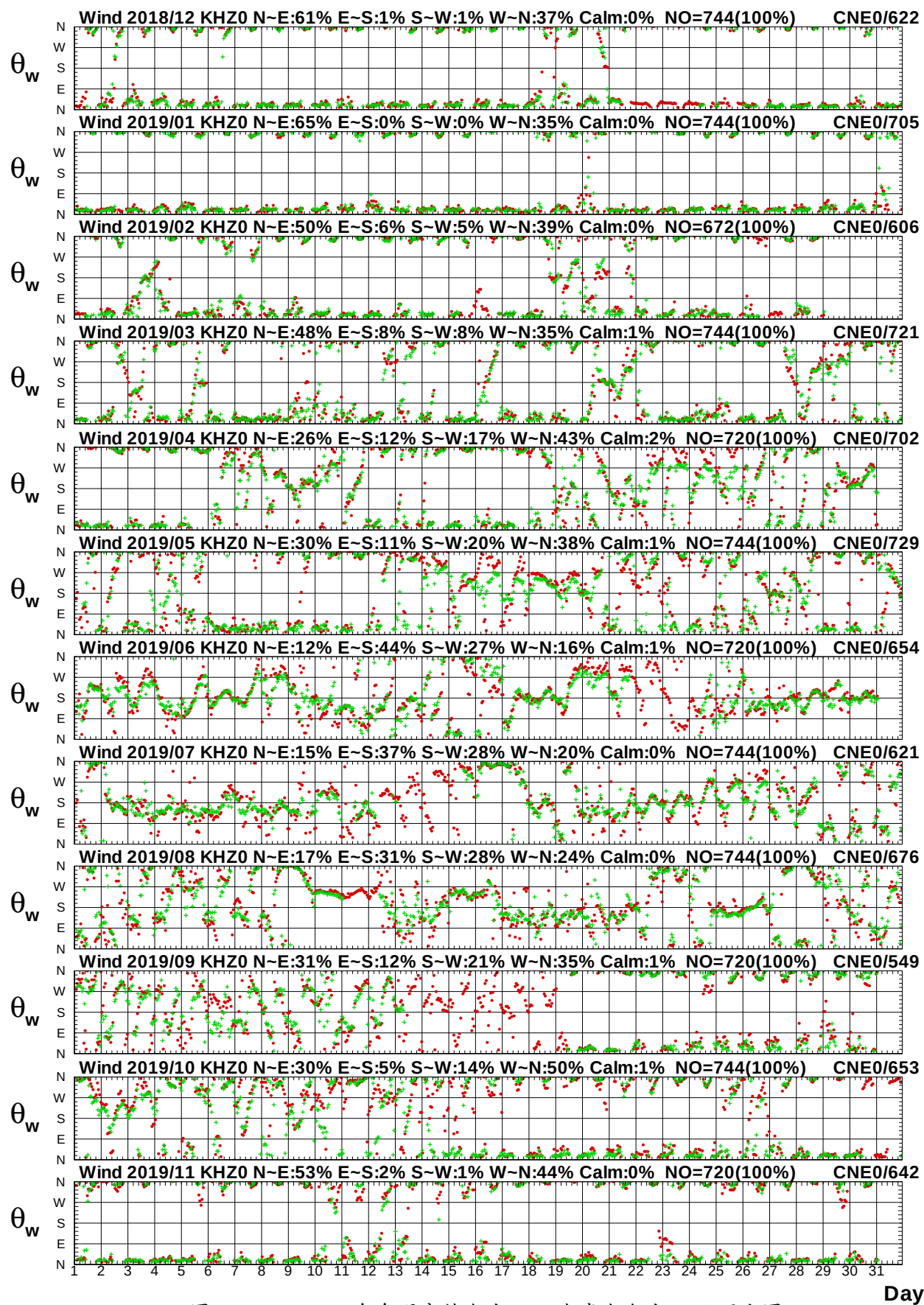


圖1.4.19b 2019年每月高雄海域 Z 站與嘉南海域 E 站風向圖

W18CKHZ0.1HA W18CCNE0.1H0 W191KHZ0.1HA W191CNE0.1H0 W192KHZ0.1HA W192CNE0.1H0
W193KHZ0.1HA W193CNE0.1H0 W194KHZ0.1HA W194CNE0.1H0 W195KHZ0.1HA W195CNE0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

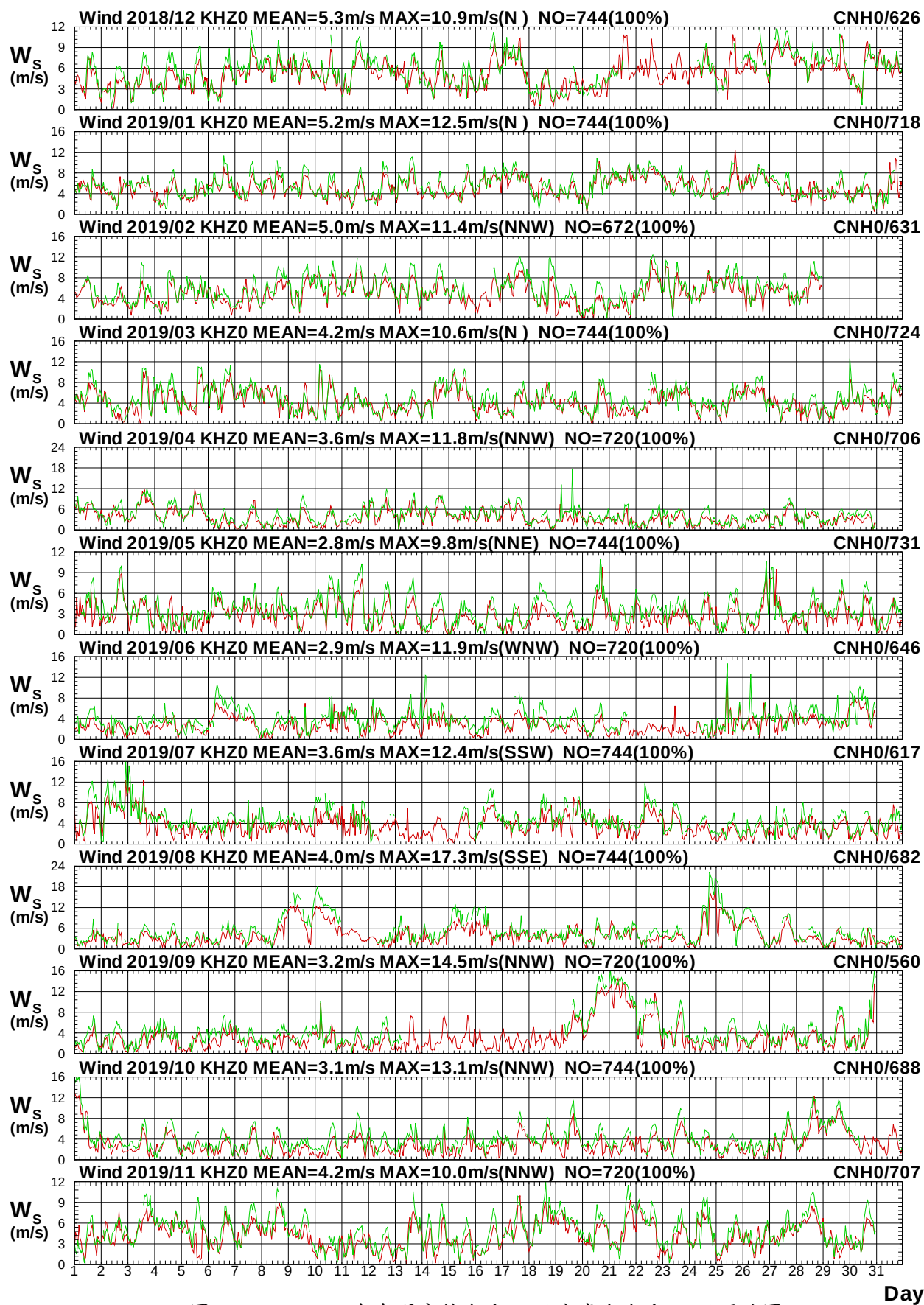


圖1.4.20a 2019年每月高雄海域 Z 站與嘉南海域 H 站風速圖

W18CKHZ0.1HA W18CCNH0.1H0 W191KHZ0.1HA W191CNH0.1H0 W192KHZ0.1HA W192CNH0.1H0
W193KHZ0.1HA W193CNH0.1H0 W194KHZ0.1HA W194CNH0.1H0 W195KHZ0.1HA W195CNH0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

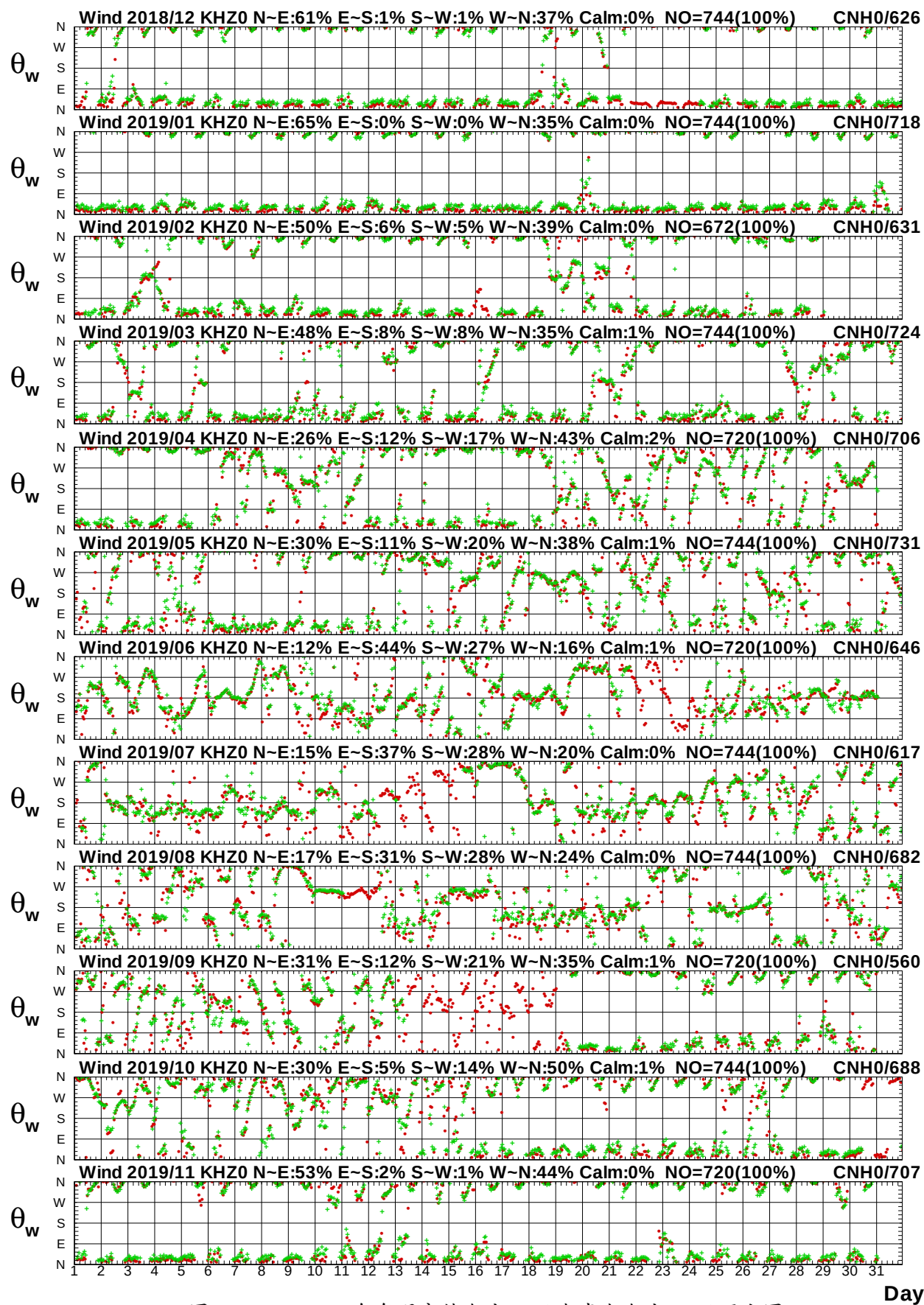


圖1.4.20b 2019年每月高雄海域 Z 站與嘉南海域 H 站風向圖

W18CKHZ0.1HA W18CCNH0.1H0 W191KHZ0.1HA W191CNH0.1H0 W192KHZ0.1HA W192CNH0.1H0
W193KHZ0.1HA W193CNH0.1H0 W194KHZ0.1HA W194CNH0.1H0 W195KHZ0.1HA W195CNH0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

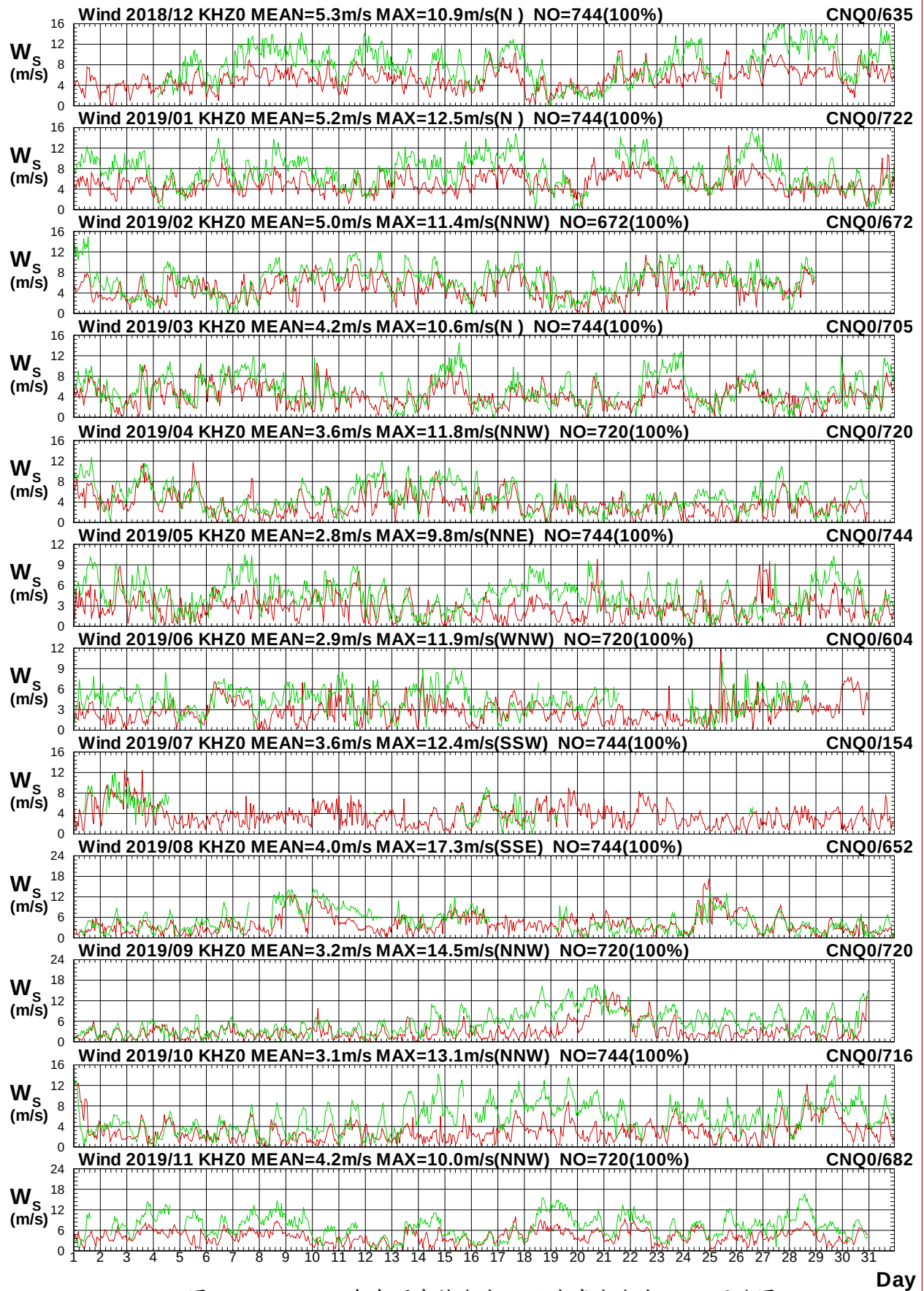


圖1.4.21a 2019年每月高雄海域 Z 站與嘉南海域 Q 站風速圖

W18CKHZ0.1HA W18CCNQ0.1H0 W191KHZ0.1HA W191CNQ0.1H0 W192KHZ0.1HA W192CNQ0.1H0
W193KHZ0.1HA W193CNQ0.1H0 W194KHZ0.1HA W194CNQ0.1H0 W195KHZ0.1HA W195CNQ0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

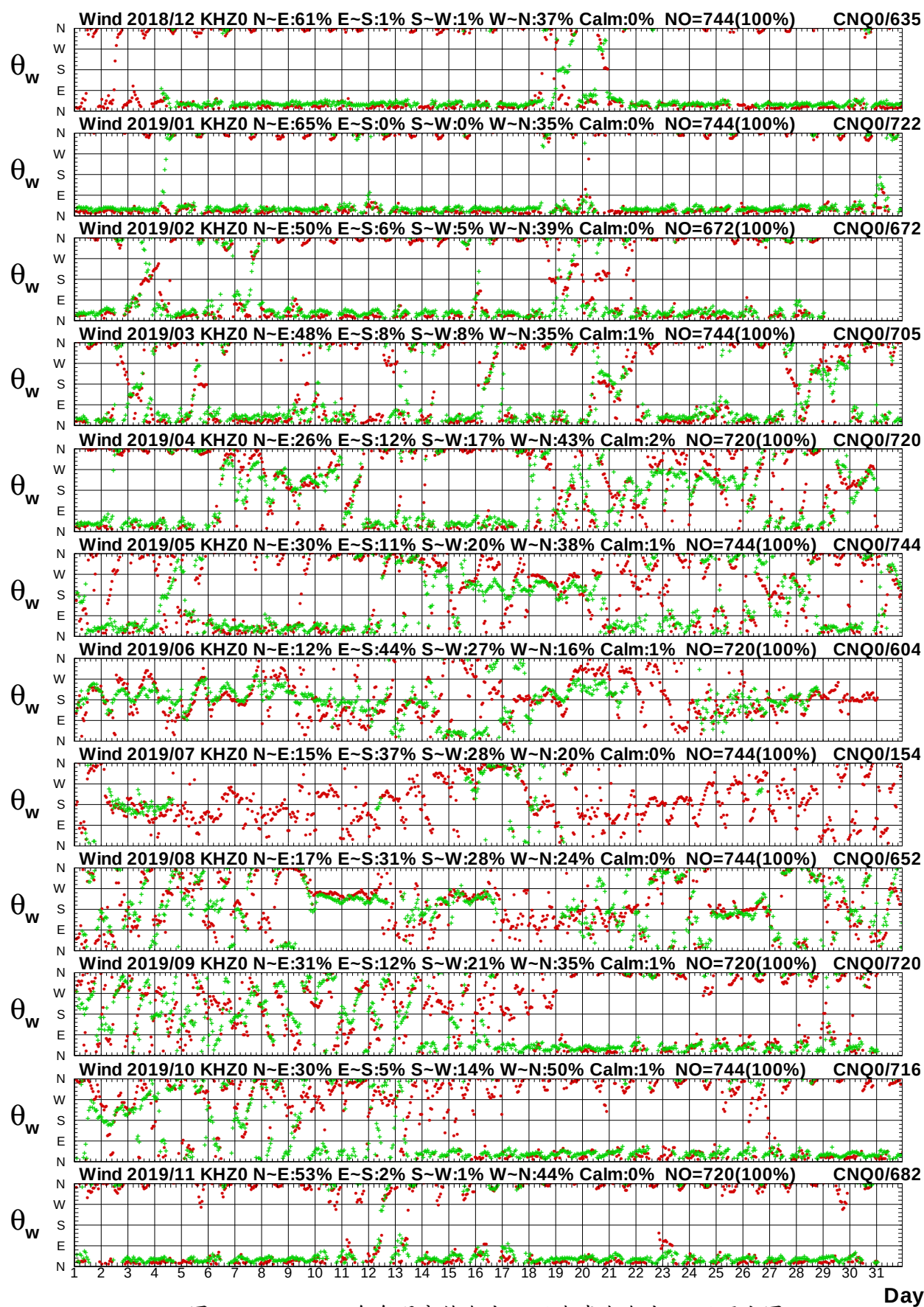


圖1.4.21b 2019年每月高雄海域 Z 站與嘉南海域 Q 站風向圖

W18CKHZ0.1HA W18CCNQ0.1H0 W191KHZ0.1HA W191CNQ0.1H0 W192KHZ0.1HA W192CNQ0.1H0
W193KHZ0.1HA W193CNQ0.1H0 W194KHZ0.1HA W194CNQ0.1H0 W195KHZ0.1HA W195CNQ0.1H0

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Wind Speed in Kao-Hsiung Seas of KHZ0 at 2019

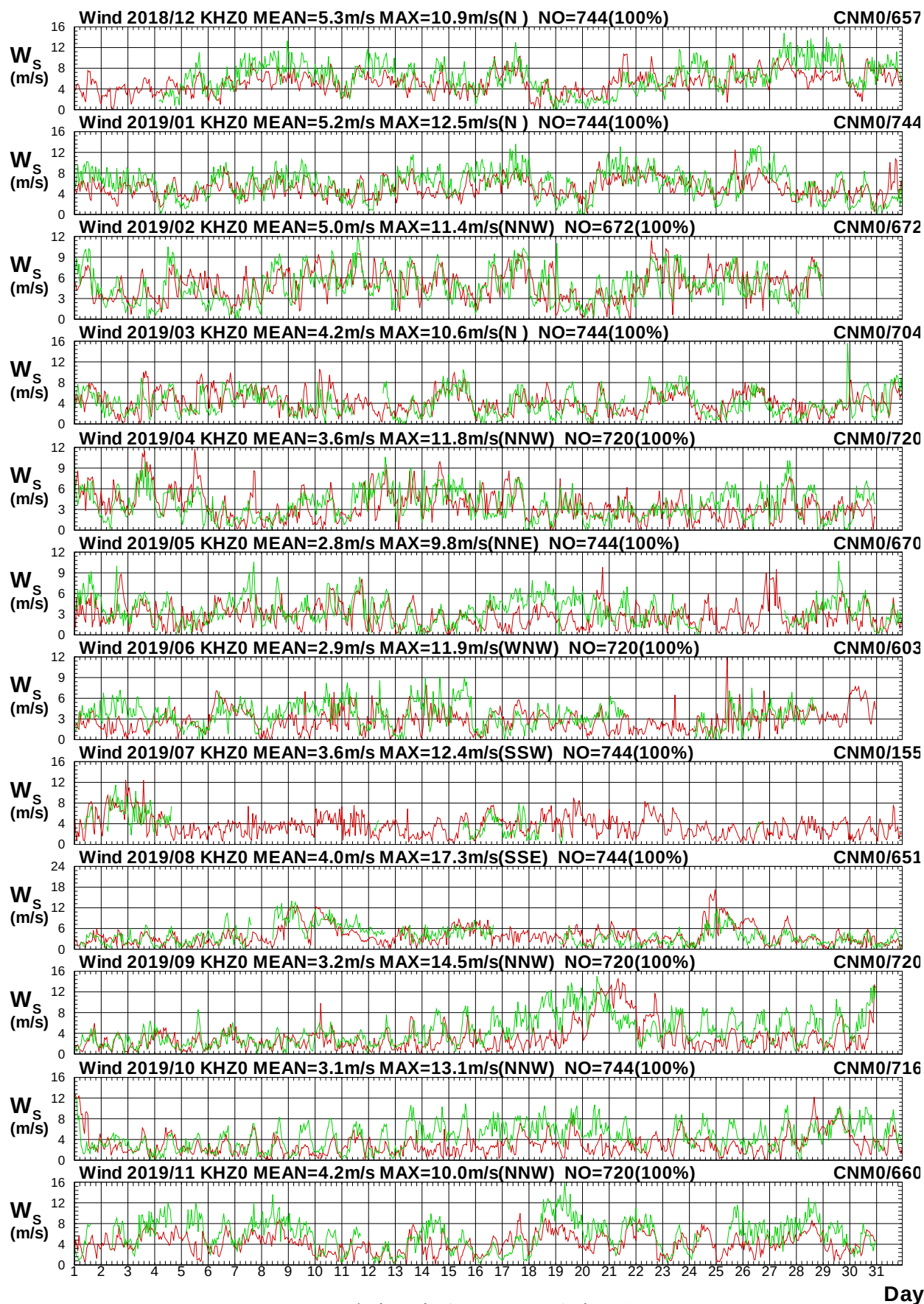


圖1.4.22a 2019年每月高雄海域 Z 站與嘉南海域 M 站風速圖

W18CKHZ0.1HA W18CCNM0.1H0 W191KHZ0.1HA W191CNM0.1H0 W192KHZ0.1HA W192CNM0.1H0
W193KHZ0.1HA W193CNM0.1H0 W194KHZ0.1HA W194CNM0.1H0 W195KHZ0.1HA W195CNM0.1H0

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Wind Direction in Kao-Hsiung Seas of KHZ0 at 2019

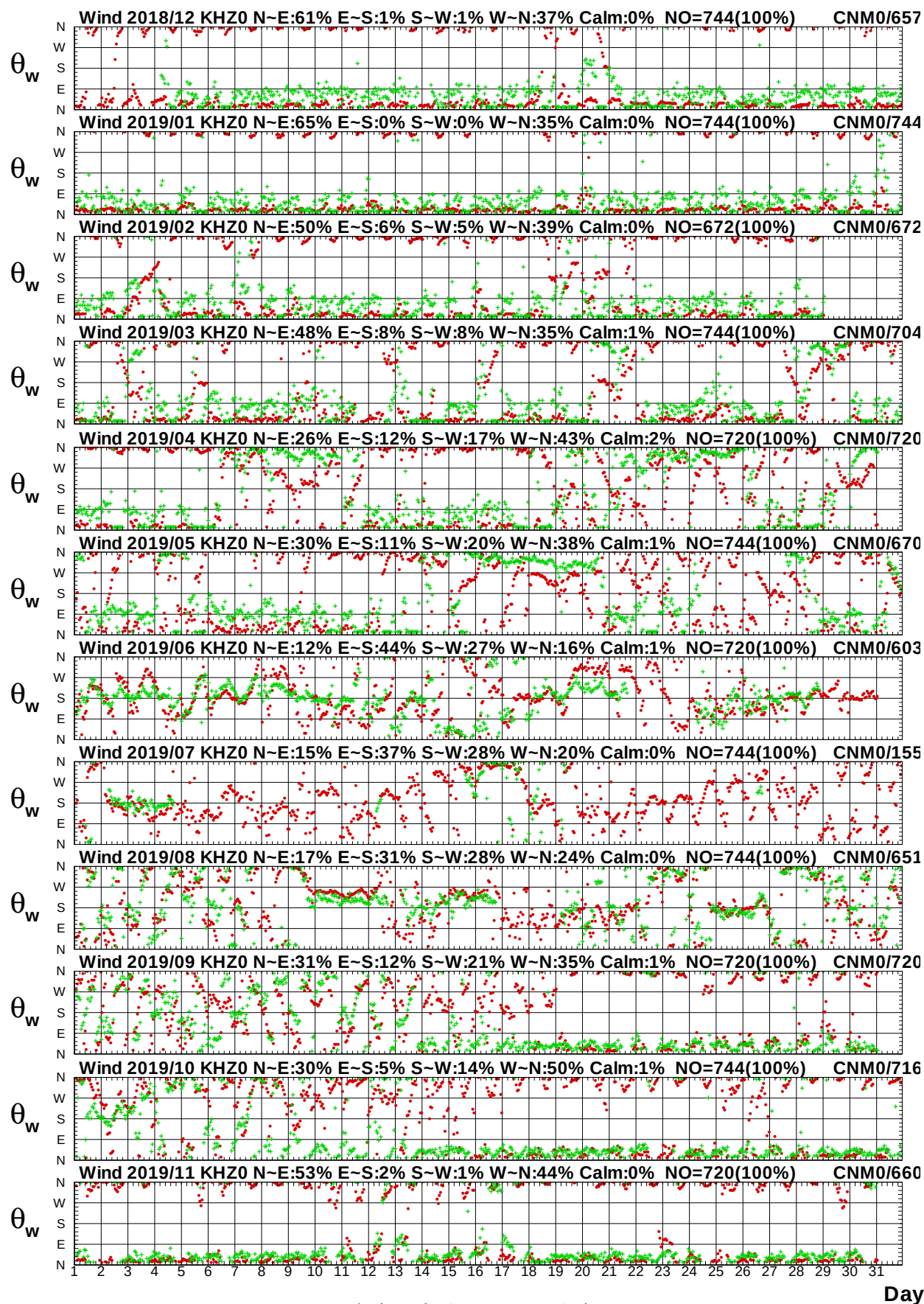


圖1.4.22b 2019年每月高雄海域 Z 站與嘉南海域 M 站風向圖

W18CKHZ0.1HA W18CCNM0.1H0 W191KHZ0.1HA W191CNM0.1H0 W192KHZ0.1HA W192CNM0.1H0
W193KHZ0.1HA W193CNM0.1H0 W194KHZ0.1HA W194CNM0.1H0 W195KHZ0.1HA W195CNM0.1H0

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1.5 2019 年高雄海域風力各測站修補前 風力向量分佈圖

Distribution of Wind Vectors

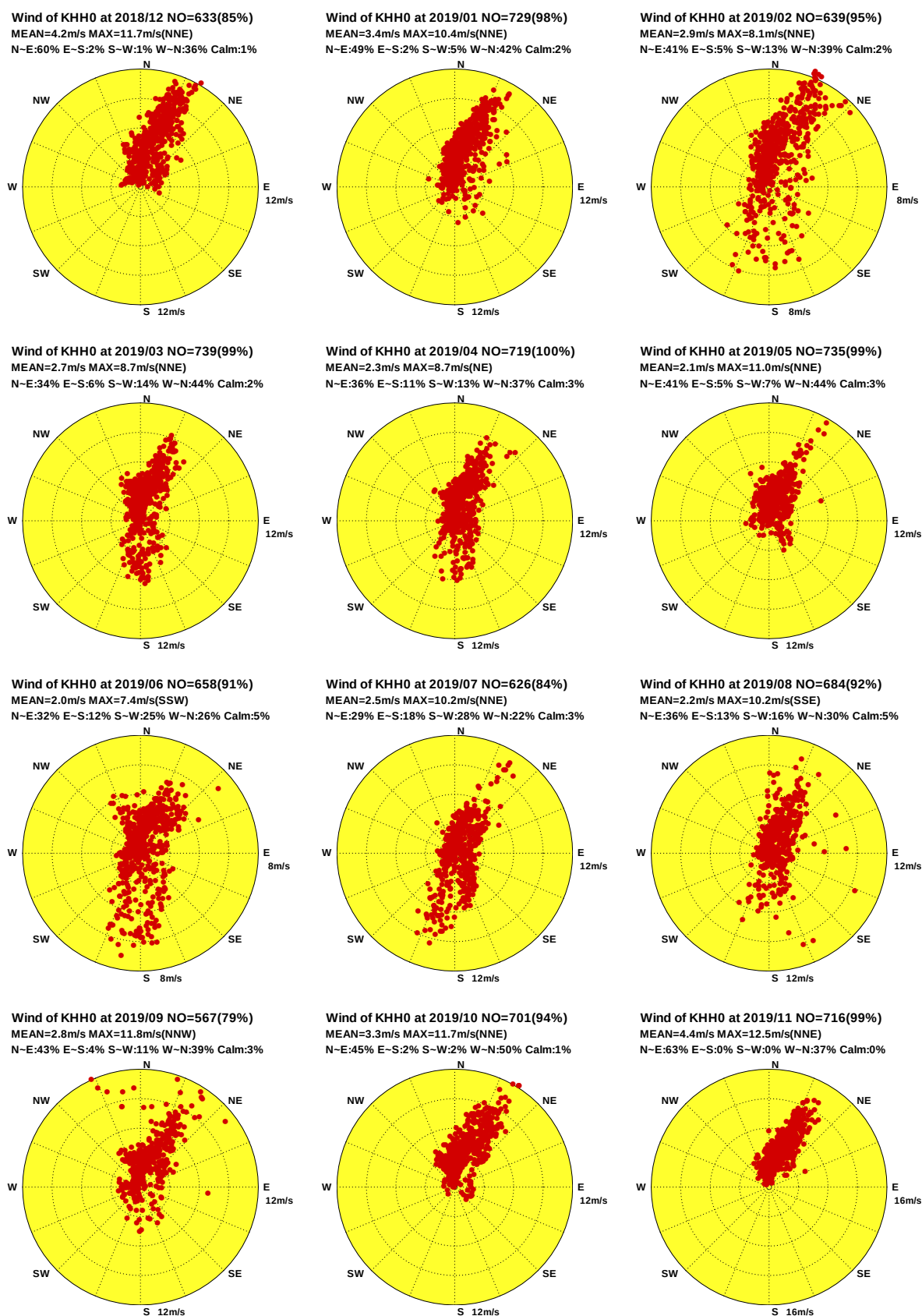


圖1.5.1 2019年高雄海域每月 H 站修補前觀測風力向量分佈圖

W18CKHH0.1H0 W191KHH0.1H0 W192KHH0.1H0 W193KHH0.1H0 W194KHH0.1H0 W195KHH0.1H0
W196KHH0.1H0 W197KHH0.1H0 W198KHH0.1H0 W199KHH0.1H0 W19AKHH0.1H0 W19BKHH0.1H0

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Distribution of Wind Vectors

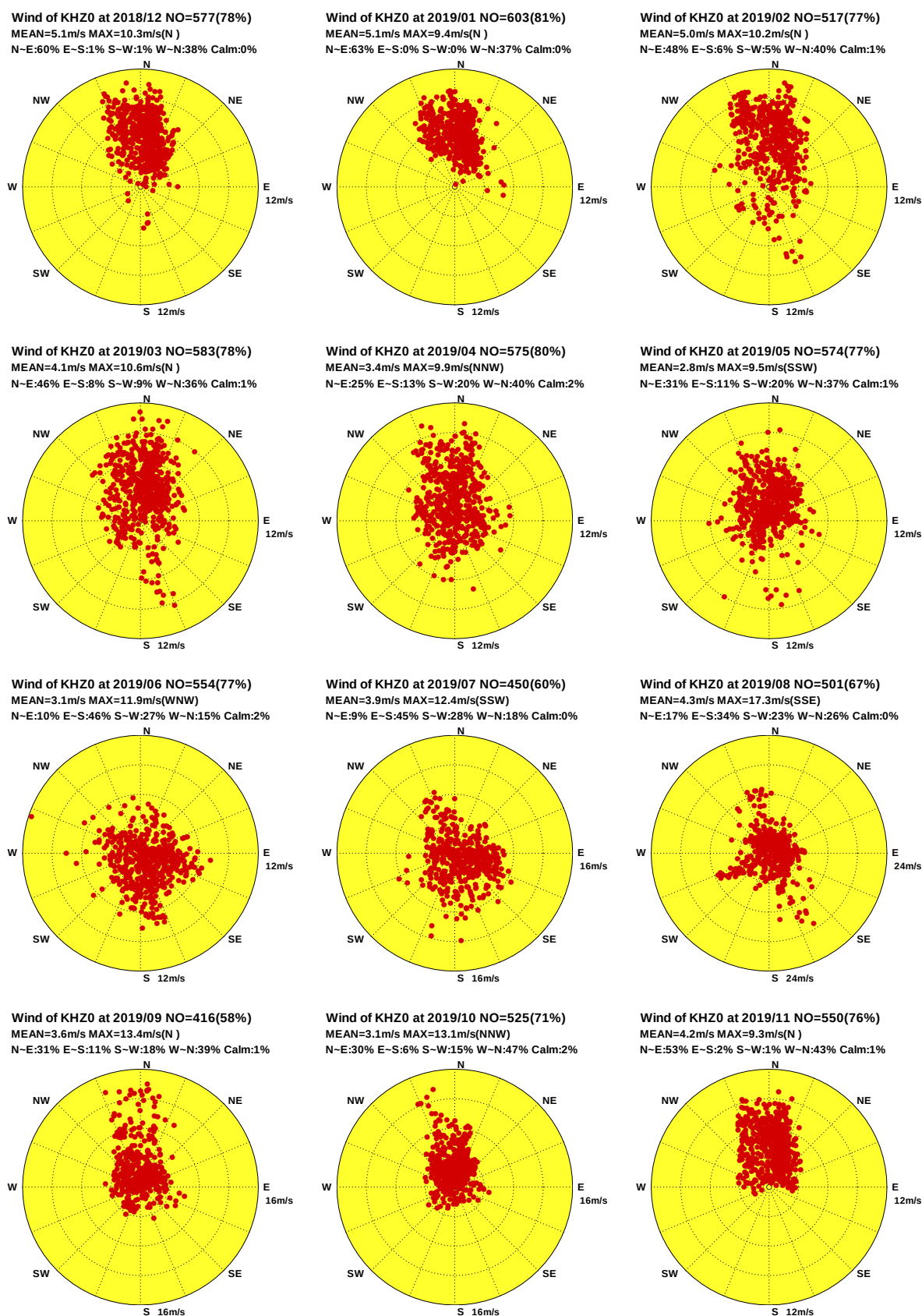


圖1.5.2 2019年高雄海域每月 Z 站修補前觀測風力向量分佈圖

W18CKHZ0.1H0 W191KHZ0.1H0 W192KHZ0.1H0 W193KHZ0.1H0 W194KHZ0.1H0 W195KHZ0.1H0
W196KHZ0.1H0 W197KHZ0.1H0 W198KHZ0.1H0 W199KHZ0.1H0 W19AKHZ0.1H0 W19BKHZ0.1H0

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Distribution of Wind Vectors

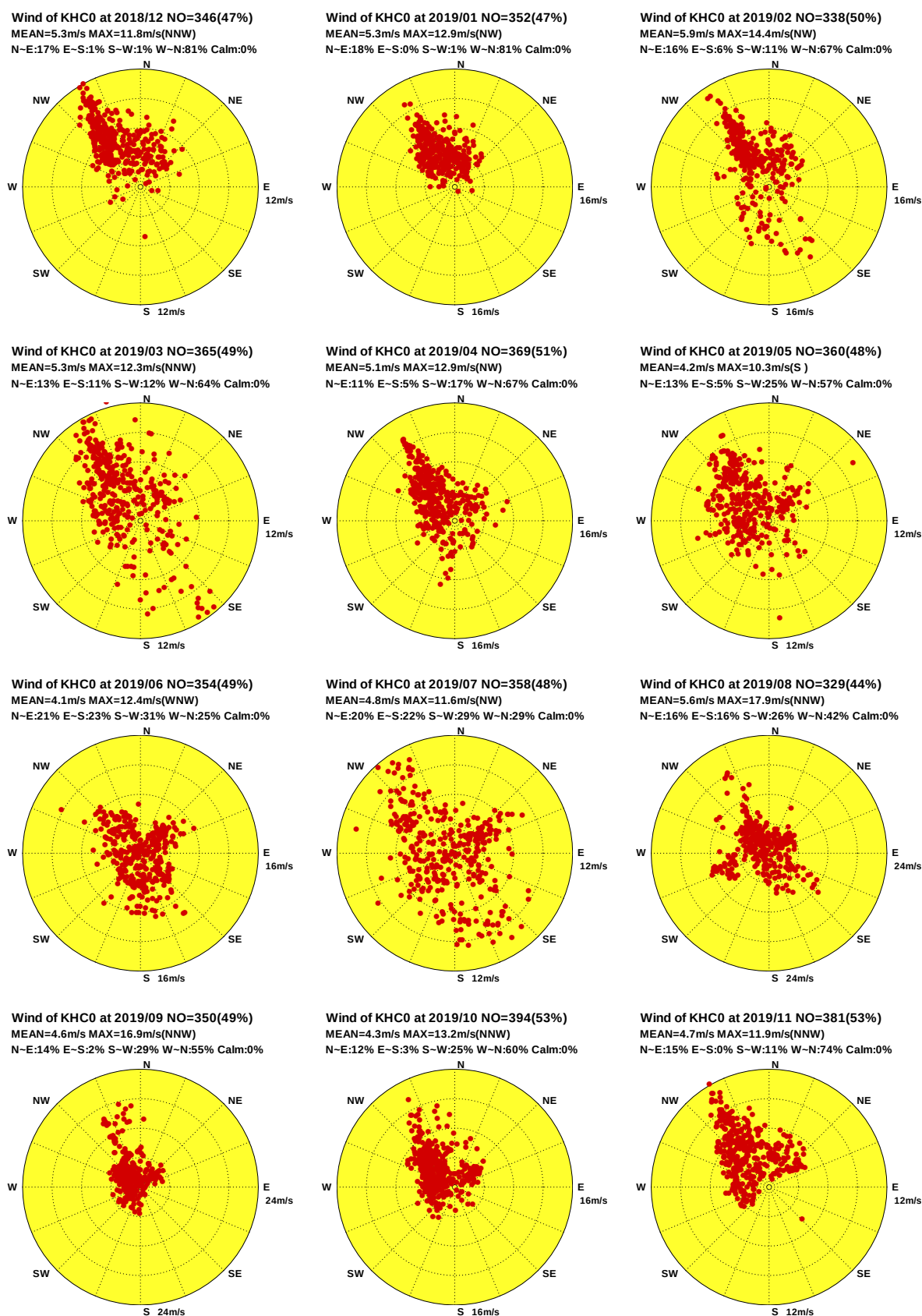


圖1.5.3 2019年高雄海域每月 C 站修補前觀測風力向量分佈圖

W18CKHC0.1H0 W191KHC0.1H0 W192KHC0.1H0 W193KHC0.1H0 W194KHC0.1H0 W195KHC0.1H0
 W196KHC0.1H0 W197KHC0.1H0 W198KHC0.1H0 W199KHC0.1H0 W19AKHC0.1H0 W19BKHC0.1H0

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Distribution of Wind Vectors

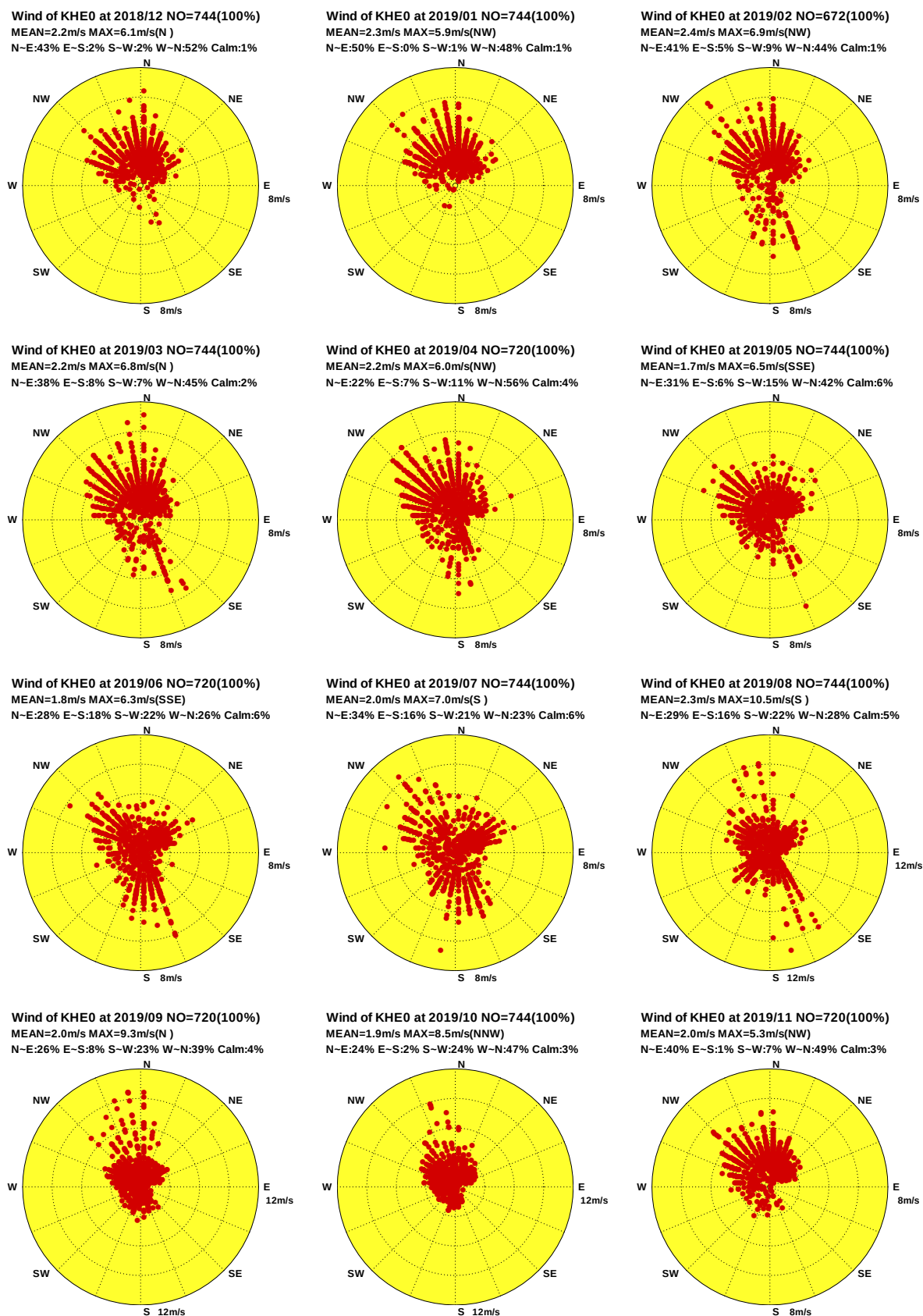


圖1.5.4 2019年高雄海域每月 E 站修補前觀測風力向量分佈圖

W18CKHE0.1H0 W191KHE0.1H0 W192KHE0.1H0 W193KHE0.1H0 W194KHE0.1H0 W195KHE0.1H0
W196KHE0.1H0 W197KHE0.1H0 W198KHE0.1H0 W199KHE0.1H0 W19AKHE0.1H0 W19BKHE0.1H0

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Distribution of Wind Vectors

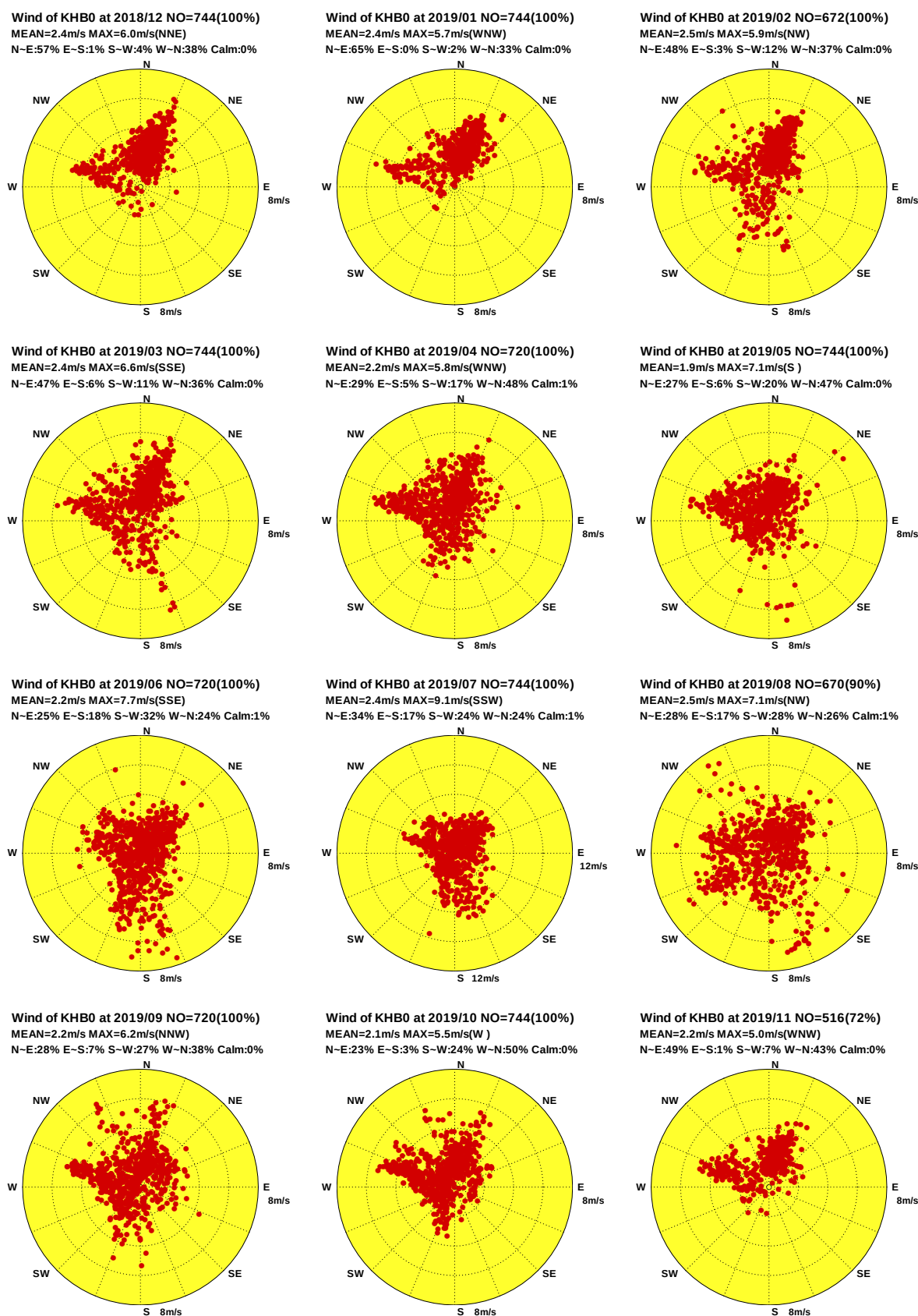


圖1.5.5 2019年高雄海域每月 B 站修補前觀測風力向量分佈圖

W18CKHB0.1H0 W191KHB0.1H0 W192KHB0.1H0 W193KHB0.1H0 W194KHB0.1H0 W195KHB0.1H0
W196KHB0.1H0 W197KHB0.1H0 W198KHB0.1H0 W199KHB0.1H0 W19AKHB0.1H0 W19BKHB0.1H0

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1.6 2019 年高雄海域風力各測站修補前 風力向量行進圖

Progressive Vector Diagram of Wind

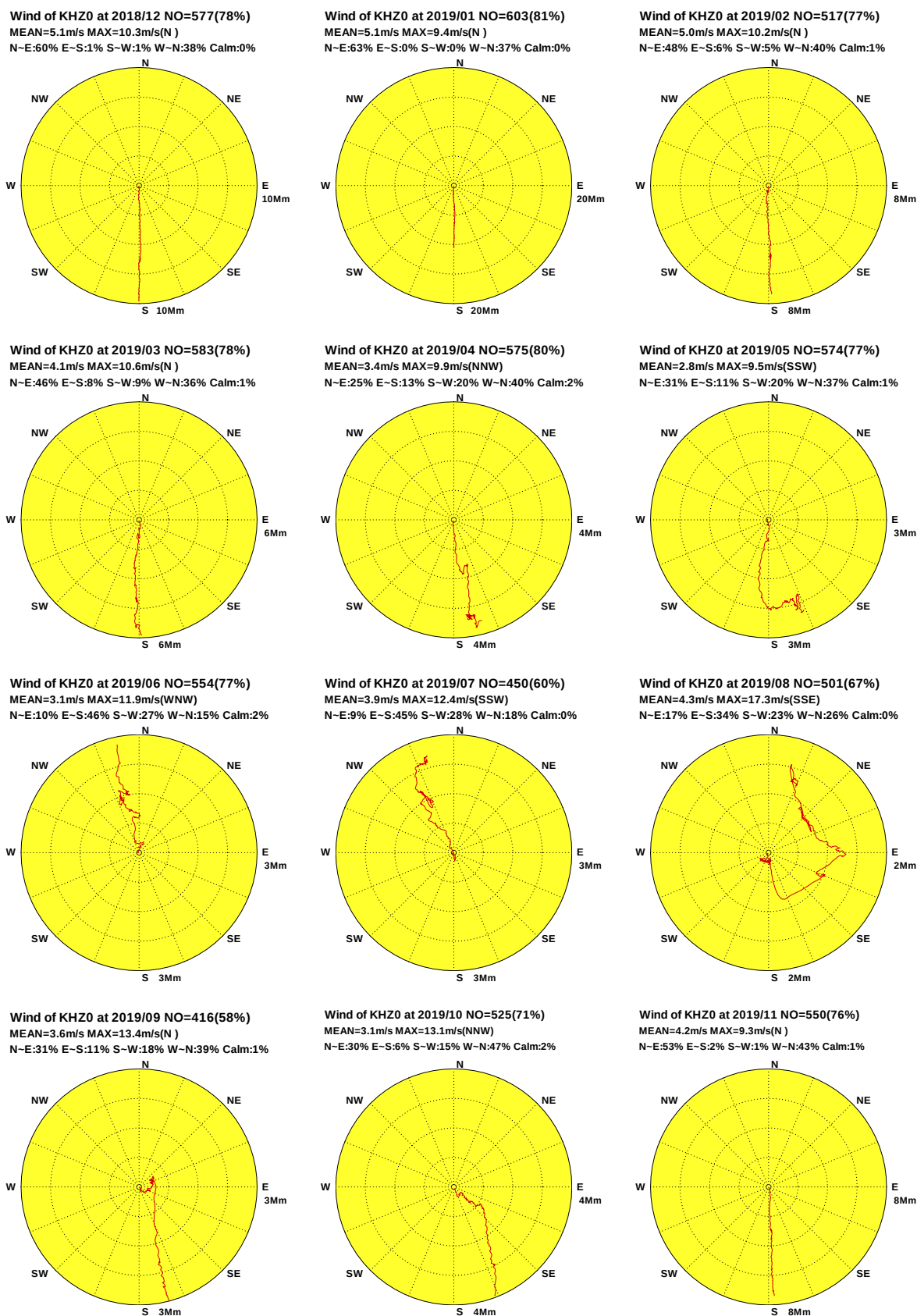


圖1.6.1 2019年高雄海域每月 Z 站修補前觀測風力向量行進圖

W18CKHZ0.1H0 W191KHZ0.1H0 W192KHZ0.1H0 W193KHZ0.1H0 W194KHZ0.1H0 W195KHZ0.1H0
W196KHZ0.1H0 W197KHZ0.1H0 W198KHZ0.1H0 W199KHZ0.1H0 W19AKHZ0.1H0 W19BKHZ0.1H0

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Progressive Vector Diagram of Wind

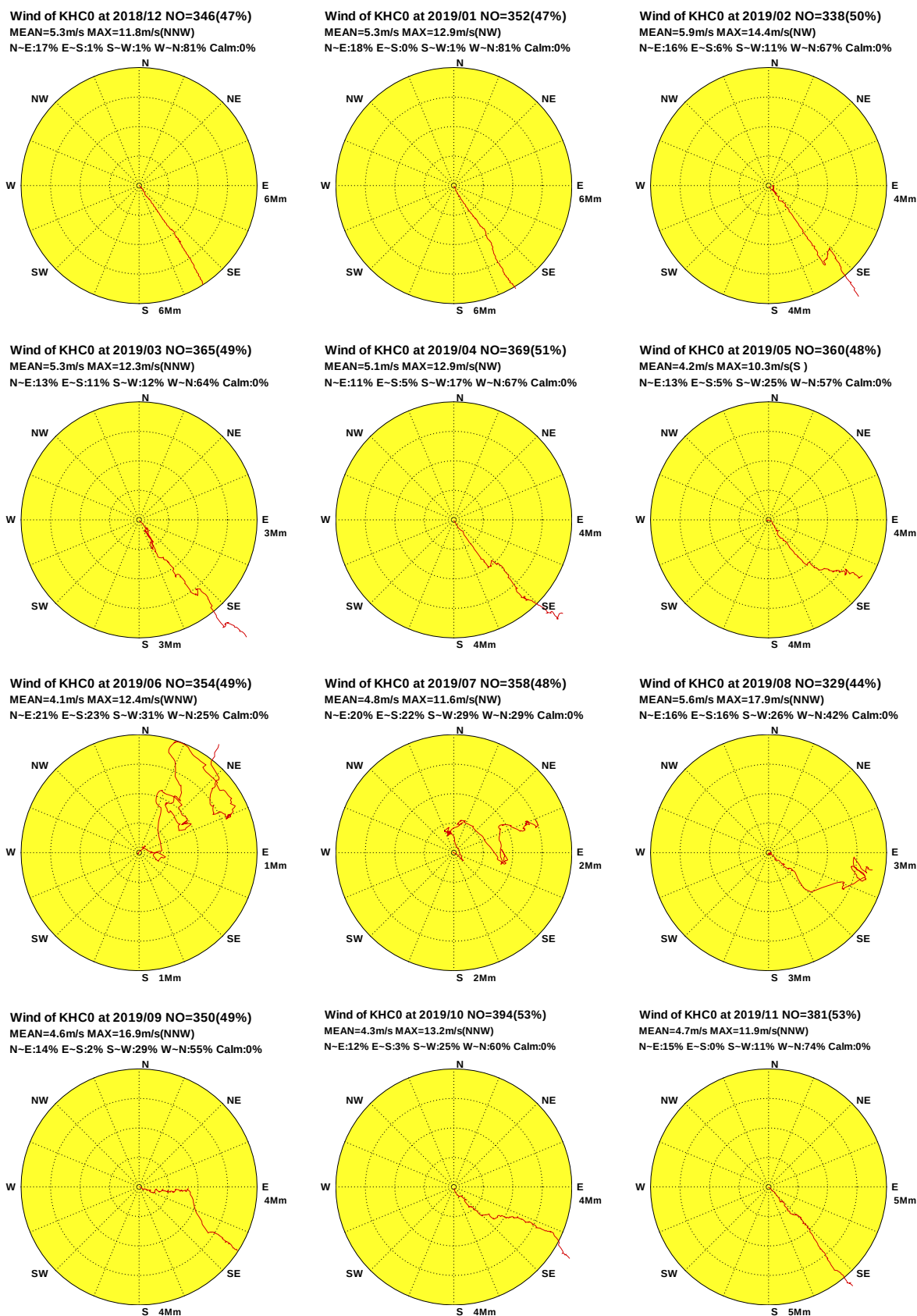


圖1.6.2 2019年高雄海域每月 C 站修補前觀測風力向量行進圖

W18CKHC0.1H0 W191KHC0.1H0 W192KHC0.1H0 W193KHC0.1H0 W194KHC0.1H0 W195KHC0.1H0
W196KHC0.1H0 W197KHC0.1H0 W198KHC0.1H0 W199KHC0.1H0 W19AKHC0.1H0 W19BKHC0.1H0

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Progressive Vector Diagram of Wind

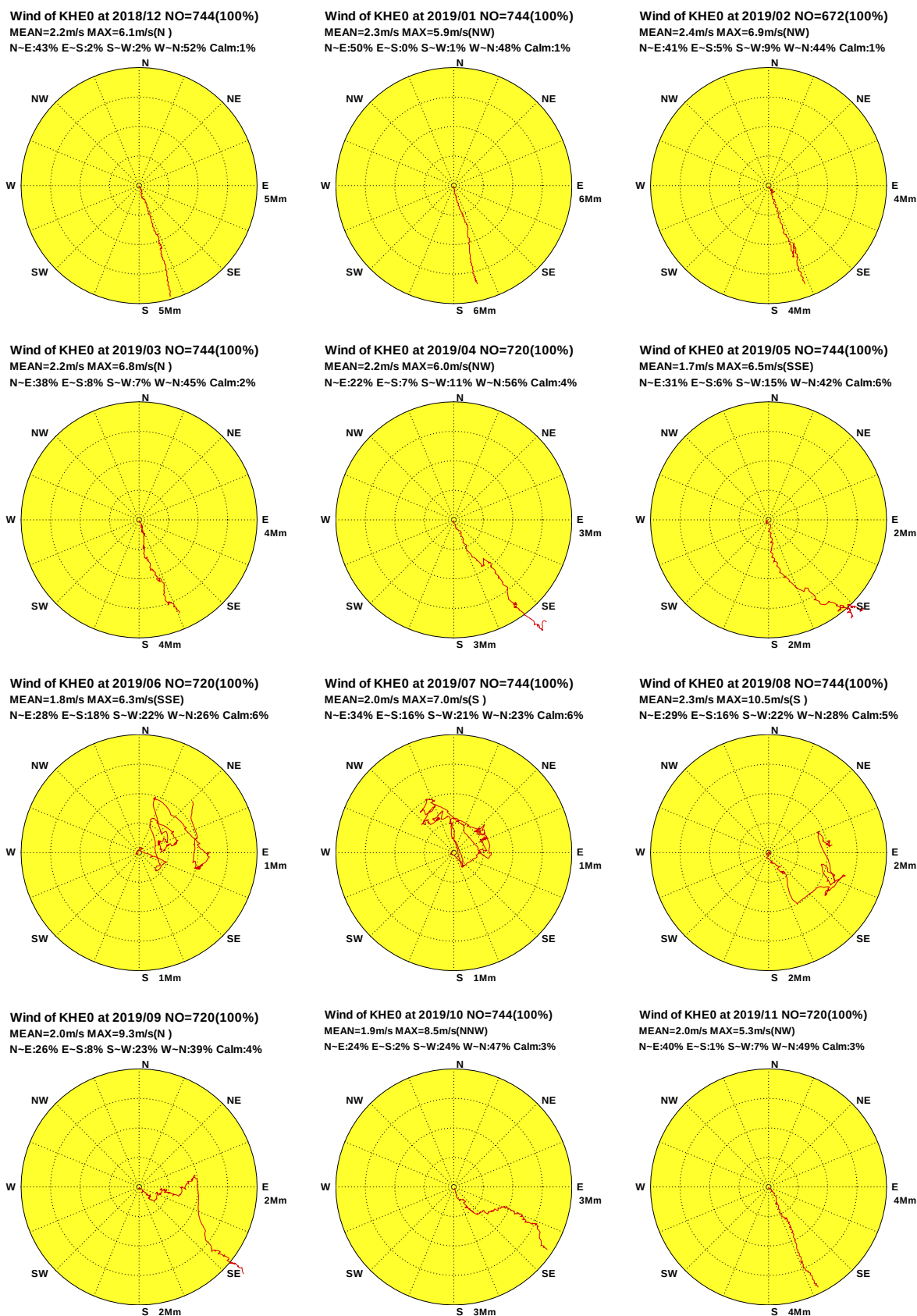


圖1.6.3 2019年高雄海域每月 E 站修補前觀測風力向量行進圖

W18CKHE0.1H0 W191KHE0.1H0 W192KHE0.1H0 W193KHE0.1H0 W194KHE0.1H0 W195KHE0.1H0
W196KHE0.1H0 W197KHE0.1H0 W198KHE0.1H0 W199KHE0.1H0 W19AKHE0.1H0 W19BKHE0.1H0

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Progressive Vector Diagram of Wind

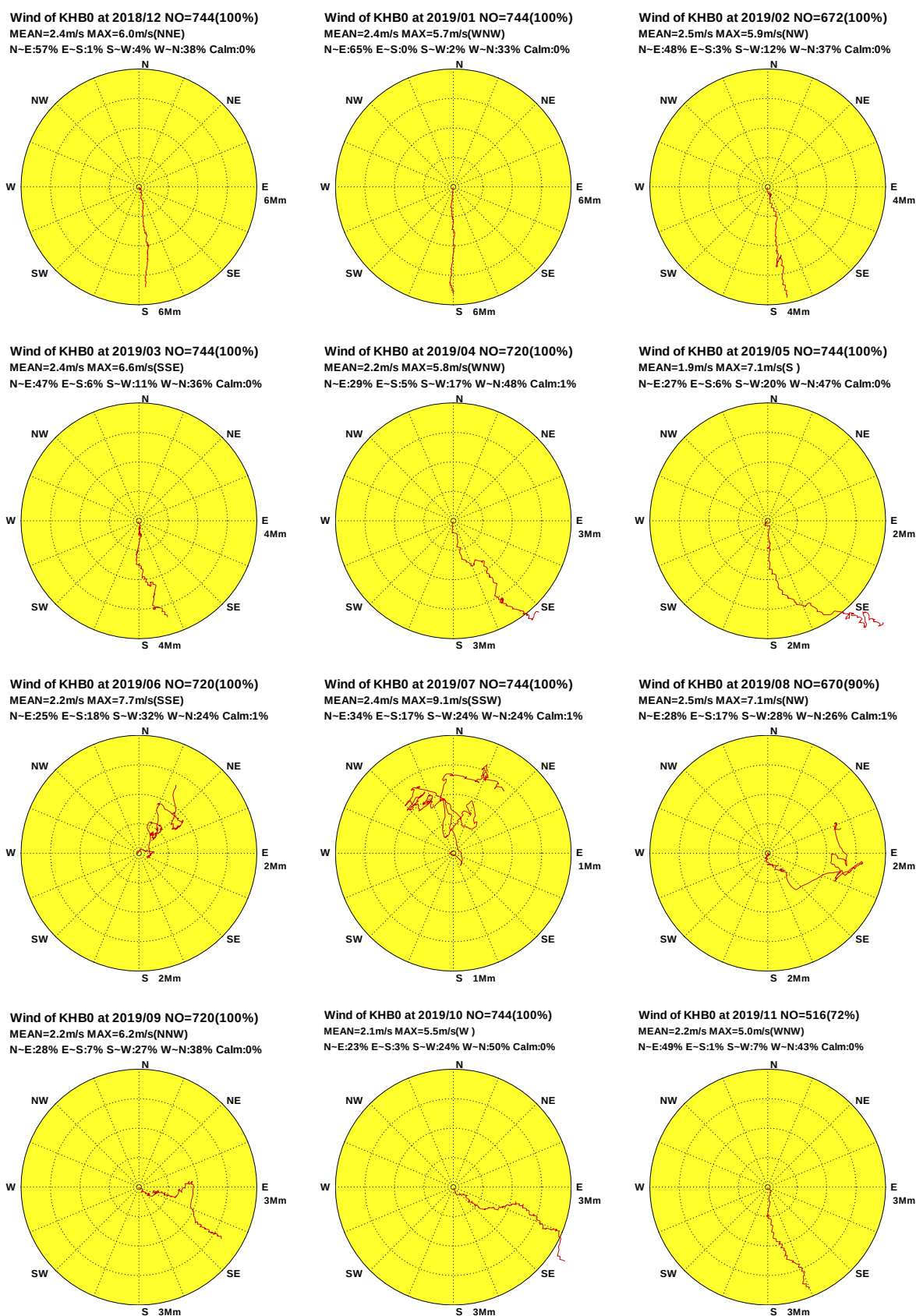


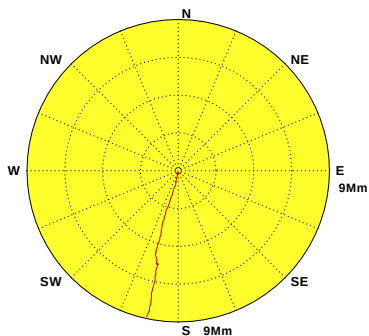
圖1.6.4 2019年高雄海域每月 B 站修補前觀測風力向量行進圖

W18CKHB0.1H0 W191KHB0.1H0 W192KHB0.1H0 W193KHB0.1H0 W194KHB0.1H0 W195KHB0.1H0
 W196KHB0.1H0 W197KHB0.1H0 W198KHB0.1H0 W199KHB0.1H0 W19AKHB0.1H0 W19BKHB0.1H0

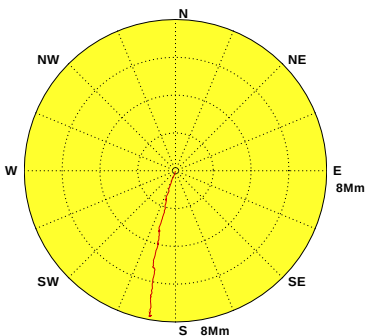
Institute of Harbor & Marine Technology

Progressive Vector Diagram of Wind

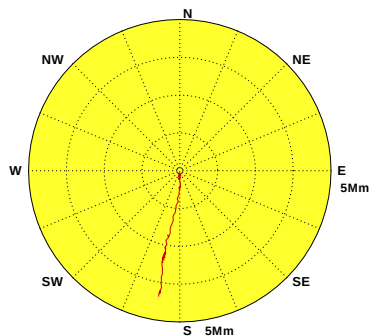
Wind of KHH0 at 2018/12 NO=633(85%)
MEAN=4.2m/s MAX=11.7m/s(NNE)
N-E:60% E-S:2% S-W:1% W-N:36% Calm:1%



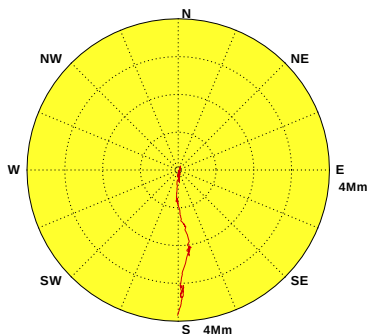
Wind of KHH0 at 2019/01 NO=729(98%)
MEAN=3.4m/s MAX=10.4m/s(NNE)
N-E:49% E-S:2% S-W:5% W-N:42% Calm:2%



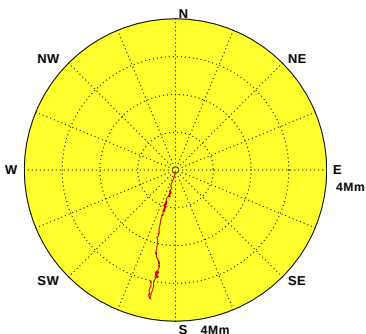
Wind of KHH0 at 2019/02 NO=639(95%)
MEAN=2.9m/s MAX=8.1m/s(NNE)
N-E:41% E-S:5% S-W:13% W-N:39% Calm:2%



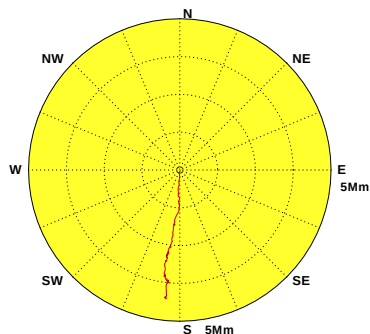
Wind of KHH0 at 2019/03 NO=739(99%)
MEAN=2.7m/s MAX=8.7m/s(NNE)
N-E:34% E-S:6% S-W:14% W-N:44% Calm:2%



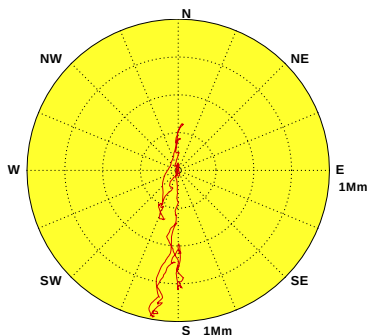
Wind of KHH0 at 2019/04 NO=719(100%)
MEAN=2.3m/s MAX=8.7m/s(NNE)
N-E:36% E-S:11% S-W:13% W-N:37% Calm:3%



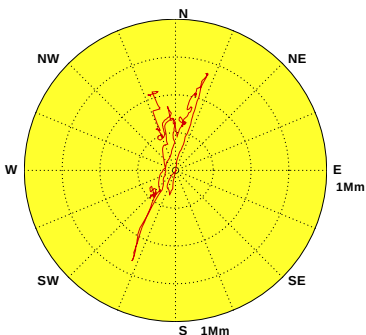
Wind of KHH0 at 2019/05 NO=735(99%)
MEAN=2.1m/s MAX=11.0m/s(NNE)
N-E:41% E-S:5% S-W:7% W-N:44% Calm:3%



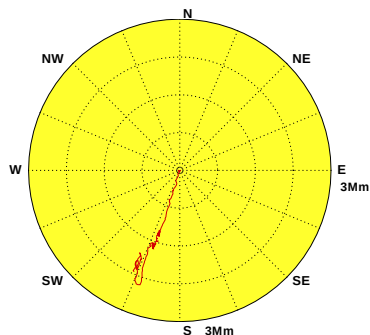
Wind of KHH0 at 2019/06 NO=658(91%)
MEAN=2.0m/s MAX=7.4m/s(SSW)
N-E:32% E-S:12% S-W:25% W-N:26% Calm:5%



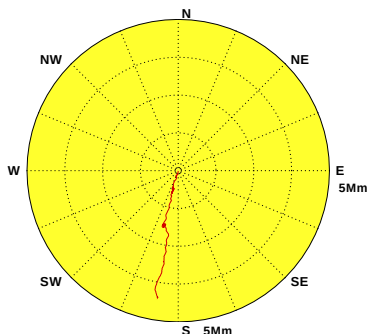
Wind of KHH0 at 2019/07 NO=626(84%)
MEAN=2.5m/s MAX=10.2m/s(NNE)
N-E:29% E-S:18% S-W:28% W-N:22% Calm:3%



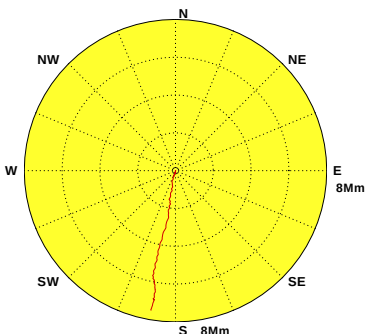
Wind of KHH0 at 2019/08 NO=684(92%)
MEAN=2.2m/s MAX=10.2m/s(SSE)
N-E:36% E-S:13% S-W:16% W-N:30% Calm:5%



Wind of KHH0 at 2019/09 NO=567(79%)
MEAN=2.8m/s MAX=11.8m/s(NNW)
N-E:43% E-S:4% S-W:11% W-N:39% Calm:3%



Wind of KHH0 at 2019/10 NO=701(94%)
MEAN=3.3m/s MAX=11.7m/s(NNE)
N-E:45% E-S:2% S-W:2% W-N:50% Calm:1%



Wind of KHH0 at 2019/11 NO=716(99%)
MEAN=4.4m/s MAX=12.5m/s(NNE)
N-E:63% E-S:0% S-W:0% W-N:37% Calm:0%

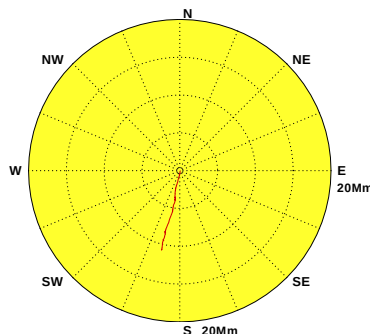


圖1.6.5 2019年高雄海域每月 H 站修補前觀測風力向量行進圖

W18CKHH0.1H0 W191KHH0.1H0 W192KHH0.1H0 W193KHH0.1H0 W194KHH0.1H0 W195KHH0.1H0
W196KHH0.1H0 W197KHH0.1H0 W198KHH0.1H0 W199KHH0.1H0 W19AKHH0.1H0 W19BKHH0.1H0

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第二章 2019 年高雄海域觀測波浪資料年報

2019 年高雄海域波浪觀測包括測站 **X**、測站 **A**、測站 **1**、測站 **2** 及測站 **Z** 等 5 個測站(測站位置如第 O 章圖 VH1，各測站觀測波浪資料蒐集概況如表 VH1)。本年報取經檢核及補遺之 **X** 站資料作為主要測站 1，**Z** 站資料作為主要測站 2。

2.1 2019 年高雄海域觀測波浪資料年報圖表

本章第 1 節**波浪**年報資料處理之圖表包括：

1. 表 2.1.1a 2019 年**各觀測站**每月**觀測波浪**資料**修補前**記錄表。
2. 表 2.1.1b 2019 年**主要測站**每月**觀測波浪**資料**修補後**記錄表。
3. 表 2.1.2 2019 年**主要測站 1** **修補後**每月(季)及整年示性波高、示性週期及波向重要統計量統計表。
4. 表 2.1.3 2019 年**主要測站 2** **修補後**每月(季)及整年示性波高、示性週期及波向重要統計量統計表。
5. 圖 2.1.1a 2019 年**主要測站 1** **修補前後**每月示性波高歷線比較圖。
6. 圖 2.1.1b 2019 年**主要測站 1** **修補前後**每月示性週期歷線比較圖。
7. 圖 2.1.1c 2019 年**主要測站 1** **修補前後**每月波向歷線比較圖。
8. 圖 2.1.2a 2019 年**主要測站 2** **修補前後**每月示性波高歷線比較圖。
9. 圖 2.1.2b 2019 年**主要測站 2** **修補前後**每月示性週期歷線比較圖。
10. 圖 2.1.2c 2019 年**主要測站 2** **修補前後**每月波向歷線比較圖。

11. 圖 2.1.3 2019 年**主要測站 1 修補後**每月波高向量分佈圖。

12. 圖 2.1.4 2019 年**主要測站 2 修補後**每月波高向量分佈圖。

第 2 節波浪年報資料處理之統計表包括：2019 年高雄海域**各測站修補前**每月(季)及整年示性波高、示性週期及波向重要統計量統計表。

第 3 節波浪年報資料處理之統計圖包括：2019 年高雄海域**主要測站 1 修補後**與**其他測站(修補前)**每月示性波高、示性週期及波向歷線比較圖。

第 4 節波浪年報資料處理之統計圖包括：2019 年高雄海域**主要測站 2 修補後**與**其他測站(修補前)**每月示性波高、示性週期及波向歷線比較圖。

第 5 節波浪年報資料處理之統計圖包括：2019 年高雄海域**各測站修補前**每月波高向量分佈圖。

表 2.1.1a 2019 年每月高雄海域修補前各測站觀測波浪資料紀錄表

海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域
年月/測站	X	Z										
2018/12 月	675(90.7%)	574(77.2%)	*	*	*	*	*	*	*	*	*	*
2019/ 1 月	691(92.9%)	602(80.9%)	*	*	*	*	*	*	*	*	*	*
2019/ 2 月	621(92.4%)	517(76.9%)	*	*	*	*	*	*	*	*	*	*
2019/ 3 月	674(90.6%)	582(78.2%)	*	*	*	*	*	*	*	*	*	*
2019/ 4 月	657(91.3%)	572(79.4%)	*	*	*	*	*	*	*	*	*	*
2019/ 5 月	683(91.8%)	574(77.2%)	*	*	*	*	*	*	*	*	*	*
2019/ 6 月	664(92.2%)	554(76.9%)	*	*	*	*	*	*	*	*	*	*
2019/ 7 月	717(96.4%)	450(60.5%)	*	*	*	*	*	*	*	*	*	*
2019/ 8 月	534(71.8%)	500(67.2%)	*	*	*	*	*	*	*	*	*	*
2019/ 9 月	270(37.5%)	416(57.8%)	*	*	*	*	*	*	*	*	*	*
2019/10 月	*	525(70.6%)	*	*	*	*	*	*	*	*	*	*
2019/11 月	*	550(76.4%)	*	*	*	*	*	*	*	*	*	*
2019/冬季	1987(92.0%)	1693(78.4%)	*	*	*	*	*	*	*	*	*	*
2019/春季	2014(91.2%)	1728(78.3%)	*	*	*	*	*	*	*	*	*	*
2019/夏季	1915(86.7%)	1504(68.1%)	*	*	*	*	*	*	*	*	*	*
2019/秋季	270(12.4%)	1491(68.3%)	*	*	*	*	*	*	*	*	*	*
2019/整年	6186(70.6%)	6416(73.2%)	*	*	*	*	*	*	*	*	*	*
起始年月	2018/12	2018/12	*	*	*	*	*	*	*	*	*	*
結束年月	2019/09	2019/11	*	*	*	*	*	*	*	*	*	*

表 2.1.1b 2019 年每月高雄海域修補後各測站波浪資料紀錄表

海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域
年月/測站	X	Z										
2018/12 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 1 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 2 月	672(100%)	672(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 3 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 4 月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 5 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 6 月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 7 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 8 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 9 月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/10 月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/11 月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/冬季	2160(100%)	2160(100%)	*	*	*	*	*	*	*	*	*	*
2019/春季	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*	*
2019/夏季	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*	*
2019/秋季	2184(100%)	2184(100%)	*	*	*	*	*	*	*	*	*	*
2019/整年	8760(100%)	8760(100%)	*	*	*	*	*	*	*	*	*	*
起始年月	2018/12	2018/12	*	*	*	*	*	*	*	*	*	*
結束年月	2019/11	2019/11	*	*	*	*	*	*	*	*	*	*

表2.1.2 2019年高雄海域主要測站1修補後示性波高週期及波向重要統計量統計表

觀測 日期 年、月	波高 蒐集 率	H_s 平均 (m)	H_s 最大 (波高/週期/波向) (m/s/來向)	T_p 平均 (s)	T_p 最大 (s)	小波 <0.5m (%)	小浪 ~1.5m (%)	中浪 ~3m (%)	大浪 >3m (%)	T_p <6s (%)	T_p 6~8s (%)	T_p 8~10s (%)	T_p >10s (%)	波向 蒐集 率	波向 N~E (%)	波向 E~S (%)	波向 S~W (%)	波向 W~N (%)	主波向 (百分比) 來向/%
2018/12	100%	.73	1.5/10.8/WNW	6.8	11.5	16.7	83.3	.0	.0	48.3	21.5	15.6	14.7	100%	.0	.0	25.1	74.9	WNW/49%
2019/01	100%	.74	1.2/ 5.1/WNW	6.6	10.7	4.0	96.0	.0	.0	43.5	32.9	18.3	5.2	100%	.0	.1	41.1	58.7	WNW/37%
2019/02	100%	.67	1.1/ 6.9/SSW	6.1	14.3	16.1	83.9	.0	.0	58.8	26.3	8.2	6.7	100%	.0	.0	42.1	57.9	WNW/39%
2019/03	100%	.57	1.2/ 6.7/SSW	5.1	10.9	36.0	64.0	.0	.0	79.0	16.7	4.0	.3	100%	.0	.0	31.7	68.3	WNW/44%
2019/04	100%	.48	1.0/ 4.8/NW	5.1	9.1	52.5	47.5	.0	.0	73.9	21.0	5.1	.0	100%	.0	.3	50.3	49.4	WNW/34%
2019/05	100%	.57	1.1/ 5.1/SSW	5.9	10.3	35.6	64.4	.0	.0	49.6	47.7	2.3	.4	100%	.0	.0	67.2	32.8	WSW/35%
2019/06	100%	.71	1.6/ 7.5/SW	6.3	9.8	23.9	75.4	.7	.0	41.4	45.0	13.6	.0	100%	.0	.0	99.4	.6	WSW/59%
2019/07	100%	1.17	3.1/ 9.4/SW	7.6	11.9	8.1	65.7	25.7	.5	8.1	53.9	31.2	6.9	100%	.0	.0	97.4	2.6	WSW/64%
2019/08	100%	1.51	3.9/ 9.4/SW	8.5	11.0	2.2	51.2	42.3	4.3	2.3	34.3	50.0	13.4	100%	.3	.7	94.8	4.3	SW /58%
2019/09	100%	1.07	2.1/12.9/WSW	7.7	13.9	5.1	70.8	24.0	.0	22.9	31.9	34.9	10.3	100%	.0	.6	68.8	30.7	SW /36%
2019/10	100%	.58	1.7/ 7.1/E	6.0	10.7	34.4	65.1	.5	.0	45.4	50.5	3.2	.8	100%	46.5	26.3	13.0	14.1	E /35%
2019/11	100%	.59	1.1/ 9.4/WSW	6.4	11.5	20.4	79.6	.0	.0	31.4	61.9	5.4	1.3	100%	.6	.0	71.7	27.8	W /41%
2019/冬	100%	.72	1.5/10.8/WNW	6.5	14.3	12.1	87.9	.0	.0	49.9	26.9	14.2	8.9	100%	.0	.0	35.9	64.0	WNW/42%
2019/春	100%	.54	1.2/ 6.7/SSW	5.4	10.9	41.3	58.7	.0	.0	67.4	28.5	3.8	.2	100%	.0	.1	49.7	50.2	WNW/31%
2019/夏	100%	1.13	3.9/ 9.4/SW	7.5	11.9	11.2	64.0	23.1	1.6	17.0	44.4	31.8	6.8	100%	.1	.2	97.2	2.5	WSW/50%
2019/秋	100%	.75	2.1/12.9/WSW	6.7	13.9	20.1	71.7	8.1	.0	33.4	48.2	14.4	4.1	100%	16.0	9.2	50.7	24.1	W /25%
2019/年	100%	.78	3.9/ 9.4/SW	6.5	14.3	21.2	70.5	7.9	.4	41.9	37.0	16.1	5.0	100%	4.0	2.4	58.5	35.1	WSW/26%

表2.1.3 2019年高雄海域主要測站2修補後示性波高週期及波向重要統計量統計表

觀測 日期 年、月	波高 蒐集 率	H_s 平均 (m)	H_s 最大 (波高/週期/波向) (m/s/來向)	T_p 平均 (s)	T_p 最大 (s)	小波 <0.5m (%)	小浪 ~1.5m (%)	中浪 ~3m (%)	大浪 >3m (%)	T_p <6s (%)	T_p 6~8s (%)	T_p 8~10s (%)	T_p >10s (%)	波向 蒐集 率	波向 N~E (%)	波向 E~S (%)	波向 S~W (%)	波向 W~N (%)	主波向 (百分比) 來向/%
2018/12	100%	.84	1.6/ 4.7/W	4.6	5.9	13.0	85.1	1.9	.0	100.0	.0	.0	.0	100%	.4	.4	13.0	86.2	NW /45%
2019/01	100%	.81	1.7/ 4.9/NW	4.6	5.7	4.8	94.6	.5	.0	100.0	.0	.0	.0	100%	.1	2.8	27.6	69.5	NW /28%
2019/02	100%	.69	1.3/ 4.9/S	4.3	5.7	20.1	79.9	.0	.0	100.0	.0	.0	.0	100%	.9	1.6	24.9	72.6	NW /32%
2019/03	100%	.60	1.6/ 4.7/SSW	4.2	5.6	34.7	65.1	.3	.0	100.0	.0	.0	.0	100%	.1	1.7	23.0	75.1	NW /34%
2019/04	100%	.50	1.2/ 4.5/NW	4.2	5.8	53.9	46.1	.0	.0	100.0	.0	.0	.0	100%	.4	2.8	40.1	56.7	NW /23%
2019/05	100%	.61	1.4/ 4.4/S	4.6	6.1	36.8	63.2	.0	.0	99.7	.3	.0	.0	100%	.0	.7	60.5	38.8	SW /24%
2019/06	100%	.71	1.7/ 6.4/SSW	4.7	6.6	25.7	72.8	1.5	.0	95.0	5.0	.0	.0	100%	.1	1.3	88.5	10.1	WSW/33%
2019/07	100%	1.22	3.4/ 6.8/SSW	5.5	8.8	10.3	59.3	29.8	.5	75.4	24.1	.5	.0	100%	.0	.3	95.8	3.9	SW /51%
2019/08	100%	1.57	4.3/ 6.7/SSW	6.2	8.9	2.8	49.2	42.9	5.1	41.5	53.0	5.5	.0	100%	.3	.3	94.8	4.7	SW /53%
2019/09	100%	1.06	2.1/ 7.3/SW	5.4	7.8	5.4	74.3	20.3	.0	71.9	28.1	.0	.0	100%	.3	.4	61.5	37.8	SW /21%
2019/10	100%	.66	2.1/ 5.0/NW	4.5	6.8	26.5	72.7	.8	.0	99.2	.8	.0	.0	100%	1.9	26.1	10.6	61.4	NW /32%
2019/11	100%	.78	1.3/ 5.7/NW	4.7	7.3	6.3	93.8	.0	.0	95.3	4.7	.0	.0	100%	.6	.1	13.2	86.1	NW /44%
2019/冬	100%	.78	1.7/ 4.9/NW	4.5	5.9	12.4	86.8	.8	.0	100.0	.0	.0	.0	100%	.5	1.6	21.7	76.2	NW /35%
2019/春	100%	.57	1.6/ 4.7/SSW	4.3	6.1	41.7	58.2	.1	.0	99.9	.1	.0	.0	100%	.2	1.7	41.2	56.9	NW /25%
2019/夏	100%	1.17	4.3/ 6.7/SSW	5.5	8.9	12.8	60.3	25.0	1.9	70.4	27.6	2.0	.0	100%	.1	.6	93.1	6.2	SW /46%
2019/秋	100%	.83	2.1/ 7.3/SW	4.9	7.8	12.9	80.2	7.0	.0	88.9	11.1	.0	.0	100%	.9	9.1	28.3	61.8	NW /29%
2019/年	100%	.84	4.3/ 6.7/SSW	4.8	8.9	20.0	71.3	8.3	.5	89.7	9.7	.5	.0	100%	.4	3.2	46.2	50.1	NW /23%

Wave H_s in Kao-Hsiung Seas of KHX0 at 2019

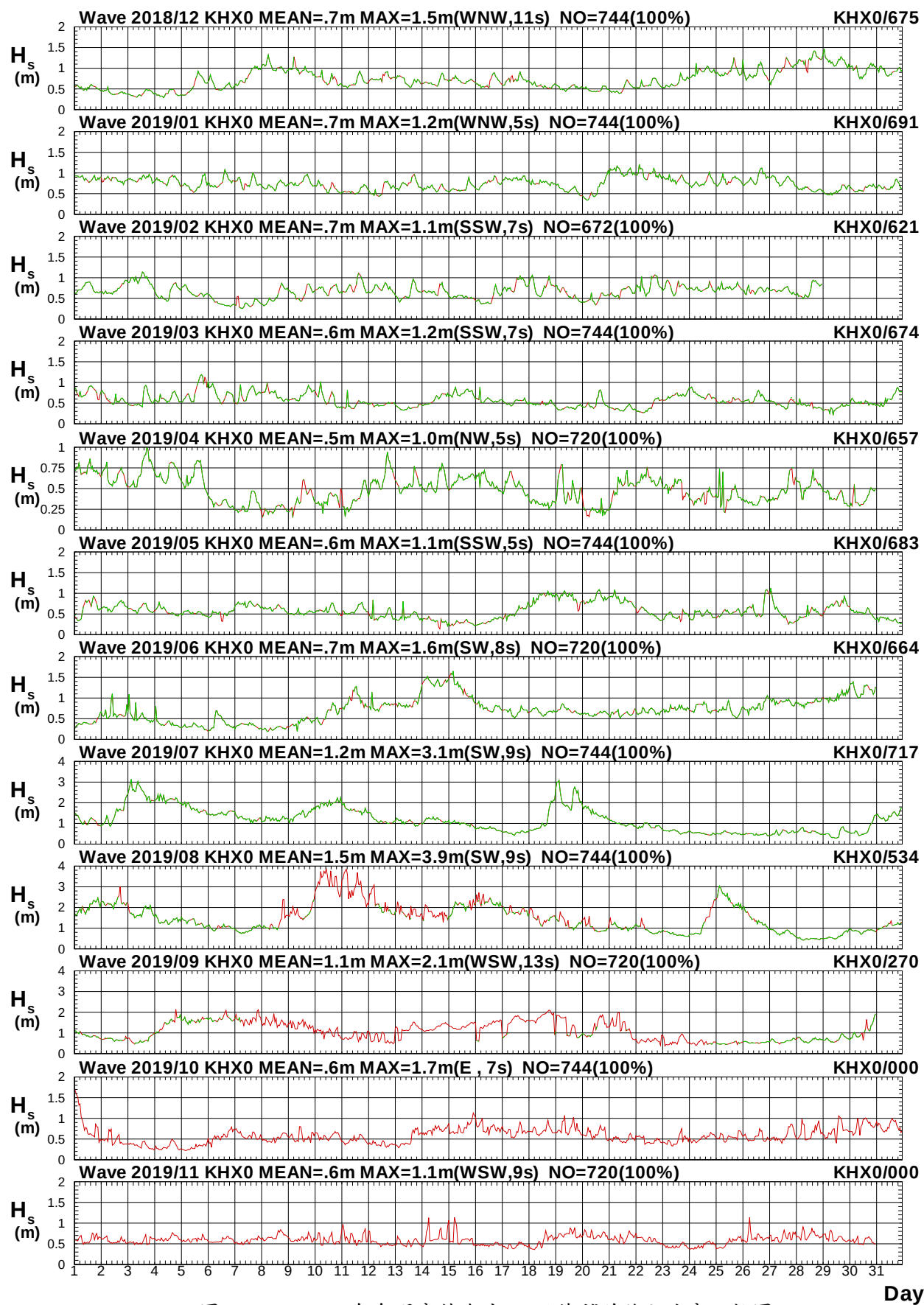


圖2.1.1a 2019年每月高雄海域 X 站修補前後之波高比較圖

V18CKHX0.1HA V18CKHX0.1H0 V191KHX0.1HA V191KHX0.1H0 V192KHX0.1HA V192KHX0.1H0
V193KHX0.1HA V193KHX0.1H0 V194KHX0.1HA V194KHX0.1H0 V195KHX0.1HA V195KHX0.1H0

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Wave T_p in Kao-Hsiung Seas of KHX0 at 2019

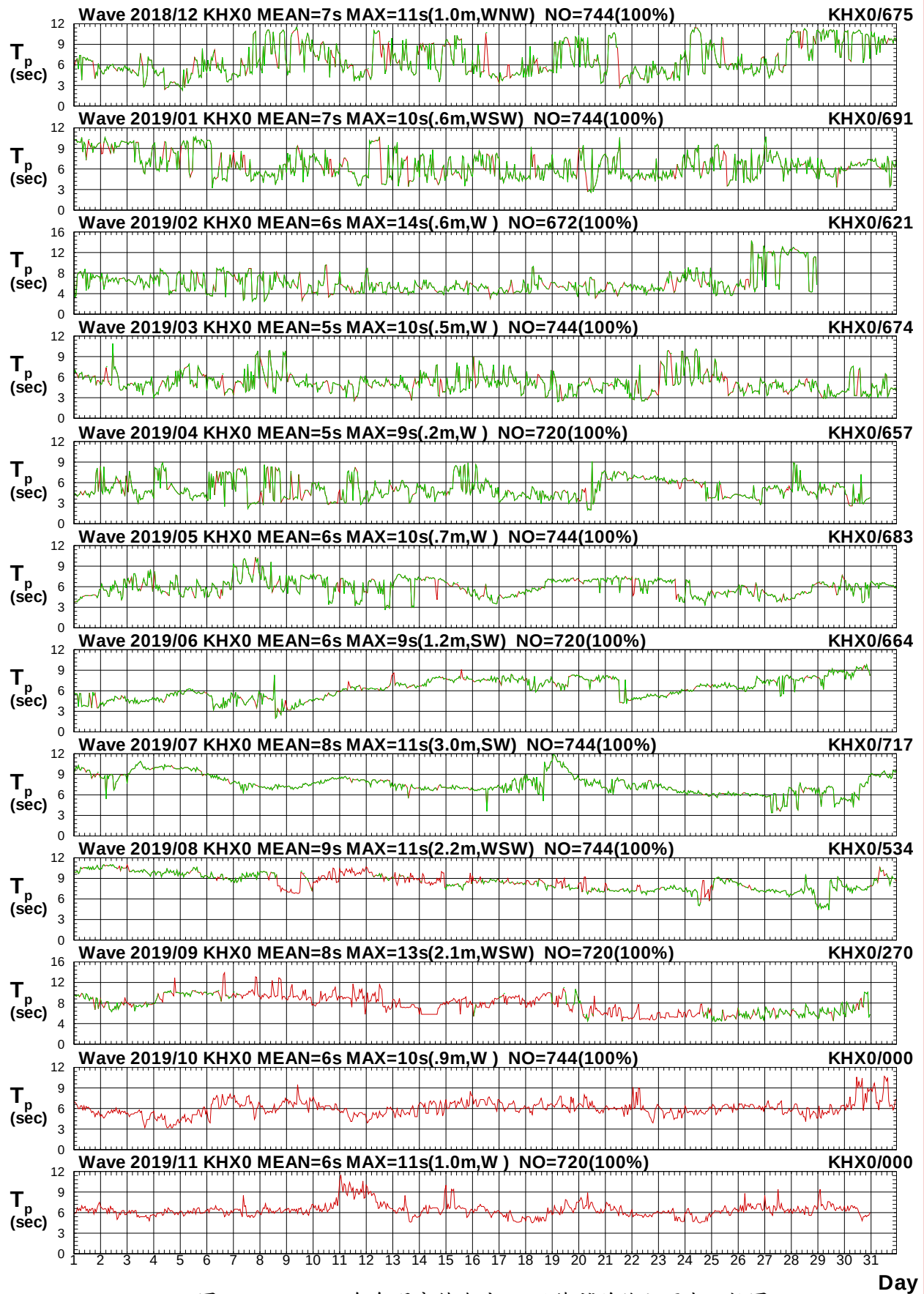


圖2.1.1b 2019年每月高雄海域 X 站修補前後之週期比較圖

V18CKHX0.1HA V18CKHX0.1H0 V191KHX0.1HA V191KHX0.1H0 V192KHX0.1HA V192KHX0.1H0
V193KHX0.1HA V193KHX0.1H0 V194KHX0.1HA V194KHX0.1H0 V195KHX0.1HA V195KHX0.1H0

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Wave Direction in Kao-Hsiung Seas of KHX0 at 2019

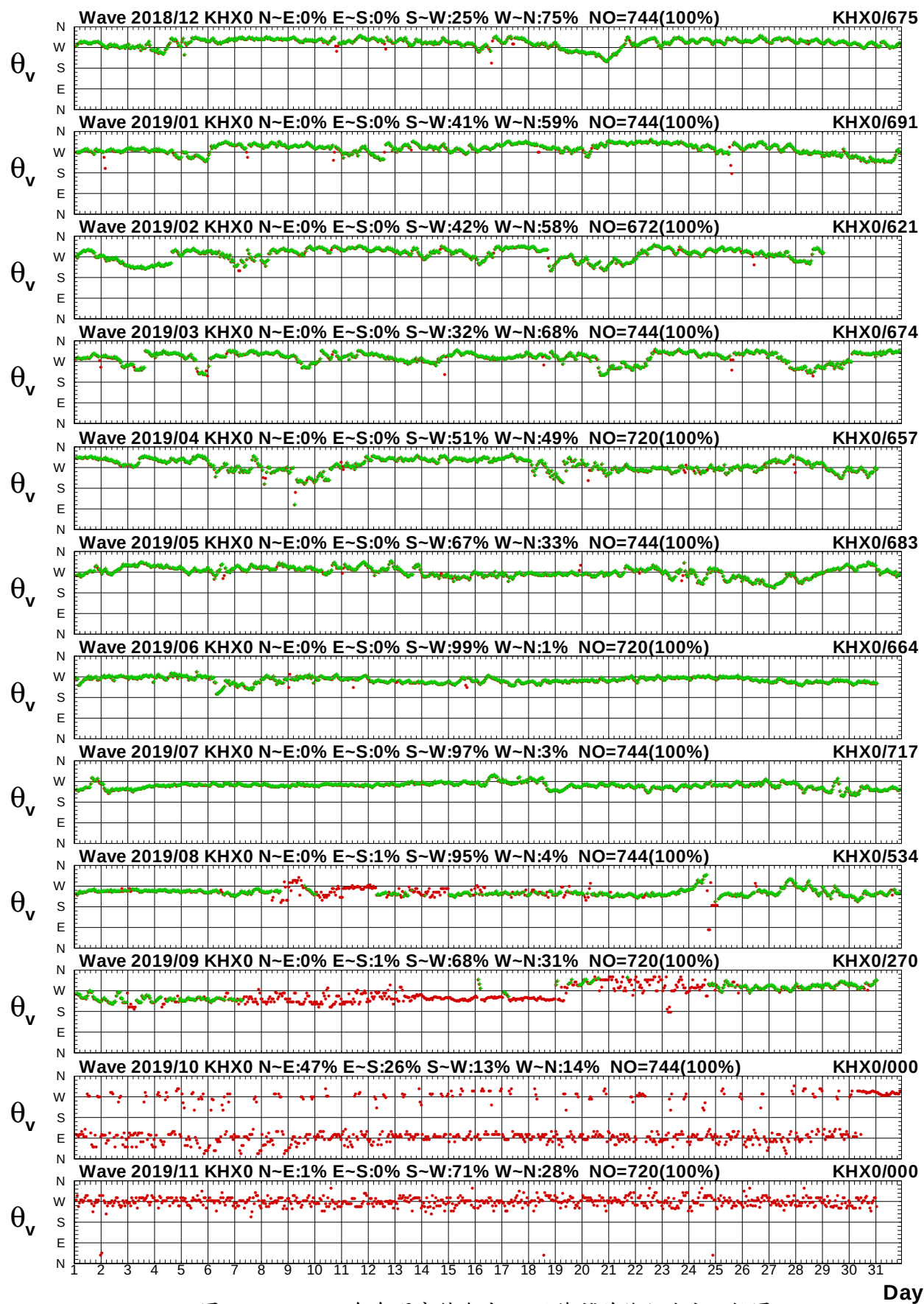


圖2.1.1c 2019年每月高雄海域 X 站修補前後之波向比較圖

V18CKHX0.1HA V18CKHX0.1H0 V191KHX0.1HA V191KHX0.1H0 V192KHX0.1HA V192KHX0.1H0
V193KHX0.1HA V193KHX0.1H0 V194KHX0.1HA V194KHX0.1H0 V195KHX0.1HA V195KHX0.1H0

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Wave H_s in Kao-Hsiung Seas of KHZ0 at 2019

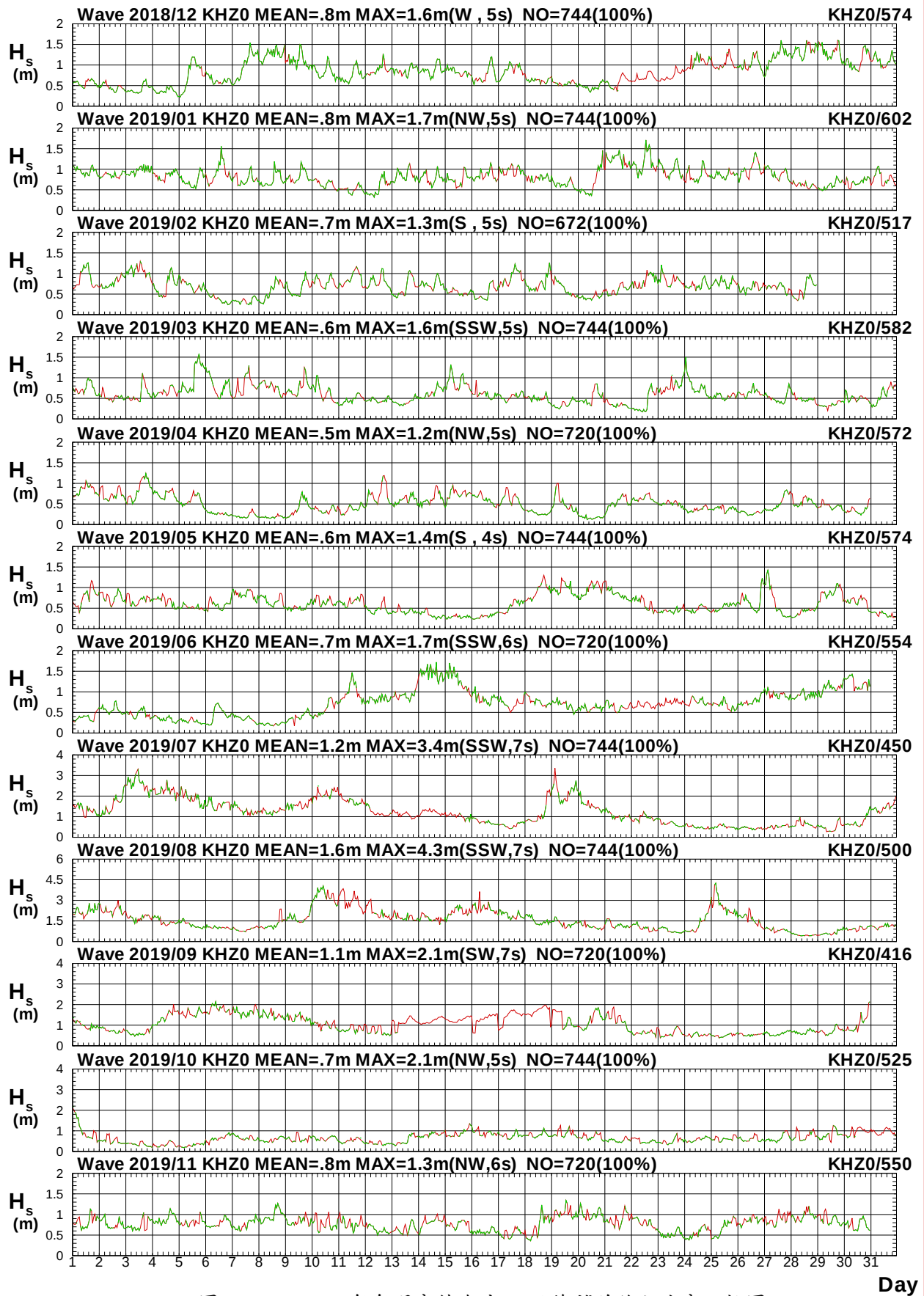


圖2.1.2a 2019年每月高雄海域 Z 站修補前後之波高比較圖

V18CKHZ0.1HA V18CKHZ0.1H0 V191KHZ0.1HA V191KHZ0.1H0 V192KHZ0.1HA V192KHZ0.1H0
V193KHZ0.1HA V193KHZ0.1H0 V194KHZ0.1HA V194KHZ0.1H0 V195KHZ0.1HA V195KHZ0.1H0

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Wave T_p in Kao-Hsiung Seas of KHZ0 at 2019

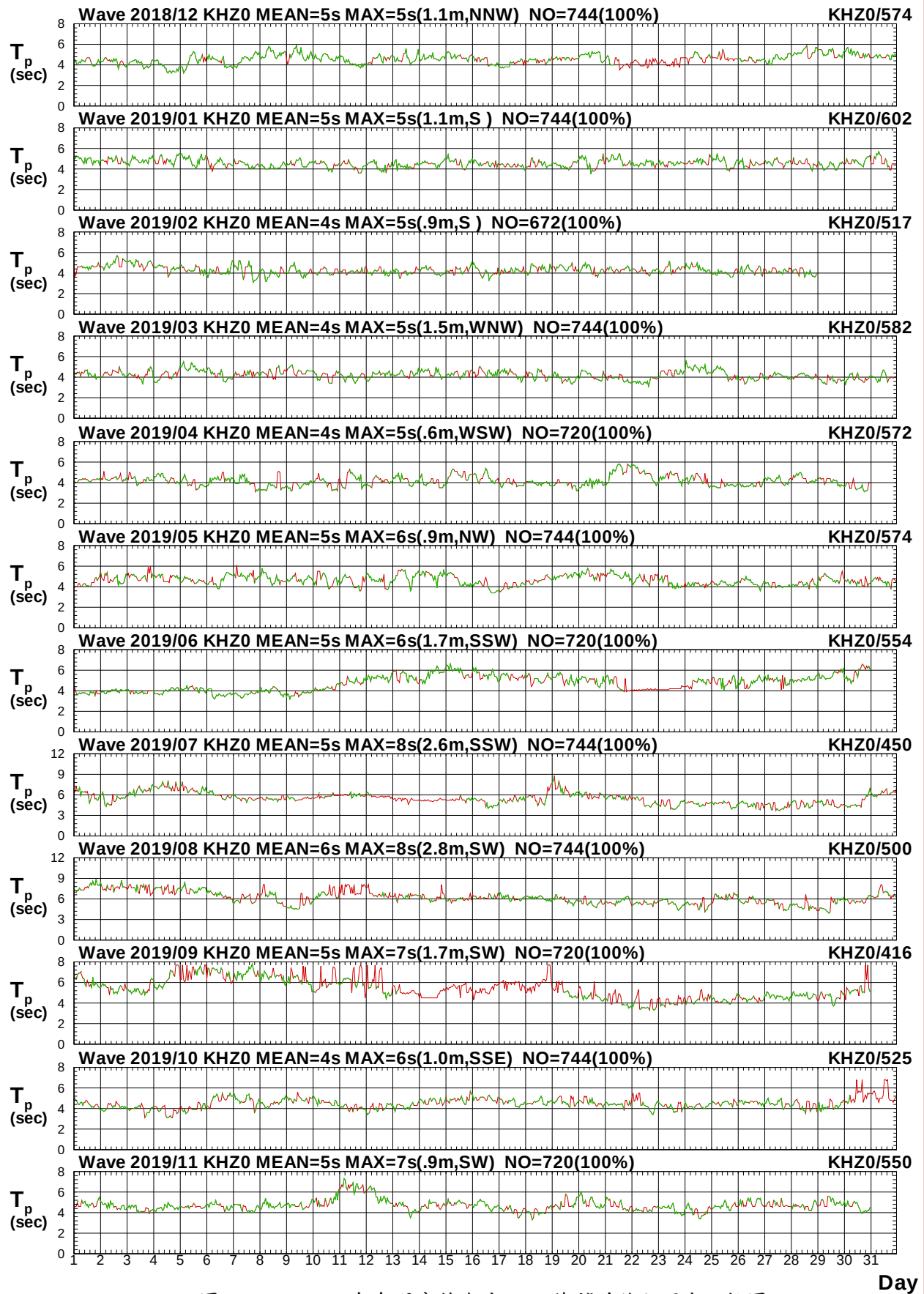


圖2.1.2b 2019年每月高雄海域 Z 站修補前後之週期比較圖

V18CKHZ0.1HA V18CKHZ0.1H0 V191KHZ0.1HA V191KHZ0.1H0 V192KHZ0.1HA V192KHZ0.1H0
V193KHZ0.1HA V193KHZ0.1H0 V194KHZ0.1HA V194KHZ0.1H0 V195KHZ0.1HA V195KHZ0.1H0

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Wave Direction in Kao-Hsiung Seas of KHZ0 at 2019

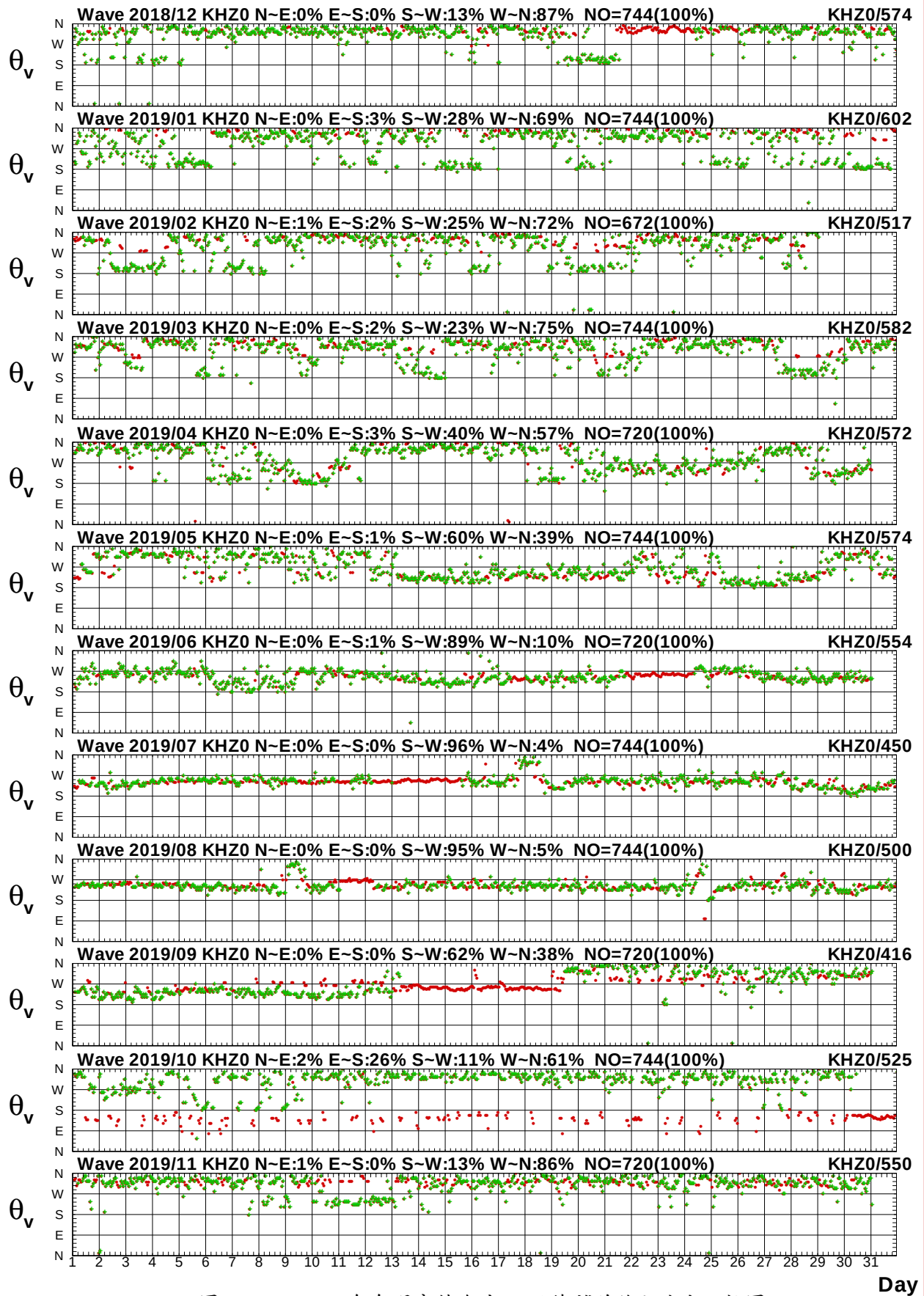


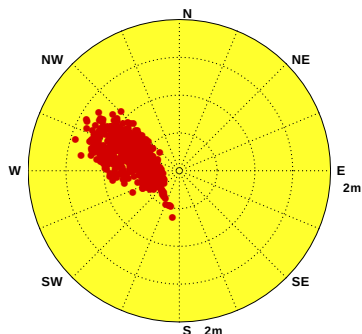
圖2.1.2c 2019年每月高雄海域 Z 站修補前後之波向比較圖

V18CKHZ0.1HA V18CKHZ0.1H0 V191KHZ0.1HA V191KHZ0.1H0 V192KHZ0.1HA V192KHZ0.1H0
V193KHZ0.1HA V193KHZ0.1H0 V194KHZ0.1HA V194KHZ0.1H0 V195KHZ0.1HA V195KHZ0.1H0

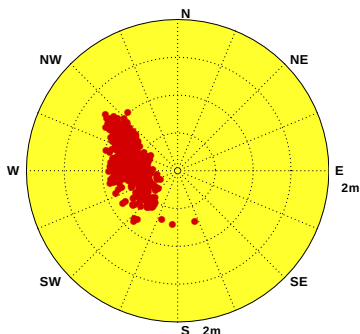
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Distribution of H_s Vectors

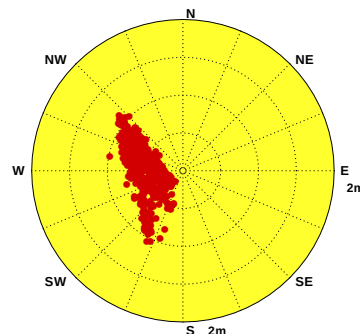
Wave of KHX0 at 2018/12 NO=744(100%)
Hs : MEAN=.7m MAX=1.5m(WNW,11s)
N-E:0% E-S:0% S-W:25% W-N:75%



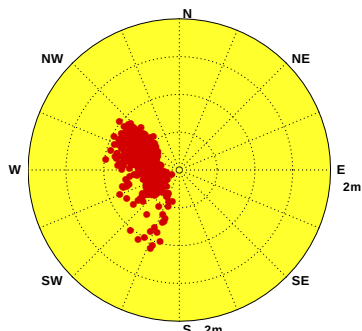
Wave of KHX0 at 2019/01 NO=744(100%)
Hs : MEAN=.7m MAX=1.2m(WNW,5s)
N-E:0% E-S:0% S-W:41% W-N:59%



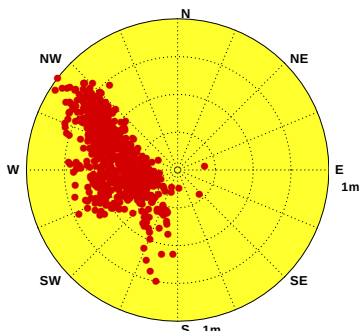
Wave of KHX0 at 2019/02 NO=672(100%)
Hs : MEAN=.7m MAX=1.1m(SSW,7s)
N-E:0% E-S:0% S-W:42% W-N:58%



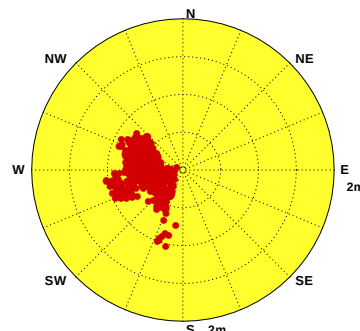
Wave of KHX0 at 2019/03 NO=744(100%)
Hs : MEAN=.6m MAX=1.2m(SSW,7s)
N-E:0% E-S:0% S-W:32% W-N:68%



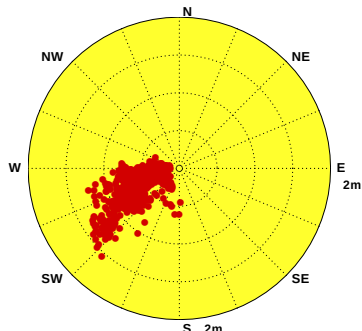
Wave of KHX0 at 2019/04 NO=720(100%)
Hs : MEAN=.5m MAX=1.0m(NW,5s)
N-E:0% E-S:0% S-W:51% W-N:49%



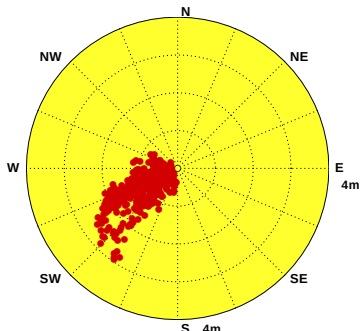
Wave of KHX0 at 2019/05 NO=744(100%)
Hs : MEAN=.6m MAX=1.1m(SSW,5s)
N-E:0% E-S:0% S-W:67% W-N:33%



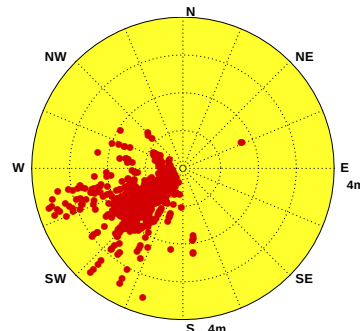
Wave of KHX0 at 2019/06 NO=720(100%)
Hs : MEAN=.7m MAX=1.6m(SW,8s)
N-E:0% E-S:0% S-W:99% W-N:1%



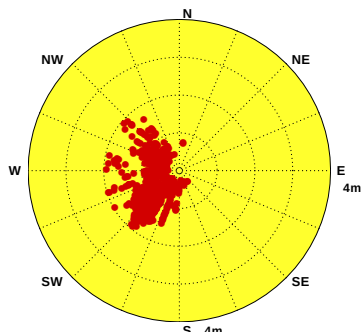
Wave of KHX0 at 2019/07 NO=744(100%)
Hs : MEAN=1.2m MAX=3.1m(SW,9s)
N-E:0% E-S:0% S-W:97% W-N:3%



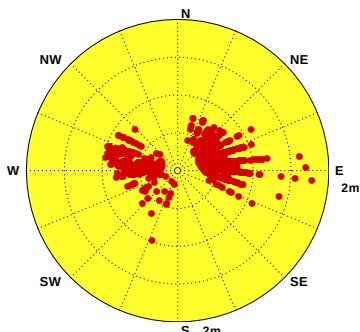
Wave of KHX0 at 2019/08 NO=744(100%)
Hs : MEAN=1.5m MAX=3.9m(SW,9s)
N-E:0% E-S:1% S-W:95% W-N:4%



Wave of KHX0 at 2019/09 NO=720(100%)
Hs : MEAN=1.1m MAX=2.1m(WSW,13s)
N-E:0% E-S:1% S-W:68% W-N:31%



Wave of KHX0 at 2019/10 NO=744(100%)
Hs : MEAN=.6m MAX=1.7m(E, 7s)
N-E:47% E-S:26% S-W:13% W-N:14%



Wave of KHX0 at 2019/11 NO=720(100%)
Hs : MEAN=.6m MAX=1.1m(WSW,9s)
N-E:1% E-S:0% S-W:71% W-N:28%

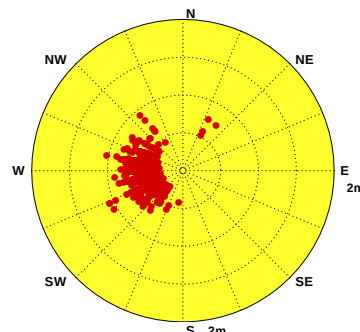


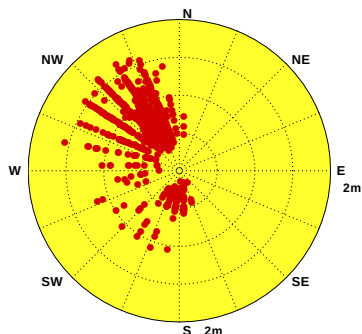
圖2.1.3 2019年高雄海域每月 X 站修補後觀測波高向量分佈圖

V18CKHX0.1HA V191KHX0.1HA V192KHX0.1HA V193KHX0.1HA V194KHX0.1HA V195KHX0.1HA
V196KHX0.1HA V197KHX0.1HA V198KHX0.1HA V199KHX0.1HA V19AKHX0.1HA V19BKHX0.1HA

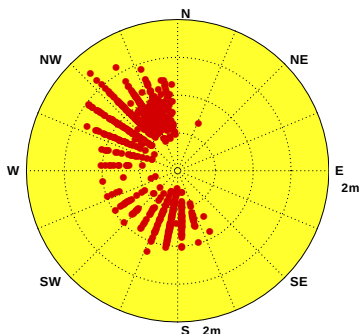
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Distribution of H_s Vectors

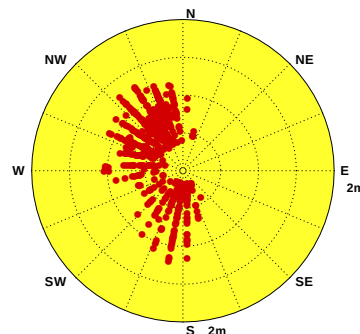
Wave of KHZ0 at 2018/12 NO=744(100%)
Hs : MEAN=.8m MAX=1.6m(W, 5s)
N-E:0% E-S:0% S-W:13% W-N:87%



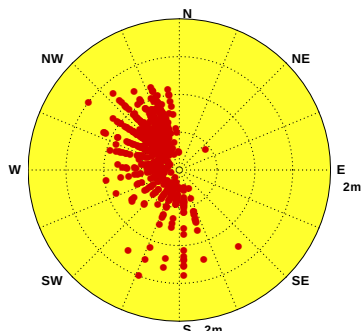
Wave of KHZ0 at 2019/01 NO=744(100%)
Hs : MEAN=.8m MAX=1.7m(NW,5s)
N-E:0% E-S:3% S-W:28% W-N:69%



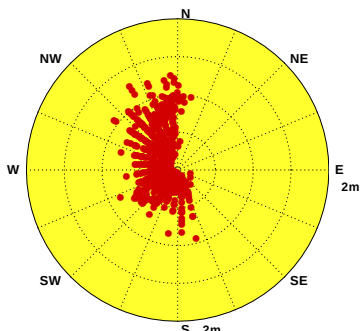
Wave of KHZ0 at 2019/02 NO=672(100%)
Hs : MEAN=.7m MAX=1.3m(S, 5s)
N-E:1% E-S:2% S-W:25% W-N:72%



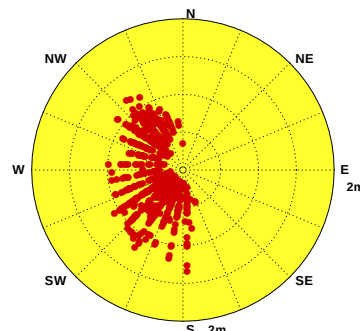
Wave of KHZ0 at 2019/03 NO=744(100%)
Hs : MEAN=.6m MAX=1.6m(SSW,5s)
N-E:0% E-S:2% S-W:23% W-N:75%



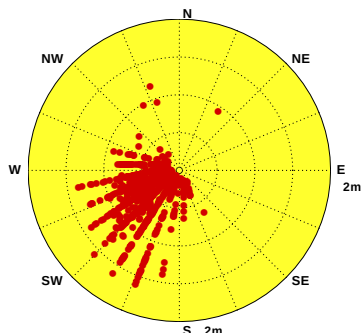
Wave of KHZ0 at 2019/04 NO=720(100%)
Hs : MEAN=.5m MAX=1.2m(NW,5s)
N-E:0% E-S:3% S-W:40% W-N:57%



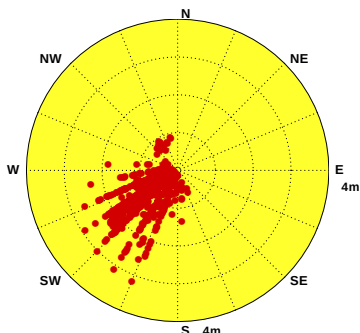
Wave of KHZ0 at 2019/05 NO=744(100%)
Hs : MEAN=.6m MAX=1.4m(S, 4s)
N-E:0% E-S:1% S-W:60% W-N:39%



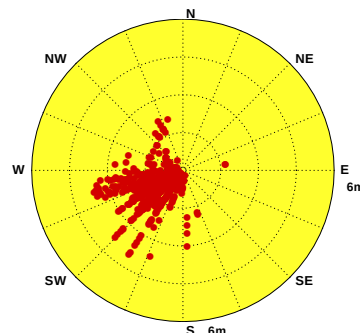
Wave of KHZ0 at 2019/06 NO=720(100%)
Hs : MEAN=.7m MAX=1.7m(SSW,6s)
N-E:0% E-S:1% S-W:89% W-N:10%



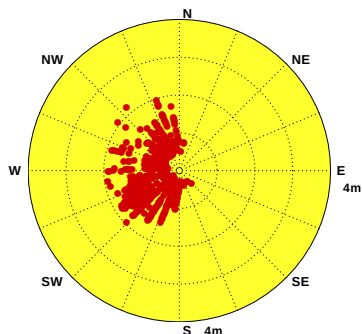
Wave of KHZ0 at 2019/07 NO=744(100%)
Hs : MEAN=1.2m MAX=3.4m(SSW,7s)
N-E:0% E-S:0% S-W:96% W-N:4%



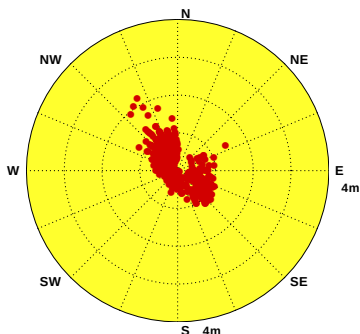
Wave of KHZ0 at 2019/08 NO=744(100%)
Hs : MEAN=1.6m MAX=4.3m(SSW,7s)
N-E:0% E-S:0% S-W:95% W-N:5%



Wave of KHZ0 at 2019/09 NO=720(100%)
Hs : MEAN=1.1m MAX=2.1m(SW,7s)
N-E:0% E-S:0% S-W:62% W-N:38%



Wave of KHZ0 at 2019/10 NO=744(100%)
Hs : MEAN=.7m MAX=2.1m(NW,5s)
N-E:2% E-S:26% S-W:11% W-N:61%



Wave of KHZ0 at 2019/11 NO=720(100%)
Hs : MEAN=.8m MAX=1.3m(NW,6s)
N-E:1% E-S:0% S-W:13% W-N:86%

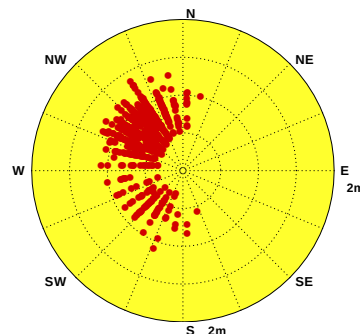


圖2.1.4 2019年高雄海域每月 Z 站修補後觀測波高向量分佈圖

V18CKHZ0.1HA V191KHZ0.1HA V192KHZ0.1HA V193KHZ0.1HA V194KHZ0.1HA V195KHZ0.1HA
V196KHZ0.1HA V197KHZ0.1HA V198KHZ0.1HA V199KHZ0.1HA V19AKHZ0.1HA V19BKHZ0.1HA

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2.2 2019 年高雄海域各測站修補前 波浪統計量統計表

表2.2.1 2019年高雄海域 X 站修補前示性波高週期及波向重要統計量統計表

觀測 日期 年、月	波高 蒐集 率	H_s 平均 (m)	H_s 最大 (波高/週期/波向) (m/s/來向)	T_p 平均 (s)	T_p 最大 (s)	小波 <0.5m (%)	小浪 ~1.5m (%)	中浪 ~3m (%)	大浪 >3m (%)	T_p <6s (%)	T_p 6~8s (%)	T_p 8~10s (%)	T_p >10s (%)	波向 蒐集 率	波向 N~E (%)	波向 E~S (%)	波向 S~W (%)	波向 W~N (%)	主波向 (百分比) 來向/%
2018/12	91%	.73	1.5/10.8/WNW	6.8	11.5	17.0	83.0	.0	.0	49.3	20.0	15.0	15.7	91%	.0	.0	25.2	74.8	WNW/49%
2019/01	93%	.75	1.2/ 5.1/WNW	6.6	10.7	3.9	96.1	.0	.0	44.9	32.4	17.2	5.5	93%	.0	.0	40.2	59.8	WNW/38%
2019/02	92%	.67	1.1/ 6.9/SSW	6.1	14.3	16.3	83.7	.0	.0	58.0	26.4	8.7	6.9	92%	.0	.0	41.7	58.3	WNW/39%
2019/03	91%	.57	1.2/ 6.7/SSW	5.1	10.9	36.8	63.2	.0	.0	79.5	16.0	4.2	.3	91%	.0	.0	31.5	68.5	WNW/45%
2019/04	91%	.49	1.0/ 4.8/NW	5.1	9.1	51.3	48.7	.0	.0	73.5	21.0	5.5	.0	91%	.0	.2	48.4	51.4	WNW/35%
2019/05	92%	.58	1.1/ 5.1/SSW	6.0	10.3	34.8	65.2	.0	.0	48.5	48.8	2.3	.4	92%	.0	.0	66.5	33.5	WSW/35%
2019/06	92%	.71	1.6/ 7.5/SW	6.3	9.8	24.1	75.3	.6	.0	41.9	44.7	13.4	.0	92%	.0	.0	99.4	.6	WSW/59%
2019/07	96%	1.17	3.1/ 9.4/SW	7.6	11.9	8.2	65.7	25.5	.6	8.2	54.3	30.5	7.0	96%	.0	.0	97.4	2.6	WSW/63%
2019/08	72%	1.30	3.0/ 9.0/SW	8.4	11.0	3.0	62.7	34.1	.2	3.2	40.6	42.5	13.7	72%	.0	.0	96.4	3.6	SW /66%
2019/09	38%	.90	1.9/ 5.8/NW	7.4	10.8	6.7	75.6	17.8	.0	28.1	34.4	25.9	11.5	38%	.0	.0	55.9	44.1	W /29%
2019/10	0																		
2019/11	0																		
2019/冬	92%	.72	1.5/10.8/WNW	6.5	14.3	12.2	87.8	.0	.0	50.5	26.3	13.8	9.4	92%	.0	.0	35.6	64.4	WNW/42%
2019/春	91%	.54	1.2/ 6.7/SSW	5.4	10.9	40.9	59.1	.0	.0	67.0	28.7	4.0	.2	91%	.0	.0	48.9	51.1	WNW/32%
2019/夏	87%	1.05	3.1/ 9.4/SW	7.4	11.9	12.3	68.2	19.3	.3	18.5	47.2	27.9	6.4	87%	.0	.0	97.8	2.2	WSW/51%
2019/秋	12%	.90	1.9/ 5.8/NW	7.4	10.8	6.7	75.6	17.8	.0	28.1	34.4	25.9	11.5	12%	.0	.0	55.9	44.1	W /29%
2019/年	71%	.77	3.1/ 9.4/SW	6.5	14.3	21.3	71.9	6.7	.1	45.0	33.9	15.5	5.6	71%	.0	.0	60.1	39.9	WSW/28%

表2.2.2 2019年高雄海域 Z 站修補前示性波高週期及波向重要統計量統計表

觀測 日期 年、月	波高 蒐集 率	H_s 平均 (m)	H_s 最大 (波高/週期/波向) (m/s/來向)	T_p 平均 (s)	T_p 最大 (s)	小波 <0.5m (%)	小浪 ~1.5m (%)	中浪 ~3m (%)	大浪 >3m (%)	T_p <6s (%)	T_p 6~8s (%)	T_p 8~10s (%)	T_p >10s (%)	波向 蒐集 率	波向 N~E (%)	波向 E~S (%)	波向 S~W (%)	波向 W~N (%)	主波向 (百分比) 來向/%
2018/12	77%	.85	1.6/ 4.7/W	4.6	5.9	16.2	82.1	1.7	.0	100.0	.0	.0	.0	77%	.5	.5	16.6	82.4	NW /42%
2019/01	81%	.83	1.7/ 4.9/NW	4.6	5.7	5.8	93.5	.7	.0	100.0	.0	.0	.0	81%	.2	3.5	33.7	62.6	NW /29%
2019/02	77%	.69	1.3/ 4.9/S	4.3	5.7	23.4	76.6	.0	.0	100.0	.0	.0	.0	77%	1.2	2.1	30.4	66.3	NW /30%
2019/03	78%	.60	1.6/ 4.7/SSW	4.2	5.6	36.4	63.2	.3	.0	100.0	.0	.0	.0	78%	.2	2.2	25.3	72.3	NW /34%
2019/04	79%	.47	1.2/ 4.5/NW	4.1	5.8	58.2	41.8	.0	.0	100.0	.0	.0	.0	79%	.0	2.8	39.7	57.5	NW /27%
2019/05	77%	.59	1.4/ 4.4/S	4.6	5.8	40.8	59.2	.0	.0	100.0	.0	.0	.0	77%	.0	.3	59.9	39.7	SW /20%
2019/06	77%	.71	1.7/ 6.4/SSW	4.7	6.6	30.5	67.5	2.0	.0	94.2	5.8	.0	.0	77%	.2	1.6	85.4	12.8	SW /32%
2019/07	61%	1.20	3.3/ 7.3/SSW	5.4	8.8	12.4	56.2	30.9	.4	72.2	26.9	.9	.0	61%	.0	.4	94.2	5.3	SW /45%
2019/08	67%	1.50	4.3/ 6.7/SSW	6.1	8.9	2.4	54.4	39.2	4.0	46.4	49.6	4.0	.0	67%	.0	.4	94.4	5.2	SW /57%
2019/09	58%	.95	2.1/ 7.3/SW	5.3	7.8	7.7	76.4	15.9	.0	74.0	26.0	.0	.0	58%	.5	.7	53.1	45.7	SSW/22%
2019/10	71%	.62	2.1/ 5.0/NW	4.4	5.7	30.3	68.8	1.0	.0	100.0	.0	.0	.0	71%	.2	1.1	14.7	84.0	NW /43%
2019/11	76%	.76	1.3/ 5.7/NW	4.7	7.3	8.0	92.0	.0	.0	95.8	4.2	.0	.0	76%	.7	.2	16.9	82.2	NW /39%
2019/冬	78%	.79	1.7/ 4.9/NW	4.5	5.9	14.7	84.5	.8	.0	100.0	.0	.0	.0	78%	.6	2.1	26.9	70.5	NW /34%
2019/春	78%	.55	1.6/ 4.7/SSW	4.3	5.8	45.1	54.8	.1	.0	100.0	.0	.0	.0	78%	.1	1.8	41.6	56.6	NW /26%
2019/夏	68%	1.12	4.3/ 6.7/SSW	5.4	8.9	15.8	59.8	23.0	1.5	71.7	26.7	1.6	.0	68%	.1	.9	91.0	8.0	SW /44%
2019/秋	68%	.76	2.1/ 7.3/SW	4.8	7.8	15.8	79.5	4.8	.0	91.2	8.8	.0	.0	68%	.5	.7	26.2	72.6	NW /35%
2019/年	73%	.80	4.3/ 6.7/SSW	4.7	8.9	23.4	69.5	6.7	.3	91.3	8.3	.4	.0	73%	.3	1.4	45.7	52.6	NW /24%

2.3 2019 年高雄海域**主要測站 1**(修補後)與 **其他測站**(修補前)波浪歷線比較圖

Wave H_s in Kao-Hsiung Harbor of KHX0 at 2019

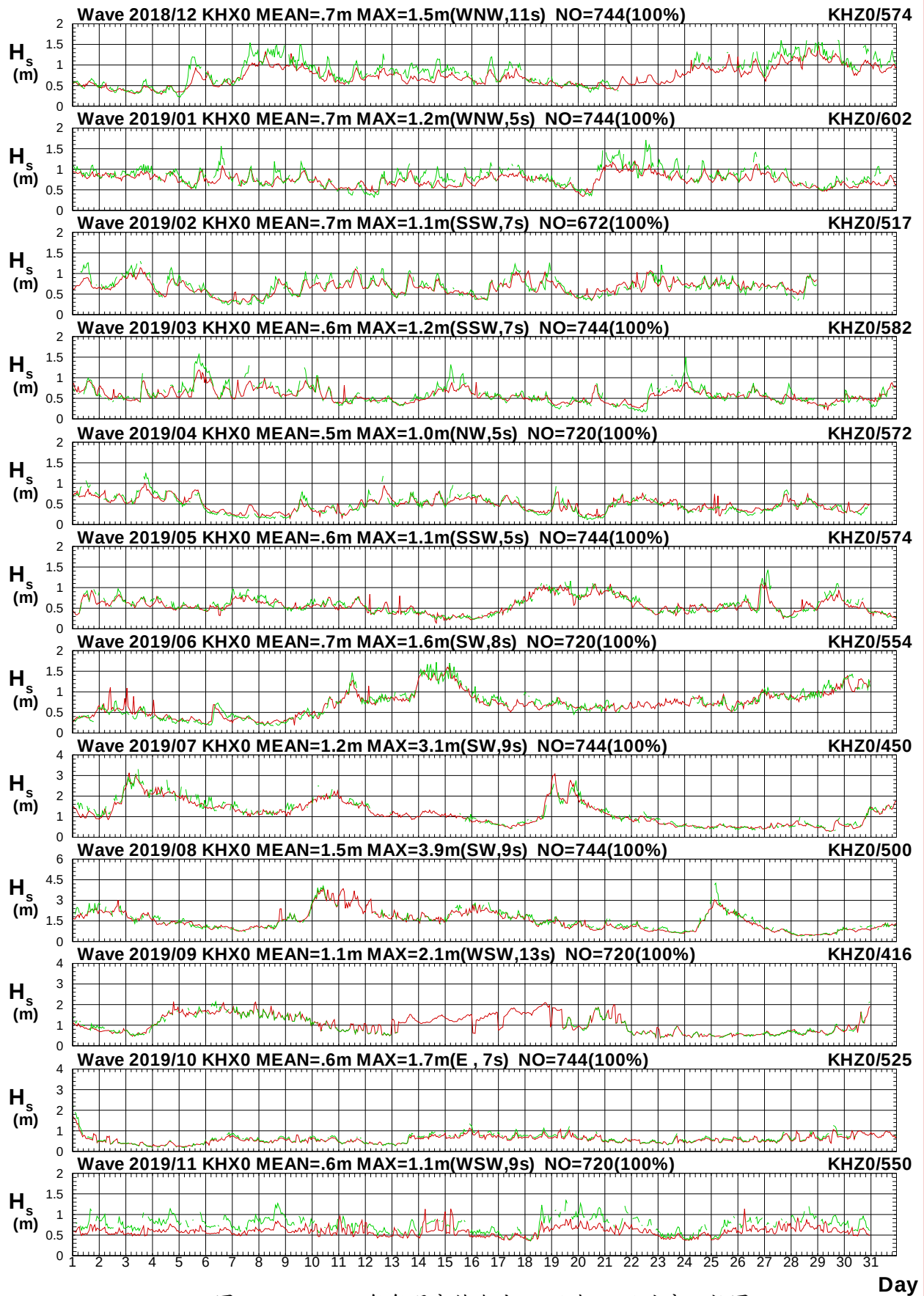


圖2.3.1a 2019年每月高雄海域 X 站與 Z 站波高比較圖

V18CKHX0.1HA V18CKHZ0.1H0 V191KHX0.1HA V191KHZ0.1H0 V192KHX0.1HA V192KHZ0.1H0
V193KHX0.1HA V193KHZ0.1H0 V194KHX0.1HA V194KHZ0.1H0 V195KHX0.1HA V195KHZ0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHX0 at 2019

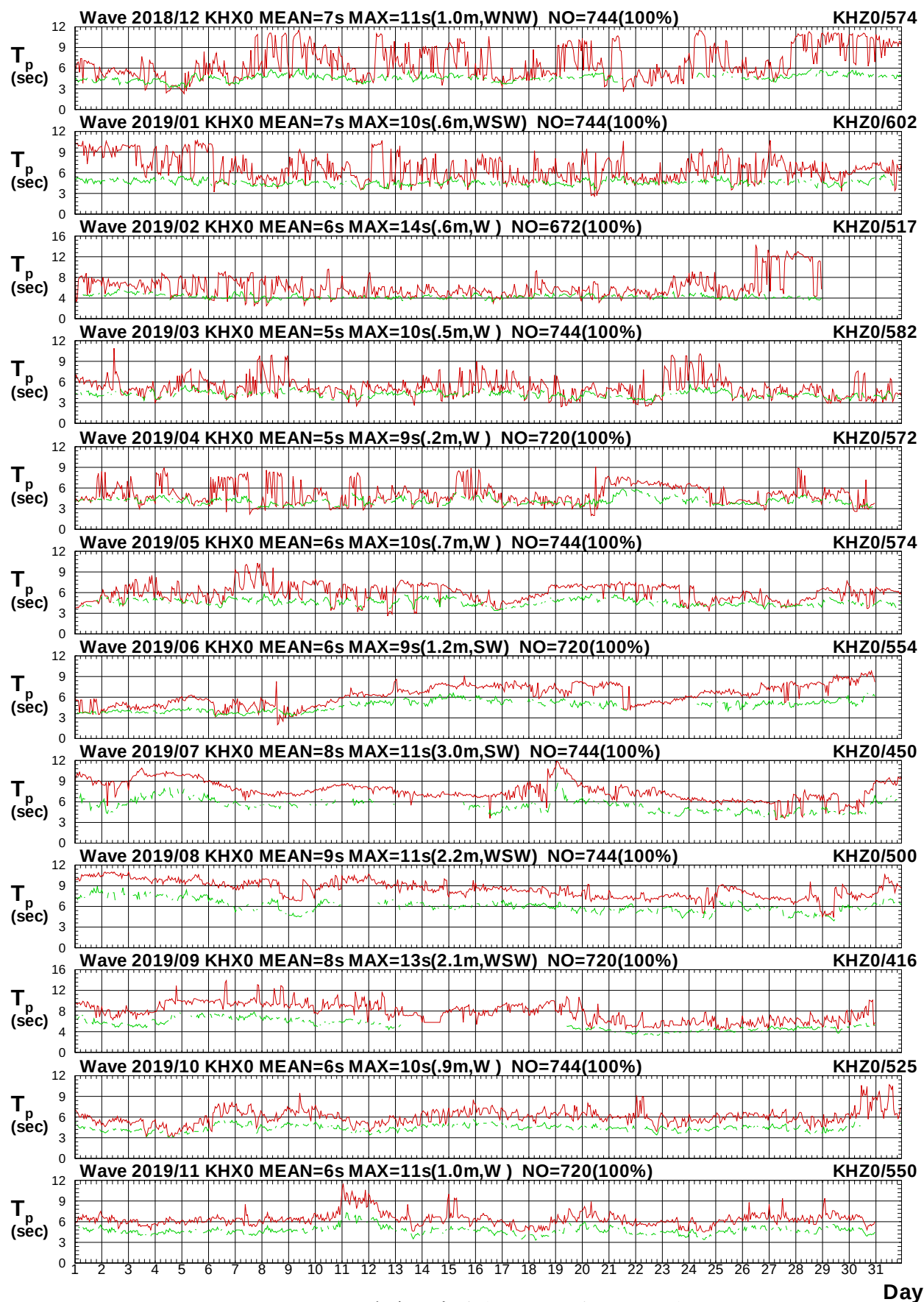


圖2.3.1b 2019年每月高雄海域 X 站與 Z 站週期比較圖

V18CKHX0.1HA V18CKHZ0.1H0 V191KHX0.1HA V191KHZ0.1H0 V192KHX0.1HA V192KHZ0.1H0
V193KHX0.1HA V193KHZ0.1H0 V194KHX0.1HA V194KHZ0.1H0 V195KHX0.1HA V195KHZ0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHX0 at 2019

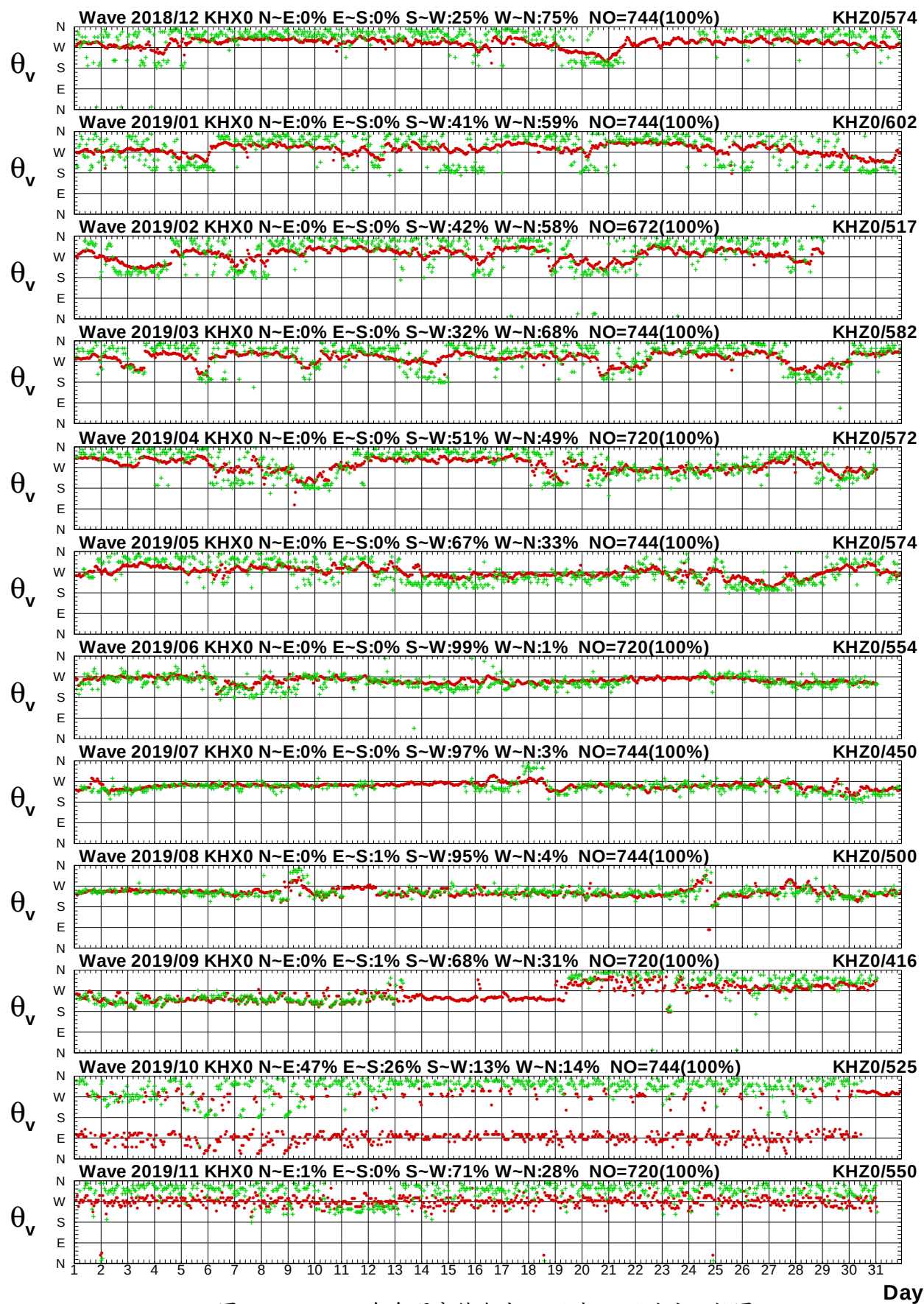


圖2.3.1c 2019年每月高雄海域 X 站與 Z 站波向比較圖

V18CKHX0.1HA V18CKHZ0.1H0 V191KHX0.1HA V191KHZ0.1H0 V192KHX0.1HA V192KHZ0.1H0
V193KHX0.1HA V193KHZ0.1H0 V194KHX0.1HA V194KHZ0.1H0 V195KHX0.1HA V195KHZ0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHX0 at 2019

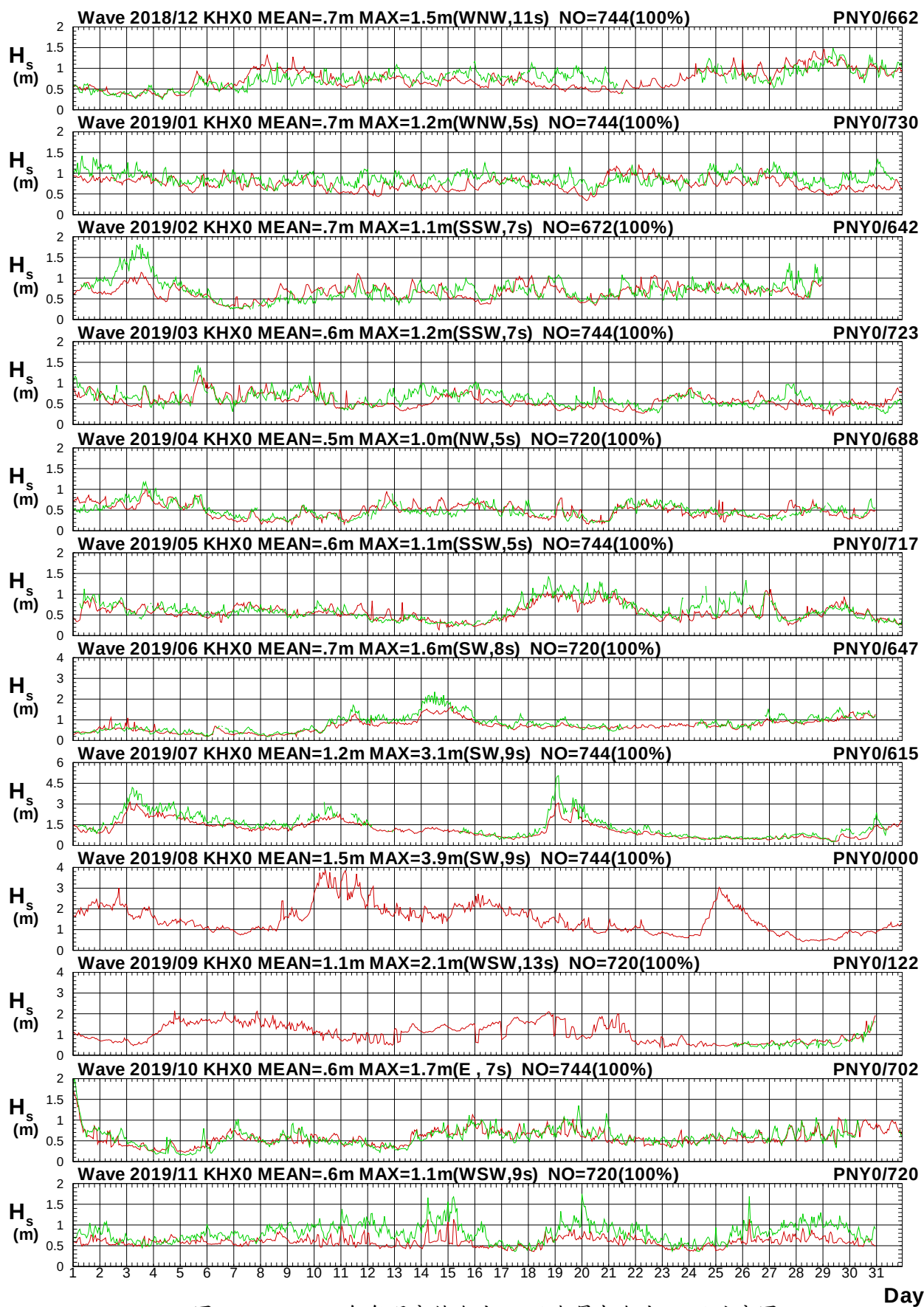


圖2.3.2a 2019年每月高雄海域 X 站與屏東海域 Y 站波高圖

V18CKHX0.1HA V18CPNY0.1H0 V191KHX0.1HA V191PNY0.1H0 V192KHX0.1HA V192PNY0.1H0
V193KHX0.1HA V193PNY0.1H0 V194KHX0.1HA V194PNY0.1H0 V195KHX0.1HA V195PNY0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHX0 at 2019

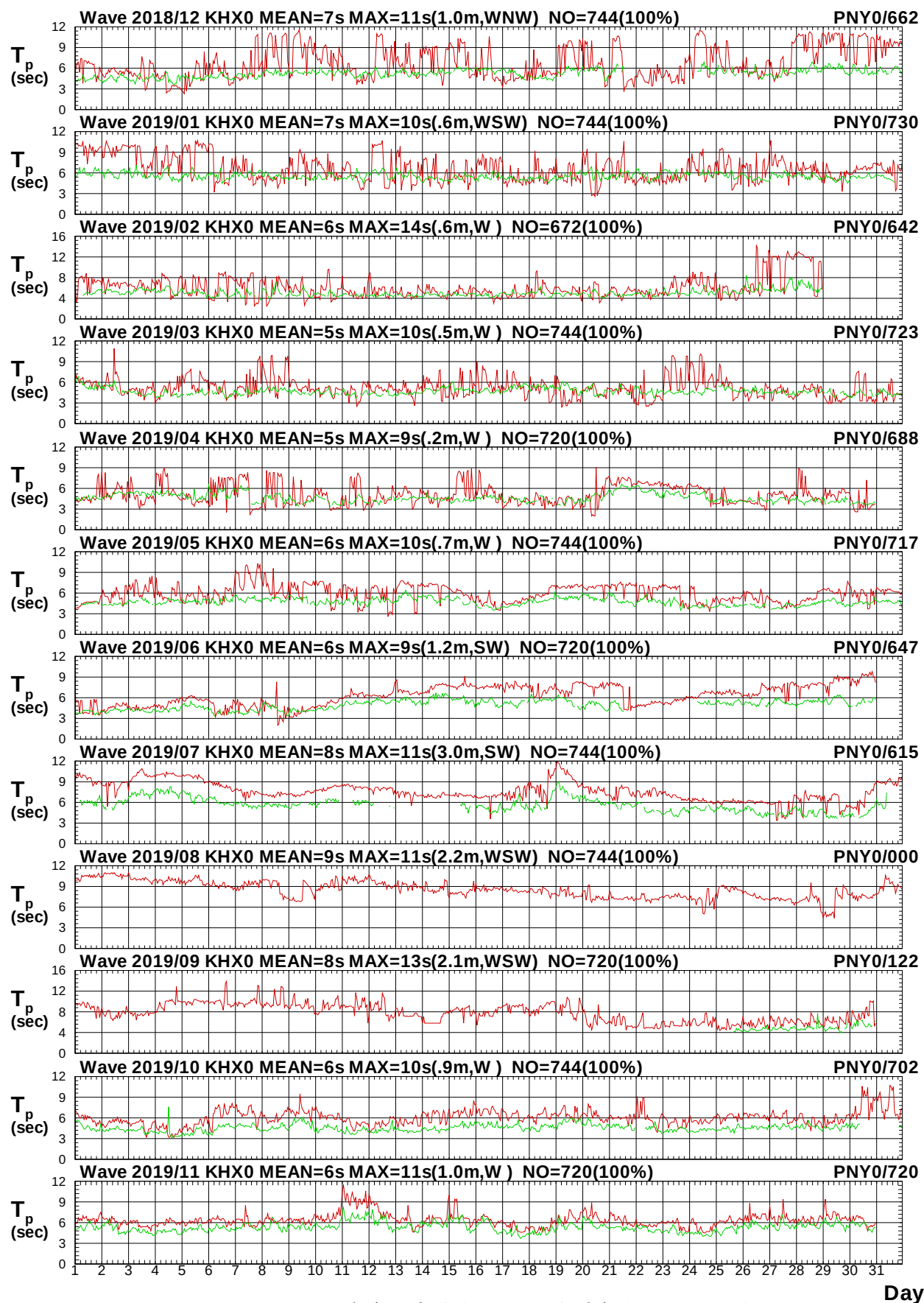


圖2.3.2b 2019年每月高雄海域 X 站與屏東海域 Y 站週期圖

V18CKHX0.1HA V18CPNY0.1H0 V191KHX0.1HA V191PNY0.1H0 V192KHX0.1HA V192PNY0.1H0
V193KHX0.1HA V193PNY0.1H0 V194KHX0.1HA V194PNY0.1H0 V195KHX0.1HA V195PNY0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHX0 at 2019

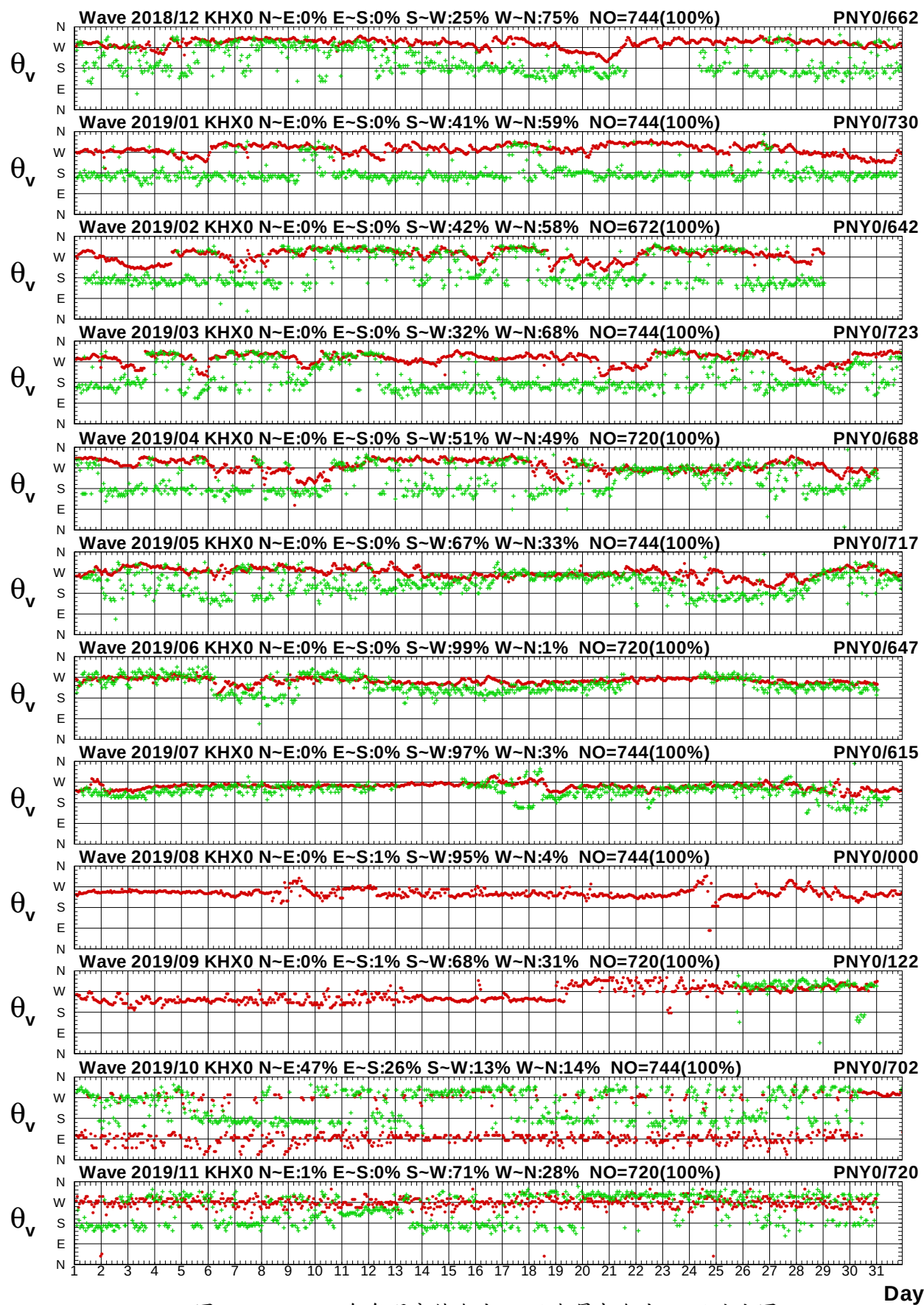


圖2.3.2c 2019年每月高雄海域 X 站與屏東海域 Y 站波向圖

V18CKHX0.1HA V18CPNY0.1H0 V191KHX0.1HA V191PNY0.1H0 V192KHX0.1HA V192PNY0.1H0
V193KHX0.1HA V193PNY0.1H0 V194KHX0.1HA V194PNY0.1H0 V195KHX0.1HA V195PNY0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHX0 at 2019

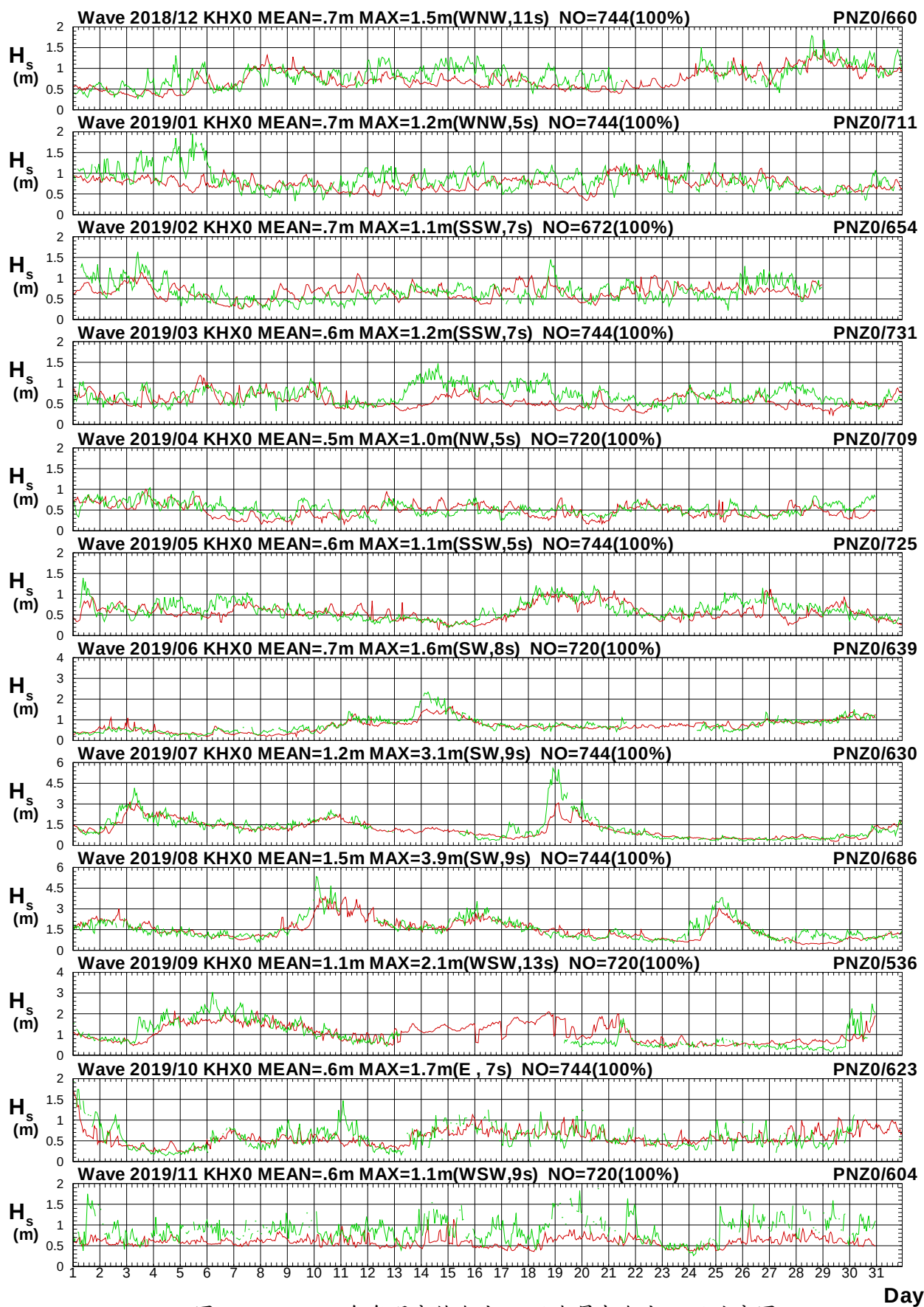


圖2.3.3a 2019年每月高雄海域 X 站與屏東海域 Z 站波高圖

V18CKHX0.1HA V18CPNZ0.1H0 V191KHX0.1HA V191PNZ0.1H0 V192KHX0.1HA V192PNZ0.1H0
V193KHX0.1HA V193PNZ0.1H0 V194KHX0.1HA V194PNZ0.1H0 V195KHX0.1HA V195PNZ0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHX0 at 2019

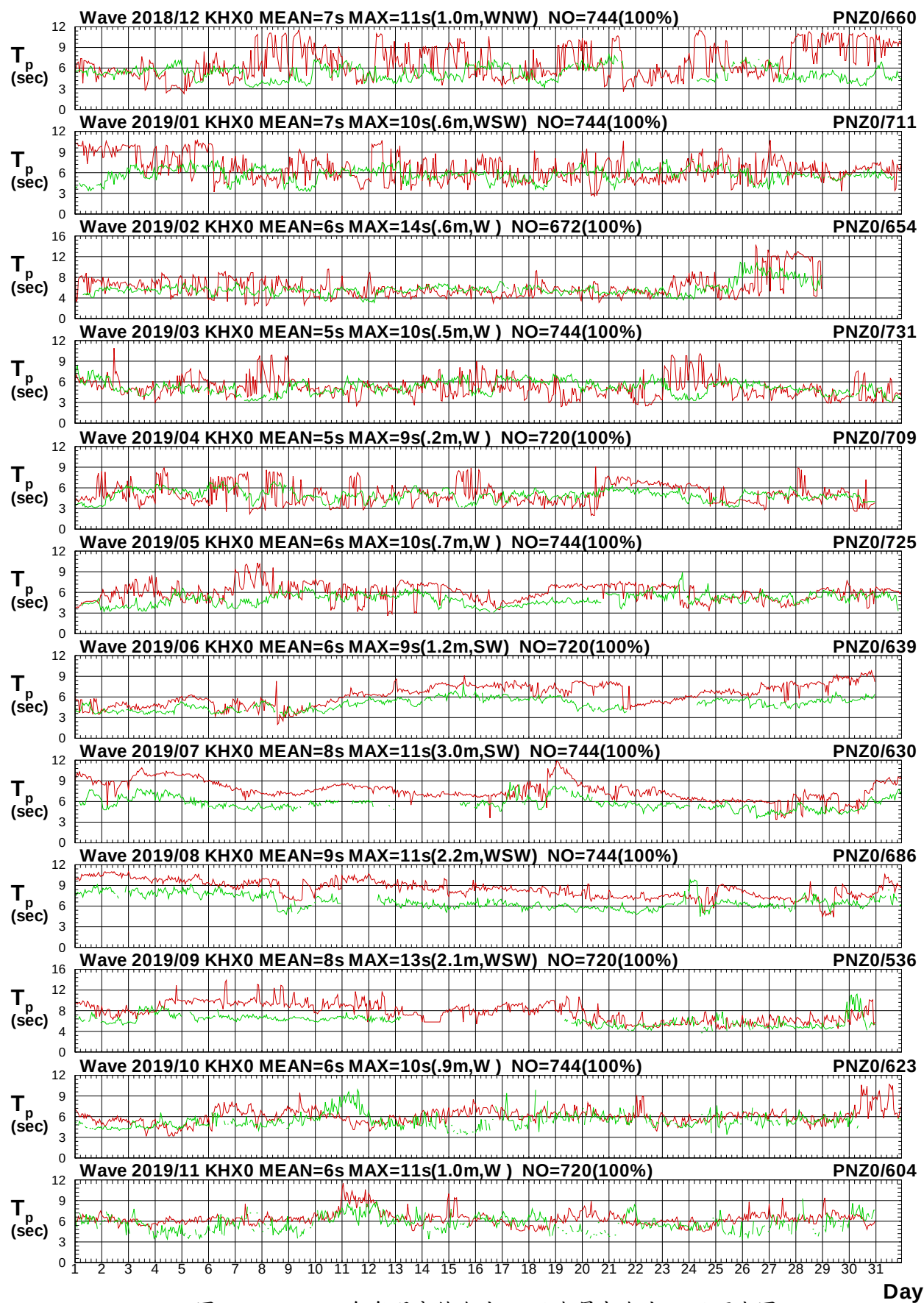


圖2.3.3b 2019年每月高雄海域 X 站與屏東海域 Z 站週期圖

V18CKHX0.1HA V18CPNZ0.1H0 V191KHX0.1HA V191PNZ0.1H0 V192KHX0.1HA V192PNZ0.1H0
V193KHX0.1HA V193PNZ0.1H0 V194KHX0.1HA V194PNZ0.1H0 V195KHX0.1HA V195PNZ0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHX0 at 2019

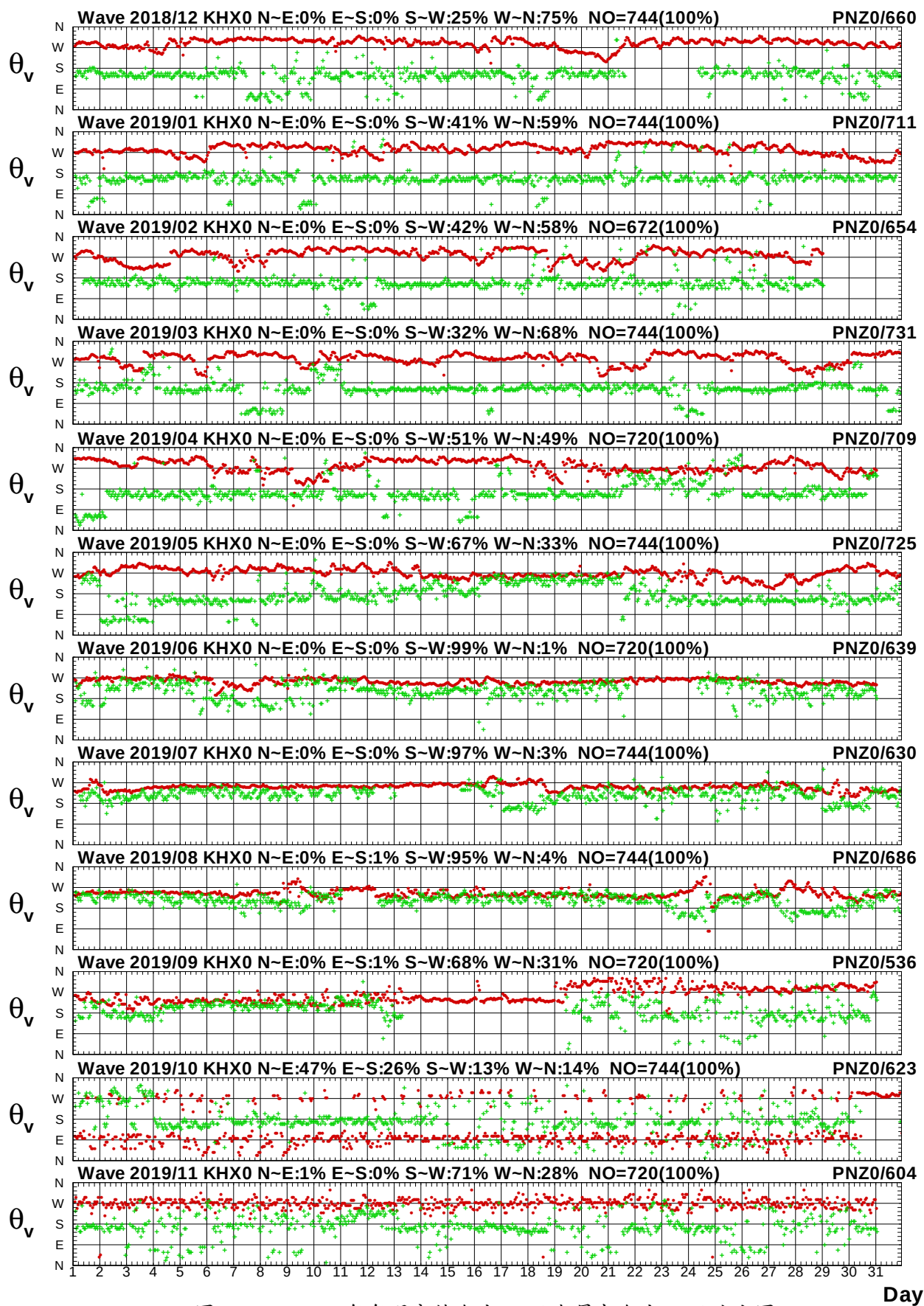


圖2.3.3c 2019年每月高雄海域 X 站與屏東海域 Z 站波向圖

V18CKHX0.1HA V18CPNZ0.1H0 V191KHX0.1HA V191PNZ0.1H0 V192KHX0.1HA V192PNZ0.1H0
V193KHX0.1HA V193PNZ0.1H0 V194KHX0.1HA V194PNZ0.1H0 V195KHX0.1HA V195PNZ0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHX0 at 2019

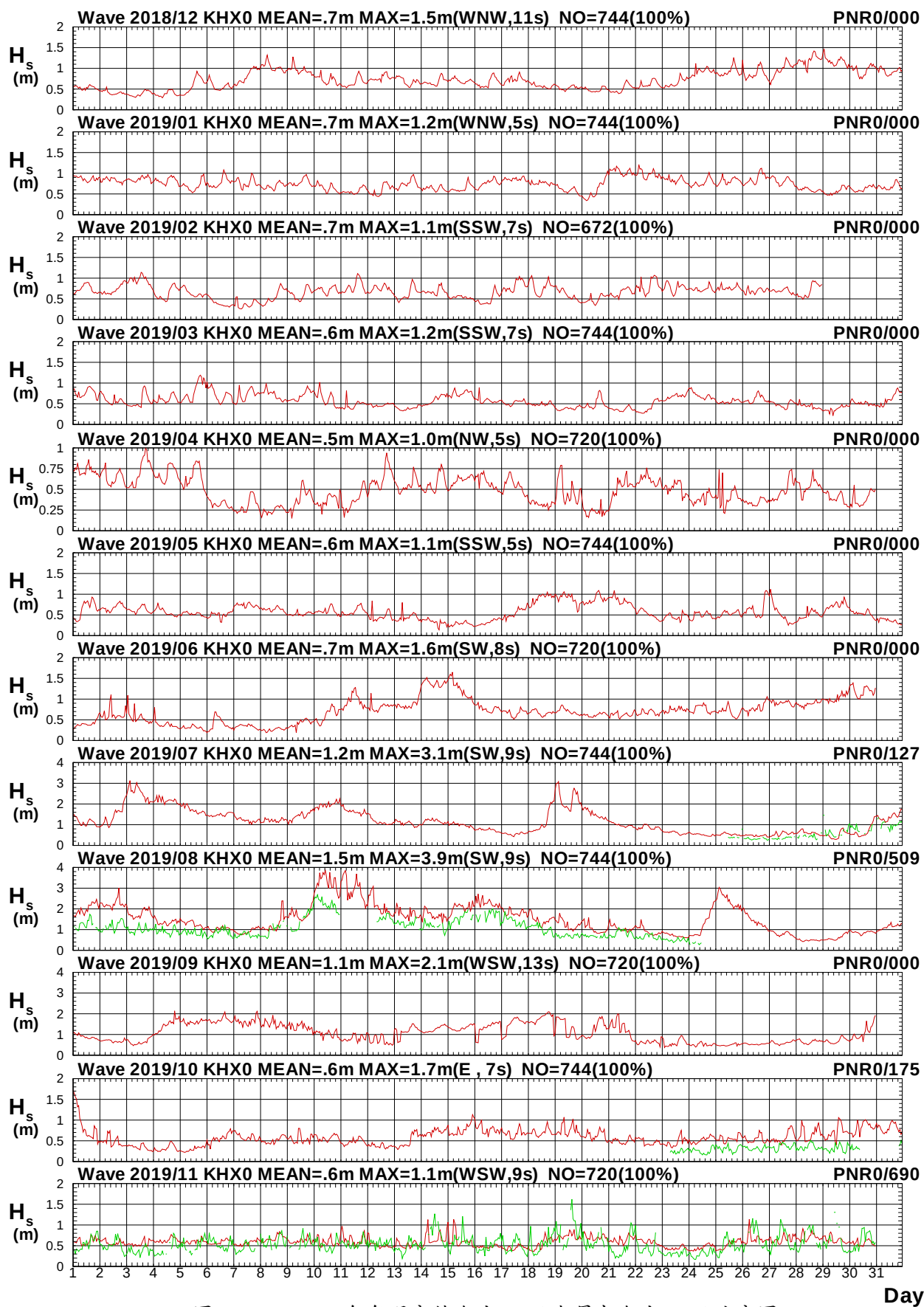


圖2.3.4a 2019年每月高雄海域 X 站與屏東海域 R 站波高圖

V18CKHX0.1HA V18CPNR0.1H0 V191KHX0.1HA V191PNR0.1H0 V192KHX0.1HA V192PNR0.1H0
V193KHX0.1HA V193PNR0.1H0 V194KHX0.1HA V194PNR0.1H0 V195KHX0.1HA V195PNR0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHX0 at 2019

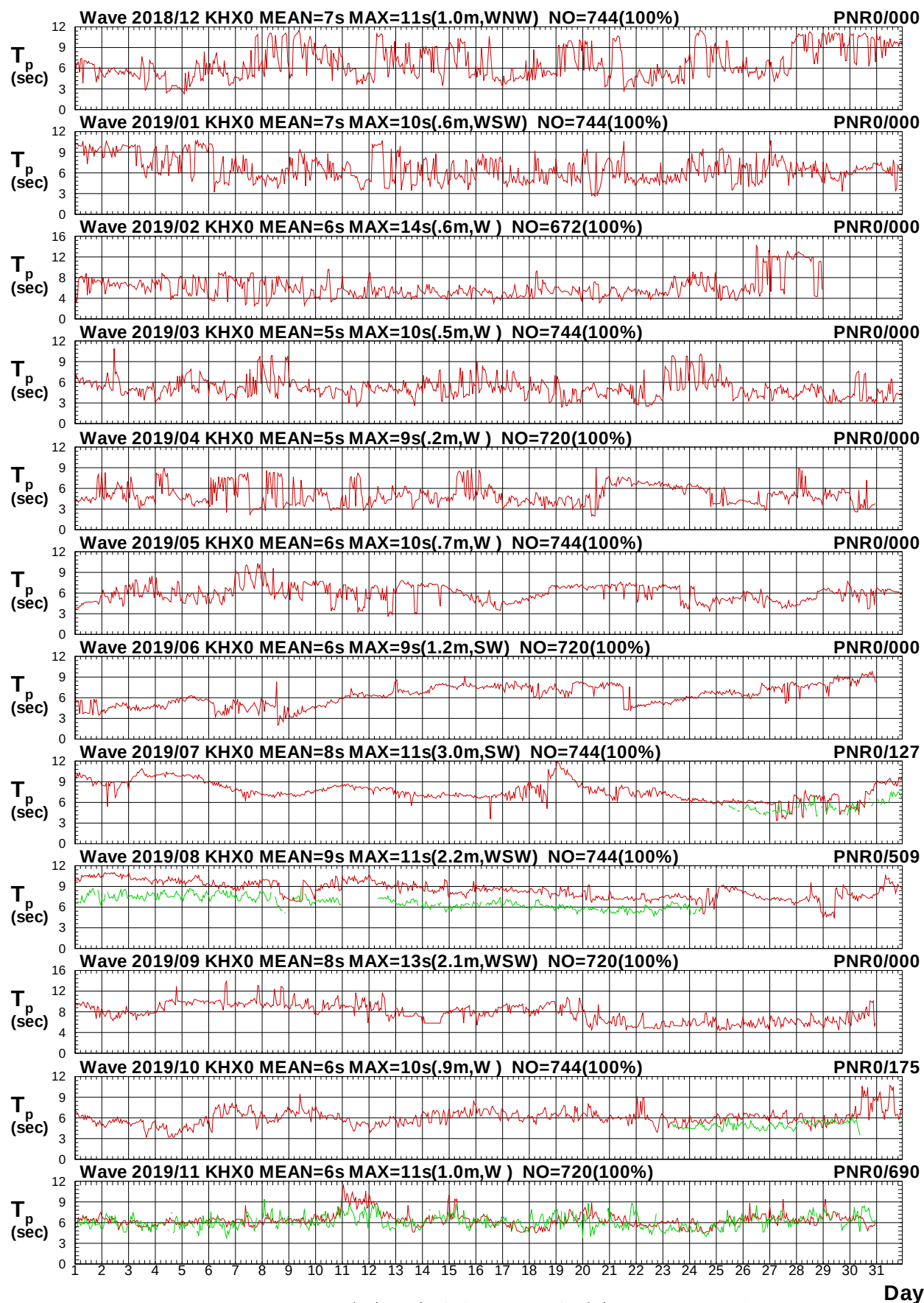


圖2.3.4b 2019年每月高雄海域 X 站與屏東海域 R 站週期圖

V18CKHX0.1HA V18CPNR0.1H0 V191KHX0.1HA V191PNR0.1H0 V192KHX0.1HA V192PNR0.1H0
V193KHX0.1HA V193PNR0.1H0 V194KHX0.1HA V194PNR0.1H0 V195KHX0.1HA V195PNR0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHX0 at 2019

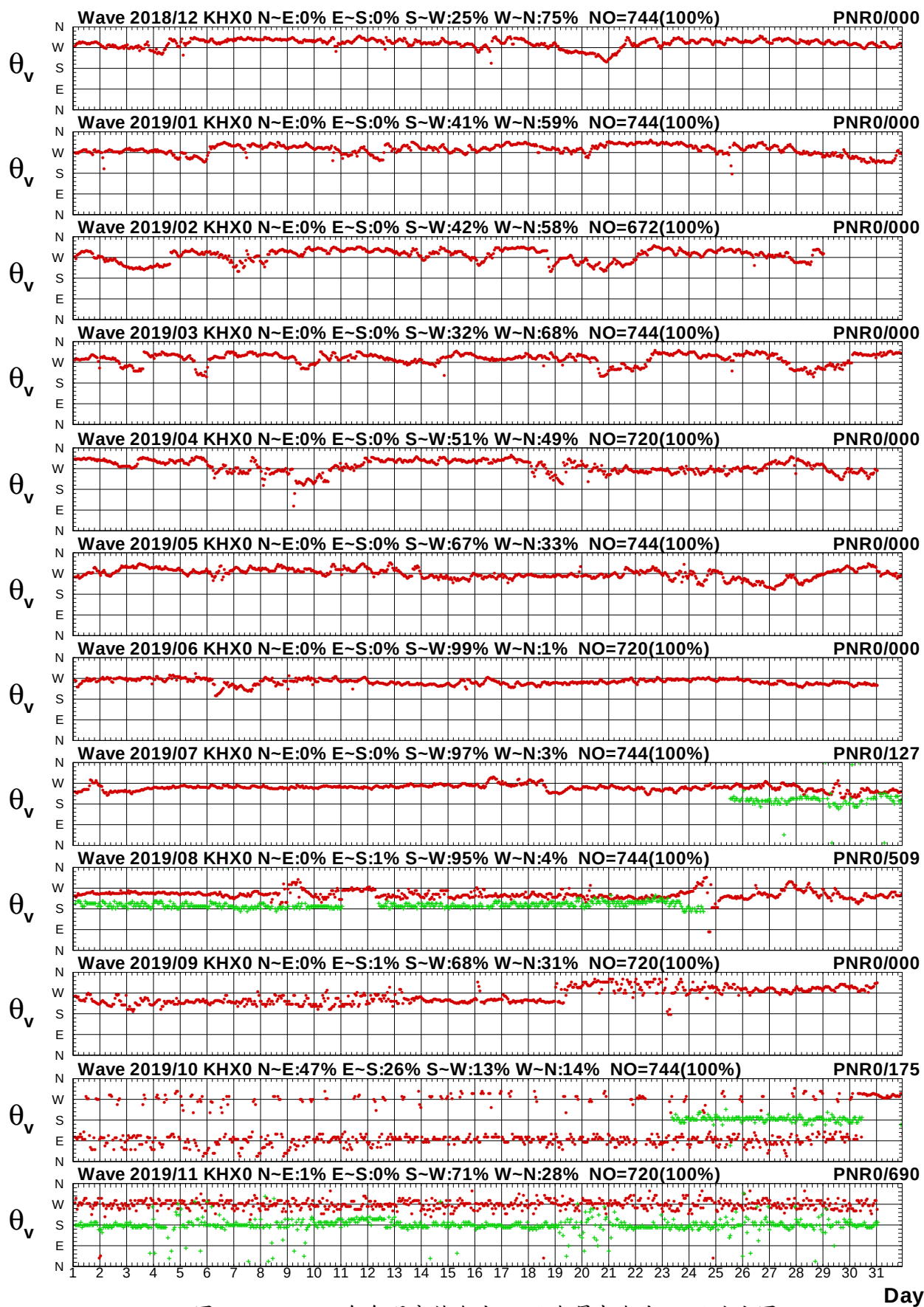


圖2.3.4c 2019年每月高雄海域 X 站與屏東海域 R 站波向圖

V18CKHX0.1HA V18CPNR0.1H0 V191KHX0.1HA V191PNR0.1H0 V192KHX0.1HA V192PNR0.1H0
V193KHX0.1HA V193PNR0.1H0 V194KHX0.1HA V194PNR0.1H0 V195KHX0.1HA V195PNR0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHX0 at 2019

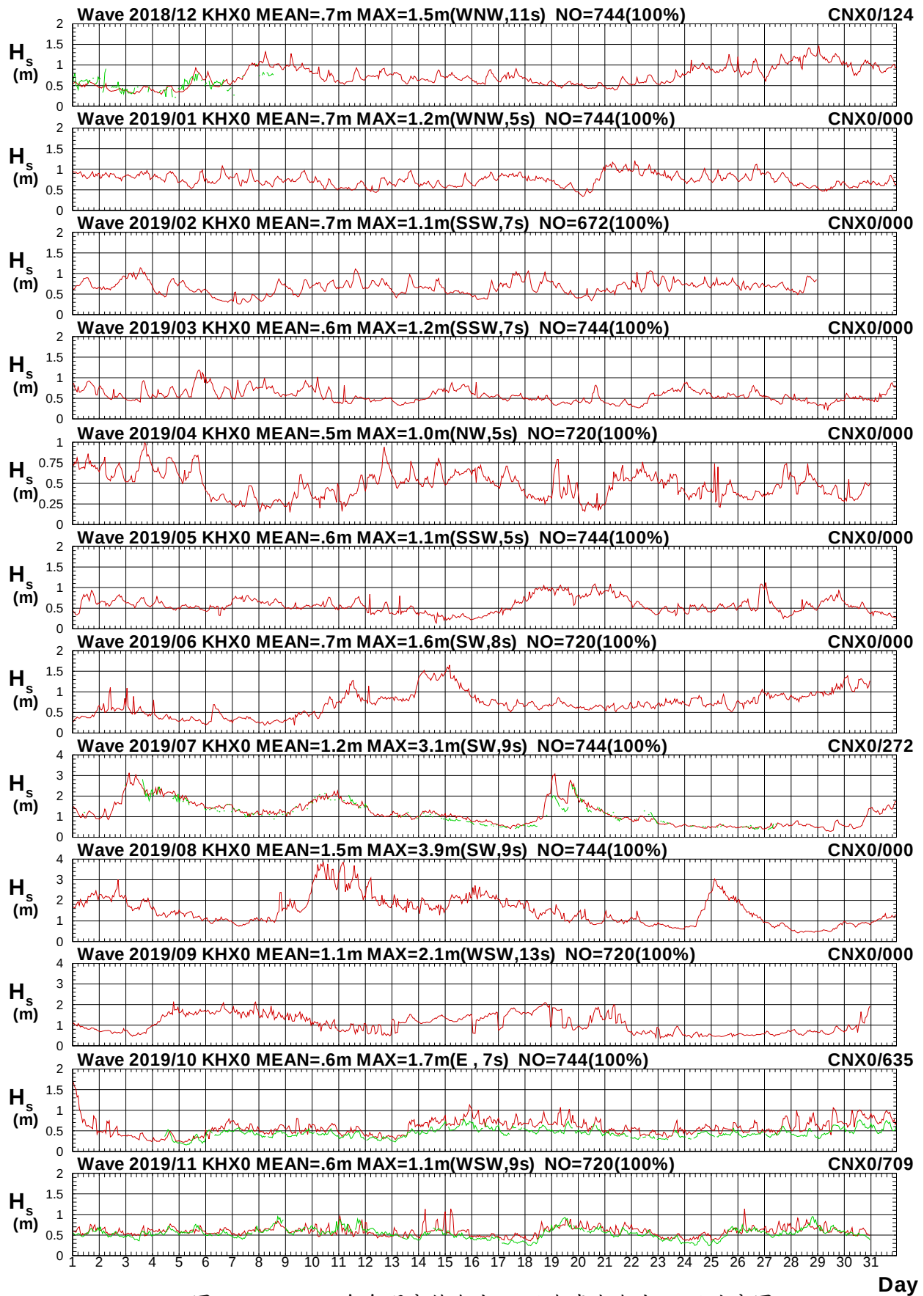


圖2.3.5a 2019年每月高雄海域 X 站與嘉南海域 X 站波高圖

V18CKHX0.1HA V18CCNX0.1H0 V191KHX0.1HA V191CNX0.1H0 V192KHX0.1HA V192CNX0.1H0
V193KHX0.1HA V193CNX0.1H0 V194KHX0.1HA V194CNX0.1H0 V195KHX0.1HA V195CNX0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHX0 at 2019

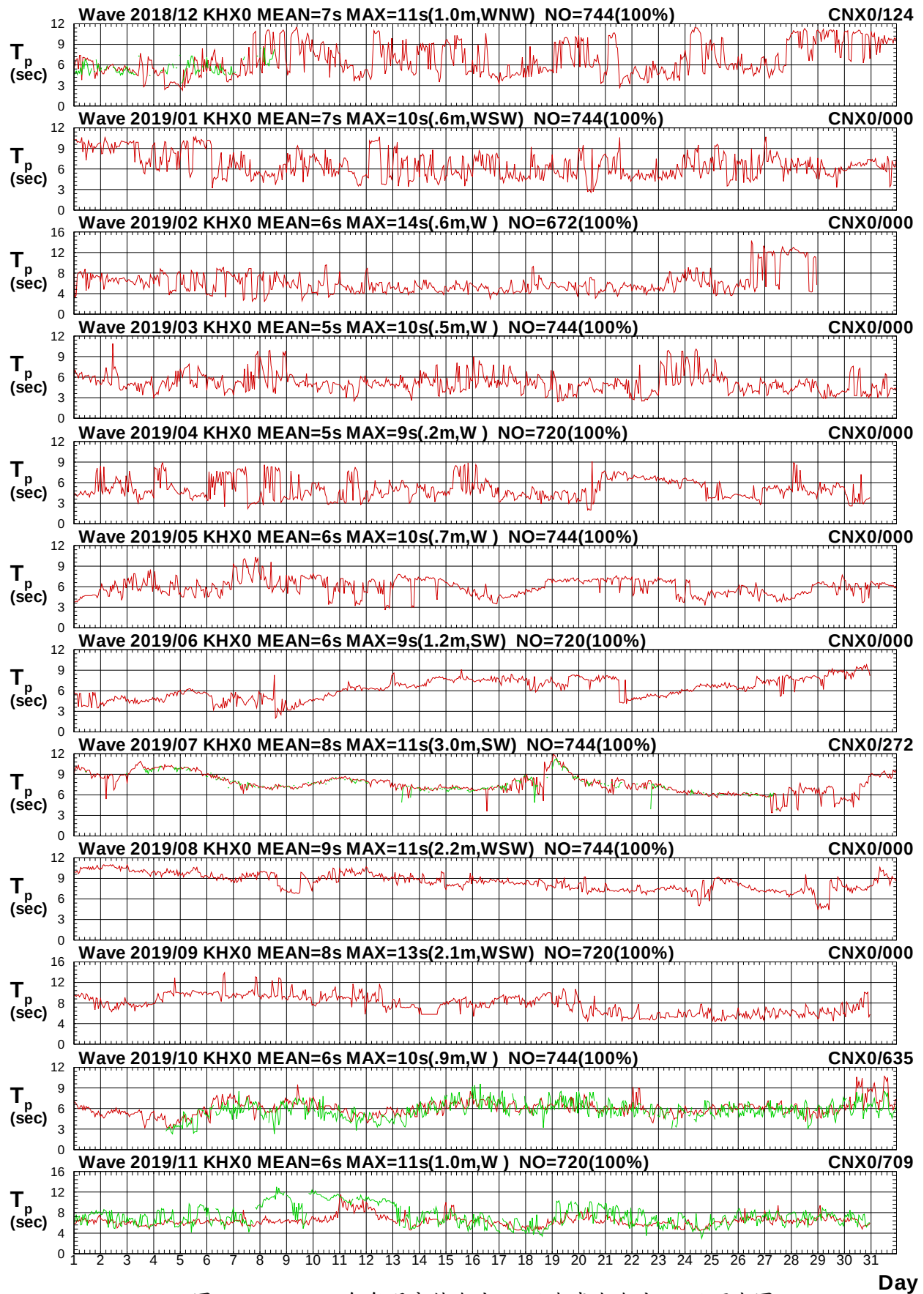


圖2.3.5b 2019年每月高雄海域 X 站與嘉南海域 X 站週期圖

V18CKHX0.1HA V18CCNX0.1H0 V191KHX0.1HA V191CNX0.1H0 V192KHX0.1HA V192CNX0.1H0
V193KHX0.1HA V193CNX0.1H0 V194KHX0.1HA V194CNX0.1H0 V195KHX0.1HA V195CNX0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHX0 at 2019

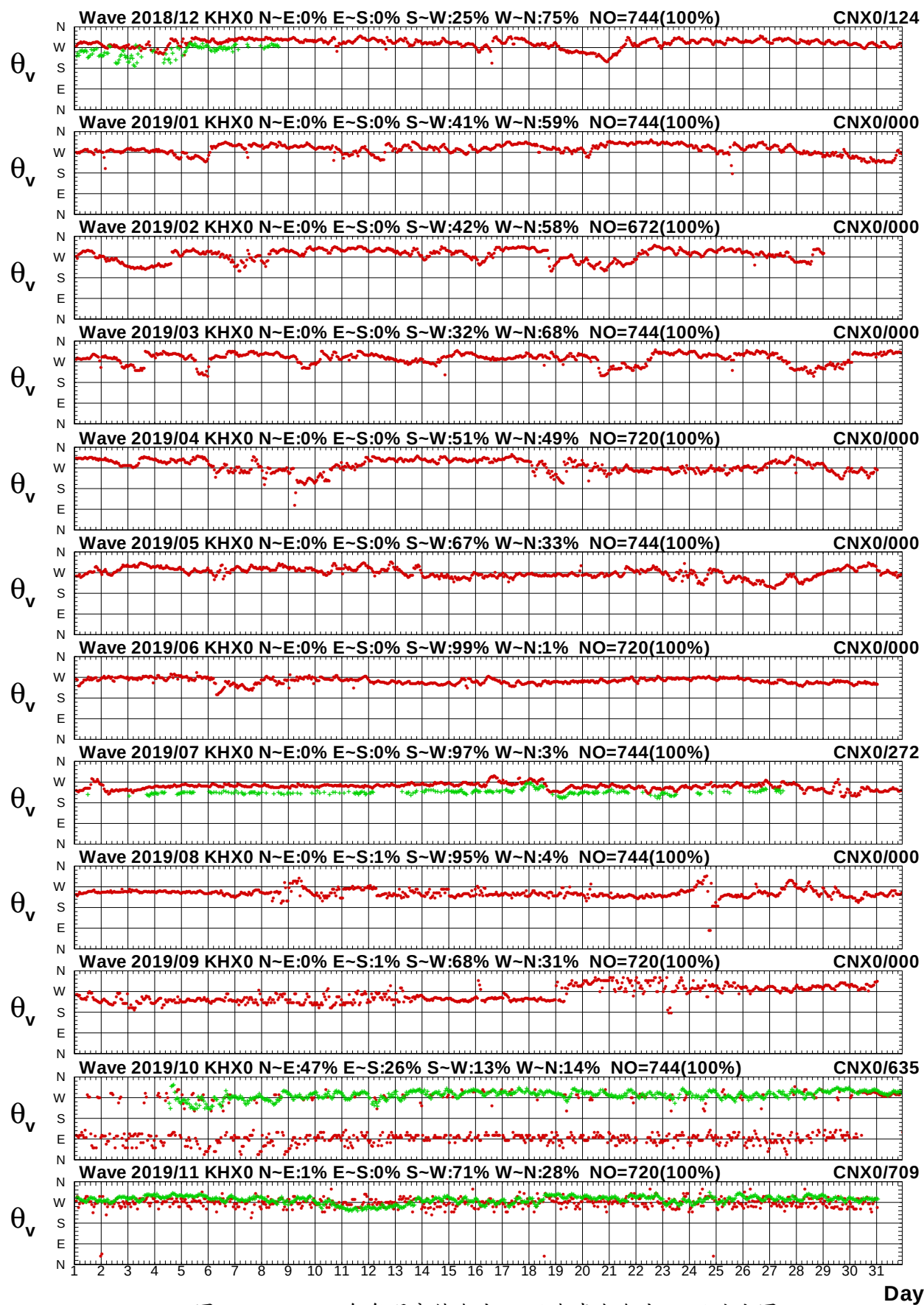


圖2.3.5c 2019年每月高雄海域 X 站與嘉南海域 X 站波向圖

V18CKHX0.1HA V18CCNX0.1H0 V191KHX0.1HA V191CNX0.1H0 V192KHX0.1HA V192CNX0.1H0
V193KHX0.1HA V193CNX0.1H0 V194KHX0.1HA V194CNX0.1H0 V195KHX0.1HA V195CNX0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHX0 at 2019

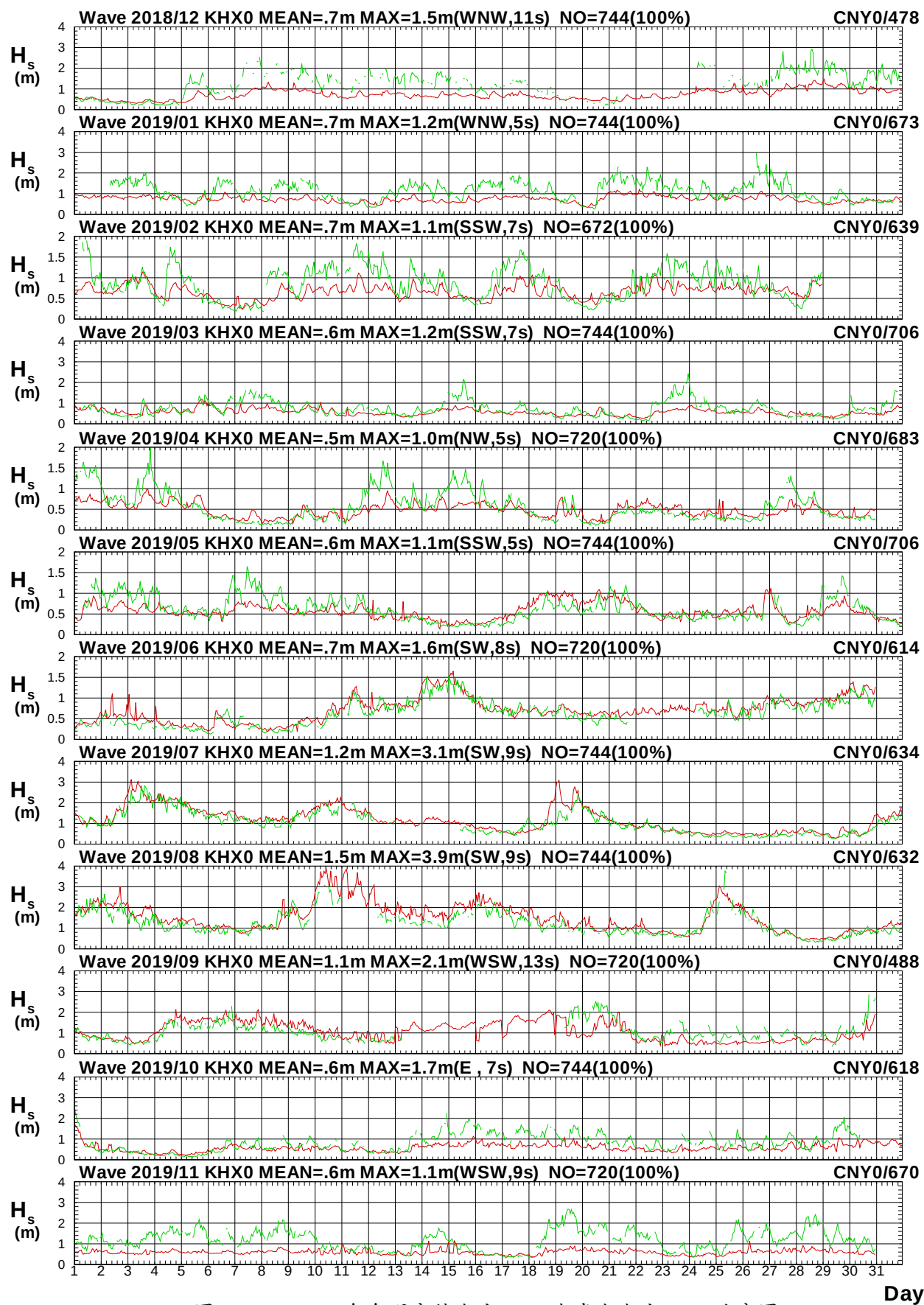


圖2.3.6a 2019年每月高雄海域 X 站與嘉南海域 Y 站波高圖

V18CKHX0.1HA V18CCNY0.1H0 V191KHX0.1HA V191CNY0.1H0 V192KHX0.1HA V192CNY0.1H0
V193KHX0.1HA V193CNY0.1H0 V194KHX0.1HA V194CNY0.1H0 V195KHX0.1HA V195CNY0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHX0 at 2019

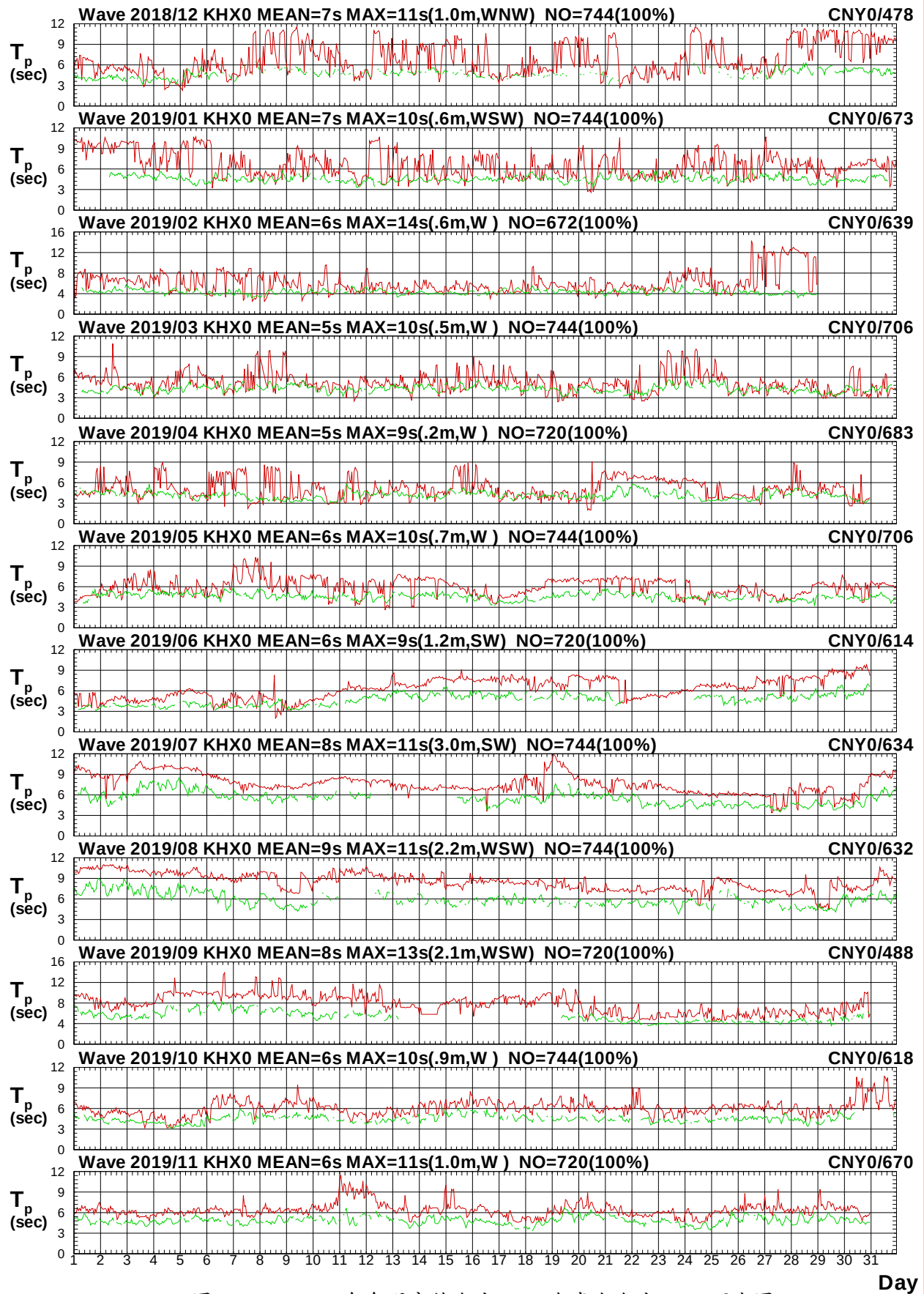


圖2.3.6b 2019年每月高雄海域 X 站與嘉南海域 Y 站週期圖

V18CKHX0.1HA V18CCNY0.1H0 V191KHX0.1HA V191CNY0.1H0 V192KHX0.1HA V192CNY0.1H0
V193KHX0.1HA V193CNY0.1H0 V194KHX0.1HA V194CNY0.1H0 V195KHX0.1HA V195CNY0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHX0 at 2019

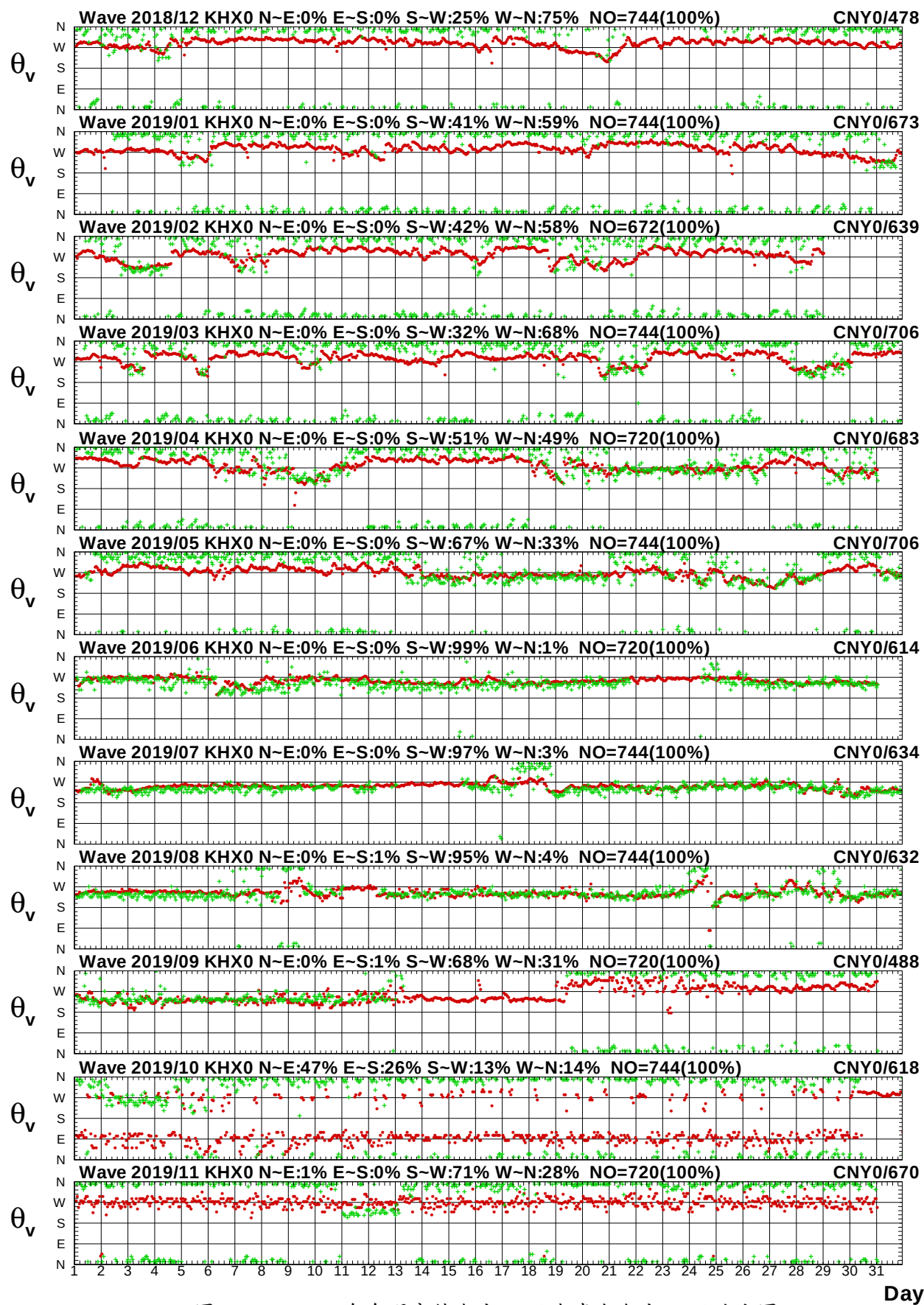


圖2.3.6c 2019年每月高雄海域 X 站與嘉南海域 Y 站波向圖

V18CKHX0.1HA V18CCNY0.1H0 V191KHX0.1HA V191CNY0.1H0 V192KHX0.1HA V192CNY0.1H0
V193KHX0.1HA V193CNY0.1H0 V194KHX0.1HA V194CNY0.1H0 V195KHX0.1HA V195CNY0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHX0 at 2019

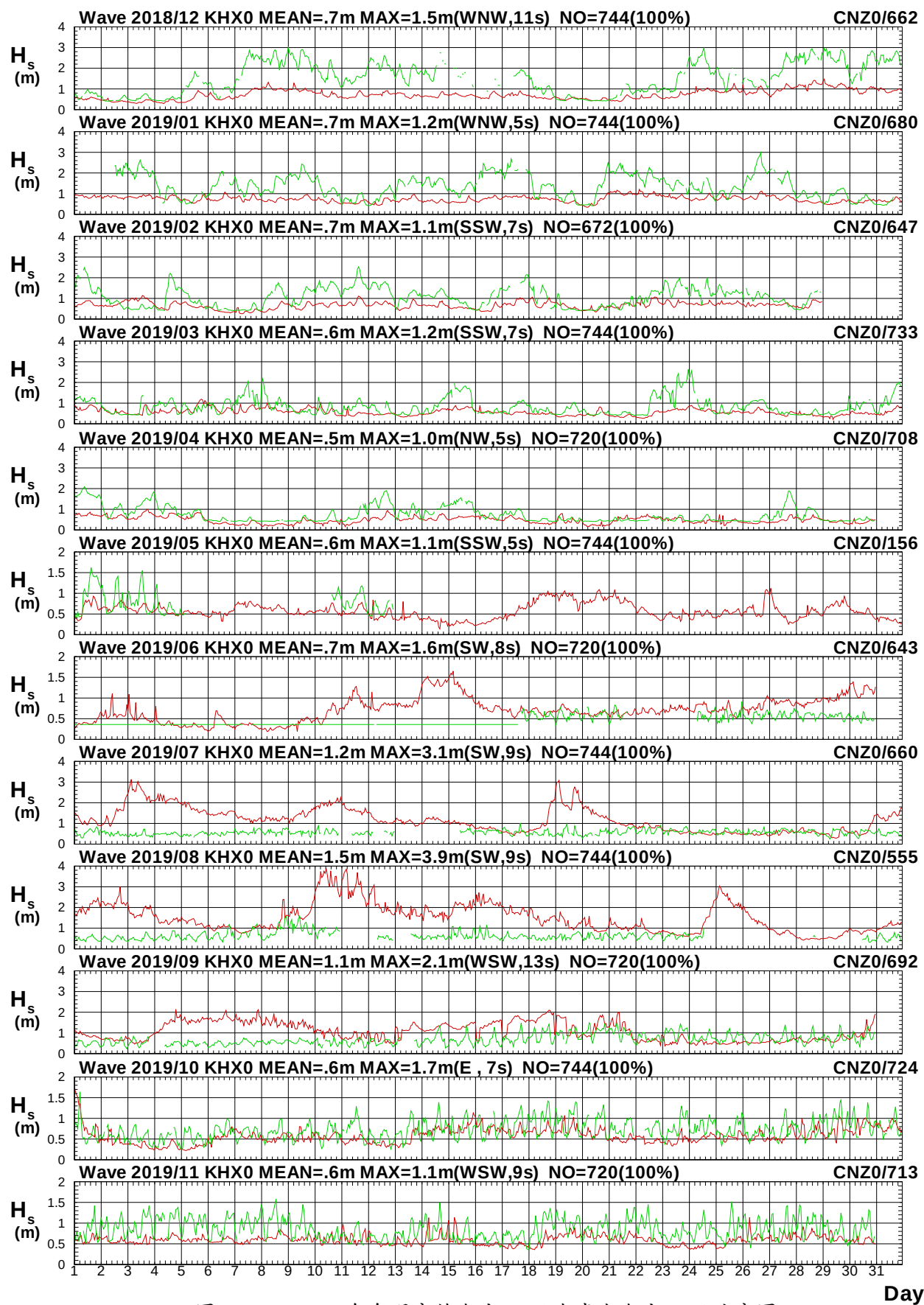


圖2.3.7a 2019年每月高雄海域 X 站與嘉南海域 Z 站波高圖

V18CKHX0.1HA V18CCNZ0.1H0 V191KHX0.1HA V191CNZ0.1H0 V192KHX0.1HA V192CNZ0.1H0
V193KHX0.1HA V193CNZ0.1H0 V194KHX0.1HA V194CNZ0.1H0 V195KHX0.1HA V195CNZ0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHX0 at 2019

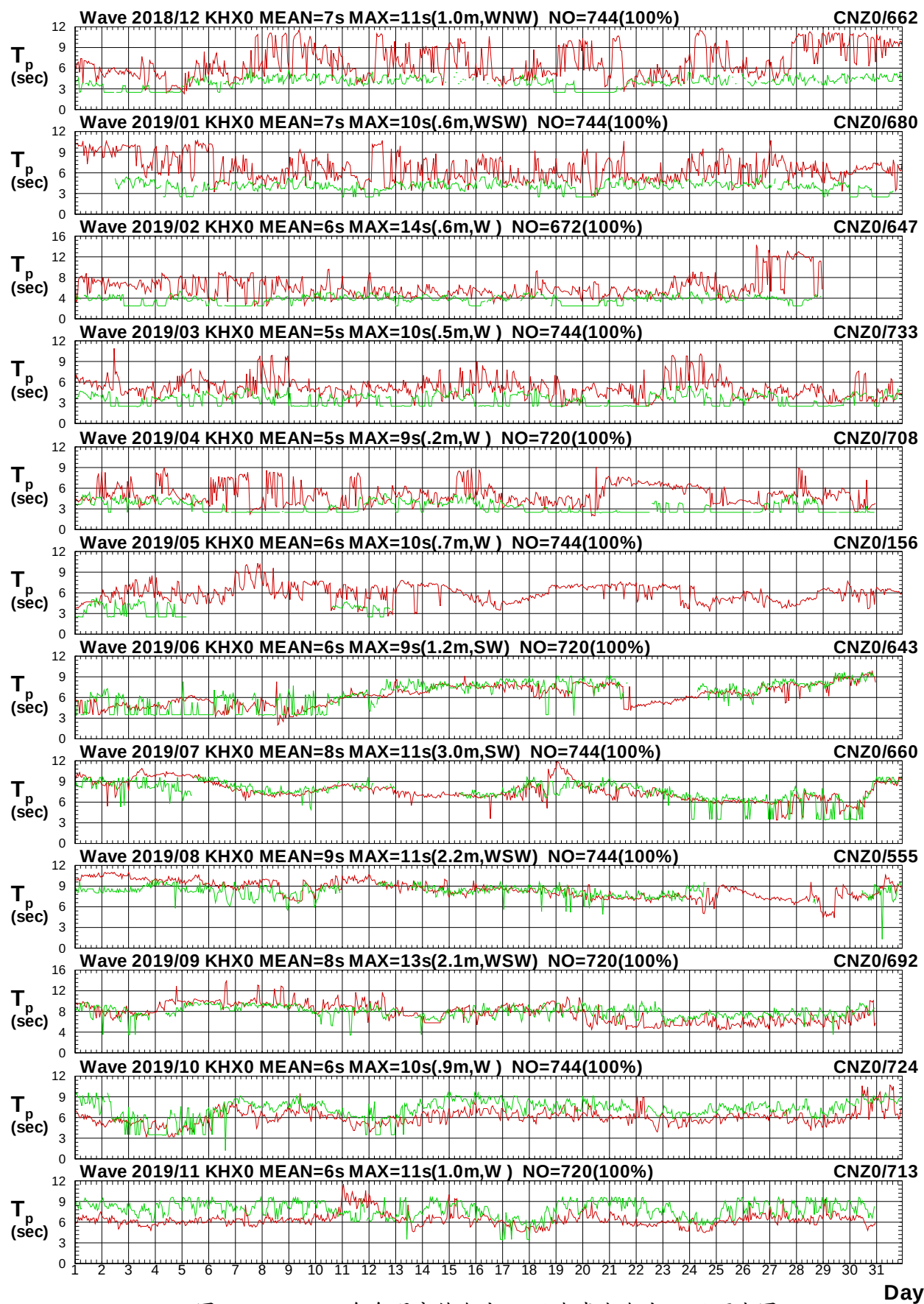


圖2.3.7b 2019年每月高雄海域 X 站與嘉南海域 Z 站週期圖

V18CKHX0.1HA V18CCNZ0.1H0 V191KHX0.1HA V191CNZ0.1H0 V192KHX0.1HA V192CNZ0.1H0
V193KHX0.1HA V193CNZ0.1H0 V194KHX0.1HA V194CNZ0.1H0 V195KHX0.1HA V195CNZ0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHX0 at 2019

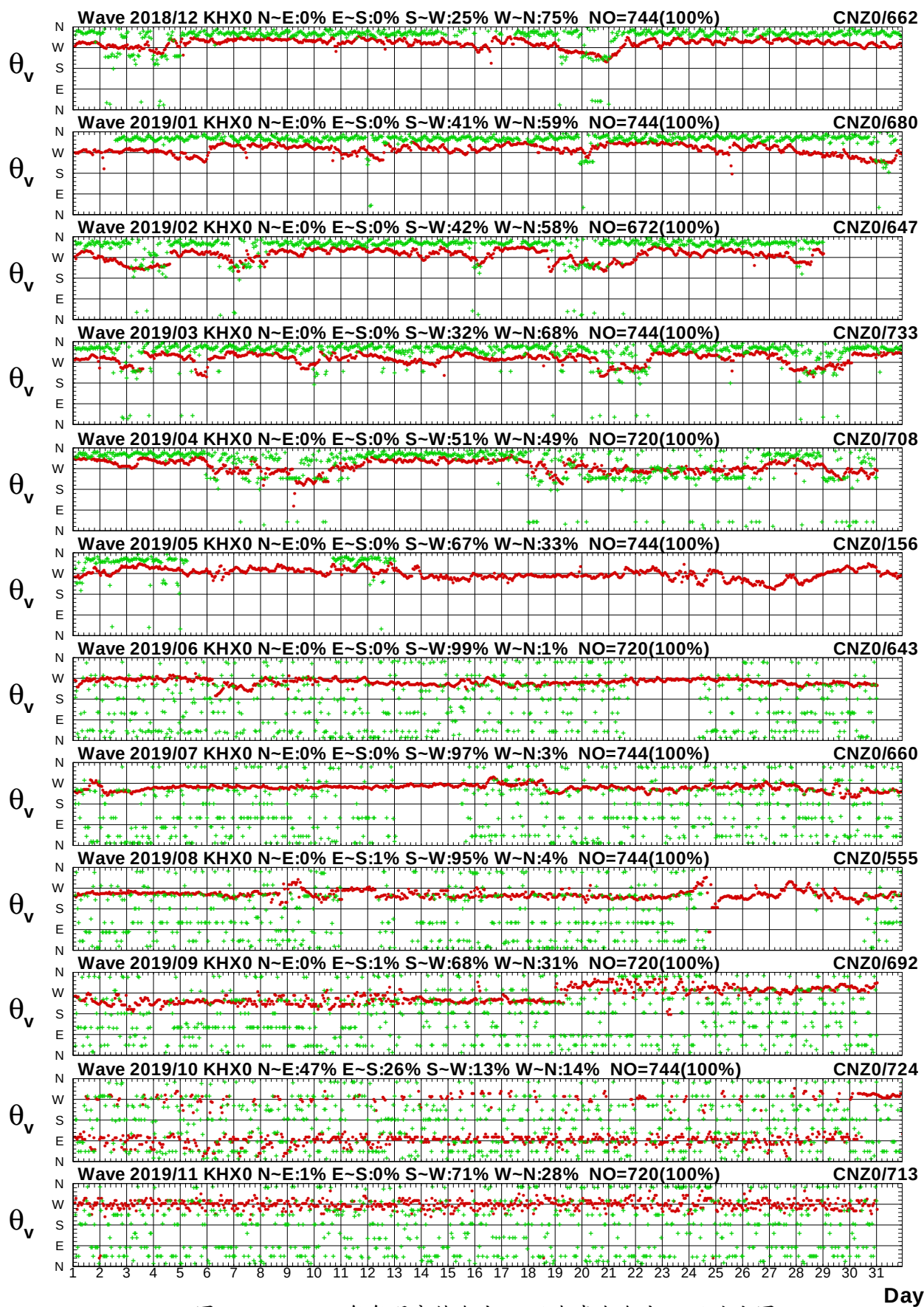


圖2.3.7c 2019年每月高雄海域 X 站與嘉南海域 Z 站波向圖

V18CKHX0.1HA V18CCNZ0.1H0 V191KHX0.1HA V191CNZ0.1H0 V192KHX0.1HA V192CNZ0.1H0
V193KHX0.1HA V193CNZ0.1H0 V194KHX0.1HA V194CNZ0.1H0 V195KHX0.1HA V195CNZ0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHX0 at 2019

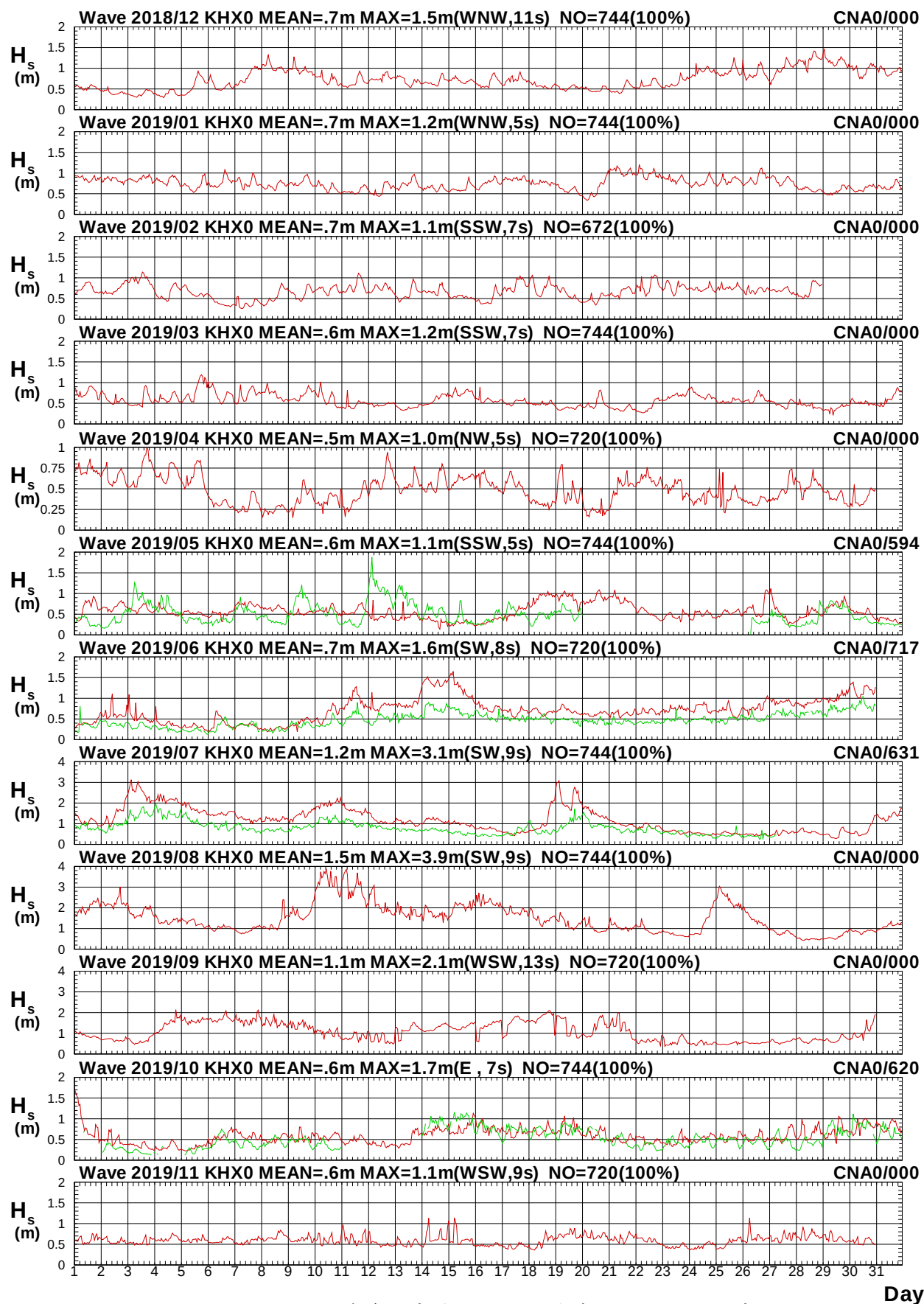


圖2.3.8a 2019年每月高雄海域 X 站與嘉南海域 A 站波高圖

V18CKHX0.1HA V18CCNA0.1H0 V191KHX0.1HA V191CNA0.1H0 V192KHX0.1HA V192CNA0.1H0
V193KHX0.1HA V193CNA0.1H0 V194KHX0.1HA V194CNA0.1H0 V195KHX0.1HA V195CNA0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHX0 at 2019

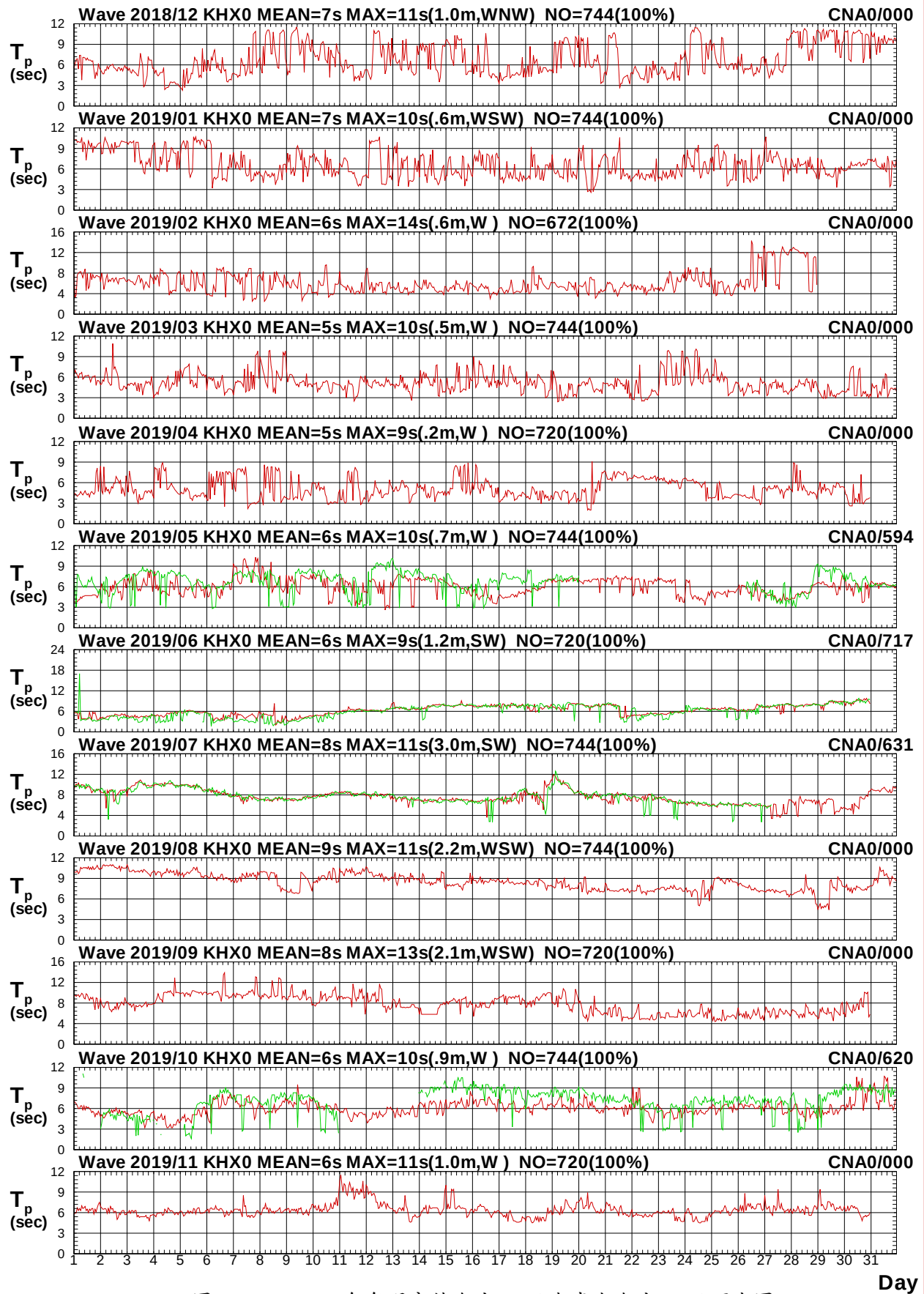


圖2.3.8b 2019年每月高雄海域 X 站與嘉南海域 A 站週期圖

V18CKHX0.1HA V18CCNA0.1H0 V191KHX0.1HA V191CNA0.1H0 V192KHX0.1HA V192CNA0.1H0
V193KHX0.1HA V193CNA0.1H0 V194KHX0.1HA V194CNA0.1H0 V195KHX0.1HA V195CNA0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHX0 at 2019

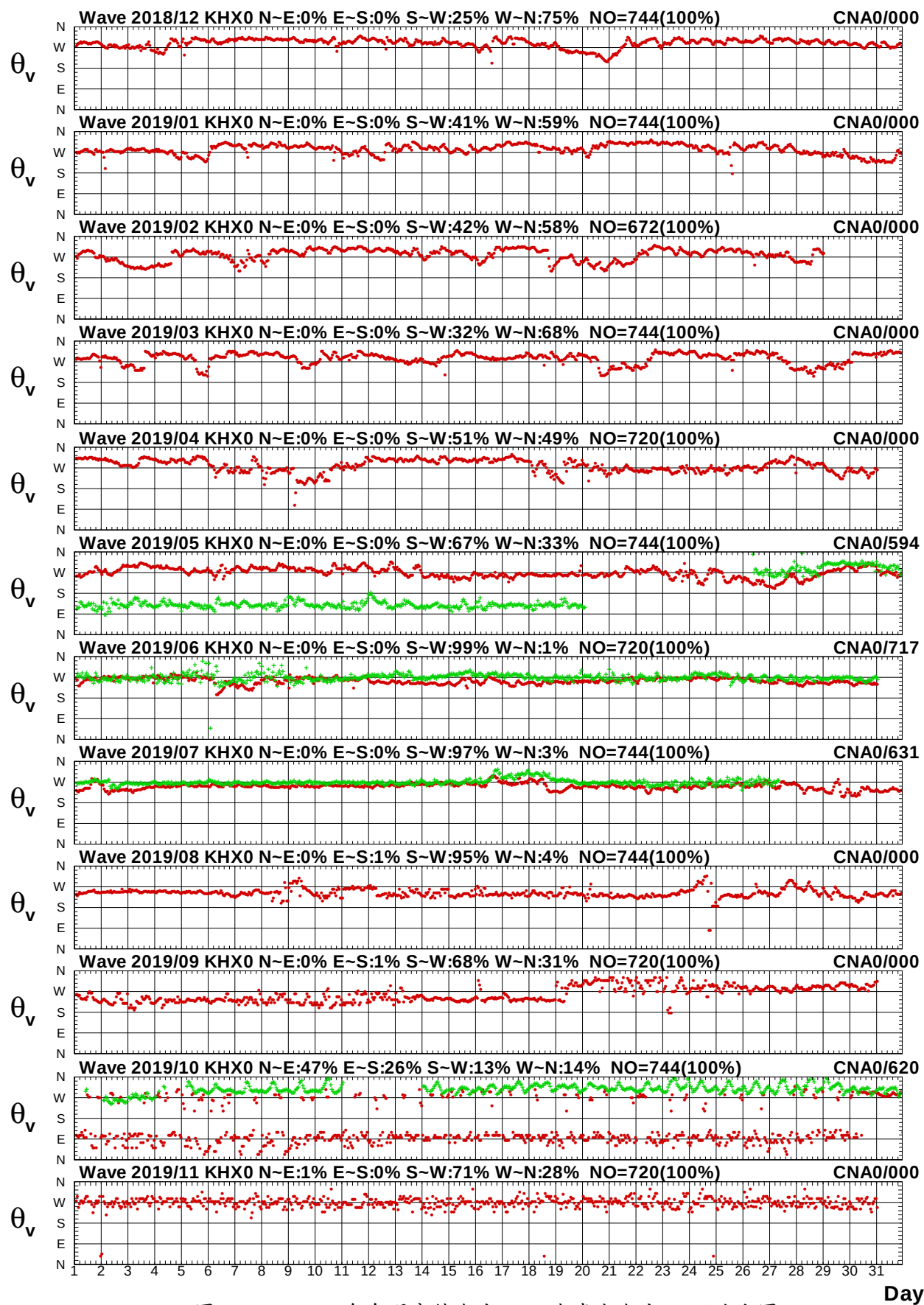


圖2.3.8c 2019年每月高雄海域 X 站與嘉南海域 A 站波向圖

V18CKHX0.1HA V18CCNA0.1H0 V191KHX0.1HA V191CNA0.1H0 V192KHX0.1HA V192CNA0.1H0
V193KHX0.1HA V193CNA0.1H0 V194KHX0.1HA V194CNA0.1H0 V195KHX0.1HA V195CNA0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHX0 at 2019

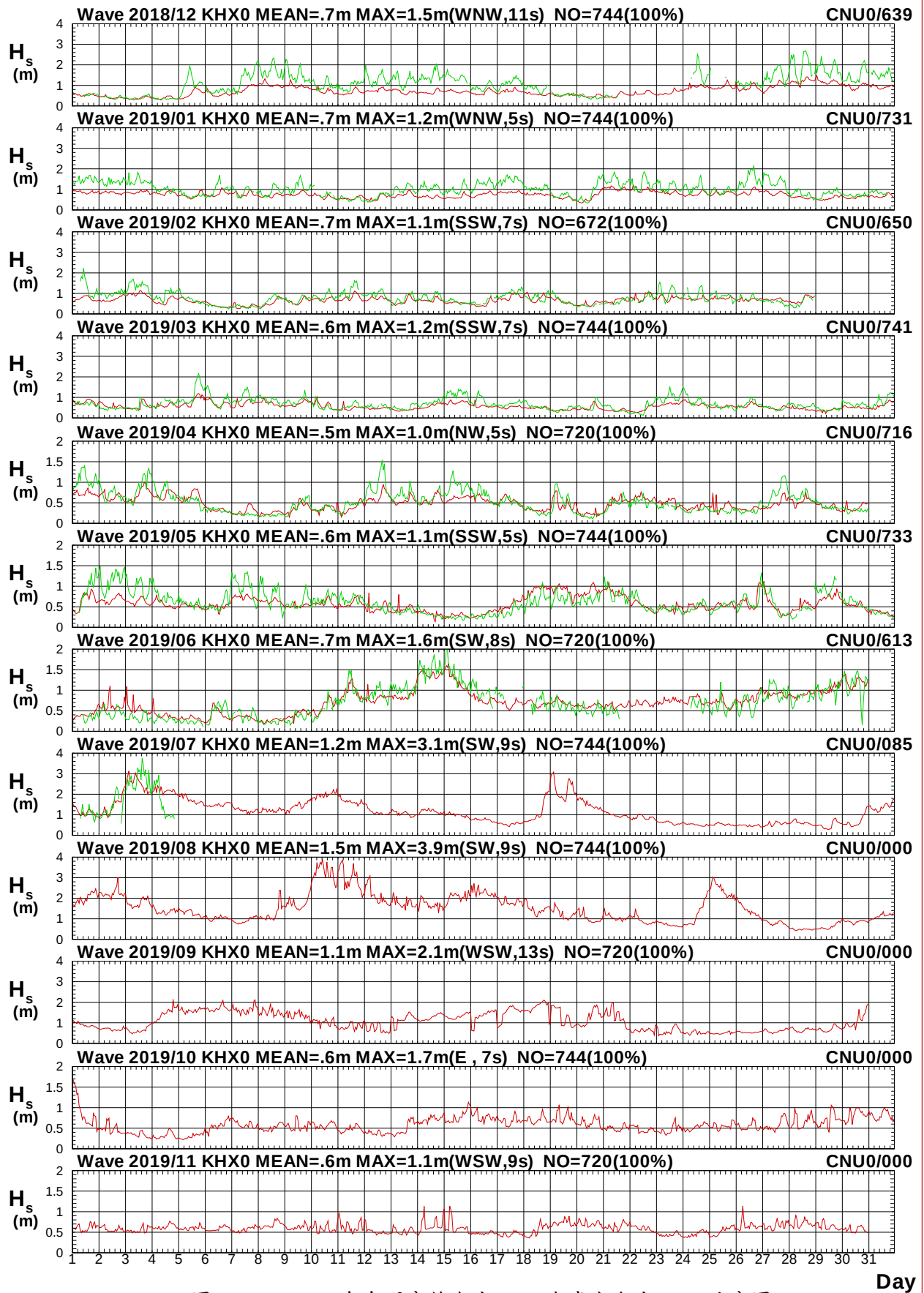


圖2.3.9a 2019年每月高雄海域 X 站與嘉南海域 U 站波高圖

V18CKHX0.1HA V18CCNU0.1H0 V191KHX0.1HA V191CNU0.1H0 V192KHX0.1HA V192CNU0.1H0
V193KHX0.1HA V193CNU0.1H0 V194KHX0.1HA V194CNU0.1H0 V195KHX0.1HA V195CNU0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHX0 at 2019

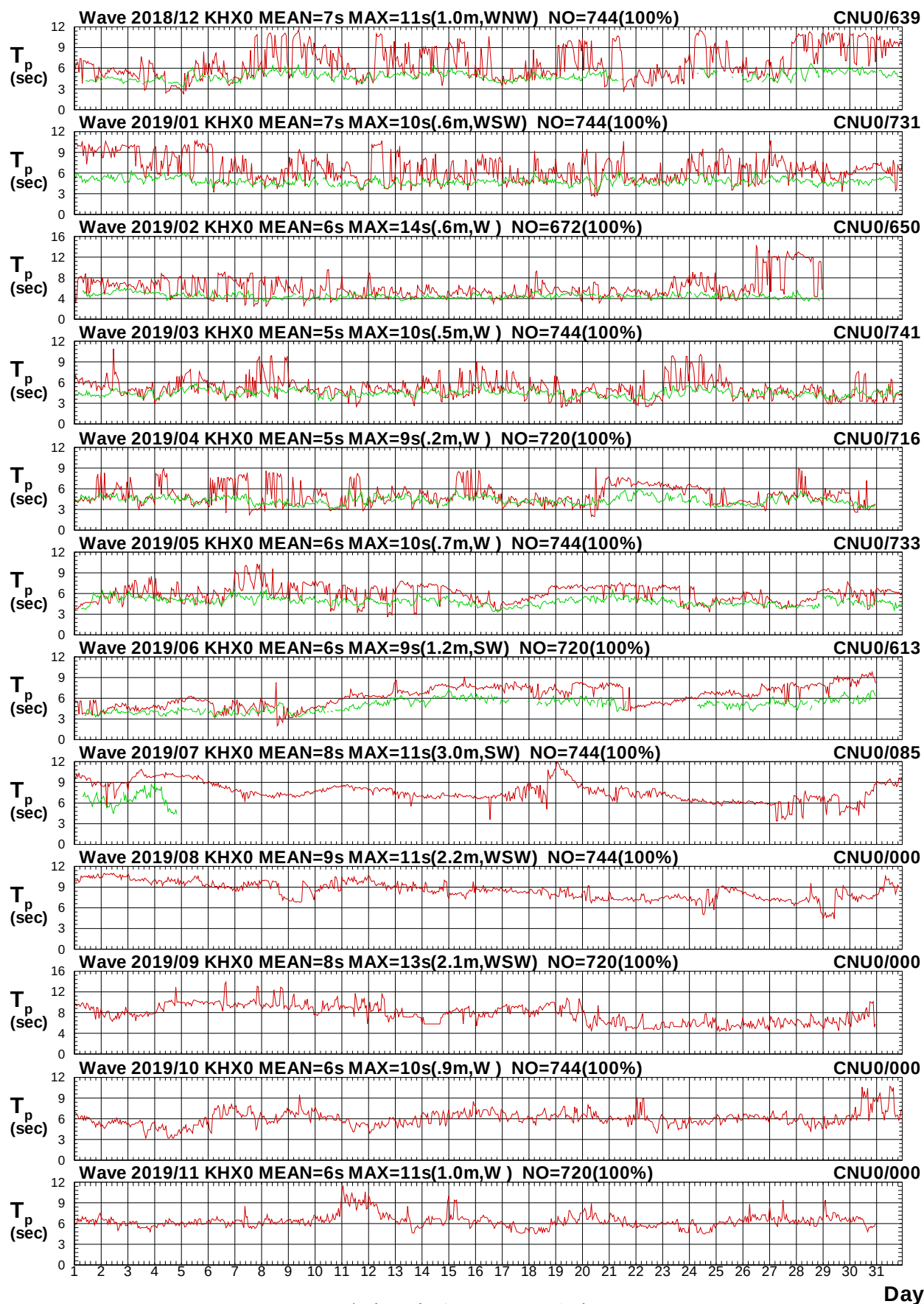


圖2.3.9b 2019年每月高雄海域 X 站與嘉南海域 U 站週期圖

V18CKHX0.1HA V18CCNU0.1H0 V191KHX0.1HA V191CNU0.1H0 V192KHX0.1HA V192CNU0.1H0
V193KHX0.1HA V193CNU0.1H0 V194KHX0.1HA V194CNU0.1H0 V195KHX0.1HA V195CNU0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHX0 at 2019

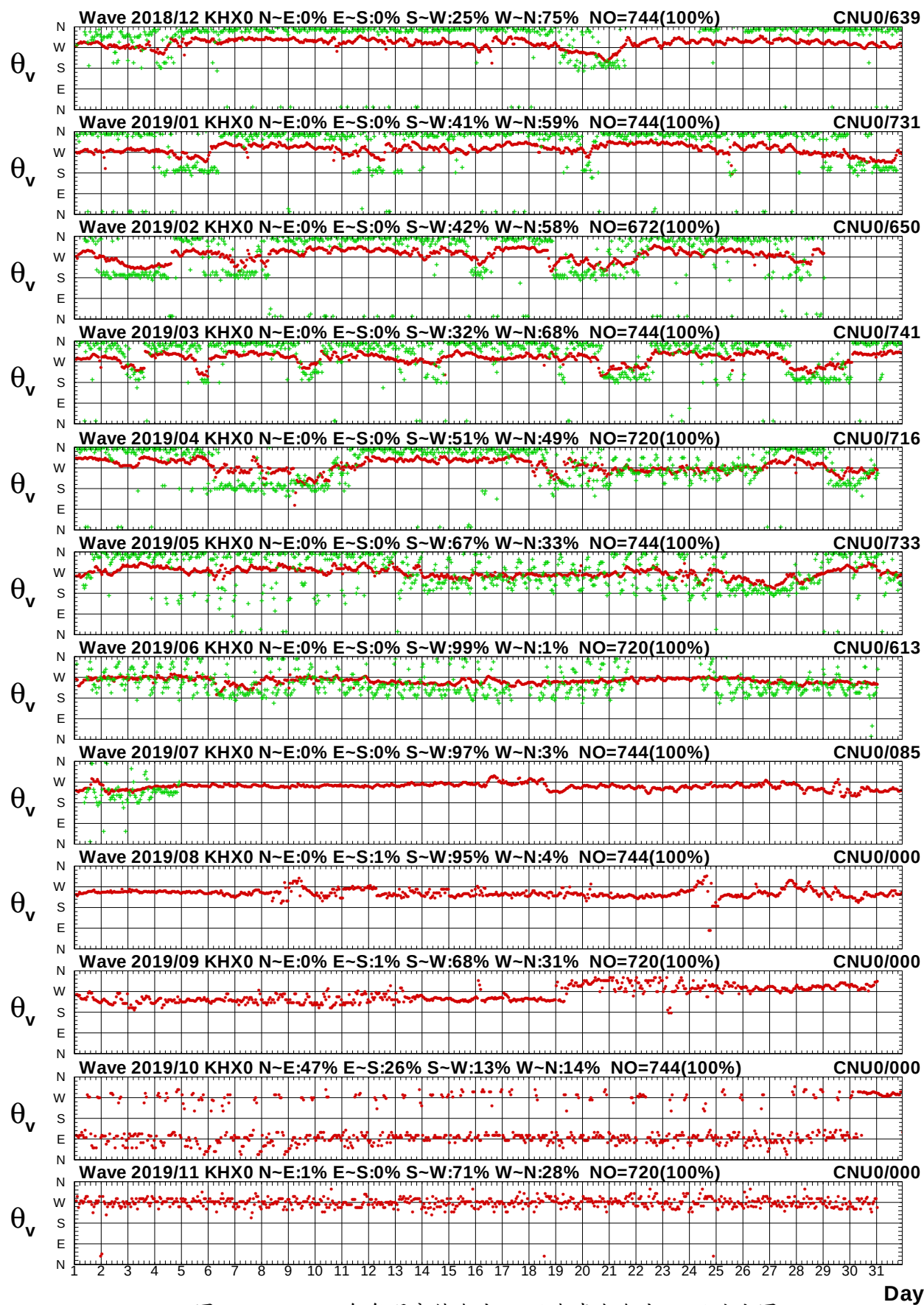


圖2.3.9c 2019年每月高雄海域 X 站與嘉南海域 U 站波向圖

V18CKHX0.1HA V18CCNU0.1H0 V191KHX0.1HA V191CNU0.1H0 V192KHX0.1HA V192CNU0.1H0
V193KHX0.1HA V193CNU0.1H0 V194KHX0.1HA V194CNU0.1H0 V195KHX0.1HA V195CNU0.1H0

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2.4 2019 年高雄海域波浪**主要測站 2**(修補後) 與**其他測站**(修補前)每月波浪歷線比較圖

Wave H_s in Kao-Hsiung Harbor of KHZ0 at 2019

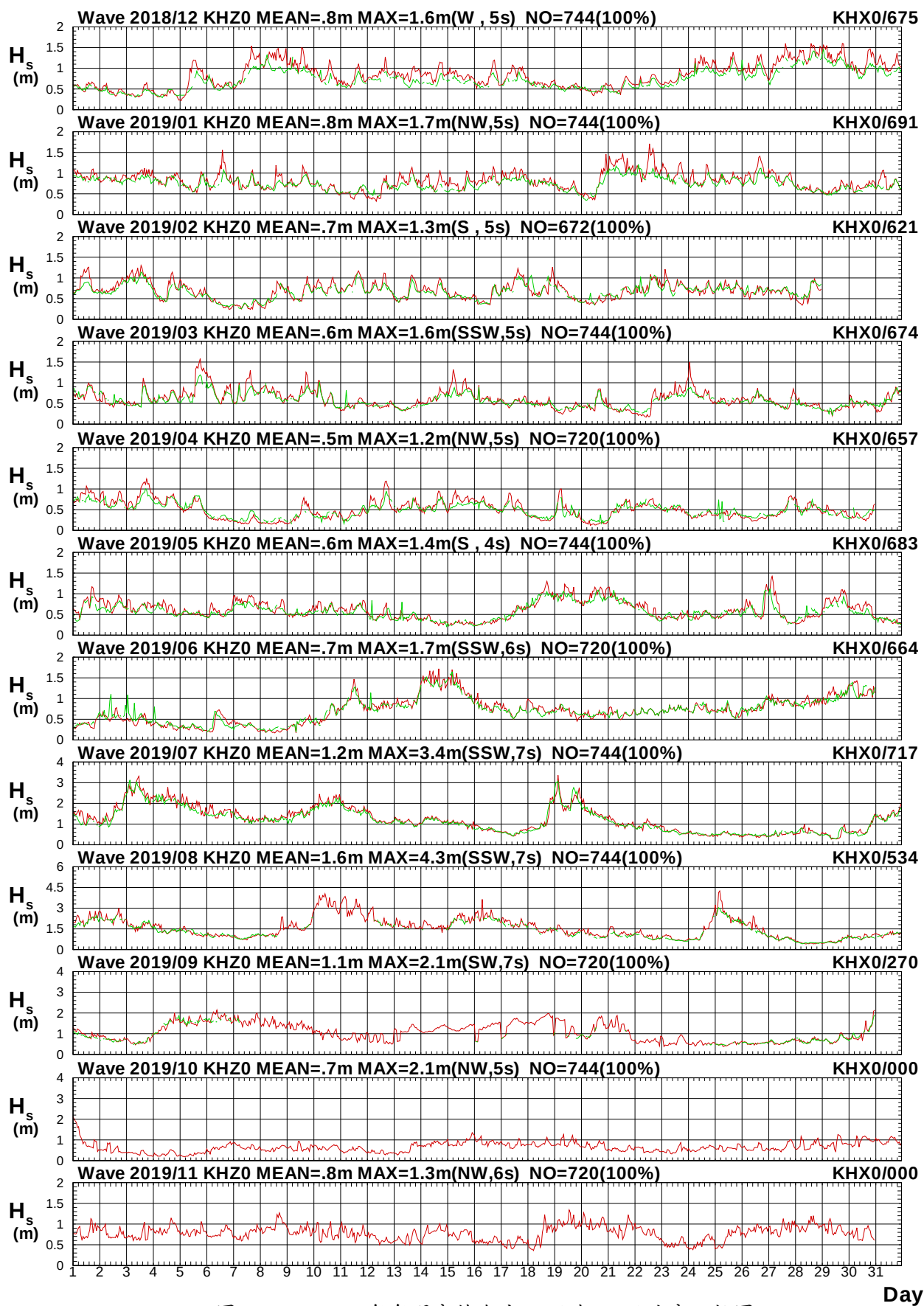


圖2.4.1a 2019年每月高雄海域 Z 站與 X 站波高比較圖

V18CKHZ0.1HA V18CKHX0.1H0 V191KHZ0.1HA V191KHX0.1H0 V192KHZ0.1HA V192KHX0.1H0
V193KHZ0.1HA V193KHX0.1H0 V194KHZ0.1HA V194KHX0.1H0 V195KHZ0.1HA V195KHX0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHZ0 at 2019

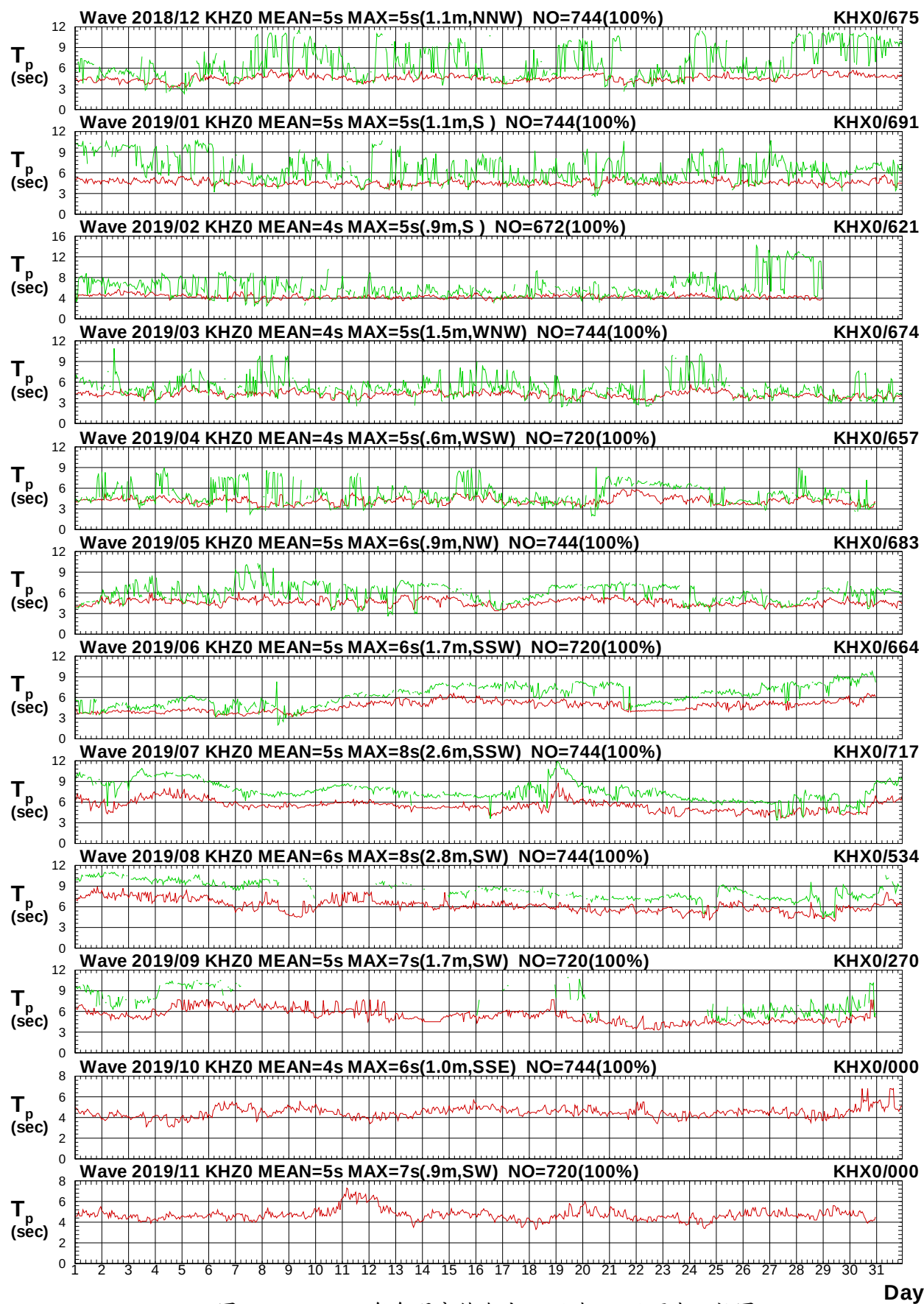


圖2.4.1b 2019年每月高雄海域 Z 站與 X 站週期比較圖

V18CKHZ0.1HA V18CKHX0.1H0 V191KHZ0.1HA V191KHX0.1H0 V192KHZ0.1HA V192KHX0.1H0
V193KHZ0.1HA V193KHX0.1H0 V194KHZ0.1HA V194KHX0.1H0 V195KHZ0.1HA V195KHX0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHZ0 at 2019

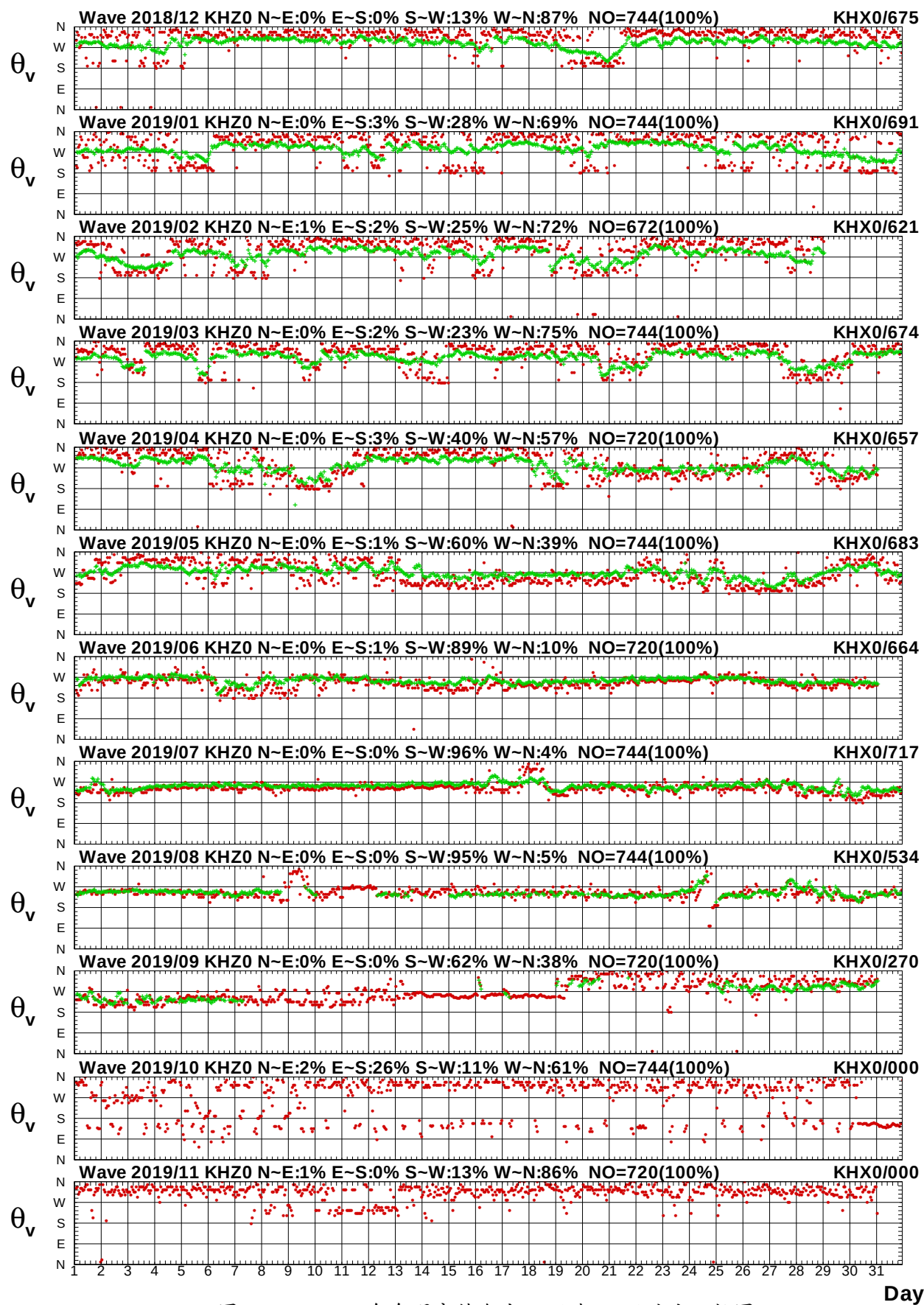


圖2.4.1c 2019年每月高雄海域 Z 站與 X 站波向比較圖

V18CKHZ0.1HA V18CKHX0.1H0 V191KHZ0.1HA V191KHX0.1H0 V192KHZ0.1HA V192KHX0.1H0
V193KHZ0.1HA V193KHX0.1H0 V194KHZ0.1HA V194KHX0.1H0 V195KHZ0.1HA V195KHX0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHZ0 at 2019

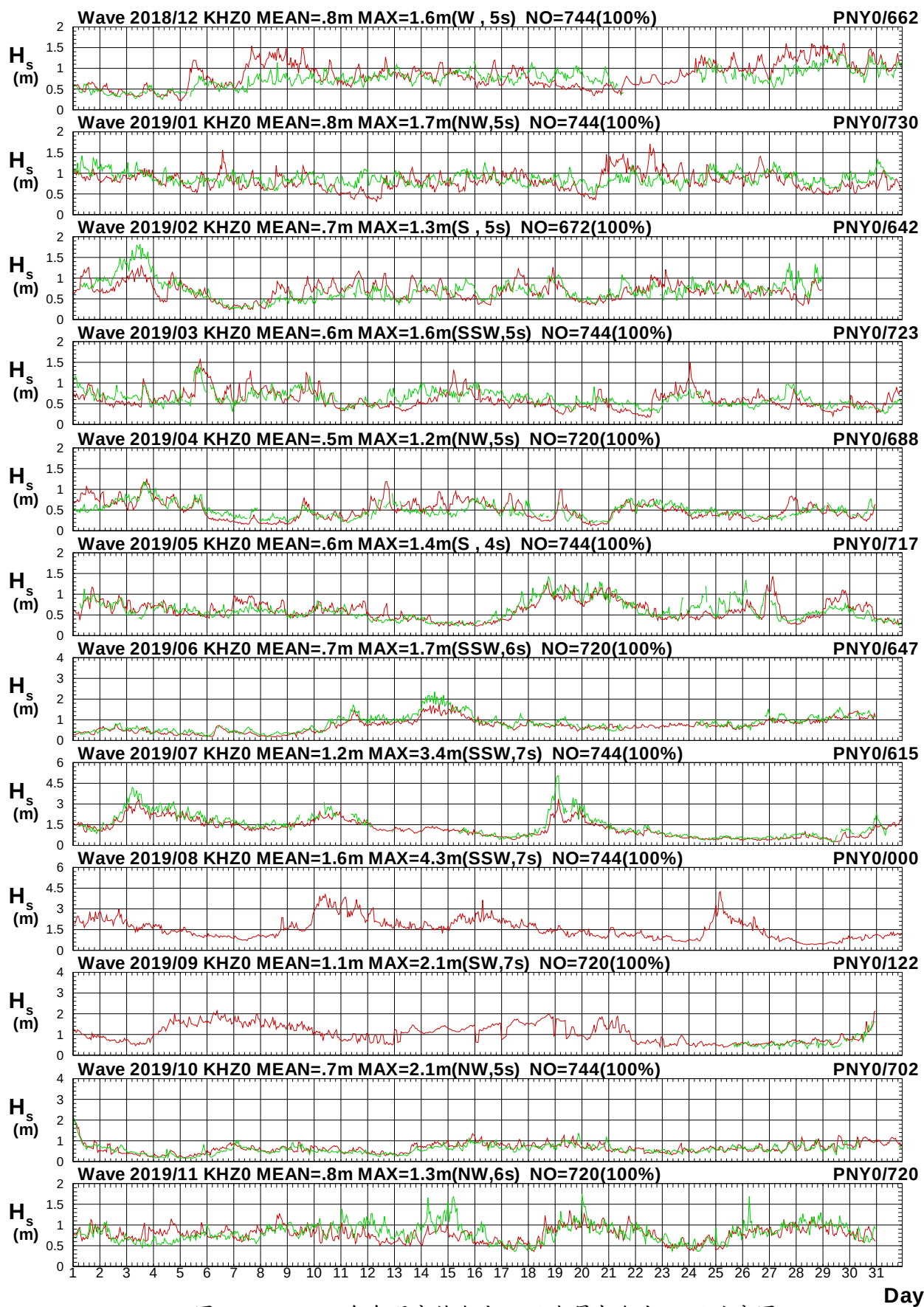


圖2.4.2a 2019年每月高雄海域 Z 站與屏東海域 Y 站波高圖

V18CKHZ0.1HA V18CPNY0.1H0 V191KHZ0.1HA V191PNY0.1H0 V192KHZ0.1HA V192PNY0.1H0
V193KHZ0.1HA V193PNY0.1H0 V194KHZ0.1HA V194PNY0.1H0 V195KHZ0.1HA V195PNY0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHZ0 at 2019

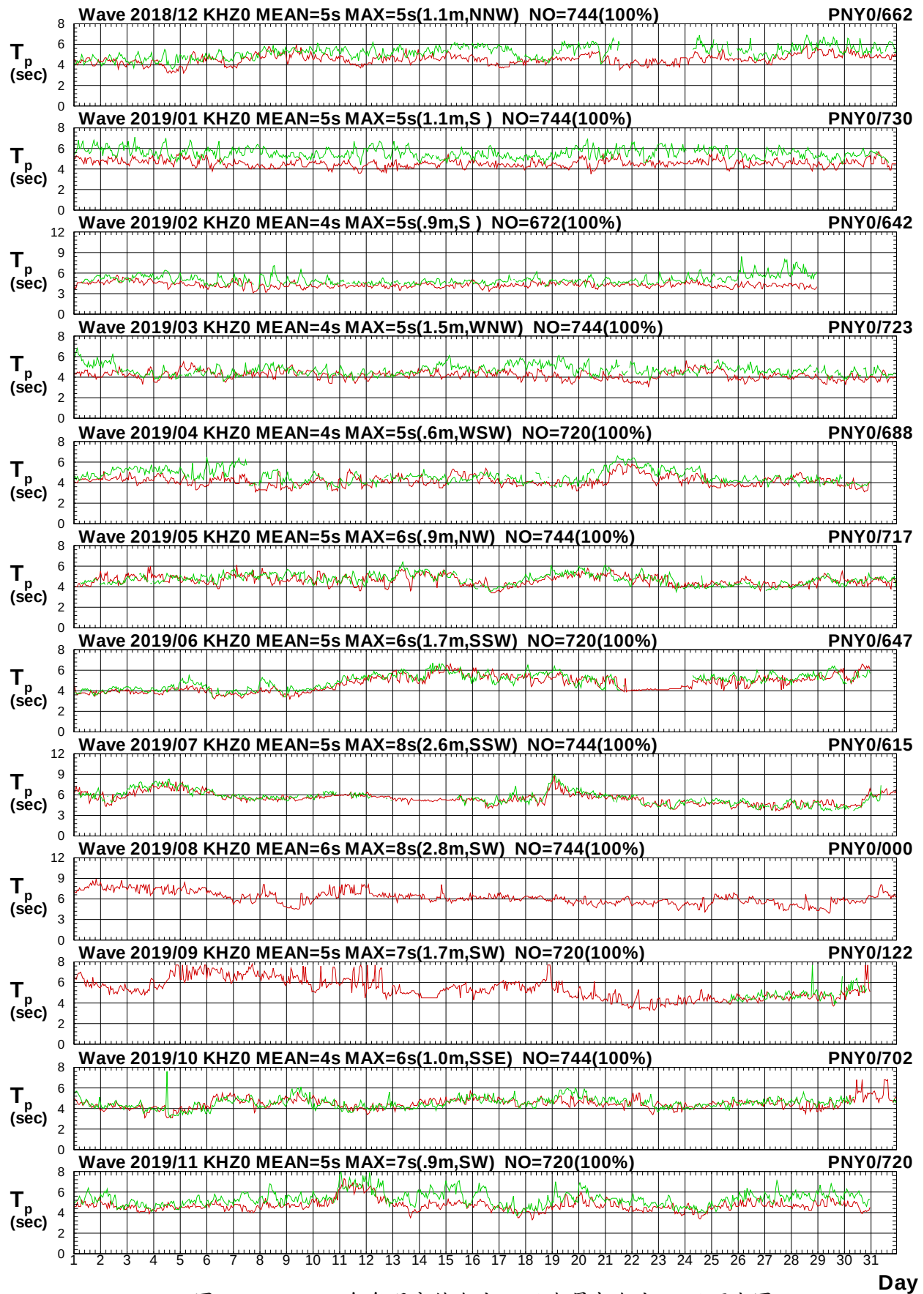


圖2.4.2b 2019年每月高雄海域 Z 站與屏東海域 Y 站週期圖

V18CKHZ0.1HA V18CPNY0.1H0 V191KHZ0.1HA V191PNY0.1H0 V192KHZ0.1HA V192PNY0.1H0
V193KHZ0.1HA V193PNY0.1H0 V194KHZ0.1HA V194PNY0.1H0 V195KHZ0.1HA V195PNY0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHZ0 at 2019

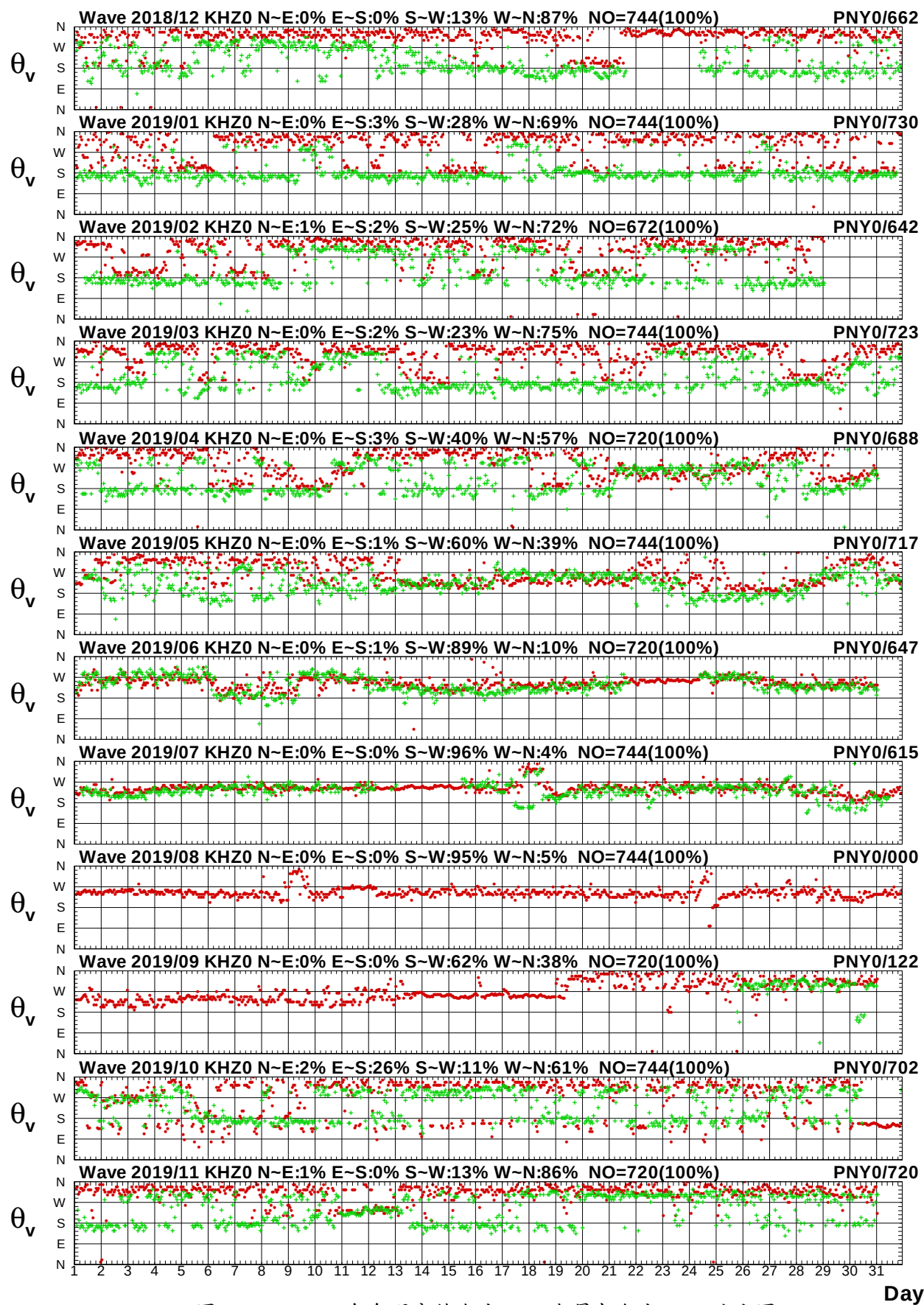


圖2.4.2c 2019年每月高雄海域 Z 站與屏東海域 Y 站波向圖

V18CKHZ0.1HA V18CPNY0.1H0 V191KHZ0.1HA V191PNY0.1H0 V192KHZ0.1HA V192PNY0.1H0
V193KHZ0.1HA V193PNY0.1H0 V194KHZ0.1HA V194PNY0.1H0 V195KHZ0.1HA V195PNY0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHZ0 at 2019

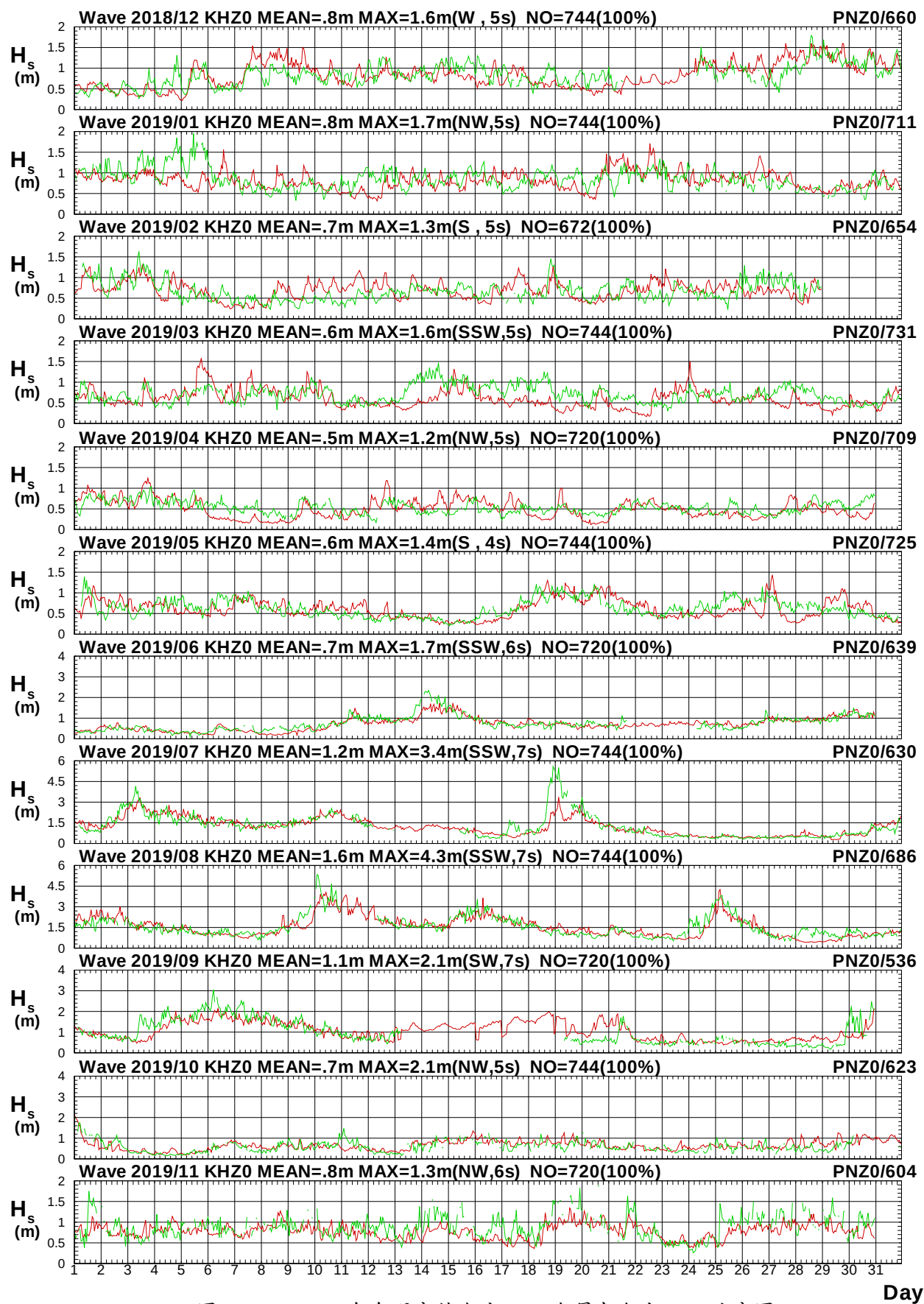


圖2.4.3a 2019年每月高雄海域 Z 站與屏東海域 Z 站波高圖

V18CKHZ0.1HA V18CPNZ0.1H0 V191KHZ0.1HA V191PNZ0.1H0 V192KHZ0.1HA V192PNZ0.1H0
V193KHZ0.1HA V193PNZ0.1H0 V194KHZ0.1HA V194PNZ0.1H0 V195KHZ0.1HA V195PNZ0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHZ0 at 2019

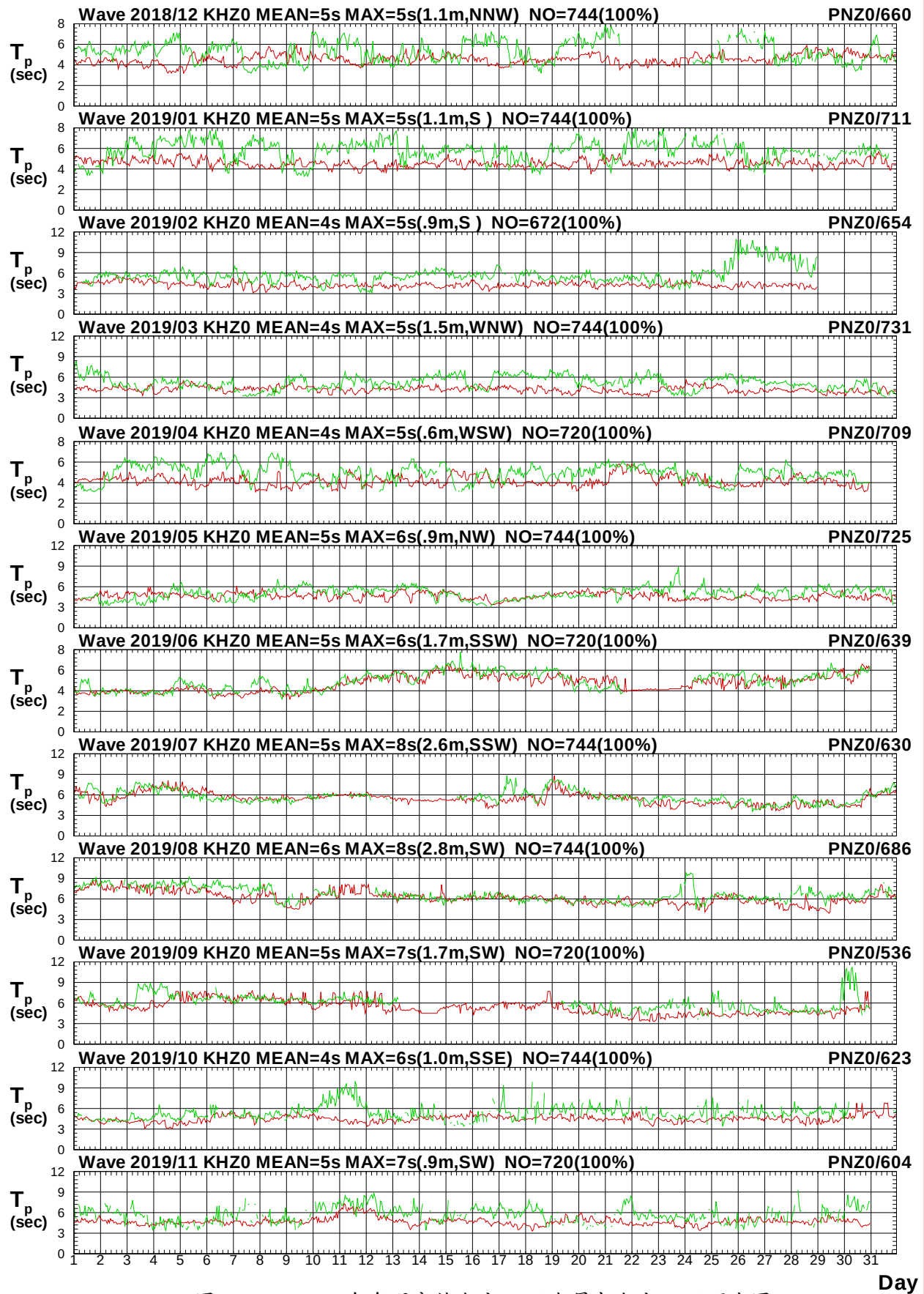


圖2.4.3b 2019年每月高雄海域 Z 站與屏東海域 Z 站週期圖

V18CKHZ0.1HA V18CPNZ0.1H0 V191KHZ0.1HA V191PNZ0.1H0 V192KHZ0.1HA V192PNZ0.1H0
V193KHZ0.1HA V193PNZ0.1H0 V194KHZ0.1HA V194PNZ0.1H0 V195KHZ0.1HA V195PNZ0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHZ0 at 2019

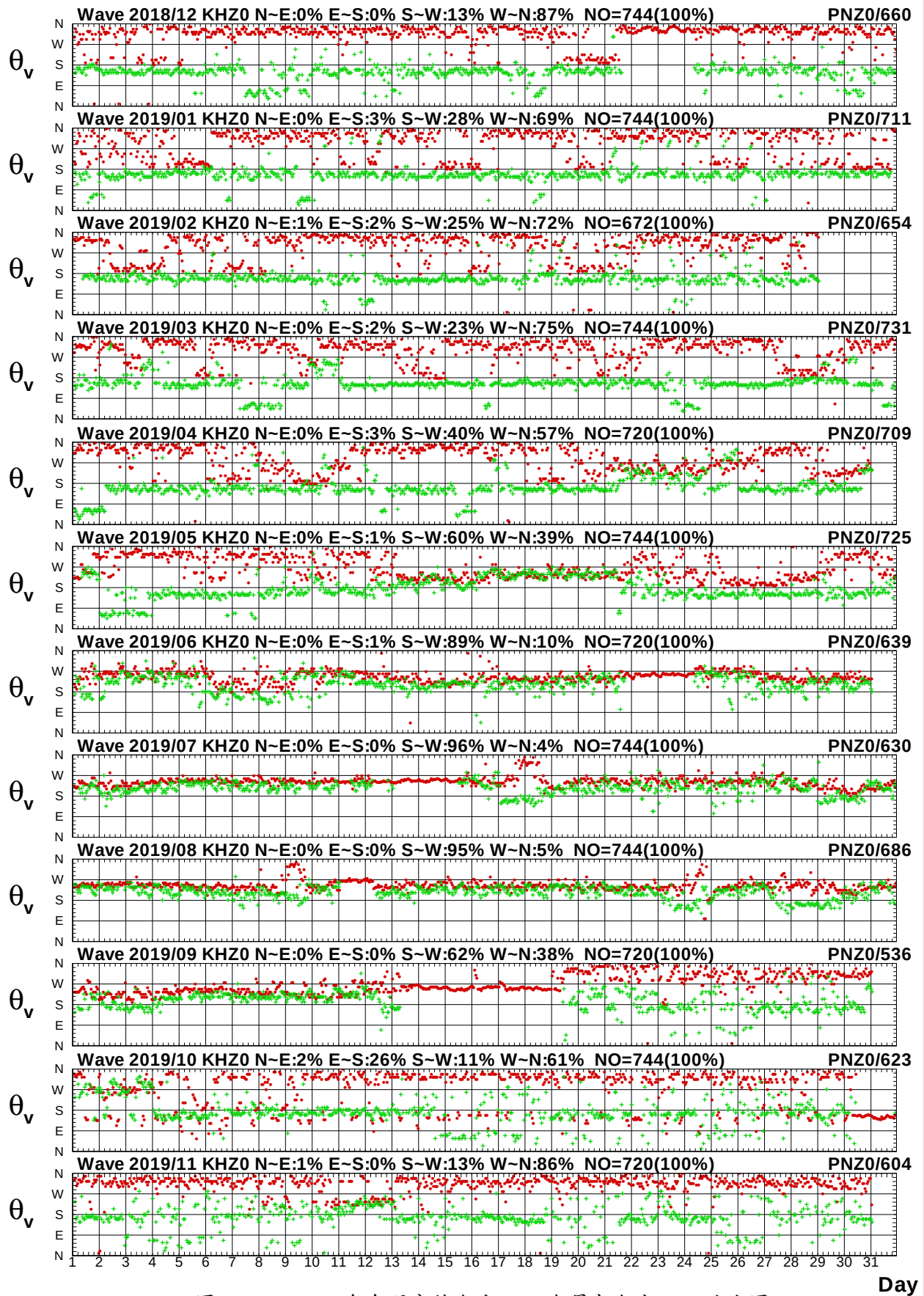


圖2.4.3c 2019年每月高雄海域 Z 站與屏東海域 Z 站波向圖

V18CKHZ0.1HA V18CPNZ0.1H0 V191KHZ0.1HA V191PNZ0.1H0 V192KHZ0.1HA V192PNZ0.1H0
V193KHZ0.1HA V193PNZ0.1H0 V194KHZ0.1HA V194PNZ0.1H0 V195KHZ0.1HA V195PNZ0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHZ0 at 2019

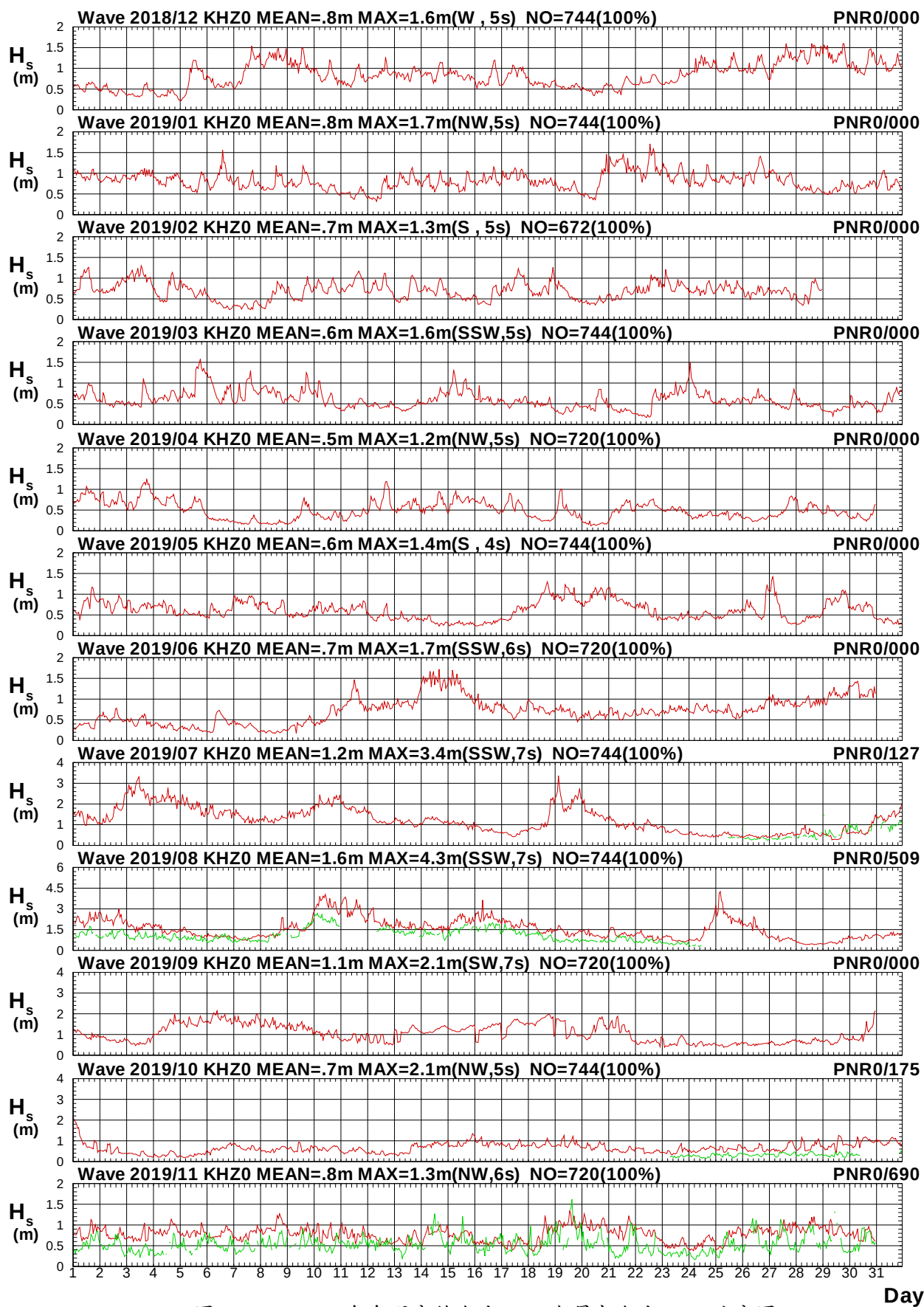


圖2.4.4a 2019年每月高雄海域 Z 站與屏東海域 R 站波高圖

V18CKHZ0.1HA V18CPNR0.1H0 V191KHZ0.1HA V191PNR0.1H0 V192KHZ0.1HA V192PNR0.1H0
V193KHZ0.1HA V193PNR0.1H0 V194KHZ0.1HA V194PNR0.1H0 V195KHZ0.1HA V195PNR0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHZ0 at 2019

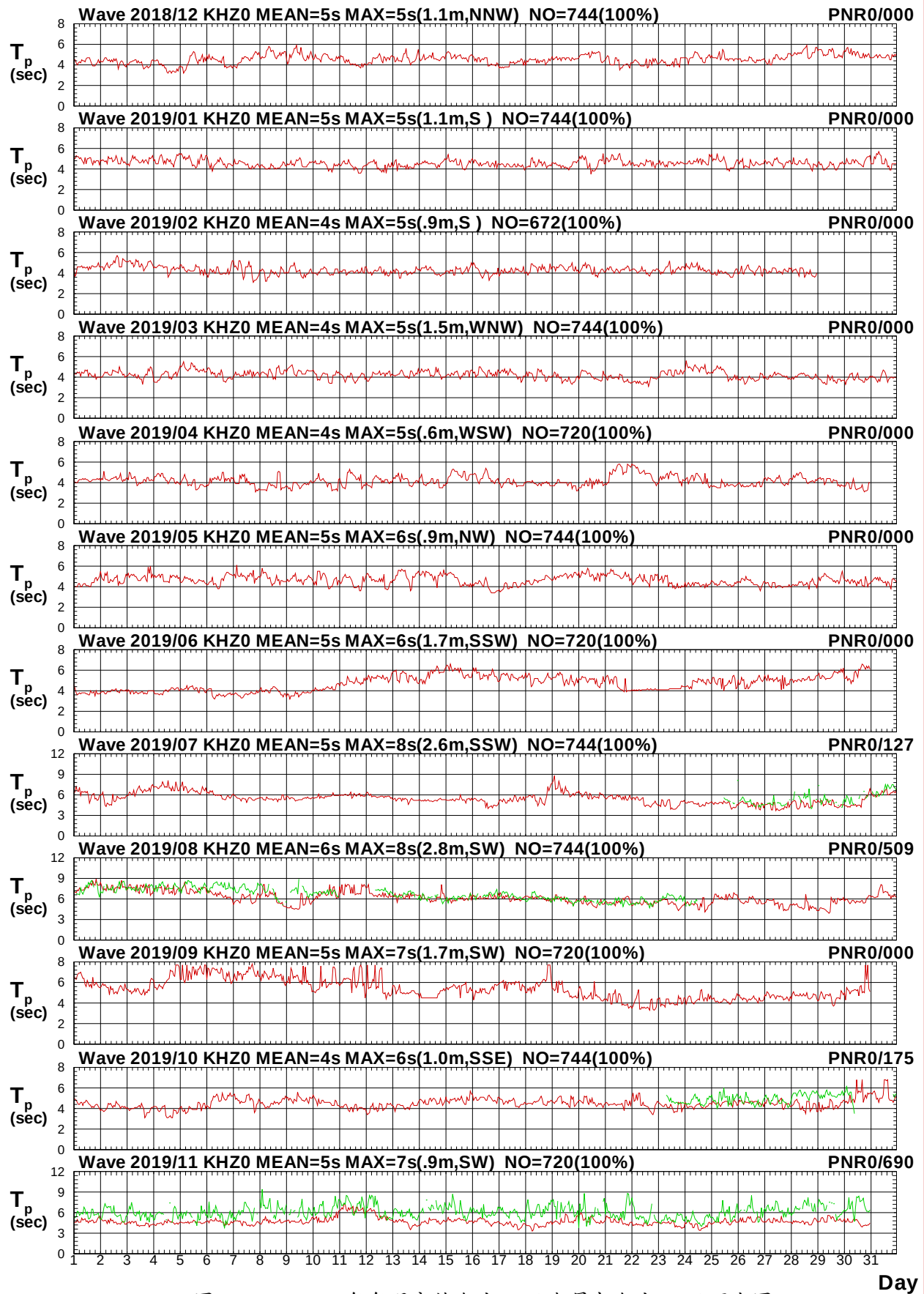


圖2.4.4b 2019年每月高雄海域 Z 站與屏東海域 R 站週期圖

V18CKHZ0.1HA V18CPNR0.1H0 V191KHZ0.1HA V191PNR0.1H0 V192KHZ0.1HA V192PNR0.1H0
V193KHZ0.1HA V193PNR0.1H0 V194KHZ0.1HA V194PNR0.1H0 V195KHZ0.1HA V195PNR0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHZ0 at 2019

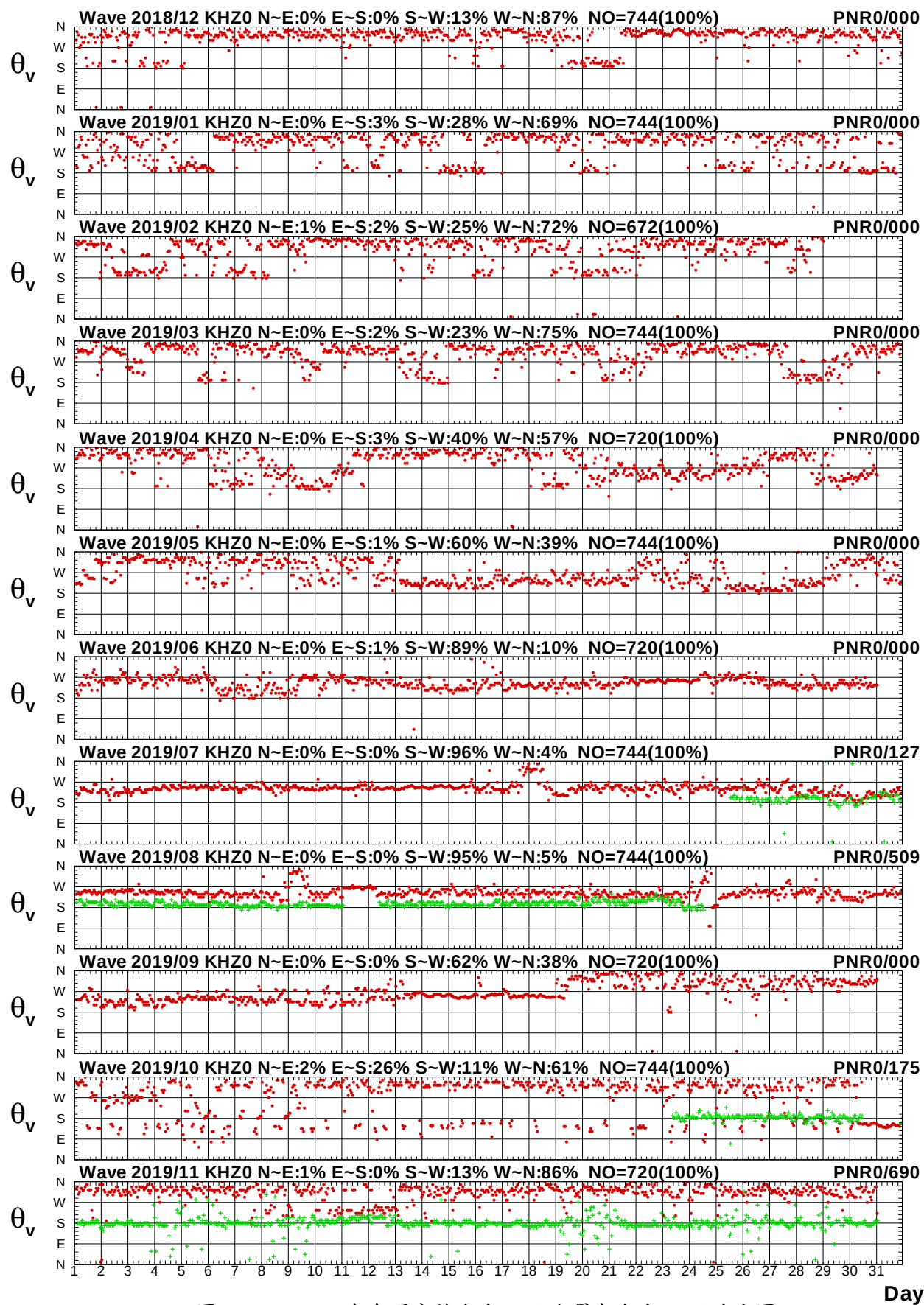


圖2.4.4c 2019年每月高雄海域 Z 站與屏東海域 R 站波向圖

V18CKHZ0.1HA V18CPNR0.1H0 V191KHZ0.1HA V191PNR0.1H0 V192KHZ0.1HA V192PNR0.1H0
V193KHZ0.1HA V193PNR0.1H0 V194KHZ0.1HA V194PNR0.1H0 V195KHZ0.1HA V195PNR0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHZ0 at 2019

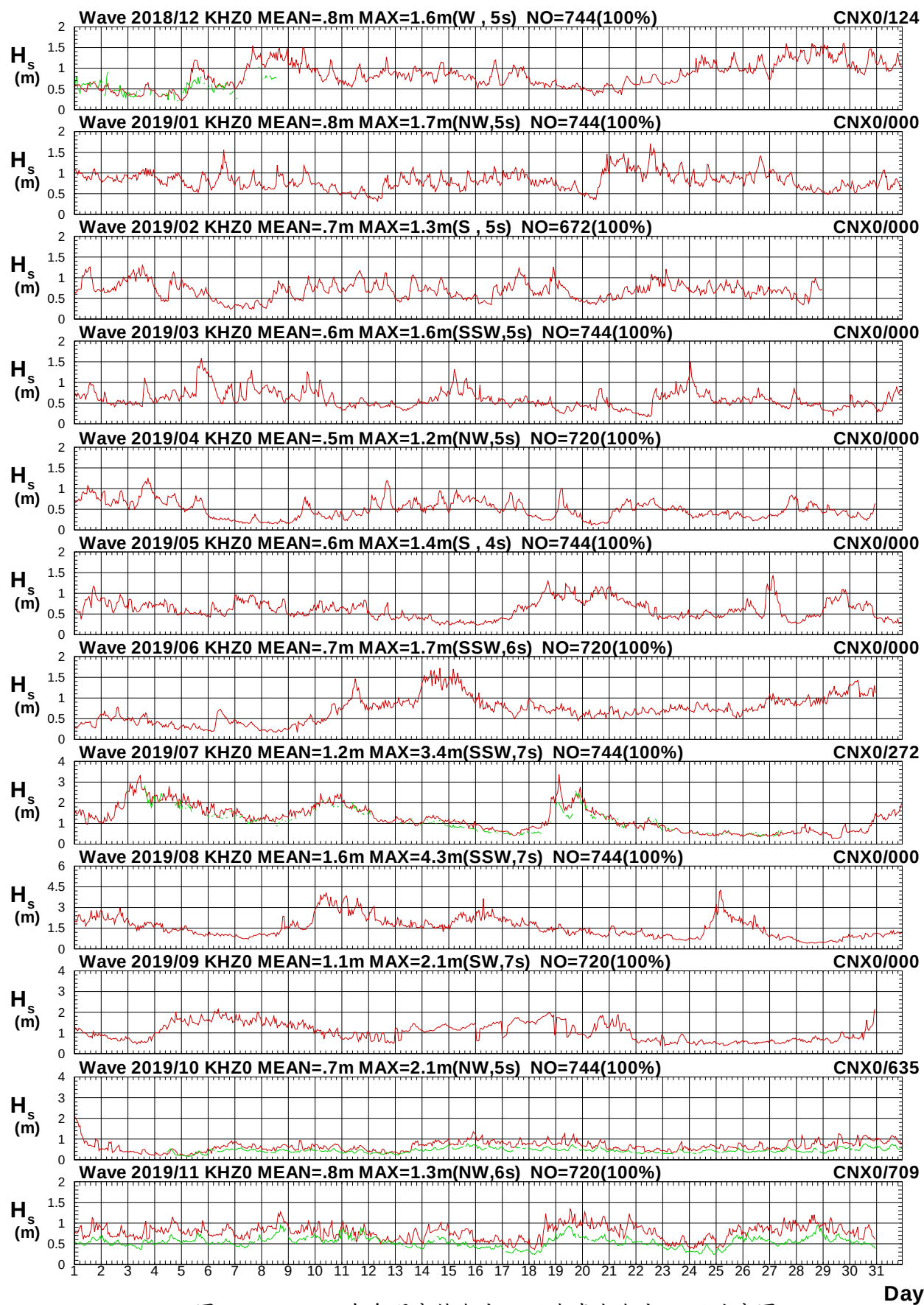


圖2.4.5a 2019年每月高雄海域 Z 站與嘉南海域 X 站波高圖

V18CKHZ0.1HA V18CCNX0.1H0 V191KHZ0.1HA V191CNX0.1H0 V192KHZ0.1HA V192CNX0.1H0
V193KHZ0.1HA V193CNX0.1H0 V194KHZ0.1HA V194CNX0.1H0 V195KHZ0.1HA V195CNX0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHZ0 at 2019

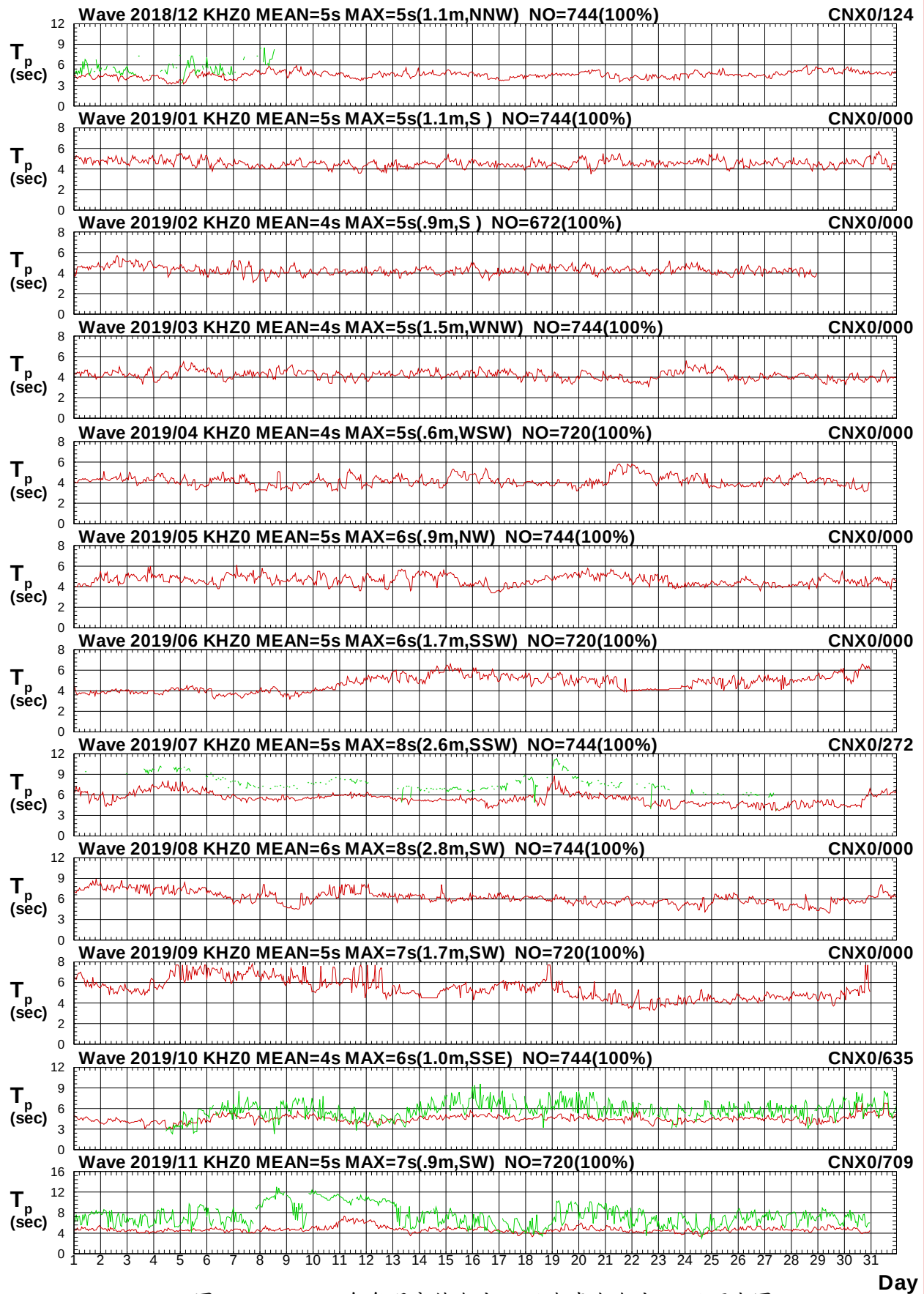


圖2.4.5b 2019年每月高雄海域 Z 站與嘉南海域 X 站週期圖

V18CKHZ0.1HA V18CCNX0.1H0 V191KHZ0.1HA V191CNX0.1H0 V192KHZ0.1HA V192CNX0.1H0
V193KHZ0.1HA V193CNX0.1H0 V194KHZ0.1HA V194CNX0.1H0 V195KHZ0.1HA V195CNX0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHZ0 at 2019

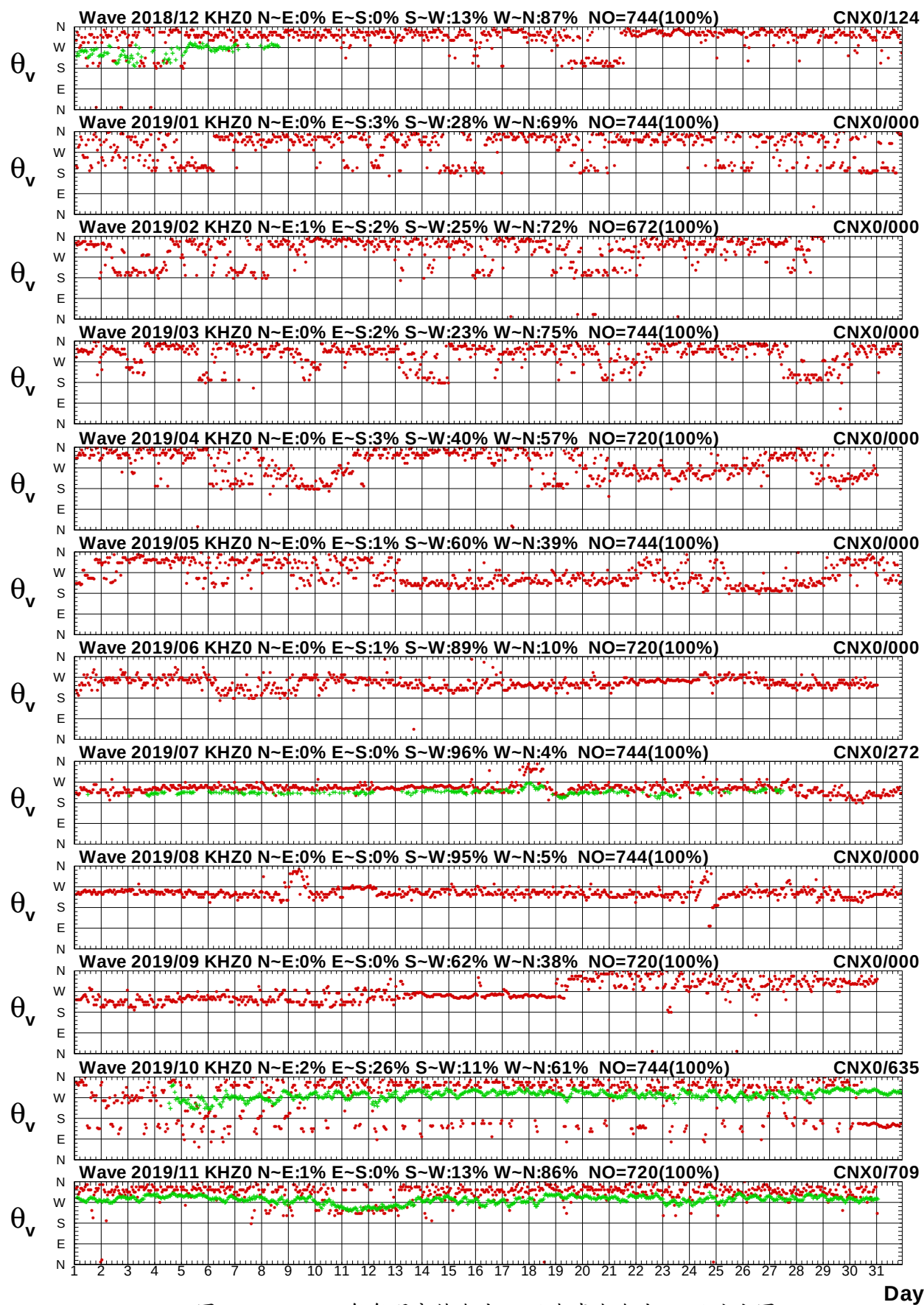


圖2.4.5c 2019年每月高雄海域 Z 站與嘉南海域 X 站波向圖

V18CKHZ0.1HA V18CCNX0.1H0 V191KHZ0.1HA V191CNX0.1H0 V192KHZ0.1HA V192CNX0.1H0
V193KHZ0.1HA V193CNX0.1H0 V194KHZ0.1HA V194CNX0.1H0 V195KHZ0.1HA V195CNX0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHZ0 at 2019

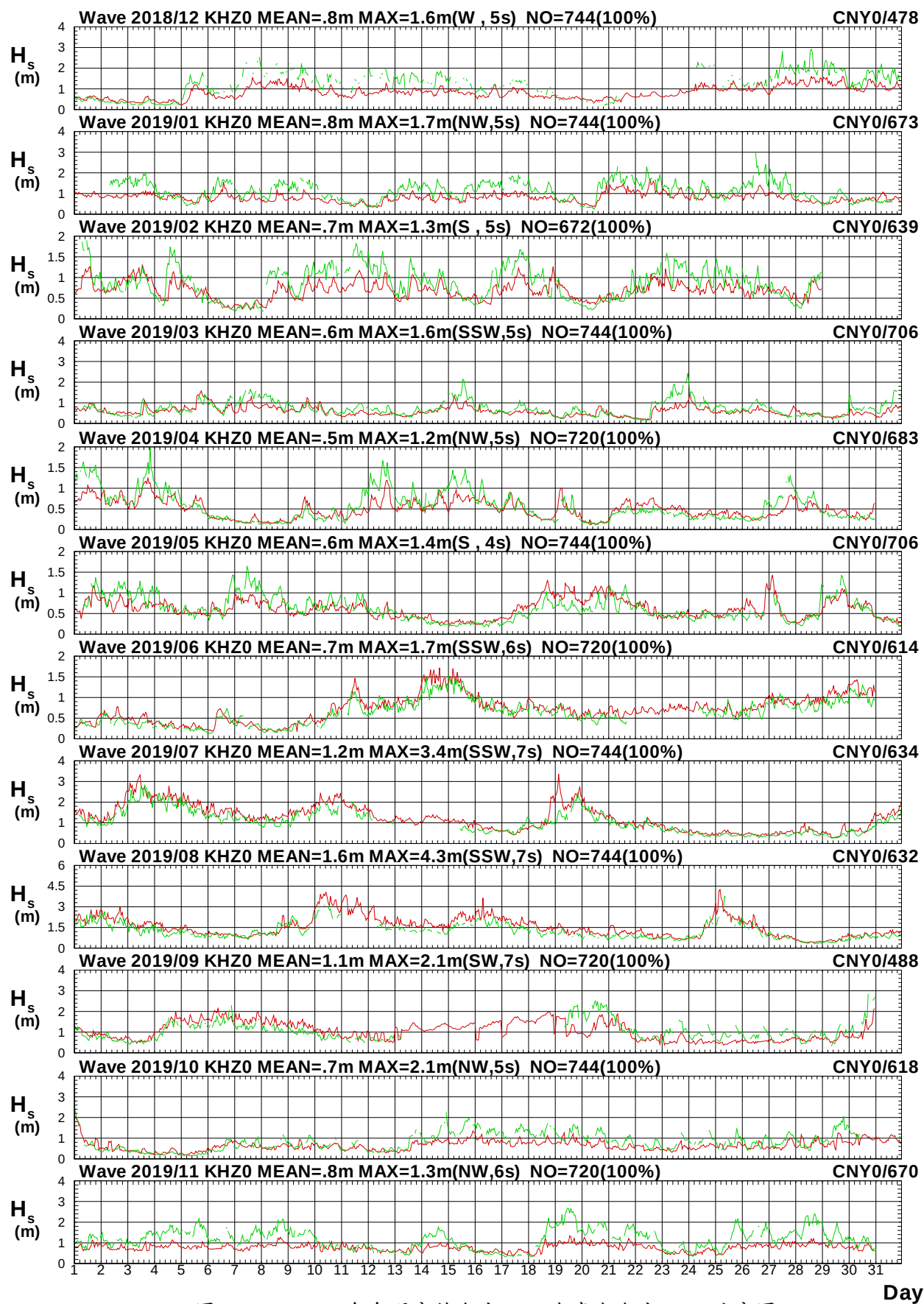


圖2.4.6a 2019年每月高雄海域 Z 站與嘉南海域 Y 站波高圖

V18CKHZ0.1HA V18CCNY0.1H0 V191KHZ0.1HA V191CNY0.1H0 V192KHZ0.1HA V192CNY0.1H0
V193KHZ0.1HA V193CNY0.1H0 V194KHZ0.1HA V194CNY0.1H0 V195KHZ0.1HA V195CNY0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHZ0 at 2019

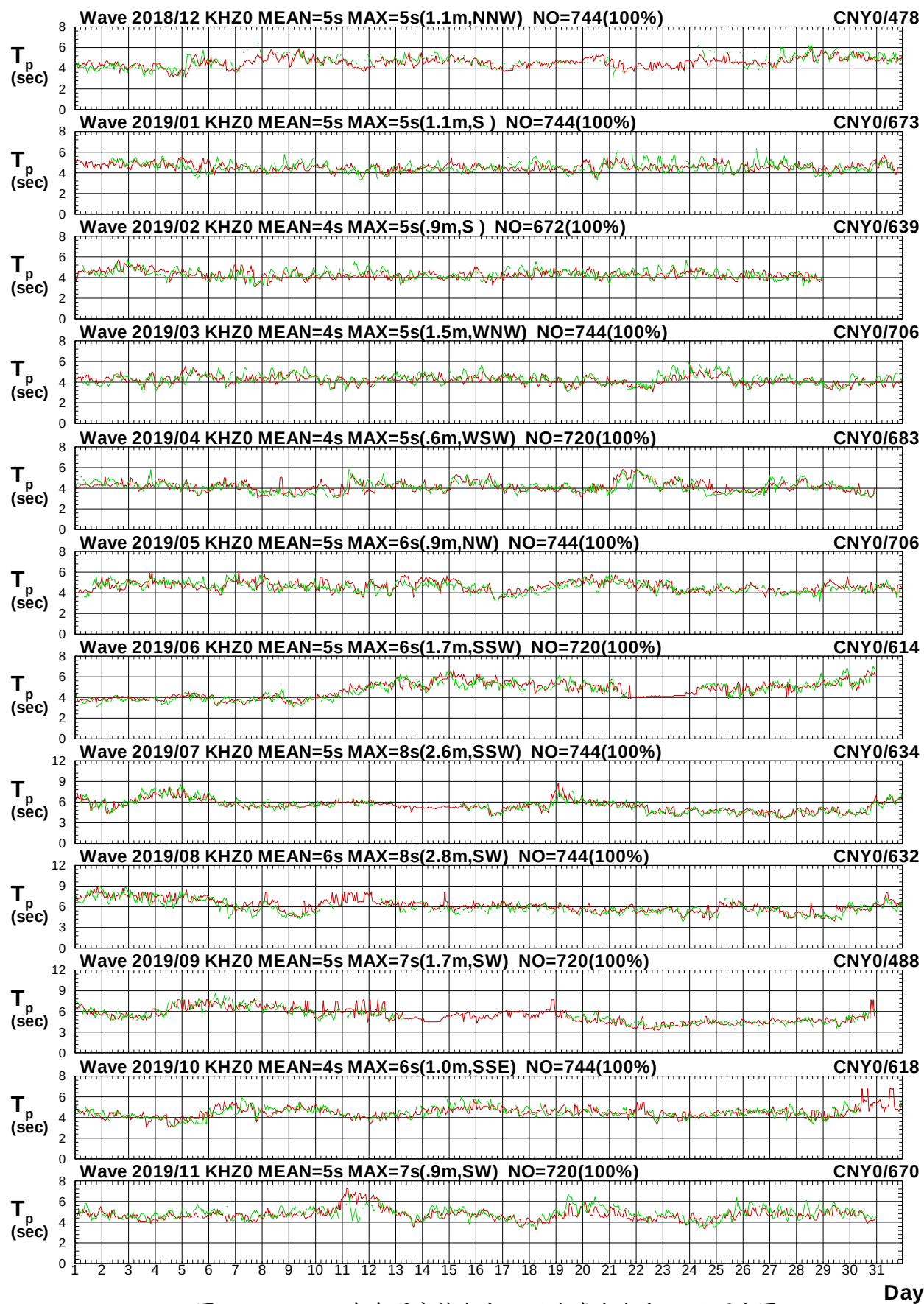


圖2.4.6b 2019年每月高雄海域 Z 站與嘉南海域 Y 站週期圖

V18CKHZ0.1HA V18CCNY0.1H0 V191KHZ0.1HA V191CNY0.1H0 V192KHZ0.1HA V192CNY0.1H0
V193KHZ0.1HA V193CNY0.1H0 V194KHZ0.1HA V194CNY0.1H0 V195KHZ0.1HA V195CNY0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHZ0 at 2019

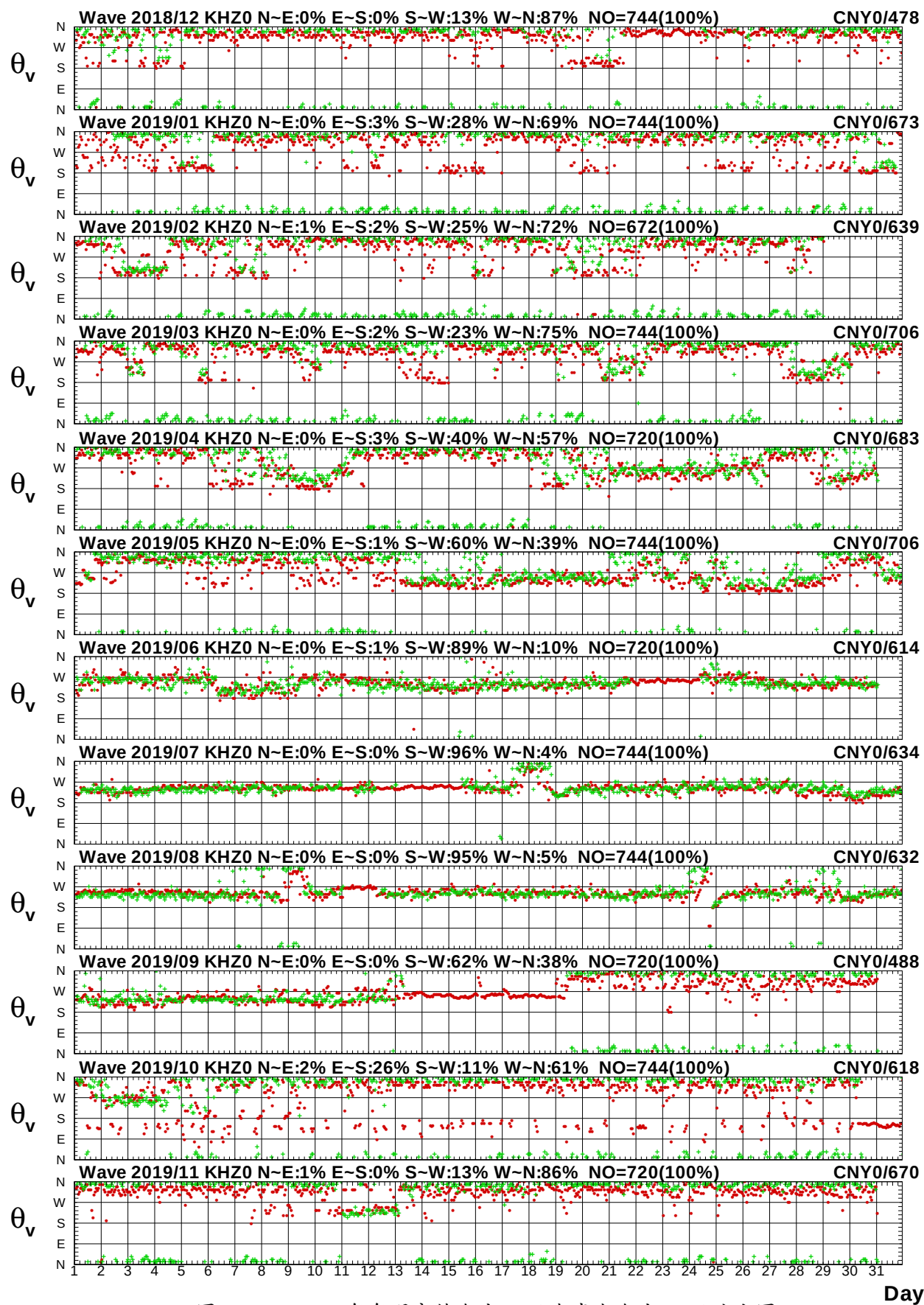


圖2.4.6c 2019年每月高雄海域 Z 站與嘉南海域 Y 站波向圖

V18CKHZ0.1HA V18CCNY0.1H0 V191KHZ0.1HA V191CNY0.1H0 V192KHZ0.1HA V192CNY0.1H0
V193KHZ0.1HA V193CNY0.1H0 V194KHZ0.1HA V194CNY0.1H0 V195KHZ0.1HA V195CNY0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHZ0 at 2019

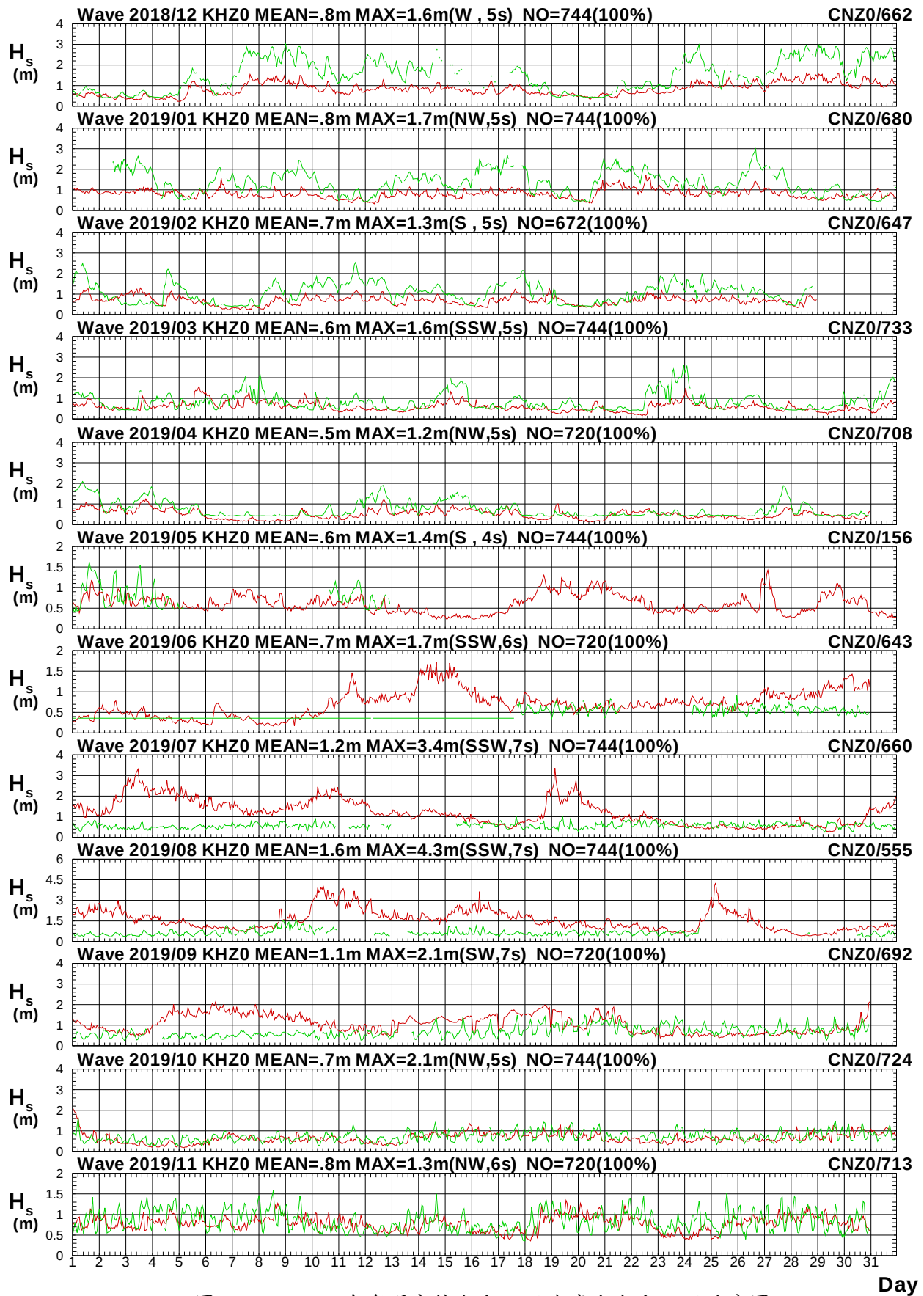


圖2.4.7a 2019年每月高雄海域 Z 站與嘉南海域 Z 站波高圖

V18CKHZ0.1HA V18CCNZ0.1H0 V191KHZ0.1HA V191CNZ0.1H0 V192KHZ0.1HA V192CNZ0.1H0
V193KHZ0.1HA V193CNZ0.1H0 V194KHZ0.1HA V194CNZ0.1H0 V195KHZ0.1HA V195CNZ0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHZ0 at 2019

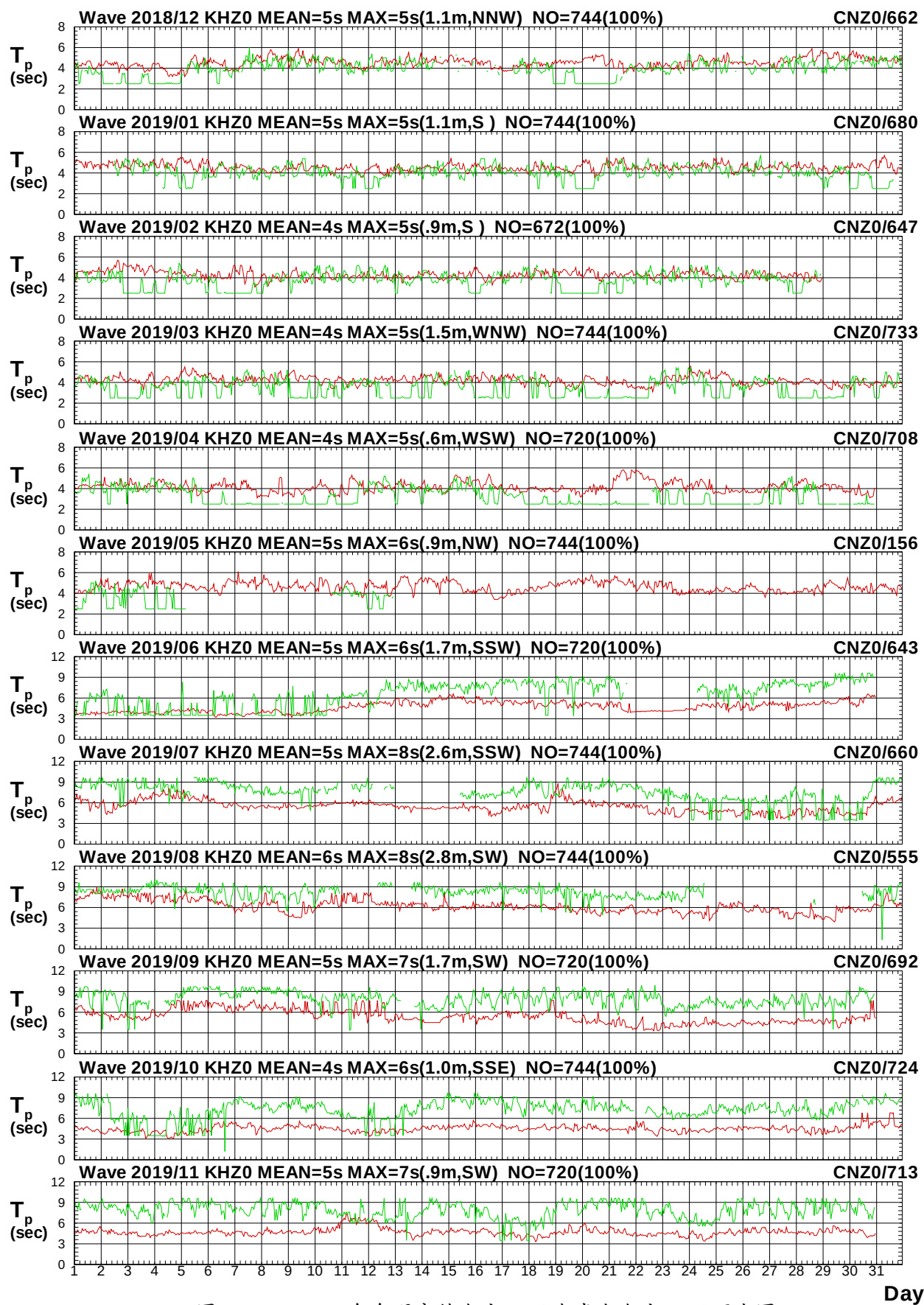


圖2.4.7b 2019年每月高雄海域 Z 站與嘉南海域 Z 站週期圖

V18CKHZ0.1HA V18CCNZ0.1H0 V191KHZ0.1HA V191CNZ0.1H0 V192KHZ0.1HA V192CNZ0.1H0
V193KHZ0.1HA V193CNZ0.1H0 V194KHZ0.1HA V194CNZ0.1H0 V195KHZ0.1HA V195CNZ0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHZ0 at 2019

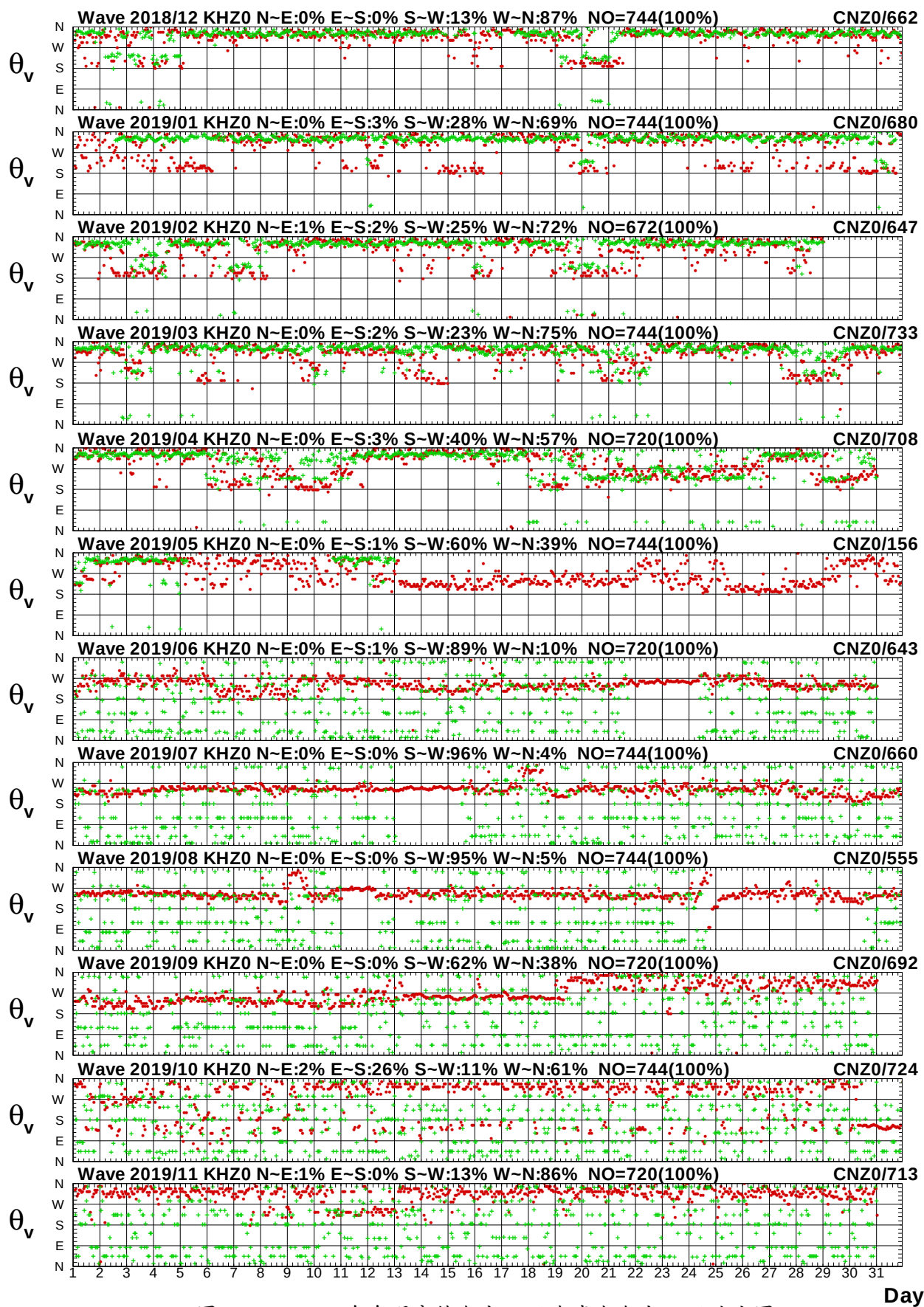


圖2.4.7c 2019年每月高雄海域 Z 站與嘉南海域 Z 站波向圖

V18CKHZ0.1HA V18CCNZ0.1H0 V191KHZ0.1HA V191CNZ0.1H0 V192KHZ0.1HA V192CNZ0.1H0
V193KHZ0.1HA V193CNZ0.1H0 V194KHZ0.1HA V194CNZ0.1H0 V195KHZ0.1HA V195CNZ0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHZ0 at 2019

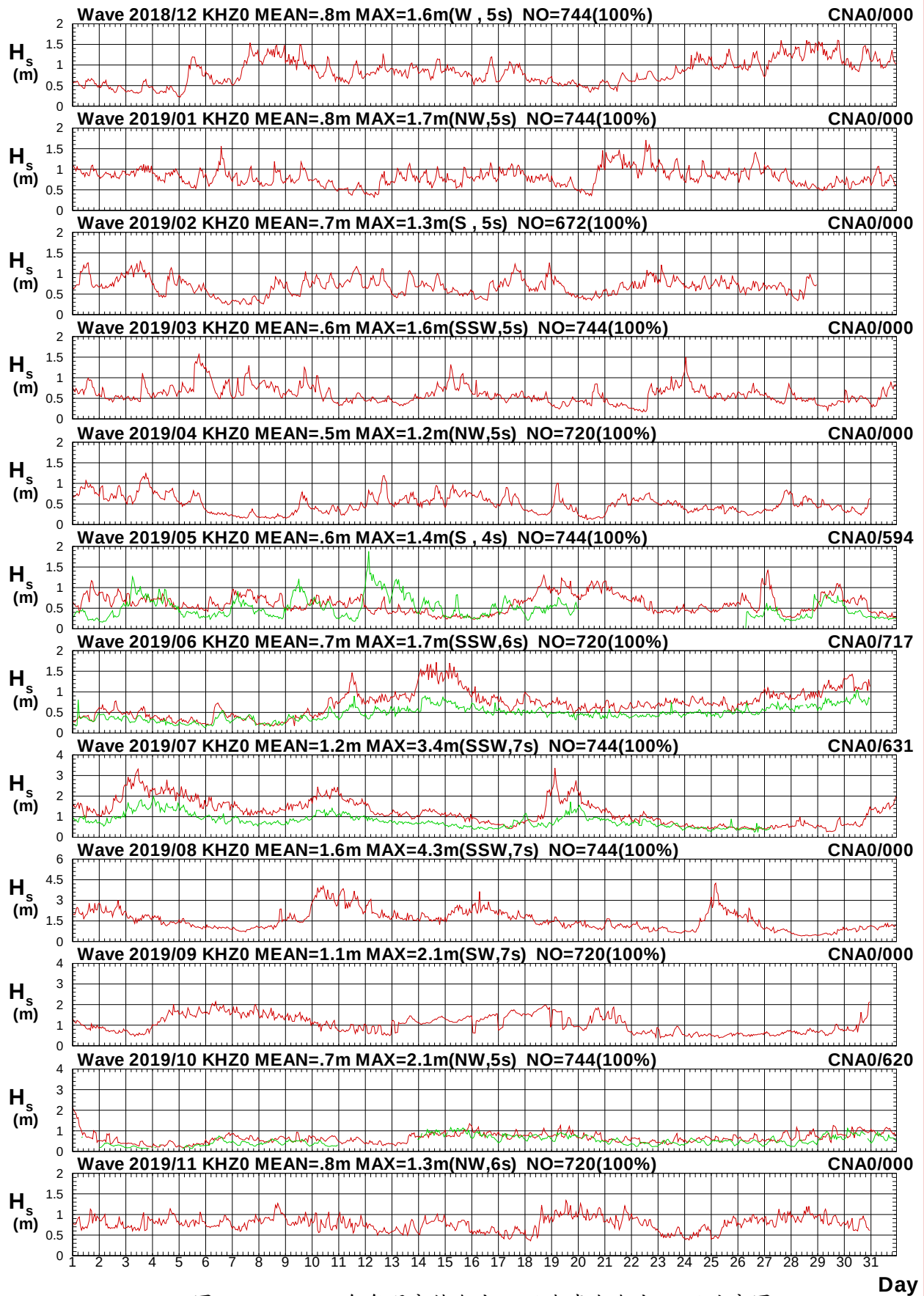


圖2.4.8a 2019年每月高雄海域 Z 站與嘉南海域 A 站波高圖

V18CKHZ0.1HA V18CCNA0.1H0 V191KHZ0.1HA V191CNA0.1H0 V192KHZ0.1HA V192CNA0.1H0
V193KHZ0.1HA V193CNA0.1H0 V194KHZ0.1HA V194CNA0.1H0 V195KHZ0.1HA V195CNA0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHZ0 at 2019

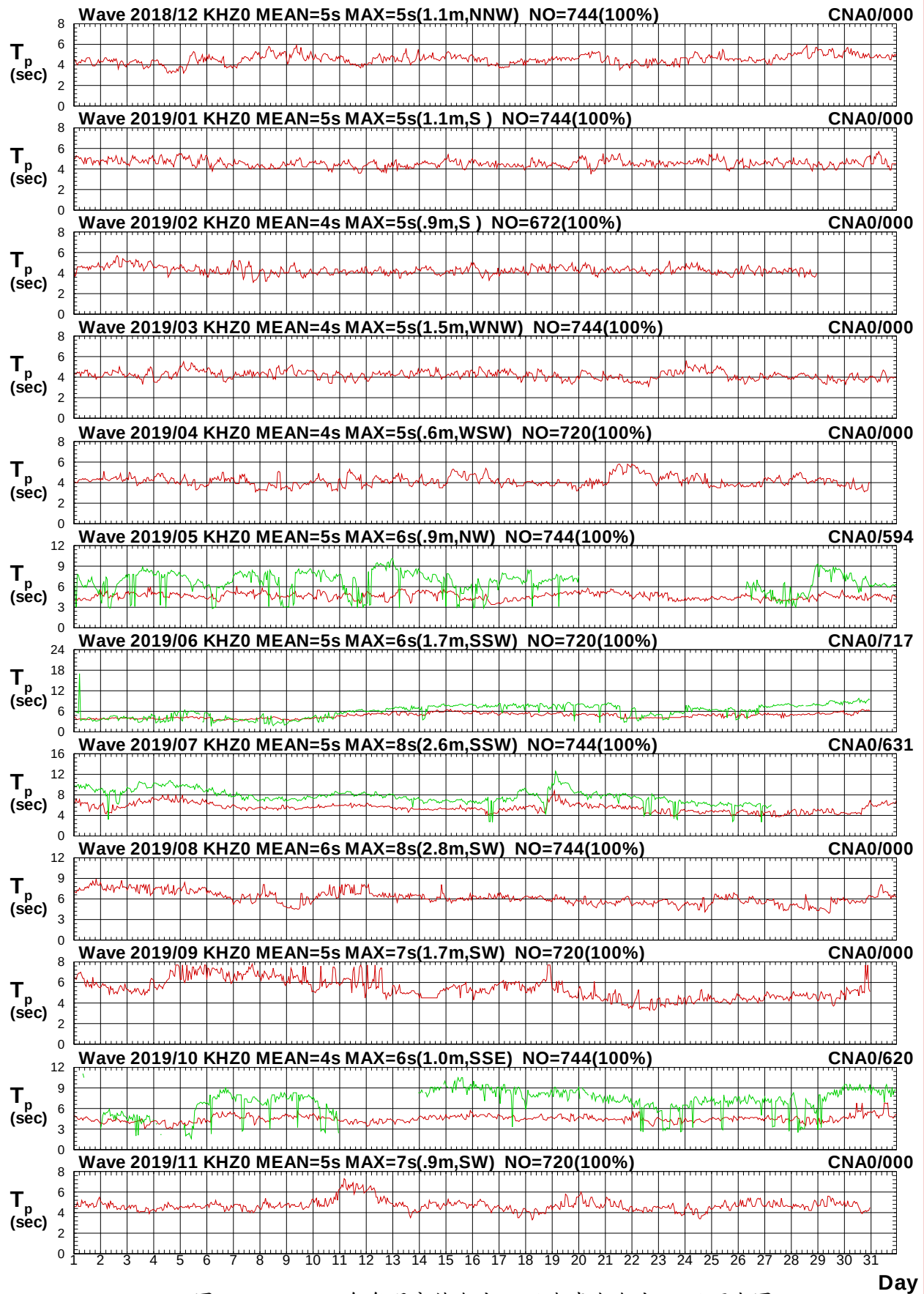


圖2.4.8b 2019年每月高雄海域 Z 站與嘉南海域 A 站週期圖

V18CKHZ0.1HA V18CCNA0.1H0 V191KHZ0.1HA V191CNA0.1H0 V192KHZ0.1HA V192CNA0.1H0
V193KHZ0.1HA V193CNA0.1H0 V194KHZ0.1HA V194CNA0.1H0 V195KHZ0.1HA V195CNA0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHZ0 at 2019

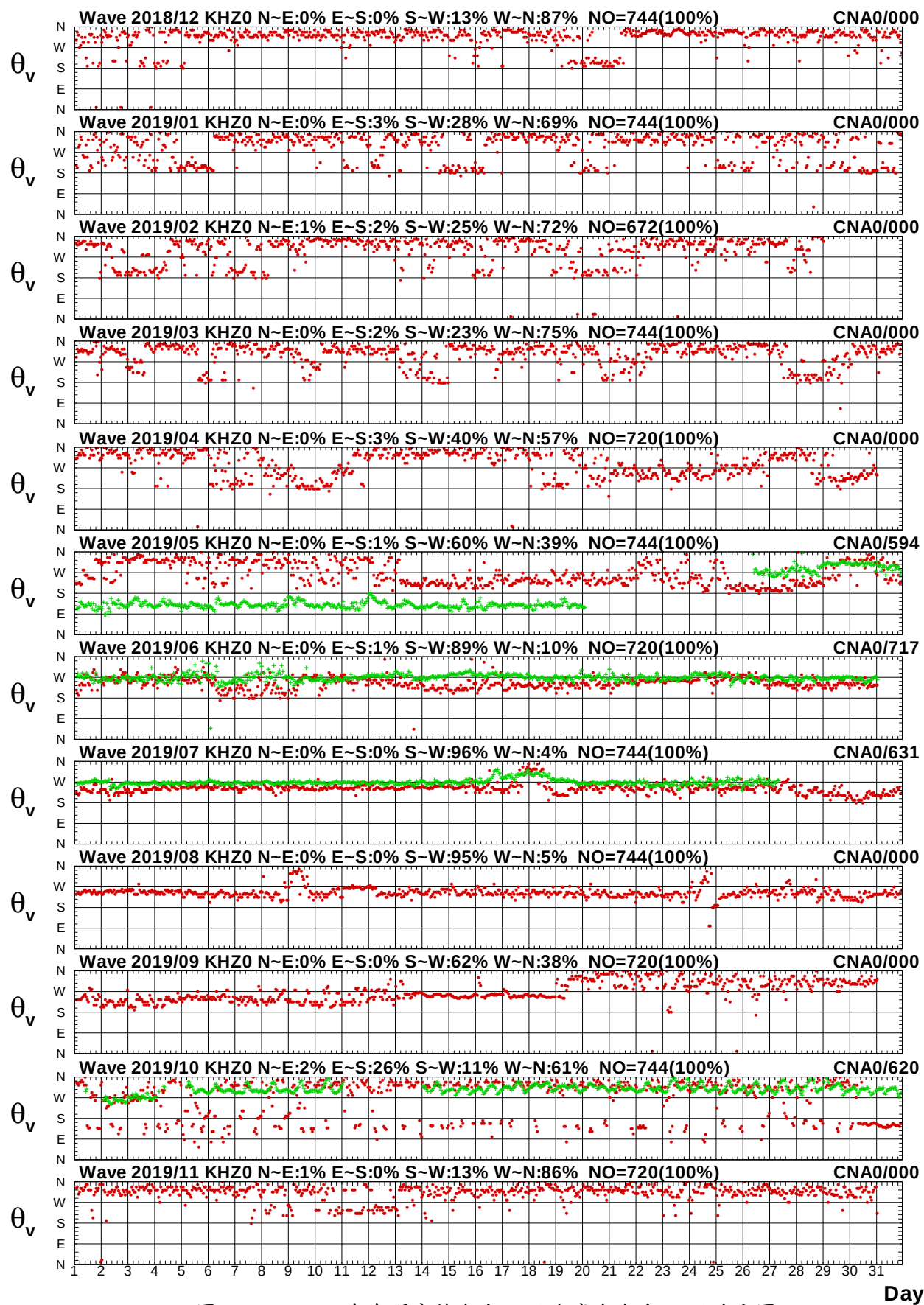


圖2.4.8c 2019年每月高雄海域 Z 站與嘉南海域 A 站波向圖

V18CKHZ0.1HA V18CCNA0.1H0 V191KHZ0.1HA V191CNA0.1H0 V192KHZ0.1HA V192CNA0.1H0
V193KHZ0.1HA V193CNA0.1H0 V194KHZ0.1HA V194CNA0.1H0 V195KHZ0.1HA V195CNA0.1H0

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Wave H_s in Kao-Hsiung Harbor of KHZ0 at 2019

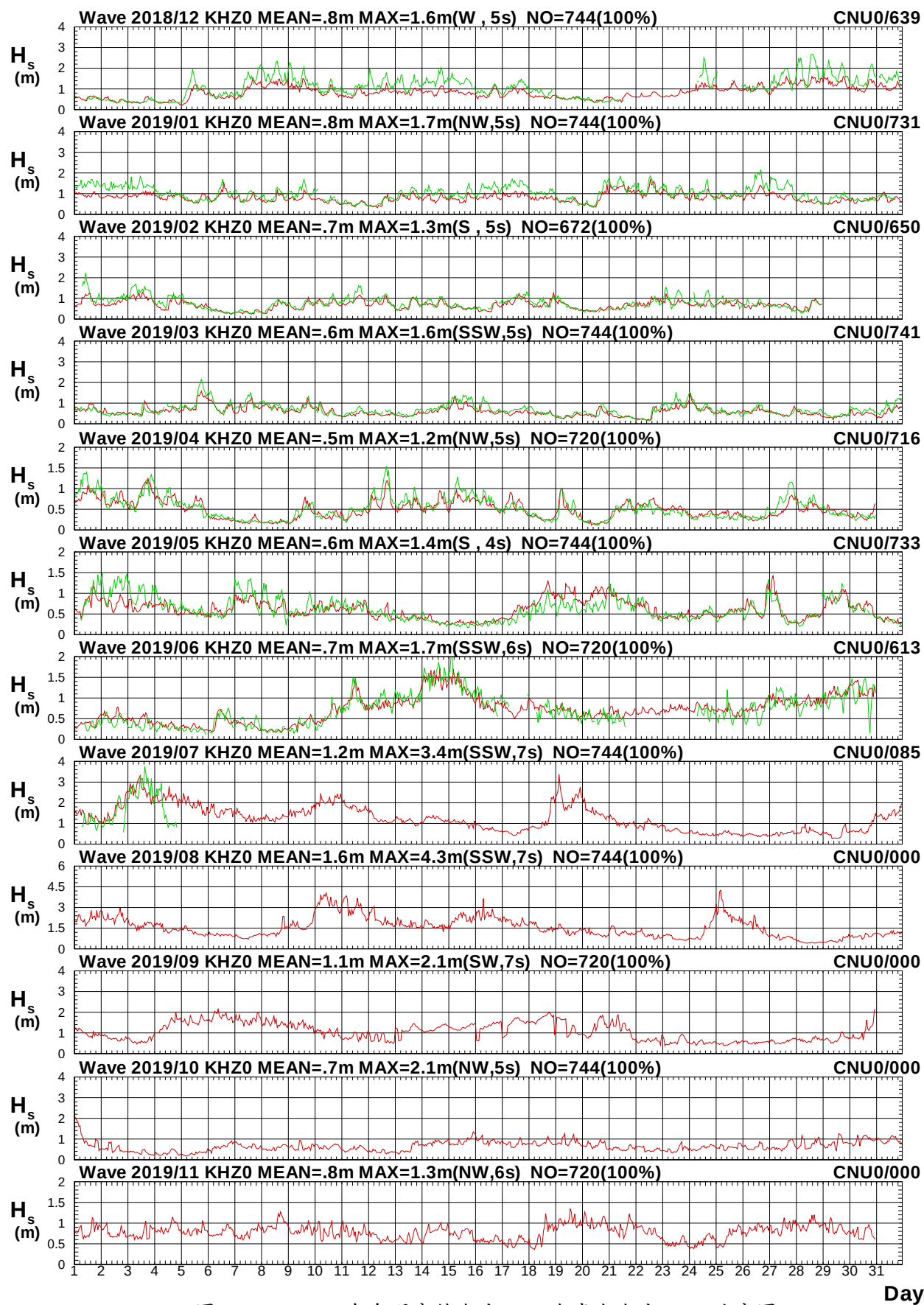


圖2.4.9a 2019年每月高雄海域 Z 站與嘉南海域 U 站波高圖

V18CKHZ0.1HA V18CCNU0.1H0 V191KHZ0.1HA V191CNU0.1H0 V192KHZ0.1HA V192CNU0.1H0
V193KHZ0.1HA V193CNU0.1H0 V194KHZ0.1HA V194CNU0.1H0 V195KHZ0.1HA V195CNU0.1H0

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Wave T_p in Kao-Hsiung Harbor of KHZ0 at 2019

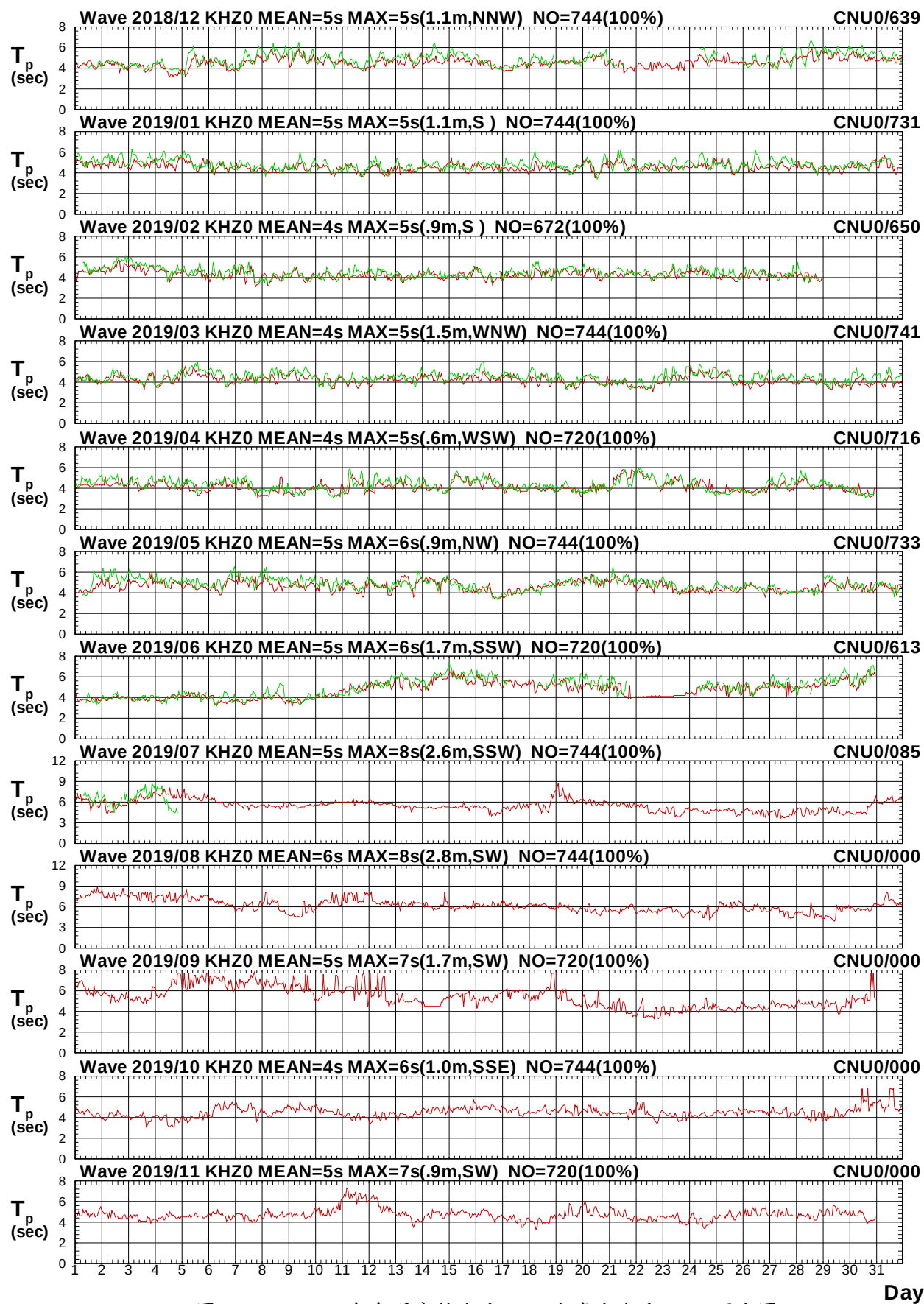


圖2.4.9b 2019年每月高雄海域 Z 站與嘉南海域 U 站週期圖

V18CKHZ0.1HA V18CCNU0.1H0 V191KHZ0.1HA V191CNU0.1H0 V192KHZ0.1HA V192CNU0.1H0
V193KHZ0.1HA V193CNU0.1H0 V194KHZ0.1HA V194CNU0.1H0 V195KHZ0.1HA V195CNU0.1H0

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Wave Direction in Kao-Hsiung Harbor of KHZ0 at 2019

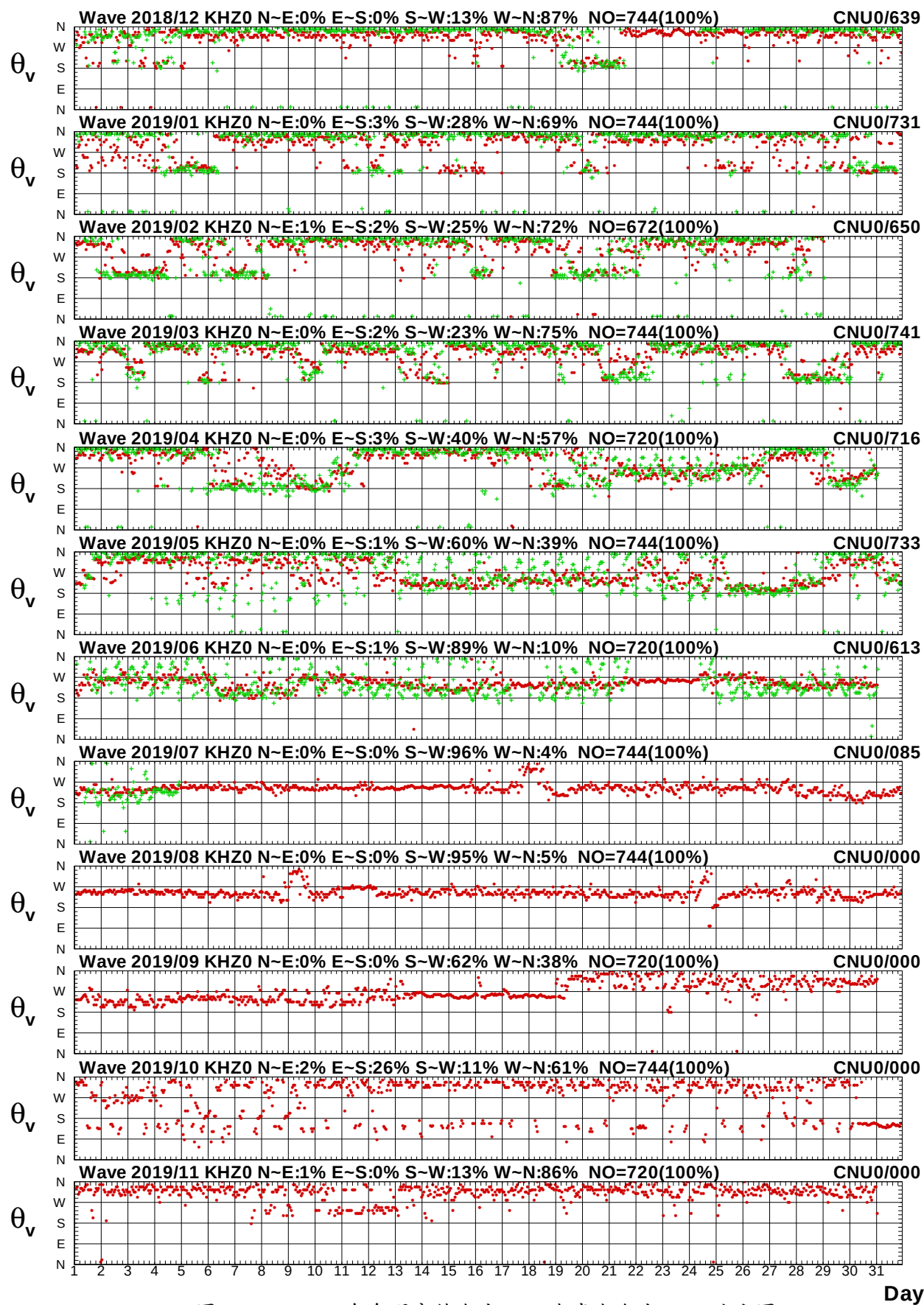


圖2.4.9c 2019年每月高雄海域 Z 站與嘉南海域 U 站波向圖

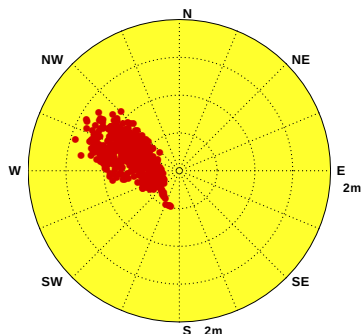
V18CKHZ0.1HA V18CCNU0.1H0 V191KHZ0.1HA V191CNU0.1H0 V192KHZ0.1HA V192CNU0.1H0
V193KHZ0.1HA V193CNU0.1H0 V194KHZ0.1HA V194CNU0.1H0 V195KHZ0.1HA V195CNU0.1H0

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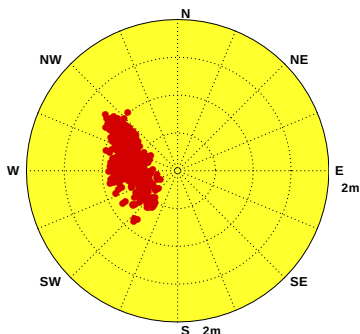
2.5 2019 年高雄海域波浪各測站修補前 波浪向量分佈圖

Distribution of H_s Vectors

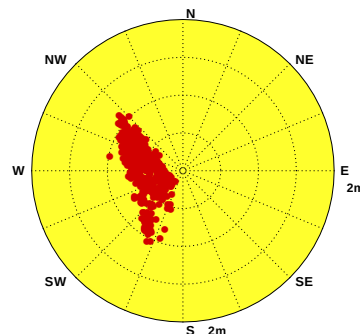
Wave of KHX0 at 2018/12 NO=675(91%)
Hs : MEAN=.7m MAX=1.5m(WNW,11s)
N-E:0% E-S:0% S-W:25% W-N:75%



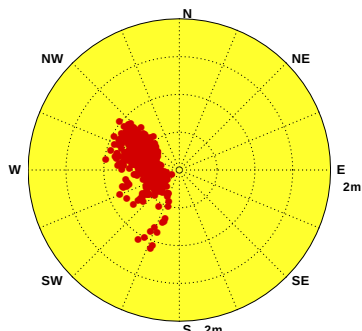
Wave of KHX0 at 2019/01 NO=691(93%)
Hs : MEAN=.7m MAX=1.2m(WNW,5s)
N-E:0% E-S:0% S-W:40% W-N:60%



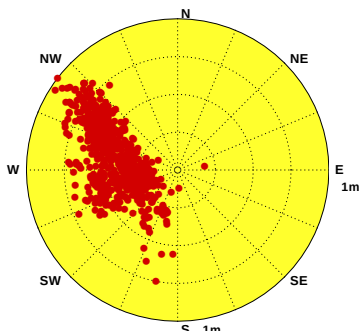
Wave of KHX0 at 2019/02 NO=621(92%)
Hs : MEAN=.7m MAX=1.1m(SSW,7s)
N-E:0% E-S:0% S-W:42% W-N:58%



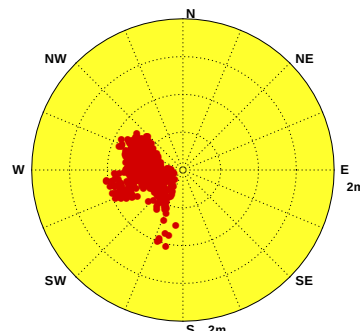
Wave of KHX0 at 2019/03 NO=674(91%)
Hs : MEAN=.6m MAX=1.2m(SSW,7s)
N-E:0% E-S:0% S-W:31% W-N:69%



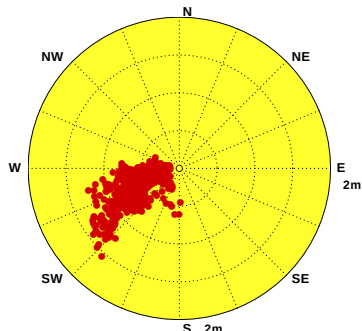
Wave of KHX0 at 2019/04 NO=657(91%)
Hs : MEAN=.5m MAX=1.0m(NW,5s)
N-E:0% E-S:0% S-W:48% W-N:52%



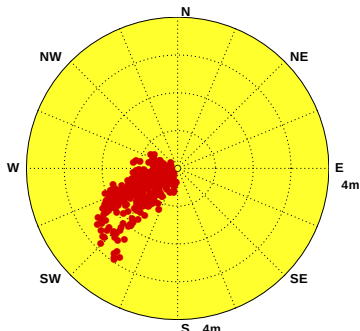
Wave of KHX0 at 2019/05 NO=683(92%)
Hs : MEAN=.6m MAX=1.1m(SSW,5s)
N-E:0% E-S:0% S-W:66% W-N:34%



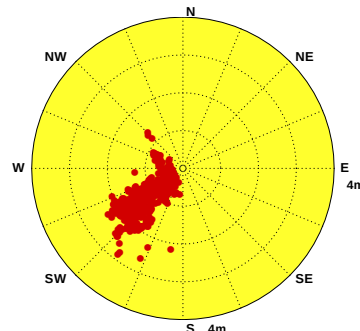
Wave of KHX0 at 2019/06 NO=664(92%)
Hs : MEAN=.7m MAX=1.6m(SW,8s)
N-E:0% E-S:0% S-W:99% W-N:1%



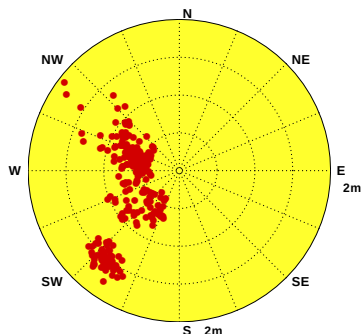
Wave of KHX0 at 2019/07 NO=717(96%)
Hs : MEAN=1.2m MAX=3.1m(SW,9s)
N-E:0% E-S:0% S-W:97% W-N:3%



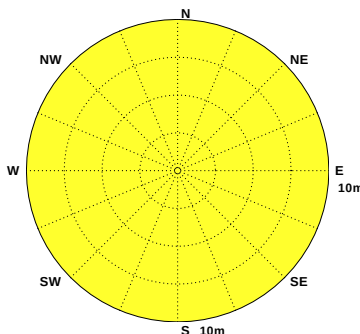
Wave of KHX0 at 2019/08 NO=534(72%)
Hs : MEAN=1.3m MAX=3.0m(SW,9s)
N-E:0% E-S:0% S-W:96% W-N:4%



Wave of KHX0 at 2019/09 NO=270(38%)
Hs : MEAN=.9m MAX=1.9m(NW,6s)
N-E:0% E-S:0% S-W:56% W-N:44%



Wave of KHX0 at 2019/10



Wave of KHX0 at 2019/11

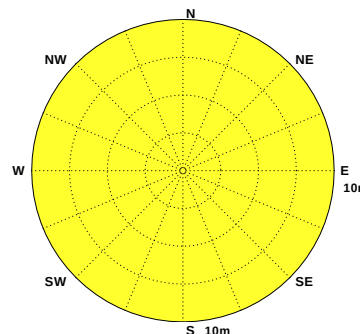


圖2.5.1 2019年高雄海域每月 X 站修補前觀測波高向量分佈圖

V18CKHX0.1H0 V191KHX0.1H0 V192KHX0.1H0 V193KHX0.1H0 V194KHX0.1H0 V195KHX0.1H0
V196KHX0.1H0 V197KHX0.1H0 V198KHX0.1H0 V199KHX0.1H0 V19AKHX0.1H0 V19BKHX0.1H0

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第三章 2019 年高雄海域觀測潮汐資料年報

2019 年高雄海域潮汐之觀測包括測站 **T**、測站 **S**、測站 **P**、測站 **Q** 及測站 **X** 等 5 個測站(測站位置如第 O 章圖 TH1，各測站歷年觀測潮汐資料蒐集概況如表 TH1)。**測站 T** 與其他 4 個測站特性皆相近。本年報取經檢核及補遺之**測站 P** 資料作為**主要測站 1**，**測站 Q** 資料作為**主要測站 2**，**測站 S** 資料作為**主要測站 3**。

3.1 2019 年高雄海域觀測潮汐資料年報圖表

本章第 1 節**潮汐**年報資料處理之圖表包括：

1. 表 3.1.1a 2019 年**各觀測站**每月**觀測潮汐**資料**修補前**記錄表。
2. 表 3.1.1b 2019 年**主要測站**每月**觀測潮汐**資料**修補後**記錄表。
3. 表 3.1.2 2019 年**主要測站 1** **修補後**每月(季)及整年觀測潮位、潮差及週期重要統計量統計表。
4. 表 3.1.3 2019 年**主要測站 2** **修補後**每月(季)及整年觀測潮位、潮差及週期重要統計量統計表。
5. 表 3.1.4 2019 年**主要測站 3** **修補後**每月(季)及整年觀測潮位、潮差及週期重要統計量統計表。
6. 圖 3.1.1 2019 年**主要測站 1** **修補前後**每月觀測潮位歷線比較圖。
7. 圖 3.1.2 2019 年**主要測站 1** **修補後**每月觀測潮位及計算天文潮位歷線比較圖。
8. 圖 3.1.3 2019 年**主要測站 2** **修補前後**每月觀測潮位歷線比較圖。

9. 圖 3.1.4 2019 年**主要測站 2 修補後**每月觀測潮位及計算天文潮位歷線比較圖。

10. 圖 3.1.5 2019 年**主要測站 3 修補前後**每月觀測潮位歷線比較圖。

11. 圖 3.1.6 2019 年**主要測站 3 修補後**每月觀測潮位及計算天文潮位歷線比較圖。

第 2 節潮汐年報資料處理之圖表包括：2019 年高雄海域**各測站修補前**每月(季)及整年潮位、潮差及週期重要統計量統計表。

第 3 節潮汐年報資料處理之統計圖包括：2019 年高雄海域**主要測站 1 修補後與其他測站(修補前)**每月觀測潮位歷線比較圖。

第 4 節潮汐年報資料處理之統計圖包括：2019 年高雄海域**主要測站 2 修補後與其他測站(修補前)**每月觀測潮位歷線比較圖。

第 5 節潮汐年報資料處理之統計圖包括：2019 年高雄海域**主要測站 3 修補後與其他測站(修補前)**每月觀測潮位歷線比較圖。

表 3.1.1a 2019 年每月高雄海域修補前各測站觀測潮汐資料紀錄表

海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域
年月/測站	P	Q	S	T	X							
2018/12 月	744(100%)	744(100%)	617(82.9%)	449(60.3%)	675(90.7%)	*	*	*	*	*	*	*
2019/ 1 月	744(100%)	744(100%)	744(100%)	733(98.5%)	691(92.9%)	*	*	*	*	*	*	*
2019/ 2 月	672(100%)	672(100%)	672(100%)	426(63.4%)	621(92.4%)	*	*	*	*	*	*	*
2019/ 3 月	744(100%)	744(100%)	578(77.7%)	*	675(90.7%)	*	*	*	*	*	*	*
2019/ 4 月	720(100%)	720(100%)	673(93.5%)	*	657(91.3%)	*	*	*	*	*	*	*
2019/ 5 月	730(98.1%)	730(98.1%)	743(99.9%)	*	683(91.8%)	*	*	*	*	*	*	*
2019/ 6 月	720(100%)	720(100%)	719(99.9%)	*	664(92.2%)	*	*	*	*	*	*	*
2019/ 7 月	744(100%)	744(100%)	743(99.9%)	*	717(96.4%)	*	*	*	*	*	*	*
2019/ 8 月	744(100%)	744(100%)	609(81.9%)	*	534(71.8%)	*	*	*	*	*	*	*
2019/ 9 月	720(100%)	720(100%)	*	478(66.4%)	270(37.5%)	*	*	*	*	*	*	*
2019/10 月	744(100%)	744(100%)	*	665(89.4%)	*	*	*	*	*	*	*	*
2019/11 月	720(100%)	720(100%)	*	507(70.4%)	*	*	*	*	*	*	*	*
2019/冬季	2160(100%)	2160(100%)	2033(94.1%)	1608(74.4%)	1987(92.0%)	*	*	*	*	*	*	*
2019/春季	2194(99.4%)	2194(99.4%)	1994(90.3%)	*	2015(91.3%)	*	*	*	*	*	*	*
2019/夏季	2208(100%)	2208(100%)	2071(93.8%)	*	1915(86.7%)	*	*	*	*	*	*	*
2019/秋季	2184(100%)	2184(100%)	*	1650(75.5%)	270(12.4%)	*	*	*	*	*	*	*
2019/整年	8746(99.8%)	8746(99.8%)	6098(69.6%)	3258(37.2%)	6187(70.6%)	*	*	*	*	*	*	*
起始年月	2018/12	2018/12	2018/12	2018/12	2018/12	*	*	*	*	*	*	*
結束年月	2019/11	2019/11	2019/08	2019/11	2019/09	*	*	*	*	*	*	*

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表 3.1.1b 2019 年每月高雄海域修補後各測站潮汐資料紀錄表

海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域
年月/測站	P	Q	S									
2018/12 月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2019/ 1 月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2019/ 2 月	672(100%)	672(100%)	672(100%)	*	*	*	*	*	*	*	*	*
2019/ 3 月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2019/ 4 月	720(100%)	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*
2019/ 5 月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2019/ 6 月	720(100%)	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*
2019/ 7 月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2019/ 8 月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2019/ 9 月	720(100%)	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*
2019/10 月	744(100%)	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*
2019/11 月	720(100%)	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*
2019/冬季	2160(100%)	2160(100%)	2160(100%)	*	*	*	*	*	*	*	*	*
2019/春季	2208(100%)	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*
2019/夏季	2208(100%)	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*
2019/秋季	2184(100%)	2184(100%)	2184(100%)	*	*	*	*	*	*	*	*	*
2019/整年	8760(100%)	8760(100%)	8760(100%)	*	*	*	*	*	*	*	*	*
起始年月	2018/12	2018/12	2018/12	*	*	*	*	*	*	*	*	*
結束年月	2019/11	2019/11	2019/11	*	*	*	*	*	*	*	*	*

表3.1.2 2019年高雄海域主要測站1修補後潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)(%)	平均 高潮位 (公分)	大潮平均 高潮位 (公分)	平均 低潮位 (公分)	大潮平均 低潮位 (公分)
1	2018/12	P	53	101	80	96	15.0	27.0	20.4	25.5	42	76	152	27	744(100)	102	111	51	45
2	2019/01	P	51	94	77	92	14.4	25.0	19.1	25.0	45	81	150	26	744(100)	105	120	55	46
3	2019/02	P	50	121	83	105	15.9	26.0	23.1	25.3	33	76	140	19	672(100)	100	107	52	47
4	2019/03	P	50	104	78	96	16.3	27.0	24.7	25.8	41	79	136	32	744(100)	104	107	53	47
5	2019/04	P	53	79	66	74	14.1	26.0	19.0	26.0	38	81	126	38	720(100)	106	110	56	53
6	2019/05	P	51	91	69	87	15.7	27.0	22.5	25.7	39	88	140	41	744(100)	111	114	62	59
7	2019/06	P	55	103	90	101	17.5	27.0	24.8	26.0	33	88	145	37	720(100)	115	107	62	60
8	2019/07	P	49	116	79	98	15.4	26.0	21.9	25.5	42	93	166	31	744(100)	117	123	68	64
9	2019/08	P	44	91	73	86	16.4	26.0	24.8	25.3	41	92	164	43	744(100)	115	119	67	53
10	2019/09	P	45	89	65	83	14.4	26.0	19.1	25.3	39	92	144	37	720(100)	115	113	68	58
11	2019/10	P	51	76	69	76	16.0	26.0	23.7	26.0	45	86	133	39	744(100)	112	112	59	57
12	2019/11	P	52	89	77	86	16.3	26.0	25.1	25.5	41	84	139	33	720(100)	112	108	58	56
13	2019/冬	P	49	101	75	88	15.3	27.0	21.4	25.3	122	78	152	19	2160(100)	102	112	53	46
14	2019/春	P	51	104	72	87	15.8	27.0	23.2	25.8	122	83	140	32	2208(100)	107	110	57	53
15	2019/夏	P	51	114	86	103	16.2	27.0	23.6	25.5	114	91	166	31	2208(100)	115	116	66	60
16	2019/秋	P	51	92	74	84	14.9	26.0	20.8	25.4	122	87	144	33	2184(100)	113	111	62	57
17	2019/年	P	50	115	76	92	15.4	27.0	21.8	25.4	477	85	166	19	8760(100)	109	112	59	54

表3.1.3 2019年高雄海域主要測站2修補後潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)(%)	平均 高潮位 (公分)	大潮平均 高潮位 (公分)	平均 低潮位 (公分)	大潮平均 低潮位 (公分)
1	2018/12	Q	55	108	83	94	15.1	25.0	21.1	25.0	44	74	151	21	744(100)	100	108	47	42
2	2019/01	Q	49	91	76	90	14.5	26.0	19.2	25.5	45	78	150	23	744(100)	101	108	52	46
3	2019/02	Q	46	86	71	84	14.9	26.0	20.7	25.3	39	79	144	22	672(100)	101	107	55	47
4	2019/03	Q	53	85	72	81	15.2	26.0	21.8	25.3	40	83	137	35	744(100)	109	109	57	52
5	2019/04	Q	51	84	74	81	14.8	26.0	20.4	25.5	43	85	129	43	720(100)	110	114	59	57
6	2019/05	Q	52	88	73	85	15.8	26.0	23.4	25.5	44	91	144	46	744(100)	116	117	65	62
7	2019/06	Q	50	103	85	99	16.3	26.0	24.0	25.3	37	91	149	38	720(100)	114	113	65	62
8	2019/07	Q	54	119	95	111	17.5	26.0	24.9	25.3	40	96	166	33	744(100)	121	127	71	66
9	2019/08	Q	46	117	76	100	14.8	27.0	20.8	25.5	43	95	165	46	744(100)	116	117	70	62
10	2019/09	Q	45	100	71	87	15.7	27.0	22.9	26.0	45	95	148	38	720(100)	118	118	70	60
11	2019/10	Q	50	85	68	78	14.0	26.0	18.7	25.3	47	88	137	41	744(100)	113	116	62	57
12	2019/11	Q	55	92	82	89	17.0	26.0	25.1	26.0	41	87	141	33	720(100)	115	112	58	59
13	2019/冬	Q	49	127	83	103	14.7	26.0	19.9	25.3	129	77	151	21	2160(100)	101	108	51	45
14	2019/春	Q	52	96	72	84	15.3	26.0	21.5	25.4	129	86	144	35	2208(100)	112	113	61	57
15	2019/夏	Q	49	128	84	105	16.1	26.0	23.5	25.3	118	94	166	33	2208(100)	117	119	69	64
16	2019/秋	Q	51	100	77	89	15.5	27.0	22.3	25.7	135	90	148	33	2184(100)	115	115	64	59
17	2019/年	Q	50	127	77	93	15.1	27.0	21.1	25.3	507	87	166	21	8760(100)	111	114	61	56

表3.1.4 2019年高雄海域主要測站3修補後潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)(%)	平均 高潮位 (公分)	大潮平均 高潮位 (公分)	平均 低潮位 (公分)	大潮平均 低潮位 (公分)
1	2018/12	S	54	122	87	110	15.6	25.0	22.0	25.0	45	86	163	35	744(100)	112	113	59	55
2	2019/01	S	49	93	77	87	13.9	26.0	17.8	25.3	47	92	162	39	744(100)	115	125	68	58
3	2019/02	S	50	86	78	84	16.6	27.0	25.1	26.3	36	89	155	32	672(100)	112	115	64	62
4	2019/03	S	51	104	81	95	15.7	27.0	22.8	25.8	43	91	151	45	744(100)	117	120	65	59
5	2019/04	S	53	86	70	79	14.4	26.0	19.5	25.0	40	91	136	46	720(100)	117	121	65	63
6	2019/05	S	52	92	80	88	15.2	26.0	21.7	25.8	41	95	150	48	744(100)	120	122	69	66
7	2019/06	S	53	106	91	103	16.6	25.0	24.6	25.0	36	94	154	41	720(100)	120	115	68	65
8	2019/07	S	47	117	74	106	15.3	25.0	21.6	25.0	48	99	173	38	744(100)	121	128	75	68
9	2019/08	S	44	114	84	108	14.6	26.0	19.9	25.5	46	100	171	50	744(100)	122	126	75	63
10	2019/09	S	45	89	65	83	14.4	26.0	19.1	25.3	39	92	144	37	720(100)	115	113	68	58
11	2019/10	S	51	76	69	76	16.0	26.0	23.7	26.0	45	86	133	39	744(100)	112	112	59	57
12	2019/11	S	52	89	77	86	16.3	26.0	25.1	25.5	41	84	139	33	720(100)	112	108	58	56
13	2019/冬	S	49	122	79	95	15.1	26.0	21.0	25.2	128	89	163	32	2160(100)	113	117	64	58
14	2019/春	S	52	104	73	85	15.3	27.0	21.6	25.6	126	92	151	45	2208(100)	118	121	66	63
15	2019/夏	S	48	120	85	104	15.7	26.0	22.6	25.1	131	98	173	38	2208(100)	121	124	73	66
16	2019/秋	S	51	92	74	84	14.9	26.0	20.8	25.4	122	87	144	33	2184(100)	113	111	62	57
17	2019/年	S	50	122	79	95	15.3	27.0	21.5	25.3	508	92	173	32	8760(100)	116	119	66	61

Tidal Level in Kao-Hsiung Harbor of KHP0 at 2019¹ 8 15 22

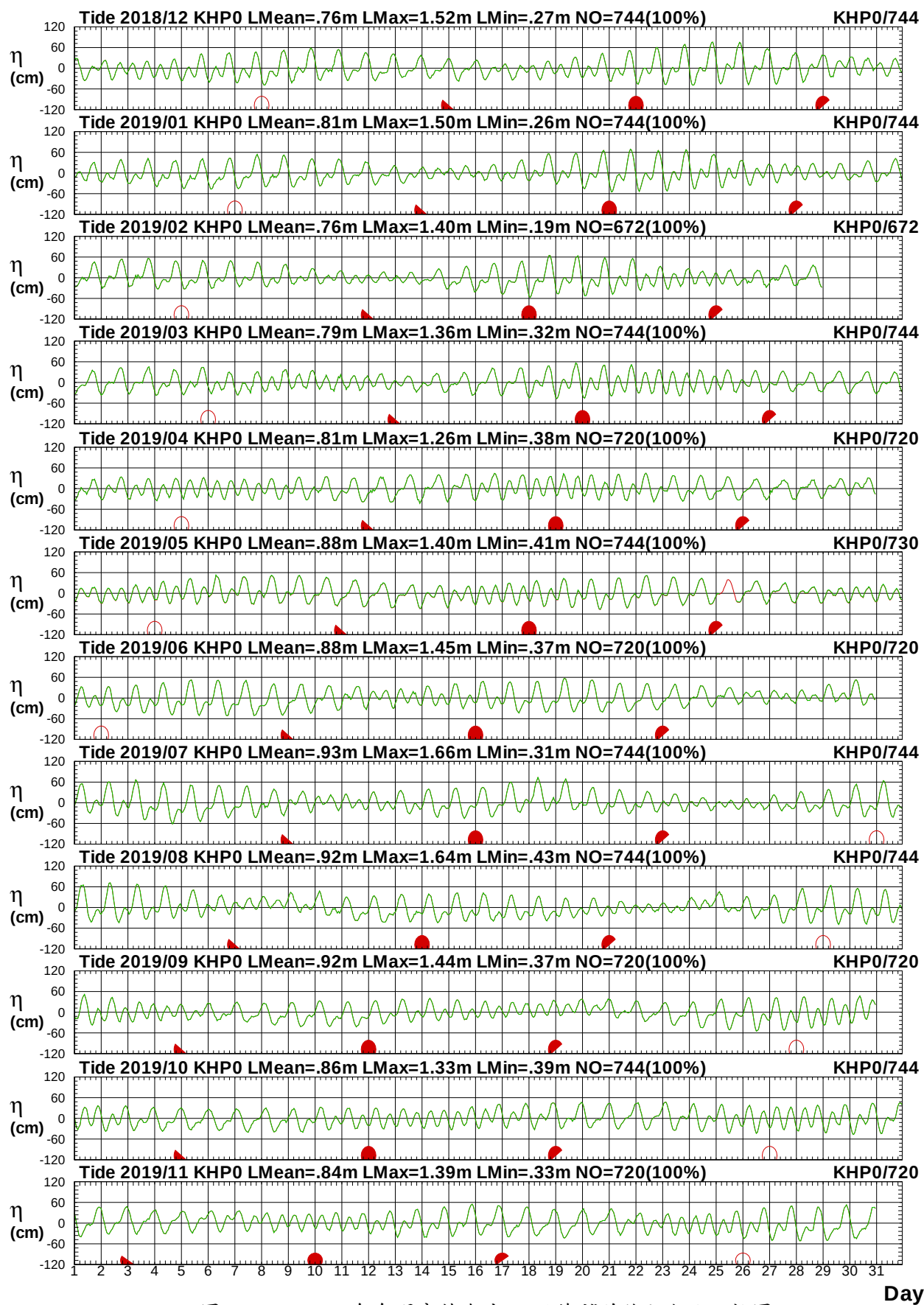


圖3.1.37 2019年每月高雄海域 P 站修補前後之潮位比較圖

T18CKHP0.1HA T18CKHP0.1H0 T191KHP0.1HA T191KHP0.1H0 T192KHP0.1HA T192KHP0.1H0
T193KHP0.1HA T193KHP0.1H0 T194KHP0.1HA T194KHP0.1H0 T195KHP0.1HA T195KHP0.1H0

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Tidal Level in Kao-Hsiung Harbor of KHP0 at 2019¹ 8 15 22

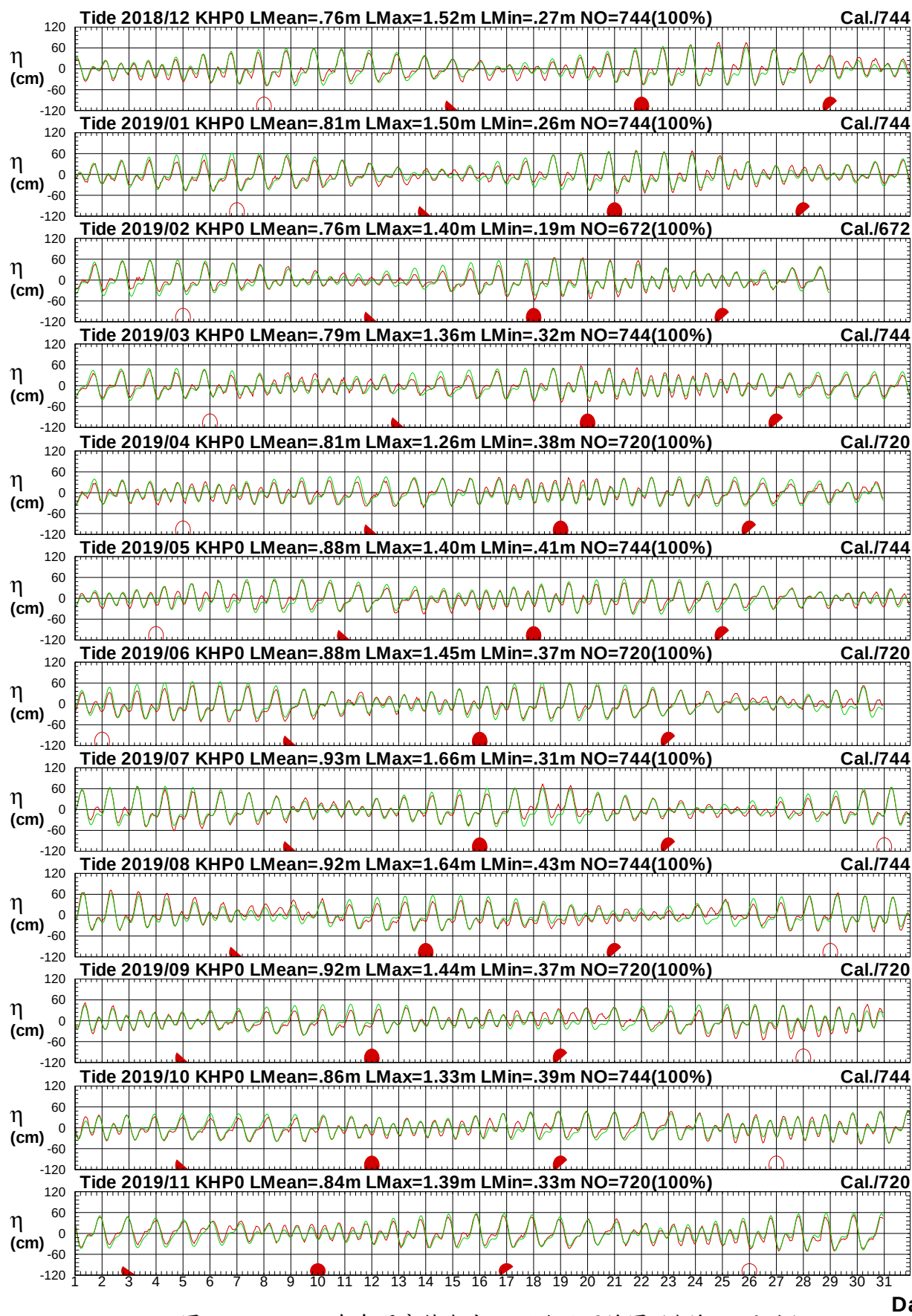


圖3.1.38 2019年每月高雄海域 P 站潮位歷線圖 (綠線: 天文潮)

T18CKHP0.1HA T18CKHT0.1HC T191KHP0.1HA T191KHT0.1HC T192KHP0.1HA T192KHT0.1HC
T193KHP0.1HA T193KHT0.1HC T194KHP0.1HA T194KHT0.1HC T195KHP0.1HA T195KHT0.1HC

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Tidal Level in Kao-Hsiung Harbor of KHQ0 at 2019¹ 8 15 22

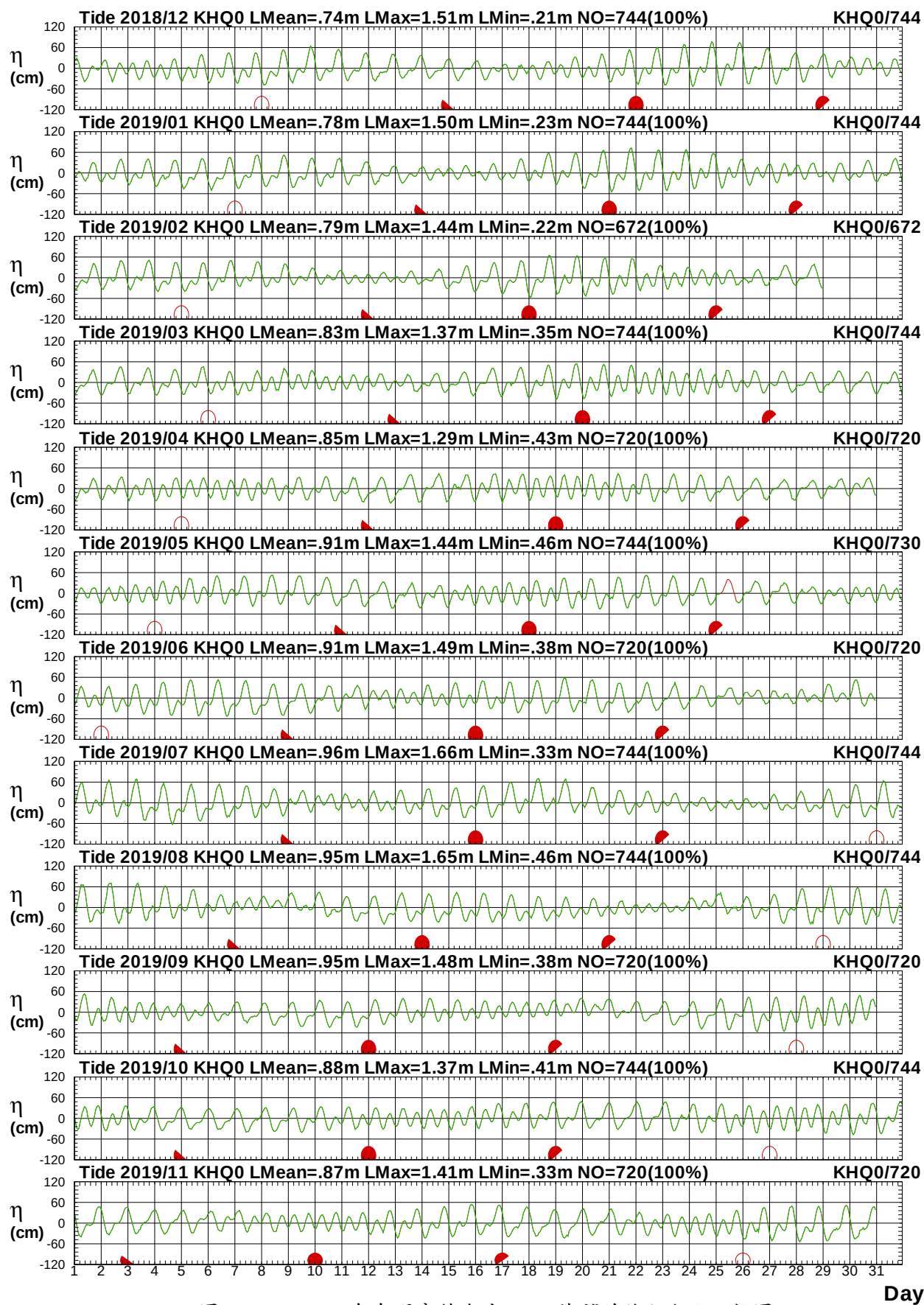


圖3.1.39 2019年每月高雄海域 Q 站修補前後之潮位比較圖

T18CKKHQ0.1HA T18CKKHQ0.1H0 T191KHQ0.1HA T191KHQ0.1H0 T192KHQ0.1HA T192KHQ0.1H0
T193KHQ0.1HA T193KHQ0.1H0 T194KHQ0.1HA T194KHQ0.1H0 T195KHQ0.1HA T195KHQ0.1H0

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Tidal Level in Kao-Hsiung Harbor of KHQ0 at 2019¹ 8 15 22

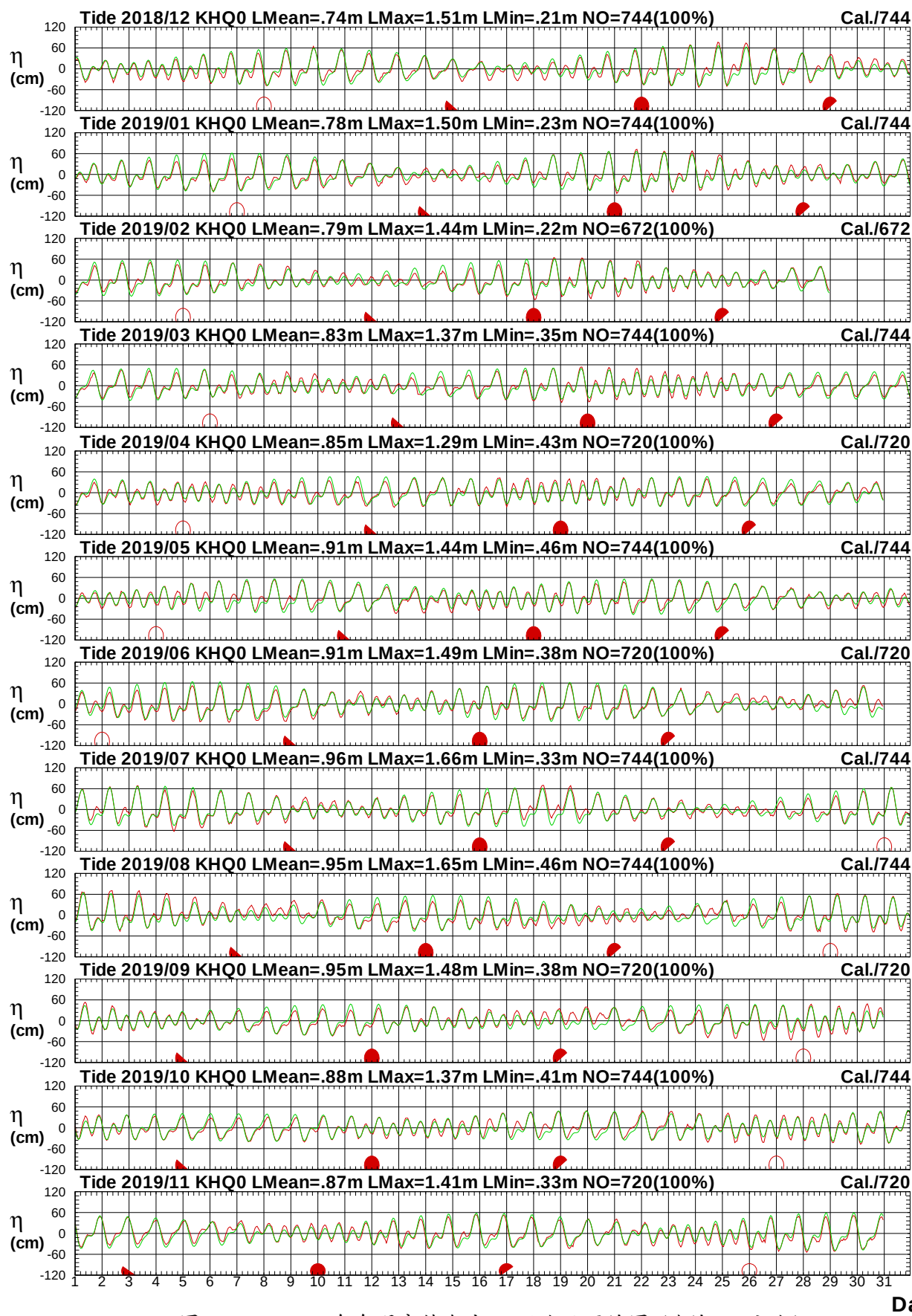


圖3.1.40 2019年每月高雄海域 Q 站潮位歷線圖 (綠線: 天文潮)

T18CKKHQ0.1HA T18CKHT0.1HC T191KHQ0.1HA T191KHT0.1HC T192KHQ0.1HA T192KHT0.1HC
T193KHQ0.1HA T193KHT0.1HC T194KHQ0.1HA T194KHT0.1HC T195KHQ0.1HA T195KHT0.1HC

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Tidal Level in Kao-Hsiung Harbor of KHS0 at 2019¹ 8 15 22

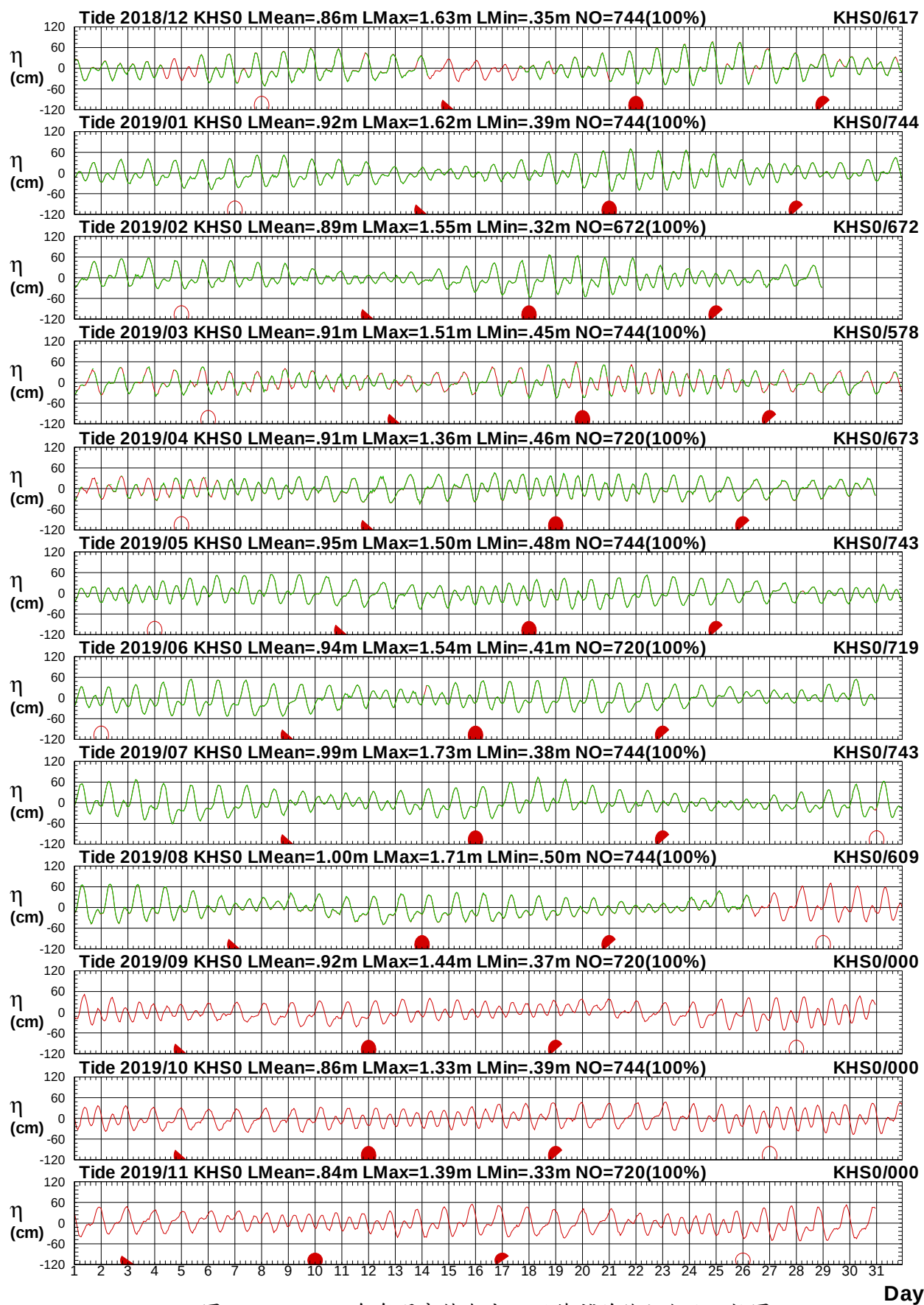


圖3.1.41 2019年每月高雄海域 S 站修補前後之潮位比較圖

T18CKHS0.1HA T18CKHS0.1H0 T191KHS0.1HA T191KHS0.1H0 T192KHS0.1HA T192KHS0.1H0
T193KHS0.1HA T193KHS0.1H0 T194KHS0.1HA T194KHS0.1H0 T195KHS0.1HA T195KHS0.1H0

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Tidal Level in Kao-Hsiung Harbor of KHS0 at 2019¹ 8 15 22

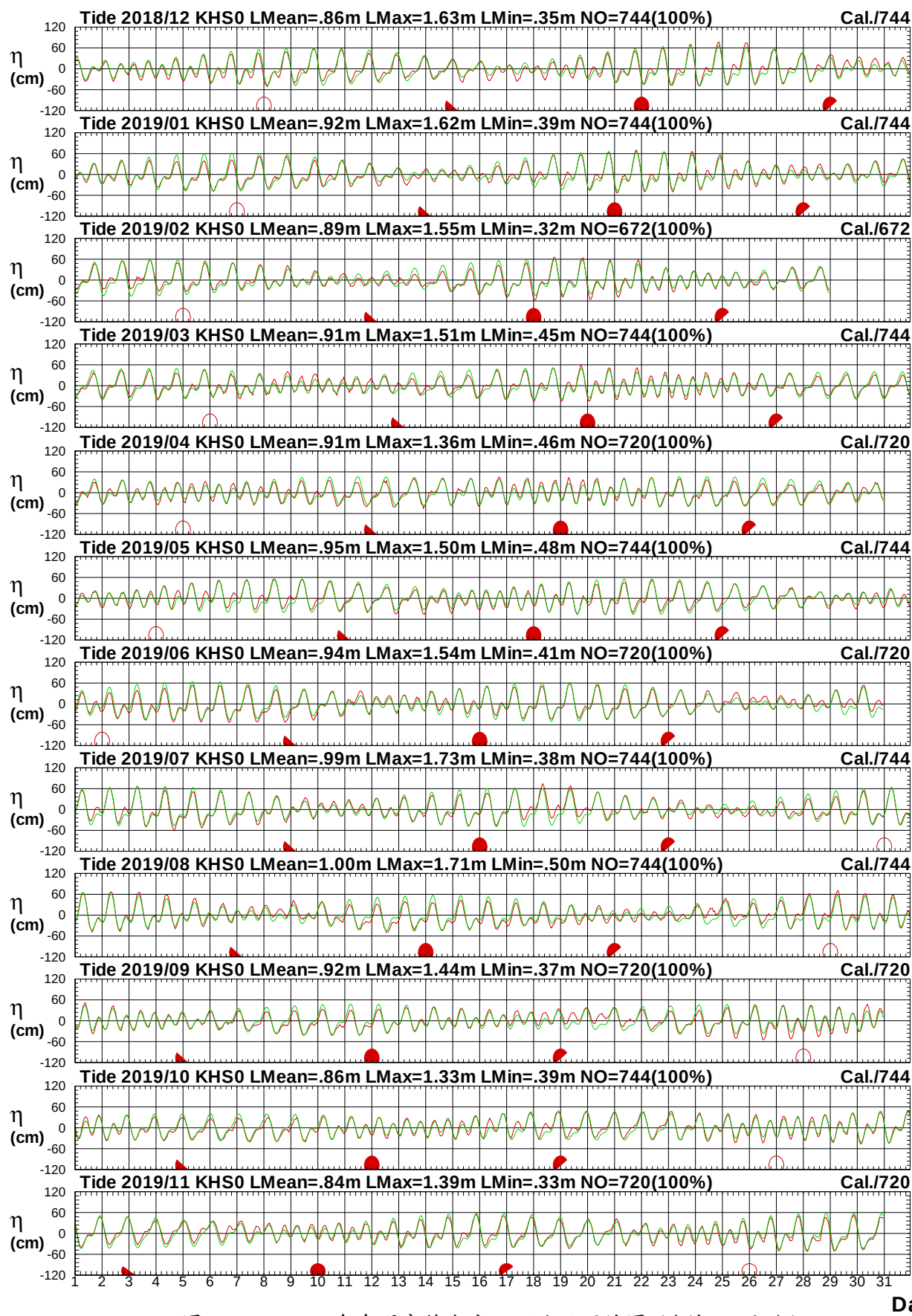


圖3.1.42 2019年每月高雄海域 S 站潮位歷線圖 (綠線: 天文潮)

T18CKHS0.1HA T18CKHT0.1HC T191KHS0.1HA T191KHT0.1HC T192KHS0.1HA T192KHT0.1HC
T193KHS0.1HA T193KHT0.1HC T194KHS0.1HA T194KHT0.1HC T195KHS0.1HA T195KHT0.1HC

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3.2 2019 年高雄海域各測站修補前 潮汐統計量統計表

表3.2.1 2019年高雄海域 P 站修補前潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)(%)	平均 高潮位 (公分)	大潮平均 高潮位 (公分)	平均 低潮位 (公分)	大潮平均 低潮位 (公分)
1	2018/12	P	53	101	80	96	15.0	27.0	20.4	25.5	42	76	152	27	744(100)	102	111	51	45
2	2019/01	P	51	94	77	92	14.4	25.0	19.1	25.0	45	81	150	26	744(100)	105	120	55	46
3	2019/02	P	50	121	83	105	15.9	26.0	23.1	25.3	33	76	140	19	672(100)	100	107	52	47
4	2019/03	P	50	104	78	96	16.3	27.0	24.7	25.8	41	79	136	32	744(100)	104	107	53	47
5	2019/04	P	53	79	66	74	14.1	26.0	19.0	26.0	38	81	126	38	720(100)	106	110	56	53
6	2019/05	P	52	91	69	87	15.7	27.0	22.5	25.7	39	87	140	41	730(98)	111	114	61	59
7	2019/06	P	55	103	90	101	17.5	27.0	24.8	26.0	33	88	145	37	720(100)	115	107	62	60
8	2019/07	P	49	116	79	98	15.4	26.0	21.9	25.5	42	93	166	31	744(100)	117	123	68	64
9	2019/08	P	44	91	73	86	16.4	26.0	24.8	25.3	41	92	164	43	744(100)	115	119	67	53
10	2019/09	P	45	89	65	83	14.4	26.0	19.1	25.3	39	92	144	37	720(100)	115	113	68	58
11	2019/10	P	51	76	69	76	16.0	26.0	23.7	26.0	45	86	133	39	744(100)	112	112	59	57
12	2019/11	P	52	89	77	86	16.3	26.0	25.1	25.5	41	84	139	33	720(100)	112	108	58	56
13	2019/冬	P	49	101	75	88	15.3	27.0	21.4	25.3	122	78	152	19	2160(100)	102	112	53	46
14	2019/春	P	51	104	72	87	15.8	27.0	23.2	25.8	122	83	140	32	2194(99)	107	110	57	53
15	2019/夏	P	51	114	86	103	16.2	27.0	23.6	25.5	114	91	166	31	2208(100)	115	116	66	60
16	2019/秋	P	51	92	74	84	14.9	26.0	20.8	25.4	122	87	144	33	2184(100)	113	111	62	57
17	2019/年	P	50	115	76	92	15.4	27.0	21.8	25.4	477	85	166	19	8746(100)	109	112	59	54

表3.2.2 2019年高雄海域 Q 站修補前潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)(%)	平均 高潮位 (公分)	大潮平均 高潮位 (公分)	平均 低潮位 (公分)	大潮平均 低潮位 (公分)
1	2018/12	Q	55	108	83	94	15.1	25.0	21.1	25.0	44	74	151	21	744(100)	100	108	47	42
2	2019/01	Q	49	91	76	90	14.5	26.0	19.2	25.5	45	78	150	23	744(100)	101	108	52	46
3	2019/02	Q	46	86	71	84	14.9	26.0	20.7	25.3	39	79	144	22	672(100)	101	107	55	47
4	2019/03	Q	53	85	72	81	15.2	26.0	21.8	25.3	40	83	137	35	744(100)	109	109	57	52
5	2019/04	Q	51	84	74	81	14.8	26.0	20.4	25.5	43	85	129	43	720(100)	110	114	59	57
6	2019/05	Q	52	88	73	85	15.6	26.0	22.7	25.5	43	91	144	46	730(98)	115	117	65	62
7	2019/06	Q	50	103	85	99	16.3	26.0	24.0	25.3	37	91	149	38	720(100)	114	113	65	62
8	2019/07	Q	54	119	95	111	17.5	26.0	24.9	25.3	40	96	166	33	744(100)	121	127	71	66
9	2019/08	Q	46	117	76	100	14.8	27.0	20.8	25.5	43	95	165	46	744(100)	116	117	70	62
10	2019/09	Q	45	100	71	87	15.7	27.0	22.9	26.0	45	95	148	38	720(100)	118	118	70	60
11	2019/10	Q	50	85	68	78	14.0	26.0	18.7	25.3	47	88	137	41	744(100)	113	116	62	57
12	2019/11	Q	55	92	82	89	17.0	26.0	25.1	26.0	41	87	141	33	720(100)	115	112	58	59
13	2019/冬	Q	49	127	83	103	14.7	26.0	19.9	25.3	129	77	151	21	2160(100)	101	108	51	45
14	2019/春	Q	52	96	73	84	15.2	26.0	21.5	25.4	128	86	144	35	2194(99)	111	113	61	57
15	2019/夏	Q	49	128	84	105	16.1	26.0	23.5	25.3	118	94	166	33	2208(100)	117	119	69	64
16	2019/秋	Q	51	100	77	89	15.5	27.0	22.3	25.7	135	90	148	33	2184(100)	115	115	64	59
17	2019/年	Q	50	127	78	94	15.1	27.0	20.9	25.3	506	87	166	21	8746(100)	111	114	61	56

表3.2.3 2019年高雄海域 S 站修補前潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)(%)	平均 高潮位 (公分)	大潮平均 高潮位 (公分)	平均 低潮位 (公分)	大潮平均 低潮位 (公分)
1	2018/12	S	54	121	90	112	14.6	25.0	19.6	25.0	30	87	163	35	617(83)	113	116	59	55
2	2019/01	S	49	93	77	87	13.9	26.0	17.8	25.3	47	92	162	39	744(100)	115	125	68	58
3	2019/02	S	50	86	78	84	16.6	27.0	25.1	26.3	36	89	155	32	672(100)	112	115	64	62
4	2019/03	S	46	97	77	97	17.3	25.0	24.3	25.0	10	91	146	45	578(78)	111	117	65	54
5	2019/04	S	53	86	78	84	14.5	26.0	20.1	25.3	34	90	136	46	673(93)	117	121	64	63
6	2019/05	S	52	92	80	88	15.0	26.0	21.0	25.8	41	95	150	48	743(100)	121	122	69	66
7	2019/06	S	53	106	91	103	16.6	25.0	24.6	25.0	36	94	154	41	719(100)	120	115	68	65
8	2019/07	S	47	117	75	106	15.6	25.0	22.9	25.0	47	99	173	38	743(100)	121	128	75	67
9	2019/08	S	45	114	86	108	14.3	26.0	19.0	25.0	40	99	167	50	609(82)	119	114	76	66
10	2019/09	S																	
11	2019/10	S																	
12	2019/11	S																	
13	2019/冬	S	47	121	78	95	14.9	26.0	20.5	25.2	113	90	163	32	2033(94)	114	118	64	58
14	2019/春	S	51	97	73	85	15.3	26.0	21.8	25.5	85	92	150	45	1994(90)	117	121	66	62
15	2019/夏	S	48	120	79	99	15.7	26.0	22.8	25.1	124	98	173	38	2071(94)	120	121	73	66
16	2019/秋	S																	
17	2019/年	S	51	121	77	92	15.3	26.0	21.5	25.2	318	93	173	32	6098(70)	117	120	68	62

表3.2.4 2019年高雄海域 T 站修補前潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)(%)	平均 高潮位 (公分)	大潮平均 高潮位 (公分)	平均 低潮位 (公分)	大潮平均 低潮位 (公分)
1	2018/12	T	58	103	91	103	19.9	26.0	25.8	26.0	14	97	160	52	449(60)	122	133	73	68
2	2019/01	T	50	113	82	101	16.3	27.0	24.3	26.3	33	109	181	42	733(99)	134	144	83	72
3	2019/02	T	52	87	71	87	17.1	25.0	24.3	25.0	11	109	177	53	426(63)	142	154	82	72
4	2019/03	T																	
5	2019/04	T																	
6	2019/05	T																	
7	2019/06	T																	
8	2019/07	T																	
9	2019/08	T																	
10	2019/09	T	52	78	78	0	16.6	24.0	24.0	.0	5	-113	-64	-164	478(66)	-91	-96	-141	-146
11	2019/10	T	45	76	66	76	17.5	26.0	25.2	26.0	17	-120	-72	-169	665(89)	-96	-90	-146	-150
12	2019/11	T	53	104	79	102	15.0	26.0	21.4	26.0	25	-120	-67	-175	507(70)	-94	-97	-149	-148
13	2019/冬	T	50	135	85	106	17.7	27.0	25.3	26.2	61	106	181	42	1608(74)	132	144	80	71
14	2019/春	T																	
15	2019/夏	T																	
16	2019/秋	T	53	88	75	83	15.9	26.0	23.1	25.8	48	-118	-64	-175	1650(76)	-94	-94	-146	-148
17	2019/年	T	51	135	80	98	16.9	28.0	25.0	26.3	110	-8	181	-175	3258(37)	24	20	-30	-54

表3.2.5 2019年高雄海域 X 站修補前潮差週期及潮位重要統計量統計表

序 號	日期 (年/月)	測 站	平均 潮差 (公分)	最大 潮差 (公分)	1/3 潮差 (公分)	1/10 潮差 (公分)	平均 週期 (時)	最大 週期 (時)	1/3 週期 (時)	1/10 週期 (時)	潮差 個數 (個)	平均 潮位 (公分)	最高 潮位 (公分)	最低 潮位 (公分)	水位 點數 (個)(%)	平均 高潮位 (公分)	大潮平均 高潮位 (公分)	平均 低潮位 (公分)	大潮平均 低潮位 (公分)
1	2018/12	X	52	120	88	108	18.0	26.0	25.1	25.3	30	1285	1354	1231	675(91)	1310	1318	1260	1249
2	2019/01	X	53	119	94	116	15.3	25.0	21.4	25.0	32	1295	1360	1240	691(93)	1319	1330	1269	1261
3	2019/02	X	40	84	62	83	19.1	26.0	25.1	25.5	27	1292	1357	1233	621(92)	1311	1315	1268	1262
4	2019/03	X	56	91	81	91	17.8	26.0	25.2	26.0	27	1294	1347	1246	675(91)	1318	1319	1268	1260
5	2019/04	X	53	79	71	77	17.3	26.0	24.8	25.3	31	1295	1337	1254	657(91)	1321	1323	1270	1266
6	2019/05	X	54	91	77	91	17.9	26.0	25.2	26.0	28	1301	1353	1255	683(92)	1324	1328	1276	1272
7	2019/06	X	58	105	91	104	17.8	26.0	24.9	25.5	29	1300	1362	1251	664(92)	1325	1324	1274	1268
8	2019/07	X	47	109	80	96	16.6	26.0	24.8	25.3	42	1310	1376	1249	717(96)	1332	1344	1287	1277
9	2019/08	X	39	107	70	101	17.1	26.0	25.0	26.0	21	1324	1391	1268	534(72)	1343	1360	1300	1295
10	2019/09	X	63	80	78	0	18.8	25.0	25.0	.0	6	1335	1385	1285	270(38)	1363	1364	1302	1292
11	2019/10	X																	
12	2019/11	X																	
13	2019/冬	X	48	121	83	108	18.1	26.0	25.0	25.2	94	1290	1360	1231	1987(92)	1313	1321	1266	1258
14	2019/春	X	52	91	73	84	17.7	26.0	25.1	25.8	86	1297	1353	1246	2015(91)	1321	1323	1271	1266
15	2019/夏	X	50	105	82	96	16.9	26.0	24.8	25.1	90	1311	1391	1249	1915(87)	1332	1340	1286	1279
16	2019/秋	X	63	80	78	0	18.8	25.0	25.0	.0	6	1335	1385	1285	270(12)	1363	1364	1302	1292
17	2019/年	X	49	121	76	96	17.9	26.0	25.0	25.4	282	1301	1391	1231	6187(71)	1324	1331	1275	1268

3.3 2019 年高雄海域**主要測站 1**(修補後)與 **其他測站**(修補前)潮位歷線比較圖

Tidal Level in Kao-Hsiung Seas of KHP0 at 2019 ¹ ○ ⁸ ● ¹⁵ ● ²² ●

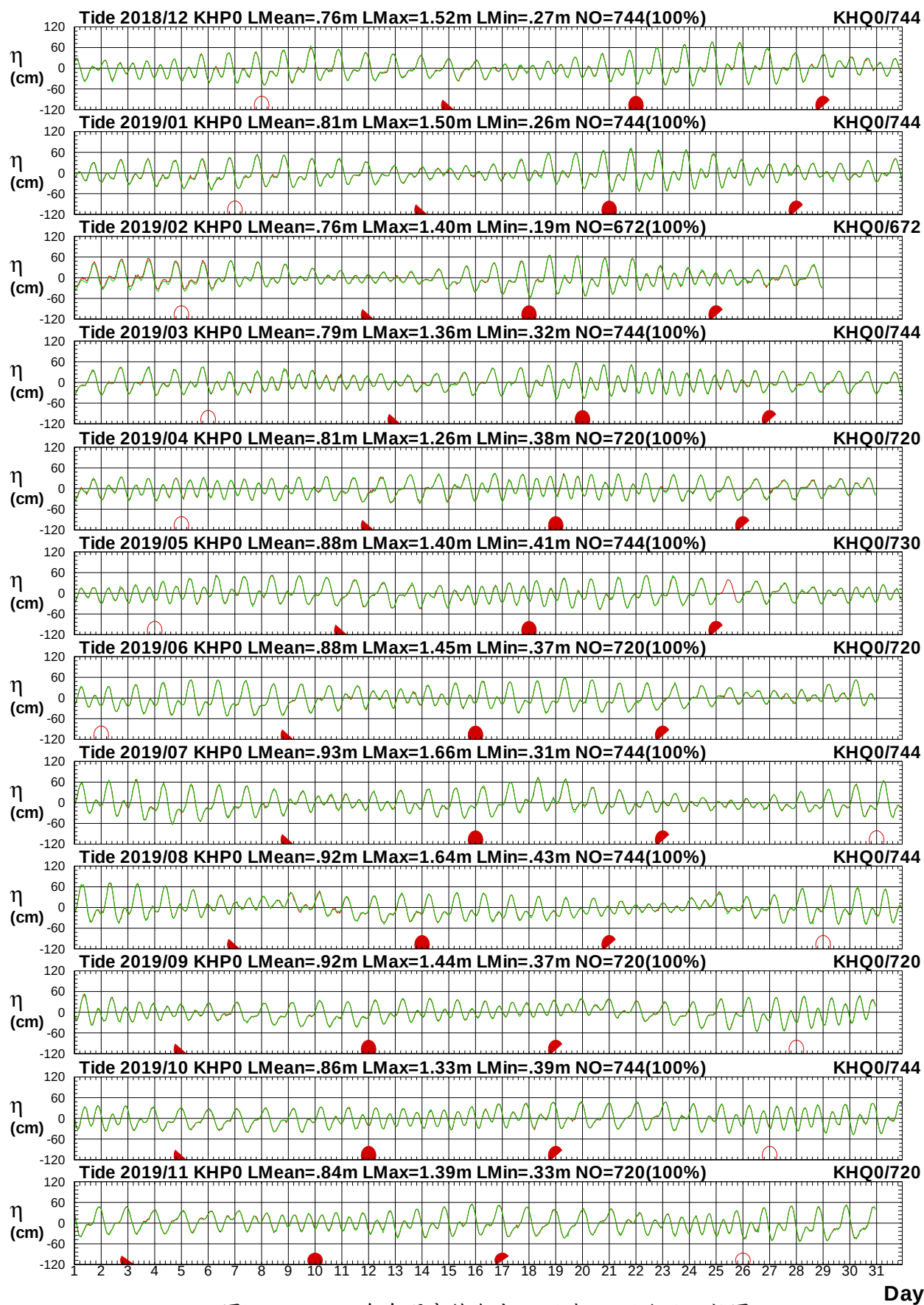


圖3.3.1 2019年每月高雄海域 P 站與 Q 站潮位比較圖

T18CKHP0.1HA T18CKHQ0.1H0 T191KHP0.1HA T191KHQ0.1H0 T192KHP0.1HA T192KHQ0.1H0
T193KHP0.1HA T193KHQ0.1H0 T194KHP0.1HA T194KHQ0.1H0 T195KHP0.1HA T195KHQ0.1H0

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Tidal Level in Kao-Hsiung Seas of KHP0 at 2019 ¹ ○ ⁸ ● ¹⁵ ● ²² ●

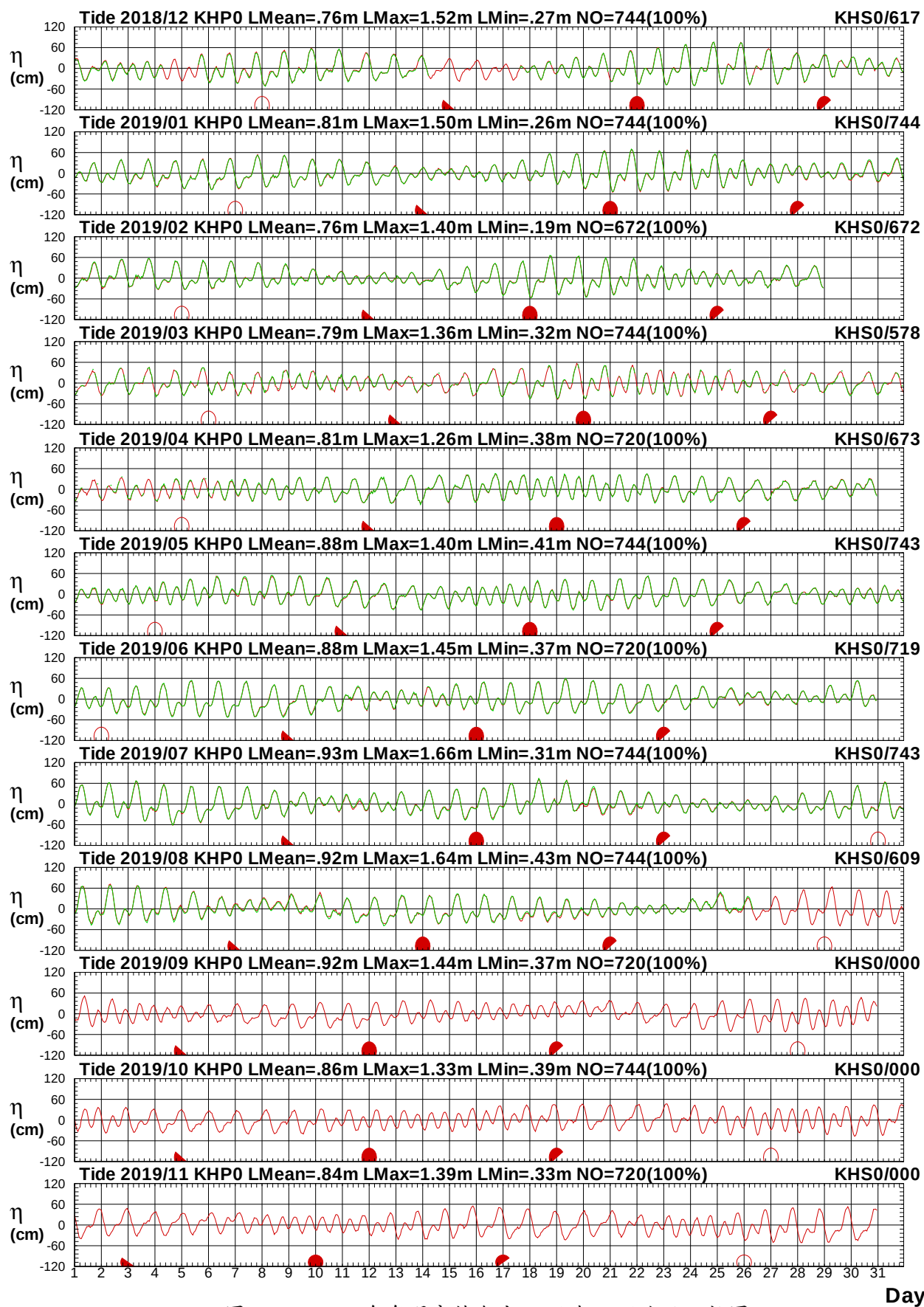


圖3.3.2 2019年每月高雄海域 P 站與 S 站潮位比較圖

T18CKHP0.1HA T18CKHS0.1H0 T191KHP0.1HA T191KHS0.1H0 T192KHP0.1HA T192KHS0.1H0
T193KHP0.1HA T193KHS0.1H0 T194KHP0.1HA T194KHS0.1H0 T195KHP0.1HA T195KHS0.1H0

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Tidal Level in Kao-Hsiung Seas of KHP0 at 2019 ¹ ○ ⁸ ● ¹⁵ ● ²² ●

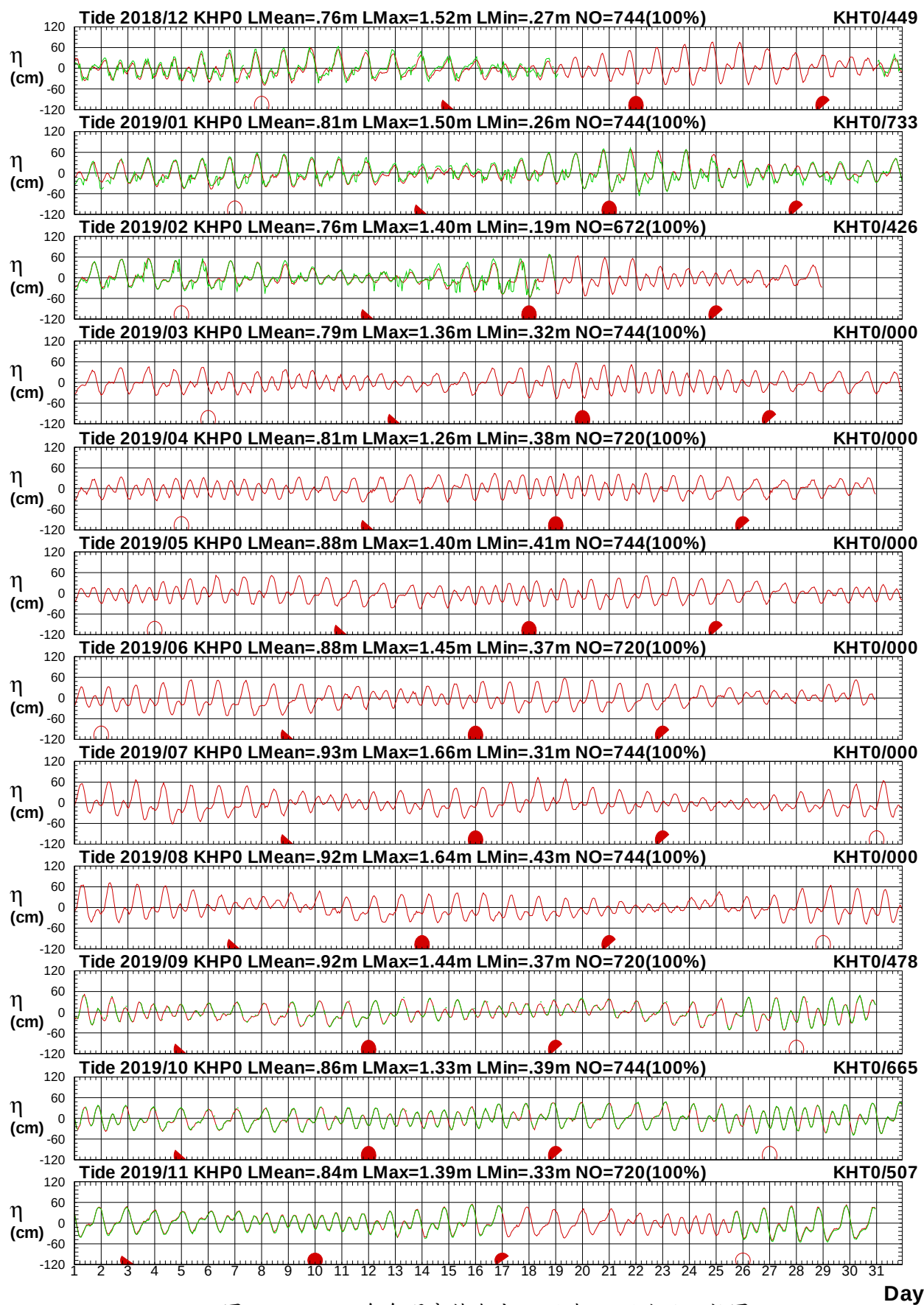


圖3.3.3 2019年每月高雄海域 P 站與 T 站潮位比較圖

T18CKHP0.1HA T18CKHT0.1H0 T191KHP0.1HA T191KHT0.1H0 T192KHP0.1HA T192KHT0.1H0
T193KHP0.1HA T193KHT0.1H0 T194KHP0.1HA T194KHT0.1H0 T195KHP0.1HA T195KHT0.1H0

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Tidal Level in Kao-Hsiung Seas of KHP0 at 2019 ¹ ○ ⁸ ● ¹⁵ ● ²² ●

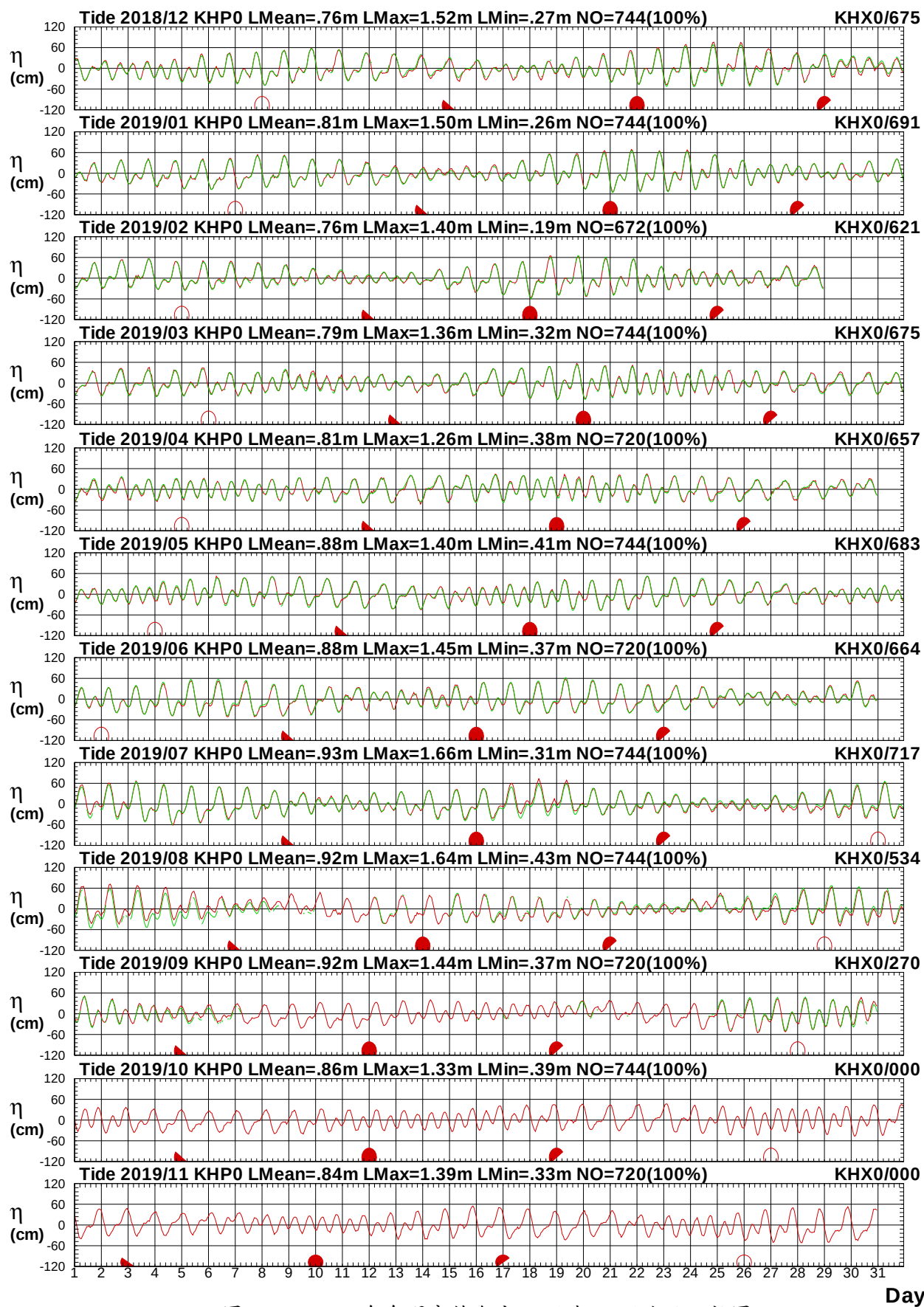


圖3.3.4 2019年每月高雄海域 P 站與 X 站潮位比較圖

T18CKHP0.1HA T18CKHX0.1H0 T191KHP0.1HA T191KHX0.1H0 T192KHP0.1HA T192KHX0.1H0
T193KHP0.1HA T193KHX0.1H0 T194KHP0.1HA T194KHX0.1H0 T195KHP0.1HA T195KHX0.1H0

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3.4 2019 年高雄海域**主要測站 2**(修補後)與 **其他測站**(修補前)潮位歷線比較圖

Tidal Level in Kao-Hsiung Seas of KHQ0 at 2019 ¹ ○ ⁸ ● ¹⁵ ● ²² ●

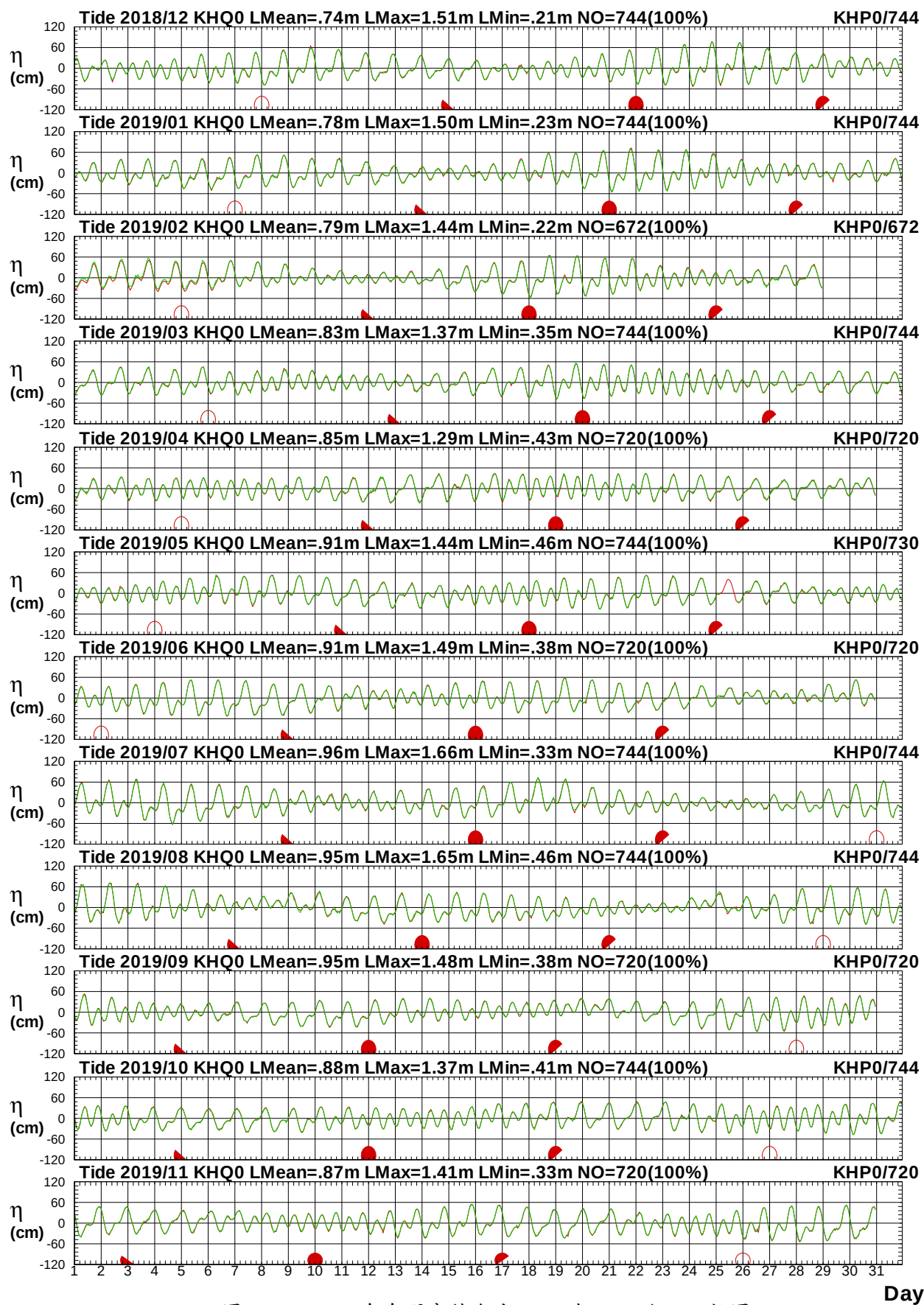


圖3.4.1 2019年每月高雄海域 Q 站與 P 站潮位比較圖

T18CKKHQ0.1HA T18CKKHP0.1H0 T191KHQ0.1HA T191KHP0.1H0 T192KHQ0.1HA T192KHP0.1H0
T193KHQ0.1HA T193KHP0.1H0 T194KHQ0.1HA T194KHP0.1H0 T195KHQ0.1HA T195KHP0.1H0

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Tidal Level in Kao-Hsiung Seas of KHQ0 at 2019 ¹ ○ ⁸ ● ¹⁵ ● ²² ●

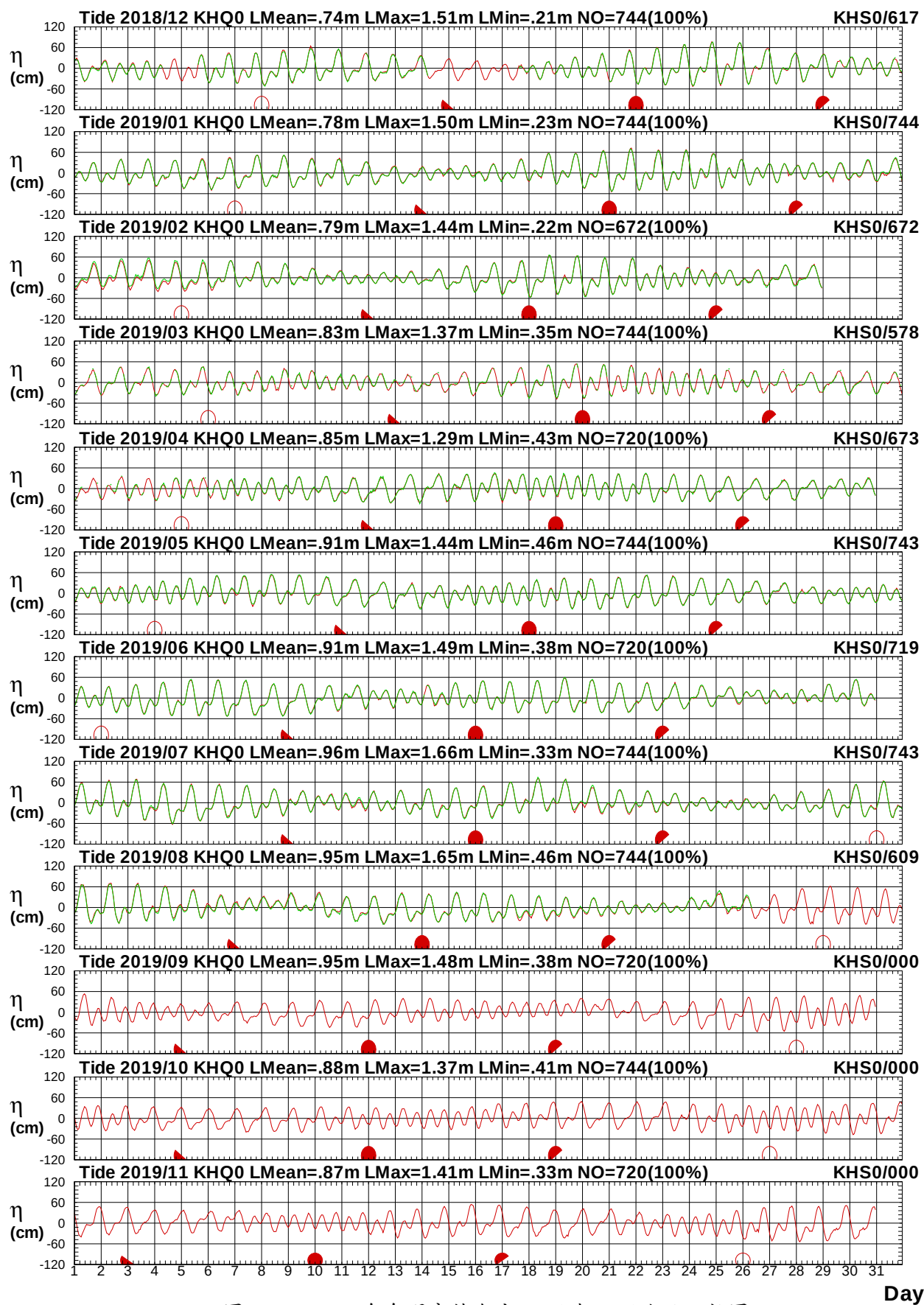


圖3.4.2 2019年每月高雄海域 Q 站與 S 站潮位比較圖

T18CKKHQ0.1HA T18CKKHS0.1H0 T191KHQ0.1HA T191KHS0.1H0 T192KHQ0.1HA T192KHS0.1H0
T193KHQ0.1HA T193KHS0.1H0 T194KHQ0.1HA T194KHS0.1H0 T195KHQ0.1HA T195KHS0.1H0

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Tidal Level in Kao-Hsiung Seas of KHQ0 at 2019 ¹ ○ 8 ● 15 ● 22 ●

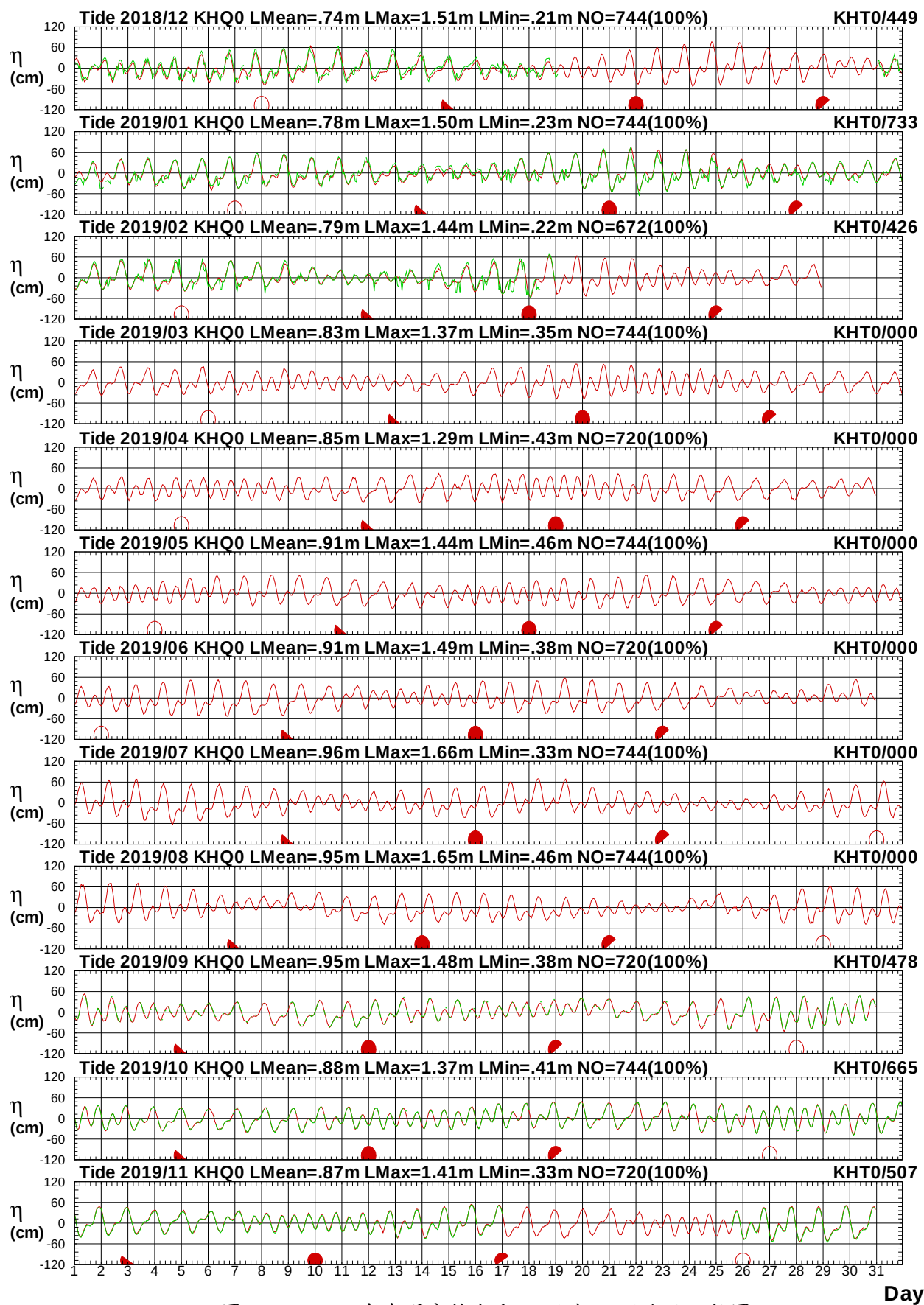


圖3.4.3 2019年每月高雄海域 Q 站與 T 站潮位比較圖

T18CKKHQ0.1HA T18CKKHT0.1H0 T191KHQ0.1HA T191KHT0.1H0 T192KHQ0.1HA T192KHT0.1H0
T193KHQ0.1HA T193KHT0.1H0 T194KHQ0.1HA T194KHT0.1H0 T195KHQ0.1HA T195KHT0.1H0

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Tidal Level in Kao-Hsiung Seas of KHQ0 at 2019 ¹ ○ ⁸ ● ¹⁵ ● ²² ●

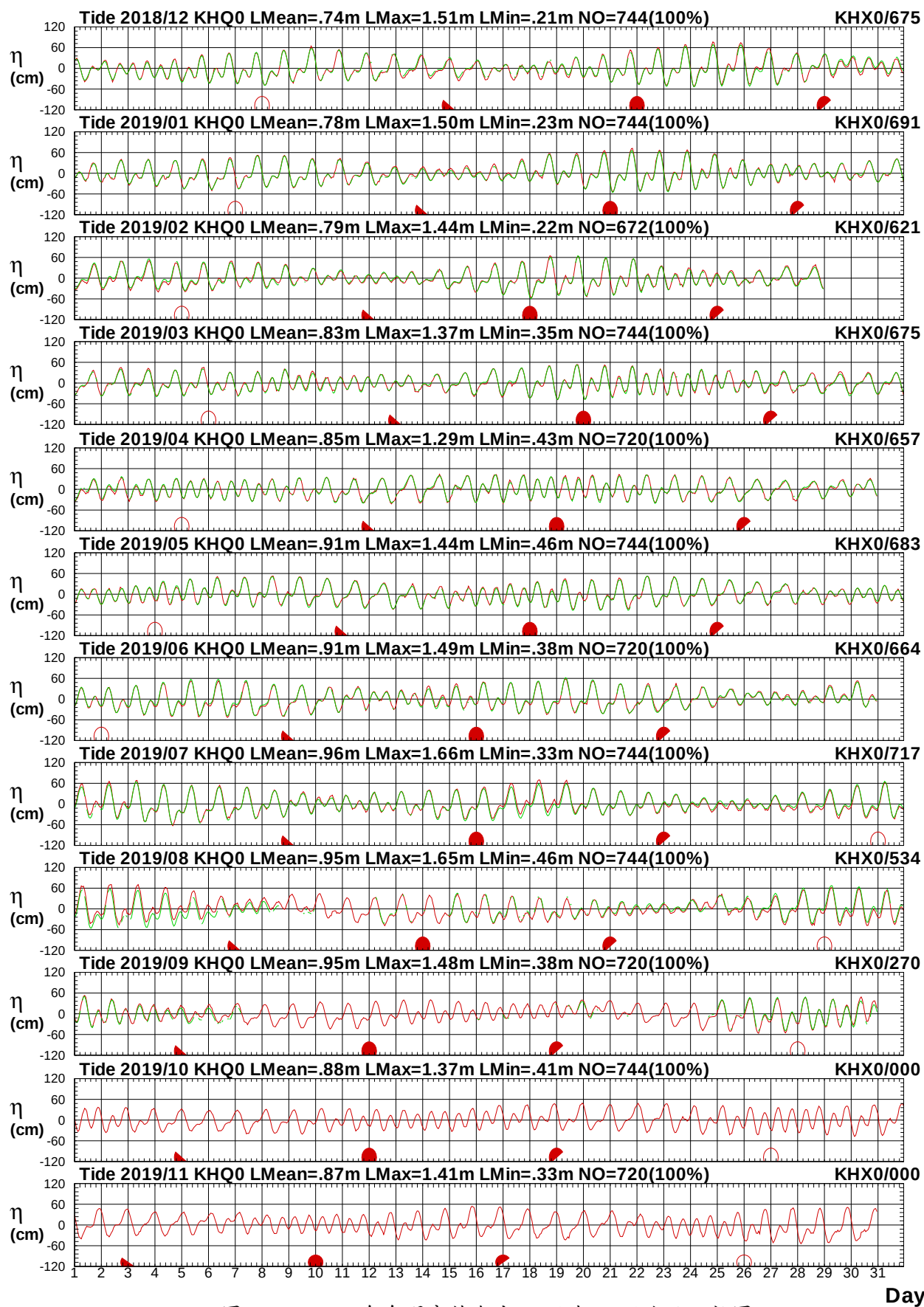


圖3.4.4 2019年每月高雄海域 Q 站與 X 站潮位比較圖

T18CKHQ0.1HA T18CKHX0.1H0 T191KHQ0.1HA T191KHX0.1H0 T192KHQ0.1HA T192KHX0.1H0
T193KHQ0.1HA T193KHX0.1H0 T194KHQ0.1HA T194KHX0.1H0 T195KHQ0.1HA T195KHX0.1H0

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3.5 2019 年高雄海域**主要測站 3**(修補後)與 **其他測站**(修補前)潮位歷線比較圖

Tidal Level in Kao-Hsiung Seas of KHS0 at 2019 ¹ ○ ⁸ ● ¹⁵ ● ²² ●

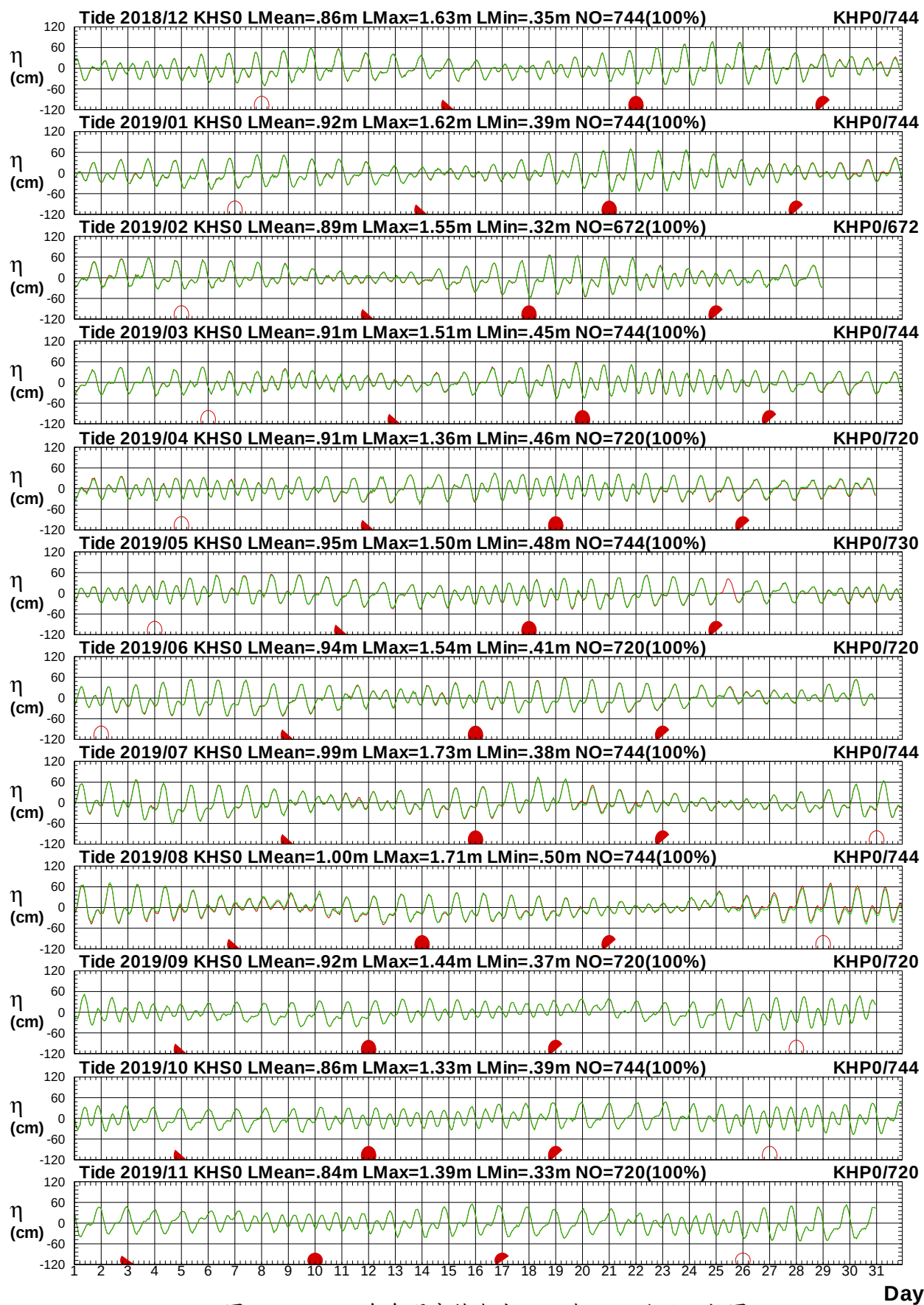


圖3.5.1 2019年每月高雄海域 S 站與 P 站潮位比較圖

T18CKHS0.1HA T18CKHP0.1H0 T191KHS0.1HA T191KHP0.1H0 T192KHS0.1HA T192KHP0.1H0
T193KHS0.1HA T193KHP0.1H0 T194KHS0.1HA T194KHP0.1H0 T195KHS0.1HA T195KHP0.1H0

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Tidal Level in Kao-Hsiung Seas of KHS0 at 2019 ¹ ○ ⁸ ● ¹⁵ ● ²² ●

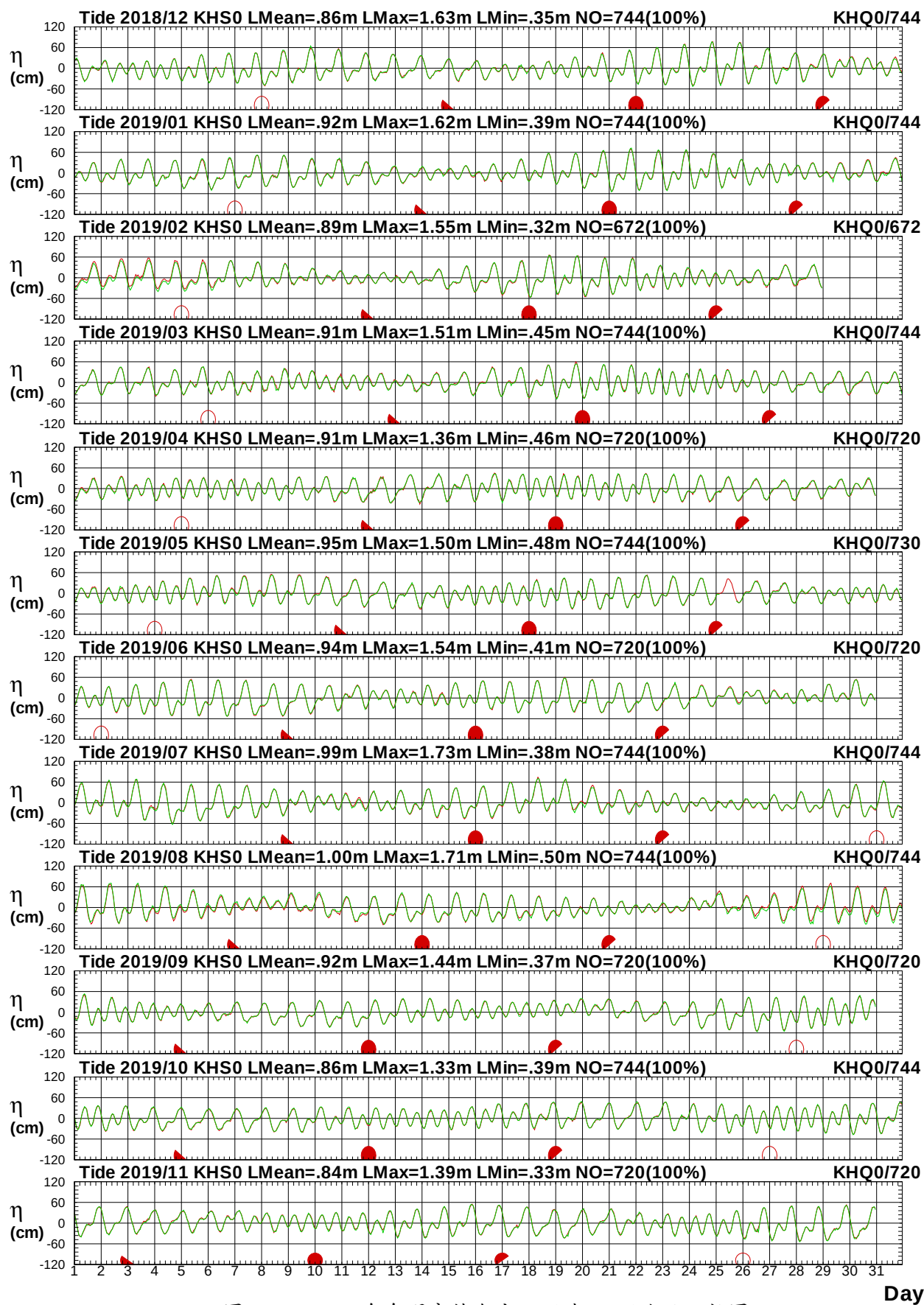


圖3.5.2 2019年每月高雄海域 S 站與 Q 站潮位比較圖

T18CKHS0.1HA T18CKHQ0.1H0 T191KHS0.1HA T191KHQ0.1H0 T192KHS0.1HA T192KHQ0.1H0
T193KHS0.1HA T193KHQ0.1H0 T194KHS0.1HA T194KHQ0.1H0 T195KHS0.1HA T195KHQ0.1H0

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Tidal Level in Kao-Hsiung Seas of KHS0 at 2019 ¹ ○ ⁸ ● ¹⁵ ● ²² ●

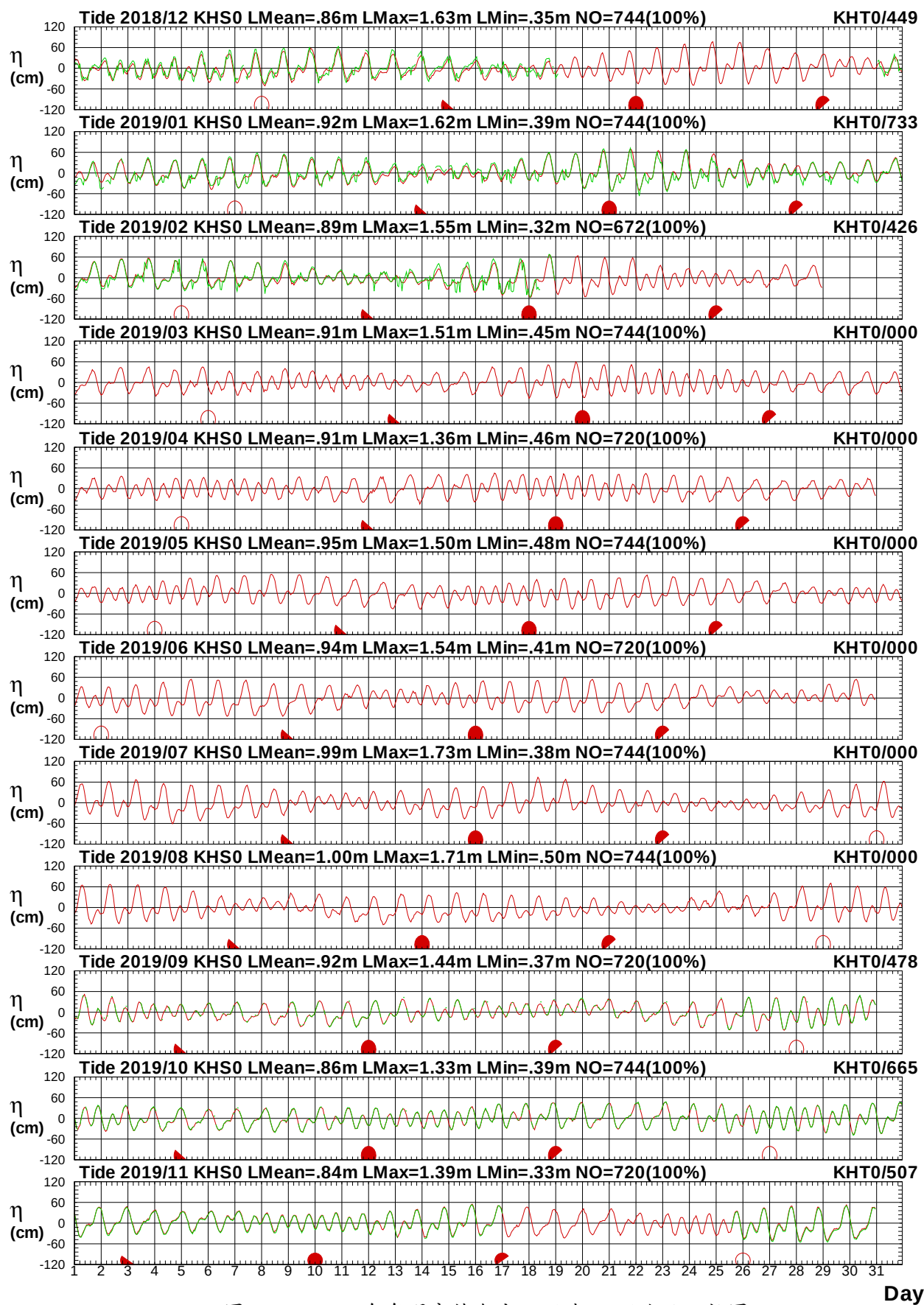


圖3.5.3 2019年每月高雄海域 S 站與 T 站潮位比較圖

T18CKHS0.1HA T18CKHT0.1H0 T191KHS0.1HA T191KHT0.1H0 T192KHS0.1HA T192KHT0.1H0
T193KHS0.1HA T193KHT0.1H0 T194KHS0.1HA T194KHT0.1H0 T195KHS0.1HA T195KHT0.1H0

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Tidal Level in Kao-Hsiung Seas of KHS0 at 2019 ¹ ○ ⁸ ● ¹⁵ ● ²² ●

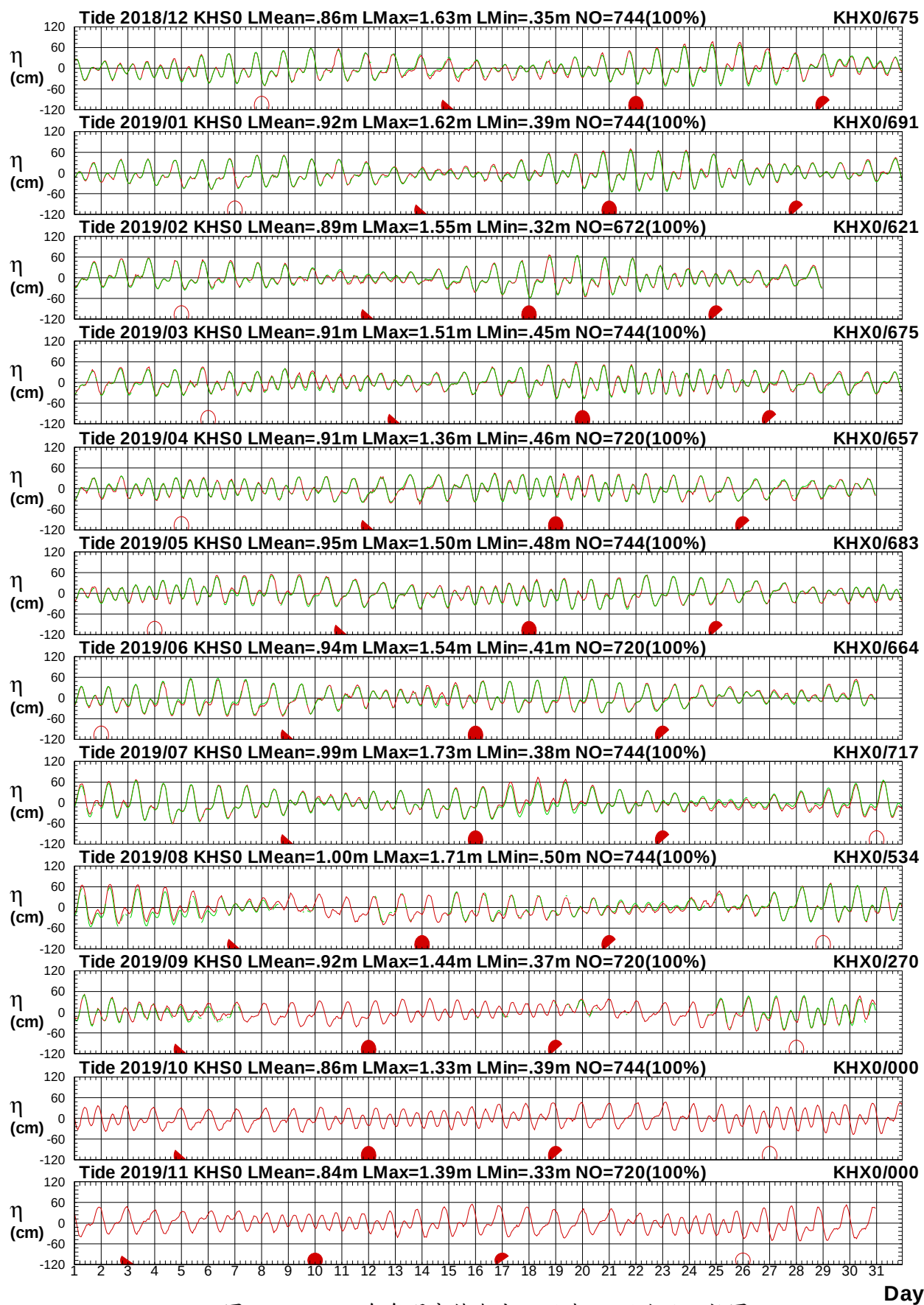


圖3.5.4 2019年每月高雄海域 S 站與 X 站潮位比較圖

T18CKHS0.1HA T18CKHX0.1H0 T191KHS0.1HA T191KHX0.1H0 T192KHS0.1HA T192KHX0.1H0
T193KHS0.1HA T193KHX0.1H0 T194KHS0.1HA T194KHX0.1H0 T195KHS0.1HA T195KHX0.1H0

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第四章 2019 年高雄海域觀測海流資料年報

2019 年高雄海域海流之觀測包括測站 **X** 及測站 **Z** 等 2 個測站(測站位置如第 0 章圖 CH1，各測站歷年觀測海流資料蒐集概況如表 CH1)。

本年報利用調和分析方法**觀測海流可分解為：**

(1)計算潮流(包括平均流)。

(2)計算殘(餘)流(或稱非潮流)。

4.1 2019 年高雄海域觀測海流資料年報圖表

本章第 1 節**海流**年報資料處理之統計表包括：

1. 表 1.1.1a 2019 年**各觀測站**每月**觀測海流**資料記錄表。
2. 表 1.1.1b 2019 年**各觀測站**每月**計算潮流**資料記錄表。

本章第 2 節海流年報資料處理之統計表包括：

1. 2019 年**各觀測站**每月**觀測**流速及流向重要統計量統計表。
2. 2019 年**各觀測站**每月**計算潮流**流速及流向重要統計量統計表。
3. 2019 年**各觀測站**每月**計算殘(餘)流**流速及流向重要統計量統計表。

本章第 3 節海流年報資料處理之統計圖包括：

1. 2019 年**各觀測站**之**觀測海流**與**計算潮流**歷線比較圖。
2. 2019 年**各觀測站**之**觀測海流**與**計算殘(餘)流**歷線比較圖。

本章第 4 節海流年報資料處理之統計圖包括:2019 年各觀測站之觀測海流、計算潮流及計算殘流等 3 個向量分佈圖。

本章第 5 節海流年報資料處理之統計圖包括:2019 年各觀測站之觀測海流、計算潮流及計算殘流等 3 個向量行進圖。

表4.1.1a 2019年每月高雄海域各測站觀測海流資料紀錄表

海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域
年月/測站	X	Z										
2018/12 月	675(90.7%)	587(78.9%)	*	*	*	*	*	*	*	*	*	*
2019/ 1 月	691(92.9%)	595(80.0%)	*	*	*	*	*	*	*	*	*	*
2019/ 2 月	621(92.4%)	517(76.9%)	*	*	*	*	*	*	*	*	*	*
2019/ 3 月	675(90.7%)	585(78.6%)	*	*	*	*	*	*	*	*	*	*
2019/ 4 月	657(91.3%)	575(79.9%)	*	*	*	*	*	*	*	*	*	*
2019/ 5 月	683(91.8%)	553(74.3%)	*	*	*	*	*	*	*	*	*	*
2019/ 6 月	664(92.2%)	504(70.0%)	*	*	*	*	*	*	*	*	*	*
2019/ 7 月	717(96.4%)	426(57.3%)	*	*	*	*	*	*	*	*	*	*
2019/ 8 月	534(71.8%)	463(62.2%)	*	*	*	*	*	*	*	*	*	*
2019/ 9 月	270(37.5%)	399(55.4%)	*	*	*	*	*	*	*	*	*	*
2019/10 月	*	508(68.3%)	*	*	*	*	*	*	*	*	*	*
2019/11 月	*	537(74.6%)	*	*	*	*	*	*	*	*	*	*
2019/冬季	1987(92.0%)	1699(78.7%)	*	*	*	*	*	*	*	*	*	*
2019/春季	2015(91.3%)	1713(77.6%)	*	*	*	*	*	*	*	*	*	*
2019/夏季	1915(86.7%)	1393(63.1%)	*	*	*	*	*	*	*	*	*	*
2019/秋季	270(12.4%)	1444(66.1%)	*	*	*	*	*	*	*	*	*	*
2019/整年	6187(70.6%)	6249(71.3%)	*	*	*	*	*	*	*	*	*	*
起始年月	2018/12	2018/12	*	*	*	*	*	*	*	*	*	*
結束年月	2019/09	2019/11	*	*	*	*	*	*	*	*	*	*

表4.1.1b 2019年每月高雄海域計算潮流各測站資料紀錄表

海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域	高雄海域
年月/測站	X	Z										
2018/12月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 1月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 2月	672(100%)	672(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 3月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 4月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 5月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 6月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 7月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 8月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/ 9月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/10月	744(100%)	744(100%)	*	*	*	*	*	*	*	*	*	*
2019/11月	720(100%)	720(100%)	*	*	*	*	*	*	*	*	*	*
2019/冬季	2160(100%)	2160(100%)	*	*	*	*	*	*	*	*	*	*
2019/春季	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*	*
2019/夏季	2208(100%)	2208(100%)	*	*	*	*	*	*	*	*	*	*
2019/秋季	2184(100%)	2184(100%)	*	*	*	*	*	*	*	*	*	*
2019/整年	8760(100%)	8760(100%)	*	*	*	*	*	*	*	*	*	*
起始年月	2018/12	2018/12	*	*	*	*	*	*	*	*	*	*
結束年月	2019/11	2019/11	*	*	*	*	*	*	*	*	*	*

4.2 2019 年高雄海域各測站觀測海流與 計算潮流(殘流)統計量統計表

表 4.2.1a 2019 年高雄海域 X 站觀測流速及流向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	流速 平均值 (cm/s)	平均流 流速/流向 (cm/s)/(來向)	最大流 流速/流向 (cm/s)/(來向)	1/2節流 <25.7 (%)	1節流 ~51.4 (%)	2節流 ~103 (%)	大流 >103 (%)	流向 N~E (%)	流向 E~S (%)	流向 S~W (%)	流向 W~N (%)	主要流向 方向/百分比
1	2018/12	675(91%)	28.4	14.2/S	74.0/SSE	49.0	40.6	10.4	.0	4.7	43.4	27.9	24.0	SSE/21.6%
2	2019/01	691(93%)	26.7	14.9/S	71.4/SSE	52.7	39.7	7.7	.0	3.2	44.3	28.1	24.5	SSE/25.2%
3	2019/02	621(92%)	27.7	18.3/S	64.7/WSW	44.6	50.9	4.5	.0	3.4	39.6	44.1	12.9	SSE/21.4%
4	2019/03	675(91%)	24.3	12.2/SSW	73.4/WSW	57.2	38.8	4.0	.0	5.2	36.3	40.0	18.5	SSE/14.5%
5	2019/04	657(91%)	24.6	6.7/S	72.1/WSW	56.8	39.1	4.1	.0	13.7	35.6	30.0	20.7	SSE/14.0%
6	2019/05	683(92%)	24.6	7.6/SSW	76.2/SW	59.7	36.3	4.0	.0	14.3	24.5	39.4	21.8	S /12.0%
7	2019/06	664(92%)	25.8	10.5/W	92.7/NNW	56.9	35.8	7.2	.0	10.4	17.8	36.0	35.8	WSW/13.0%
8	2019/07	717(96%)	26.3	9.6/W	89.3/NNW	55.6	37.7	6.7	.0	9.6	18.8	34.6	37.0	NNW/14.4%
9	2019/08	534(72%)	31.3	11.8/W	125.6/NNW	42.7	47.0	9.6	.7	3.2	14.4	42.7	39.7	S /17.6%
10	2019/09	270(38%)	31.0	13.7/SSW	80.9/NNW	42.6	46.3	11.1	.0	1.9	24.4	47.8	25.9	S /17.8%
11	2019/10													
12	2019/11													
13	2019/冬	1987(92%)	27.6	15.7/S	74.0/SSE	48.9	43.5	7.6	.0	3.8	42.5	33.0	20.7	SSE/22.8%
14	2019/春	2015(91%)	24.5	8.7/SSW	76.2/SW	57.9	38.1	4.0	.0	11.1	32.1	36.5	20.3	S /13.2%
15	2019/夏	1915(87%)	27.5	10.4/W	125.6/NNW	52.5	39.6	7.7	.2	8.1	17.2	37.3	37.3	NNW/12.6%
16	2019/秋	270(12%)	31.0	13.7/SSW	80.9/NNW	42.6	46.3	11.1	.0	1.9	24.4	47.8	25.9	S /17.8%
17	2019/年	6187(71%)	26.7	9.4/SSW	125.6/NNW	52.7	40.6	6.6	.1	7.4	30.5	36.1	26.0	S /14.4%

表4.2.1b 2019年高雄海域 X 站潮流流速及流向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	流速 平均值 (cm/s)	平均流 流速/流向 (cm/s)/(來向)	最大流 流速/流向 (cm/s)/(來向)	1/2節流 <25.7 (%)	1節流 ~51.4 (%)	2節流 ~103 (%)	大流 >103 (%)	流向 N~E (%)	流向 E~S (%)	流向 S~W (%)	流向 W~N (%)	主要流向 方向/百分比
1	2018/12	744(100%)	13.4	9.4/SSW	38.3/S	90.2	9.8	.0	.0	.4	16.9	59.0	23.7	S /28.0%
2	2019/01	744(100%)	13.7	9.4/SSW	37.4/SSE	90.1	9.9	.0	.0	.0	20.6	54.3	25.1	S /21.9%
3	2019/02	672(100%)	13.4	9.4/SSW	33.7/SSE	92.1	7.9	.0	.0	.0	22.6	55.8	21.6	S /18.8%
4	2019/03	744(100%)	12.8	9.4/SSW	28.8/SSE	97.3	2.7	.0	.0	.0	22.3	60.1	17.6	W /18.1%
5	2019/04	720(100%)	12.5	9.4/SSW	30.0/S	96.3	3.8	.0	.0	.0	18.8	66.7	14.6	S /17.8%
6	2019/05	744(100%)	12.7	9.4/SSW	34.4/S	93.0	7.0	.0	.0	.4	16.8	66.5	16.3	S /25.3%
7	2019/06	720(100%)	13.5	9.4/SSW	37.7/S	89.7	10.3	.0	.0	.6	17.8	58.5	23.2	S /26.3%
8	2019/07	744(100%)	14.0	9.4/SSW	38.6/S	89.0	11.0	.0	.0	.0	20.0	53.0	27.0	S /22.6%
9	2019/08	744(100%)	13.5	9.5/SSW	36.7/SSE	91.8	8.2	.0	.0	.0	22.7	56.6	20.7	W /18.7%
10	2019/09	720(100%)	12.7	9.5/SSW	28.4/SSE	97.8	2.2	.0	.0	.0	22.6	61.4	16.0	WSW/18.2%
11	2019/10	744(100%)	12.6	9.5/SSW	31.1/S	96.4	3.6	.0	.0	.4	19.6	64.4	15.6	S /20.0%
12	2019/11	720(100%)	13.0	9.4/SSW	35.2/S	91.5	8.5	.0	.0	.7	18.1	63.1	18.2	S /25.4%
13	2019/冬	2160(100%)	13.5	9.4/SSW	38.3/S	90.7	9.3	.0	.0	.1	20.0	56.4	23.5	S /23.0%
14	2019/春	2208(100%)	12.6	9.4/SSW	34.4/S	95.5	4.5	.0	.0	.1	19.3	64.4	16.2	S /19.7%
15	2019/夏	2208(100%)	13.7	9.4/SSW	38.6/S	90.2	9.8	.0	.0	.2	20.2	56.0	23.6	S /22.3%
16	2019/秋	2184(100%)	12.8	9.5/SSW	35.2/S	95.2	4.8	.0	.0	.4	20.1	63.0	16.6	S /20.5%
17	2019/年	8760(100%)	13.1	9.4/SSW	38.6/S	92.9	7.1	.0	.0	.2	19.9	59.9	20.0	S /21.4%

表 4.2.1c 2019 年高雄海域 X 站殘流流速及流向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	流速 平均值 (cm/s)	平均流 流速/流向 (cm/s)/(來向)	最大流 流速/流向 (cm/s)/(來向)	1/2節流 <25.7 (%)	1節流 ~51.4 (%)	2節流 ~103 (%)	大流 >103 (%)	流向 N~E (%)	流向 E~S (%)	流向 S~W (%)	流向 W~N (%)	主要流向 方向/百分比
1	2018/12	675(91%)	22.3	7.4/SSE	62.8/SSE	62.4	35.4	2.2	.0	19.4	45.9	15.1	19.6	SSE/14.1%
2	2019/01	691(93%)	19.7	8.0/SSE	62.8/SW	72.4	26.6	1.0	.0	20.4	51.2	14.2	14.2	SSE/20.1%
3	2019/02	621(92%)	21.8	10.5/SSE	59.4/SE	66.8	32.2	1.0	.0	13.4	50.6	24.6	11.4	SSE/19.6%
4	2019/03	675(91%)	18.9	3.4/SSE	61.7/WSW	76.9	22.4	.7	.0	24.1	34.7	24.0	17.2	SSE/11.7%
5	2019/04	657(91%)	20.8	5.4/ENE	64.0/N	72.3	25.4	2.3	.0	30.7	37.6	14.2	17.5	SE /11.3%
6	2019/05	683(92%)	19.6	1.9/NNE	64.9/WSW	73.5	25.0	1.5	.0	28.8	25.0	23.0	23.1	N /10.2%
7	2019/06	664(92%)	23.5	11.0/NNW	86.2/NNW	61.7	33.3	5.0	.0	22.9	13.1	14.8	49.2	NNW/17.3%
8	2019/07	717(96%)	23.1	10.4/NNW	80.2/NNE	64.9	29.8	5.3	.0	23.6	15.3	17.3	43.8	NNW/16.0%
9	2019/08	534(72%)	27.6	9.1/NW	126.6/NNW	57.5	33.7	7.5	1.3	12.7	20.0	27.0	40.3	NNW/18.4%
10	2019/09	270(38%)	25.3	4.5/SW	80.7/NNW	56.3	39.3	4.4	.0	8.9	28.5	35.2	27.4	NNW/11.9%
11	2019/10													
12	2019/11													
13	2019/冬	1987(92%)	21.3	8.5/SSE	62.8/SSE	67.2	31.4	1.4	.0	17.9	49.2	17.8	15.1	SSE/17.9%
14	2019/春	2015(91%)	19.7	2.3/E	64.9/WSW	74.2	24.3	1.5	.0	27.9	32.4	20.4	19.3	N / 9.6%
15	2019/夏	1915(87%)	24.5	10.1/NW	126.6/NNW	61.7	32.1	5.8	.4	20.3	15.9	19.1	44.7	NNW/17.1%
16	2019/秋	270(12%)	25.3	4.5/SW	80.7/NNW	56.3	39.3	4.4	.0	8.9	28.5	35.2	27.4	NNW/11.9%
17	2019/年	6187(71%)	22.0	.1/SE	126.6/NNW	67.3	29.6	2.9	.1	21.5	32.5	19.8	26.2	SSE/10.3%

表 4.2.2a 2019 年高雄海域 Z 站觀測流速及流向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	流速 平均值 (cm/s)	平均流 流速/流向 (cm/s)/(來向)	最大流 流速/流向 (cm/s)/(來向)	1/2節流 <25.7 (%)	1節流 ~51.4 (%)	2節流 ~103 (%)	大流 >103 (%)	流向 N~E (%)	流向 E~S (%)	流向 S~W (%)	流向 W~N (%)	主要流向 方向/百分比
1	2018/12	587(79%)	27.4	1.9/SE	74.4/S	51.8	37.5	10.7	.0	19.6	38.3	15.7	26.4	S /22.8%
2	2019/01	595(80%)	27.6	6.4/SE	85.1/NNW	51.8	38.5	9.7	.0	27.2	48.7	7.9	16.1	SSE/22.4%
3	2019/02	517(77%)	30.2	2.4/E	81.2/N	46.0	40.0	13.9	.0	22.1	39.5	10.6	27.9	N /22.2%
4	2019/03	585(79%)	25.7	4.8/S	80.1/S	53.8	40.7	5.5	.0	16.6	36.9	17.4	29.1	S /29.1%
5	2019/04	575(80%)	28.6	3.5/SSW	87.4/S	50.1	34.8	15.1	.0	17.6	26.6	26.3	29.6	S /23.8%
6	2019/05	553(74%)	27.7	4.3/SSW	88.4/S	55.5	29.5	15.0	.0	19.5	20.3	31.6	28.6	S /25.5%
7	2019/06	504(70%)	27.0	2.1/WSW	93.9/S	60.5	24.6	14.9	.0	24.4	17.3	31.3	27.0	N /18.5%
8	2019/07	426(57%)	26.1	1.1/NW	96.0/S	58.0	29.3	12.7	.0	29.1	15.0	28.4	27.5	S /17.4%
9	2019/08	463(62%)	41.0	8.0/S	133.1/NNW	32.0	38.0	28.7	1.3	19.4	28.5	30.0	22.0	S /21.0%
10	2019/09	399(55%)	32.1	13.1/SSE	98.7/SSE	43.9	41.6	14.5	.0	14.8	41.6	24.1	19.5	S /20.8%
11	2019/10	508(68%)	23.6	1.7/NW	72.2/S	61.4	35.4	3.1	.0	19.3	21.7	28.3	30.7	N /21.1%
12	2019/11	537(75%)	23.1	10.9/NNW	87.5/N	64.4	27.4	8.2	.0	22.7	18.6	19.7	38.9	N /26.6%
13	2019/冬	1699(79%)	28.3	3.5/SE	85.1/NNW	50.0	38.6	11.4	.0	23.0	42.3	11.4	23.2	S /20.5%
14	2019/春	1713(78%)	27.3	4.0/SSW	88.4/S	53.1	35.1	11.8	.0	17.9	28.1	25.0	29.1	S /26.2%
15	2019/夏	1393(63%)	31.4	3.0/SSW	133.1/NNW	50.3	30.5	18.8	.4	24.2	20.3	30.0	25.5	S /18.9%
16	2019/秋	1444(66%)	25.8	.9/NNW	98.7/SSE	57.7	34.1	8.2	.0	19.3	26.0	24.0	30.7	N /20.8%
17	2019/年	6249(71%)	28.1	2.1/S	133.1/NNW	52.7	34.8	12.4	.1	21.0	29.7	22.2	27.1	S /21.1%

表 4.2.2b 2019 年高雄海域 Z 站潮流流速及流向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	流速 平均值 (cm/s)	平均流 流速/流向 (cm/s)/(來向)	最大流 流速/流向 (cm/s)/(來向)	1/2節流 <25.7 (%)	1節流 ~51.4 (%)	2節流 ~103 (%)	大流 >103 (%)	流向 N~E (%)	流向 E~S (%)	流向 S~W (%)	流向 W~N (%)	主要流向 方向/百分比
1	2018/12	744(100%)	8.0	2.1/S	22.8/S	100.0	.0	.0	.0	27.2	27.4	30.5	14.9	S /45.0%
2	2019/01	744(100%)	7.9	2.1/S	22.9/S	100.0	.0	.0	.0	30.4	28.2	27.6	13.8	S /44.8%
3	2019/02	672(100%)	7.9	2.0/S	21.8/S	100.0	.0	.0	.0	34.1	30.7	24.7	10.6	S /44.3%
4	2019/03	744(100%)	7.5	2.1/S	20.5/S	100.0	.0	.0	.0	30.9	34.8	21.4	12.9	S /46.1%
5	2019/04	720(100%)	7.6	2.0/S	20.3/S	100.0	.0	.0	.0	27.6	32.1	24.6	15.7	S /45.8%
6	2019/05	744(100%)	7.8	2.1/S	21.1/S	100.0	.0	.0	.0	24.1	29.8	28.5	17.6	S /45.7%
7	2019/06	720(100%)	8.0	2.1/S	21.1/S	100.0	.0	.0	.0	26.8	27.1	30.3	15.8	S /44.6%
8	2019/07	744(100%)	8.2	2.1/S	22.1/S	100.0	.0	.0	.0	32.3	28.1	28.1	11.6	S /43.8%
9	2019/08	744(100%)	8.1	2.1/S	22.4/S	100.0	.0	.0	.0	34.1	30.6	25.4	9.8	S /44.6%
10	2019/09	720(100%)	7.9	2.1/S	20.4/S	100.0	.0	.0	.0	32.1	32.1	23.9	11.9	S /45.3%
11	2019/10	744(100%)	8.0	2.0/S	21.2/S	100.0	.0	.0	.0	27.4	31.2	25.5	15.9	S /46.2%
12	2019/11	720(100%)	8.0	2.1/S	21.6/S	100.0	.0	.0	.0	25.7	28.1	28.6	17.6	S /46.1%
13	2019/冬	2160(100%)	8.0	2.1/S	22.9/S	100.0	.0	.0	.0	30.4	28.7	27.7	13.2	S /44.7%
14	2019/春	2208(100%)	7.6	2.0/S	21.1/S	100.0	.0	.0	.0	27.5	32.2	24.8	15.4	S /45.9%
15	2019/夏	2208(100%)	8.1	2.1/S	22.4/S	100.0	.0	.0	.0	31.1	28.6	27.9	12.4	S /44.3%
16	2019/秋	2184(100%)	8.0	2.1/S	21.6/S	100.0	.0	.0	.0	28.4	30.4	26.0	15.2	S /45.9%
17	2019/年	8760(100%)	7.9	2.1/S	22.9/S	100.0	.0	.0	.0	29.4	30.0	26.6	14.0	S /45.2%

表 4.2.2c 2019 年高雄海域 Z 站殘流流速及流向重要統計量統計表

序 號	日期 (年/月)	觀測 點數	流速 平均值 (cm/s)	平均流 流速/流向 (cm/s)/(來向)	最大流 流速/流向 (cm/s)/(來向)	1/2節流 <25.7 (%)	1節流 ~51.4 (%)	2節流 ~103 (%)	大流 >103 (%)	流向 N~E (%)	流向 E~S (%)	流向 S~W (%)	流向 W~N (%)	主要流向 方向/百分比
1	2018/12	587(79%)	26.0	1.1/ENE	70.5/N	56.2	34.9	8.9	.0	21.1	35.1	15.8	27.9	S /19.8%
2	2019/01	595(80%)	25.4	5.0/ESE	75.8/N	57.1	37.3	5.5	.0	27.9	46.2	7.7	18.2	SSE/19.8%
3	2019/02	517(77%)	29.7	2.6/NE	78.4/N	48.2	39.7	12.2	.0	24.0	36.0	12.0	28.0	N /20.9%
4	2019/03	585(79%)	25.4	2.7/S	71.2/S	54.5	40.9	4.6	.0	16.8	35.6	17.9	29.7	S /24.4%
5	2019/04	575(80%)	28.7	1.7/SW	82.3/SSE	51.0	35.7	13.4	.0	20.0	24.5	24.3	31.1	S /20.3%
6	2019/05	553(74%)	27.0	3.0/SW	91.1/S	55.9	32.7	11.4	.0	20.4	17.0	28.6	34.0	S /21.5%
7	2019/06	504(70%)	26.7	2.4/WNW	99.6/S	57.7	30.8	11.5	.0	24.6	15.3	27.6	32.5	N /20.4%
8	2019/07	426(57%)	25.7	2.8/NNW	101.5/S	61.5	28.2	10.3	.0	28.9	14.8	24.2	32.2	N /20.4%
9	2019/08	463(62%)	40.0	5.6/S	139.9/NNW	33.7	36.7	28.1	1.5	19.4	27.4	26.8	26.3	S /20.3%
10	2019/09	399(55%)	31.0	11.2/SSE	99.0/SSE	46.6	39.1	14.3	.0	14.5	40.9	23.1	21.6	S /18.3%
11	2019/10	508(68%)	24.5	3.4/NNW	73.3/S	57.1	38.2	4.7	.0	18.3	21.9	24.2	35.6	N /21.7%
12	2019/11	537(75%)	24.8	13.1/N	89.2/N	61.8	26.1	12.1	.0	20.7	18.2	17.9	43.2	N /31.1%
13	2019/冬	1699(79%)	26.9	2.6/E	78.4/N	54.1	37.2	8.7	.0	24.4	39.3	11.8	24.5	N /19.4%
14	2019/春	1713(78%)	27.0	2.2/SSW	91.1/S	53.8	36.5	9.7	.0	19.0	25.9	23.5	31.6	S /22.1%
15	2019/夏	1393(63%)	30.8	1.4/WSW	139.9/NNW	50.9	31.9	16.7	.5	24.2	19.2	26.3	30.4	N /19.4%
16	2019/秋	1444(66%)	26.4	2.9/N	99.0/SSE	56.0	33.9	10.1	.0	18.1	25.8	21.5	34.6	N /22.6%
17	2019/年	6249(71%)	27.7	.1/N	139.9/NNW	53.7	35.1	11.1	.1	21.4	28.0	20.5	30.1	N /20.1%

4.3 2019 年高雄海域各測站觀測海流與 計算潮流(殘流)歷線比較圖

Current Speed in Kao-Hsiung Harbor of KHX0 at 2019

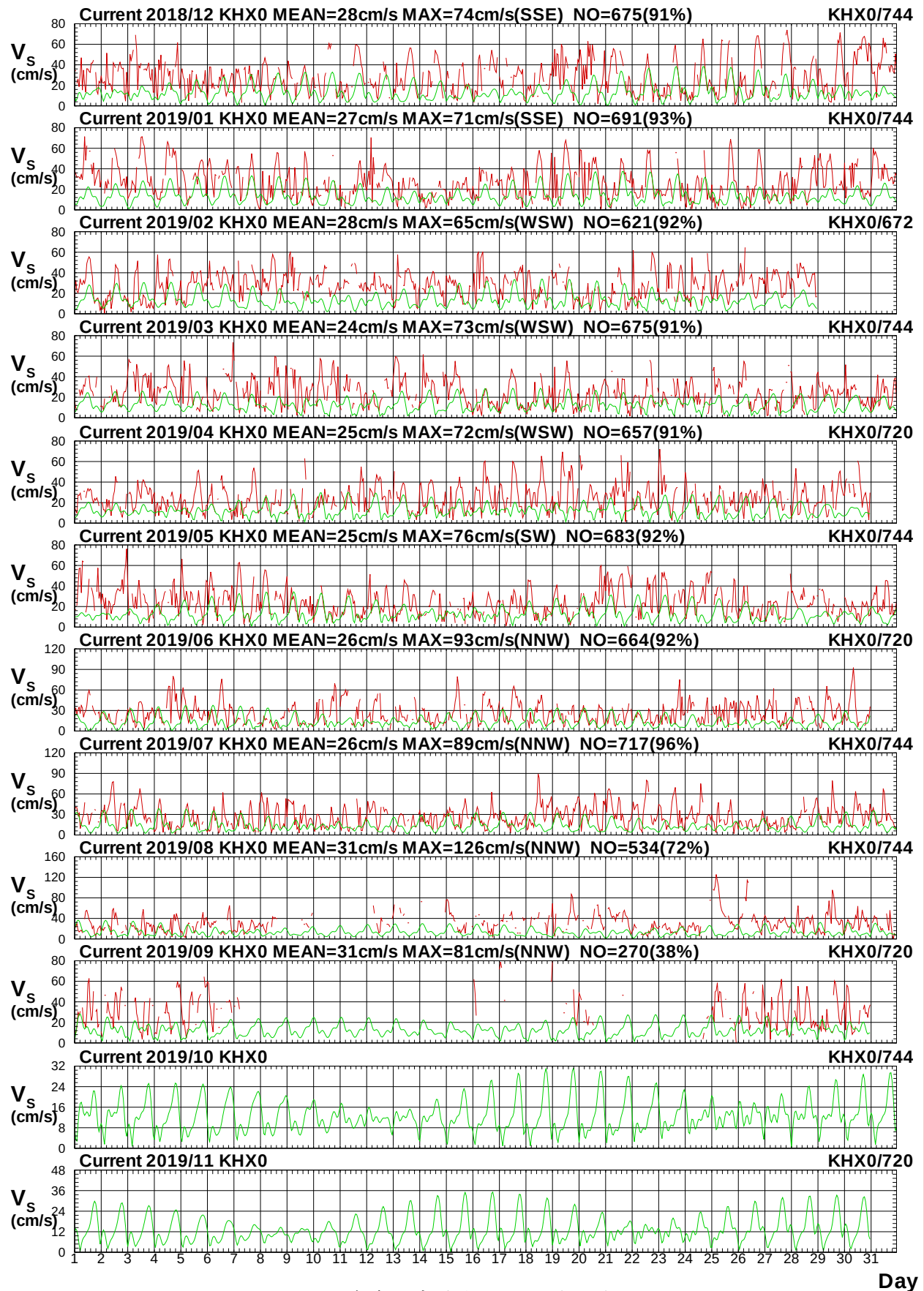


圖4.3.1a 2019年每月高雄海域 X 站觀測與潮流流速比較圖

C18CKHX0.1H0 C18CKHX0.1HD C191KHX0.1H0 C191KHX0.1HD C192KHX0.1H0 C192KHX0.1HD
C193KHX0.1H0 C193KHX0.1HD C194KHX0.1H0 C194KHX0.1HD C195KHX0.1H0 C195KHX0.1HD

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Current Direction in Kao-Hsiung Harbor of KHX0 at 2019

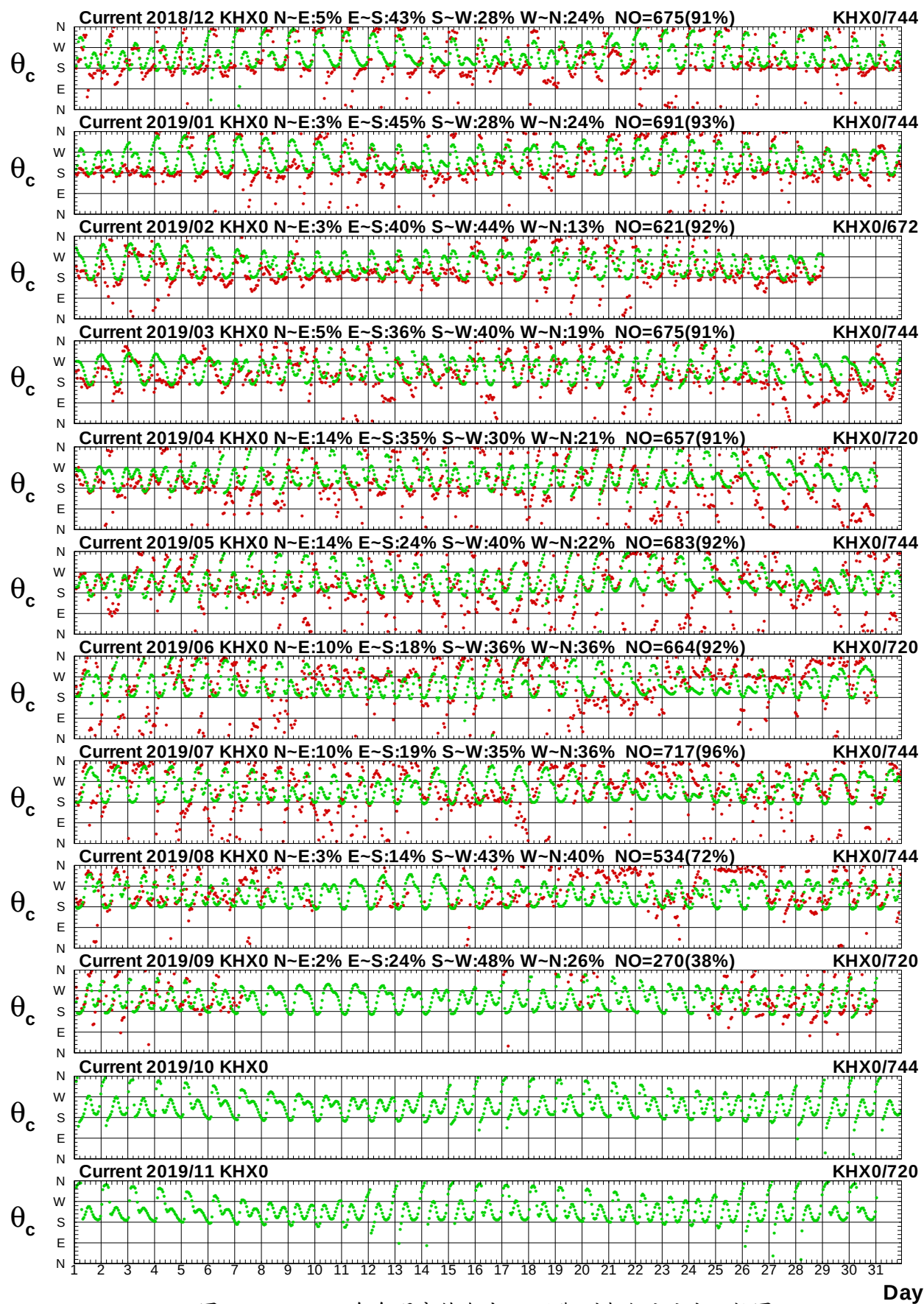


圖4.3.1b 2019年每月高雄海域 X 站觀測與潮流流向比較圖

C18CKHX0.1H0 C18CKHX0.1HD C191KHX0.1H0 C191KHX0.1HD C192KHX0.1H0 C192KHX0.1HD
C193KHX0.1H0 C193KHX0.1HD C194KHX0.1H0 C194KHX0.1HD C195KHX0.1H0 C195KHX0.1HD

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Current Speed in Kao-Hsiung Harbor of KHX0 at 2019

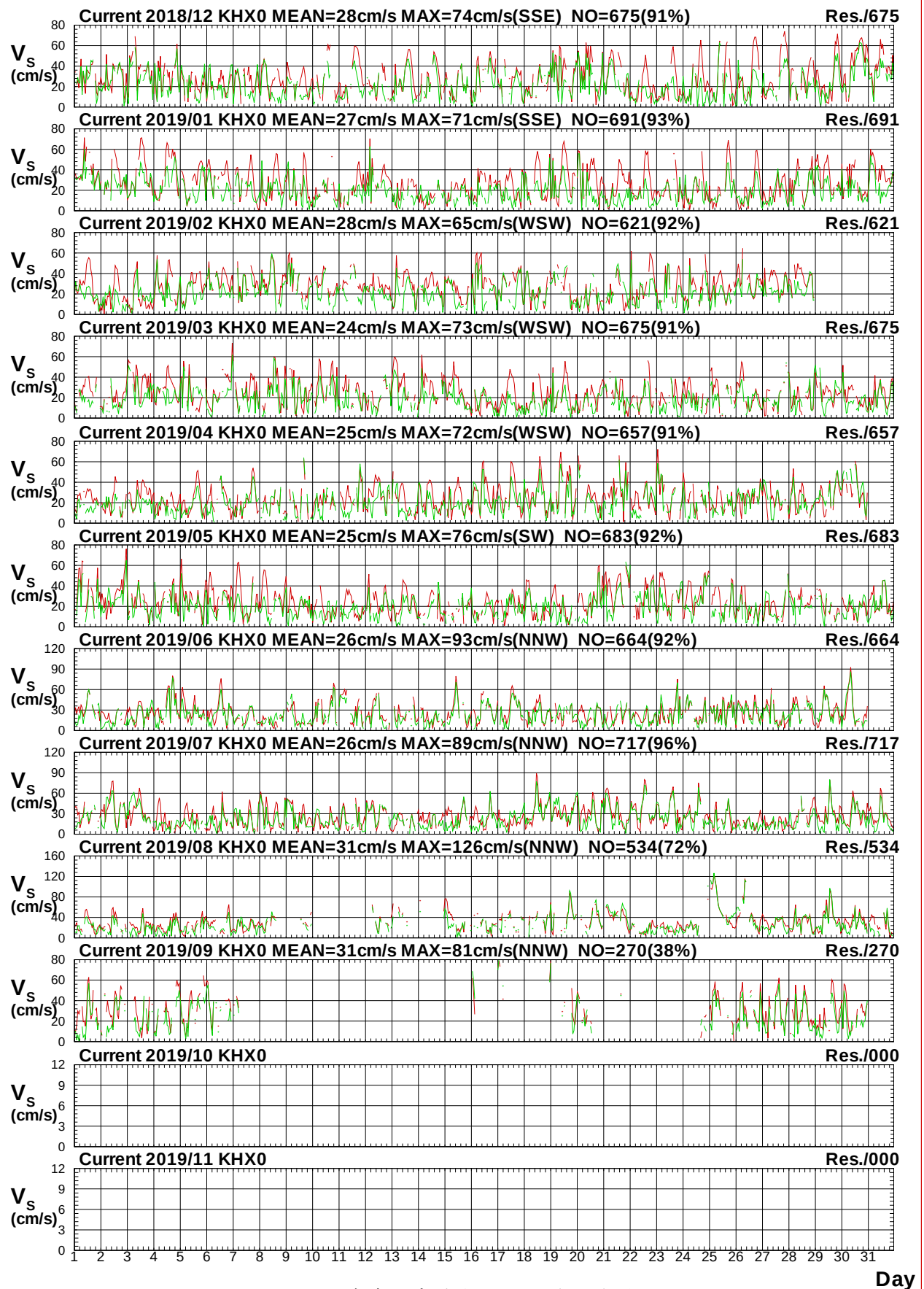


圖4.3.2a 2019年每月高雄海域 X 站觀測與殘流流速比較圖

C18CKHX0.1H0 C18CKHX0.1HR C191KHX0.1H0 C191KHX0.1HR C192KHX0.1H0 C192KHX0.1HR
C193KHX0.1H0 C193KHX0.1HR C194KHX0.1H0 C194KHX0.1HR C195KHX0.1H0 C195KHX0.1HR

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Current Direction in Kao-Hsiung Harbor of KHX0 at 2019

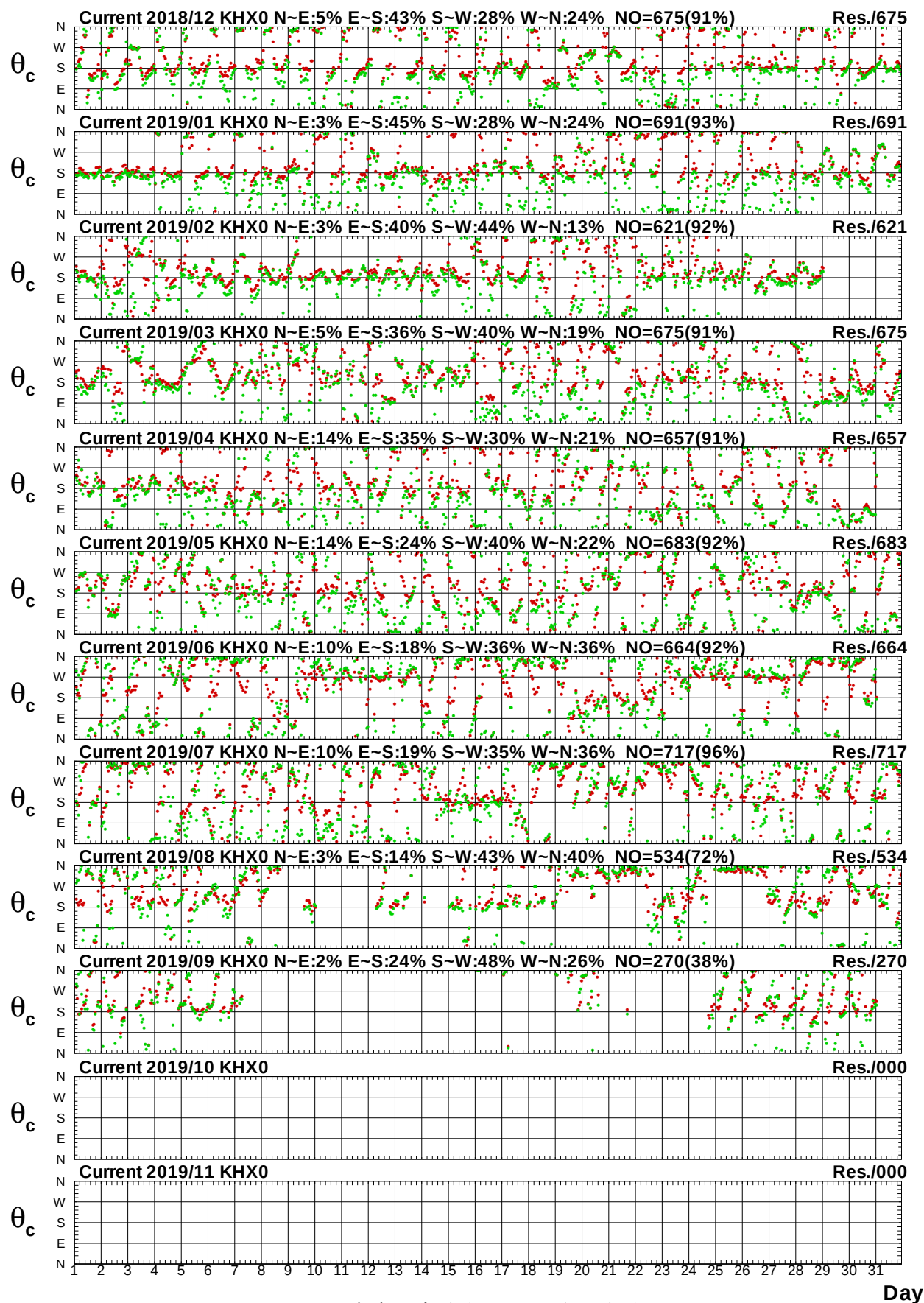


圖4.3.2b 2019年每月高雄海域 X 站觀測與殘流流向比較圖

C18CKHX0.1H0 C18CKHX0.1HR C191KHX0.1H0 C191KHX0.1HR C192KHX0.1H0 C192KHX0.1HR
C193KHX0.1H0 C193KHX0.1HR C194KHX0.1H0 C194KHX0.1HR C195KHX0.1H0 C195KHX0.1HR

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Current Speed in Kao-Hsiung Harbor of KHZ0 at 2019

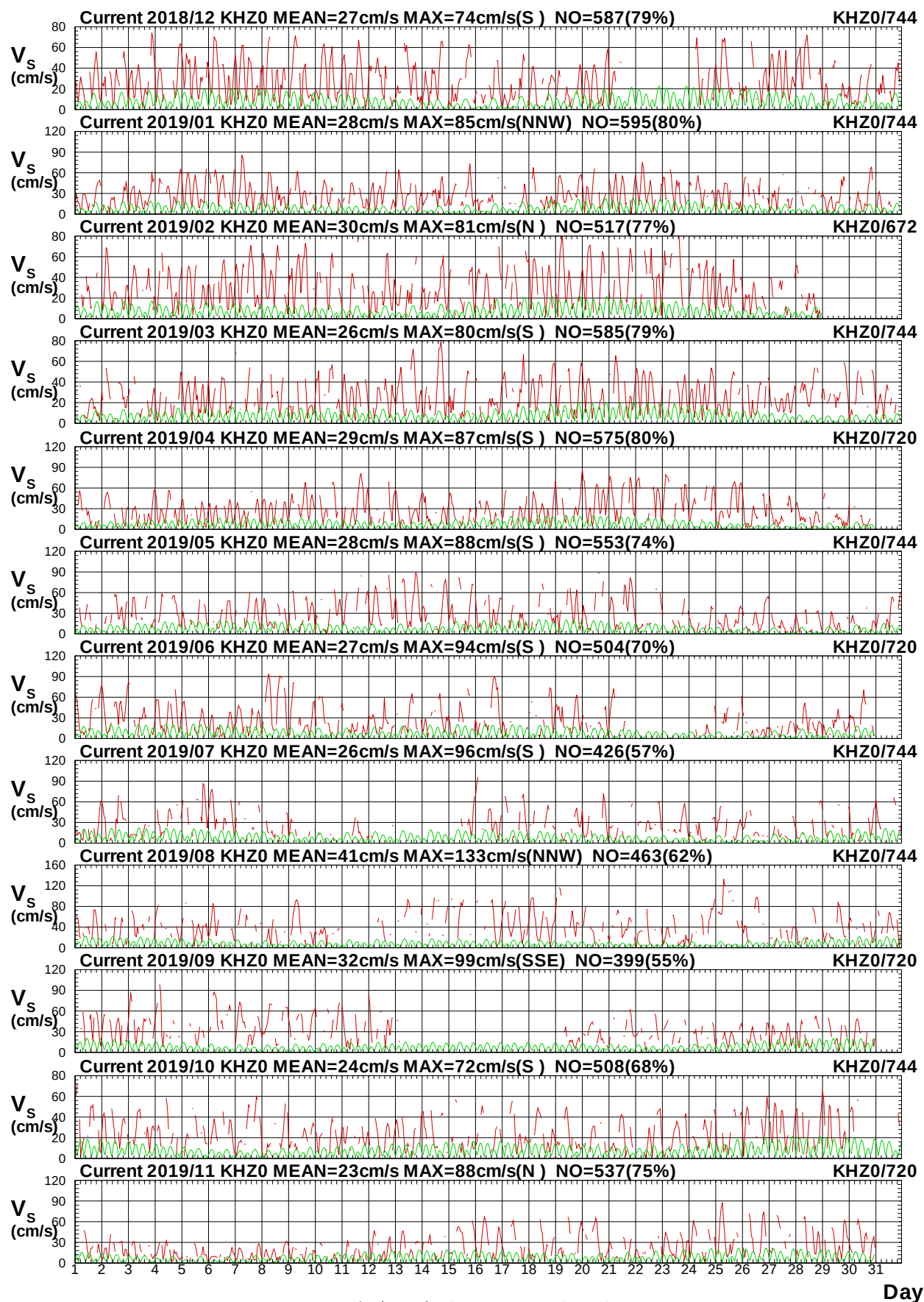


圖4.3.3a 2019年每月高雄海域 Z 站觀測與潮流流速比較圖

C18CKHZ0.1H0 C18CKHZ0.1HD C191KHZ0.1H0 C191KHZ0.1HD C192KHZ0.1H0 C192KHZ0.1HD
C193KHZ0.1H0 C193KHZ0.1HD C194KHZ0.1H0 C194KHZ0.1HD C195KHZ0.1H0 C195KHZ0.1HD

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Current Direction in Kao-Hsiung Harbor of KHZ0 at 2019

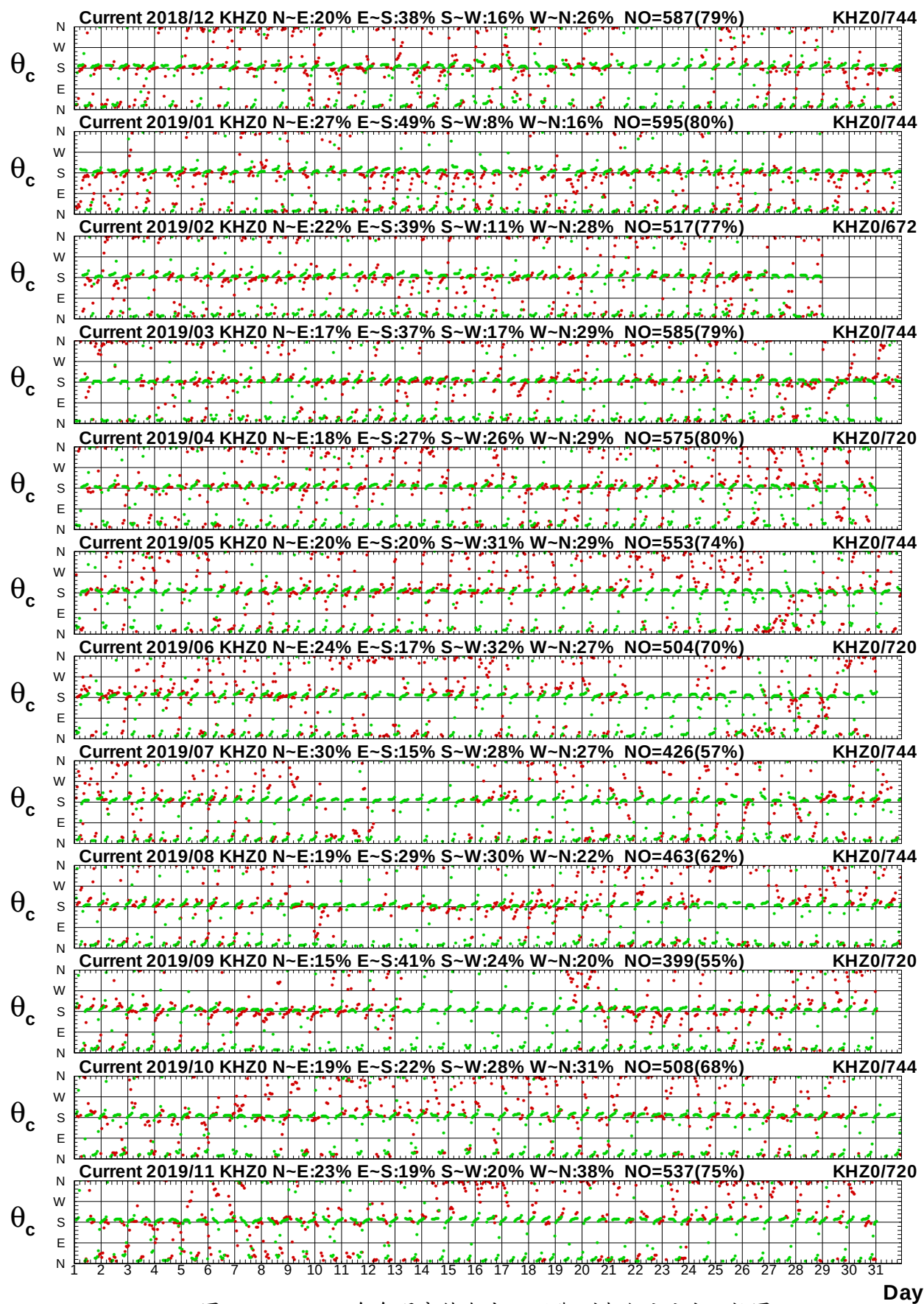


圖4.3.3b 2019年每月高雄海域 Z 站觀測與潮流流向比較圖

C18CKHZ0.1H0 C18CKHZ0.1HD C191KHZ0.1H0 C191KHZ0.1HD C192KHZ0.1H0 C192KHZ0.1HD
C193KHZ0.1H0 C193KHZ0.1HD C194KHZ0.1H0 C194KHZ0.1HD C195KHZ0.1H0 C195KHZ0.1HD

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Current Speed in Kao-Hsiung Harbor of KHZ0 at 2019

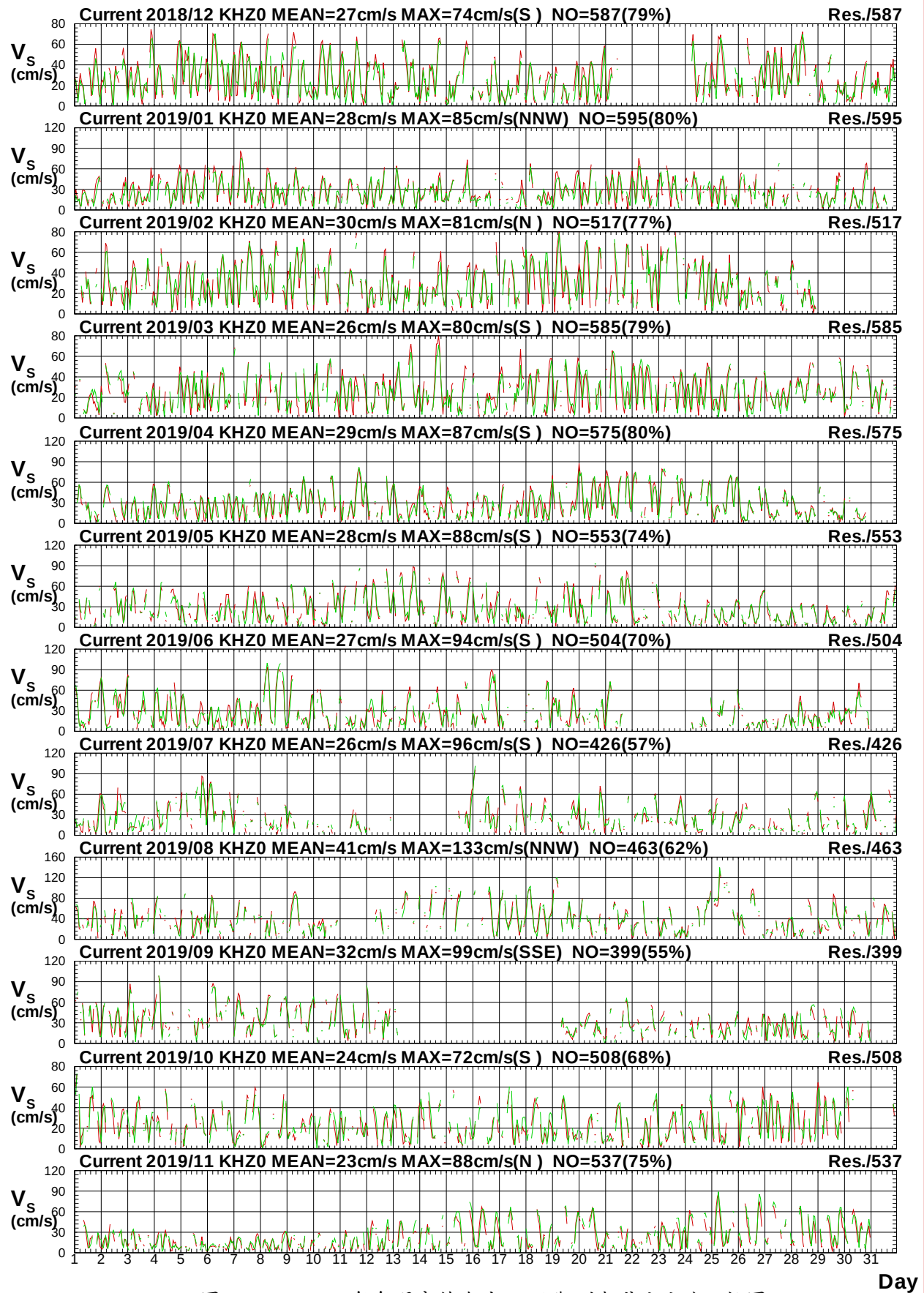


圖4.3.4a 2019年每月高雄海域 Z 站觀測與殘流流速比較圖

C18CKHZ0.1H0 C18CKHZ0.1HR C191KHZ0.1H0 C191KHZ0.1HR C192KHZ0.1H0 C192KHZ0.1HR
C193KHZ0.1H0 C193KHZ0.1HR C194KHZ0.1H0 C194KHZ0.1HR C195KHZ0.1H0 C195KHZ0.1HR

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Current Direction in Kao-Hsiung Harbor of KHZ0 at 2019

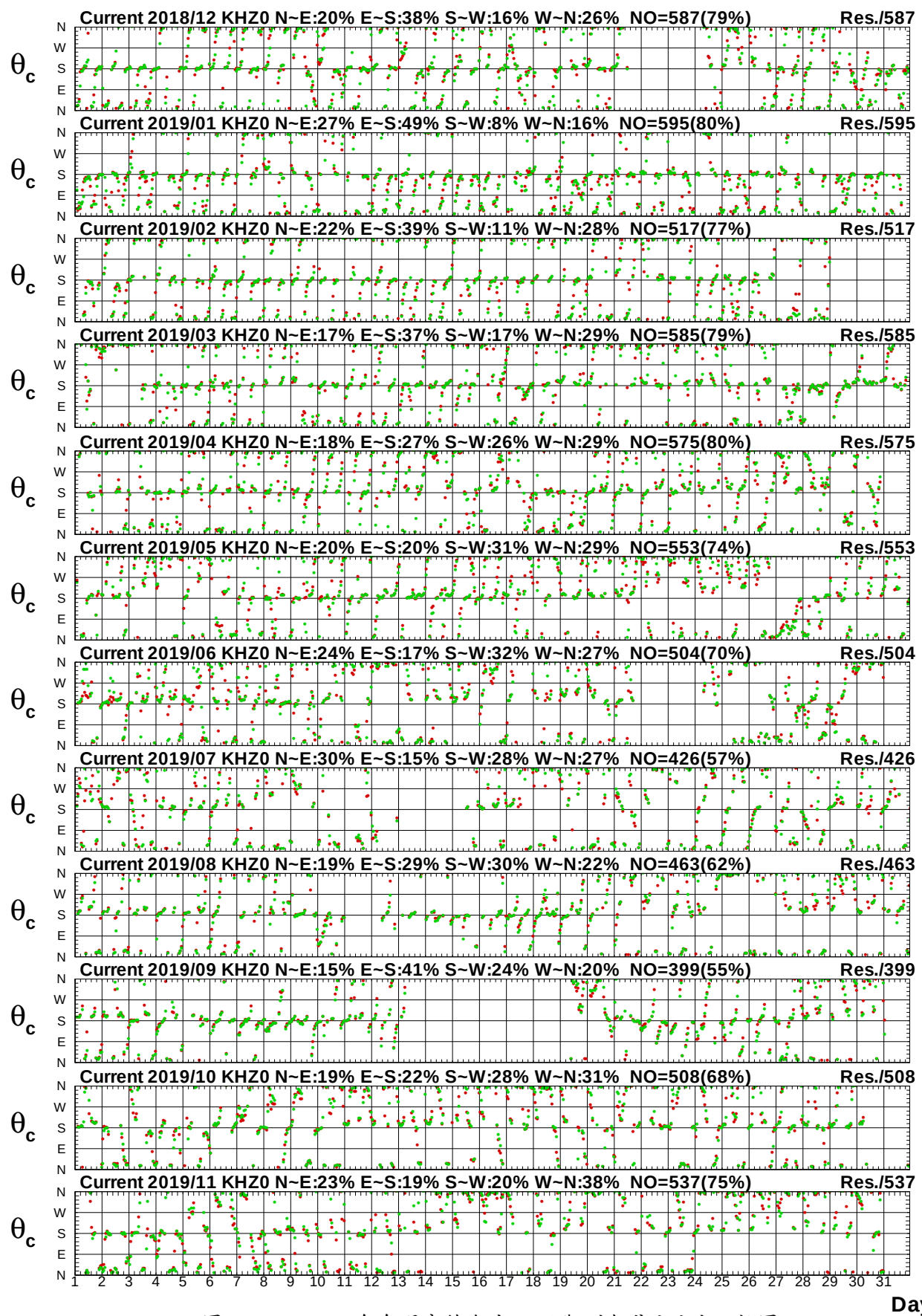


圖4.3.4b 2019年每月高雄海域 Z 站觀測與殘流流向比較圖

C18CKHZ0.1H0 C18CKHZ0.1HR C191KHZ0.1H0 C191KHZ0.1HR C192KHZ0.1H0 C192KHZ0.1HR
C193KHZ0.1H0 C193KHZ0.1HR C194KHZ0.1H0 C194KHZ0.1HR C195KHZ0.1H0 C195KHZ0.1HR

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4.4 2019 年高雄海域各測站觀測海流與 計算潮流(殘流)向量分佈圖

Distribution of Current Vectors

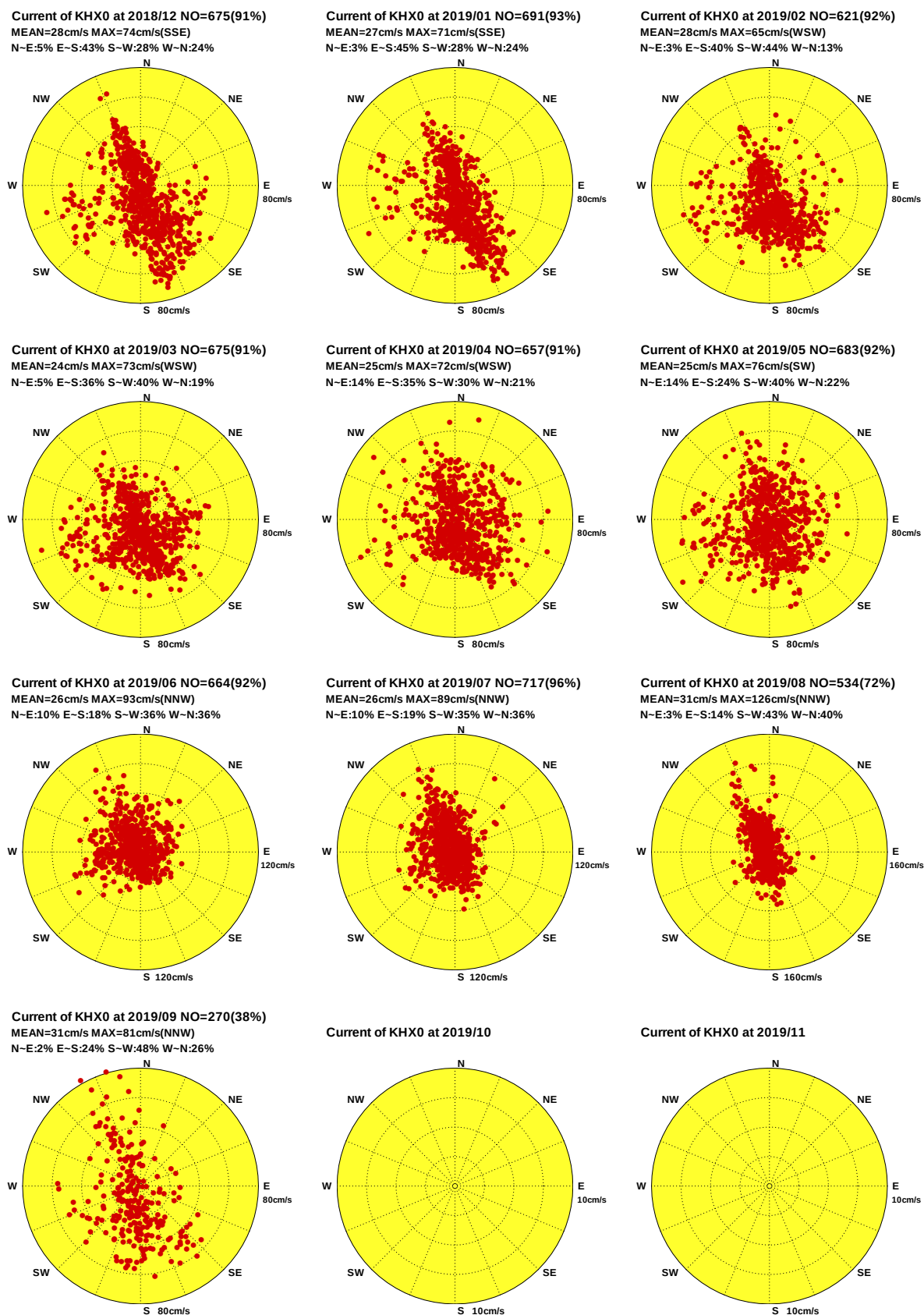


圖4.4.1a 2019年高雄海域每月測站 X 觀測海流向量分佈圖

C18CKHX0.1H0 C191KHX0.1H0 C192KHX0.1H0 C193KHX0.1H0 C194KHX0.1H0 C195KHX0.1H0
 C196KHX0.1H0 C197KHX0.1H0 C198KHX0.1H0 C199KHX0.1H0 C19AKHX0.1H0 C19BKHX0.1H0

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Distribution of Current Vectors

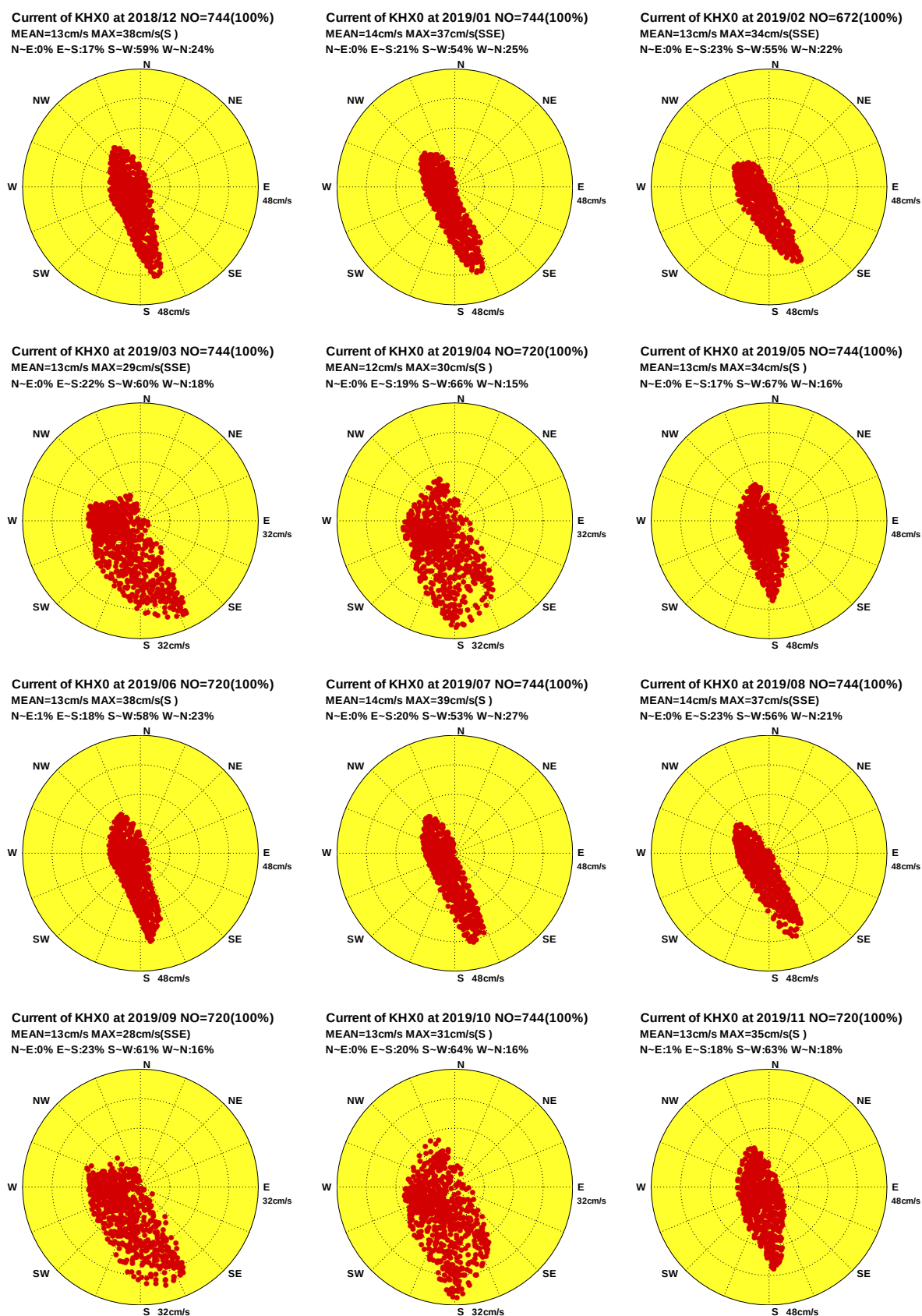


圖4.4.1b 2019年高雄海域每月測站 X 計算潮流向量分佈圖

C18CKHX0.1HD C191KHX0.1HD C192KHX0.1HD C193KHX0.1HD C194KHX0.1HD C195KHX0.1HD
C196KHX0.1HD C197KHX0.1HD C198KHX0.1HD C199KHX0.1HD C19AKHX0.1HD C19BKHX0.1HD

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Distribution of Current Vectors

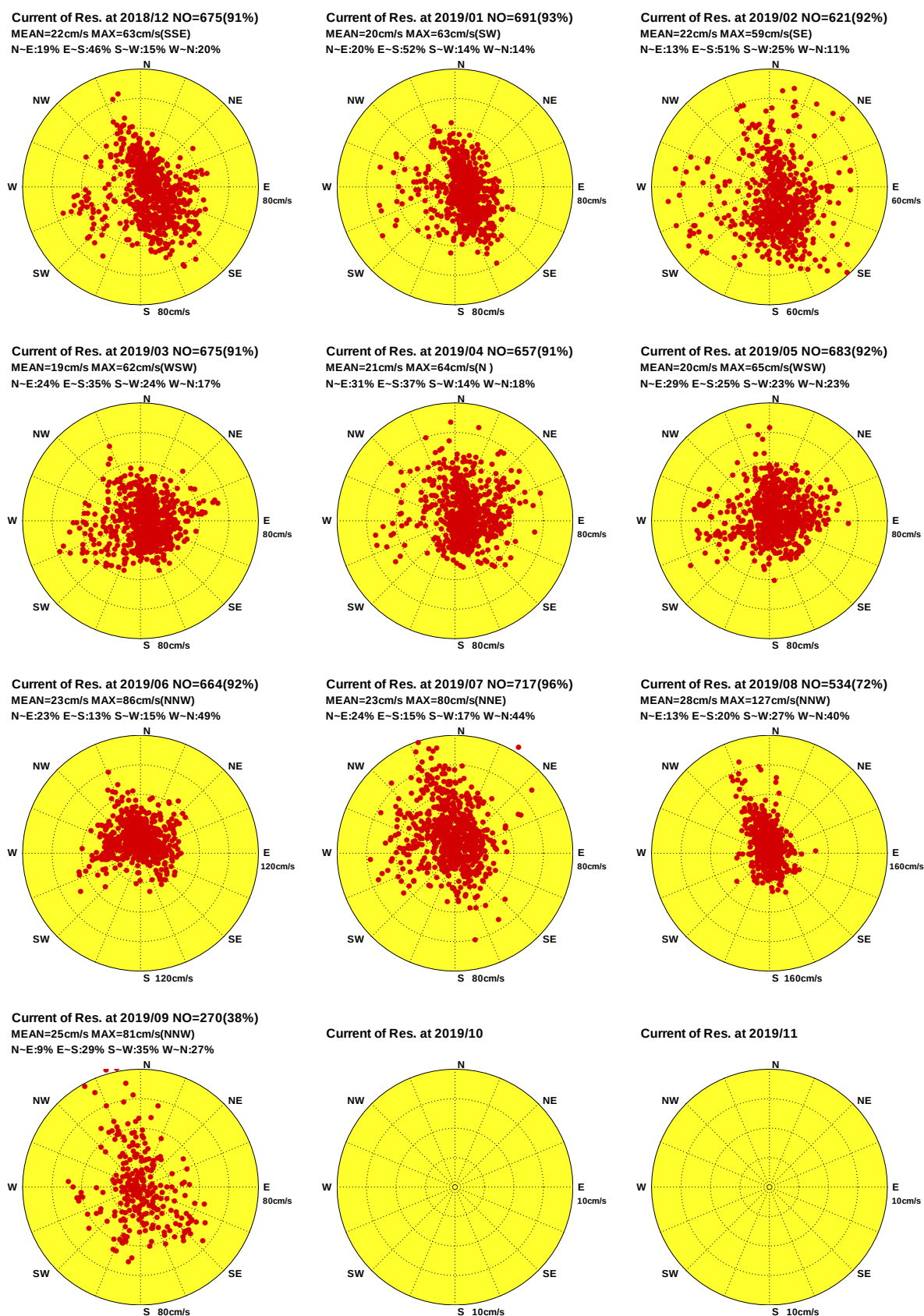


圖4.4.1c 2019年高雄海域每月測站 X 計算殘流向量分佈圖

C18CKHX0.1HR C191KHX0.1HR C192KHX0.1HR C193KHX0.1HR C194KHX0.1HR C195KHX0.1HR
C196KHX0.1HR C197KHX0.1HR C198KHX0.1HR C199KHX0.1HR C19AKHX0.1HR C19BKHX0.1HR

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Distribution of Current Vectors

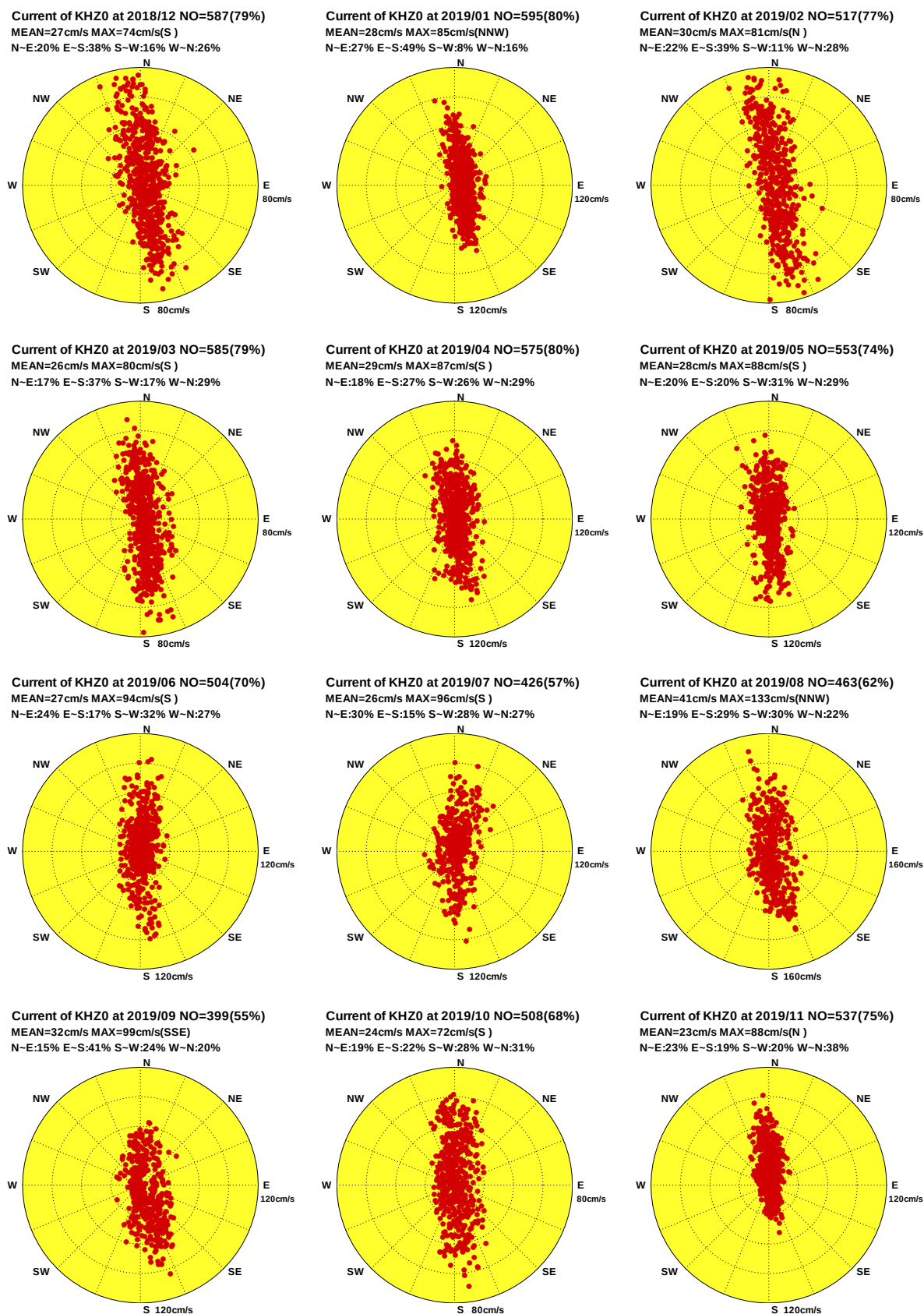


圖4.4.2a 2019年高雄海域每月測站 Z 觀測海流向量分佈圖

C18CKHZ0.1H0 C191KHZ0.1H0 C192KHZ0.1H0 C193KHZ0.1H0 C194KHZ0.1H0 C195KHZ0.1H0
 C196KHZ0.1H0 C197KHZ0.1H0 C198KHZ0.1H0 C199KHZ0.1H0 C19AKHZ0.1H0 C19BKHZ0.1H0

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Distribution of Current Vectors

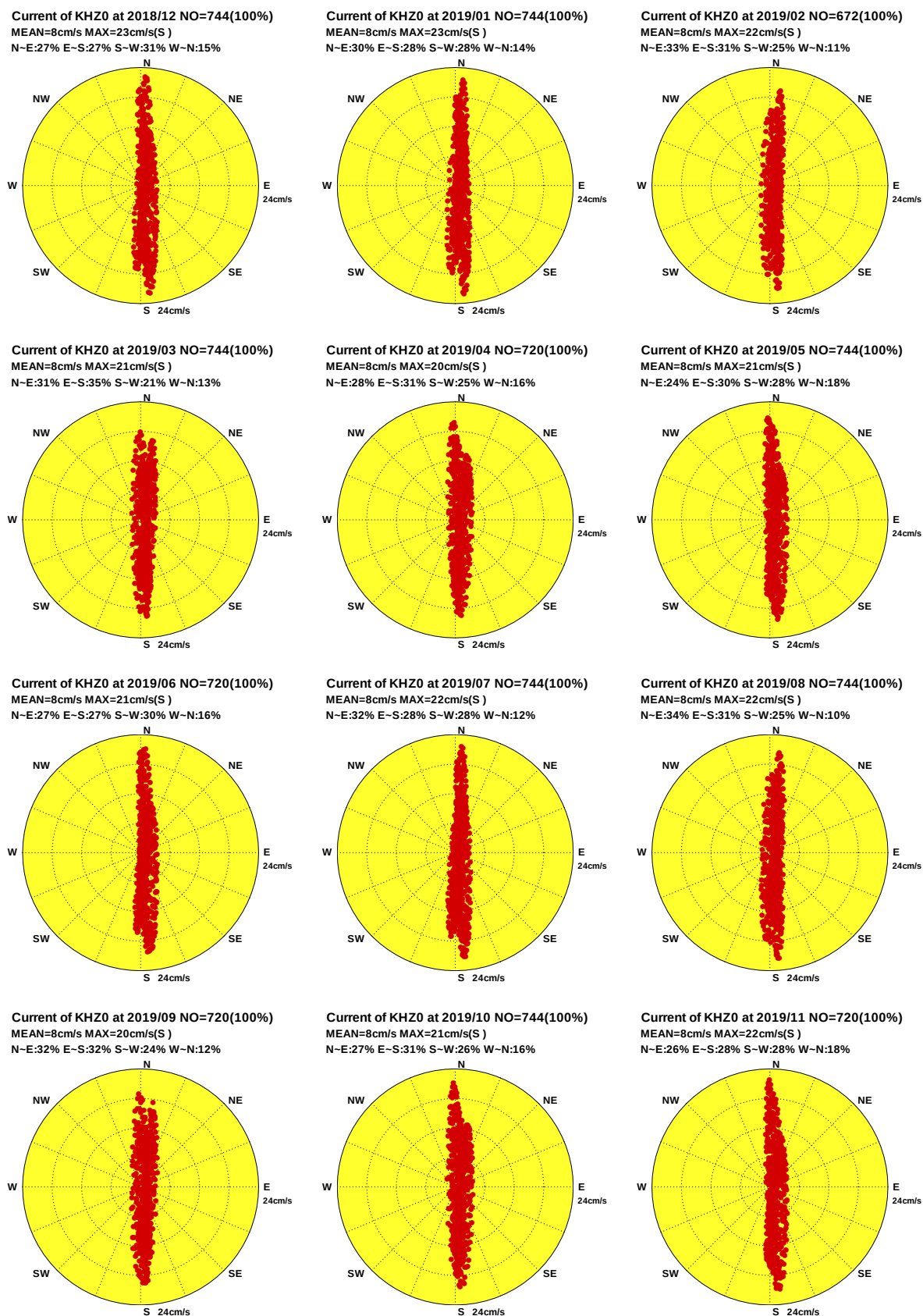


圖4.4.2b 2019年高雄海域每月測站 Z 計算潮流向量分佈圖

C18CKHZ0.1HD C191KHZ0.1HD C192KHZ0.1HD C193KHZ0.1HD C194KHZ0.1HD C195KHZ0.1HD
C196KHZ0.1HD C197KHZ0.1HD C198KHZ0.1HD C199KHZ0.1HD C19AKHZ0.1HD C19BKHZ0.1HD

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Distribution of Current Vectors

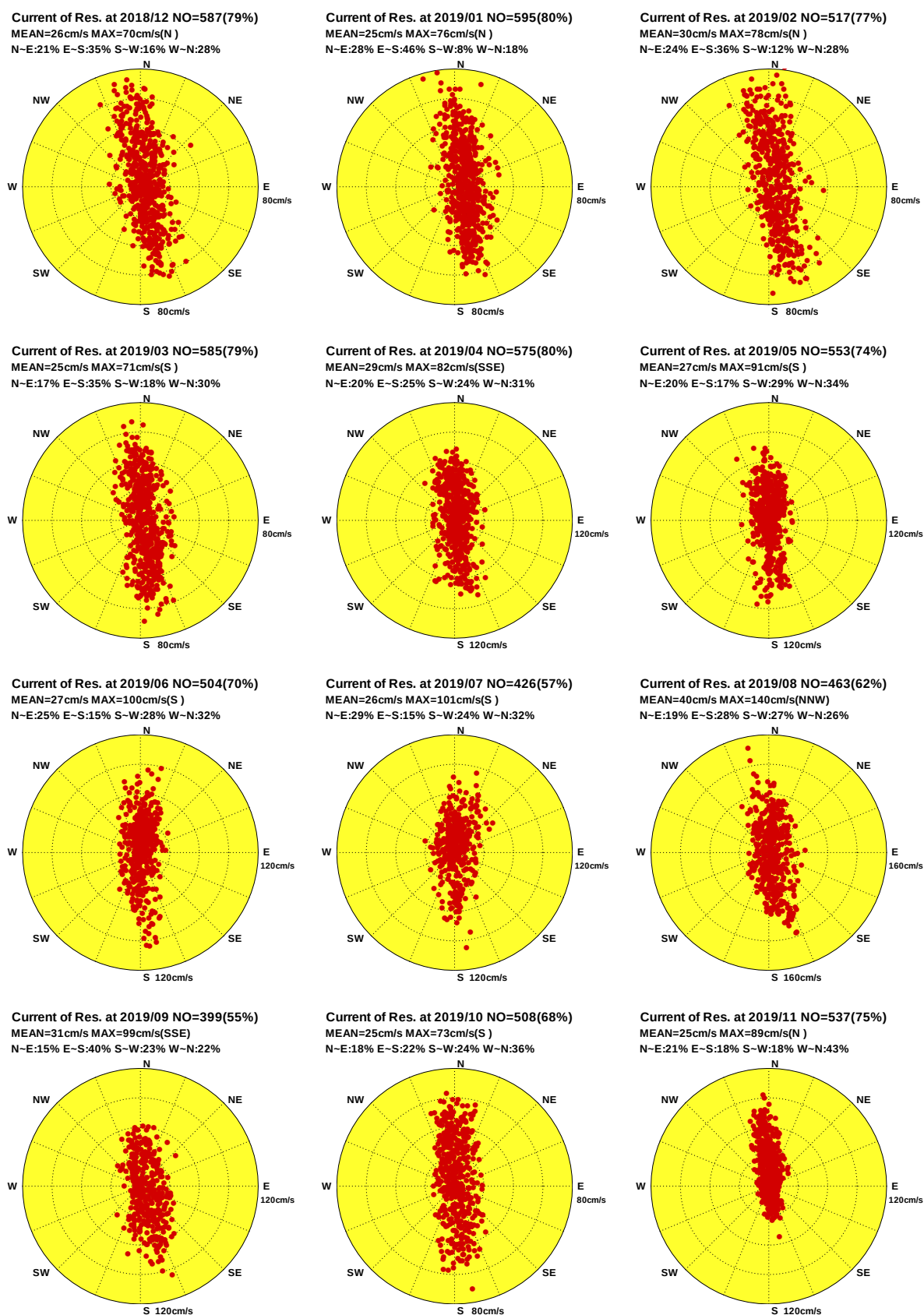


圖4.4.2c 2019年高雄海域每月測站 Z 計算殘流向量分佈圖

C18CKHZ0.1HR C191KHZ0.1HR C192KHZ0.1HR C193KHZ0.1HR C194KHZ0.1HR C195KHZ0.1HR
C196KHZ0.1HR C197KHZ0.1HR C198KHZ0.1HR C199KHZ0.1HR C19AKHZ0.1HR C19BKHZ0.1HR

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4.5 2019 年高雄海域各測站觀測海流與 計算潮流(殘流)向量行進圖

Progressive Vector Diagram of Current

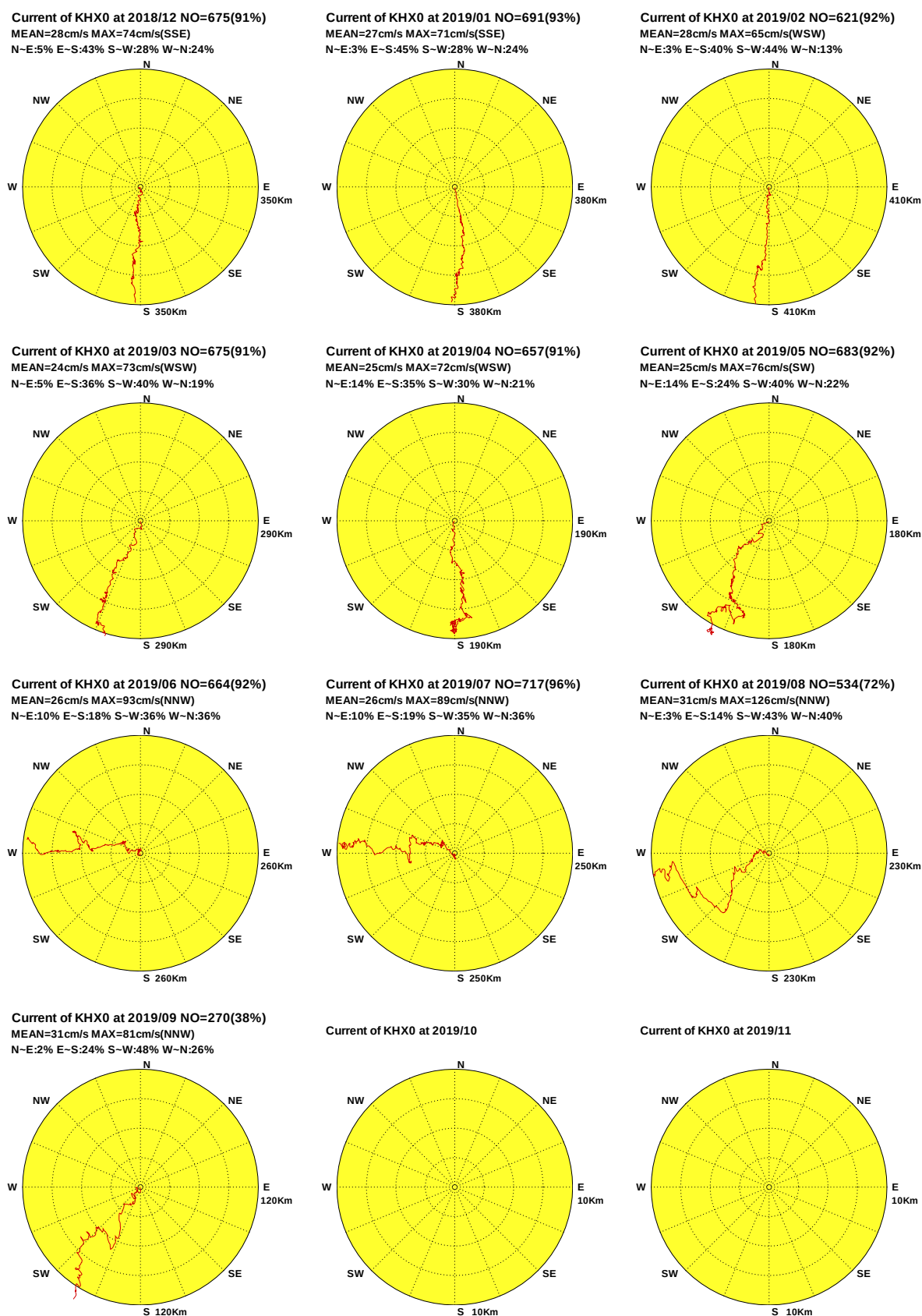


圖4.5.1a 2019年高雄海域每月測站 X 觀測海流向量行進圖

C18CKHX0.1H0 C191KHX0.1H0 C192KHX0.1H0 C193KHX0.1H0 C194KHX0.1H0 C195KHX0.1H0
C196KHX0.1H0 C197KHX0.1H0 C198KHX0.1H0 C199KHX0.1H0 C19AKHX0.1H0 C19BKHX0.1H0

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Progressive Vector Diagram of Current

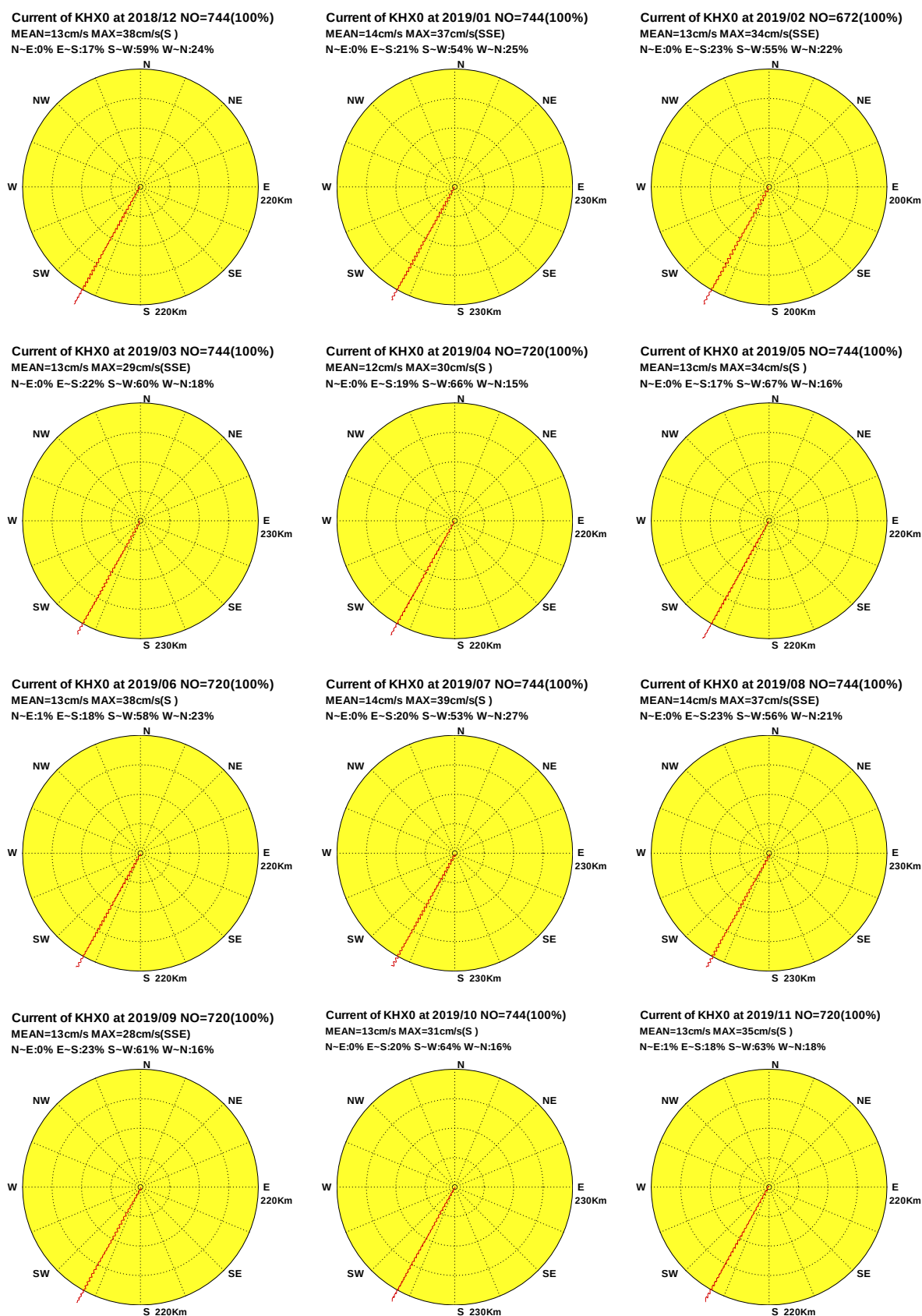


圖4.5.1b 2019年高雄海域每月測站 X 計算潮流向量行進圖

C18CKHX0.1HD C191KHX0.1HD C192KHX0.1HD C193KHX0.1HD C194KHX0.1HD C195KHX0.1HD
C196KHX0.1HD C197KHX0.1HD C198KHX0.1HD C199KHX0.1HD C19AKHX0.1HD C19BKHX0.1HD

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Progressive Vector Diagram of Current

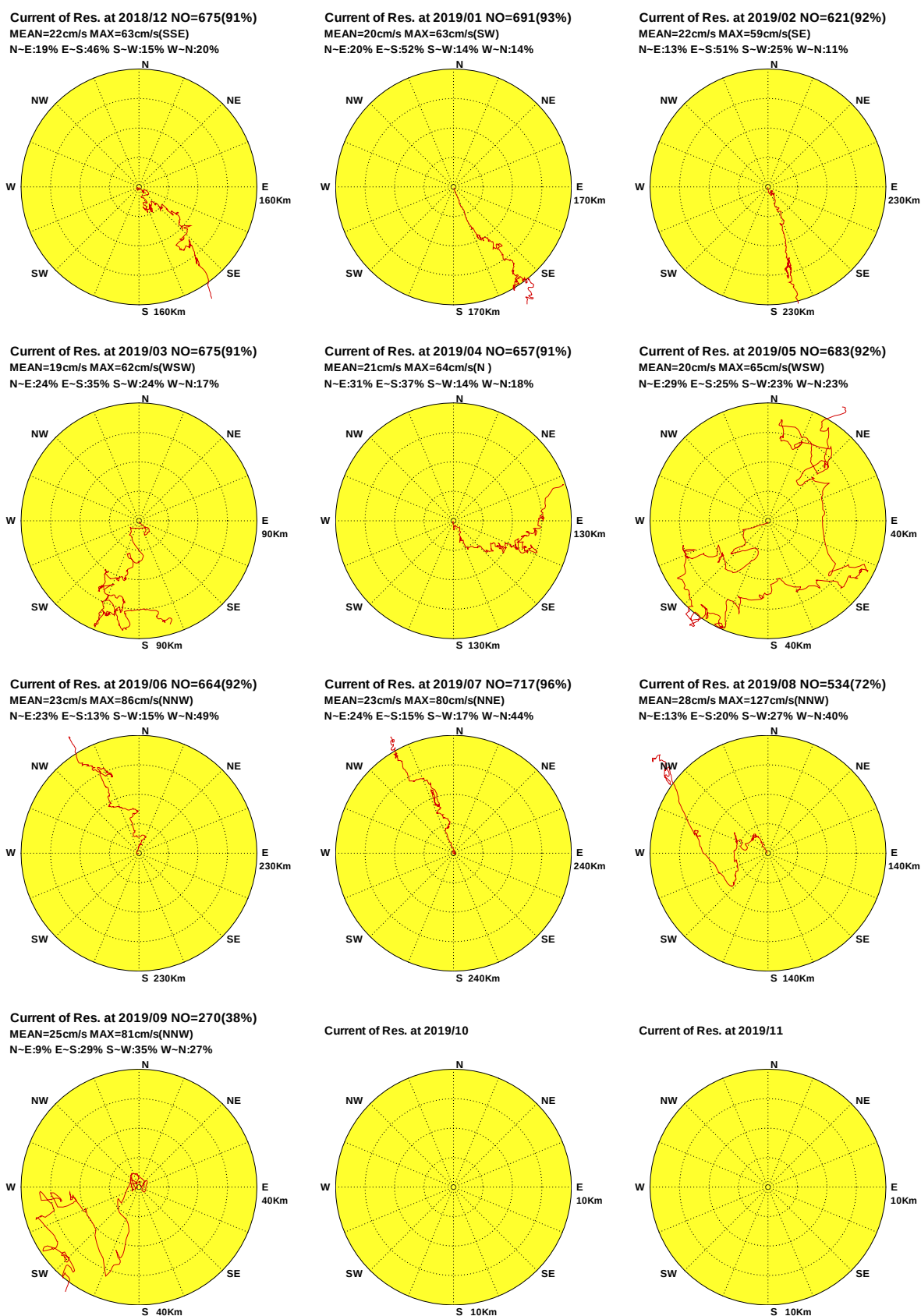


圖4.5.1c 2019年高雄海域每月測站 X 計算殘流向量行進圖

C18CKHX0.1HR C191KHX0.1HR C192KHX0.1HR C193KHX0.1HR C194KHX0.1HR C195KHX0.1HR
C196KHX0.1HR C197KHX0.1HR C198KHX0.1HR C199KHX0.1HR C19AKHX0.1HR C19BKHX0.1HR

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Progressive Vector Diagram of Current

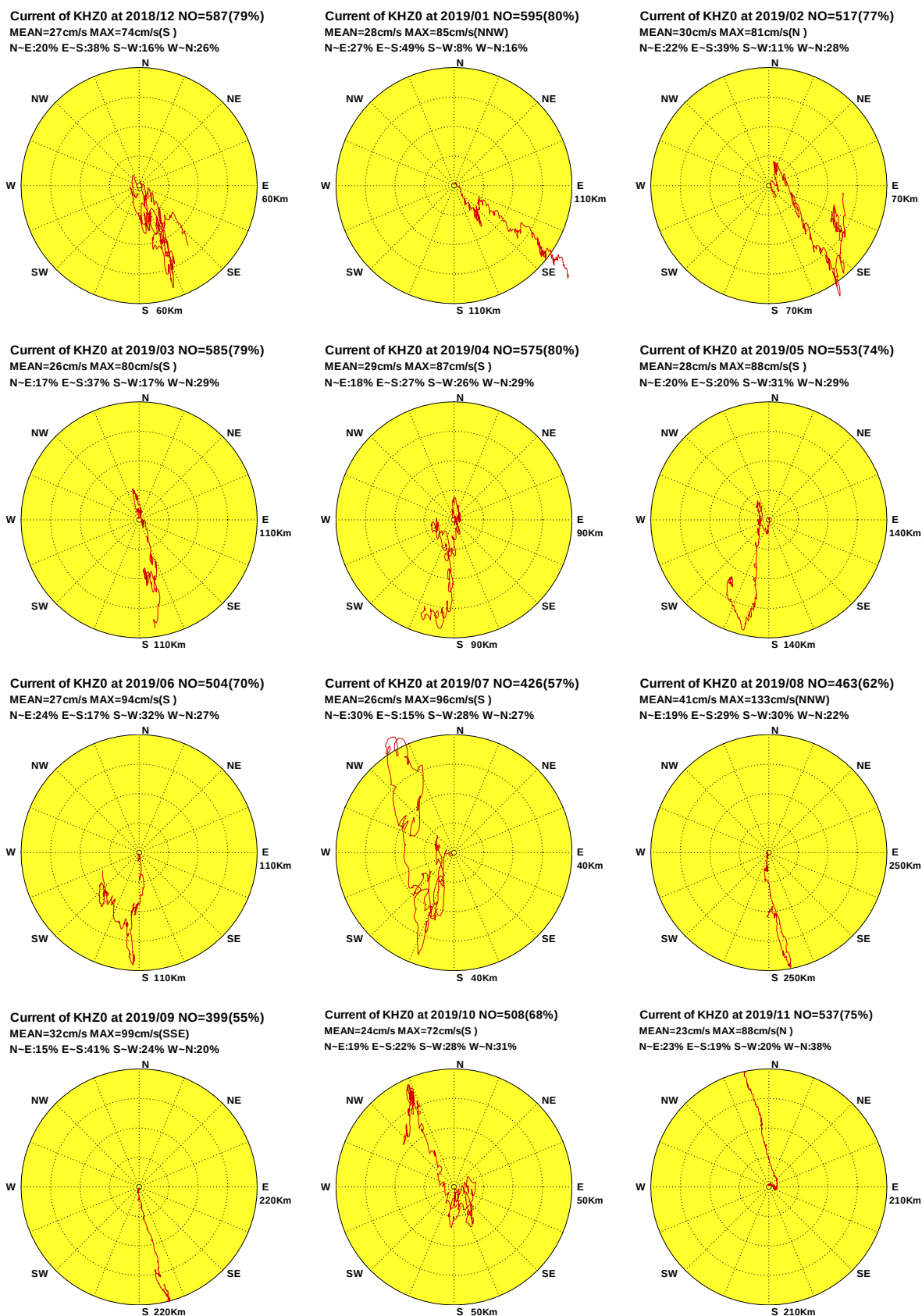


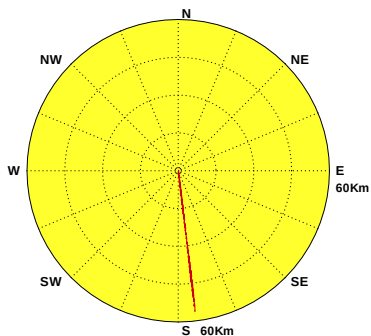
圖4.5.2a 2019年高雄海域每月測站 Z 觀測海流向量行進圖

C18CKHZ0.1H0 C191KHZ0.1H0 C192KHZ0.1H0 C193KHZ0.1H0 C194KHZ0.1H0 C195KHZ0.1H0
C196KHZ0.1H0 C197KHZ0.1H0 C198KHZ0.1H0 C199KHZ0.1H0 C19AKHZ0.1H0 C19BKHZ0.1H0

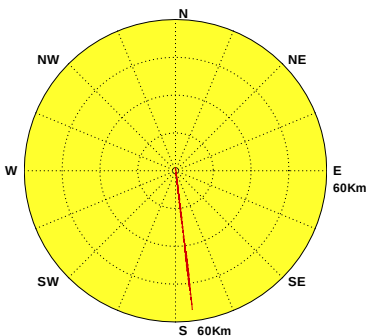
Institute of Harbor & Marine Technology

Progressive Vector Diagram of Current

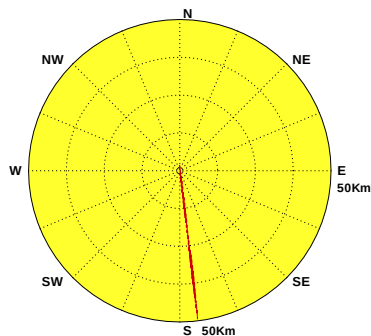
Current of KHZ0 at 2018/12 NO=744(100%)
MEAN=8cm/s MAX=23cm/s(S)
N-E:27% E-S:27% S-W:31% W-N:15%



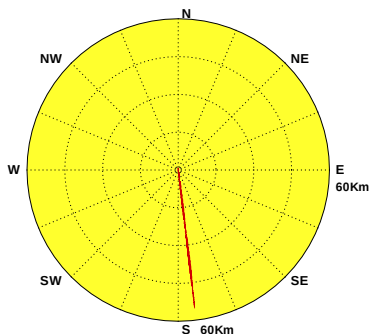
Current of KHZ0 at 2019/01 NO=744(100%)
MEAN=8cm/s MAX=23cm/s(S)
N-E:30% E-S:28% S-W:28% W-N:14%



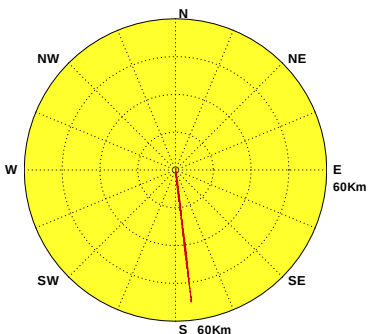
Current of KHZ0 at 2019/02 NO=672(100%)
MEAN=8cm/s MAX=22cm/s(S)
N-E:33% E-S:31% S-W:25% W-N:11%



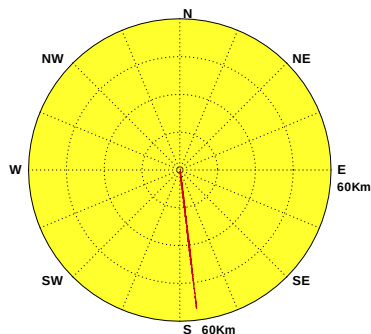
Current of KHZ0 at 2019/03 NO=744(100%)
MEAN=8cm/s MAX=21cm/s(S)
N-E:31% E-S:35% S-W:21% W-N:13%



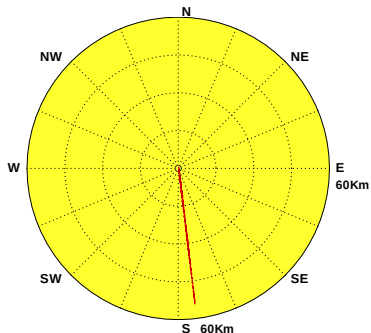
Current of KHZ0 at 2019/04 NO=720(100%)
MEAN=8cm/s MAX=20cm/s(S)
N-E:28% E-S:31% S-W:25% W-N:16%



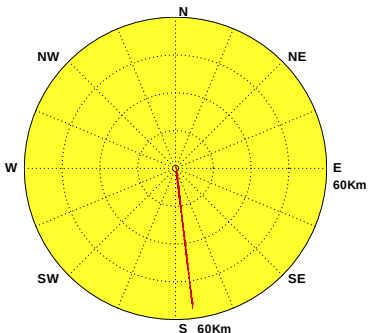
Current of KHZ0 at 2019/05 NO=744(100%)
MEAN=8cm/s MAX=21cm/s(S)
N-E:24% E-S:30% S-W:28% W-N:18%



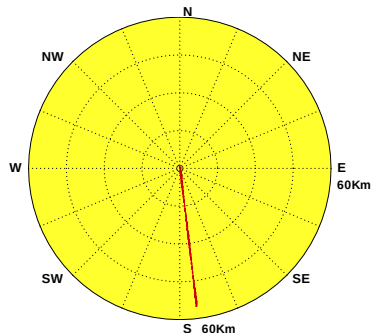
Current of KHZ0 at 2019/06 NO=720(100%)
MEAN=8cm/s MAX=21cm/s(S)
N-E:27% E-S:27% S-W:30% W-N:16%



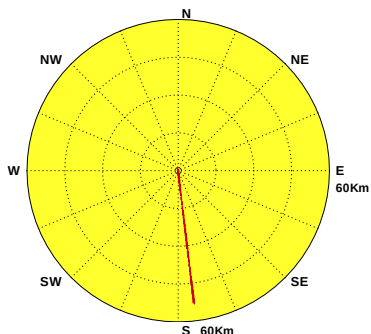
Current of KHZ0 at 2019/07 NO=744(100%)
MEAN=8cm/s MAX=22cm/s(S)
N-E:32% E-S:28% S-W:28% W-N:12%



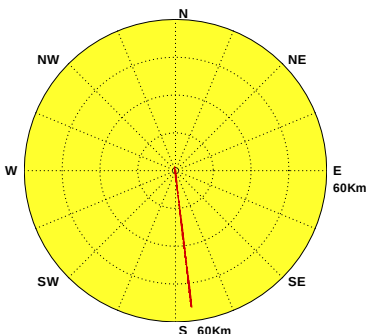
Current of KHZ0 at 2019/08 NO=744(100%)
MEAN=8cm/s MAX=22cm/s(S)
N-E:34% E-S:31% S-W:25% W-N:10%



Current of KHZ0 at 2019/09 NO=720(100%)
MEAN=8cm/s MAX=20cm/s(S)
N-E:32% E-S:32% S-W:24% W-N:12%



Current of KHZ0 at 2019/10 NO=744(100%)
MEAN=8cm/s MAX=21cm/s(S)
N-E:27% E-S:31% S-W:26% W-N:16%



Current of KHZ0 at 2019/11 NO=720(100%)
MEAN=8cm/s MAX=22cm/s(S)
N-E:26% E-S:28% S-W:28% W-N:18%

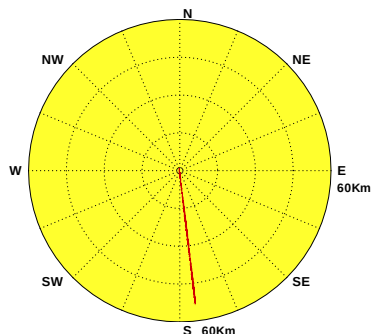


圖4.5.2b 2019年高雄海域每月測站 Z 計算潮流向量行進圖

C18CKHZ0.1HD C191KHZ0.1HD C192KHZ0.1HD C193KHZ0.1HD C194KHZ0.1HD C195KHZ0.1HD
C196KHZ0.1HD C197KHZ0.1HD C198KHZ0.1HD C199KHZ0.1HD C19AKHZ0.1HD C19BKHZ0.1HD

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Progressive Vector Diagram of Current

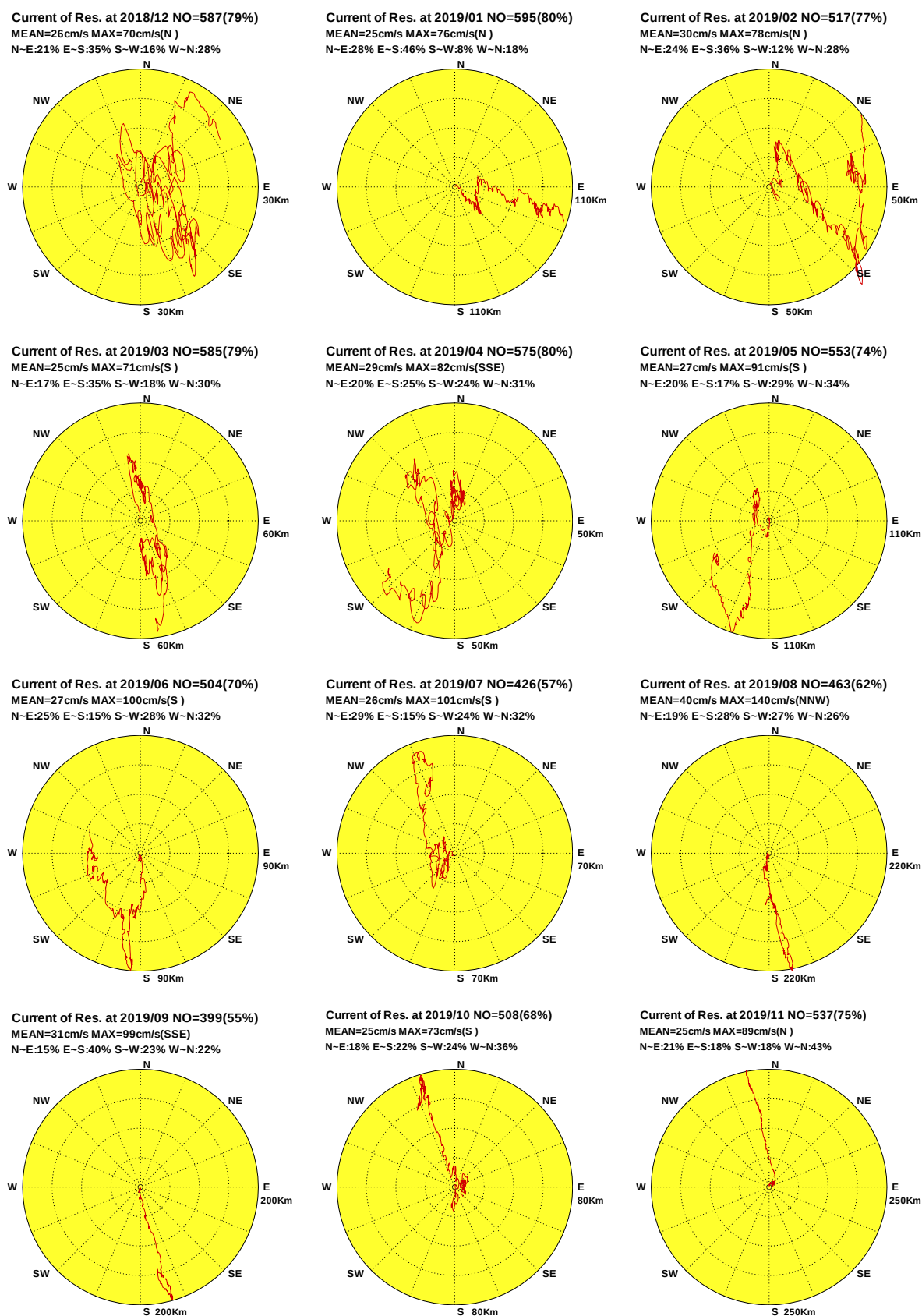


圖4.5.2c 2019年高雄海域每月測站 Z 計算殘流向量行進圖

C18CKHZ0.1HR C191KHZ0.1HR C192KHZ0.1HR C193KHZ0.1HR C194KHZ0.1HR C195KHZ0.1HR
C196KHZ0.1HR C197KHZ0.1HR C198KHZ0.1HR C199KHZ0.1HR C19AKHZ0.1HR C19BKHZ0.1HR

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