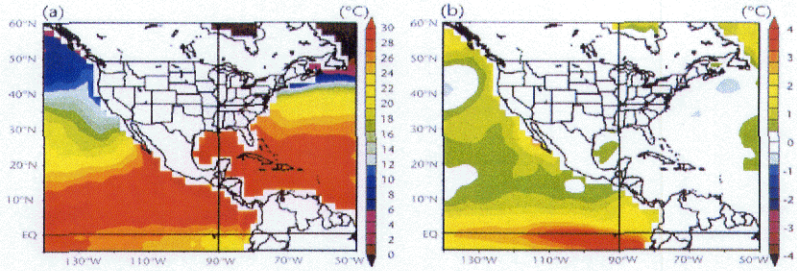


Figure II.28
Composite maps of a)
sea surface temperature;
and b) anomaly of sea
surface temperature for
the three months August
to October 1997. Note
that the warmest water is
north of the equator but
the maximum anomalies
are south of the equator
and along the coast of
Baja California.
[NOAA/CDC, USA]

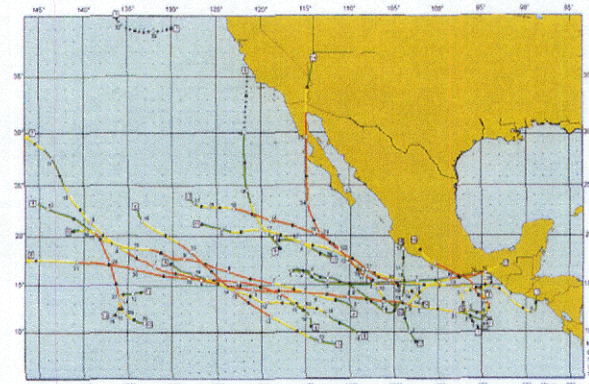


eastern North Pacific Ocean to near southern California, with only a slight decrease in intensity. The jetstream then continues on a more southerly track than normal across northern Mexico and the northern Gulf of Mexico.

Figure II.29
Tropical storm and
hurricane tracks over the
eastern Pacific Ocean
during the 1997
hurricane season.
[NOAA/NHC, USA]

1	T. Andres	Jun 1–7
2	T. Bianca	Jun 8–12
3	T. Carlos	Jun 25–28
4	H. Dolores	Jul 5–12
5	H. Enrique	Jul 12–16
6	H. Felicia	Jul 14–22
7	H. Guillermo	Jul 30–Aug 15
8	T. Hilda	Aug 10–15
9	T. Ignacio	Aug 17–19
10	H. Jimena	Aug 25–30
11	T. Kevin	Sep 3–7
12	H. Linda	Sep 9–17
13	T. Marty	Sep 12–16
14	H. Nora	Sep 16–26
15	T. Olaf	Sep 26–Oct 12
16	H. Pauline	Oct 5–10
17	H. Rick	Nov 7–10

- Hurricane (H)
- Tropical storm (T)
- Tropical dep.
- Position at 000 UTC
- Position at 1200 UTC
- 3 Tropical cyclone number



June–October 1997

The abnormally warm sea surface temperatures over the tropical eastern equatorial Pacific Ocean during 1997 (see Figure II.28) created conditions favourable for an expanded area of tropical cyclone activity. The 1997 season featured 17 named storms, of which eight became hurricanes and six were classified as major hurricanes; this compares to an average of 17 named storms of which about 10 become hurricanes and about five become intense hurricanes. Hurricane *Linda*, during September 1997, was the area's strongest on record but stayed over water. Four of the 1997 cyclones moved west of 140°W compared to a normal incidence of one. Two cyclones moved north of usual latitudes with *Nora* moving into the southwestern United States and *Pauline* striking Acapulco and causing extensive damage (Figure II.29). Overall, the number and intensity of tropical

cyclones were near normal but those that formed occurred over an expanded area from normal.

Easterly winds in the upper atmosphere over Africa and the tropical Atlantic Ocean are crucial for creating an environment favourable for tropical cyclone formation over the Atlantic Ocean. In the absence of these easterly winds, the vertical wind shear throughout the Atlantic basin remained too strong during 1997 to allow tropical storm formation and hurricane activity was greatly suppressed over the region (Figure II.30). During what is normally the most active period of the Atlantic Ocean hurricane season (August through October) only one hurricane was observed, making 1997 the least active August–October period on record.

November 1997–March 1998

Climate characteristics during January–March 1998 in North America can be seen in Figure II.31. The abnormal deep convection across the central and eastern Pacific Ocean enhanced the Northern Hemisphere winter-time Hadley Cell over the Pacific Ocean and contributed to a stronger than normal subtropical jetstream in the upper atmosphere over the north Pacific Ocean. The Pacific–North America teleconnection pattern contributed to the Aleutian Low being more intense than normal, and to storms and stronger than normal westerly winds being directed toward the Pacific Northwest of the United States (Figure II.31b). Active storms affected the Pacific West Coast of the United States during the late fall and winter but it was particularly during February 1998 that heavy rains adversely affected California. Accumulated rainfall graphs for three widespread sites in California are in Figure II.32.

As is characteristic for strong El Niño episodes, the high atmosphere subtropical jetstream continued eastward across