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WEATHER AT AHMEDABAD AND POONA ON OCCASIONS OF 'BELOW MINIMA' CONDITIONS AT SANTACRUZ

Poona and Ahmedabad are the alternates to Santacruz airfield for many airlines, when the weather at Santacruz is below minima conditions. This note is a study of the weather conditions at these alternates when visibility and cloud base at Santacruz are simultaneously below the limits of 1000 yds and 800 ft respectively.

Data for 5 years from 1947 to 1951 were studied. There were 229 occasions when the weather at Santacruz was below minima, of which 205 occurred in the southwest monsoon period. On 183 occasions (80 per cent of the total) the duration of the spell was six hours or less and on 105 occasions (46 per cent of the total) two hours or less. The occasions of bad weather at Santacruz are tabulated in Table 1 according to their duration and the associated conditions at Poona and Ahmedabad are also given therein. Cases of duration more than twelve hours are not included in this table. It will be seen that only on one occasion of a five-hour bad spell at Santacruz both visibility and cloud base were simultaneously below minima at Poona; these conditions lasted

TABLE 1

SANTACRUZ		POONA				AHMEDABAD				base was busly at and their
Duration of spells when elected base was below 800 at the and visibility below 1000 yds	No. of such occasions	No, of occasions when cloud base was below 800 ft (Visibility over 1000 yds)	Average duration of such	No. of occasions when visibility was below 1000 yds (Cloud base above 800 ft)	No, of occasions when both cloud base and visibility were below minima	No, of occasions when cloud base was below 800 ft (Visibility over 1000 yds)	Average duration of such	No. of occasions when visibility was below 1000 yds (Cloud base above 800 ft)	No, of occasions when both cloud base and visi- bility were below minima	No. of occusions when cloud base was lower than 800 ft simultaneously at Poons and Ahmedabad and their duration
or less	64	9	1		_	12	1	_	-	3 Lasted
1-2	41	9	2			8	2	-	-	4 out the
2-3	29	4	3	-	e=1	4	3		_	1 spell at
3-4	23	9	3	-		6	3		_	Santa-
4-5	10	3	5	_	1 (Duration	2	4	-	-	-
5-6	16	8	5 7	_	5 hours)	3	5	-		2
6-7	.4	3	7		-	1	6		(Dura- on 1 hr)	2 Duration 6 hrs
7-8	5	2	3		-	2	7		on 1 nr)	1 Duration
8-9	8	4	5	-	-	3	G	-	(Dura-	4 hrs 1 Duration 2 hrs
9-10	3	.0	0.		in terms of	0	0	ti	on I hr)	0
10 11	4	2	3	_	_	3	3	-	-	2 Duration one and 5 hrs respec-
11-12	0	_	_		-					tively

throughout that period. There were two occasions at Ahmedabad when cloud base and visibility were below limits simultaneously, but they were of short duration of about one hour each, while the corresponding spells at Santacruz were of seven and nine hours' duration. Except for these occasions visibility was never bad either at Poona or at Ahmedabad during the minima conditions at Santacruz.

On 26 per cent of the occasions at Poona and 21 per cent at Ahmedabad, the cloud base was below 800 ft when conditions were below minima at Santacruz. Taking the duration of the spells at the three stations, it was for 25 per cent of the time at Poona and 19 per cent at Ahmedabad. Only on about 9 per cent of the occasions was the cloud base low at both Poona and Ahmedabad when below minima conditions

were prevailing at Santacruz. In cases of bad weather at Santacruz of duration less than twelve hours, Ahmedabad has slightly less chance of being affected by low clouds than Poona.

Occasions of bad weather at Santacruz of duration more than twelve hours are tabulated in Table 2. There were 22 such occasions, one spell lasting as much as 89 hours, during 14-18 July 1948, in association monsoon conditions along with strong Konkan. In these cases only cloud base was affected either at Ahmedabad or Poona and visibility was always more than 1000 yards. The deterioration of cloud base at either place lasted mostly for much shorter periods than at Santacruz. Hence the duration of low cloud base at Ahmedabad and Poona for each spell at Santacruz is also given in Table 2.

TABLE 2

SANTACRUZ		N	No. of					
			POONA		A	occasions when cloud		
Duration of spells when cloud base was below 800 ft and visibility below 1000 yds (over 12 hrs)	No. of spells	Cloud base below 800 ft	Visibi- lity below 1000 yds	Cloud base and visibi- lity both below minima	Cloud base below 800 ft	Visibi- lity below 1000 yds	Cloud base and visibility both below minima	base was below 800 ft simultaneo- usly at Poona and Ahmeda- bad
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		7 8	-	-	0	-	_	-
14	2	Č 0	-	-	0	-	-	-
		5.0	-	-	0	_		_
15	1	0			0	-	-	_
16	2	i 4			0	-		-
	1	1 0	-	-	0	-		
17	1	17	-	-	0		-	_
18	0		-	_			-	_
19	1	4	-		0	_	-	
20	0	-		-		-	-	_
21	2	(9	_	-	8	_		1
		1 0	_		0	-	-	_
23	1	0	Secretary Co.		0	-	-	_
		(5	-	-	0	-	_	
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30	2	[12	and the same of	_	0	******		
****	1.0	1 23		-	0			_
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41	i 1	11	-	-	0	-	-	_
89	1	î	_	-	()	_	-	

In these cases Ahmedabad is definitely less liable to have low clouds than Poona. There were three cases when cloud base was low both at Ahmedabad and Poona simultaneously while Santacruz was having a spell of bad weather.

Taking all cases, there were 22 occasions when both Ahmedabad and Poona had low clouds while Santacruz was experiencing bad weather. On 8 of these occasions, a monsoon depression was moving across Madhya Pradesh; on 2 occasions there was a shallow monsoon depression moving into Rajasthan or north Gujarat, while in another case there was a trough over Gujarat and strong monsoon along Konkan. In 6 cases there was a depression over Madhya Pradesh with another (which had formed earlier) further to the west. In yet another case depressions were forming simultaneously in the Bay off Circars coast and in the Arabian Sea off Kathiawar coast. Three spells were associated with cyclonic storms in the Arabian Sea, and one with a cyclonic storm in Bay striking coast near Balasore with strong monsoon conditions in Konkan.

The following conclusions may be drawn from the above analysis:

- (i) Visibility is almost always good at Ahmedabad and Poona, while below minima conditions prevail at Santacruz.
- (ii) On such occasions cloud base may be simultaneously low at both Ahmedabad and Poona for 10 per cent of the occasions.
- (iii) During the rest 90 per cent of the occasions either Ahmedabad or Poona is free from low clouds and serves as an alternate to Santacruz.
- (iv) Ahmedabad is a somewhat better alternate for Santacruz than Poona, being less liable to low clouds by 5 per cent.

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