TABLE 1: Summary of Science Verification Observations.

Programme	Hours	% of planned
HDF-S NICMOS and STIS Fields	37.1	98%
Lensed QSOs	3.2	82%
High-z Clusters	6.2	55%
Host Galaxies of Gamma-Ray Bursters	2.1	56%
Edge-on Galaxies	7.4	65%
Globular cluster cores	6.7	57%
QSO Hosts	4.4	—
SN1987A	0.0	0%
TNOs	3.4	—
Pulsars	1.3	18%
Flats and Standards	22.7	99%

TABLE 2: VLT Test Camera Data on the HDF-S NICMOS Field.

Filter	No. of exposures	Total integration time (sec)	FWHM of the coadded image
U	16	17788	0.71″
B	15	10200	0.71″
V	16	14400	0.78″
R	8	7200	0.49″
I	12	10158	0.59″

scope has been working with spectacular efficiency and performance through the whole period. After having been disassembled to install the M3 Tower, the telescope was reassembled again putting back in place the M1 mirror cell (August 15). The Test Camera was re-installed at the Cassegrain focus on August 16, the telescope was realigned and tested, and finally released to the SV Team at midnight local time on August 17. The first SV observations were promptly initiated thereafter. The SV period ended on the morning of September 1, spanning a total of 142 hours, dusk to dawn. Of these, 44 hours have been lost due to bad meteorological conditions (clouds or wind exceeding 15 m/s), and 15 hours for minor technical problems, with an effective down time of ∼ 10%. For a total of 95 hours the telescope has been used to collect scientific data, including twilight flat-fielding and photometric standard star observations.

Table 1 gives the actual time invested on each of the SV programmes, along with their level of completion compared to the initial planning. This includes operational overheads, such as read-out times, target acquisition, etc. For those programmes that could not be completed care was taken to complete the necessary observations for at least one object.

All SV data will be released by September 30 to the ESO and Chilean communities. It will be possible to retrieve the data from the VLT archive, while a set of CDs will also be distributed to all Astronomical Research Institutes within ESO member states and Chile. Data on HDF-S will be public worldwide, and retrievable from the VLT archive. Updated information on data release can be found on the ESO web site at http://www.eso.org/vltsv

Astroclimate During Science Verification

When, at one of the best observatories worldwide, over two weeks and more, the sky is often cloudy, the seeing poor, the wind fairly strong and blowing from unusual directions, one is allowed to start talking of an astroclimatological anomaly.

When this occurs during the science verification of the first 8-m-class telescope mounting a monolithic mirror, the event deserves a more detailed analysis.

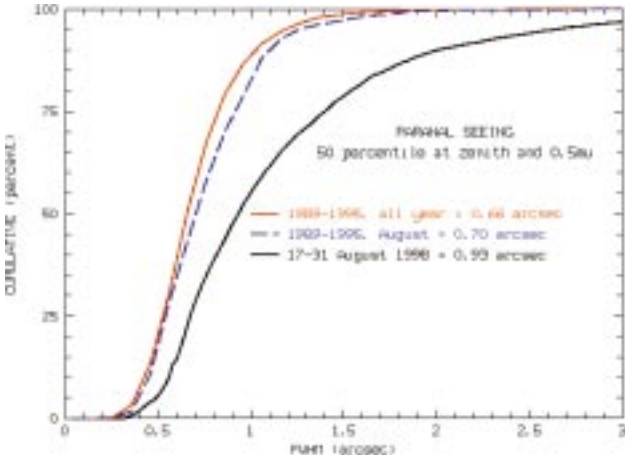
*Cloudiness at Paranal is the conjunction of seasonal trends and El Niño events on top of some longer, as yet unexplained cycle (*The Messenger *90, 6). As we are currently in the lows of the latter cycle and despite the end of the 1997–98 El Niño event, August 1998 was promising less than 70% photometric nights: the two nights lost for cloudiness during the two weeks of science verification were thus well within expectations.*

The wind at Paranal is stronger in winter (30% of the time more than 10 m/s) than in spring or summer (15% only): one and a half nights lost because of wind in two weeks of observing is thus not anomalous.

As clouds have no reason to prefer windy nights, the two previous effects tend to cumulate and the total time lost was close to 30% of the total available observing time, nothing to be ashamed about!

Unfortunately, the seeing conditions were not at all inside the statistical margin as can be seen on the figure: not only did we have an excess of very bad seeing (10% of the time worse than 2 arcsec) but also a deficit of good seeing periods (3 times less than normal).

This situation cannot be explained by a synoptic analysis: only a slight excess of temperature was reported over South-America during the first week, the jet stream behaviour was also quite normal during the whole period. Nevertheless, the wind vane at Paranal more than usual kept pointing at north-east or south-east where the bad seeing comes from (valleys and nearby summits). In addition, a cold front causing a sudden drop of the air temperature turned the ground around the observatory into a highly efficient local seeing generator several degrees warmer than normal.



Whatever further improvements we make in the understanding of the generation mechanism of atmospheric turbulence, the operation strategy of ground-based astronomical facilities has nevertheless to be designed to confront from time to time a highly non-deterministic environment.

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