



INTERPRETING

WEATHER SATELLITE IMAGES

This poster will help you identify some key features on the weather satellite images routinely seen on television and in some newspapers and available by facsimile from the Bureau of Meteorology (see back page).

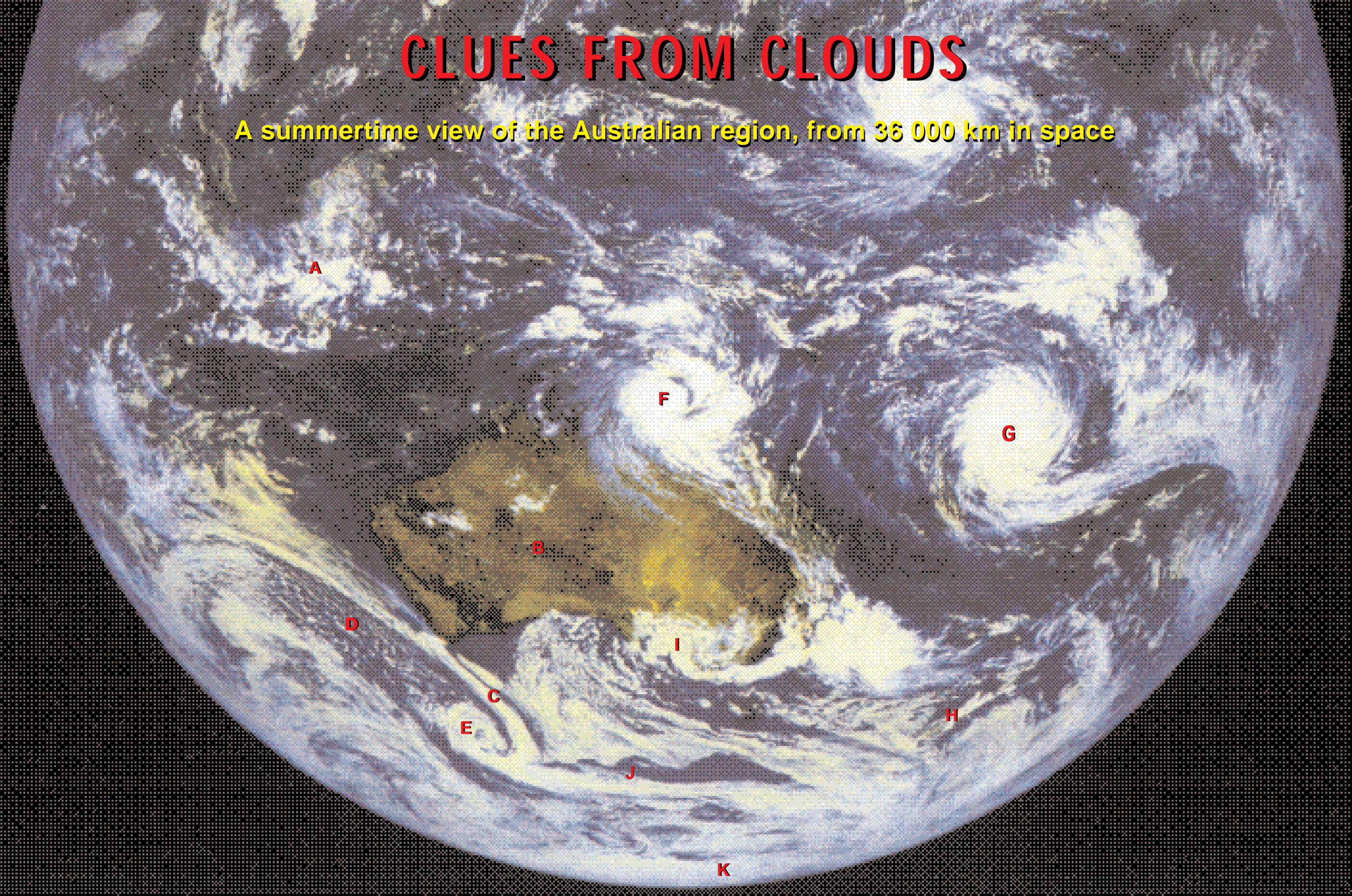
While satellite images represent only part of the information needed for a forecast, you can build a better appreciation of what's happening in the atmosphere by learning their typical features and, where possible, comparing your identifications with features in the latest weather map. Some tips:

- Many significant cloud formations or weather features can be identified by the **characteristic patterns** shown on the back page.
- The satellite images are not photographs. **The commonly-seen images are 'heat pictures' showing temperatures recorded by infrared sensors** which display cold areas (especially clouds) in light colours, and hot regions (land and sea) in dark tones. The black-and white temperature scale reproduced on the back page—which is sometimes displayed beside the image—gives a useful indication of temperatures. Image clarity will also vary with the quality of satellite reception, and the technology used to present it to you.
- **Features with similar temperatures can confuse even skilled interpreters.** At some times of day, it can be difficult to distinguish between the ground and low cloud, fog and low cloud, or sea and low cloud. High clouds may obscure important features. (Meteorologists resolve some of these difficulties by comparisons with satellite images from the visible part of the spectrum.)
- **Track the birth, growth and decay of weather systems** by watching 'loop sequences' on the television weather news, or by comparing successive still images.
- The false-colour images often seen on TV are specifically enhanced to give meteorologists easier identification of subtle temperature differentiations (and hence the location and strength of weather features) compared to the lesser contrast of grey scale imagery.

TIME NOTE: Most images (like those found in capital city newspapers) are labelled in local time, while others carry Universal Time ('Z' time, formerly Greenwich Mean Time) which is 10 or 11 hours behind Australian Eastern Standard Time, depending on daylight saving adjustments.

CLUES FROM CLOUDS

A summertime view of the Australian region, from 36 000 km in space



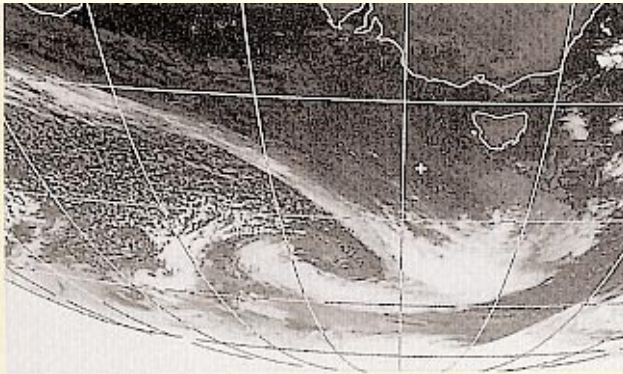
- A** Monsoon cloud clusters composed of heavy thunderstorms.
- B** Large cloud-free area typical of summertime Australian desert.
- C** Cold front.
- D** Cumulus clouds behind a cold front—a mix of showers and clear skies.

- E** Spiral cloud indicating a low pressure system.
- F** A slow-moving rain depression.
- G** Unmistakable: a tropical cyclone. Note the eye.
- H** New Zealand—under this 'long white cloud'.

- I** A cut-off low pressure system bringing bad weather to Victoria.
- J** Warm front (rarely seen over Australia).
- K** Antarctica.

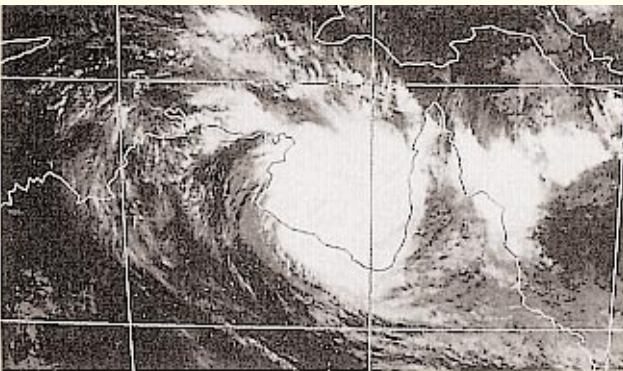
This colour-enhanced composite image of information from the visible and infrared channels of the Japanese Geostationary Meteorological Satellite was prepared from data received by the Bureau of Meteorology's ground station in Melbourne.

PATTERNS TO WATCH FOR



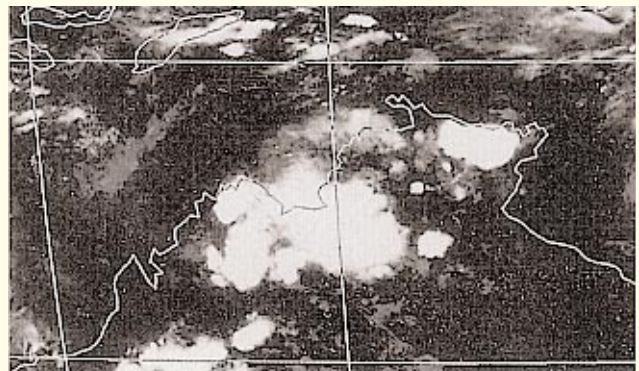
COLD FRONT

Note the classic **long sweep of a cold front** (frequently seen over southern Australia and the southern oceans); the **spiral 'hook' of a typical low pressure system** often linked to cloud associated with a cold front, and the **speckled cloud pattern** of scattered cumulus identifying a field of cold air, often seen following a cold front. (Not all features are always seen together.)



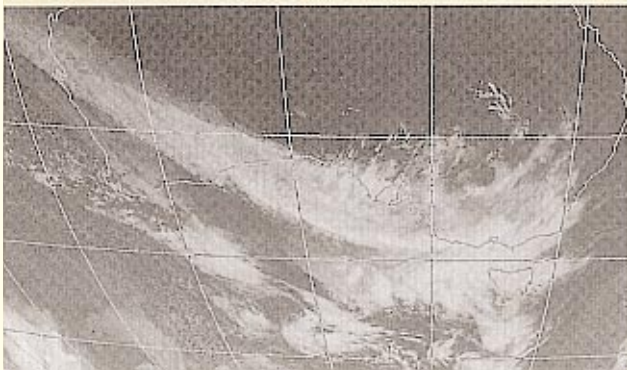
TROPICAL CYCLONE

The unmistakable spiral rain-bands of a tropical cyclone. These intense tropical cyclones affect northern Australian coastlines, usually from November to April. Sometimes their characteristic central eye is visible.



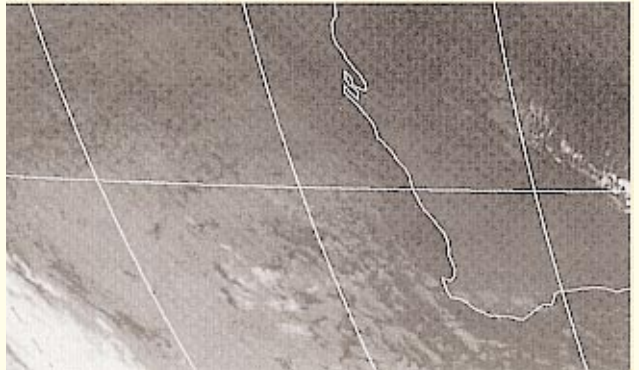
SEVERE THUNDERSTORMS

Large blobs of cloud are often thunderstorms. They are particularly obvious over the tropics during summer—the 'Wet' season.



NORTHWEST CLOUDBAND

These formations resembling the cold fronts of higher latitudes sweep across northwest Australia in the cooler months



STRATOCUMULUS

Large areas of uniform, lighter-coloured low-level stratocumulus clouds indicate protracted overcast and often persistent drizzle.

This grey scale gives an approximate guide to temperatures on these infrared images, ranging from cold (-140°C) on the left to warm (+80°C) on the right.

Weather satellite images, updated hourly, and many other Bureau of Meteorology products are available by facsimile at a cost of approximately 55 cents a minute. For a free directory of Bureau products on Telstra's INFOFAX system, put your fax in poll receive mode and dial 019 725 200.