

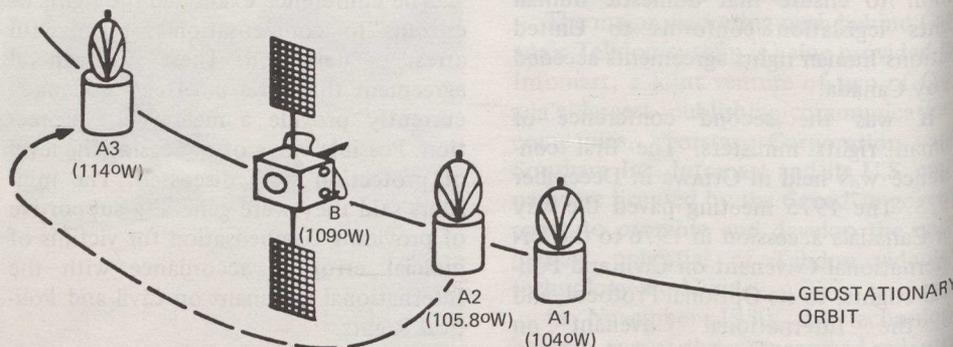
Satellite shuffle — a first

Telesat Canada recently moved one of its satellites, 5,300 kilometres through space to collocate on station with another satellite — the first time such a manoeuvre has been attempted with domestic communications satellites.

The 28-day procedure, which put the *Anik-A2* satellite back into operation, involved moving the *A2* through space and slowing it down to station it next to the new *Anik-A3* satellite. The two satellites are stationed in a 60-kilometre orbital box rotating around each other. During the entire manoeuvre the satellite was under command by Telesat's Satellite Control Centre in Ottawa and the main earth station at Allan Park, Ontario.

With recent new applications of satellite telecommunications, plus increasing demands for channels for video broadcast and other satellite services, all available channels on Telesat's satellites are now in commercial service or committed to customers under firm orders.

By taking advantage of the fact that the *Anik A* series of satellites are identical and their channels are tuned to the same frequencies, the operation will allow Telesat to use the best channels on each satellite to provide a greater number of



Move of Telesat's satellite Anik-A2 to collocate with Anik-A3.

operating channels for immediate service and offer extra protection for other channels on *Anik-A3*.

With the best channels on each satellite turned on, the new *Anik-A2/A3* station will operate as if the channels on each satellite were part of a single satellite. The manoeuvre will also avoid any time-consuming expense of adjusting ground antennas throughout Canada aimed at *Anik-A3*.

The collocation will thus alleviate the shortage of channels in the 6/4 gigahertz (GHz) frequency band which will exist until the launch of the larger 24 channel *Anik-D* satellite in August 1982.

The 16 channel *Anik-C1* satellite, operating in the 14/12 GHz frequency band, will also be launched in 1982 and this will further ensure that there is adequate satellite capacity for present and future demands.

Winter scuba diving in B.C.

Scuba divers, in increasing numbers, have been discovering a northern diving mecca in British Columbia. It is a fjord-riddled coastline protected by wooded and snow-capped islands and overflowing with marine life.

This "emerald sea" is British Columbia's Strait of Georgia, tempered by the Japanese current to a warm 10 degrees Celsius (50 degrees Fahrenheit) average winter temperature, not much colder than the waters of California in spite of its northerly latitude.

The Strait is home to the world's largest octopuses, nudibranchs over 30 centimetres in length, sea stars over one metre in diameter, more than 5,000 species of invertebrates, 330 species of fish, 400 species of seaweed and more than 80 varieties of shallow-water starfish. The nutrient-rich waters of the Strait are said to be second only to the Red Sea for abundant sea life.

"The waters are richer than tropical

waters and even though the bizarre colouration of tropical sea life isn't there, northern sea life is much, much more brilliant and fascinating than many people would expect," said Neil McDaniel, editor of *Diver* magazine, published in Vancouver.

Tourists increasing

When Beach Gardens Resort at Powell River, 136 kilometres north of Vancouver, offered its first diving packages in 1978, owner Jim Price expected 400 bookings. He got 3,400. This year he expects 6,000 bookings.

Other resorts are offering their own diving packages which include a variety of cave, wreck, reef and tidal current diving, as well as courses in underwater photography and advanced marine identification.

Discovery Inn, at Campbell River, has a combined ski-scuba package, not impossible in a country where good dive sites and good skiing are only an hour away from each other.

The best diving season extends from November to March when the thick plankton and kelp forests die off, leaving a visibility that extends to 30 metres in some places, rivalling that of the Caribbean.

While water is not tropical, a good quality quarter-inch wet suit is adequate protection against the cold, says McDaniel, and he finds that with a neoprene dry suit and pile underwear he can do two-hour dives with a three-hour surface interval without getting chilled.

Above the water, the winter climate is a little brisk, sometimes rainy, but mild enough for tennis, says Murray Hamilton of Beach Gardens. The average winter air temperature on the southern coast of British Columbia is 15 degrees Celsius (55-60 degrees Fahrenheit) with one or two light snowfalls a year.

It is partly the unusual mixture of a climate and terrain that offers diving, skiing, tennis and even golf in one area on one holiday that attracts a lot of divers to British Columbia.