

## Resources

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*Islands on the Internet*

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## Islands on the Internet

For many Pacific Islanders, outside Hawai'i and perhaps Guam, the Internet remains a remote concept. As the rest of the world connects to the Internet at a ferocious pace—almost 20 million host computers on the Internet as of January 1999 (figure 1) and growing at a rate of nearly 50 percent per year—the Pacific Islands are not likely to remain very far behind.<sup>1</sup> At the end of 1996, the best estimate is that there were approximately 45 million people worldwide using the Internet, with roughly 30 million of those in North America, 9 million in Europe, and 6 million in Asia-Pacific (NUA 1997); of these, perhaps fewer than 70,000 are in the Pacific Islands. Still, such phenomenal growth has captured the interest of Pacific Island governments, businesses, and residents alike and reports of

the Internet's growing usefulness and popularity elsewhere has opened up demand for Internet service providers in the Pacific Islands in a big way. However, despite the fact that most Pacific Island countries have primarily digital international and domestic telecommunication infrastructures, telephone densities remain among the lowest in the world (approximately 2.1 percent for the region overall; Cutler 1994). Even if one already has a reasonably reliable power supply, a good computer, software, and a modem, a telephone line is still needed to connect to the Internet (Ogden and Layton 1999). Therefore, the relatively low telephone densities (table 1) reported for even the more "modernized" Pacific Island countries represent a substantial barrier to accessing the Internet (assuming one can

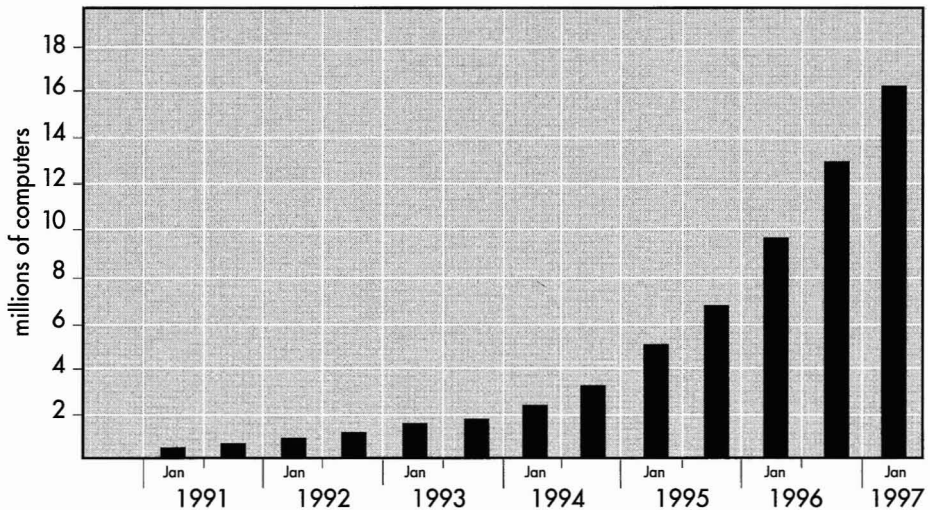


FIGURE 1. Global Internet host computers. (Source: Internet Domain Survey, Host Count Graph, January 1997. <<http://www.nw.com/zone/WWW/top.html>>)

Table 1. Pacific Islands telephones, 1996–1997

Country	Total Telephones	Total Populations	Telephones per 100 Population	Telephone Wait List (estimated)
Cook Islands	5,100	20,000	25.5	245
Federated States of Micronesia	8,300	130,000	6.3	700
Fiji	71,793	775,000	9.3	11,500*
Kiribati	2,000	80,000	2.5	133
Marshall Islands	3,300	60,000	5.5	1,500
Nauru	2,200	11,000	20.0	160
Niue	1,000	2,267	44.2	—
Palau	5,400	18,000	30.0	50
Papua New Guinea	73,068	3,600,000	2.0	1,491
Solomon Islands	6,500	376,000	1.7	130
Tonga	8,000	100,000	8.0	680
Tuvalu	500	10,000	5.0	60
Vanuatu	6,480	159,830	4.1	88
Western Samoa	9,100	170,000	5.4	2,600

Sources: SPF 1991; Budde 1998; various country reports. \*1991.

afford the connection fees)—especially if the average wait for a telephone in the capital city is six months to a year, or even longer.

#### WEAVING AN ISLAND NET(WORK)

In early 1996 a consortium consisting of Telecom Fiji Limited (formerly, Fiji Posts & Telecom Limited), Fiji

International Telecommunications Limited (FINTEL), Telecom New Zealand Limited, the University of the South Pacific, and the Telecommunications Program of the South Pacific Forum initiated a six-month trial Internet service accessing the University of Waikato's Internet gateway in New Zealand (Sullivan and Morris 1996). FINTEL and Telecom New Zealand provided a 64 kbps (kilobits

per second) circuit for the duration of the trial period, and Telecom Fiji provided the router. Within just a few months of operation, the trial had 143 modem users and 6 leased-line users, while traffic reached over 900 Mbps (megabits per second) per month—piquing the interest of other Pacific Island telecommunication service providers studying the feasibility of offering their own Internet access service (Sullivan and Morris 1996).

Most Pacific Island countries did not introduce Internet services until 1996 or later, and Nauru and Kiribati provided access in late 1998; however, Tuvalu and many other small states have yet to offer full Internet dial-up services (Kami 1998). Even so, Internet services are fast becoming an integral part of the communications environment in an increasing number of Pacific Island countries (table 2). By November 1996, Fiji had over 400 dial-up modem users and 10 leased-line users, with several dozen web pages online (*PIM*, 1996). At present, Fiji (mostly in Suva, the capital) boasts 1,800 dial-up account holders, with 20 corporate accounts (mostly leased-line), hundreds of web pages, and an international bandwidth of 512 kbps via the Cable & Wireless Internet Exchange in Hong Kong. This service is also available to three other Pacific Island nations in which Cable & Wireless is active (Solomon Islands, Vanuatu, and Tonga). By sharing the cost between them, access to the Cable & Wireless Internet Exchange has been provided at a relatively reasonable price. Thus, the Solomon Islands reported over 80 dial-up users by the end of 1996, while Vanuatu reported over 50 dial-up users and was experiencing a

Table 2. Pacific Islands Internet Users, 1997

Country	Internet Users
American Samoa	600
Fiji	1,800
French Polynesia	700
Guam	5,000
Hawai'i*	90,000
Marshall Islands	300
Palau	500
Papua New Guinea	2,000
Solomon Islands	1,000
Tonga	10
Vanuatu	100

Sources: Buddle 1998; various country reports. \*1996 estimate.

downturn in fax traffic as customers began using electronic mail (email) for their communication needs (Sullivan and Morris 1996). Likewise, Internet services were initiated in Palau as part of Palau's *LightNet 2000 Plan* to meet demand for Internet services primarily in the capital city of Koror (*Tia Belau*, 1997). The Internet service has been so popular (500-plus customers) that the Palau National Communications Corporation recently expanded from a dedicated 64 kbps connection to a 192 kbps link (Miller 1998).

As an offshoot of global Internet developments, Tuvalu stands to reap substantial revenue (Raskin 1998). On advice from a consultant assigned by the International Telecommunications Union, Tuvalu established a Top-Level Domain Task Force and a care-

fully laid-out bidding process for the eventual selection of a marketing partner for its much-coveted two-letter top-level Internet domain suffix, .tv (as in "Broadcast\_Company.tv"—desired by almost every major television broadcasting corporation in the world). On 6 August 1998, in exchange for US\$50 million up front (five times the nation's 1997 gross domestic product), Tuvalu granted Information.CA of Toronto exclusive marketing rights to Tuvalu's domain until 2048 (*.tv Land* 1998, 104). Tuvalu anticipates collecting between US\$60 million and US\$100 million per year in a projected revenue split with their Toronto-based partners (Waqā 1998, 16). As part of the deal, Information.CA will help Tuvalu build its first local Internet service provider, allowing Tuvalu to connect to the Internet for the first time. The imminent windfall from Canada, with promised delivery by the end of December 1998, started everyone in Tuvalu talking about how they would like to see the money spent. Unfortunately, "[f]or the moment, Tuvalu's fantasy of a better life is on hold; the dream has begun to sour. Almost two months after the deadline . . . Tuvalu is still waiting for the \$50 million up front money. What they have received, . . . is a new deal for a lot less money—from the original \$50 million promised last summer, down to \$12 million" (Chew 1999). The Canadian company's new web page states that in their "efforts to make the .tv domain as fair and equitable as possible, the .tv Corporation has delayed the launch of the .tv domain until the second quarter of 1999. Foremost among our concerns is the incorporation of trademark and

intellectual property protections into the .tv domain registration process" (.tv Corporation 1999). Despite the delay, the Canadian company is still accepting .tv domain name registrations. Tuvalu has granted the company their requested extension on payment while keeping a wary eye on them. However, this time the Canadian prime minister has stated that the company must honor their promises to Tuvalu (Chew 1999).

Several other Pacific Island nations and territories could also stand to benefit from this potential bonanza in cyberspace. The Kingdom of Tonga has contracted with Tonic Domains Corporation, based in San Francisco, to sell Tonga's highly sought-after .to suffix—for about US\$100 per registrant every two years (*Wired World Atlas* 1998, 165). This contract has propelled Tonga into the top ranks in the world for Internet hosts per capita—although most of the hosts do not reside in Tonga. Similarly, American Samoa's .as has garnered some attention as a potential source of revenue (valued in Scandinavia as a parallel to the A.S. that denotes an incorporated entity), while the Federated States of Micronesia have collected nearly US\$150,000 from 750 FM radio stations that paid \$200 each for a two-year (renewable) agreement to use the .fm domain. Even Niue has sold more than fifteen thousand names at US\$25 per year through an offshore company formed to market the .nu domain (Raskin 1998, 110).

Despite such lucrative windfalls for some, most Pacific Island countries do not have Internet access; typically, those that do have only a single Internet service provider offering limited dial-up access. This service is usu-

ally owned by the national telecommunications company or whichever company provides international service. Dial-up rates range from US\$2 to US\$10 per hour across the Pacific, with a relatively high initial connection fee, and in some cases even an additional per-minute charge for local telephone calls (Kami 1998). Thus, as in most developing countries, the proportion of the population with Internet access has yet to exceed 1 or 2 percent—the high cost of connectivity being the single biggest hindrance—with use typically limited to larger resort operators, expatriate-owned businesses, and upper-income earners.

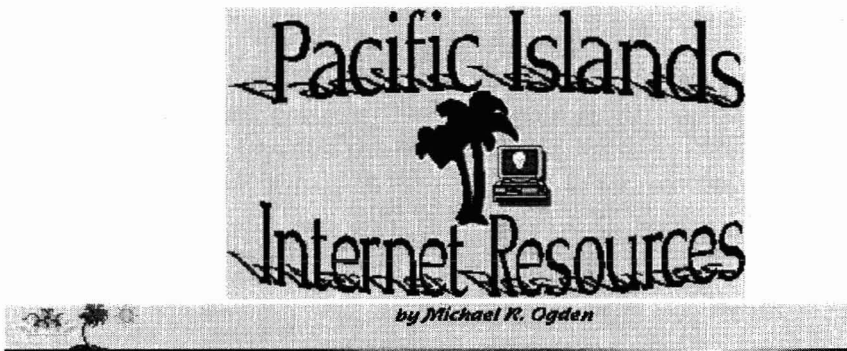
### BUILDING AN INTERNET PRESENCE

Still, many recognize that the Internet holds the potential for providing a means of rapidly disseminating information on and about the Pacific Islands. In the early years of the World Wide Web (www or web), academics interested in the region began collecting large lists of hypertext<sup>2</sup> data about the Pacific Islands. These resources were being amassed through the collective efforts of the World Wide Web Virtual Library's "Pacific Studies" list, or collected and categorized on the Pacific Islands Internet Resources page <<http://www2.hawaii.edu/~ogden/piir/>> (figure 2). Each provides connection to a wealth of information on Pacific islands, including weather, ocean temperatures, business opportunities, tourist information, and "chat rooms" where many people swap stories of their Pacific Island homes or adventures (North

1996). However, these and other informative websites were almost exclusively maintained on host computers affiliated with universities in western metropolitan countries.

First among the Pacific Islands to go online was the government of Western Samoa with its Cradle of Polynesia website <<http://www.intergroup.com/interweb/samoa/>>, developed and maintained by a company in the United States. Additional countries and regional organizations, like the Republic of the Marshall Islands website RMI Online, and the Tourism Council of the South Pacific, saw advantages to prompt adoption, going online in early 1996 with their respective websites maintained on host computers in the United States and Australia (Hussein 1996).

In August 1996, the Fiji Visitors Bureau was the first in the Pacific with its own home page <<http://www.fijifvb.gov.fj/>>, providing information on everything from a simple listing of hotels and the usual tourist information, to more adventurous activities off the beaten track. Many businesses in the Pacific are also starting to come online, seeing potential benefit in marketing their products to people around the world (PIM, 1996). How successful this will be as a mechanism for generating additional trade and investment in the Pacific Islands has yet to be seen, and much will depend on the success of introducing "electronic commerce" on the Internet in general. However, a possible harbinger of things to come may be the development of offshore interests gaining permission to establish "Internet casinos" for online gambling in the Pacific Islands, where



## **Aloha! Bula! Eh Wantok! Kaselehlia! Talofa! Yokwe!**

Welcome! As we accelerate toward a world that will become even more dependent upon information, there are whole segments of society - both from a national as well as an international perspective - that may not be able to partake of this information bonanza. Nowhere, perhaps, is this of more pressing concern than in the far-flung island states of the Pacific.

As a service to the Pacific Islands community (and those interested in Pacific Islands), this site attempts to bring together in one location a catalog (as complete as possible) of the resources available via the World Wide Web focusing on the Pacific Islands. If you know of other resources which should, could or **must** be linked here, please let me know.



Conferences, Seminars & Workshops (updated semi-regularly!)

FIGURE 2. Pacific Islands Internet Resources website (clickable image map omitted). <<http://www2.hawaii.edu/~ogden/piir/>>

secrecy laws protect such companies from close scrutiny (Williams 1996).

### ISLAND NEWS ONLINE

Getting up-to-date reliable news and information from the Pacific region has always been difficult. The combination of orally based societies, limited technology, and unreliable telephone lines has meant that news (other than natural disasters or military coups) from places like Papua New Guinea, Fiji, the Solomon Islands, Vanuatu, and Western Samoa makes its way fleetingly to the outside world, if at all. However, 1996 was a year of rapid development for Pacific

news sources on the web, most of them—not surprisingly—hosted on servers in Australia and the United States. Two daily newspapers in Papua New Guinea, seven news services, five magazines, and a number of occasional publications joined the first news sites set up in 1995. The COCONET Wireless (figure 3), a Pacific news and information resource site, was established on 5 September 1995 as a clearinghouse for Pacific Islands news. It was followed almost immediately by the Internet issue of the University of Papua New Guinea's journalism student newspaper, *Uni Tavur*, making it the first Pacific periodical on the web. Unfortunately, this

example of online journalism from the Pacific Islands has ceased publication due to the program's recent termination at the university. In October 1996, the first continually published periodicals, *Tahiti-Pacifique Magazine* and the *Tonga Chronicle*, appeared online. These are exceptions to the norm, however, for many of the periodicals that emerged later in 1996 do not publish regularly—their sites exist primarily to generate subscriptions to the hard-copy versions, and almost all exist on machines outside the region.

Initiated in 1996 as an educational and training site at the Australian Centre for Independent Journalism, University of Technology, Sydney, David Robie's Café Pacific provides links to news stories (many written by the website's author) and independent information sources on Pacific Island progressive movements, environmental groups, and research sites in the region. Likewise, offering both a diploma and a bachelor's degree in journalism, the University of the South Pacific has introduced students to online journalism through its program's websites, Pacific Journalism Online, Pasifik Nius—a website covering mainly political, social, cultural, environmental, and media news—and the simultaneous paper and web publishing of the student newspaper, *Wansolwara*. Recognizing the importance of this effort by budding Pacific Island journalists, UNESCO has assisted the efforts of the university's journalism program with a 1998 development grant from its Pacific Regional Communication Programme.

Pacific Island media began experi-

menting with Internet technologies such as email in the early 1990s. However, as the examples demonstrate, it was not until 1996, when service providers were established in the Cook Islands, Fiji, the Solomon Islands, Vanuatu, and Western Samoa, that media organizations in those countries were afforded reliable access to the Internet.

As was reported in an earlier Resources article, an Internet-based news site, the Pacific Islands Report <<http://pidp.ewc.hawaii.edu/PIReport>>, hosted by the East-West Center's Pacific Islands Development Program, was initiated in July 1997 to provide previously unavailable coverage of daily regional news stories and in-depth reports about Pacific Islands issues and ideas (Hulsen 1999, 241–247). Al Hulsen, managing editor of the Pacific Islands Report, stated that “[s]ince the inauguration of the service, Pacific Islanders themselves have provided the majority of the reports. Initially, eight new items were offered daily; now twelve to fifteen are provided” (1999, 245). Along with providing on-the-job training in online journalism for mid-career and junior Pacific Island journalists, the Pacific Islands Report provides news reports pertaining to the Pacific Islands for Hawai'i newspapers and US public radio stations. Such online journalism initiatives serve to illustrate how embracing a new technology can greatly improve news and information flow and, in a modest way, break the benign neglect by major news agencies of events and issues reported by journalists in the Pacific Islands.



# The CocoNet Wireless

## Pacific Islands News and Information

[Archive][Freedom Watch][Pacific Media Directory]  
[Pacific E-Mail Directories][Pacific Time][Pacific Atlas]  
[Currency Converter - A\$,NZ\$,UK#,US\$,C\$,  
FrF,Kina,F\$,Pa'anga,Si\$,Vatu][Economic Reports]

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### News

10 Oct 1998

Fiji celebrates 28th independence anniversary  
Cook Islands looks to farm black pearls in yachtie haven

9 Oct 1998

800 Fiji cane farmers forced to halt harvest  
Vanuatu and French Polynesia sign trade agreement  
Kalpokas meets Thai PM  
Lak speaks out in sex tape saga  
Haiveta wants Sandline findings declared invalid  
Defense minister in no rush to reopen army Board of Inquiry  
B'ville leaders meet to discuss BRG  
'Indiana' Sinato fends off knife attack in sea  
Manam emergency services ready for volcanic eruption  
Solomons to privatise ICLAR aquaculture expertise  
'The scars left by Sandline': The National editorial

8 Oct 1998

100 feared dead in landslide  
Tonga bai noken gohet long salim ol paspot  
Two thousand Madang copra producers march against CMB  
Somare warns govt against sale of assets  
BHP pulls out of pipeline study --  
But landowners remain committed to project  
New book answers US\$6m Sandline question  
Broadcaster marks silver milestone  
Kumuls 46-6 over Cook Islands, Maori beat Tonga 23-12  
Bai sparks mass adulation in Lae  
PNG shines at kayak World Cup

7 Oct 1998

Solomon Oposisan i elektim Mamaloni long kamap niupela lida  
Fiji gavman bai peim ol papa-graon \$12m  
PNG govt gets second loan of K136m  
Skate says inquiry has NOT cleared Chan  
'Flight West cannot fly from Nadzab': Official  
Major change in VAT bill for mining industry  
Top halves combination set to fire Kumuls --  
But Maori are gunning for the Cup

FIGURE 3. COCONET Wireless website. <<http://www.uq.edu.au/jrn/coco.html>>

## GETTING EDUCATION “WIRED”

Higher education has traditionally been among the first institutions to get on the Internet. The University of the South Pacific established its official Internet home page for general university and course information in 1997. In August 1998, the university upgraded its Internet bandwidth from 19.2 kbps to 64 kbps and in little more than six weeks doubled its bandwidth again to 128 kbps and again, just months later, to 256 kbps. These improvements in bandwidth represent a major development at the university, a pioneer in South Pacific telecommunications in education for many years. However, whereas its instructional staff have fairly wide access to the Internet, students do not—apart from those in specialized study areas such as the master’s in business administration and journalism. This has caused some departments and programs, and especially the students, to call for greater and faster access to the Internet. Even so, many academics at the University of the South Pacific still have major doubts regarding its ability to cope with the demand or to develop policies in keeping with global Internet trends, pointing out that its draft strategic plan barely mentions information technology and gives little indication of the future direction of communications at the university (Angiki 1998). In a recent edition of the newsletter *Centrepoint*, from the university’s Centre for the Enhancement of Learning and Teaching, Jay Handel called for the University of the South Pacific to “get up to speed” on its information policy. He further

commented that “[m]ore and more, the Web is where research and publication are happening. Academics who believe that electronic publication ‘doesn’t count’ are living in the past” (reported in Angiki 1998). Continuing a trend that started more than a decade ago, tertiary institutions are upgrading and integrating their library and information services to take advantage of information databases and online publications.

Libraries at regional institutions of higher education have been among the early adopters of Internet-based information distribution. General library holdings have long been searchable by computer at such institutions as the University of Hawai‘i, the University of Guam, the University of Auckland, and the Australian National University. However, only within the past decade have special collections and general catalogs been widely available to Internet users outside these institutions. For an example, see <<http://www2.hawaii.edu/~speccoll/pacific.html>> (figure 4). Some libraries, such as the Micronesian Area Research Center at the University of Guam, the independent Micronesian Seminar, and the Australian National University-affiliated Pacific Manuscripts Bureau, are also making certain whole manuscripts available online or generally available to those wishing to purchase documents.

Parallel to improvements to educational computing in the islands, indigenous expertise in Internet publishing is developing to keep pace with advancing Internet infrastructures. A number of indigenous website managers have discussed the need

for an improved Pacific news service on the web, and for a regional news and current affairs web “magazine.” Likewise, the vitality and diversity of migrant Pacific Island communities around the world, as evidenced by the various discussion forums of Taholo Kami (Kava Bowl, Wantok Forum, Bula Forum, Melanesia Forum), Al Aiono (Polynesian Cafe), and Alopi Latukefu (SPIN Forum), as well as the efforts of Alan Howard and Jan Rensel (Rotuma Website) among many others, serve to illustrate that projects such as these have come to play an important role in keeping widely dispersed Islanders in touch with each other and their home communities. Indeed, as Alan Howard discussed in an earlier Dialogue essay, the “concept of ‘community,’ always somewhat problematic, has increasingly been called into question, in large measure as a result of computer-mediated communication” (1999, 160). In recounting his own experience in building the Rotuma Website, Howard observed that a “community” website—in contrast to a strictly academic or commercial website—is a matter of providing a service to a widely scattered community whose members come to depend on the site to provide them with connectedness to each other and to their island home. Still, as Taholo Kami has cautioned, “the Pacific Islands are in danger of becoming observers of technology . . . [Pacific] island countries need to develop capacity in the information field to remain competitive in [the] future” (1998, 4). According to him, this requires a clear vision of each respective nation’s “market niche” in the information age and a comprehensive

strategy to ensure that adequate investment and coordination are in place to facilitate active participation in the Internet by all Islanders.

## CONCLUSIONS AND CONCERNS

As computer-based communication technologies diffuse throughout the Pacific, some fundamental questions must be addressed. At issue is the perceived value of such communication technologies and whether or not their “value” matches or exceeds their “cost” for Islanders to connect. Among Pacific Island states, issues of equitable and open access to information, as well as the more basic issues of computer-based resource awareness and relevance as necessary public service priorities, are not being adequately discussed. Furthermore, will elementary and high schools in Pacific Island nations—or other less-developed countries for that matter—integrate computer literacy into the curriculum to prepare students for jobs in the next millennium? How many Pacific Islanders will be able to afford computers, modems, software, and the online connections without some sort of subsidy? While technology has the potential to promote economic growth, job creation, and other social benefits, without a guiding social contract the information revolution will only aggravate underlying inequalities and may further bifurcate Pacific Island societies as well as widen the gap between developed metropolitan countries and their less-developed neighbors (Ogden 1995). Likewise, it is important for Islanders and their respective governments to remain vigilant in order to ensure that commu-

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Last updated on April 1, 1997

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**SPECIAL COLLECTIONS**  
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Thank you for visiting the UHM Library Special Collections webpage. You are the 2410 visitor since July 1, 1997.

FIGURE 4. Website of Pacific Collection, University of Hawai'i at Mānoa Library.  
 <<http://www2.hawaii.edu/~speccoll/pacific.html>>

nication and information technologies do not play a corrosive role in island societies but, instead, empower them to preserve their cultures. These powerful new communication technologies offer as many opportunities to erode indigenous language, traditions, and history as they do opportunities to preserve and strengthen. As Pacific

Island nations begin to overhaul existing telecommunication and information systems and networks to meet the demands of the information age, it becomes even more imperative that inequalities do not become codified for the next generation.

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## Notes

1 Additional data became available too late for inclusion in figure 1. According to an Internet Domain Survey in January 1999, the numbers of hosts were: July 1997, 19,540,000; January 1998, 29,670,000; July 1998, 36,739,000; January 1999, 43,230,000 (Network Wizards: <<http://www.nw.com/>>).

2 *Hypertext* is a term used to describe a nonsequential, random-access arrangement of text-based documents (though images may be incorporated as well). The World Wide Web, developed in 1991, merges the techniques of networked information and hypertext to make an easy but powerful global information system accessible to anyone with a computer, appropriate software, and a modem.

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### Internet Resources

Whereas every attempt has been made to insure that the resources cited are current,

readers should be aware that Internet documents are transitory and prone to frequent and capricious universal resource locator (URL) changes. Therefore the links listed here are not guaranteed to always work.

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