RANET

(Radio and Internet)

Dissemination and Communication
of
Environmental Information
for
Rural and Remote Community Development

- **Who and what is RANET?**

- **What does RANET do?**

- **Core RANET principles and philosophies.**

- **Overview of Technologies**
  - **Satellite**

  - **Community FM**

- **Where does RANET work?**

"Just tell me where it has rained, and I will know what to do."

- A nomad from Niger

The RANET program began in Africa in 1998/9, following the experience of Seasonal Outlook Forums. It was recognized that benefits from advances in science and applications could only be realized if populations outside central cities could be reached.

- Africa: 1998/99/00 -> present

- Pacific: 2003 -> present

- Asia: 2005

RANET is a cooperative effort of various national, regional, and international partners, who seek to:

- Make weather and related environmental information more accessible and useful to rural and resource poor populations in order to aid day-to-day resource decisions and prepare against natural hazards.

- Improve the dissemination capacities of national hydro-meteorological and related national services, NGOs, and other information producers, thereby increasing the profile of and active value of these organizations to local populations.

What we do?

- Awareness Building

- Partnership Development and Resource Mobilization

- **Training and Capacity Development**
    - Web and Internet
    - Community FM Radio
    - HF Radio
    - SMS (Cellular Text) Messaging
    - Other Equipment Use and Maintenance
    - RANET Community Building: Newsletters, etc
    - Web Hosting

- **Network Development and Management**
    - Maintain Satellite and Associated Server Systems
    - Pilot and Training Activities
    - Test and Identify Communication Solutions

All activities are done in **collaboration** with, and with the **approval** of, the communities and national meteorological and associated services.

Core philosophies?

Ensuring sustainability and maintenance of systems is a priority of all RANET activities, therefore we encourage local ownership and use of communication systems for multiple purposes such as education, health campaigns, community discussions, etc.
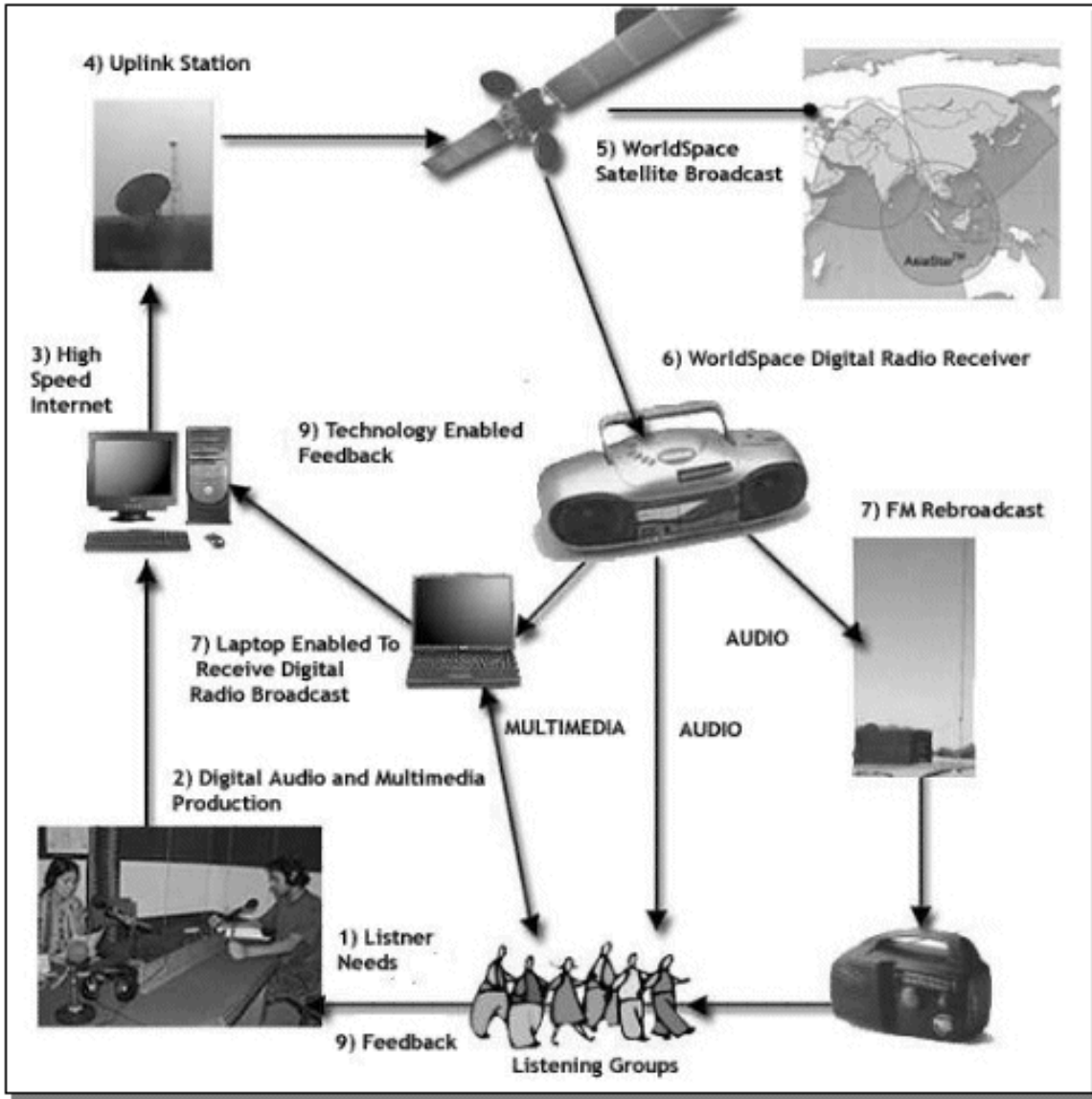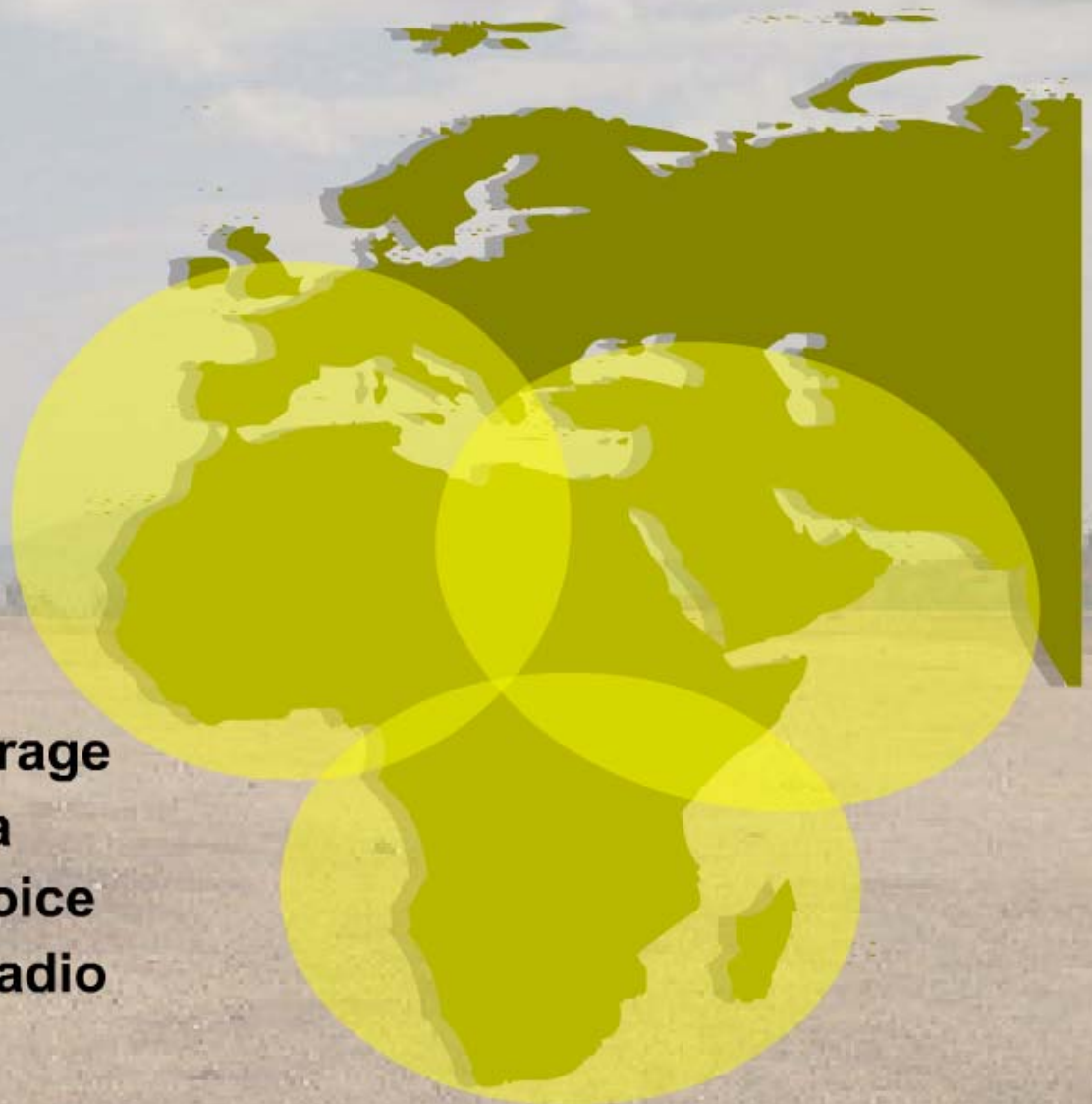
RANET also works to build upon and augment existing networks and means of communication.

Technology?
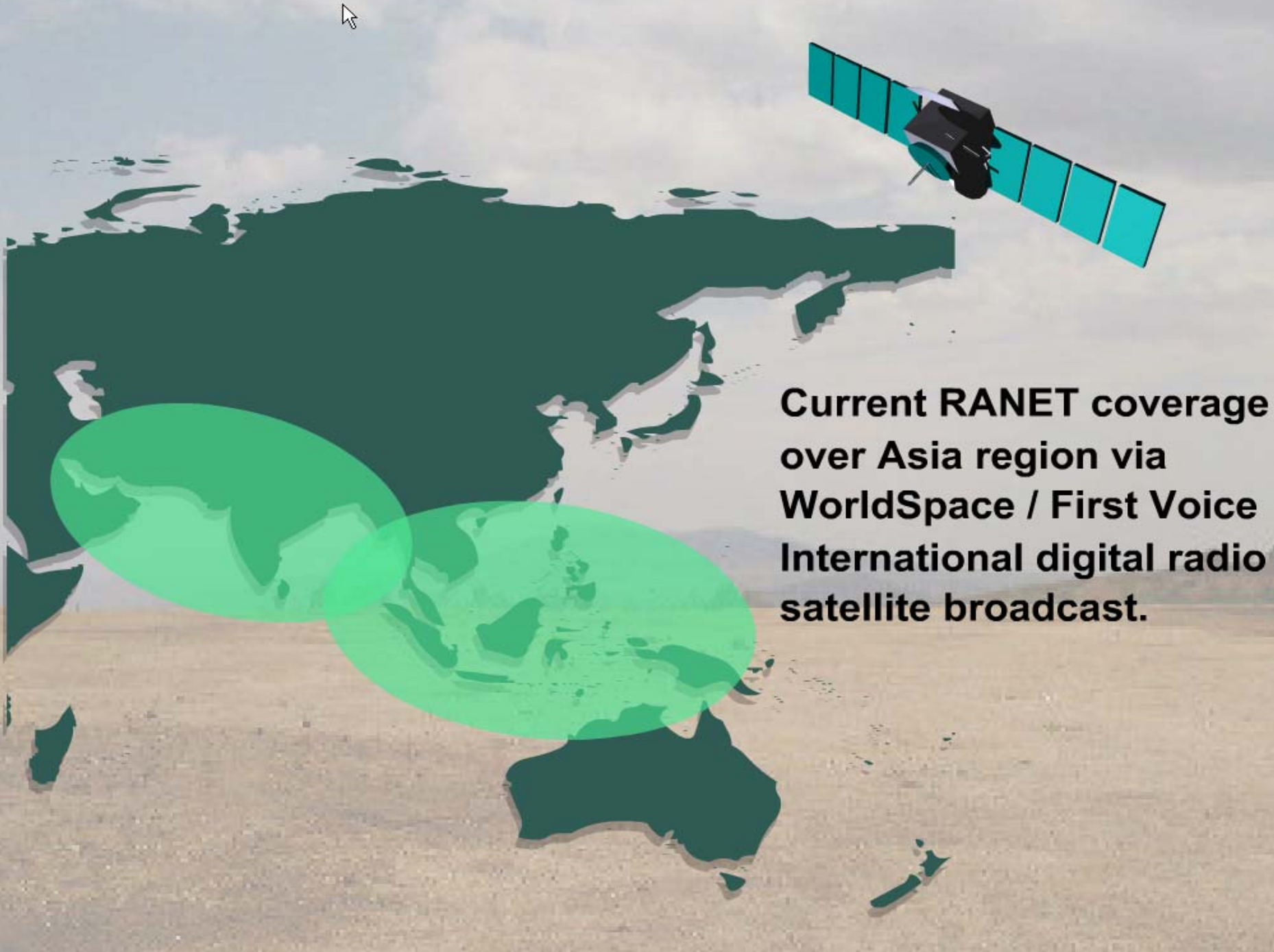

4) Uplink Station

3) High Speed Internet

5) WorldSpace Satellite Broadcast

6) WorldSpace Digital Radio Receiver

9) Technology Enabled Feedback

7) FM Rebroadcast

7) Laptop Enabled To Receive Digital Radio Broadcast

AUDIO

MULTIMEDIA   AUDIO

2) Digital Audio and Multimedia Production

1) Listner Needs

9) Feedback

Listening Groups

Current RANET coverage over Africa region via WorldSpace / First Voice International digital radio satellite broadcast.
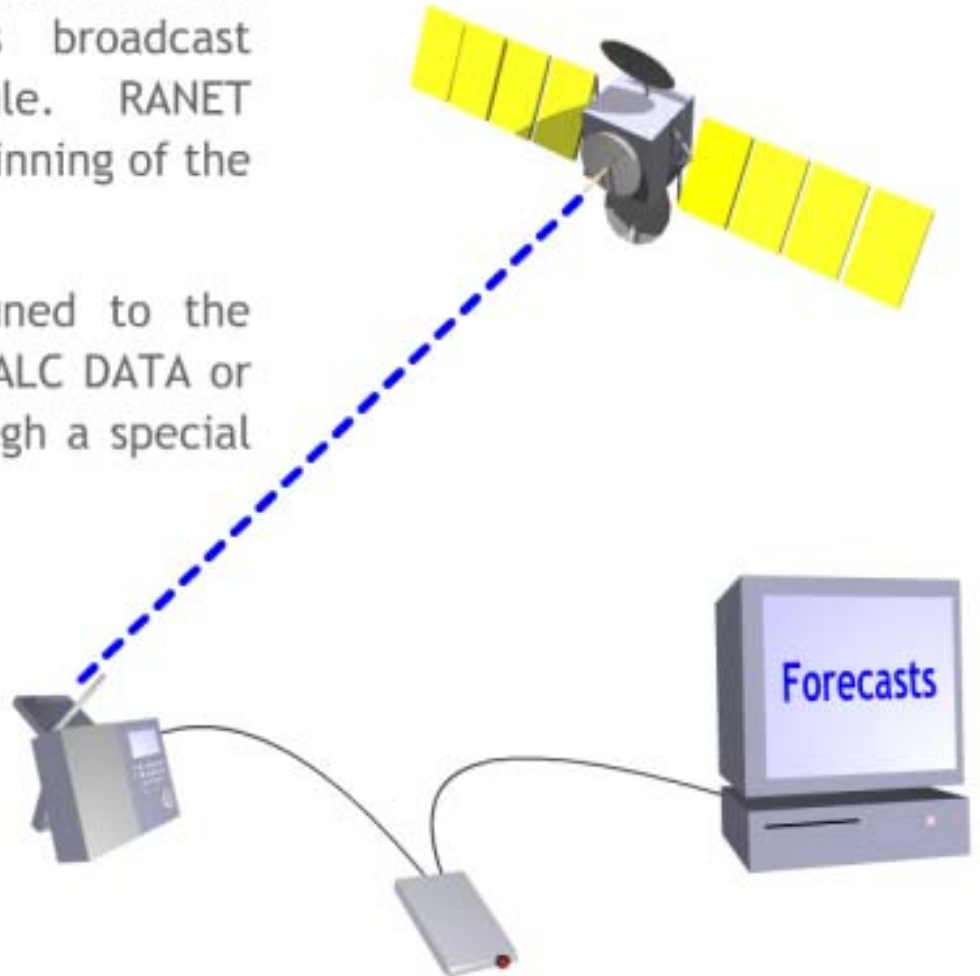
Current RANET coverage over Asia region via WorldSpace / First Voice International digital radio satellite broadcast.
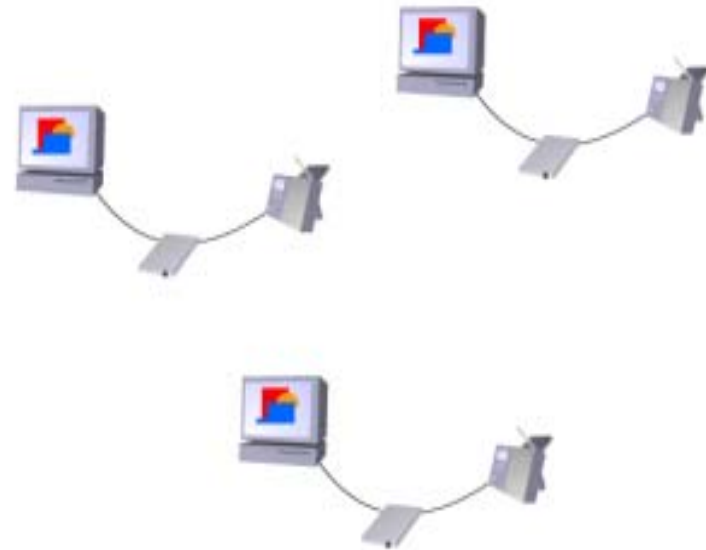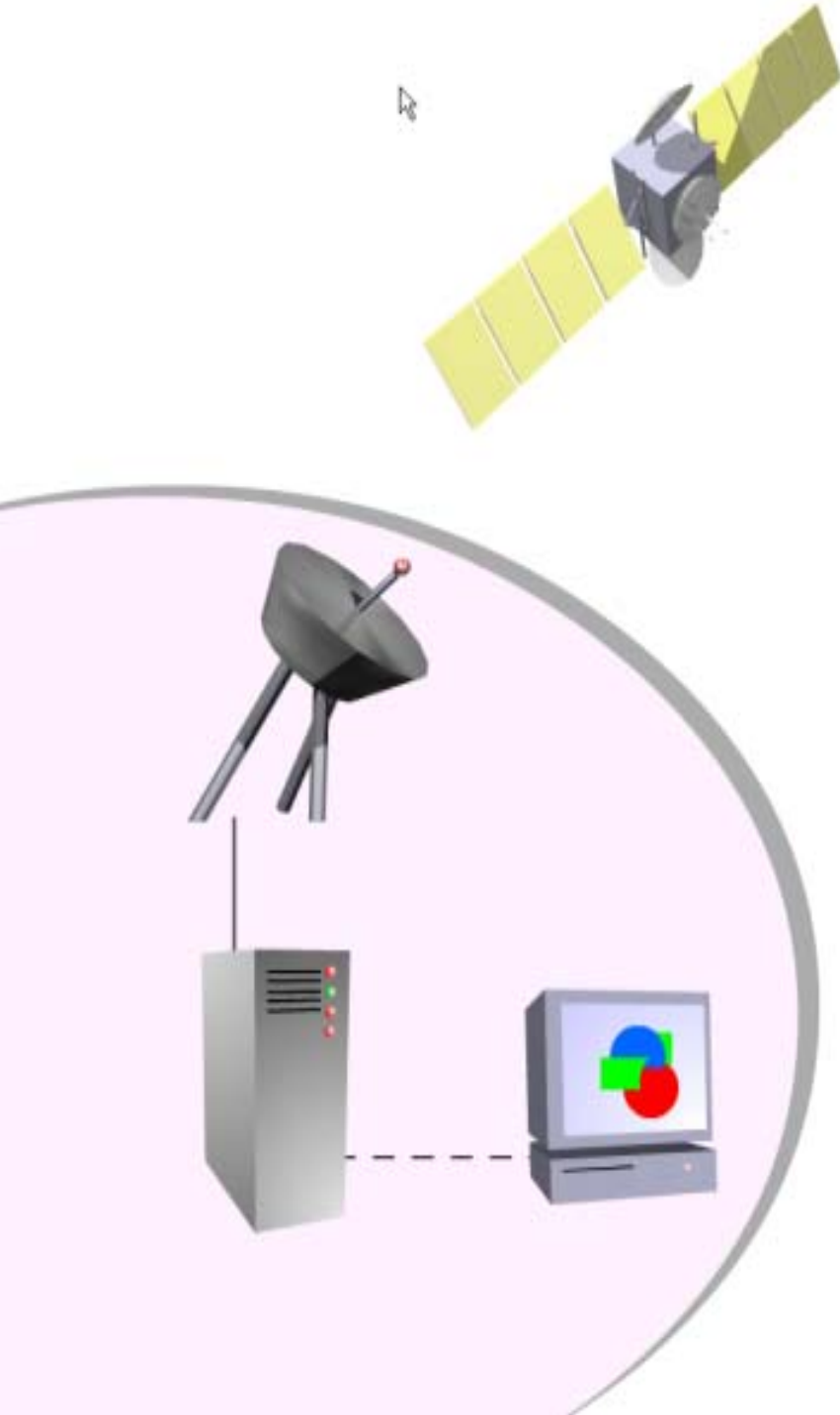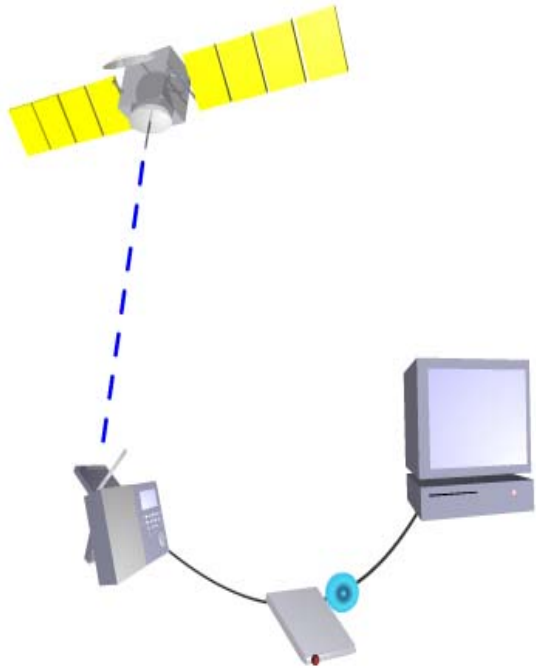
Basic Media Download Using WorldSpace Receiver

- The satellite broadcasts a continual stream of information. Content is broadcast according to a specific schedule. RANET broadcasts every hour at the beginning of the hour.

- The WorldSpace receiver, tuned to the appropriate broadcast channel (ALC DATA or WSF DATA) passes content through a special computer adapter.

- Downloaded content is then stored on the hard drive of the computer, where it can viewed at any time or until the information is updated.
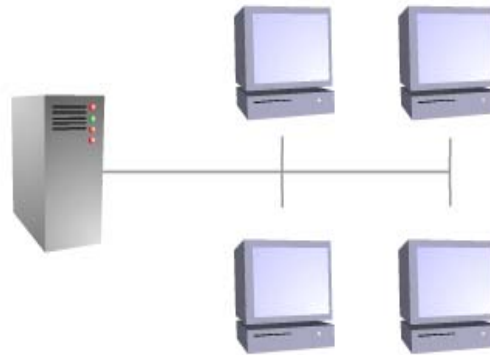
Forecasts

Distributing Information Across a Country or a Continent

With the WorldSpace system, RANET participants are able to upload their own content to the broadcast via FTP, web forms, and other Internet methods. Even with a very slow connection, critical content can be uploaded to the uplink server. Every hour content is merged into a single presentation that can be viewed by anyone anywhere under the continental-scale broadcast who possesses a WorldSpace receiver attached to an existing computer.

Using the digital satellite receiver, information can be sent from urban areas to remote offices where it can be further passed to remote communities by traditional radio, LAN services (Intranet), paper print outs, community centers or traditional extension.
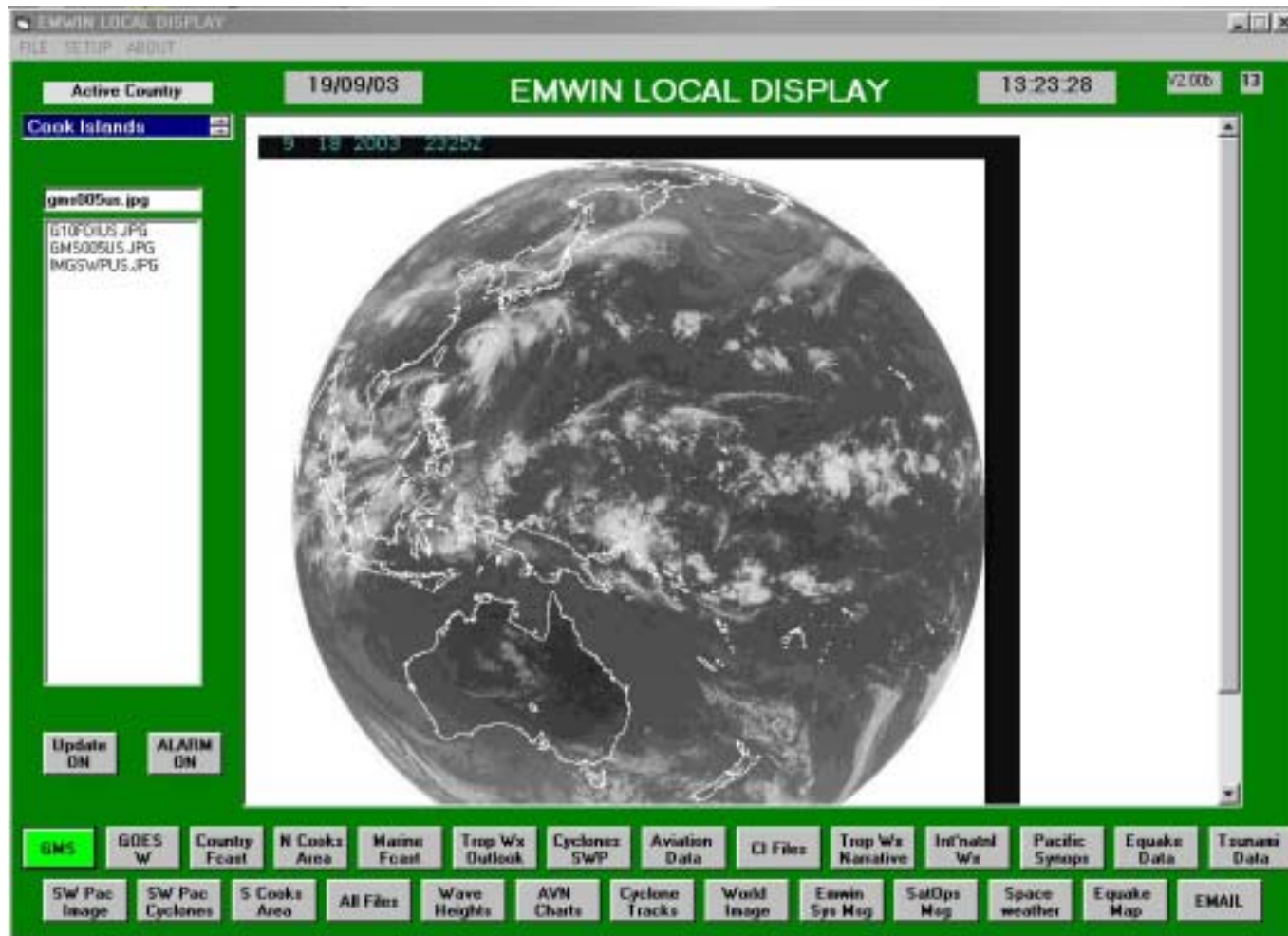
Bulletins
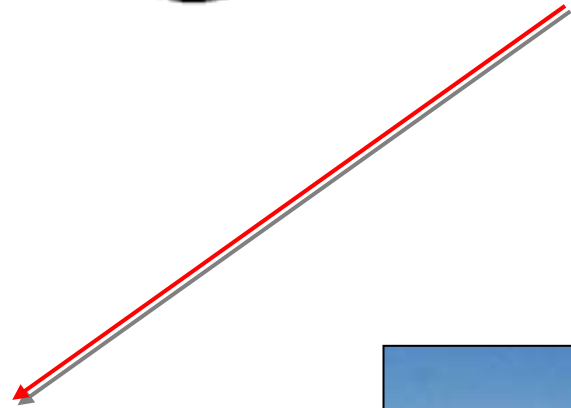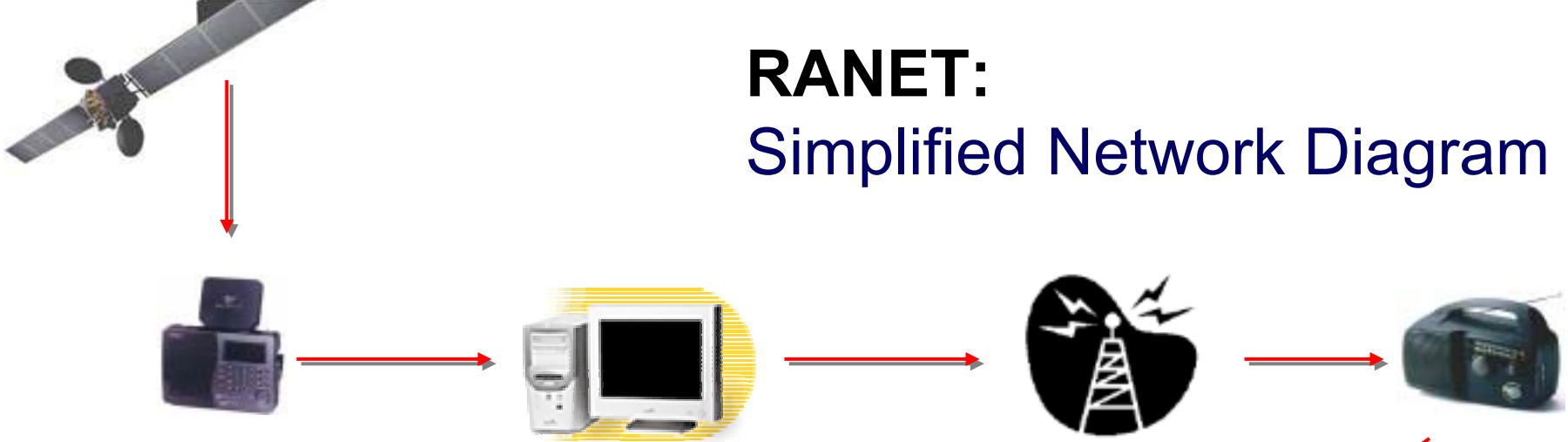Forecasts
Observations
Etc.

Build Upon Existing Strengths and Systems

Emergency Manager's Weather Information Network

RANET:
Simplified Network Diagram

Wantok FM Radio Station

- A Professional Quality FM Radio Station

- A complete broadcast station in a suitcase

- Ideal for a Community FM Radio Station

- Readily accepts any audio source

- Can be solar/wind powered for remote communities

The Wantok Suitcase FM Radio Broadcast System

Applications for the Wantok SBS-1

– Low cost, low power community radio station

– Education and training

– A tool for Socio-Economic Development

– Ideal for Disaster response

HF Email

- Email sent via a HF Radio Transceiver
- Requires a special radio modem
- Modem interfaces to PC or laptop
- Software can interface with Outlook Express

Garry's HF voice and email station

• **What is HF Email**

- – Cost effective remote communications system
- – With training can be easy to install and operate
- – Many countries already have suitable HF systems and equipment

Typical HF Email system set-up

Other Technologies

- Web Hosting
(e.g.- http://www.meteo-uganda.net)

- SMS
(Cellular Based Text Messaging)

- Customized Internet Push-Pull Software
(Warnings and Time Sensitive Information)

- RANET relies on significant – in-kind and local resources
- USAID and AUSAID - and other donors provide some base support and on an activity-by-activity basis
- - $700,000- $1,000,000 / year

- **RANET**
  info@ranetproject.net
  http://www.ranetproject.net

  THANK YOU AND RANET WELCOMES YOUR PARTNERSHIP!

- July 2003 -- held workshop in Honolulu, Hawaii with broad representation from national and regional partners to assess current capacities and ways forward.

- August 2003 at 9RMSD meeting -- presented recommendations from Honolulu workshop and proposed formation of steering committee for RANET.

- March 2004 -- steering committee met and identified next steps. (SC membership: SPREP, NHMSs, SIDS.Net, PEACESAT, EMWIN, PI-GCOS, and others.)

- December 2004 – Australian Bureau of Meteorology began operational management of Asia-Pacific satellite broadcast on RANET.

RANET in the Pacific

- Demonstration activities have been established in Micronesia, Vanuatu, and Niue.

- In Niue, FM community radio stations and no-battery receivers, with HF e-mail equipment, proved valuable for inter- and intra- island communications following Tropical Cyclone Heta.

- July 2004: Established RALT – RANET Africa Leadership Team in 2004

- Some 15 countries with various RANET activities – many active for 2 or more years.

- Began intra-regional exchange and program development between countries in early 2004.