

Chapter 5

COMMUNICATIONS

5.1 Introduction

Communications links to support the exchange of messages between the participants were an important and integral part of the global system established for GSETT-2. During the planning stages of GSETT-2, it became evident that the ambitions of the experiment were such that recent advances in telecommunications technology would have to be taken into account wherever possible in establishing these links. The exchange of large amounts of wave-form (level II) data, in particular, required the use of efficient communication means.

The communications system established for GSETT-2 comprised high-capacity dedicated links between the four EIDCs, as well as connections between each of the NDCs and the inter-EIDC network. This system evolved through several stages, over a period of approximately two years or more. This stepwise approach and gradual build-up to the main phase of GSETT-2 proved to be very beneficial. Many participants were able to test different communication means and choose the optimum one. Others were able to familiarize themselves with and exploit the newest developments in communications technology, from experience gained during preparatory experiments. The communications system established for GSETT-2 and the international cooperation associated with it represents an unprecedented undertaking in seismology.

5.2 Links between NDC and EIDCs

A large variety of different types of physical links and associated protocols were used by the NDCs for their communication with the EIDCs. These communication means ranged from computer-to-computer file transfer on high-speed dedicated links to low-speed telex lines. The various communication means adopted basically reflected what was available to each participant and what was needed in terms of capacity, but factors such as economy, technical experience and knowledge of the NDC staff were also important in this regard. The appendices provide in tabular form an overview of communication means and protocols used by each individual NDC. Some of the experience gained with the various types of links is summarized below.

The WMO Global Telecommunications System (WMO/GTS)

WMO/GTS is a worldwide communications network established and operated jointly by the 155 WMO member States and territories for the exchange of meteorological data. The WMO has authorized the use of GTS for the exchange of seismic data in experiments conducted by the Ad Hoc Group.

During preparations for GSETT-2, a special communications node was set up in Moscow to receive and transmit parameter and wave-form data using WMO/GTS. Altogether seven NDCs made some use of, or tried to make use of, WMO/GTS