

will be recorded. It is the trend that is important. It is the accumulation of the basic figures that one needs to refer to continually before he can make decisions.

Mr. DADDARIO. You have referred to water as a resource. We talk about monitoring and the way criteria are established. Do you consider that we should also include air as a resource? Would you put that separately?

Dr. PECORA. I would claim air as one of our most valuable resources for man and other living things on earth. Our organization does not work in that environment. We are in the solid earth sciences area.

Speaking of water in the solid earth science area, we normally think of water in the visible state—that which we can see and measure at the surface and remeasure and analyze and reanalyze.

There is a second area of water called the invisible water which we refer to in our profession as the ground water. I think this is much more important than perhaps is realized by most people. There is a constant interaction of the water locked up in the porous and permeable rocks of the earth, a constant interaction of this water supply with the streams. Streamflow basically depends on this continuing ground water supply. Constant loss of this water in the coastal areas through underground flow also occurs. We are very much concerned in not only the quantity of water that is available to man but in the quality of water needed for many purposes. As a third party information sources for all users, managers, and planners, we have developed a system of evaluating the resource in its entirety both quality and quantity, in its various environments.

Mr. DADDARIO. Have we identified or are we capable of identifying these ground water streams, as you put it, so that we can come to some judgment about them?

Dr. PECORA. We are far behind in the knowledge that we need for future best management of this invisible ground water—far behind in the knowledge we need in order to add another reliable resource for use of man. Many countries of the world have no real concept of the great potential of ground water.

In the Eastern States, for example, the Congress has just authorized an interstate study of ground water in Delmarva, involving the three States of Delaware, Maryland, and Virginia.

In the gulf coast region there are 13 States greatly concerned with future supplies of ground water. In the High Plains region there are many States east of the Rocky Mountains that require additional knowledge of ground water. These are parts of the whole problem.

To do anything that would pollute this potential supply of water is a grievous fault on the part of man. In this direction we need to acquire many kinds of information, you see, that can go into the decision-making processes of planners, users, and managers.

Mr. DADDARIO. Dr. Pecora, we are beginning to establish criteria based on the importance of this ground water resource without having a good idea what we in fact have. My question gets back to how do we really know what we are dealing with?

Dr. PECORA. We know on the basis of decades of work that there is an hydrodynamic pattern of water flow from rain and seepage to the underground. We would need to develop knowledge of ground water in greater detail so it can be a continuing factor in management.