

PROGRAM OBJECTIVES

✓ SCIENTIFIC & ECONOMIC "PAYOFF"

• USEFULNESS OF MAN IN SPACE

METEOROLOGY

- EXPLORE/UNDERSTAND MOTION & BEHAVIOR OF ATMOSPHERE
- REDUCE IMPACT OF WEATHER ON OPERATIONS & ECONOMY

EARTH RESOURCES

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| <ul style="list-style-type: none"> • AGRICULTURE & FORESTRY • GEOLOGY & MINERAL • GEOG, CARTOG & CULTURAL • HYDROLOGY & WATER • OCEANOGRAPHY |  | <ul style="list-style-type: none"> • CROP STATUS & PRODUCTION • WEED CONTROL • CATTLE • FLOOD CONTROL • FOREST INVENTORY |
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SATELLITE COMMUNICATIONS

- VOICE (TELEPHONE)
- TELEVISION

NAVIGATION

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the Earth resources operational application: agricultural and forestry in nature, geological and mineral explorations, and the other items indicated here.

In exploring these resources, both from national and international aspects, we feel that orbital vehicles—some manned, some unmanned—will eventually lead to supporting the Nation in determining factors such as crop status and production. For example, this would represent an extension of some of the work that has been done in aircraft flying over small citrus areas with infrared sensors—we have been able to detect diseased orange trees. Such information would enable us, therefore, to distinguish which trees should be pulled out and replaced by new saplings, so as to maintain the production levels. The same could be done relative to many types of crops.

Further, by repetitive orbital surveys, we would be able to distinguish good grazing areas for large cattle herds that are not otherwise visible to us on the earth's surface. And, within the broad view of repetitive orbital vehicles, we can monitor changing weather conditions; and we can detect, perhaps in the same vehicles, data pertinent to flood control and forest inventory assessment.

With the meteorological explorations being considered, we can try to understand the motion and behavior of the atmosphere. We may not be able to change the weather, but we can certainly try, at least within the present technology, to reduce impact of the weather on our daily operations and economy.

Mr. GURNEY. When you are talking about usefulness of man in space, do you mean total space activities or manned space flights?

Mr. TINNAN. I'm sorry, I don't quite understand the question.