

ENGINEERING

Taming Missouri River

Work that will take a generation to complete has begun. Four dams are being constructed and will give some flood control benefits by 1949.

► THE JOB of taming the Missouri river, under the flood control program recently commended by the President, has already begun. Four dams on tributaries are now being constructed by the U. S. Reclamation Service. The gigantic main-stream dam at Fort Peck, Mont., is practically completed, and work has begun on another gigantic dam, the Garrison, in North Dakota.

All dams on the Missouri tributaries will be constructed by the Reclamation Service under present plans and those on the river itself by the Army Corps of Engineers. The ambitious program may require a generation to complete, but some flood control benefits will be obtained by 1949. Irrigation benefits and hydroelectric power will soon follow.

In the Reclamation Service program, a total of 93 dams is planned. The Bureau has picked out 46 as available for immediate construction when funds are appropriated. These 46 will do much to control floods on the Missouri, and they fit into the integrated water-control pattern. The four under construction are the Kortes and the Boysen dams in Wyoming, Angostura in South Dakota, and the Enders in Nebraska.

The authorized Missouri control program, known as the Pick-Sloan plan, calls for expenditures of some \$2,000,000,000, and would be for the particular benefit of ten states in the Missouri basin, but in addition would have some effect on flooding in the lower Mississippi Valley.

The Missouri basin represents about one-sixth of the total area of the United States. The Missouri river itself is nearly 2,500 miles long. It has hundreds of tributaries between western Montana and the point where it empties into the Mississippi near St. Louis. Most important are the Yellowstone, Niobrara, Platte, Kansas and Osage.

The area of the upper basin, where many dams on tributaries are proposed, is agricultural and grazing territory which needs irrigation for dependable crops. The lower basin needs protection against floods. The proposed works, in addition to flood control and providing

irrigation water, will develop much electrical energy. This is needed for modern farming and by the urban industries of the basin. In fact, a plentiful supply of electric power might attract many industries to the region, some of which would use its natural mineral resources.

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ASTRONOMY

Many "Shooting Stars" Can Be Seen in August

► AUGUST is the month of "shooting stars," or meteors.

This is because, during the first three weeks of this month, the earth will be crossing the path of the Perseid meteors. You do not have to be an astronomer to enjoy the nightly showers of these bits of cosmic dust which each year invade the earth's atmosphere in August.

On any clear dark night, you can normally see an average of one or two shooting stars an hour. But during the next two weeks, you will be able to see many more.

High point in the number of Perseid meteors will come the night of Aug. 12, with many shooting stars each night from the ninth through the thirteenth.

Best time to see the Perseids is between midnight and dawn. They will seem to be coming from the constellation, Perseus, the champion, which rises in the northeast on August nights.

What we call shooting stars are not stars, but bits of cosmic dust associated with comets. These meteors, as they are more properly called, are usually burned and vaporized by friction as they enter the earth's atmosphere. A few, however, have reached the surface of the earth, and these are known as meteorites.

Although the Perseids seem to radiate from one point in the sky, they will be seen all over the early August sky. Some of the brightest of the Perseids will be brighter than the largest of the planets, Jupiter.

The path through which the Perseids move is the same as that of Tuttle's comet, last seen in 1862, and the meteors which you can see may be the remains of the comet.

If you want to help astronomers count the shooting stars from this month's showers, make a record of the number of meteors you see and when you observed them. Then send your count to Dr. Charles P. Olivier, director of the Flower Observatory of the University of Pennsylvania and president of the American Meteor Society, at Upper Darby, Pa.

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When Germany owned the Pacific Truk islands, large numbers of *coconut palms* were brought in and planted and are now the principal tree species of the area.



FILM STRIPPING—A thin film is applied on airplane de-icers to protect the rubber from hot weather. At the end of the season it can be stripped off as shown.