# Peer Review Summary Document

(5/29/2018)

## Peer Review Plan

https://www2.usgs.gov/peer_review/docs/rio-grande-transboundary_hydrologic-model.pdf [53 KB PDF].

## Title and Authorship of Information Product Disseminated

Rio Grande Transboundary Integrated Hydrologic Model and Water-Availability Analysis, New Mexico, Texas, USA, and Northern Chihuahua, Mexico, By R.T. Hanson, A.B. Ritchie, S.E. Boyce, A.E. Galanter, I. Ferguson, L.E. Flint, and W.R. Henson.

## Peer Reviewers Expertise and Credentials

Reviewer #1 holds an M.S. in geoscience and has substantial expertise in numerical simulation of groundwater and surface-water flow and surface-groundwater interaction, as well as assessing model sensitivity to system state observations and other parameters.

Reviewer #2 holds a Ph.D. in bioresource engineering and has varied research experience, including in groundwater flow and transport, geothermal energy, geostatistical methods and stochastic analysis. The reviewer specializes in the development of methods and tools for analysis and simulation of groundwater and heat flow in the subsurface, particularly in the volcanogenic terrains.

Reviewer #3 holds an M.S. in geology/hydrology and has an extensive background in surface- and ground-water hydrologic characterization and numerical modeling. The reviewer's focus has been on issues relating to water management and irrigated agriculture in the arid southwest, including subsidence, saline groundwater, and artificial recharge.

## Charge Submitted to Peer Reviewers

The reviewers were asked to objectively evaluate the study methods, results, and conclusions described in the manuscript.

## Summary of Peer Reviewers Comments

All the reviewers found the work to be technically sound and had no concerns regarding the methods employed or the findings. They also pointed out areas of redundancy and commented that the explanation for simulating all model layers as confined layers was confusing. Two of the reviewers who made specific comments about their review rating recommended that the manuscript could be "approved with minor changes." The reviewers provided many constructive editorial comments, suggestions, and corrections (i.e., word usage and syntax, inconsistency in use of terminology, punctuation, and organization), as well as suggestions related to the reference citations.

## Summary of USGS Response to Peer Reviewers Comments

The author extensively revised the text to address all reviewer comments and to ensure that readers could logically follow the model and modeling process. The figures were clarified and corrected and efforts were made to remove redundancies and inconsistencies. The explanation of the “confined” simulation method for all layers was rewritten and examples from other models were given in response to the reviewers’ comments. Their close review and suggested corrections of the locations and names of geographic and geologic areas in the text was helpful as was their recommended changes in the figures for accuracy and clarity.

## The Dissemination

The published information product will be released as a USGS Open File Report series publication and will be available at https://pubs.usgs.gov/.