

ADDRESSING INTERSTATE GROUND WATER OWNERSHIP: *MISSISSIPPI V. TENNESSEE*

ALEC SWEET*

INTRODUCTION

“Whiskey is for drinking; water is for fighting over.”¹

Contemporaneous with significant climate change and heightened environmental concerns, the Supreme Court has seen an increasing number of water-related lawsuits between states. These lawsuits include disputes over water storage and water compacts as well as disputes over water usage affecting aquaculture.² Scientists predict that in the future, the United States could face rising temperatures, droughts, and natural disasters.³ If states cannot cooperate to conserve the water they share, these catastrophes could cause immense suffering and numerous conflicts between states.⁴ The Supreme Court needs a consistent

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1. Ted Poe, *Whiskey is for drinking, water is for fighting*, THE HILL (May 5, 2018), <https://thehill.com/blogs/congress-blog/foreign-policy/387545-whiskey-is-for-drinking-water-is-for-fighting>.

2. See *Texas v. New Mexico*, 141 S. Ct. 509 (2020) (disputing who is responsible for stored water that evaporated under the Pecos River Compact); *Florida v. Georgia*, 138 S. Ct. 2502 (2018) (alleging Georgia’s water usage hurt Florida’s harvesting of oysters); See also Ellen M. Gilmer & Jennifer Kay, *Water Wars at the Supreme Court: ‘It’s Only Going to Get Worse’*, BLOOMBERG L. (Sept. 17, 2020 1:16 PM), <https://news.bloomberglaw.com/environment-and-energy/water-wars-at-the-supreme-court-its-only-going-to-get-worse>.

3. D. Wuebbles et al., *How Will Climate Change Affect the United States in Decades to Come?*, EOS (Nov. 3, 2017), <https://eos.org/features/how-will-climate-change-affect-the-united-states-in-decades-to-come>.

4. See e.g., Tia Ghose, *Water Woes: Firefighters Get Creative to Douse Flames in California*, LIVE SCI. (Sept. 25, 2015), <https://www.livescience.com/52302-california-drought-reducing-water-firefighting.html> (explaining how firefighters in California are struggling to fight wildfires because of the scarce water supply); Henry Fountain, *In a First, U.S. Declares Shortage on Colorado River, Forcing Water Cuts*, N.Y. TIMES (Aug. 27, 2021),

doctrine to apply in water disputes.

In prior disputes over surface water, the Court has applied the doctrine of equitable apportionment, determining the percentage of the disputed water each party is allowed to use.⁵ In *Mississippi v. Tennessee*, the Court was presented with a case of first impression and had to decide whether to extend the doctrine of equitable apportionment to ground water.⁶ There, the Court ruled in favor of Respondent Tennessee⁷—extending the equitable apportionment doctrine and endorsing a flexible approach that encourages states to negotiate their use of a shared water resource. In ruling for Tennessee, the Court rejected Petitioner Mississippi’s arguments regarding state sovereignty and Mississippi’s inherent rights to the contested water.

Tennessee was successful, and, as argued in this Commentary, the Court ruled correctly. Adopting Mississippi’s territorial integrity argument would have potentially caused chaos in interstate groundwater disputes by upsetting the established paradigm—encouraging states to engage in litigation over groundwater resources and ultimately inflaming tensions between neighboring states.⁸ Given these high stakes, the Court properly refrained from bucking legal precedent.

I. FACTS

The procedural background of this case is complex. Mississippi first sued the city of Memphis in 2005, alleging that since 1965, there have been 363 billion gallons of water removed unlawfully from Mississippi.⁹

<https://www.nytimes.com/2021/08/16/climate/colorado-river-water-cuts.html> (describing negotiations between seven states which use the Colorado River for water supply).

5. Brief for the United States as Amicus Curiae in Support of Overruling Mississippi’s Exceptions to the Rep. of the Special Master at 14, *Mississippi v. Tennessee*, 135 S. Ct. 2916 (2015) (mem.) (No. 143, Original) [hereinafter Brief for the United States Regarding Special Master] (citing cases from as early as 1907 that used “the application of equitable apportionment to interstate resources”).

6. *Id.* at 17 (“The groundwater at issue here exhibits the same characteristics that this Court emphasized in finding the doctrine of equitable appointment applicable . . .”).

7. The opinion for this case was released on November 22, 2021, much earlier than the usual two/three-month period between oral arguments and the Court’s released opinion. The Court ruled 9-0 in favor of Tennessee, dismissing Mississippi’s Complaint, in an opinion written by Chief Justice John Roberts.

8. Dan Elliott, *Feud Erupts between Utility, US states over Colorado River*, A.P. NEWS (Apr. 18, 2018), <https://apnews.com/article/7c18b7a58f034df6b6341ebf1cd6d8c0> (explaining the tension between states that share the Colorado River).

9. Boyce Upholt, *An Interstate Battle for Groundwater*, THE ATLANTIC (Dec. 4, 2015), <http://www.theatlantic.com/science/archive/2015/12/mississippi-memphis-tennesee-groundwateraquifer/418809/>.

The suit was dismissed by the district court under Fed. R. Civ. P. 19(a)(1),¹⁰ and upheld by the United States Court of Appeals for the Fifth Circuit who noted that Mississippi failed to join a necessary and independent party, Tennessee.¹¹ The district court dismissed the suit because joining Tennessee would force the suit to become an action between states, triggering the original jurisdiction of the Supreme Court.¹² The Fifth Circuit then affirmed the district court's holding, finding that the portion of the Aquifer belonging to each state should be allocated using equitable apportionment.¹³ The Fifth Circuit rejected Mississippi's argument that because the water used by Memphis was an intrastate resource within its "state boundaries," Tennessee was not a necessary party.¹⁴ Mississippi then filed a Petition for a Writ of Certiorari, and a Motion for Leave to File Bill of Complaint in Original Action, both of which were denied by the Court.¹⁵ In denying the latter, the Court indicated its approval of extending the doctrine of equitable apportionment to ground water disputes between states.¹⁶

Mississippi regrouped and began new litigation. On June 6, 2014, Mississippi moved for Leave to File a Bill of Complaint against the defendants—the state of Tennessee, the city of Memphis, and Memphis Light, Gas & Water Division—in an original action before the Supreme Court.¹⁷ The new Complaint again alleged that defendants violated Mississippi's retained sovereignty by forcibly pumping groundwater "stored and exclusively residing within Mississippi's territorial

10. Requiring that a person subject to process and whose joinder will not deprive the court of subject-matter jurisdiction be joined if:

"(A) in that person's absence, the court cannot accord complete relief among existing parties; or (B) that person claims an interest relating to the subject of the action and is so situated that disposing of the action in the person's absence may: (i) as a practical matter impair or impede the person's ability to protect the interest; or (ii) leave an existing party subject to a substantial risk of incurring double, multiple, or otherwise inconsistent obligations because of the interest."

11. *Hood ex rel. Miss. v. City of Memphis*, 570 F.3d 625, 629 (5th Cir. 2009).

12. *Id.*

13. *Id.* at 630 ("Determining Mississippi and Tennessee's relative rights to the Aquifer brings this case squarely within the original development and application of the equitable apportionment doctrine.").

14. *Id.*

15. Michael D. Tauer, *Evolution of the Doctrine of Equitable Apportionment—Mississippi v. Memphis*, 41 UNIV. MEM. L. REV. 897, 922 (2011).

16. *Id.* at 922–23. (pointing to *Virginia v. Maryland*, 540 U.S. 56, 74 n.9 (2003), where the Supreme Court stated that "[f]ederal common law governs interstate bodies of water, ensuring that the water is equitably apportioned between the States and that neither State harms the other's interest in the river").

17. *Mississippi v. Tennessee*, SCOTUSBLOG, <https://www.scotusblog.com/cases/cases/mississippi-v-tennessee> (last visited Nov. 10, 2021) [hereinafter SCOTUSblog].

borders.”¹⁸ The Supreme Court granted leave on June 29, 2015 and appointed the Hon. Eugene E. Siler as Special Master in the case.¹⁹ The Special Master filed his report on November 5, 2020, and the parties filed their exceptions to the Special Master’s report on February 22, 2021.²⁰ Oral arguments were held on October 4, 2021.²¹ The Acting Solicitor General also participated as an amicus curiae.²²

The contested water in the litigation is located in the Mississippi Embayment Regional Aquifer System, specifically within the Middle Claiborne Aquifer.²³ The Middle Claiborne Aquifer is the second largest producer of groundwater²⁴ in the Mississippi Embayment.²⁵ The Middle Claiborne Aquifer is located hundreds of feet below the surface of eight states and covers more than 70,000 square miles.²⁶ The water in the Aquifer naturally flows from east to west.²⁷

Memphis, Tennessee is the largest urban area located within the Aquifer and relies significantly on groundwater to meet its water needs.²⁸ Memphis began pumping water from the Aquifer in 1886, and today, Memphis Light, Gas & Water Division operates over 160 wells inside the state of Tennessee.²⁹ This groundwater is the only source of public water for Shelby County, where Memphis is located.³⁰ Shelby

18. Reply Brief of the State of Mississippi on its Motion for Leave to File Bill of Complaint in Original Action at 1, *Mississippi v. Tennessee*, 135 S. Ct. 2916 (2015) (mem.) (No. 143, Original) [hereinafter Reply Brief of the State of Mississippi].

19. SCOTUSblog, *supra* note 17.

20. *Id.*

21. *Id.*

22. *Id.*

23. Brief for the United States Regarding Special Master, *supra* note 5, at 4.

24. There are ten hydrogeological units within the Mississippi Embayment, with the Middle Claiborne Aquifer holding around nine percent of the total water within the Mississippi Embayment System. Brian R. Clark et al., U.S. Geological Survey, *Groundwater Availability of the Mississippi Embayment*, *USGS Professional Paper 1785* 8, 10 (2011), <http://pubs.usgs.gov/pp/1785/pdf/PP1785.pdf>.

25. This Aquifer is also referred to as the “Sparta-Memphis” Aquifer, deriving the name from the “Sparta Sands” and “Memphis Sands” regions of the Middle Claiborne Aquifer. Brief for the United States Regarding Special Master, *supra* note 5, at 3.

26. The eight states are: Louisiana, Mississippi, Tennessee, Alabama, Arkansas, Missouri, Kentucky, and Illinois. Christine A. Klein, *Owning Groundwater: The Example of Mississippi v. Tennessee*, 35 VA. ENV’T L. J. 474, 520 (2017).

27. Supplemental Brief of the State of Mississippi in Response to Brief for the United States as Amicus Curiae at 3, *Mississippi v. Tennessee*, 135 S. Ct. 2916 (2015) (No. 143, Original) [hereinafter Supplemental Brief of the State of Mississippi].

28. Clark, *supra* note 24, at 8.

29. Brief for the United States Regarding Special Master, *supra* note 5, at 4. While Memphis has been using water since the 1880s, the amount pumped from the Aquifer was ten times more than it pumped in 1890 and is certainly much higher in modern times. Clark, *supra* note 24, at 17.

30. Clark, *supra* note 24, at 8.

County alone uses an average of 180 million gallons of water a day, enough to satisfy the water needs of its agricultural sector and Memphis' population of 650,000.³¹ But the groundwater is equally important to Mississippi, as it supplies 89 percent of the state's public water.³²

Today, Inter-Aquifer horizontal water flow accounts for 48.7 percent of the groundwater inflow to the Memphis area.³³ Additionally, the Aquifer has become the second fastest depleted aquifer system in the country, seeing a yearly decline of around one foot of water a year, making the question of who has rights to use the Aquifer's groundwater increasingly important.³⁴

The outcome of the case rested in large part on how the Supreme Court viewed the relevant facts. Mississippi contended that the Aquifer is "confined"³⁵ and that under natural conditions the water used by Memphis would stay within the borders of Mississippi.³⁶ In making this argument, Mississippi cited the fact that Memphis's recent use of water wells for agricultural and industrial uses has created "cones of depression"³⁷ within the Aquifer.³⁸ These cones of depressions can, under certain conditions, cause water to flow in the direction of the wells.³⁹ Mississippi believed that these wells cause water to flow back north towards Memphis from Mississippi.⁴⁰ Tennessee rejected Mississippi's attempt to break the Aquifer into separate and distinct sections, where each state could lay claim to water that flowed out of its jurisdiction; instead, it simply viewed the contested water as part of an interstate water resource.⁴¹

31. *Id.*

32. *Id.*

33. Clark, *supra* note 24, at 31.

34. Upholt, *supra* note 9.

35. A confined aquifer can transmit and store water under pressure and is located between impermeable rock. The Sparta Sands Aquifer is bounded by impermeable clay formations. Supplemental Brief of the State of Mississippi, *supra* note 27, at 3.

36. *Id.* at 1.

37. A "cone of depression" is where water withdrawn from wells causes the potentiometric level in the well to drop, causing more water to flow into the well and lowering potentiometric levels in the groundwater surrounding the well. Water flows from high potentiometric levels to low potentiometric levels. Brief for the United States Regarding Special Master, *supra* note 5, at 3.

38. *Id.* at 4.

39. *Id.* at 3–4.

40. Supplemental Brief of the State of Mississippi, *supra* note 27, at 3–4 (arguing that Tennessee "could and should have located MLGW's massive well fields further from the Mississippi/Tennessee border, limiting withdrawal to the natural recharge in Tennessee . . .").

41. Tennessee Opposition Brief, *infra* note 103, at 18.

II. LEGAL HISTORY

A. *Equitable Apportionment and Interstate Water Resources*

In the past, interstate bodies of water have been governed by federal common law, which ensures that “water is equitably apportioned between the States.”⁴² When disputes arise over interstate waters, states have two solutions: to “enter an interstate compact” or “petition the Supreme Court for equitable apportionment.”⁴³ Congress can also choose to divide the waters up itself.⁴⁴ No compact governing groundwater had been created between the states in this case.⁴⁵

The doctrine of equitable apportionment governs how “the Supreme Court has traditionally allocated water in disputes between states over their shared surface water resources.”⁴⁶ When issuing a decree of equitable apportionment, the Court determines how much water each state is allowed to use.⁴⁷ The doctrine focuses on distributing water based on “equality of rights” as opposed to a strict even division of water.⁴⁸ This means equitable apportionment is a flexible doctrine in practice, taking into account various factors, including:

“physical and climatic conditions, the consumptive use of water in the several sections of the river, the character and rate of return flows, the extent of established uses, the availability of storage water, the practical effect of wasteful uses on downstream areas, [and] the damage to upstream areas as compared to the benefits to downstream areas if a limitation is

42. *Virginia v. Maryland*, 540 U.S. 56, 74 n.9 (2003).

43. Report of the Special Master at 26, *Mississippi v. Tennessee*, 135 S. Ct. 2916 (2015) (No. 143, Original). The interstate compacts require Congressional approval. *See* U.S. CONST. art. I, § 10, cl. 3 (“No State shall, without the Consent of Congress, . . . enter into any Agreement or Compact with another State . . .”).

44. Jamie Huffman, *Mississippi v. Tennessee: Analysis and Implications*, 28 N.Y.U. ENV'T L.J., 227, 231 (2020).

45. In total, twenty-seven compacts governing surface water have been created. *See* Noah D. Hall & Benjamin L. Cavaturo, *Interstate Groundwater Law in the Snake Valley: Equitable Apportionment and a New Model for Transboundary Aquifer Management*, 2013 UTAH L. REV. 1553, 1571 (2013).

46. Huffman, *supra* note 44, at 232.

47. *U.S. Supreme Court: Equitable Apportionment*, ATLANTA REG'L COMM'N (Feb. 3, 2021), <https://atlantaregional.org/natural-resources/water-wars/u-s-supreme-court-equitable-apportionment>.

48. *See Kansas v. Colorado*, 206 U.S. 46, 100–01 (1907). (arguing the Supreme Court is “justified in looking at the question not narrowly and solely as to the amount of the flow in the channel of the Arkansas river, inquiring merely whether any portion thereof is appropriated by Colorado, but we may properly consider what, in case a portion of that flow is appropriated by Colorado, are the effects of such appropriation upon Kansas territory”).

imposed on the former”⁴⁹

Due to this flexible doctrine, “state borders are not dispositive in resolving competing claims” over interstate water where equitable apportionment applies.⁵⁰

Because equitable apportionment falls under the Supreme Court’s original jurisdiction, parties seeking equitable apportionment must first obtain leave to file a lawsuit.⁵¹ The party seeking relief must allege a “real and substantial injury”⁵² by clear and convincing evidence and, by the same standard, must also show that the “harms of apportionment are ‘substantially outweigh[ed]’ by the benefits.”⁵³

The first case to deal with equitable apportionment in water disputes was *Kansas v. Colorado*.⁵⁴ There, the Court applied the doctrine to solve a dispute in which Kansas believed Colorado was diminishing the flow of surface water from the Arkansas River by taking water for irrigation.⁵⁵ The Court’s stated goal was to settle the dispute “in such a way as will recognize the equal rights of both [states] and at the same time establish justice between them.”⁵⁶ The Court later held that the doctrine includes waters that are connected to surface waters.⁵⁷

The equitable apportionment doctrine has even been extended to resources like migratory fish in *Idaho ex rel. Evans v. Oregon*.⁵⁸ The Court, when applying the doctrine, focused on the presence of two

49. *Nebraska v. Wyoming*, 325 U.S. 589, 618 (1945).

50. Peter G. Berris, *Mississippi v. Tennessee: Resolving an Interstate Groundwater Dispute*, 12 DUKE J. CONST. L. & PUB. POL’Y SIDEBAR 1, 6 (2016); *See Colorado v. New Mexico*, 467 U.S. 310, 323 (1984) (“[T]he source of the Vermejo River’s waters should be essentially irrelevant to the adjudication of these sovereigns’ competing claims.”).

51. Huffman, *supra* note 44, at 233.

52. *Idaho ex rel. Evans v. Oregon*, 462 U.S. 1017, 1027 (1983).

53. Huffman, *supra* note 44, at 233 (quoting *Florida v. Georgia*, 138 S. Ct. 2502, 2535 (2018) (Thomas, J. dissenting)).

54. *See generally* 206 U.S. 46 (1907) (holding that Kansas did not have a claim but that the Court could re-visit the issue if the water situation worsens).

55. Brief for the United States Regarding Special Master, *supra* note 5, at 14.

56. 206 U.S. at 98.

57. *See Washington v. Oregon*, 297 U.S. 517, 524 (1936) (equitable apportionment applies when “‘a substantial part of the water applied to irrigation in Oregon . . . goes into the underground water supply’ and returns to the river”).

58. In this case, Idaho sued for equitable apportionment of transient fish that spawn in the snake river in Idaho, travel to the Atlantic Ocean, and then later return to their origins. Idaho’s Complaint alleged that as the fish traveled back up stream, fishermen and dams in Oregon and Washington were trapping a disproportionate number of fish. *See generally* 462 U.S. 1017 (1983) (finding that Idaho had not shown that it was being “deprived of its equitable share of anadromous fish”).

factors: the resource’s movement between state lines, and whether actions in one state can affect the availability of the resource in another state.⁵⁹ Although groundwater is distinguishable from surface water, particularly because it moves much slower and is not visible, the Court’s prior willingness to extend equitable apportionment beyond surface water signals that the doctrine’s application to groundwater would be consistent with precedent.

B. The “Equal Footing Doctrine” and Retained Sovereignty

Article 4, Section 3 of the United States Constitution governs the admission of new states into the Union, stating:

New States may be admitted by the Congress into this Union; but no new State shall be formed or erected within the Jurisdiction of any other State; nor any State be formed by the Junction of two or more States, or Parts of States, without the Consent of the Legislatures of the States concerned as well as of the Congress.⁶⁰

Congress created the “equal footing doctrine” and applied it to all admitted states. All states’ acts of admission must include a clause stating that the state enters “on an equal footing with the original states in all respects”⁶¹ This equal footing doctrine provides that “because the ‘shores of navigable waters, and the soils under them . . . were reserved to the states respectively,’ the ‘new states have the same rights, sovereignty, and jurisdiction over this subject as the original states.’”⁶²

The Supreme Court has ruled that the equal footing doctrine applies to water rights.⁶³ The Supreme Court held in *Kansas v. Colorado* that states have “full jurisdiction over the lands within [their] borders, including the beds of streams and other waters.”⁶⁴ In *Tarrant Reg’l Water Dist. v. Herrmann*, the Court made clear that “[s]tates possess an ‘absolute right to all their navigable waters and the soils under them

59. Brief for the United States Regarding Special Master, *supra* note 5, at 15.

60. U.S. CONST. art. IV, § 3, cl. 1.

61. *Doctrine of The Equality of States*, JUSTIA at n.264 <https://law.justia.com/constitution/us/article-4/15-doctrine-of-the-equality-of-states.html> (last visited Nov. 11, 2021).

62. Berris, *supra* note 50, at 8 (quoting *Pollard v. Hagan*, 44 U.S. 212, 230 (1845)). U.S. CONST. amend. X. (“The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.”)

63. See *United States v. Holt State Bank*, 270 U.S. 49, 55 (1926) (“[U]nder the constitutional principle of equity among the several states the title to the bed of Mud Lake then passed to the state, if the lake was navigable, and if the bed had not already been disposed of by the United States.”).

64. 206 U.S. 46, 93 (1907).

for their own common use,”⁶⁵ and “ownership of submerged lands, and the accompanying power to control . . . other public uses of water, ‘is an essential attribute of sovereignty.’”⁶⁶

C. Summary of Mississippi’s Argument

Mississippi made three main arguments to the Court. First, Mississippi argued the current litigation should not be precluded by the Fifth Circuit’s prior ruling.⁶⁷ Second, Mississippi argued that it is entitled to remedies, other than equitable apportionment, for Tennessee’s violation of “Mississippi’s sovereign territory.”⁶⁸ Third and finally, Mississippi argued that the contested water is an intrastate resource and not subject to equitable apportionment.⁶⁹

Mississippi first argued that the Fifth’s Circuit’s holding mandating equitable apportionment was invalid.⁷⁰ Mississippi contended that because the conflict is between two sovereign states, the Supreme Court holds original jurisdiction over the matter.⁷¹ Mississippi then further argued that preclusion would delegate the Supreme Court’s exclusive power to lower courts lacking proper jurisdiction.⁷² Mississippi also opposed preclusion on the ground that the Fifth Circuit’s holding in favor of equitable apportionment was not essential to the judgment.⁷³ Once it was determined that Mississippi’s claims implicated Tennessee, making Tennessee a required party, the lower courts did not need to identify the type of claims Mississippi could or could not assert against Tennessee.⁷⁴ Mississippi, citing *Mississippi v. Louisiana*,⁷⁵ rejected the claim that a denial of certiorari in the previous case precluded their new Complaint.⁷⁶

Second, Mississippi argued that the current case fell outside the purview of the equitable apportionment doctrine, so it was entitled to

65. 569 U.S. 614, 616 (2013) (quoting *Martin v. Lessee of Waddell*, 41 U.S. 367, 410 (1842)).

66. *Id.* (quoting *United States v. Alaska*, 521 U.S. 1, 5 (1997)).

67. Reply Brief of the State of Mississippi, *supra* note 18, at 12.

68. Supplemental Brief of the State of Mississippi, *supra* note 27, at 9.

69. *Id.* at 3.

70. Reply Brief of the State of Mississippi, *supra* note 18, at 9–10.

71. *Id.* at 12; *see also* U.S. CONST. art. III, § 2, cl.1. (“The Judicial Power shall extend to all Cases, . . . to Controversies between two or more States . . .”).

72. Reply Brief of the State of Mississippi, *supra* note 18, at 9.

73. *Id.* at 11.

74. *Id.*

75. 506 U.S. 73, 76 (1992) (rejecting the idea that a denial of certiorari amounts to the Court’s adoption of the lower court’s holding).

76. Reply Brief of the State of Mississippi, *supra* note 18, at 11–12.

damages and restitution for the water taken by Tennessee.⁷⁷ The Supreme Court has the authority in an original action to grant whatever relief is deemed appropriate.⁷⁸ Because the asserted harms fell under “serious violations of sovereign territorial rights,” Mississippi demanded payment from Tennessee based on theories of restitution. In Mississippi’s opinion, equitable apportionment would not function as a remedy, but rather give Tennessee rights to take water that does not belong to it.⁷⁹ In this instance, Mississippi’s preferred remedies would be restitution for water already taken, and an injunction to prevent more water from being taken in the future.⁸⁰ In contrast, the application of equitable apportionment would divide the contested water between Mississippi and Tennessee for future use, and Mississippi would remain uncompensated for water taken by Tennessee to date.

Finally, Mississippi argued that equitable apportionment is inappropriate because the contested water is “trapped within its territorial borders in a deep confined aquifer under natural conditions.”⁸¹ The crutch of this argument is that equitable apportionment under current case law applies only “to intrastate groundwater which is . . . hydrologically connected to interstate surface water already apportioned by the Court or an interstate compact.”⁸² In this case, the Middle Claiborne Aquifer is not a free-flowing underground lake, and it does not flow unencumbered like surface water rivers.⁸³ Moreover, groundwater is hidden from view in small pores between various sediments, with murky boundaries and varying hydraulic potential.⁸⁴

Mississippi contested the Special Master’s finding that the water

77. Reply Brief of the State of Mississippi, *supra* note 18, at 8. (citing *Kansas v. Colorado*, 533 U.S. 1, 6 (“[i]n proper original actions money damages are available”).

78. *Id.*; see also *Kansas v. Nebraska*, 135 S. Ct. 1042, 1052 (2015) (“[T]he court may regulate and mould the process it uses in such a manner as in its judgment will best promote the purposes of justice.” (quoting *Kentucky v. Dennison*, 65 U.S. 66, 98 (1861))).

79. Mississippi Brief in Support of Exceptions, *infra* note 83, at 36.

80. *Id.* at 46.

81. Reply Brief of the State of Mississippi, *supra* note 18, at 3; see also Supplemental Brief of the State of Mississippi, *supra* note 27, at 3 (stating that the Sparta Sands Aquifer is “confined” and “[t]he groundwater at issue was naturally collected and stored over thousands of years within Mississippi”).

82. Reply Brief of the State of Mississippi, *supra* note 18, at 4.

83. Exceptions to Report of the Special Master by Plaintiff State of Mississippi and Brief in Support of Exceptions at 2, *Mississippi v. Tennessee*, 135 S. Ct. 2916 (2015) (No. 143, Original) [hereinafter Mississippi Brief in Support of Exceptions].

84. *Id.* at 5. (stressing the physical differences between groundwater and surface water).

was an interstate resource, noting that the water resided originally in Mississippi and does not behave like a river that flows within multiple states.⁸⁵ Mississippi posited that “[t]he fact that [the groundwater] has ‘existed’ and ‘occurred’ within the land making up Mississippi for centuries, makes it ‘intrastate’ by definition.”⁸⁶ Mississippi further contested the Special Master’s conclusion that the Sparta Sands Aquifer and Memphis Sands Aquifer are a single hydrogeological unit, claiming instead they exist as separate Aquifers.⁸⁷ Mississippi asserted that the subterranean movement of the water is more complex than surface level waters and thus requires a different solution, such as the application of state tort law.⁸⁸

Even if the groundwater is interstate, Mississippi contended that equitable apportionment only applies to “*naturally* shared water.”⁸⁹ Under the natural conditions which existed when Mississippi was admitted to the Union, Mississippi has “complete sovereign authority” over the groundwater through the equal footing doctrine.⁹⁰ Mississippi asserted that the water Tennessee is using is not naturally shared because without pumping, “none of the groundwater being claimed would have ever entered Tennessee.”⁹¹ Only recent technology has allowed Tennessee to access Mississippi groundwater,⁹² which has “divest[ed] [Mississippi] of the authority to preserve and regulate the use of natural resources naturally residing within its sovereign territory”⁹³ Mississippi stated that pumping is not covered by the term,

85. *Id.* at 18–19.

86. *Id.* at 35. *See also* Fla. Dep’t of Revenue v. New Sea Escape Cruises, Ltd., 894 So.2d 954, 961 (Fla. 2005) (“The term ‘intrastate’ is commonly construed as meaning ‘existing or occurring within a state.’”).

87. Mississippi Brief in Support of Exceptions, *supra* note 83, at 33 (“Mississippi has consistently noted the geographic, geological, and hydrological distinctions between the Sparta Sand . . . and the Memphis Sand . . .”).

88. *See id.* (“The complexities of groundwater shown in the evidentiary hearing merely demonstrate the inapplicability of the equitable apportionment cases involving interstate rivers and streams.”).

89. Reply Brief of the State of Mississippi, *supra* note 18, at 6.

90. *Id.* at 7; Mississippi Brief in Support of Exceptions, *supra* note 83, at 3 (“States retain all title, jurisdiction, and sovereign authority over lands and waters not ceded to the federal government which they possessed as separate nations before ratification of the Constitution.”).

91. Supplemental Brief of the State of Mississippi, *supra* note 27, at 1.

92. Mississippi focuses on 170 water wells that began pumping no later than 1985, resulting in over 400 billion gallons of groundwater moving out of Mississippi into Tennessee. Reply Brief of the State of Mississippi, *supra* note 18, at 2, 6.

93. Supplemental Brief of the State of Mississippi, *supra* note 27, at 7. (arguing that Tennessee has “no right to reach into and invade Mississippi’s sovereign territory through artificial, mechanical, or technological means to forcibly capture groundwater”).

“agency of natural law,”⁹⁴ arguing that the term should apply to “undisturbed flow of surface water downstream” but not “mechanical application[s] of the law of physics” like mechanical pistons.⁹⁵

In this case, the Memphis Light, Gas, & Water Division has created a regional cone of depression through its use of pumps, pulling water into Tennessee that would naturally remain within the territorial control of Mississippi.⁹⁶ Mississippi claimed the Aquifer’s water flow has shifted from its natural flow in a westward and southern direction to a northern direction towards Memphis.⁹⁷ Mississippi cited *Tarrant Reg’l Water Dist. v. Herrmann*⁹⁸ as precedent that states have sovereignty over water within their geographical boundaries.⁹⁹ Applying *Tarrant*, Mississippi believed Tennessee had used their wells to physically take water from within Mississippi’s borders.¹⁰⁰ Mississippi did not contend “that Defendants are taking too much water from Mississippi, [but] that Defendants have *no right* . . . to take any groundwater located in Mississippi . . .”¹⁰¹

D. Summary of Defendants’ Argument

The Defendants—the state of Tennessee, the city of Memphis, and Memphis Light, Gas & Water Division—made three primary arguments.¹⁰² First, Tennessee argued Mississippi’s Complaint should

94. *Id.* at 7–8; see *Kansas v. Colorado*, 206 U.S. 46, 97–98 (1907) (“Yet, whenever . . . the action of one state reaches, through the agency of natural laws, into the territory of another state, the question of the extent and the limitations of the rights of the two states becomes a matter of justiciable dispute between them . . .”).

95. Supplemental Brief of the State of Mississippi, *supra* note 27, at 7–8. (rejecting Tennessee’s use of *Missouri v. Illinois*, 180 U.S. 208 (1901), where the Court issued an injunction against Illinois who wanted to build an artificial channel to dump sewage into the Chicago River which ultimately through river flows ended up in the Mississippi River flowing through Missouri; Mississippi believes that only the flow of the water in the rivers is classified under the “agency of natural laws”).

96. Mississippi Brief in Support of Exceptions, *supra* note 83, at 1. Mississippi contends that under natural conditions, water in the Aquifer moves at only a rate of one mile every 175 years, and that groundwater collected in the territory that is now Mississippi would stay within Mississippi on for around 7,500 years on average. *Id.* at 8.

97. *Id.* at 15–16.

98. 569 U.S. 614, 631 (2013) (referencing “the well-established principle that States do not easily cede their sovereign powers, including their control over waters within their own territories”).

99. Mississippi Brief in Support of Exceptions, *supra* note 83, at 24.

100. Under an agreement, Texas had a twenty-five percent claim to surface water from the Red River in Oklahoma, but it could not force Oklahoma to give up water it has impounded from the Red River, which eventually would have flowed into Texas. Mississippi Brief in Support of Exceptions, *supra* note 83, at 24.

101. *Id.* at 36.

102. For brevity, “Tennessee” or “defendants” will be used as shorthand for all three

be precluded by the Fifth Circuit's prior holding.¹⁰³ Second, Tennessee argued equitable apportionment is the proper remedy, and the lower courts were correct to reject Mississippi's "territorial property rights theory."¹⁰⁴ Third, Tennessee objected to the Special Master's determination that Mississippi be given leave to amend their Complaint.¹⁰⁵ Tennessee instead asserted the Complaint should be dismissed with prejudice, preventing Mississippi from amending the Complaint to seek equitable apportionment as a remedy.¹⁰⁶

First, the Defendants believed that the current litigation should be precluded because the Fifth Circuit has already held that Mississippi has no enforceable right to the groundwater without equitable apportionment.¹⁰⁷ Until Mississippi obtains apportionment from the Aquifer, it should be precluded from suing another state for infringing on its share.¹⁰⁸ The Defendants asserted that Mississippi is simply attempting to relitigate the exact same arguments that it argued, and lost, in the Fifth Circuit, placing this case under the doctrine of issue preclusion.¹⁰⁹

Second, the Defendants rejected Mississippi's contention that they have "sovereign ownership" over the groundwater within their geographical boundaries.¹¹⁰ Tennessee asserted that even Mississippi recognizes that the Aquifer straddles both states, making the water an interstate resource, and that claims of ownership necessarily implicated the rights of both states.¹¹¹ Defendants cited *Idaho ex rel. Evans v. Oregon* to support their proposition that an interstate natural resource cannot be seized for exclusive use simply because it happens to be within one state's geographical boundaries at the moment of seizure.¹¹²

defendants.

103. Brief of Defendant State of Tennessee in Opposition to State of Mississippi's Motion for Leave to File Bill of Complaint in Original Action at 3, *Mississippi v. Tennessee*, 135 S. Ct. 2916 (2015) (mem.) (No. 143, Original) [hereinafter Tennessee Opposition Brief].

104. *Id.*

105. Exception in Part of Defendants State of Tennessee, City of Memphis, and Memphis Light, Gas & Water Division to Report of the Special Master and Brief in Support of Exception at 1, *Mississippi*, 135 S. Ct. 2916 (No. 143, Original) [hereinafter Tennessee Exception in Part].

106. Reply of Defendant State of Tennessee to Exceptions of Plaintiff State of Mississippi to Report of the Special Master at 1, *Mississippi v. Tennessee*, 135 S. Ct. 2916 (No. 143, Original).

107. Tennessee Opposition Brief, *supra* note 103, at 23.

108. *Id.*

109. *Id.* at 26–27 (quoting *Parklane Hosiery, Co. v. Shore*, 439 U.S. 322, 326 (1979)).

110. *Id.* at 14. Tennessee argues that a state "may not preserve solely for its own inhabitants natural resources located within its borders." *Id.* at 15 (quoting *Idaho ex rel. Evans v. Oregon*, 462 U.S. 1017, 1025 (1983)).

111. *Id.* at 18.

112. See Tennessee Opposition Brief, *supra* note 103, at 15 (quoting *id.* at 1025) ("[A] State

According to the Defendants, both groundwater and surface water “share salient hydrological characteristics” that make groundwater an appropriate resource for equitable apportionment.¹¹³ In Tennessee’s opinion, water flowing over the state border because of cones of depression from pumping is an example of “the agency of natural laws” in action.¹¹⁴

Third, Tennessee disagreed with the Special Master’s recommendation that Mississippi be given leave to amend its Complaint to include equitable apportionment.¹¹⁵ Tennessee believed that an amended Complaint including equitable apportionment as a remedy sought would “take the litigation beyond what [this Court] reasonably anticipated when [it] granted leave to file the initial pleadings.”¹¹⁶ Tennessee reminded the Court that Mississippi had affirmatively disavowed equitable apportionment as an appropriate remedy for the claimed injury.¹¹⁷ Tennessee maintained that the Court should thus deny Mississippi the opportunity to “reverse course” and assert an equitable apportionment claim midway through litigation.¹¹⁸

Furthermore, Tennessee noted that equitable apportionment differs drastically from the remedies Mississippi sought under tort claims.¹¹⁹ Tennessee did not believe Mississippi had properly showed a “substantial injury” to its ability to use the shared resource, which is a threshold requirement to equitable apportionment claims.¹²⁰ Tennessee was worried that an amended Complaint would burden the Defendants with litigation costs, requiring another round of costly discovery and fact finding beyond the questions that had been litigated to date.¹²¹ Tennessee further voiced concern that equitable apportionment could affect states not party to the dispute, but which could have an interest

may not preserve solely for its own inhabitants natural resources located within its borders.”). The migratory fish in *Idaho* is compared to the groundwater in the current case. Idaho had an equitable claim to the fish as an interstate resource, even though they were entirely physically located within Oregon during parts of the migration. *Id.* at 20.

113. *Id.* at 19.

114. *Id.* (quoting *Kansas v. Colorado*, 206 U.S. 46, 97 (1907)).

115. Tennessee Exception in Part, *supra* note 105106, at 1.

116. *Id.* at 16. (quoting *Nebraska v. Wyoming*, 515 U.S. 1, 8 (1995)).

117. *Id.* at 17.

118. *Id.* at 16, 19.

119. *Id.* at 13.

120. *Id.* at 17.

121. *Id.* at 24. Tennessee emphasizes that equitable apportionment is a flexible remedy which takes many factors into consideration while the current litigation focuses on the narrow question of whether Mississippi has “inherent property rights” to the groundwater. *Id.* at 18.

in the apportionment of the Aquifer groundwater.¹²²

E. Report of the Special Master

A special master is a court-appointed officer instructed to issue a report of factual findings—and here, a recommendation—where special expertise is needed to evaluate a case.¹²³ The Special Master in this case recommended that the Court dismiss the Complaint with leave to amend.¹²⁴ Specifically, the Special Master recommended that the Supreme Court hold: “(1) the groundwater contained in the Middle Claiborne Aquifer is the resource at issue; (2) that resource is interstate; and (3) equitable apportionment is the appropriate remedy for the alleged harm.”¹²⁵

After evidentiary hearings, the Special Master concluded that the Middle Claiborne Aquifer is a single hydrogeological unit, consisting of Sparta Sands in its southern portions and Memphis Sands in its northern portions.¹²⁶ The Special Master rejected Mississippi’s argument that the Middle Claiborne Aquifer should be viewed as discrete, constituent units.¹²⁷ The Special Master noted that the definition of an aquifer is “a collection of interconnected units that contains enough permeable material to yield usable quantities of waters to wells and springs.”¹²⁸ Thus, the Special Master determined that merely because a specific subunit is entirely within one state’s borders “does not extinguish its interstate nature.”¹²⁹ Additional evidence demonstrated that water pumped from both Shelby County, Tennessee, and DeSoto County, Mississippi, came from the same source.¹³⁰ Furthermore, the potentiometric levels¹³¹ of the Aquifer

122. *Id.* at 18–19. Tennessee is particularly concerned about Arkansas, which pumps water from the same aquifer.

123. THOMAS E. WILLGING ET AL., FED. JUD. CTR., SPECIAL MASTERS’ INCIDENCE AND ACTIVITY 1, (2000); *see also* FED. R. CIV. P. 53(a)(1) (“[A] court may appoint a master . . . to . . . hold trial proceedings and make or recommend findings of fact on issues to be decided without a jury if appointment is warranted by . . . some exceptional condition”)

124. Report of the Special Master, *supra* note 43, at 2.

125. *Id.*

126. *Id.* at 15. The Special Master notes this is consistent with the United States Geological Survey.

127. *Id.* at 17.

128. *Id.* at 17–18.

129. *Id.* at 18.

130. *Id.* at 20.

131. Potentiometric levels measure the water levels within an aquifer and can be helpful in mapping cones of depression from well use and where groundwater is being depleted or collected. *See* Clark, *supra* note 24, at 24.

“extend across the state borders uninterrupted.”¹³² The Special Master noted Mississippi’s own claims are self-defeating.¹³³ Mississippi did not assert Tennessee’s pumps physically entered Mississippi’s territory, but rather that Tennessee’s pumping is creating a cone of depression that spills across state borders—thus demonstrating that “there is a single hydrogeologic unit that spans across state boundaries.”¹³⁴

Mississippi did not contest the fact that at least some groundwater moves naturally across state borders, and the Special Master determined “any interstate movement demonstrates an interconnected hydrogeological unit.”¹³⁵ Furthermore, the Middle Claiborne Aquifer is connected to the Wolf River, an interstate surface water resource flowing from Mississippi to Tennessee.¹³⁶ The hydrological connection of the Aquifer to interstate surface waters further supported the Special Master’s conclusion that the groundwater is an interstate resource.¹³⁷

The Special Master also determined that equitable apportionment was the proper remedy, rejecting alternative remedies that Mississippi proposed.¹³⁸ The Special Master noted there is no existing compact or apportionment governing the Aquifer.¹³⁹ The Special Master rejected Mississippi’s contention that equitable apportionment only applies to disputed interstate *surface* waters.¹⁴⁰ The Special Master acknowledged that it is more difficult to apply the equitable apportionment doctrine to groundwater, but rejected the idea that pumping groundwater is meaningfully different from other actions that affect a neighboring state “through the operation of natural laws.”¹⁴¹ Additionally, the Special Master was unconvinced that wells dug within Tennessee’s territory physically encroach on Mississippi’s territory, as was the case of the water taken in *Tarrant Reg’l Water Dist. v. Herrman*.¹⁴² The

132. Report of the Special Master, *supra* note 43, at 20.

133. *Id.* at 21

134. *Id.*

135. *Id.* at 25.

136. *Id.*

137. *Id.* at 26.

138. *Id.*

139. *Id.*

140. *Id.* at 27–28. (“[G]roundwater in aquifers and surface water in streams, rivers and lakes are not identical. But that is not the inquiry. Instead, any differences must be legally meaningful. And they are not.”)

141. *Id.* at 28.

142. *Id.* at 29–30 (“*Tarrant* only protects a state against physical intrusion. Indeed, the Court has never suggested a state can sue for the effects of resource collection that happen outside its borders—that is, in the absence of equitable apportionment.” (citing *Tarrant Reg’l Water Dist. v.*

Special Master rejected Mississippi's application of state law doctrine, asserting that federal common law displaces those claims.¹⁴³ The Special Master, however, did recommend that the Court allow Mississippi to amend its Complaint to seek equitable apportionment.¹⁴⁴

IV. ORAL ARGUMENT

The justices began oral arguments by questioning counsel for Mississippi.¹⁴⁵ Chief Justice Roberts and Justice Barrett inquired as to why equitable apportionment should not apply to groundwater, to which Mississippi responded that it may apply, but equitable apportionment fails to remedy the alleged offenses.¹⁴⁶ Justice Thomas was skeptical that Tennessee violated Mississippi's territorial integrity because Tennessee's water wells are located in Tennessee.¹⁴⁷ Justice Kagan then pressed Mississippi's counsel and elicited a concession that Mississippi's legal argument is not dependent on whether the groundwater is actually an interstate resource.¹⁴⁸ Justices Roberts and Breyer pondered if a wild pack of burros that roamed between states entered Tennessee, if Tennessee could seize the burros and prevent them from leaving the state.¹⁴⁹ Mississippi's counsel answered that Tennessee probably could not; but Mississippi distinguished between forcibly keeping resources inside the state and stopping another state from taking those resources out of the state.¹⁵⁰ Justices Sotomayor and Gorsuch appeared skeptical that Mississippi should be given leave to amend their Complaint to ask for equitable apportionment after litigating the case for more than sixteen years.¹⁵¹ During his questioning, Justice Kavanaugh focused on policy considerations and appeared concerned about the potential for uncertainty in the use of natural resources.¹⁵²

Justice Thomas asked Tennessee why it could not simply move its wells, to which counsel responded that Mississippi also has wells close

Herrman, 569 U.S. 614, 624 (2013)).

143. *Id.* at 31.

144. *Id.* at 32.

145. Transcript of Oral Argument at 4–5, *Mississippi v. Tennessee*, 135 S. Ct. 2916 (2015) (mem.) (No. 143, Original).

146. *Id.* at 11–12, 26–27.

147. *Id.* at 7–9.

148. *Id.* at 12–13.

149. *Id.* at 19–23.

150. *Id.* at 23–24.

151. *Id.* at 16–17, 32–33.

152. *Id.* at 28–30.

to the border and there is no evidence that Mississippi is suffering any appreciable injury from Tennessee's wells.¹⁵³ Justice Sotomayor further inquired whether a nuisance action would also be appropriate in the current case, only to learn in response that Mississippi did not produce sufficient evidence to support such an action.¹⁵⁴

Justice Kagan asked whether, in the future, technology that could take water from a lake entirely in Mississippi was distinguishable from the current case, and Tennessee emphasized the lack of physical barriers in accessing the groundwater.¹⁵⁵ Justices Gorsuch and Breyer wanted to define the boundaries of the doctrine of equitable apportionment, as they were worried about an increase in states suing each other over groundwater resources under original jurisdiction.¹⁵⁶ Chief Justice Roberts contemplated if groundwater should be considered a resource separate from water, given its mixture with other elements like sand; but Tennessee assured the Chief Justice that groundwater is still fundamentally water, even if it is mixed with other elements.¹⁵⁷ The Court appeared to be split on whether to grant Mississippi leave to amend.¹⁵⁸

The Solicitor General then spoke as *amicus curiae* in support of overruling Mississippi's objections to the Special Master, contending that equitable apportionment is the proper way to balance competing sovereign state interests.¹⁵⁹ The Solicitor General was unable to give a direct answer to Justice Kavanaugh's question whether the case should be dismissed with or without prejudice.¹⁶⁰ Justice Gorsuch pushed the Solicitor General to define what level of injury would be sufficient to file an equitable apportionment claim under original jurisdiction and appeared unconvinced that a coherent threshold was articulated.¹⁶¹

V. ANALYSIS

In *Mississippi v. Tennessee*, the Supreme Court addressed for the first-time interstate conflicts regarding groundwater. The case presented the Court with an opportunity to extend the doctrine of

153. *Id.* at 37–38.

154. *Id.* at 38–39.

155. *Id.* at 41–43.

156. *Id.* at 45–50.

157. *Id.* at 53–54.

158. *Id.* at 51–53.

159. *Id.* at 59–60.

160. *Id.* at 67–68.

161. *Id.* at 70–71.

equitable apportionment to aquifers and groundwater. With more than 60 aquifers located within the United States,¹⁶² the Court's holding in this case had the potential to shape future litigation. The Court unanimously held that equitable apportionment applied to ground water and dismissed Mississippi's Complaint.¹⁶³ The Court additionally sustained Tennessee's objection to the Special Master's recommendation to grant leave to Mississippi to amend its Complaint because Mississippi had "neither sought leave to amend nor tendered a proposed Complaint seeking equitable apportionment."¹⁶⁴

The Court resolved several questions in this case, including whether groundwater is like surface water for interstate disputes, whether states can assert a claim over interstate groundwater using a state sovereignty argument, and whether Mississippi can amend its Complaint to include equitable apportionment. Mississippi failed to convince the Court that it had a pre-existing right to the groundwater pumped by Tennessee or that it deserved an opportunity to amend its Complaint despite never properly seeking leave to amend. Tennessee successfully convinced the Court that equitable apportionment was the correct remedy and that the Court should dismiss the current Complaint with prejudice to avoid prolonging the lengthy litigation on this issue.

A. Is the Action Precluded, and can Mississippi Amend its Complaint?

On the issue of preclusion, the Court correctly sided with Mississippi. The litigation had been ongoing at various levels for sixteen years, but the case before the Supreme Court was unique in that another state, Tennessee, had been joined.¹⁶⁵ Although the Court is not obligated to grant leave for parties to file a Complaint in original jurisdiction,¹⁶⁶ in this instance the Court granted Mississippi leave, signaling that the Court was unlikely to find the issue precluded.

Additionally, the Fifth Circuit's ruling was predicated on the necessity of joining Tennessee as a party.¹⁶⁷ Because disputes between

162. U.S. GEOLOGICAL SURV., PRINCIPAL AQUIFERS OF THE UNITED STATES PRINTABLE MAP WITH EXPLANATION (2021), available at <https://www.usgs.gov/media/files/principal-aquifers-united-states-printable-map-explanation>.

163. *Mississippi v. Tennessee*, 142 S. Ct. 31, 41 (2021).

164. *Id.* at 42.

165. Brief for the United States Regarding Special Master, *supra* note 5, at 6.

166. See Brief for the United States as Amicus Curiae at 12, *Mississippi v. Tennessee*, 135 S. Ct. 2916 (No. 143, Original) (2021) (mem.) (noting that the Court has "substantial discretion to make case-by-case judgments as to the practical necessity" of exercising original jurisdiction (quoting *Texas v. New Mexico*, 462 U.S. 554, 570 (1983))).

167. See *Hood ex rel. Mississippi v. City of Memphis*, 570 F.3d 625, 631 (5th Cir. 2009) ("[W]e

states fall within the exclusive jurisdiction of the Supreme Court, lower courts were improper venues in which to seek relief and could not grant the remedy of equitable apportionment.¹⁶⁸

Mississippi, however, was not seeking equitable apportionment, having disclaimed equitable apportionment as a suitable remedy to its alleged harm.¹⁶⁹ Both the Defendants, and the United States as amicus, believed that Mississippi's claim should be dismissed, and Tennessee further argued Mississippi should be prevented from amending its Complaint.¹⁷⁰ Although Tennessee was likely correct that an amended Complaint would take more time and cost more to litigate,¹⁷¹ this conflict is unlikely to disappear even though the Complaint was dismissed. It would be more efficient for the Court to allow Mississippi to amend its Complaint to seek equitable apportionment and establish a baseline for the usage of groundwater in the Aquifer.

Without equitable apportionment, Mississippi is left without even a court-ordered distribution.¹⁷² Without a "material change in circumstances" leading to a "substantial injury,"¹⁷³ Mississippi would also be barred from bringing another lawsuit,¹⁷⁴ meaning Mississippi would be left without recourse to place a limit on Tennessee's water usage. It is harsh to punish Mississippi for pursuing remedies via an alternative legal path if it can meet the threshold for pleading equitable apportionment in an amended Complaint.

Mississippi did not, however, attempt to file an amended Complaint seeking equitable apportionment; thus, it left the justices with no other alternatives but to dismiss the Complaint.¹⁷⁵ Because of equitable apportionment's flexibility, and given that Memphis is the largest user of water, Mississippi might have been worried that a court-ordered

find no error in the district court's conclusion that Tennessee's presence in the lawsuit was necessary to accord complete relief to Mississippi and Memphis.").

168. Reply Brief of the State of Mississippi, *supra* note 18, at 12.

169. Transcript of Oral Argument, *supra* note 145, at 11–12; *see also* Idaho *ex rel.* Evans v. Oregon, 462 U.S. 1017, 1025–26 (1983) ("[A]pportionment is based on broad and flexible equitable concerns rather than on precise legal entitlements . . . a decree is not intended to compensate for prior legal wrongs.").

170. Tennessee Exception in Part, *supra* note 105, at 1; Brief for the United States Regarding Special Master, *supra* note 5, at 1.

171. *See* Tennessee Exception in Part, *supra* note 105, at 18 (noting that Mississippi's amended Complaint may require additional discovery and participation by other interested states).

172. *Id.* at 27.

173. *Id.*

174. *Id.*

175. Mississippi v. Tennessee, 142 S. Ct. 31, 42 (2021).

apportionment could leave it with less water than it currently uses.¹⁷⁶ It is unclear how the municipal needs of Memphis would weigh against the agricultural interests of Mississippi under equitable apportionment. Thus, the Court's decision was correct as it found itself with no other alternative but to dismiss the case, and Mississippi appeared uninterested in seeking the remedy of equitable apportionment.

B. Interstate or Intrastate: The Middle Claiborne Aquifer

The Special Master's Report concluded that the Aquifer was an interstate resource rather than an intrastate resource.¹⁷⁷ Although the Special Master was appointed to head the fact-finding inquiry and issue a recommendation, his recommendations do not bind the Court.¹⁷⁸ Nonetheless, the Supreme Court correctly followed his recommendations.

The Special Master's conclusion appeared to be supported by the great weight of scientific evidence. The Special Master's Report aligned with the data collected from the United States Geological Survey.¹⁷⁹ It also was consistent with how scientists view aquifers and the sediments and sands that comprise them. Given the nature of the Aquifer, both parties disputed the actual impact the wells have had on its natural state. Tennessee also claimed that Mississippi's wells have yielded a greater impact on the natural flow of the water.¹⁸⁰

The very harms that Mississippi asserted undermined its claim that the water is not an interstate resource. If water naturally flows across the border, and the assertion of harm is that too much is flowing, the pertinent issue became not whether the water is an interstate resource, but rather what rights Mississippi has to prevent Tennessee from taking more water. This realization was seemingly acknowledged by Mississippi in oral arguments when the state conceded that for the purposes of its argument, it is immaterial whether the water is an interstate or intrastate resource.¹⁸¹ This concession was odd given that

176. Huffman, *supra* note 44, at 252.

177. Report of the Special Master, *supra* note 43, at 2.

178. See FED. R. CIV. P. 53(c)–(f) (describing the authority and responsibilities of Special Masters, but not indicating any power to bind parties through report recommendations).

179. Report of the Special Master, *supra* note 43, at 2.

180. See Brief for the United States Regarding Special Master, *supra* note 5, at 11–12. (noting that wells in Tennessee cause more groundwater, including water from Mississippi, to flow toward those wells"). *But see* Transcript of Oral Argument, *supra* note 145, at 50 ("Dr. Waldron testified that there was significant—tens of millions of—of gallons of water every day that was flowing into Tennessee and out of Tennessee and into Memphis and—and into Mississippi.").

181. Transcript of Oral Argument, *supra* note 145, at 12–13 ("JUSTICE KAGAN: Okay. So

Mississippi's legal strategy had previously revolved around assertions that Tennessee had no right to take any water and that state tort law was a better remedy.¹⁸² It appeared that Mississippi had become resigned to the fact that the overwhelming weight of evidence supported the Aquifer's interstate nature and was attempting to reconcile this fact with its legal arguments. Thus, given the fact that Mississippi had apparently conceded this point, and given the factual findings of the Special Master, the Court correctly decided that the Aquifer groundwater is an interstate resource and thus subject to equitable apportionment under federal common law rather than tort claims rooted in state law.

C. Is Equitable Apportionment the Proper Remedy?

Given the Special Master's Report, the Court was correct in finding equitable apportionment under federal common law to be the proper remedy. Because the Court found the groundwater to be an interstate resource, federal common law displaced Mississippi's claims rooted in state law.¹⁸³ While Mississippi raised interesting concerns about the role of technology,¹⁸⁴ these concerns were insufficient to demonstrate that the groundwater used by Tennessee is not naturally shared.

Cases like *Idaho ex rel. Evans v. Oregon* provided comfortable precedent to support the expansion of the equitable apportionment doctrine to groundwater. Such an expansion was consistent with the principles of equitable apportionment set out in *Kansas v. Colorado*—like the fish, the groundwater is an interstate resource, and actions undertaken in one state affect the availability of the resource in another.¹⁸⁵ And despite Tennessee's use of newer technology to pump water, Tennessee's pumping practice was unlikely to violate the

you're saying it's irrelevant whether it's an interstate water or not? MR. COGHLAN: That's correct.”).

182. Mississippi Brief in Support of Exceptions, *supra* note 83, at 36. (“Mississippi’s Complaint is not that Defendants are taking too much water from Mississippi, it is that Defendants have *no right* under the United States Constitution to take any groundwater located in Mississippi, to change the natural hydrogeologic conditions in Mississippi, or to materially diminish or damage the groundwater system underlying Mississippi to the detriment of Mississippi’s citizens.”)

183. *Colorado v. New Mexico*, 459 U.S. 176, 183 (1982) (“Equitable apportionment is the doctrine of federal common law that governs the disputes between States concerning their rights to use the water of an interstate stream.”).

184. Transcript of Oral Argument, *supra* note 145, at 42. Justice Kagan here pushes for a distinction to be made between this case and a case where technology can reach water that has no natural flow. *Id.*

185. See Brief for the United States Regarding Special Master, *supra* note 5, at 15.

“agency of natural law” or alter the legal analysis. In *State of Connecticut v. Commonwealth of Massachusetts*, the law of equitable apportionment was applied even though the diversion changed both the speed and direction of the water flow.¹⁸⁶ Mississippi was unlikely to prevail on a theory that the groundwater is unnaturally shared when prior case law has upheld the doctrine of equitable apportionment in circumstances with even more drastic alteration of the natural conditions.¹⁸⁷

Furthermore, *Tarrant Reg'l Water Dist.*, Mississippi's most important case for supporting its equal footing argument, was readily distinguishable from the current case. *Tarrant* is unlike the current case because Tennessee is accessing the groundwater within its own boundaries while Texas sought to physically enter Oklahoma to obtain water.¹⁸⁸ The proper analogy to this case would be if Tennessee was drilling at such an angle so that its wells were physically located underneath Mississippi. Although states have authority over natural resources within its borders, it cannot “preserve solely for its own inhabitants' natural resources located within its borders.”¹⁸⁹ Thus, when dealing with an interstate water source, the Court has held that the state in which it originates should be “essentially irrelevant.”¹⁹⁰

Following its past precedent and application of the federal common law, the Court was correct in applying equitable apportionment as the proper remedy. Several law professors filed an amicus brief with the Court, opposing Mississippi's ownership claims but also proposing an alternative remedy under nuisance law.¹⁹¹ The Court was right to reject

186. *Id.* at 665–66.

187. See Report of the Special Master, *supra* note 43, at 28. (“Pumping groundwater is no different. It affects another state through the operation of natural laws.”).

188. See *id.* at 30.

189. *Idaho ex rel. Evans v. Oregon*, 462 U.S. at 1025 (citing *Philadelphia v. New Jersey*, 437 U.S. 617, 627 (1978)).

190. *Colorado v. New Mexico*, 467 U.S. 310, 323 (1984).

191. The professors believed that nuisance law can provide a basis for remedies in lieu of equitable apportionment. Brief of Amici Curiae Law Professors in Support of Defendants at 2, *Mississippi v. Tennessee*, 135 S. Ct. 2916 (2015) (mem.) (No. 143, Original). The professors noted that this avoids the task of “quantifying the available water supply” and instead measures the harms of the water use. This approach would be better for the conservation of water, as the professors worried equitable apportionment can still lead to total consumption. *Id.* at 18–19. While the professors have proposed an interesting alternative doctrine, the Court was unlikely to adopt interstate nuisance law for interstate water disputes. Applying nuisance law here would require making a legal distinction between ground water and surface water which appears scientifically tenuous. Moreover, it would replace a doctrine that has been widely used in water disputes with a doctrine that has typically been used in pollution litigation and where it may be more difficult to calculate exact harms than in pollution style cases. See Huffman, *supra* note 44,

this alternative remedy under nuisance law because practical implementation would be difficult. Given the flexibility of the equitable apportionment doctrine, the Court can address the issues raised by the professors in future cases where relevant, and potentially apportion water resources in such a way that prevents the parties from using the entire resource.

CONCLUSION

Equitable apportionment is designed to serve as a fair remedy among equal states. By applying equitable apportionments' flexible approach to the facts and circumstances of this dispute, the Supreme Court properly wielded a powerful tool to distribute a shared resource to the states. Because the United States is composed of 50 equal partners, it is critical that systems are implemented to incentivize cooperative management of shared resources. Thus, there are practical reasons to extend the doctrine of equitable apportionment to apply to groundwater disputes.

If the Court's decision had favored Mississippi, it would have created uncertainty regarding shared natural resources and risked increasing tensions between neighboring states. Furthermore, states would likely have moved to hoard resources located inside their geographical boundaries, potentially creating a "tragedy of the commons" dilemma. Given the increasing scarcity of resources like water, it is critical that states work together to manage their shared resources for the good of their citizens.¹⁹² To that end, the doctrine of equitable apportionment provides a tool to manage shared resources in a responsible way. The Court correctly dismissed Mississippi's Complaint.

at 279–80 (discussing the potential inapplicability of nuisance law to ground water cases and explaining that nuisance law is "generally restricted to action related to pollution").

192. Clark, *supra* note 24, at 17 (reporting that declining groundwater levels are threatening the efficiency and production of irrigation wells in Mississippi and that projects to divert surface-water are being considered to "alleviate the stress" on the Aquifer).